SCV WATER AGENCY
REGULAR BOARD MEETING

Tuesday, April 5, 2022
Meeting Begins at 6:30 PM

Members of the public may attend by the following options:

In Person	By Phone	Virtually
Santa Clarita Valley Water Agency Rio Vista Water Treatment Plant 27234 Bouquet Canyon Road Santa Clarita, CA 91350	Toll Free: 1-(833)-568-8864 Webinar ID: 161 496 2032	Please join the meeting from your computer, tablet or smartphone: https://scvwa.zoomgov.com/j/1614962032

See Agenda for additional location.

Have a Public Comment?

Public comments may be made virtually or in-person the night of the meeting, as well as in writing via mail to the address listed above or email to the Board Secretary at ajacobs@scvwa.org by 4:30 PM the day of the meeting.*
(Public comments take place during Item 3 of the Agenda and before each Item is considered. Please see the agenda for details.)

This meeting will be recorded and the audio recording for all Board meetings will be posted to yourscvwater.com within 3 business days from the date of the Board meeting.

*All written comments received after 4:30 PM the day of the meeting will be made available at the meeting and posted on the SCV Water Website the following day at yourscvwater.com. Public comments can also be heard the night of the meeting.

Disclaimer: Attendees should be aware that while the Agency is following all applicable requirements and guidelines regarding COVID-19, the Agency cannot ensure the health of anyone attending a Board meeting. Attendees should therefore use their own judgment with respect to protecting themselves from exposure to COVID-19.

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SANTA CLARITA VALLEY WATER AGENCY
REGULAR BOARD MEETING AGENDA

SANTA CLARITA VALLEY WATER AGENCY
RIO VISTA WATER TREATMENT PLANT
BOARD AND TRAINING ROOM
27234 BOUQUET CANYON ROAD
SANTA CLARITA, CA 91350

AND

DIRECTORS ARMITAGE AND BRAUNSTEIN
TELECONFERENCE SITE LOCATED AT
EMBASSY SUITES
601 PACIFIC HIGHWAY, SAN DIEGO, CA 92101
SANTA FE CONFERENCE ROOM
(619)-239-2400

TUESDAY, APRIL 5, 2022, AT 6:30 PM

IMPORTANT NOTICES

This meeting will be conducted in person at the address's listed above. As a convenience to the public, members of the public may also participate virtually by using the **Agency's Call-In Number 1-(833)-568-8864, Webinar ID: 161 496 2032 or Zoom Webinar by clicking on the link https://scvwa.zoomgov.com/j/1614962032** Any member of the public may listen to the meeting or make comments to the Board using the call-in number or Zoom Webinar link above. However, in the event there is a disruption of service which prevents the Agency from broadcasting the meeting to members of the public using either the call-in option or internet-based service, this meeting will not be postponed or rescheduled but will continue without remote participation. The remote participation option is being provided as a convenience to the public and is not required. Members of the public are welcome to attend the meeting in person.

Attendees should be aware that while the Agency is following all applicable requirements and guidelines regarding COVID-19, the Agency cannot ensure the health of anyone attending a Board meeting. Attendees should therefore use their own judgment with respect to protecting themselves from exposure to COVID-19.

Members of the public unable to attend this meeting may submit comments either in writing to ajacobs@scvwa.org or by mail to April Jacobs, Board Secretary, Santa Clarita Valley Water Agency, 27234 Bouquet Canyon Road, Santa Clarita, CA 91350. All written comments received before 4:30 PM the day of the meeting will be distributed to the Board members and posted on the Santa Clarita Valley Water Agency website prior to the start of the meeting. Anything received after 4:30 PM the day of the meeting will be made available at the meeting and posted on the SCV Water website the following day.

OPEN SESSION BEGINS AT 6:30 PM

1. CALL TO ORDER

2. PLEDGE OF ALLEGIANCE

3. PUBLIC COMMENTS – Members of the public may comment as to items within the subject matter jurisdiction of the Agency that are not on the Agenda at this time. Members of the public wishing to comment on items covered in this Agenda may do so at the time each item is considered. (Comments may, at the discretion of the Board's presiding officer, be limited to three minutes for each speaker.)

4. APPROVAL OF THE AGENDA

5. CONSENT CALENDAR **PAGE**

5.1 *	Approve Minutes of the March 15, 2022 Santa Clarita Valley Water Agency Regular Board of Directors Meeting	7
5.2 *	Approve Receiving and Filing FY 2021/22 Second Quarter Financial Report (October – December 2021)	13
5.3 *	Approve Receiving and Filing of the December 2021 Monthly Financial Report – https://yourscvwater.com/wp-content/uploads/2022/03/Check-Register-December-2021.pdf	23

6. ACTION ITEMS FOR APPROVAL **PAGE**

6.1 *	Approve a Resolution for a Construction Contract to Zim Industries, Inc., a Purchase Order to Richard C. Slade & Associates LLC for Inspection and Engineering Services during Construction and a Purchase Order to Black & Veatch Corporation for Construction Management Services for the Saugus #3 and #4 Wells Construction (Replacement Wells) Project	65
6.2 *	Adopt a Resolution Approving the SB 610 Water Supply Assessment for the Castaic Mountainview Apartment Project	219
6.3 *	Adopt a Resolution Approving the SB 610 Water Supply Assessment for the Lyons Canyon Development	389
6.4 *	Approve a Proposed Employee Salary Adjustment for FY 2022/23	565
6.5 *	Discuss and Consider a Resolution Changing and Setting a New Start Time for the SCV Water Regular Board Meetings	585

7. INFORMATIONAL REPORT ON EXAMPLES OF RATEPAYER ASSISTANCE PROGRAMS – APPROXIMATELY 15 MINUTES

8. COMMITTEE MEETING RECAP REPORTS FOR INFORMATIONAL PURPOSES ONLY **PAGE**

8.1 *	March 3, 2022 Engineering and Operations Committee Meeting Report	587
8.2 *	March 9, 2022 Water Resources and Watershed Committee Meeting Report	593
8.3 *	March 17, 2022 Public Outreach and Legislation Committee Meeting Report	601
8.4 *	March 21, 2022 Finance and Administration Committee Meeting Report	605
8.5 *	March 24, 2022 Special Public Outreach and Legislation Committee Meeting Report	611

9. WRITTEN REPORTS FOR INFORMATIONAL PURPOSES ONLY **PAGE**

9.1 *	Engineering Services Section Report	615
9.2 *	Finance, Administration and Information Technology Section Report	625
9.3 *	Treatment, Distribution, Operations and Maintenance Section Report	629
9.4 *	Water Resources and Outreach Section Report	639
9.5 *	Committee Planning Calendars	653

10. GENERAL MANAGER'S REPORT ON ACTIVITIES, PROJECTS AND PROGRAMS

11. PRESIDENT'S REPORT

12. AB 1234 WRITTEN AND VERBAL REPORTS **PAGE**

12.1 *	March 23, 2022 Southern California Water Dialogue Meeting – Director Plambeck	667
12.2 *	Other AB 1234 Reports	

13. DIRECTOR REPORTS

14. DIRECTOR REQUESTS FOR APPROVAL FOR EVENT ATTENDANCE

15. ADJOURNMENT

* Indicates Attachment
♦ Indicates Handout

Note: The Board reserves the right to discuss or take action or both on all of the above Agenda items.

NOTICES

Any person may make a request for a disability-related modification or accommodation needed for that person to be able to participate in the public meeting by telephoning April Jacobs, Secretary to the Board of Directors, at (661) 297-1600, or in writing to Santa Clarita Valley Water Agency at 27234 Bouquet Canyon Road, Santa Clarita, CA 91350. Requests must specify the nature of the disability and the type of accommodation requested. A telephone number or other contact information should be included so that Agency staff may discuss appropriate arrangements. Persons requesting a disability-related accommodation should make the request with adequate time before the meeting for the Agency to provide the requested accommodation.

Pursuant to Government Code Section 54957.5, non-exempt public records that relate to open session agenda items and are distributed to a majority of the Board less than seventy-two (72) hours prior to the meeting will be available for public inspection at the Santa Clarita Valley Water Agency, located at 27234 Bouquet Canyon Road, Santa Clarita, CA 91350, during regular business hours. When practical, these public records will also be made available on the Agency's Internet Website, accessible at http://www.yourscvwater.com.

Posted on March 30, 2022.

M65

DRAFT

ITEM NO. 5.1

Minutes of the Regular Meeting of the Board of Directors of the Santa Clarita Valley Water Agency – March 15, 2022

A regular meeting of the Board of Directors of the Santa Clarita Valley Water Agency was held via teleconference at 6:30 PM on Tuesday, March 15, 2022. A copy of the Agenda is inserted in the Minute Book of the Agency preceding these minutes.

DIRECTORS PRESENT: Kathye Armitage, B. J. Atkins, Beth Braunstein, Ed Colley, William Cooper, Jeff Ford, Jerry Gladbach, R. J. Kelly, Gary Martin, Piotr Orzechowski and Lynne Plambeck via teleconference.

DIRECTORS ABSENT: None.

Also present via teleconference: Accounting Tech II Kyle Arnold, Administrative Technician Terri Bell, Assistant General Manager Steve Cole, Associate Engineer Elizabeth Sobczak, Board Secretary April Jacobs, Chief Engineer Courtney Mael, Chief Financial and Administrative Officer Eric Campbell, Chief Operating Officer Keith Abercrombie, Communications Manager Kathie Martin, Customer Service Manager Kathleen Willson, Director of Finance and Administration Rochelle Patterson, Director of Technology Services Cris Perez, Executive Assistants Eunie Kang and Leticia Quintero, Financial Analyst Darine Conner, General Counsel Tom Bunn and Joe Byrne, General Manager Matthew Stone, GIS Manager Jose Huerta, Human Resources Manager Ari Mantis, Interim Director of Water Resources Dirk Marks, Management Analyst II Susana Rave, Principal Engineers Brent Payne and Jason Yim, Senior Engineers Shadi Bader and Jim Leserman, Senior Management Analyst Kim Grass, Water Systems Supervisor Gil Hermosillo, National Demographics Corporation Consultant Doug Johnson, RDN Consultant Ichiko Kido, and members of the public.

President Martin called the meeting to order at 6:30 PM. A quorum was present.

President Martin announced that there was an Amended Agenda sent out last week with several modifications. Item 5 Special Procedures was moved up to Item 4 and Item 4.3 was added. Public Comment was then moved to Item 5 and Items 12 and 13 Closed Session and Closed Session Announcements were removed. In addition, President Martin stated that Dan Mortensen submitted his resignation from the Board of Directors effective at 12:00 pm on the day of this meeting, and as a result, there would be no action taken on Item 4.3 but public and Board comments would be received. There were no other changes to the March 15, 2022 Board Agenda and it was accepted as shown (Item 3).

President Martin opened the Public Hearing at 6:39 PM regarding the division boundaries adjustment as required by Election Code. Public comments were heard and received (Item 4.1).

Assistant General Manager Steve Cole introduced National Demographics Corporation Consultant Doug Johnson who then gave a presentation on the SCV Water Agency's 2021 redistricting efforts and processes.

After public comments were received, President Martin gave the Board members an opportunity to ask questions and discuss.

President Martin closed the Public Hearing at 6:49 PM.

Upon motion of Vice President Gladbach, seconded by Director Atkins and carried, the Board approved Resolution No. SCV-264 adopting the Agency Division Boundaries by the following roll call votes (Item 4.2):

Director Armitage	Yes	Director Atkins	Yes
Director Braunstein	Yes	Director Colley	Yes
Director Cooper	Yes	Director Ford	Yes
Vice President Gladbach	Yes	Director Kelly	Yes
President Martin	Yes	Director Orzechowski	Yes
Director Plambeck	Yes		

RESOLUTION NO. SCV-264

**RESOLUTION OF THE BOARD OF DIRECTORS
OF THE SANTA CLARITA VALLEY WATER AGENCY
ADJUSTING DIVISION BOUNDARIES
FOLLOWING 2020 DECENNIAL FEDERAL CENSUS**

https://yourscvwater.com/wp-content/uploads/2022/03/SCV-Water-Approved-Resolution-031522-Resolution-SCV-264.pdf

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Due to the resignation of Mr. Mortensen there was no action to be considered, public comment and Director comments were heard but no action was taken (Item 4.3):

Upon motion of Director Cooper, seconded by Director Ford and carried, the Board pulled Item 6.4 for further discussion and approved the remaining items on the Consent Calendar by the following roll call votes (Item 6):

Director Armitage	Yes	Director Atkins	Yes
Director Braunstein	Yes	Director Colley	Yes
Director Cooper	Yes	Director Ford	Yes
Vice President Gladbach	Yes	Director Kelly	Yes
President Martin	Yes	Director Orzechowski	Yes
Director Plambeck	Yes		

Upon motion of Director Cooper, seconded by Director Braunstein and carried, the Board approved Resolution No. SCV-265 approving volunteer Personnel Worker's Compensation Insurance by the following roll call votes (Item 6.4):

Director Armitage	Yes	Director Atkins	Yes
Director Braunstein	Yes	Director Colley	Not Present
Director Cooper	Yes	Director Ford	Yes
Vice President Gladbach	Yes	Director Kelly	Yes
President Martin	Yes	Director Orzechowski	Yes
Director Plambeck	Yes		

RESOLUTION NO. SCV-265

**A RESOLUTION OF THE BOARD OF DIRECTORS
OF THE SANTA CLARITA VALLEY WATER AGENCY
APPROVING VOLUNTEER PERSONNEL
WORKERS' COMPENSATION INSURANCE**

https://yourscvwater.com/wp-content/uploads/2022/03/SCV-Water-Approved-Resolution-031522-Resolution-SCV-265.pdf

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Upon motion of Director Cooper, seconded by Director Atkins and carried, the Board approved Resolution No. SCV-266 revising and adopting rates for the wholesale water service charges by the following roll call votes (Item 7.1):

Director Armitage	Yes	Director Atkins	Yes
Director Braunstein	No	Director Colley	No
Director Cooper	Yes	Director Ford	Yes
Vice President Gladbach	Yes	Director Kelly	Yes
President Martin	Yes	Director Orzechowski	Yes
Director Plambeck	No		

RESOLUTION NO. SCV-266

**A RESOLUTION OF THE BOARD OF DIRECTORS
OF THE SANTA CLARITA VALLEY WATER AGENCY
REVISING AND ADOPTING RATES FOR WHOLESALE WATER SERVICE CHARGES**

https://yourscvwater.com/wp-content/uploads/2022/03/SCV-Water-Approved-Resolution-031522-Resolution-SCV-266.pdf

Upon motion of Director Orzechowski, seconded by Vice President Gladbach and carried, the Board approved the revised COVID-19 Supplemental Paid Sick Leave (to comply with SB 114) and Emergency Administrative Leave Policy by the following roll call votes (Item 7.2):

Director Armitage	Yes	Director Atkins	Yes
Director Braunstein	Yes	Director Colley	Yes
Director Cooper	Yes	Director Ford	Yes
Vice President Gladbach	Yes	Director Kelly	Yes
President Martin	Yes	Director Orzechowski	Yes
Director Plambeck	Yes		

Upon motion of Vice President Gladbach, seconded by Director Ford and carried, the Board approved Resolution No. SCV-267 concurring in nomination of Scott H. Quady of Calleguas Municipal Water District to the California Water Insurance Fund Board, an ACWA JPIA Captive Insurance Company by the following roll call votes (Item 7.3):

Director Armitage	Yes	Director Atkins	Yes
Director Braunstein	Yes	Director Colley	Yes
Director Cooper	Yes	Director Ford	Yes

Vice President Gladbach	Yes	Director Kelly	Yes
President Martin	Yes	Director Orzechowski	Yes
Director Plambeck	Yes		

RESOLUTION NO. SCV-267

RESOLUTION OF THE BOARD OF DIRECTORS OF THE SANTA CLARITA VALLEY WATER AGENCY CONCURRING IN NOMINATION OF SCOTT H. QUADY OF CALLEGUAS MUNICIPAL WATER DISTRICT TO THE CALIFORNIA WATER INSURANCE FUND BOARD AN ACWA JPIA CAPTIVE INSURANCE COMPANY

https://yourscvwater.com/wp-content/uploads/2022/03/SCV-Water-Approved-Resolution-031522-Resolution-SCV-267.pdf

Upon motion of Director Plambeck, seconded by Director Armitage and carried, the Board voted to not further extend virtual meetings pursuant to AB 361, and directed staff to prepare to return the Agency to in-person meetings as of April 1, 2022, with SCV Water's first anticipated in-person meeting being the April 5, 2022 regular Board meeting by the following roll call votes (Item 7.4):

Director Armitage	Yes	Director Atkins	Yes
Director Braunstein	Yes	Director Colley	Yes
Director Cooper	Yes	Director Ford	Yes
Vice President Gladbach	Yes	Director Kelly	Yes
President Martin	Yes	Director Orzechowski	Yes
Director Plambeck	Yes		

General Manager's Report on Activities, Projects and Programs (Item 8).

The General Manager reported on the following items:

He congratulated the Finance staff and all those who contributed to the budget for their efforts in developing an award-winning Budget document for Fiscal Year 2021/22. He informed the Board that the Agency received notification that the document won the Distinguished Budget Presentation Award from Government Finance Officers Association and the Operating Budget Excellence Award from California Society of Municipal Finance Officers. He gave special thanks to Administration and Finance staff Rochelle Patterson, Darine Conner, Kim Grass and Erika Dill.

He then advised the Board that SCV Water has been selected for an ACWA Joint Powers Insurance Agency Risk Control Grant for $10,000. The purpose of the Grant Program is to promote the implementation of best practices that will prevent or mitigate losses in the JPIA's Workers' Compensation, General Liability, and Property Programs.

He explained the scope of this grant proposal is to contribute towards the Agency's cost to equip 100% of operation, water treatment, and water quality staff vehicles with emergency radio communication systems. Further he explained the purpose is to increase response performance

and reduce worker and community hazard exposure during a natural disaster emergency. As of now, SCV Water does not have a self- sustaining way of communicating during a natural disaster emergency.

Next he wanted to point out the paragraph in the staff report pertaining to Item 6.4:

> *"Covering volunteers under workers' compensation has significant benefits. Workers' compensation benefits are statutorily defined. Claims costs are usually significantly lower compared to liability lawsuits for the same injuries or illnesses. The claims are easier to control since litigation is generally avoided. Also, providing benefits to volunteer workers under the "no- fault" workers' compensation system can be seen as good public relations. JPIA has highlighted the need for this resolution due to some recent losses where a resolution had not been in place."*

Lastly, he advised the Board, that when an incident takes place within our close circle, such as with family, friends, colleagues or our neighborhood, whether it be domestic violence or another crime, an accident or illness, it can invoke memories of trauma experienced by ourselves or those close to us. With the prevalence of domestic violence, he mentioned that this issue has been close to him on several occasions and he has personally witnessed the lasting impacts. With that in mind, he stated that the Human Resources department complied some resources around these issues which will be shared with staff, in case they may have a private need to seek assistance or deal with their own trauma. He thanks the Board for their willingness to talk about this situation and to hear the public tonight.

Committee Meeting Recap Report for Informational Purposes Only (Item 9).

There were no comments on the recap report.

President's Report (Item 10).

The President updated the Board on upcoming meetings, events and Board reminders.

AB 1234 Written and Verbal Reports (Item 11).

Written reports were submitted by Vice President Gladbach and Directors Armitage and Colley which were included in the Board packet. Additional written reports were submitted by President Martin and Vice President Gladbach which were posted on the SCV Water website and are part of the record.

Director Cooper reported that he attended the ACWA Finance Committee meeting held virtually on March 8, 2022.

Director Atkins reported that he attended the VIA Monthly Luncheon on SCV Safety hosted by Captain Justin Diez of the Los Angeles County Sheriff's Department held at the Valencia Hyatt on March 15, 2022.

Director Orzechowski reported that he attended the VIA Monthly Luncheon on SCV Safety hosted by Captain Justin Diez of the Los Angeles County Sheriff's Department held at the Valencia Hyatt on March 15, 2022.

There were no other AB 1234 Reports.

Director Requests for Future Agenda Items (Item 12).

Director Braunstein asked that the Board discuss the second Vice President position.

Director Atkins asked that if there is an update on Bouquet Creek, that it be presented to the Board.

There were no other Director requests for future Agenda items.

The meeting was adjourned at 10:08 PM (Item 13).

April Jacobs, Board Secretary

ATTEST:

President of the Board

ITEM NO. 5.2

BOARD MEMORANDUM

DATE: March 29, 2022

TO: Board of Directors

FROM: Rochelle Patterson
Director of Finance and Administration

SUBJECT: Approve Receiving and Filing FY 2021/22 Second Quarter Financial Report (October - December 2021)

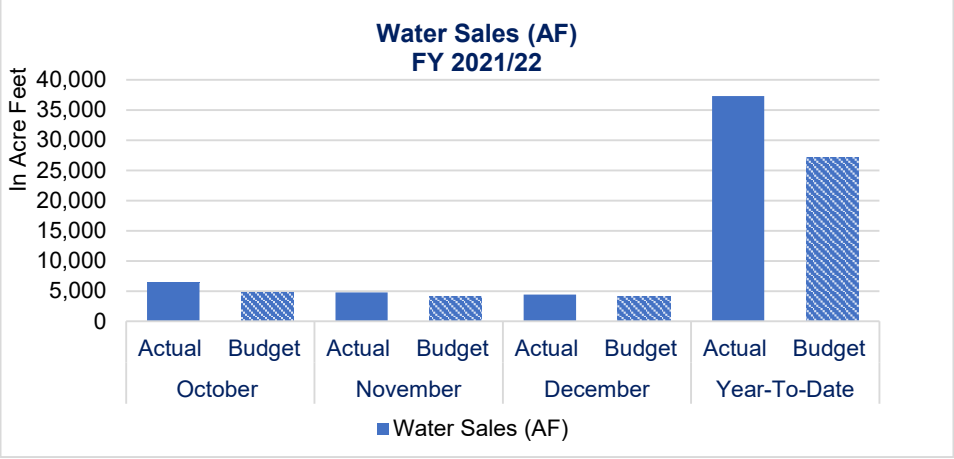
Below is the FY 2021/22 Second Quarter Financial Summary (October – December 2021). This report reviews the financing activities for the quarter and compares the FY 2021/22 Budget to actual revenues and expenditures for the operating and capital budgets.

Quarterly Finance Highlights

- Continuing implementation and enhancements within Oracle Cloud Fusion
- Received the Distinguished Budget Award from the Government Finance Officers Association (GFOA) and the Excellence in Budgeting Award from the California Society of Municipal Finance Officers (CSMFO) for the FY 2021/22 and FY 2022/23 Biennial Budget.
- Budget worksheets were distributed to key staff to review their departments mid-year expenses and make necessary revisions to the FY 2022/23 operating budget.
- Wholesale Water Rates Report presented to the Board of Directors in March
- Funds from the state arrearage program were applied as credits to customer accounts

Water Production and Sales

Total water produced for retail consumption from October – December 2021 was 13,974 acre-feet (AF). Comprised of 5,486 AF of groundwater and 8,489 AF of surface water. Total water sales were 15,702 AF (based on billing date), which is an increase of 17% from the budgeted projection of 12,938 AF.

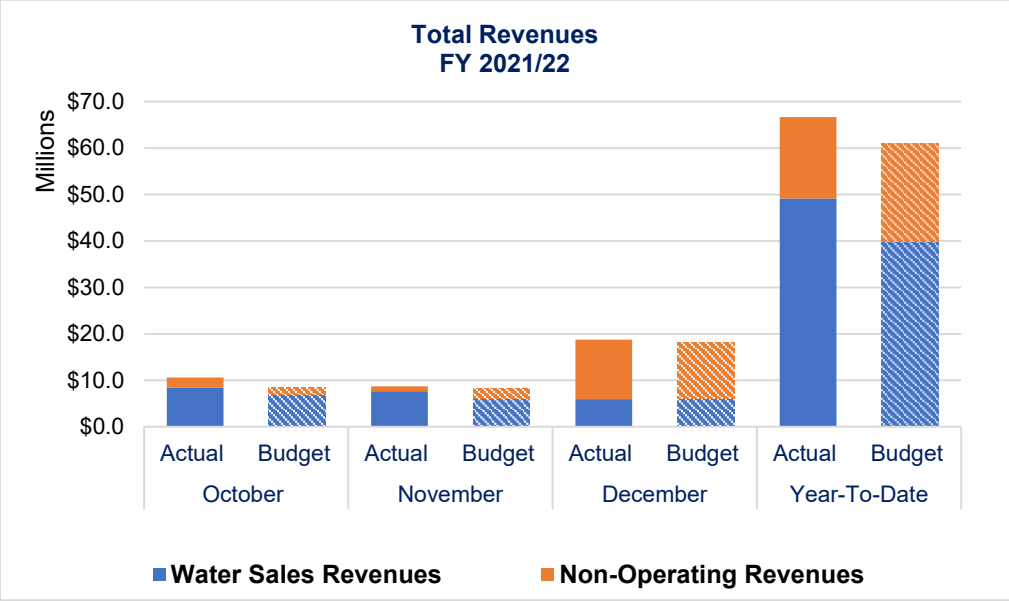


Revenues

Total water sales continue to increase due to hot and dry temperatures during the summer months and lower than average rainfall in the winter months. Certain revenues and expenses are budgeted based on trend or expectation. Water sales revenues, chemicals and purchased power are budgeted based on a 10-year trend, a higher percentage of revenues are received in the summer months, then in the winter months. Revenues, such as Property Taxes are budgeted in specific months based on expectation of when taxes are due. A majority of taxes are received in November/December and March/April.

Revenues

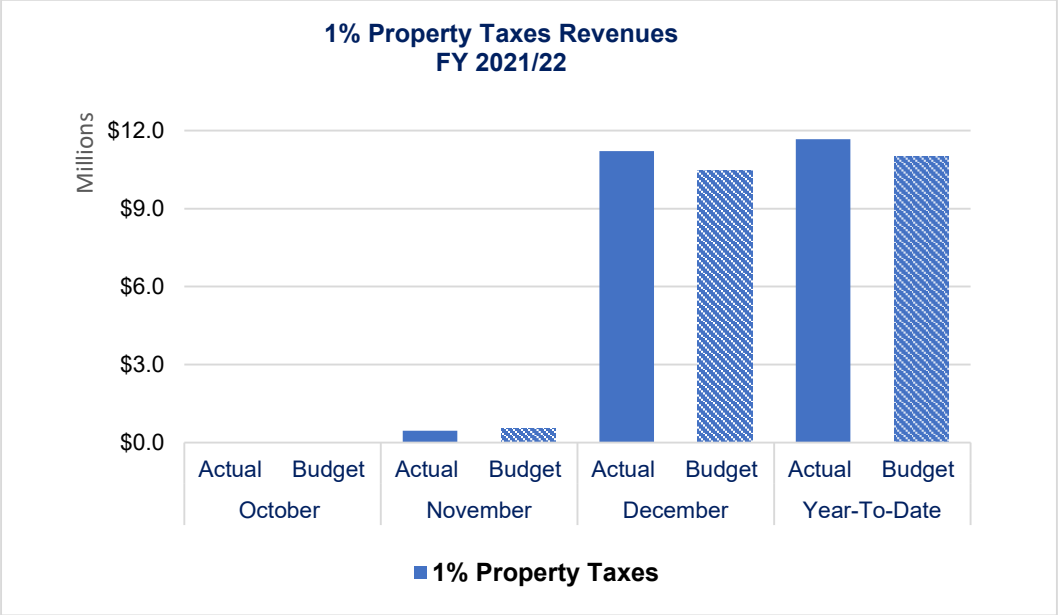
Overall, FY 2021/22 total revenues (operating and non-operating) of $67,105,066 were 10% ($6,196,401) over the budget of $60,908,665.



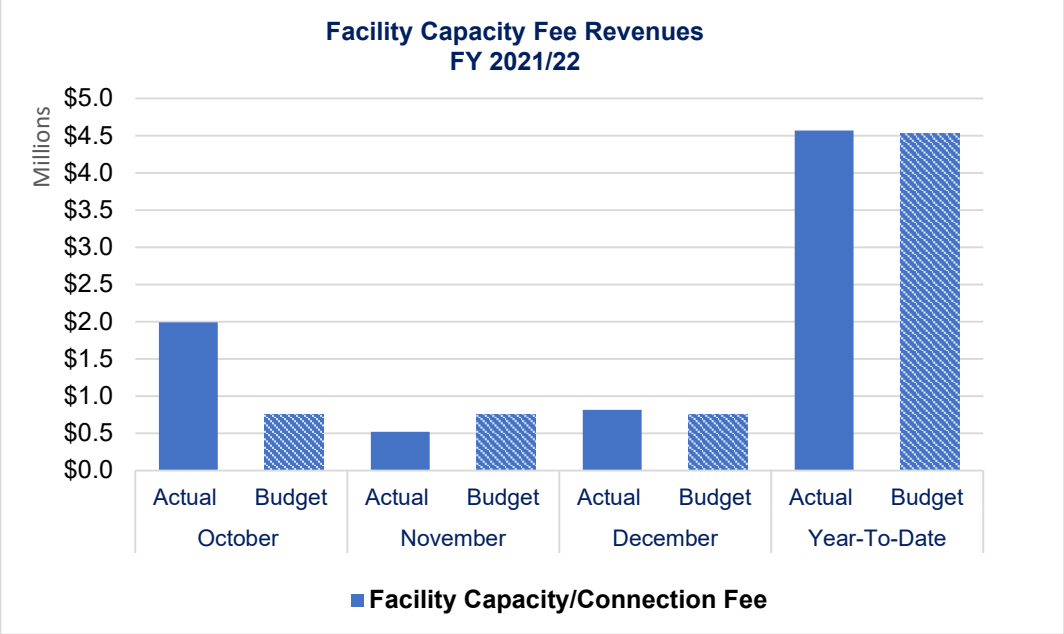
Significant year-to-date changes from the budget are as follows:

- Water sales exceeded the budget by 24% ($9,622,763) due to hot and dry temperatures and low rainfall, consistent with the increase in water production.
    - Residential water sales exceeded the budget by 33% ($7,196,977)
    - Commercial water sales exceeded the budget by 47% ($994,498)
    - Landscaping/Irrigation water sales exceeded the budget by 20% ($1,773,058)
    - All Other water sales exceed the budget by 30% ($527,053)
    - Total number of billing connections increased by 587, out of the 1,019 projected for the year.

- Property tax (1%) received was $11,671,254 of $11,006,310 budget.



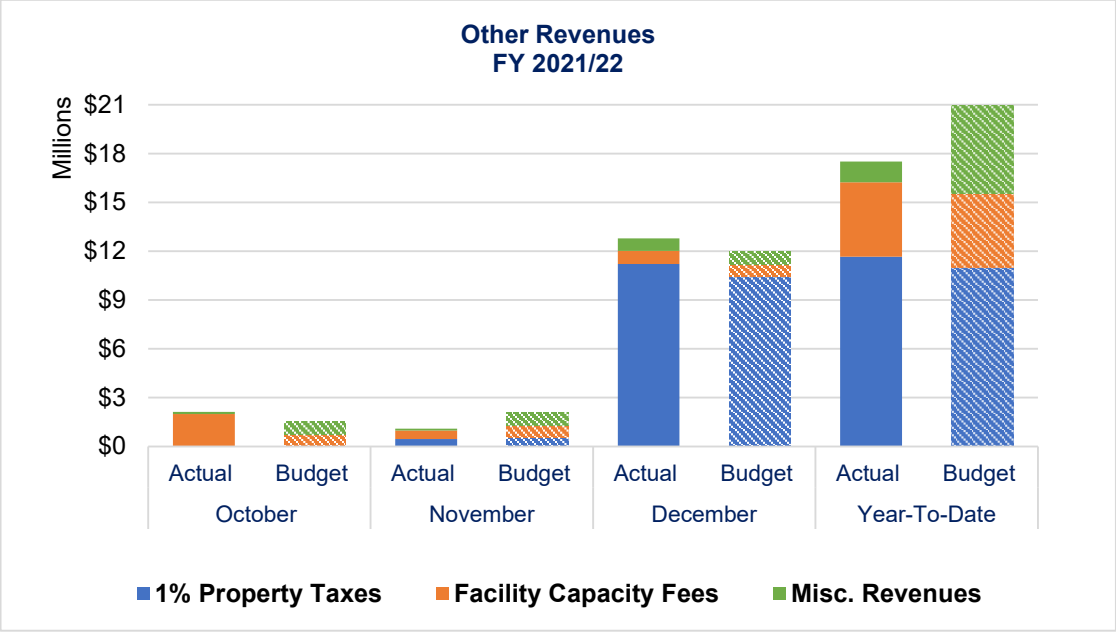
- Total Facility Capacity/Connection Fees received were $4,568,815. Regional Facility Capacity Fees collected were $4,538,565 and $30,250 in Retail Connection Fees out of a budget of $4,535,550.



Fees Received

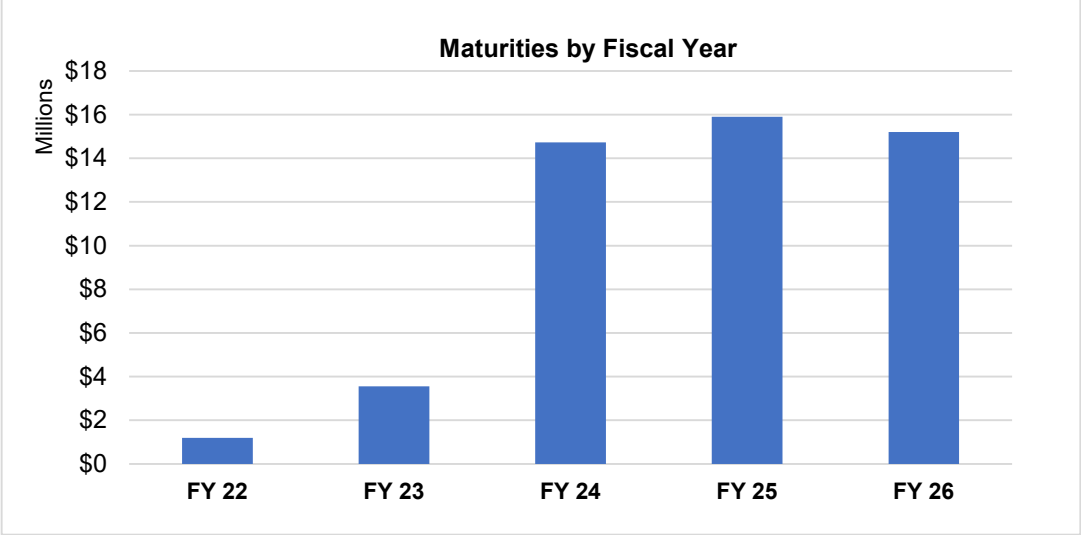
Developers	2nd Quarter		Year to Date	
	Total	#Connections	Total	#Connections
Lennar Homes	$ 1,770,496	208	$ 2,553,600	300
KB Homes	$ 527,744	62	$ 740,544	87
Tri Pointe Homes	$ 555,356	62	$ 655,597	69
Newhall Land and Farming	$ 151,512	7	$ 151,512	7
Toll Brothers, Inc	$ 118,457	23	$ 169,527	33
Richmond American Homes	$ 40,856	8	$ 98,736	17
Other	$ 142,606	4	$ 169,049	7
Total	**$ 3,307,027**	**374**	**$ 1,984,965**	**520**

Other Miscellaneous revenues were $1,268,924, approximately 24% of the budget of $5,393,494, due to timing of grants and perchlorate reimbursements.



Investment Maturities by Fiscal Year

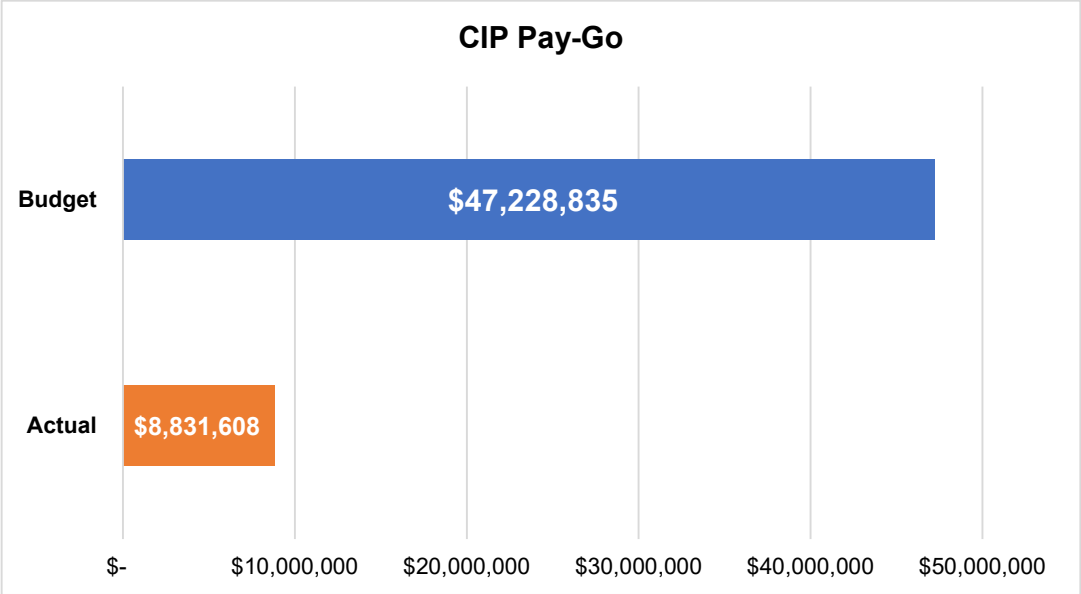
As of December 31, 2021, the Agency has $50,579,562 invested in agencies such as Federal Home Loan Bank (FHLB) bonds, Federal National Mortgage Association (FNMA or Fannie Mae) and Certificates of Deposit (CD). Over the past couple of years, the Agency has invested in long-term investments to maximize its returns. We will be looking to invest additional short-term investments since they are now more favorable. The Agency's average annual yield is 1.413%.

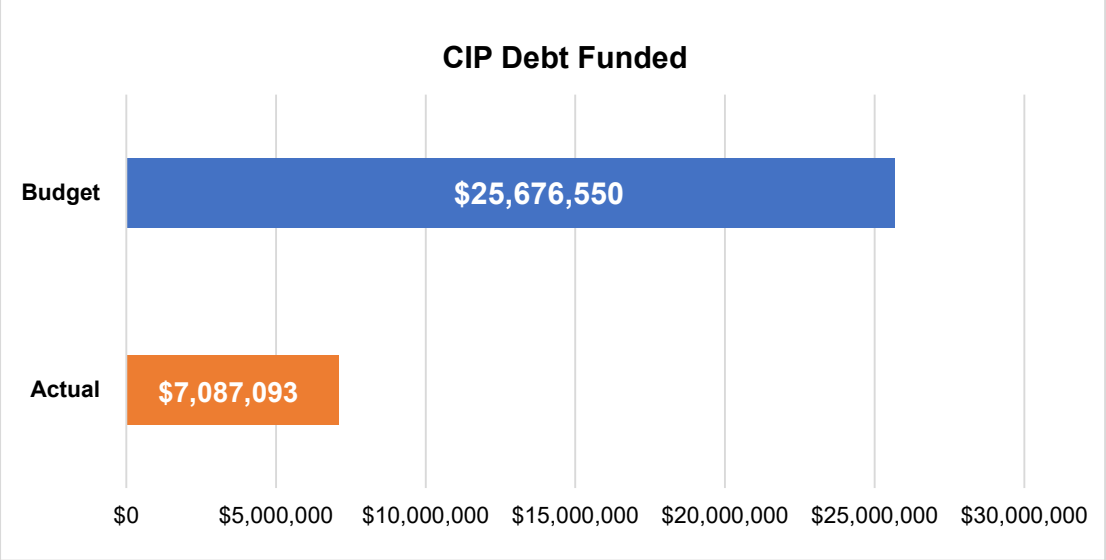


Capital Improvement Program (Pay-go and Debt-Funded Projects)

In general, expenditures for CIP projects depend on bid timing and contract awards, coordination with other agencies, coordination with other projects, staffing levels and other such factors.

- The FY 2021/22 Pay-go Budget for Capital Improvement Program (CIP) expenditures was $47,228,835. Of that amount 19% or $8,831,608 funds have been expended.
- The FY 2021/22 Debt Funded Budget for CIP expenditures was $25,676,550. Of that amount 27.6% or $7,087,093 funds have been expended.

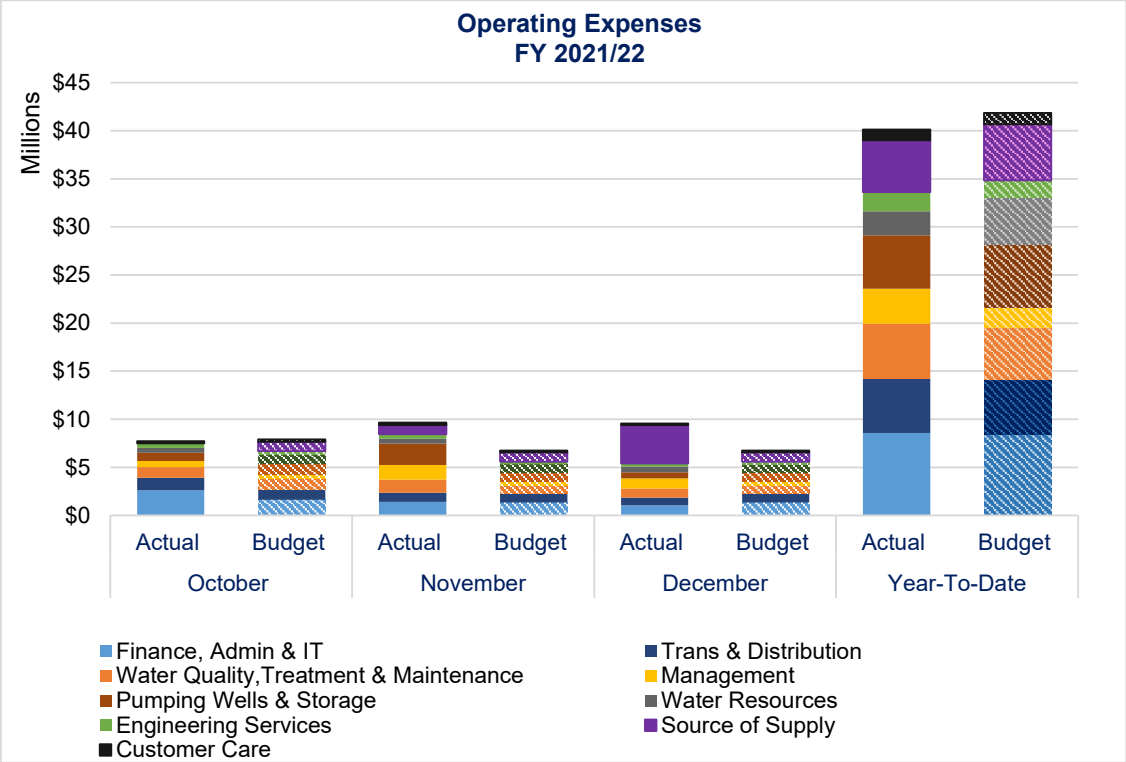




CIP project details are included at the end of this report.

Operating Expenditures

FY 2021/22 Operating Expenditures of $40,108,940 were underbudget by 4% ($1,738,388) of the $41,847,328 budget.



Significant Activities

- Management – Over budget due to Perchlorate Litigation costs
- Source of Supply – Additional water purchases through banking programs not yet recognized
- Water Resources – Conservation programs less than expected due to COVID
- Pumping, Wells and Storage – Timing of PFAS resin changeouts and SCE invoices

Debt Service

There were no debt service payments made in 2nd of FY 2021/22. The outstanding principal debt outstanding as of December 31, 2021, is $293,161,970.

Capital Improvement Projects: Pay-Go Project List

	Capital Pay-Go Projects	FY 2021/22 Budget	FY 2021/22 Actual	%
1	Appurtenance Improvements - Agency-wide	$ 410,000	$ 19,998	5%
2	Booster Station/Turnout Improvements - Agency-wide	1,060,000	-	0%
3	Bridgeport Pocket Park	250,000	1,799	1%
4	BVRRB Storage and Recovery Program	2,797,506	1,397,992	50%
5	Capital Program/Facility Capacity Fees	50,000	36,836	74%
6	CIS Software Integration & Upgrade	1,350,000	176,082	13%
7	Deane Pump Station @ Sand Canyon Plaza*	1,232,200	1,358	0%
8	Deane Pump Station @ Skyline Ranch*	900,000	-	0%
9	Deane SC-6 Pump Station	175,000	-	0%
10	Deane SC-6 Soledad Pipeline	200,000	-	0%
11	Deane Tank Site (Existing) Improvements	50,000	-	0%
12	Deane Tanks - One 1.5 MG Tank @ Sand Canyon Plaza	1,175,000	12,728	1%
13	Deane Tanks (Two 2.5 MG Tanks) @ Skyline Ranch*	1,420,000	-	0%
14	Deane Zone Disinfection @ Skyline Ranch*	250,000	24,580	10%
15	Debt Financing and Administration	15,000	35,447	236%
16	Devil's Den Property Solar Project	100,000	16,843	17%
17	Disinfection Projects - Agency-wide	20,000	-	0%
18	Dockweiler-Sierra Hwy Pipeline*	1,010,000	130,145	13%
19	Equipment and Vehicle Replacements	1,375,000	63,437	5%
20	ERP Software (Finance & Accounting)	1,037,229	1,135,159	109%
21	ESFP Access Road Automatic Gate	75,000	-	0%
22	ESFP Repair & Replacement	385,000	-	0%
23	ESFP Standby Generator	1,025,000	473,200	46%
24	ESFP Two 5 MG Tanks Improvements	1,595,000	53,040	3%
25	ESIPS Repair & Replacement	100,000	63,798	64%
26	Friendly Valley Booster Station (Crossroads)	75,000	-	0%
27	Friendly Valley Pipeline @ Via Princessa (Crossroads)	100,000	-	0%
28	Friendly Valley Tank (3.25 MG) @ Crossroads	100,000	-	0%
29	Golden Valley Pipeline @ Via Princessa (Crossroads)	100,000	-	0%
30	Golden Valley Tank (1.6 MG) @ Crossroads	100,000	1,316	1%
31	GSP Implementation (monitaring,data base, reporting)	50,000	-	0%
32	Honby Pipeline Bottleneck	100,000	90,765	91%
33	Invasive Species Management	250,000	31,196	12%
34	Lab Equipment	50,000	-	0%
35	Market Street Pump Station (Wiley Canyon)	50,000	-	0%
36	Market Street/Shadeland/Maple Street Pipeline (Wiley Cyn)	75,000	-	0%
37	Meter Replacements - Agency-wide	2,075,000	342,069	16%
38	Miscellaneous Large Tools and Equipment	35,000	-	0%
39	Office Furniture - General	30,000	11,767	39%
40	Office Improvements - Various	270,000	16,250	6%
41	Office Reconfiguration - Summit Circle	15,000	-	0%
42	Pipeline Inspection Facility Modifications	300,000	63,269	21%
43	Pipeline Relocations/Modifications	213,900	64,320	30%
44	Pipeline Repair & Replacement	25,000	16,182	65%
45	Pipelines & Pipeline Replacements - Agency-wide	4,800,000	697,274	15%
46	Placerita Tanks (Two 1.6 MG Tanks)	75,000	-	0%

Capital Improvement Projects: Pay-Go Project List – continued

	Capital Pay-Go Projects	FY 2021/22 Budget	FY 2021/22 Actual	%
47	Recycled Water Program Phase II, 2B - Vista Cyn Customer Conv	240,000	-	0%
48	Recycled Water Program Phase II, 2B - Vista Cyn Distribution	400,000	378,174	95%
49	Recycled Water Program Phase II, 2C - South End Distribution	327,450	-	0%
50	Recycled Water Program Phase II, 2D - West Ranch Customer Conv	607,500	-	0%
51	Recycled Water System Repair & Replacement	550,000	300	0%
52	Resiliency Water Master Plan	1,210,000	184,582	15%
53	RVIPS Repair & Replacement	115,000	-	0%
54	RVWTP Repair & Replacement	579,450	7,317	1%
55	RVWTP Underground Storage Tank Replmt	526,000	61,857	12%
56	Sand Canyon System Repair & Replacement	65,000	-	0%
57	Saugus 1 and 2 Wells Repair & Replacement	75,000	-	0%
58	Saugus 3 & 4 Replacement Wells	4,882,000	591,092	12%
59	SC-12 Warmuth Pipeline	50,000	-	0%
60	SCADA - Agency-wide	375,000	56,861	15%
61	SCVWA Integration	100,000	-	0%
62	Security Equipment Upgrades	15,000	-	0%
63	Stair/Ladder Safety Improvements	790,000	9,418	1%
64	System Hydraulic Model	100,000	73,483	73%
65	Tank 4 (1.5 MG Tank @Wiley Canyon)	75,000	-	0%
66	Tanks & Tank Facility Improvements - Agency-wide	970,000	85,344	9%
67	Technology Improvements and Replacements	2,832,500	3,245	0%
68	Treatment Plant & Laboratory Improvements	770,000	-	0%
69	Update Water Conservation and Education Garden	1,210,000	48,644	4%
70	V-9 Improvements	158,000	-	0%
71	Valencia Marketplace Pipeline Replacement	200,000	17,445	9%
72	Vista Cyn Bridge Piping at Soledad/Lost Canyon	300,000	-	0%
73	Video Surveillance Equipment	10,000	-	0%
74	Well 205 (Perchlorate)	510,000	11,025	2%
75	Well Q2 (Perchlorate)	300,000	470	0%
76	Wells & Well Facility Improvements	1,170,000	282,609	24%
77	WR-Summit Circle - Repair & Replacement	24,000	-	0%
78	Yuba Accord Water	455,000	362,682	80%
79	Additional Wells (T7, U4, U6) (includes S1&S2 Wells VOC Treatment	-	17,835	0%
80	E Wells (E-14, E-15, E-16, E-17)	-	9,567	0%
81	Dockweiler-Sierra Hwy Pipeline*	175,000	-	0%
82	Newhall Tanks 1 and 1A - Tank Upgrades	50,000	-	0%
83	Pitchess Pipeline Modifications Project	12,100	-	0%
84	S Wells (S6, S7 and S8)	-	9,965	0%
85	Santa Clara and Honby Wells	-	122,140	0%
86	Sierra Hwy Bridge Expansion Water Pipelines Protection	54,000	-	0%
87	Valley Center Well	-	1,520,703	0%
	Total CIP - Pay Go Projects	**$ 47,228,835**	**$ 8,831,608**	**19%**

Capital Improvement Projects: Debt Funded Project List

	Debt Funded Capital Projects	FY 2021/22 Budget	FY 2021/22 Actual	%
1	Castaic Conduit	180,000	2,031	1%
2	ESFP Sludge Collection System	5,666,000	58,798	1%
3	Honby Parallel	135,000	7,249	5%
4	New Water Banking Program	100,000	-	0%
5	LARC Pipeline*	825,000	28,045	3%
6	Magic Mountain Pipeline No. 4	420,000	119,989	29%
7	Magic Mountain Pipeline No. 5	552,000	142,800	26%
8	Magic Mountain Pipeline No. 6	8,900,000	4,702,085	53%
9	Magic Mountain Reservoir	977,000	67,985	7%
10	Mitchell 5A Replacement	300,000	-	0%
11	Recycled Water Fill Station	78,000	14,361	18%
12	Recycled Water Program Phase II, 2A - Central Park	1,000	-	0%
13	Recycled Water Program Phase II, 2B - Vista Canyon Backbone	5,250,000	1,855,978	35%
14	Recycled Water Program Phase II, 2C - South End Backbone	857,550	87,515	10%
15	Sites Reservoir	750,000	-	0%
16	As-Needed Regulatory Support for Non-Potable Recycled Water Permitting	65,000	-	0%
17	Saugus Dry Year Reliability Wells 5 & 6	220,000	257	0%
18	Well 201 VOC Groundwater Treatment Improvements	400,000	-	0%
	Total Debt Funded Capital Projects	**$ 25,676,550**	**$7,087,093**	**27.6%**

On March 21, 2022, the Finance and Administration Committee considered staff's recommendation to receive and file the FY 2021/22 Second Quarter Financial Report.

FINANCIAL CONSIDERATIONS

None.

RECOMMENDATION

The Finance and Administration Committee recommends that the Board of Directors receive and file the FY 2021/22 Second Quarter Financial Report.

M65

ITEM NO.
5.3

Monthly Financial Report

DECEMBER 2021

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Statement of
Revenues and Expenses

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SCV Water
Statement of Revenues and Expenses
For the 6th Period Ending 12.31.21

	(A)	(B)	(C)	(D)			(E)	(F)	(G)	(H)
	Current Period						Year-to-Date			
	Actual	Budget	Variance	Percent			Actual	Budget	Variance	Percent
						Operating Revenues				
(1)	$ 5,935,256	$ 5,976,614	$ (41,359)	(1%)		Water Sales	$ 49,268,383	$ 39,274,892	$ 9,993,491	25%
(2)	7,805	5,699	2,106	37%		Water Sales - WWR	47,114	34,196	12,918	38%
(3)	16,470	34,037	(17,567)	(52%)		Water Sales - Recycled	258,287	204,223	54,064	26%
(4)	2,043	70,000	(67,957)	(97%)	(a)	Misc Fees and Charges	22,288	460,000	(437,712)	(95%)
(5)	$ 5,961,573	$ 6,086,350	$ (124,777)	(2%)		**Total Operating Revenues**	$ 49,596,073	$ 39,973,311	$ 9,622,763	24%
						Operating Expenses				
(6)	$ 1,037,645	$ 353,695	$ 683,951	193%	(b)	Management	$ 3,635,117	$ 2,150,011	$ 1,485,106	69%
(7)	1,050,427	1,354,957	(304,530)	(22%)	(c)	Finance, Admin & IT	8,570,603	8,407,574	163,028	2%
(8)	132,439	186,257	(53,817)	(29%)	(d)	Customer Care	1,088,128	1,173,801	(85,673)	(7%)
(9)	818,352	912,871	(94,519)	(10%)		Trans & Distribution	5,610,483	5,677,980	(67,497)	(1%)
(10)	635,808	1,033,125	(397,317)	(38%)	(e)	Pumping Wells & Storage	5,573,450	6,547,222	(973,772)	(15%)
(11)	625,360	780,490	(155,131)	(20%)		Water Resources	2,505,625	4,820,280	(2,314,655)	(48%)
(12)	3,999,390	971,118	3,028,272	312%	(f)	Source of Supply	5,408,169	5,835,910	(427,741)	(7%)
(13)	930,437	861,584	68,853	8%		Water Quality, Treatment & Maintenance	5,740,623	5,404,040	336,583	6%
(14)	317,291	291,681	25,610	9%		Engineering Services	1,976,743	1,830,510	146,233	8%
(15)	$ 9,547,148	$ 6,745,778	$ 2,801,371	42%		**Total Operating Expenses**	$ 40,108,940	$ 41,847,328	$ (1,738,388)	(4%)
(16)	$ (3,585,575)	$ (659,427)	$ (2,926,148)	444%		**Net Operating Revenues (Expenses)**	$ 9,487,134	$ (1,874,017)	$ 11,361,151	(606%)
						Non-Operating Revenues and (Expenses)				
(17)	$ 12,791,068	$ 11,986,993	$ 804,076	7%		Non-Operating Revenues [1]	$ 17,508,993	$ 20,242,580	$ (2,733,587)	(14%)
(18)	(4,319,838)	(3,935,736)	(384,101)	10%		Capital Improvement Projects - Pay Go	(8,827,570)	(23,614,418)	14,786,848	(63%)
(19)	-	-	-			Debt Service	(32,007,788)	(29,707,904)	(2,299,885)	8%
(20)	$ 8,471,231	$ 8,051,256	$ 419,974	5%		**Net Non-Operating Revenues and (Expenses)**	$ (23,326,365)	$ (33,079,741)	$ 9,753,376	(29%)
(21)	$ 4,885,656	$ 7,391,829	$ (2,506,173)	(34%)		**Increase (Decrease) in Net Position**	$ (13,839,231)	$ (34,953,758)	$ 21,114,527	(60%)

Monthly Changes of more than 10% and $20,000

(a) Late Fees/Disconnects suspended due to COVID executive order. Fees are expected to resume in May.
(b) Perchlorate Litigation expenses higher than budgeted
(c) Timing of outside services and insurance - budgeted evenly
(d) Timing of bill printing services (customer billing) - YTD under budget
(e) Purchased power lower than budgeted due to higher December rainfall resulting in slightly lower groundwater demand
(f) Core Water Supplies- budgeted evenly, paid in December and June

[1] Non-Operating Revenues include: Grants & Reimbursements, 1% Property Tax, Cell Sites, FCF, Lab Revenues, Interest Income

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Ten Largest Disbursements
Check Register

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SCV Water

Ten Largest Disbursements

December 1, 2021 to December 31, 2021

No.	Date	Check #	Supplier_Name	Invoice_Description	Method	Payment_Amount
	12-29-2021	10985	Nossaman, LLP	Perchlorate November 2021 VOCLGL	SCV_ACH	872,682.09
				Perch Insurance Issues November 2021	SCV_ACH	1,172.50
1			**Nossaman, LLP**			**873,854.59**
	12-15-2021	51199	Department of Water Resources	October 2021 Monthly Variable	CHECK	751,528.00
2			**Department of Water Resources**			**751,528.00**
	12-15-2021	10924	Pacific Tank & Construction, Inc.	Progress Billing #07 Cherry WIllow Tanks	SCV_ACH	362,676.70
3			**Pacific Tank & Construction, Inc.**			**362,676.70**
	12-08-2021	51079	Valley Power Systems, Inc.	Standby Emergency Stationary Generator	CHECK	295,184.63
4			**Valley Power Systems, Inc.**			**295,184.63**
	12-15-2021	51157	Rosedale-Rio Bravo Water Storage District	Power and O&M Charges OCT 2021; 11/24/21	CHECK	235,794.16
				2nd Priority Power and O&M Charges OCT 2021; 11/24/21	CHECK	49,160.39
5			**Rosedale-Rio Bravo Water Storage District**			**284,954.55**
	12-31-2021	11240	So. California Edison Co.	Acct-4924 11/17/21	AUTO_DEBIT	277,650.49
6			**So. California Edison Co.**			**277,650.49**
	12-08-2021	10837	Nossaman, LLP	Perchlorate Legal Services - October 2021	SCV_ACH	251,920.93
				Perch Insurance Issues - October 2021	SCV_ACH	160.00
7			**Nossaman, LLP**			**252,080.93**
	12-31-2021	11245	So. California Edison Co.	Acct-2152 12/7/21 Statement	AUTO_DEBIT	246,297.16
8			**So. California Edison Co.**			**246,297.16**
	12-15-2021	10916	Semitropic Water Storage District	Water Withdrawal OCT2021 812 AF by Pumpback; 58 AF by exchange	SCV_ACH	240,233.10
9			**Semitropic Water Storage District**			**240,233.10**
	12-31-2021	11244	So. California Edison Co.	Acct-5589 11/30/21	AUTO_DEBIT	217,906.95
10			**So. California Edison Co.**			**217,906.95**

Total	**3,802,367.10**
Total-All Checks Issued During December 2021	**7,577,136.26**
Largest Ten Vendor Payments as Compared to Total	**50%**

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Director Stipends

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DIRECTORS STIPENDS PAID IN JANUARY 2021
For the Month of December 2021

Director Kathye Armitage

Date	Meeting	Amount
12/02//21	Special Board Meeting	$239.00
12/07/21	Regular Board Meeting	$239.00
12/15/21	Executive Board Meeting Special Districts Assoc. of Northern LA County	$0.00
12/16/21	Public Outreach and Legislation Committee Meeting	$239.00
12/21/21	Regular Board Meeting	$239.00
	Stipend Total	**$956.00**
	Total Paid Days	**4**
	Total Meetings	**5**

Director B. J. Atkins

Date	Meeting	Amount
12/02/21	Special Board Meeting	$239.00
12/07/21	Regular Board Meeting	$239.00
12/08/21	Water Resources and Watershed Committee Meeting	$239.00
12/16/21	Public Outreach and Legislation Committee Meeting	$239.00
12/21/21	Regular Board Meeting	$239.00
	Stipend Total	**$1,195.00**
	Total Paid Days	**5**
	Total Meetings	**5**

Director Beth Braunstein

Date	Meeting	Amount
12/02/21	Special Board Meeting	$239.00
12/07/21	Regular Board Meeting	$239.00
12/13/21	Rescheduled Finance and Administration Committee Meeting	$239.00
12/21/21	Regular Board Meeting	$239.00
	Stipend Total	**$956.00**
	Total Paid Days	**4**
	Total Meetings	**4**

Director Ed Colley

Date	Meeting	Amount
12/02/21	Special Board Meeting	$239.00
12/07/21	Regular Board Meeting	$239.00
12/08/21	Water Resources and Watershed Committee Meeting	$239.00
12/13/21	Rescheduled Finance and Administration Committee Meeting	$239.00
12/21/21	Regular Board Meeting	$239.00
	Stipend Total	**$1,195.00**
	Total Paid Days	**5**
	Total Meetings	**5**

Director William Cooper

Date	Meeting	Amount
12/01/21	ACWA 2021 Fall Conference	$239.00
12/02/21	ACWA 2021 Fall Conference	$0.00
12/02/21	Special Board Meeting	$239.00
12/06/21	GM Evaluation with Board Officers and General Manager	$239.00
12/07/21	Regular Board Meeting	$239.00
12/08/21	Water Resources and Watershed Committee Meeting	$239.00
12/09/21	Rescheduled Engineering and Operations Committee Meeting	$239.00
12/21/21	Regular Board Meeting	$239.00
12/27/21	Agenda Planning Meeting	$239.00
	Stipend Total	**$1,912.00**
	Total Paid Days	**8**
	Total Meetings	**9**

Director Jeff Ford

Date	Meeting	Amount
12/01/21	ACWA 2021 Fall Conference	$239.00
12/02/21	ACWA 2021 Fall Conference	$0.00
12/02/21	Special Board Meeting	$239.00
12/07/21	Regular Board Meeting	$239.00
12/08/21	Water Resources and Watershed Committee Meeting	$239.00
12/09/21	Rescheduled Engineering and Operations Committee Meeting	$239.00
12/21/21	Regular Board Meeting	$239.00
	Stipend Total	**$1,434.00**
	Total Paid Days	**6**
	Total Meetings	**7**

Director Jerry Gladbach

Date	Meeting	Amount
12/01/21	ACWA 2021 Fall Conference	$239.00
12/02/21	Special Board Meeting	$239.00
12/03/21	NWRA Federal Affairs Committee Meeting	$239.00
12/06/21	GM Evaluation with Board Officers and General Manager	$239.00
12/07/21	Regular Board Meeting	$239.00
12/08/21	Water Resources and Watershed Committee Meeting	$239.00
12/16/21	Public Outreach and Legislation Committee Meeting	$239.00
12/21/21	Regular Board Meeting	$239.00
12/27/21	Agenda Planning Meeting	$239.00
	Stipend Total	**$2,151.00**
	Total Paid Days	**9**
	Total Meetings	**9**

Director R. J. Kelly

Date	Meeting	Amount
12/02/21	Special Board Meeting	$239.00
12/07/21	Regular Board Meeting	$239.00
12/13/21	Rescheduled Finance and Administration Committee Meeting	$239.00
12/16/21	Public Outreach and Legislation Committee Meeting	$239.00
12/21/21	Regular Board Meeting	$239.00
	Stipend Total	**$1,195.00**
	Total Paid Days	**5**
	Total Meetings	**5**

Director Gary Martin

Date	Meeting	Amount
12/01/21	ACWA 2021 Fall Conference	$239.00
12/02/21	ACWA 2021 Fall Conference	$0.00
12/02/21	Special Board Meeting	$239.00
12/06/21	GM Evaluation with Board Officers and General Manager	$239.00
12/07/21	Regular Board Meeting	$239.00
12/09/21	Rescheduled Engineering and Operations Committee Meeting	$239.00
12/13/21	Rescheduled Finance and Administration Committee Meeting	$239.00
12/14/21	City of Santa Clarita Council Meeting Presentation to Mayor Miranda	$239.00
12/16/21	DCA Board of Directors Meeting	$239.00
12/21/21	Regular Board Meeting	$239.00
12/27/21	Agenda Planning Meeting	$239.00
	Stipend Total	**$2,390.00**
	Total Paid Days	**10**
	Total Meetings	**11**

Director Dan Mortensen

Date	Meeting	Amount
12/02/21	Special Board Meeting	$239.00
12/06/21	GM Evaluation with Board Officers and General Manager	$239.00
12/07/21	Regular Board Meeting	$239.00
12/13/21	Rescheduled Finance and Administration Committee Meeting	$239.00
12/21/21	Regular Board Meeting	$239.00
12/27/21	Agenda Planning Meeting	$239.00
	Stipend Total	**$1,434.00**
	Total Paid Days	**6**
	Total Meetings	**6**

Director Piotr Orzechowski

Date	Meeting	Amount
12/02/21	Special Board Meeting	$239.00
12/07/21	Regular Board Meeting	$239.00
12/09/21	Rescheduled Engineering and Operations Committee Meeting	$239.00
12/21/21	Regular Board Meeting	$239.00
	Stipend Total	**$956.00**
	Total Paid Days	**4**
	Total Meetings	**4**

Director Lynne Plambeck

Date	Meeting	Amount
12/01/21	ACWA 2021 Fall Conference	$239.00
12/02/21	Special Board Meeting	$239.00
12/07/21	Regular Board Meeting	$239.00
12/09/21	Rescheduled Engineering and Operations Committee Meeting	$239.00
12/16/21	Public Outreach and Legislation Committee Meeting	$239.00
12/17/21	VIA Board Installation Luncheon	$239.00
12/21/21	Regular Board Meeting	$239.00
12/28/21	One-on-One Meeting with General Manager	$239.00
	Stipend Total	**$1,912.00**
	Total Paid Days	**8**
	Total Meetings	**8**

TOTAL PAID DAYS	**74**
TOTAL MEETINGS	**78**
TOTAL STIPENDS	**$17,686.00**

Director Reimbursements

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CA Govt. Code Section 53065.5

List of Reimbursement for "Individual Charges" = $100 or more

Annual Disclosure for Fiscal Year 20/21 **AP Transactions Updated as of:** 12/31/21

DIRECTORS **P- Card (VISA) Transactions Updated as of:** 12/31/21 *Dec PCard transactions affect Jan cash.

Date of Reimbursement	Recipient of Reimbursement	Reason for Reimbursement	Amount of Reimbursement
12/15/21	Martin, G.	2021 Fall JPIA Board Meeting and ACWA Conference 11/29-12/2/21 - Expenses (Lodging)	729.18
12/15/21	Martin, G.	2021 Fall JPIA Board Meeting and ACWA Conference 11/29-12/2/21 - Travel Expenses (Mileage)	39.20
12/22/21	Cooper, W.	ACWA 2021 Spring Conference, Pasadena 11/30-12/2/21 - Travel Expense (Mileage, Parking)	151.68
			920.06

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Investment Report

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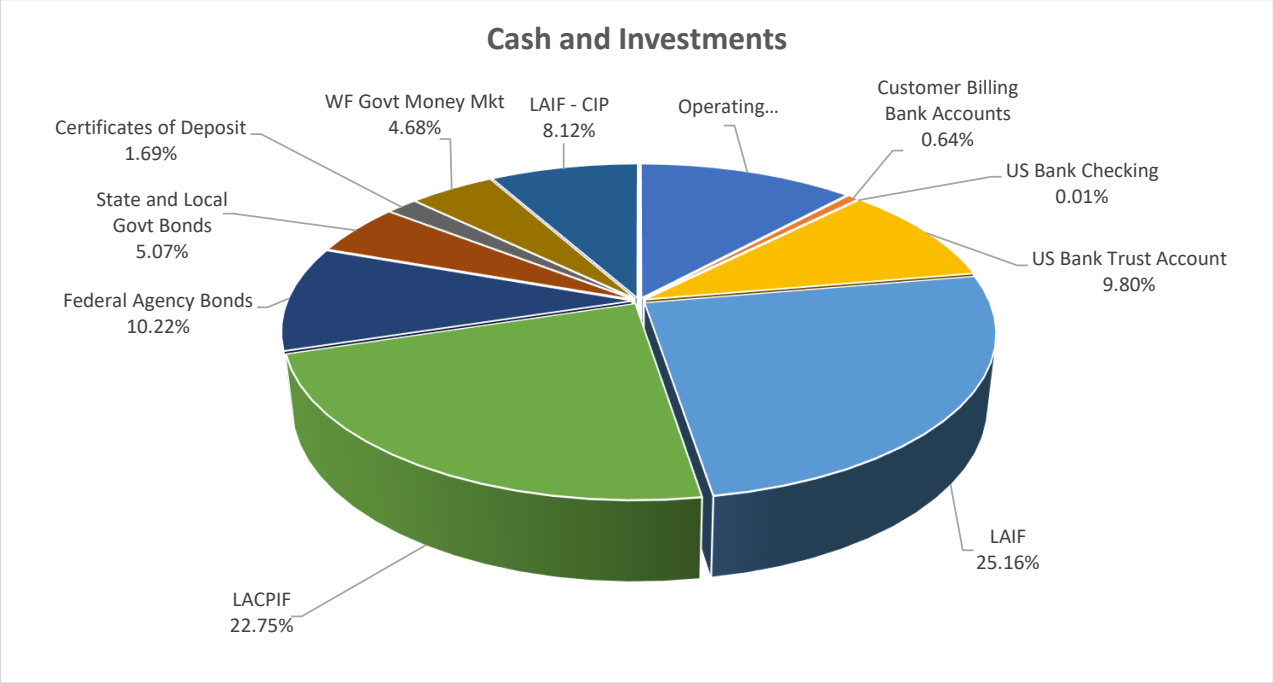
Santa Clarita Valley Water Agency
Cash and Investment Summary
12/31/21



Operating Account-Incl FCF's, SWP & CIP	XXX-10101	$ 35,266,329	11.84%
Customer Billing Bank Accounts	101-10105	1,903,385	0.64%
US Bank Checking (1% Prop Tax)	101-10201	30,000	0.01%
US Bank Trust Account (1% Prop Tax)	101-10202	29,177,530	9.80%
LAIF - Operating	101-11061	74,934,877	25.16%
LAC Pooled Investment Fund	101-11062	67,779,943	22.76%
Federal Agency Bonds	101-11064	30,456,785	10.23%
State and Local Government Bonds	101-11065	15,098,916	5.07%
Certificates of Deposit	101-11066	5,023,760	1.69%
WF Government Money Mkt Fund	101-11067	13,951,922	4.68%
LAIF - CIP	220-11002	24,240,526	8.12%
		$ 297,863,972	100.00%

Rochelle Patterson
Treasurer/Director of Finance & Administration

Amy Aguer
Controller

All investment actions executed since the last report have been made in full compliance with the Investment Policy, and the Agency will meet its expenditure obligatgions for the next six months as required by Government Code Section 53646(b)(2) and (3), respectively.

SCV Water
Consolidated Cash & Investment Summary
12/31/2021

	Acct #	Balance	Total	% of Total
AGENCY FUNDS				
Cash & Sweep Accounts				
Operating Account-Incl FCF's, SWP & CIP	XXX-10101	$ 35,266,329		
Customer Billing - enQuesta Account	101-10105	1,445,589		
Customer Billing - Northstar Account	101-10107	457,796		
US Bank Checking (1% Prop Tax)	101-10201	30,000		
US Bank Trust Account (1% Prop Tax)	101-10202	29,666,016		
Less: Set Aside for FY22 Rem Debt Svc	101-10202	(488,486)		
Less: Restricted Cash (FCF's, SWP & CIP)[1]	2XX-XXXXX	(7,203,371)		
			$ 59,173,873	19.87%
Investments - Unrestricted				
Local Agency Investment Fund	101-11061	$ 74,934,877		
LAC Pooled Investment Fund	101-11062	67,779,943		
Federal Agency Bonds	101-11064	30,456,785		
State and Local Government Bonds	101-11065	15,098,916		
Certificates of Deposit	101-11066	5,023,760		
WF Government Money Mkt Fund	101-11067	13,951,922		
Less: Restricted Investments[2]	202-11002	(9,883,306)		
Less: Restricted Investments[2]	204-11002	(60,414,605)		
Subtotal - Investments Unrestricted			$ 136,948,292	45.98%
Cash and Investments - Restricted				
Facility Capacity Fee Fund - Cash[1]	202-10101	$ 3,160,496		
Facility Capacity Fee Fund - Investments[2]	202-11002	9,883,306		
State Water Project - Cash[1]	204-10101	23		
State Water Project - Investments[2]	204-11002	60,414,605		
Subtotal - Investments Restricted			73,458,430	24.66%
TOTAL AGENCY CASH & INVESTMENTS			**$ 269,580,595**	
CAPITAL IMPROVEMENT PROJECT FUNDS				
Cash & Sweep Accounts[1]	220-10101	$ 4,042,851		
Local Agency Investment Fund - Restricted	220-11002	24,240,526		
TOTAL CAPITAL IMPROVEMENT PROJECT FUNDS			$ 28,283,377	9.50%
		TOTAL CASH AND INVESTMENTS	$ 297,863,972	100.00%

[1]Restricted Cash to/from Other Funds

[2]Restricted Investments to/from Other Funds

12/31/21

Agency-wide General Funds Invested:

Description	Cost	Rate	Yield	Purchase Date	Maturity Date	Life Days	Rem. Days	Average Interest	Average Yield
State and Local Agency Investment Portfolio									
State of California GO Bonds	1,946,780	2.250%	2.862%	01/25/19	10/01/23	1710	639	43,803	55,717
Semitropic Improvement District	1,302,045	2.262%	2.262%	10/30/19	12/01/23	1493	700	29,452	29,452
State of California GO Bonds	3,098,130	3.000%	3.000%	05/28/19	04/01/24	1770	822	92,944	92,944
San Diego Successor Agency	1,147,938	3.000%	2.052%	10/23/19	09/01/24	1775	975	34,438	23,556
L.A. Cnty MET Transp BA Bonds	3,159,800	5.130%	5.130%	12/29/21	06/01/25	1,250	1248	162,098	162,098
Univ of Cal Ca Revenues Txbl-Relief	1,270,703	3.063%	3.063%	12/29/21	07/01/25	1,280	1278	38,922	38,922
Cal St Txbl-Various Purpose-Bid group	3,173,520	3.063%	3.063%	12/29/21	04/01/26	1,554	1552	97,205	97,205
	$ 15,098,916		3.311%				7,214	498,861	499,893
Certificates of Deposit					Avg Remaining Life		1,031 Days		
State Bank India NY US - UBS CD (NWD)	200,000	2.230%	2.230%	01/30/17	02/09/22	1836	40	4,460	4,460
Wex Bank Midvale Utah-WF CD- Act 3569	250,000	1.500%	1.500%	03/09/20	03/09/22	730	68	3,750	3,750
Sally Mae Bank - WF - CD Act 1402	250,000	2.600%	2.600%	04/10/19	04/11/22	1097	101	6,500	6,500
American Express Bk FSB-CD Acct 1402	250,000	2.350%	2.350%	05/03/17	05/03/22	1826	123	5,875	5,875
CITIBANK - WF - CD (SCWD)	250,000	3.000%	3.000%	05/16/18	05/23/22	1468	143	7,500	7,500
Comenity Capital Bank - WF - CD Act 3569	250,000	3.150%	3.150%	07/16/18	07/18/22	1463	199	7,875	7,875
Live Oak Bkg Co - WF - CD Act 3569	250,000	1.550%	1.550%	03/06/20	09/06/22	914	249	3,875	3,875
Goldman Sachs Bank - UBS CD (NWD)	200,000	2.290%	2.290%	10/24/17	11/01/22	1834	305	4,580	4,580
UBS Bank USA Salt LA UT- CD (NWD)	200,000	0.150%	0.150%	11/13/20	11/21/22	738	325	300	300
WEBBANK - WF - CD (SCWD)	250,000	0.100%	0.100%	12/28/20	12/28/22	730	362	250	250
SYNCHRONY Bank - UBS CD (NWD)	200,000	1.280%	1.280%	04/13/20	04/17/23	1099	472	2,560	2,560
BMW Bank North AME - UBS CD (NWD)	200,000	0.250%	0.250%	11/13/20	05/22/23	920	507	500	500
TIAA FSB Florida - UBS CD (NWD)	200,000	0.400%	0.400%	03/31/21	04/09/24	1105	830	800	800
American National Bk - UBS - CD (REG)	244,388	0.250%	0.250%	06/08/21	05/21/24	1078	872	611	611
New York Cmnty Bk - UBS - CD (REG)	245,000	0.350%	0.350%	06/08/21	06/03/24	1091	885	858	858
Leader Bank NA MA - UBS - CD (REG)	244,373	0.250%	0.250%	06/08/21	06/03/24	1091	885	611	611
Greenstate Credit Al US - UBS - CD (REG)	245,000	0.450%	0.450%	06/08/21	06/17/24	1105	899	1,103	1,103
LUANA - WF - CD (SCWD)	250,000	0.250%	0.250%	12/30/20	07/01/24	1279	913	625	625
Texas Exchange Bank - UBS CD (NWD)	200,000	0.500%	0.500%	07/22/21	07/30/24	1104	942	1,000	1,000
UBS Bank - CD - (NWD)	200,000	0.700%	0.700%	10/14/20	10/28/24	1475	1032	1,400	1,400
Sallie Mae Bank - UBS CD (NWD)	200,000	1.880%	1.880%	11/22/19	11/20/24	1825	1055	3,760	3,760
Morgan Stanley PRI NY - UBS CD (NWD)	245,000	1.640%	1.640%	04/01/20	03/05/25	1799	1160	4,018	4,018
	$ 5,023,760						12367	62,810	62,810
	Weighted Avg Yield		1.250%		Avg Remaining Life		562 Days		
Federal Government Agency Investment Portfolio **Wells Fargo records these at Par value**									
FFCB - WF	2,000,560	0.120%	0.120%	02/02/21	01/12/23	709	377	2,401	2,401
FFCB - WF- (VWD)	2,000,000	0.180%	0.180%	01/13/21	07/13/23	911	559	3,600	3,600
FFCB - WF	5,000,000	0.270%	0.270%	01/05/21	01/05/24	1095	735	13,500	13,500
FHLB - USB	200,005	0.750%	0.750%	11/24/21	05/24/24	912	875	1,500	1,500
FHLB - UBS	4,500,000	0.400%	0.400%	06/08/21	08/29/24	1178	972	18,000	18,000
FFCB	1,997,700	0.875%	0.875%	11/18/21	11/18/24	1096	1053	17,480	18,000
FHLB - WF (VWD)	2,000,000	0.400%	0.400%	02/26/21	11/26/24	1369	1061	8,000	8,000
FHLB - WF (SCWD)	2,000,000	0.690%	0.690%	06/10/21	06/10/25	1461	1257	13,800	13,800
FNMA - WF	3,985,680	0.500%	0.500%	11/12/20	11/07/25	1821	1407	19,928	19,928
FNMA - WF (VWD)	1,992,840	0.500%	0.500%	11/12/20	11/07/25	1821	1407	9,964	9,964
FHLB - UBS (NWD)	280,000	0.500%	5.000%	04/15/21	04/29/26	1840	1580	1,400	14,000
FHLB - UBS	1,500,000	0.600%	0.600%	06/09/21	06/30/26	1847	1642	9,000	9,000
FHLB - UBS	3,000,000	0.500%	0.500%	06/08/21	06/30/26	1848	1642	15,000	15,000
	$ 30,456,785						14567	133,573	146,693
# Callable	Weighted Avg Yield		0.482%		Avg Remaining Life		1,121 Days		

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Credit Card Register

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SCV Water
Credit Card Charges
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Row Labels	Sum of Transaction Amount
8870 ROYAL	**436.44**
2AMP Fuses	7.88
Terminal Blocks, Relays, Fuses	428.56
ADOBE ACROPRO SUBS	**8,489.07**
Adobe licenses monthly. Adobe Pro, Adobe Stock, and Adobe Creative.	2,853.33
Adobe Pro subscriptions	148.96
Monthly Acrobat Pro licenses	2,633.45
Monthly Adobe licenses.	2,853.33
ADOBE CAPTIVATE SUBS	**101.97**
Adobe Captivate monthly	33.99
Monthly - Adobe Captivate	33.99
Monthly Adobe Captivate license.	33.99
ADOBE STOCK	**239.97**
Digital Photo Stock	79.99
Photo Stock	79.99
Publication	79.99
ALBERTSONS #3301	**15.72**
Vending Machine Supplies	15.72
ALLIED ELECTRONICS INC	**84.89**
Electrical Supplies	84.89
AMAZON PRIME	**14.22**
Accidental Personal Charge	14.22
AMAZON.COM	**(23.58)**
Credit - Lost in Shipping	(23.58)
AMAZON.COM AMZN.COM/BILL	**(106.22)**
Noco 56 watt charger	(106.22)
AMAZON.COM*251G34002	**59.07**
Beverage Dispensers for Board and Committee Meetings (Rio and Summit)	59.07
AMAZON.COM*253YP2Y91 AMZN	**19.69**
2.5 Gallon Beverage Dispenser - AJ/MGT	19.69
AMAZON.COM*256A67X42 AMZN	**163.80**
Supplies	163.80
AMAZON.COM*2718A44U0	**23.58**
Credit - Lost in Shipping	23.58
AMAZON.COM*273699H02	**166.80**
Coffee Cups - RVWTP Kitchen	166.80
AMAZON.COM*2764876B0 AMZN	**118.37**
Analog phone for Guard Shack at Rio.	118.37
AMAZON.COM*2C1QE8JI2	**106.70**
Banana Boat Sun Screen	106.70
AMAZON.COM*2C2GL0MW1 AMZN	**732.66**
Noco Boost Vehicle Jump Starter	732.66
AMAZON.COM*2C30I7SW0 AMZN	**16.40**
14mm Hex Key	16.40
AMAZON.COM*2C3FV0R52	**17.98**
Vending Machine Supplies	17.98
AMAZON.COM*2C6X90DA2	**20.99**
Vending Machine Supplies	20.99
AMAZON.COM*2C8AF4MR1 AMZN	**106.22**
Noco 56 watt charger	106.22
AMAZON.COM*2G4IV6FL2	**64.59**
Office Supplies	64.59
AMAZON.COM*2G8G04911 AMZN	**22.80**
Extra large sharpies	22.80
AMAZON.COM*2K2RW20H3	**17.98**
Vending Machine Supplies	17.98
AMAZON.COM*2Y07507R2	**5.14**
Tea for Rio Vista Kitchen	5.14
AMAZON.COM*2Y77I5Z40	**65.81**
Supplies (Kitchen) Pine St	65.81
AMAZON.COM*2Y80M8E21	**15.74**
Vending Machine Supplies	15.74
AMAZON.COM*414005RZ3	**68.08**
Office Supplies	68.08
AMAZON.COM*9683R7VT3 AMZN	**20.14**
File Labels, T.Bell, MGT	20.14
AMAZON.COM*FB8SZ5H83	**207.76**
8 Boxes of 10x13 envelopes for printing	207.76

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AMAZON.COM*I26157CK3	**37.34**
Fastener Folders - BL/ADM	37.34
AMAZON.COM*LD62B0893 AMZN	**17.99**
Vending Machine Supplies	17.99
AMAZON.COM*VB1TM6KX3 AMZN	**83.06**
Pneumatic Grease Gun	83.06
AMAZON.COM*WQ16I24K3	**19,000.00**
Employee Holiday Cards	19,000.00
AMAZON.COM*X173X7DR3	**5,000.00**
Employees Gift Cards	5,000.00
AMERICAN PUBLIC WORKS	**155.95**
APWA Reference Materials	110.95
Fleet Principles Course	45.00
AMZN MKTP US	**16,389.69**
2 TruSens Replacement Carbons - Medium - Split between RIO and Summit	41.62
2 TurSens Large Purifiers - Split between RIO and Valencia.	567.22
3 Cube Storage Organizer Emergency Equipment	69.42
4 Cases of Tube Light Bulbs for the Agency	766.44
4" LED Truck Mount spot lights	65.66
5 TurSens Large Purifiers and 1 Large TruSens Replacement Carbon - Split between RIO and Valencia.	2,161.56
80 Face Shields for Board and Committee Meetings	54.74
Audio cable adapters for phone system.	27.35
Back Up Cameras Kits for Fleet	405.76
battery for N50 crew truck/power tools	333.79
battery's for N50 crew truck	285.74
Blender and Phone Supershieldz - JH/GIS	94.15
Computer/phone headset adapter	54.74
D.C Chargers and Cables for new IPADS	59.10
Desktop Stand for Printer - AM/HR	37.55
Electronic Date/Time Stamper - HR Dept.	992.53
Fuel caps	206.11
HEPA air filter for main Rockefeller office area.	425.96
HEPA filters for Rockefeller Office	2,129.80
Hydraulic Pipe Crimping Tool, Desk Grommet Wire Organizer - B&G	182.51
Journal for D Conner	13.09
Kneeler for warehouse	17.70
Light Bar for new truck Unit S-45	502.58
Lysol Wipes and USB Power Strip - Rockefeller - JH/GIS	68.39
Magnets to mount Fire Extinguisher on Fuel Tanks	39.40
Micro USB to Audio output adapter	17.50
Office Supplier - Pine Street	128.12
Office Supplies	419.75
Office Supplies - Pine Street	437.90
Office Supplies - Pine Street Safety	54.72
Office Supplies - Pine Street Warehouse	46.54
Office Supply Order for Rockefeller - JH/GIS	73.01
Parts and Materials (Fuel Hose, Soft Case, Fuel Tank)	602.58
Parts and Materials (Tank side Quick connect / Fuel Tank reservoir / Fuel caps)	673.44
Phone Shoulder Rests - Quantity of 4, Office Supplies	54.68
Pressure washer hoses for Ditch Witch Trailers	205.80
Project Journal for D Conner	13.09
Red Side marker lights for Dump Trucks and trailers	21.89
Rest Rest for Keyboards - AM/HR	58.81
Safety Supplies - Hand Sanitizer Gel - AS	73.53
Stickers for Board/Committee Bags	15.30
Supplies - Office and Warehouse - Pine St	119.31
Swingline Heavy Duty Electric Stapler for RVWTP Copy Room	493.03
Tea for RVWTP Kitchen	29.39
TRRS adapters for phone to computer	35.44
Truck Mount Vise for Unit 7	656.99
Truck Mounted Vise for Non Inventory stock	656.99
TruSens HEPA Replacement Filers for 2 Medium and 5 Large Purifiers.(Split between RIO, Summit and Valencia locations.)	408.47
two air purifiers for the education trailer	851.92
Vending Machine Supplies	213.20
Vending Machine Supplies - Credit	(24.80)
Wireless Poly 8x8 phone for Education and Laboratory.	450.18
APPLE.COM/BILL	**104.93**
Jump app for Adam Pontious' iPhone 12.	14.99
Jump app for Andy Parr's iPhone 12.	14.99
Jump app for Corey Jens' iPhone XR.	14.99

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Jump app for Joe Almanza's iPhone XR.	14.99
Jump app for Jon Mahar's iPhone XR.	14.99
Jump app for RJ Huish's iPhone XR.	14.99
Jump app for Tony Alonzo's iPhone XR.	14.99
AQUA-FLO SUPPLY INC #3	**239.54**
Sump pump, PVC glue, and tape.	239.54
ARIZENT COLLECTIONS	**37.50**
Calif Public Finance Bond Buyers CPE	37.50
ASCE PURCHASING	**55.00**
Membership Renewal	55.00
ASSOCIATION OF CALIFORNI	**6,240.00**
ACWA 2021 Fall Conference - Registration - 11/30-12/2/21 - Director Braunstein	385.00
ACWA 2021 Fall Conference - Registration - 11/30-12/2/21 - Director Kelly - Change to Virtual Attendance - Credit Coming for In Persc	385.00
ACWA 2021 Fall Conference - Registration - 11/30-12/2/21 - E. Campbell	385.00
ACWA 2021 Fall Conference - Registration - 11/30-12/2/21 - M. Stone	725.00
ACWA 2021 Fall Conference - Registration Refund - 12/1-2/21 - Director Kelly	(725.00)
Registration - 2021 ACWA CLE Virtual Workshop Series - 10/6-27/21 - Dirk Marks	225.00
Registration - ACWA 2021 Spring Conference - 11/30-12/2/21 - Pasadena - Director Armitage	385.00
Registration - ACWA 2021 Spring Conference - 11/30-12/2/21 - Pasadena - Director Cooper	725.00
Registration - ACWA 2021 Spring Conference - 11/30-12/2/21 - Pasadena - Director Ford	385.00
Registration - ACWA 2021 Spring Conference - 11/30-12/2/21 - Pasadena - Director Kelly	725.00
Registration - ACWA 2021 Spring Conference - 11/30-12/2/21 - Pasadena - Director Kelly - Switched to Virtual - Credit to be issued for	385.00
Registration - ACWA 2021 Spring Conference - 11/30-12/2/21 - Pasadena - Director Martin	725.00
Registration - ACWA 2021 Spring Conference - 11/30-12/2/21 - Pasadena - Director Plambeck	385.00
Registration - ACWA 2021 Spring Conference - 11/30-12/2/21 - Pasadena - Dirk Marks	385.00
Registration - ACWA 2021 Spring Conference - 11/30-12/2/21 - Pasadena - Steve Cole	725.00
Registration - Zooming through California - ACWA Regions - 9/22/21 - Director Gladbach	35.00
ATLAS COPCO COMPRESSORS L	**364.31**
Two check valves.	364.31
AV EQUIPMENT	**222.59**
Hoses, and nozzles.	222.59
AWWA EVENTS	**1,350.00**
AWWA 2021 Water Quality Technology Conference (WQTC21) - Jenny Anderson	675.00
AWWA 2021 Water Quality Technology Conference (WQTC21) - Ryan Bye	675.00
AWWA.ORG	**933.24**
AWWA Water Operator Field Guide (12) purchased at Josh Gilliam's request	783.24
J Anderson Training	150.00
BEARINGS	**202.58**
1 5/8 shaft collar	39.09
1 5/8" shaft coupler for clarifier drain valves	163.49
BEST BUY 00001131	**-**
3.5mm audio cables for conference room	-
BESTBUYCOM806514018403	**273.72**
SCADA computer equipment	273.72
BIG 5 SPORTING GOODS 414	**295.62**
Portable sleeping cot/with sheets for late night shifts	120.43
Replace Torn Canopy for Truck	175.19
BITLY.COM	**348.00**
URL shortening tool annual subscription	348.00
BOUQUET AUTO PARTS	**353.06**
brake light bulbs	8.74
cleaning brush used to clean turbidimeters	17.25
Parts for generator quick connect to aux tank	46.80
Vehicle Part for truck	280.27
BOX, INC.	**1,800.00**
File share cloud subscription	600.00
File share host	600.00
File Share Site	600.00
CA TOXIC MAIN/US EPA FEE	**807.50**
Annual hazardous waste fee	807.50
CALI PIZZA KITC INC #260	**36.74**
New Employee Welcome Lunch - Paul Hoover	36.74
CALIFORNIA ASSOCIATION OF	**495.00**
Registration CAPPO - 1/30-2/2/22 - Jessica Hithe	495.00
CALIFORNIA BAKERY AND CAF	**186.93**
Sept. Birthday & Anniversary	186.93
CA-NV SECTION, AWWA	**750.00**
Advanced SCADA WebinarIdentifying & Maintaining Critical Water Distribution System WebinarDeveloping Effective Standard Operat	450.00
CA-NV AWWA D3-D4 Math Review - A. Herrera	150.00
CA-NV AWWA D3-D4 Math Review - M. Desautels	150.00

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CANYON DISCOUNT MUFFLER	**1,102.40**
M&R Vehicles and EquipmentCY 2021 Smog Tests Part 1	1,102.40
CAPIO - CA ASSOCIATION OF	**65.00**
LG Webinar Attendance	20.00
Toastmasters Membership (6 mo)	45.00
CAPIO CONFERENCE REG	**400.00**
CAPIO Conference	400.00
CARROT-TOP INDUSTRIES	**130.69**
Replace flag Pine street	130.69
CHARMAINES* CHARMAINES	**107.20**
Sympathy Flowers for J. Grothe	107.20
CHEESECAKE VALENCIA	**125.61**
Operations Admin Lunch Meeting - LT, CAV, JH, and TW	125.61
CKNAPPSALES	**76.63**
Desk keyboard tray (for ergonomics); approved by Mark Passamani, please see attachment.	76.63
COLDSTONE #20179	**103.92**
October Birthday & Anniversary	103.92
CONCENTRA INC	**60.00**
J. Woodworth DOT	60.00
CORNER BAKERY 0208	**149.72**
Meal for Admin Meeting 09/14/21	149.72
COSTCO DELIVERY 653	**2,467.95**
ED Dept. Snacks for Backpack Promotion - Non Taxable	524.90
Office Supplies - Non Taxable	1,663.76
Office Supplies - Taxable	279.29
COSTCO WHSE #0447	**214.46**
Supplies	214.46
COSTCO WHSE #0762	**36.37**
Snacks, meetings and conferences	36.37
COURSRA77FPQHKJ4Y7XRL	**117.00**
Coursera Subscription Payment - September	39.00
Cousera Subscription Payment - November	39.00
Cousera Subscription Payment - October	39.00
CRISTA CHEVRON AUTO SPA	**159.99**
Unit S4 needed to be detailed	159.99
CSMFO	**150.00**
Award Submission Application fee for Budget Award 21/22 & 22/23	150.00
DAPPER DANS CARWASH	**119.75**
Pool Car Washes N55	29.95
Pool wash N55	29.95
Recurring Monthly Charge - Car Wash for inspection vehicle. No Receipt	39.90
Vehicle Maintenance - Recurring Monthly Charge for Inspection Truck. No Receipt	19.95
DNH*DOMAIN HOSTING SRVCS	**1,042.81**
Domain name hosting - domain renewal - CLWA INFO	43.54
Domain registration - SCVWA.ONLINE	245.96
GIS SSL certificate (2years)	135.98
Monthly Domain Name Hosting.	17.36
SCADA data server hosting	599.97
DNH*DOMAIN/HOSTING	**8.68**
Domain name hosting monthly	8.68
DNH*GODADDY.COM	**492.83**
GoDaddy valenciawater.com annual renewal.	143.88
ip hosting	2.99
NCWD Domain	2.99
NCWD Hosting	2.99
SSL certificate renewal	339.98
DNH*SUCURI WEBSITE SECURI	**29.97**
Agency Website Maintenance	9.99
SCV Water Website Maintenance	9.99
Website Maintenance	9.99
DOCUSIGN	**300.00**
DocuSign Membership Dues	300.00
DXP ENTERPRISES	**473.17**
6 quarts of oil.	157.68
Check valve.	302.22
Shipping for oil.	13.27
EB 2021 CITY OF SANTA	**210.00**
Registration - 2021 State of the City - 11/4/21 - Darine Conner	35.00
Registration - 2021 State of the City - 11/4/21 - Director Cooper and Ford	70.00
Registration - 2021 State of the City - 11/4/21 - Director Martin	35.00

Registration - 2021 State of the City - 11/4/21 - Director Mortensen	35.00
Registration - 2021 State of the City - 11/4/21 - Rochelle Patterson and Erika Dill	70.00
Registration Credit - 2021 State of the City - 11/4/21 - Director Ford	(35.00)
EB 2021 FALL ECONOMIC	**105.00**
Registration - 2021 Fall Economic Outlook Conference - 9/17/21 - Darine Conner	105.00
EB NAFA PSW CHAPTER A	**50.00**
MEMA/NAFA Fleet Meeting	50.00
EIG	**971.15**
Bluehost	26.15
Constant Contact - eNews	630.00
Publication - eNews	315.00
EPIC-LA	**5,740.00**
LA County Permit	3,444.00
LA County Permits	2,296.00
ESRI	**-**
Esri IMGIS cancelation reimbursement.	(200.00)
Tanya Saxena Esri IMGIS Conference registration.	200.00
EUCI	**2,390.00**
Danielle Burleson and Melissa Dominguez course registration on GIS for water.	2,390.00
FACEBK *JR3JD9FKH2	**100.00**
FB - Media Messaging	100.00
FARWEST CORROSION CONTRO	**345.50**
Straperm Packaged Electrodes	345.50
FASTENAL COMPANY 01CAVAE	**90.99**
Drill Bits, Torque Check Marker	51.78
Heavy Wall Shrink Tubing	30.43
Self Threading Screws	8.78
FEATHERS CUSTOM SIGNS	**131.40**
Door Changes at Summit	131.40
FERGUSON ENT #616	**827.71**
pine street sink	47.00
pine street under sink water heater	253.49
teacher trailer water heater	263.61
teacher trailer water heater at Rio Vista	263.61
FOOD AT* LASDELICIAS	**188.03**
Team Building/Safety Tailgate w/ Treatment/Maintenance	188.03
FOOTHILL ELECTRIC MO	**380.38**
Labor to Rebuild Baldor Motor	300.00
Mechanical Repair - Parts	80.38
FOSTERS FREEZE #1069	**64.19**
4-bay /cdf replace 8'' class 300 broken valve bought crew dinner	64.19
FREEWAY TOWING SC	**450.00**
M&R Vehicles and EquipmentTowing for N51	450.00
FYF*FROMYOUFLOWERS	**183.93**
Get well gift basket for Ryan Bye	183.93
GIH*GLOBALINDUSTRIALEQ	**932.82**
Mobile PC carts for CCare	932.82
GOD'S GARDEN FLOWER SHOP	**114.44**
Sympathy Flowers for Jeff K	114.44
GORMAN-RUPP INDUSTRIES	**1,961.19**
Bellows Pumps for Tesoro, CDF, Pinetree 4&4A	1,218.69
Replacement Bellows pumps for bfdf and pdf	742.50
GOVERNMENT FINANCE OFFIC	**580.00**
Annual Governmental GAAP Update	135.00
Award Submission Application fee for 2020/2021 ACFR	445.00
GOVERNMENT TAX SEMINAR	**1,640.00**
A. Aguer Registration	328.00
E. Ho Registration	328.00
K. Herrera Registration	656.00
Y. Johnson Registration	328.00
HACH COMPANY	**1,980.00**
Registration fees for Ted Braxhoofden & Pete Woeger as part of their CEU's.	1,980.00
HAD*HARRY & DAVID	**132.28**
Get Well gift basket for Joey Campos/E&I Dept.	132.28
HARBOR FREIGHT TOOLS 459	**269.30**
1/2" Drive Hex Driver Set	16.41
Over size socket set for Y-Strainers	54.72
Puller Set to Remove Fan	17.51
torque wrench for unit I58 Electrician	180.66
HAWK ELECTRONICS	**54.68**

Din Rail Spacers	54.68
HIRSCH PIPE & SUPPLY 013	**459.64**
pressure tank for summit	145.44
Rockefeller water heater	23.32
Summit Water Tank for Toilet	145.44
toilet tank for summit engineering	145.44
HP *HP.COM STORE	**360.26**
Printer	360.26
HYATT RESORT @ SQUAW CRK	**850.99**
CAPIO Conference	850.99
IN N OUT BURGER 107	**351.88**
bought crew dinner water main break	79.72
Dinner for Crew on Soledad hit & Pinetree Booster 3 Leak	182.21
live oak spring canyon/relocate hydrant	89.95
IN N OUT BURGER 171	**47.91**
Lunch with Crew	47.91
IND METAL SUPPL-SUN VALL	**335.99**
pre cut plates and clamps for valve modification	335.99
INTERSTATE ALL BATTERY	**136.66**
batteries for sand cyn. pump staion emergency lighting	136.66
JEFFERSON VALVES	**990.24**
Stainless Steel Hung Piston Assembly with Viton seats, Repair Kit	990.24
JETBLUE	**491.42**
CAPIO conference flight	491.42
JIMMY DEANS	**481.99**
Breakfast for Water System Techs' Meeting at RVWTP on 11/17/21.	80.51
Monthly Birthday and Anniversary Celebration August, September, October and November	401.48
JL WINGERT COMPANY	**1,132.42**
Seamtrcs Lo Flow Magmeter	1,132.42
JOHNSTONE SUPPLY VALENCIA	**367.01**
Pressure Gauge for Rockefeller	25.62
tstat for summit	86.81
Tstat for summit engineering	254.58
LA COCINA BAR AND GRILL	**41.38**
Outreach Team Meeting	41.38
LA CONVENTION CENTER	**25.00**
M&R Vehicles and EquipmentNAFA Meeting Parking	25.00
LADY DI'S COOKIES	**142.10**
August Birthday and Anniversary	142.10
LAPTOPEMT	**80.00**
Labor for soldering on control board	80.00
LESLIES POOL SPLY	**169.68**
Brush, pole, and net.	169.68
LOGMEIN	**30.00**
Go to Meeting - KG	5.00
Go to Meeting - RP	10.00
Go to Meeting Monthly Subscription - KG	10.00
Go to Meeting Monthly Subscription - RP	5.00
LOWES #01510	**3,024.30**
200 lb gauge for rockefeller	14.21
Batteries for Test Instruments	19.69
Bucket, batteries, zip ties.	83.99
Cat 6 cable for Chris Alexander	194.91
Door Stop for B&G	199.36
drawers and shelf	105.60
Electrical Supplies	4.80
Fittings for air calibrator	64.87
Folding Table	58.01
Impact wrench for shop	349.31
Ladder	50.33
LED Work Light	49.25
Light for bulletin board by Guard shack	56.92
Masonry Bits for Anchors	24.62
Metric tools for generator maint @ SCPS	191.52
Misc house keeping supplies	162.40
packing tape	3.81
Parts & Materials	46.35
Parts & Supplies	165.22
Plumbing Parts	13.18
Plumbing Parts for Drinking Fountain Supply Line	21.31

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Plumbing Parts for Fountain Drain	7.10
Propane for B&G Heater	21.87
ptfe tape pvc fitting, small brush	32.81
pvc fitting for cl2 flow meter	20.50
Return (Rio Vista Rugs)	(85.37)
Rio Vista Patio cracked tiles	18.59
Rio Vista rugs	148.84
Rockefeller's front curb paint red	83.38
Rubber Gloves,Sockets Set Batteries Tape	302.53
Safety tape for reclaimed pump sta.	14.32
Sheet Metal, Spray Paint	44.13
Step bit	98.48
Timer and Grease	87.53
water filter and adapter rio 2nd floor kitchen	114.00
water heater at Rockefeller	45.29
wood, stain, screws, brackets, stain pads. project for april. temperture station	190.64
LOWES #01972	**430.11**
Filter Housings for Chlorinators	306.45
led lights that work with dimmer for Pine hallway	59.09
Restock materials	64.57
MARIA BONITA MEXICAN REST	**136.38**
Supervisors lunch GH,AP,MM,DH	72.72
Supervisors meeting lunch	63.66
MARRIOTT MONTEREY BAY	**(87.11)**
Lodging First Night Charge - No Show - CSDA Conference - Monterey - R. J. Kelly - 8/29/21 - Credit	(87.11)
MARRIOTT TACOMA DOWNTO	**578.56**
Water Quality 2021 Technology Conference - J Anderson	578.56
MCDONALD'S F8047	**23.74**
M&R Vehicles and EquipmentRefreshments for Generator Annual Inspection	23.74
MCMASTER-CARR	**1,205.90**
2 air filter regulators, and PVC fittings.	553.30
Oil, pressure guage, and valve	636.80
o-rings.	15.80
MISAC	**1,475.00**
Credit for MISAC	(130.00)
Human Side of IT Workshop - MISAC	475.00
Misac Charge	1,000.00
MISAC membership	130.00
MOTION INDUSTRIES CA22	**1,179.64**
Blower System Pressure Switch for RVWTP requested by L.Margueritis.	1,179.64
MQI*MULTIQUIP INC.	**20.63**
M&R: Vehicles and EquipmentGenerator Repair Parts	20.63
NAFA FLEET MGMT ASSOC	**499.00**
M&R Vehicles and EquipmentNAFA Membership	499.00
NAPA AUTO PARTS	**128.74**
Gloves and magnet.	128.74
NATIONAL ENVIRONMENTAL HE	**100.00**
CA Environmental Health Cert	100.00
NATIONAL TRUCK EQUIPMENT	**655.00**
National Work Truck Association Membership Fees	655.00
NEIGHBARISTA	**66.78**
Safety department lunch meeting (Aaron, Mark, Joe) Discussion on safety department task and upcoming projects.	66.78
NEWARK US 00000075	**975.78**
batteries for chemical leak detectors	686.02
General Purpose Relays	112.61
Pressure Switches	177.15
NNA SERVICES LLC	**76.80**
Notary Supplies	76.80
OIL STOP 11	**214.92**
Oil change for Ford Taurus (Agency Vehicle) S20.	59.13
Oil Service for Truck	155.79
O'REILLY AUTO PARTS 3797	**219.80**
Accidental Personal Charge	205.58
Fix A Flat	14.22
PADDLE.NET* PRINTBLCAL	**129.95**
Annual subscription renewal for April Jacobs' PrintableCal Ultimate license.	129.95
PANERA BREAD #204228 O	**868.22**
Safety Training	868.22
PANERA BREAD #204229 O	**1,602.98**
Catering for training	295.90

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Safety Training	536.96
Safety Training - Pine Street - JD	770.12
PAPER DIRECT	**213.71**
Office Supplies - Certificates	213.71
PATAGONIA US	**1,576.80**
Masks - Safety PPE	1,576.80
PATTONS METAL WORKING SOL	**855.74**
Steel tubing	855.74
PAYPAL	**1,194.82**
2021 Waterwise Virtual Meeting During Drought Emergency - Margret Aragon	28.00
2021 Waterwise Virtual Meeting During Drought Emergency - Shadi Bader	28.00
Annual Water Symposium - Jason Yim	28.00
Annual Water Symposium - Shadi Bader	28.00
AWA 29th Annual Water Symposium - Registration - 10/21/21 - Director Martin	58.00
AWA 29th Annual Water Symposium - Registration - 10/21/21 - Directors Atkins and Braunstein	115.00
AWA Annual Symposium Registration - Jason Yim.	58.00
AWA Annual Symposium Registration - Shadi Bader.	58.00
AWA WaterWise Breakfast Series Webinar - Registration - 11/28/21 - Director Atkins	28.00
CCWUC Educational Training - Jason Yim.	28.00
CCWUC Educational Training - Shadi Bader	28.00
CCWUC Educational Training - Shadi Bader.	28.00
Registration - ACWA/CCWUC Lead Free Drinking Water Webinar - 9/22/21 - Directors Atkins and Orzechowski	55.00
Replacement Fuel tank for N51	626.82
PIHRA	**375.00**
2022 PIHRA Annual Membership Joo	125.00
Membership renewal for Linda Pointer	125.00
PIHRA Membership-J. Brison	125.00
PITNEY BOWES	**8.04**
Credit on postage in the label application of the new PB mail machine.	(1.96)
Postage for the label application on the new PB mail machine.	20.00
Refund for postage that was added twice during the demonstration on the label application on the new PB mail machine.	(10.00)
PITNEY BOWES PI	**203.33**
Postage machine E-Z Seal and Postage Tape Sheets	203.33
PMA ONLINE	**-**
Grant Writing Seminar Series	745.00
Refund for Grant Writing Course	(745.00)
PRAXAIR DIST INC 70163	**421.59**
Supplies & Materials	276.14
Welding wire	145.45
PRIME VIDEO*2C9144XC2	**4.99**
Accidental Personal Charge	4.99
QR-CODES.COM	**19.98**
Publication Online Presence	9.99
Social Media	9.99
RALPHS #0147	**81.32**
Vending Machine Supplies	66.22
Vending Machines Supplies	15.10
RALPHS #0727	**39.48**
Hazwoper Training - Rockefeller Drinks for lunch	39.48
REPUBLIC SERVICES TRASH	**3,476.57**
20yd Rental/Service 10/1-10/31/2021	97.61
3yd Rental/Service 11/1-11/30/21	334.86
40yd Rental/Service 10/1-10/31/2021	233.61
August 2021 - 20yd Service/Rental	601.31
August 2021 - 40yd Rental/Service	260.10
Oct 2021 - 3yd Rental/Service	334.86
Sept 2021 - 20yd Rental/Service	765.18
Sept 2021 - 3yd Service/Rental	334.86
Sept 2021 - 40yd Rental/Service	514.18
REV.COM	**6.00**
Caption Service - PFAS Treatment Messaging	6.00
ROSE EQUIPMENT REPAIR INC	**2,180.59**
Hannay Reel Swivel Joint, requested by Allen Rodriguez & Rafael Pulido	2,180.59
RSTUDIO PBC	**117.00**
Customer Rate Calculator	39.00
Online Customer Rate Calculator	78.00
SAGE SOFTWARE INC	**2,110.00**
Annual Renewal - Sage Software (1 User)	2,110.00
SAMS CLUB #4824	**45.74**
Sams Club Membership Renewal	45.74

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SAMSCLUB #4824	**625.07**
Supplies	131.22
Vending Machine Credit	(8.98)
Vending Machine Supplies	382.22
Vending Supplies	120.61
SAN FRANCISCO BAY COFFEE	**161.05**
WR Dept - Coffee	161.05
SANTA CLARITA BEARING COM	**13.96**
7/16" key stock	13.96
SANTA CLARITA VALLEY CHAM	**110.00**
11th Annual Salute to Patriots - Registration - 11/10/21 - Director Cooper	55.00
11th Annual Salute to Patriots - Registration - 11/10/21 - Director Plambeck	55.00
SAP STORE - BOBJ	**495.00**
Crystal Report software for Lab	495.00
SAUGUS DRUG	**8.70**
Shipping Charges for Enterprise Paperwork	8.70
SC AUTO AIR	**100.94**
Headlight Repair for N-73	100.94
SHERWIN WILLIAMS 708294	**160.49**
Painting Supplies	160.49
SITEGROUND HOSTING	**287.76**
GSA Website Maintenance	287.76
SKYLINESMILES	**150.00**
Testing - J. Diaz	150.00
SMART AND FINAL 468	**475.82**
Office Supplier - Pine Street	229.60
Office Supplies	82.14
Supplies and materials Pine Street	164.08
SMART AND FINAL 483	**452.94**
ED Dept. Snacks for Backpack Promotion	114.55
ED Dept. Snacks for Backpack Promotion - Addl Snacks	39.95
Vending Machine Supplies	40.49
VENDING MACHINE SUPPLIES (Rockefeller)	257.95
SMARTDRAW SOFTWARE LLC	**357.00**
Smartdraw software for HR	357.00
SMARTSIGN	**558.33**
Safety signs	558.33
SO PT HOTEL AND CASINO	**84.75**
Lodging - Water Smart Conference - Las Vegas - 10/5-8/21 - Pari Moheban - First Night Deposit	84.75
SOUTHWES	**(427.96)**
R Bye - Credit	(427.96)
SP * WISDOM SUPPLY CO.	**112.20**
WR Dept - Office Supply	112.20
SPACE SPOT ANGELS	**15.00**
Parking for Fleet Expo	15.00
SPECTRUM	**979.00**
8/25-9/24/21 Pine St. Services	979.00
SPUDNUTS BAKERY CROISSANT	**131.30**
Rockefeller FCSR Safety meeting snacks - 11.12.21	26.21
Rockefeller Safety Tailgate 10/07/2021 Field Customer Service Snacks	29.48
Snacks for Safety Tailgate Meeting-Rockefeller field customer service reps	26.73
Training Snacks for Rockefeller EAP -Customer Care and Field Customer Service	48.88
SQ *HK FLOWERS, INC	**82.31**
Flower delivery for L. Medina	82.31
SQ *SCV AUTO KEY -	**368.47**
REPLACE KEY REMOTES (2) N-74	368.47
SQ *VINCENZO'S PIZZA SAUG	**163.51**
Employee Lunch - Accounting, Procurement, Finance team	163.51
STATE TIRE CO	**20.00**
Flat tire repair on I62	20.00
SUPPLYHOUSE.COM	**353.68**
Blue Monster Plumbers Tape100 Rolls	353.68
TARGET 00023507	**97.44**
Supplies (Kitchen) - Pine St	97.44
THE HOME DEPOT #0653	**1,526.99**
bath room lights for summit	38.26
bathroom lights for summit	35.00
bulbs for summit engineering woman's bathroom	49.18
Cleaning sup. for sand cyn. pump sta.	130.12
Extension Cables	54.59

ladder for Carlos	196.01
Parts & Materials	138.34
Parts & Supplies	133.25
parts and small tool for counter top at summit engineering	16.15
Pine St Parts	71.98
pine street sink	17.03
Propane torch plumbing supplies	41.29
Purchased tape measure and level. Lost receipt - submitted missing receipt affidavit.	27.31
Rat Traps	8.63
Rio Vista Ladder & Tape	114.94
sanding block for summit office patches	17.45
side door at summit	71.35
Small Tools	21.83
sover for hole in counter at summit engineering	5.98
Storage Containers	35.25
Tools & Materials	160.57
Truck I-67 stock	103.89
vacuum to keep on truck	38.59
THE HOME DEPOT #1055	**976.32**
bathroom lights for summit	15.26
Batteries	37.19
Cleaning sup for sand cyn. pump sta.	29.04
Digging Bar, meyers hub, nipple, connectors	57.90
drain parts bathroom sink at Schmidt	27.99
fitting for chemical flow meter	41.79
fitting to test new crimp tool	2.72
Fittings for air calibrator	67.35
HEPA Filters for Classroom Trailer	42.60
Machine Screws for docking station	5.61
Misc house keeping supplies brooms and hoses	173.32
missing back up	43.69
New faucet bathroom sink at Schmidt	50.05
Pipe Clamp	3.70
plumbing fittings	27.27
Pump and Hose Kit	121.18
Returned Screws	(5.61)
Rio Vista Patio cracked tiles	25.56
Rockefeller front curb paint	28.44
Rockefeller water heater	19.69
Supplies & Materials	23.66
Water Heater Parts at Rockefeller	137.92
THE HOME DEPOT 1055	**1,479.61**
Cleaning Supply	90.79
Parts & Materials	431.29
parts and small tools for demo at Rockefeller	219.72
Rockefeller demo tools	425.86
small tools for guys	93.56
work lights and extension cord for ESIPS	218.39
THE HOME DEPOT 653	**1,897.99**
Jijsaw and bits	269.14
Parts & Supplies	302.49
Supplies & Materials	275.64
Tools & Materials	800.00
tools to clean the Y-strainers	250.72
THE UPS STORE 6842	**55.17**
Parts Shipping	55.17
TONY S LAWNMOWER SERVICE	**81.19**
Service for gas blower	81.19
TOPPERS PIZZA PLACE VALEN	**111.89**
Quarterly Meeting w/ Operators on 9/22/21	111.89
TPX COMMUNICATIONS	**444.10**
8/16-9/5 Service	444.10
TRACTOR SUPPLY #2264	**43.79**
utility knife	43.79
TRAFFIC MANAGEMENT - NEW	**362.72**
Parts & Supplies	362.72
TST* MARSTON S	**82.58**
Outreach Staff Luncheon	82.58
UNIGUEST INC - USD	**7.95**
Conference WiFI	7.95

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UPS	**39.90**
UPS Delivery	39.90
USPS PO 0569500155	**1.60**
Postage Due	1.60
VALENCIA CHEVRON AUTOSPA	**159.99**
Detail truck V59 interior	159.99
VALLEY INDUSTRIAL ASSOCIA	**105.00**
Registration - VIA Cocktails and Conversation - An Evening with Kathryn Barger - 9/23/21 - Piotr Orzechowski	35.00
Registration VIA Cocktails and Conversation - 9/23/21 - Director Atkins	35.00
VIA Cocktails and Conversation - K. Martin	35.00
VER SALES INC	**346.19**
Lifting and rigging slings for truck 57	346.19
VERIZONWRLSS	**57,993.32**
7/11-8/10/21 CIMIS	38.01
7/11-8/10/21 Equipment	1,403.80
7/11-8/10/21 Service	14,909.21
9/11-10/10/21 Services	14,990.71
CIMIS 8/11-9/10	38.01
CIMIS 9/11-10/10/21	38.01
Equipment 8/11-9/10	5,399.72
Equipment 9/11-10/10/21	4,112.01
Services 8/11-9/10	15,240.24
Telemetry 8/24-9/23	928.35
Telemetry Services 9/24-10/23/21	895.25
VONS #3138	**92.35**
Office Supplies	92.35
VZWRLSS*IVR VB	**926.25**
7/24-8/23/2021 Telemetry Services	926.25
WALMART.COM AA	**46.08**
Pintal Pins and chain for truck hitches	46.08
WEB	**17.97**
Domain Renewal NCWD	5.99
NCWD Hosting	5.99
Unix hosting	5.99
WESTERN BAGEL TOO #4	**36.60**
Rockefeller IT & GIS EAP training	36.60
WESTIN (WESTIN HOTELS)	**489.27**
Hotel stay for MISAC Conference	489.27
WESTIN SO COAST PLAZA	**172.80**
Lodging - Urban Water Institute 28th Annual Conference - 9/8-9/9/21 - M. Stone	172.80
WM SUPERCENTER #3523	**35.73**
Office Supplies	35.73
WOLF CREEK RESTAURANT & B	**90.56**
Admin Working Lunch - RP, KG, DC, LM	90.56
WOOD RANCH VALENCIA	**154.51**
Supervisors lunch GH,AP,MM,DH	154.51
WPONCALL.COM	**147.00**
GSA Website Maintenance	147.00
WWW COSTCO COM	**242.93**
WR Dept - Office Supplies	124.77
WR Dept Supplies	118.16
WWW.AMANET.ORG	**2,495.00**
AMA Membership	2,495.00
ZORO TOOLS INC	**128.49**
Electrical Enclosure	128.49
Grand Total	**204,579.20**

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Facility Capacity Fee Revenues

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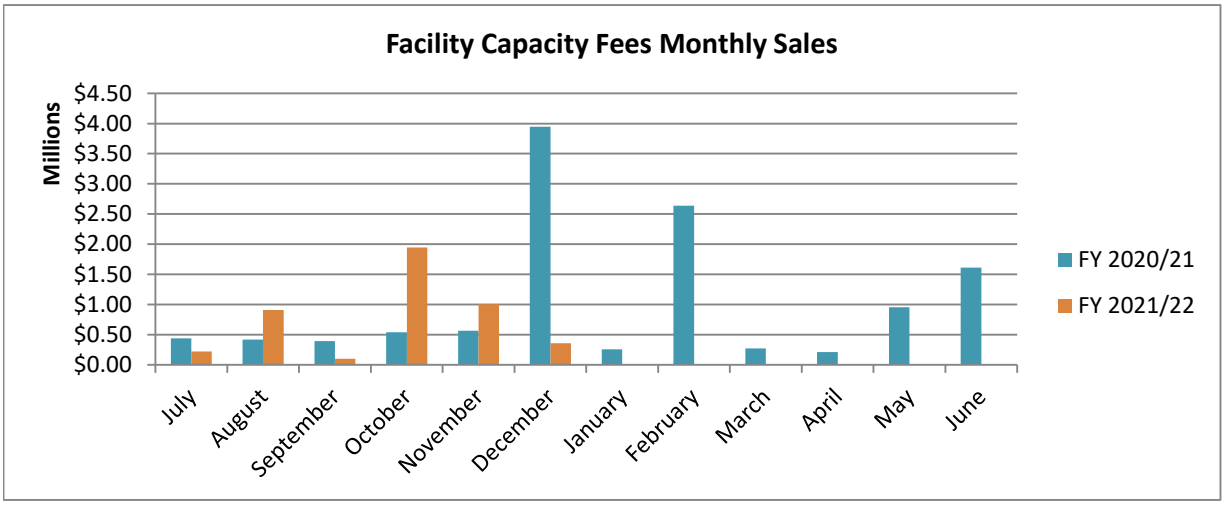
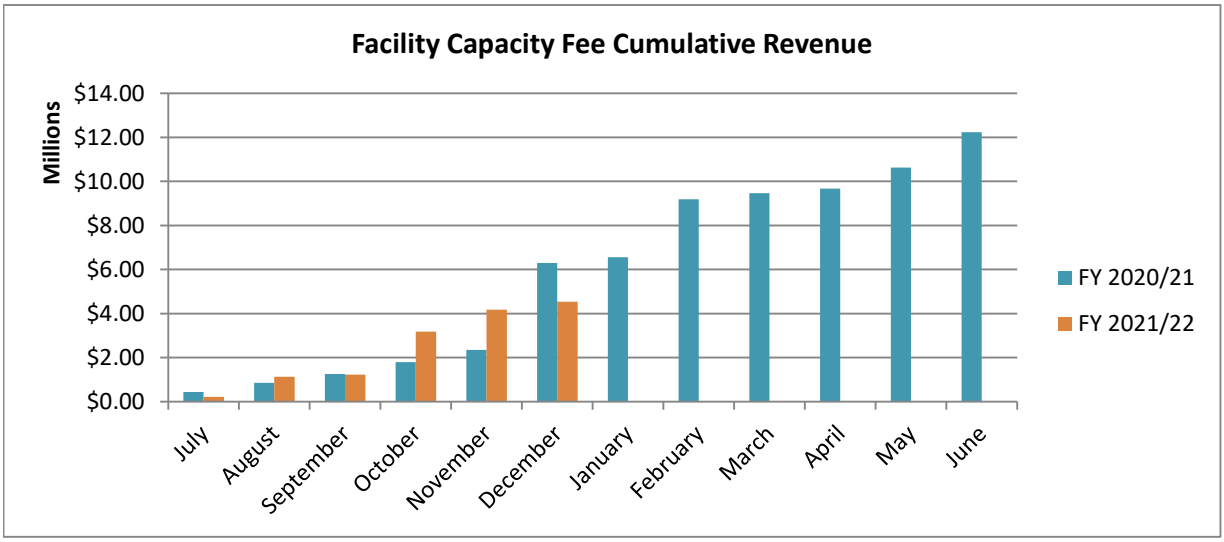
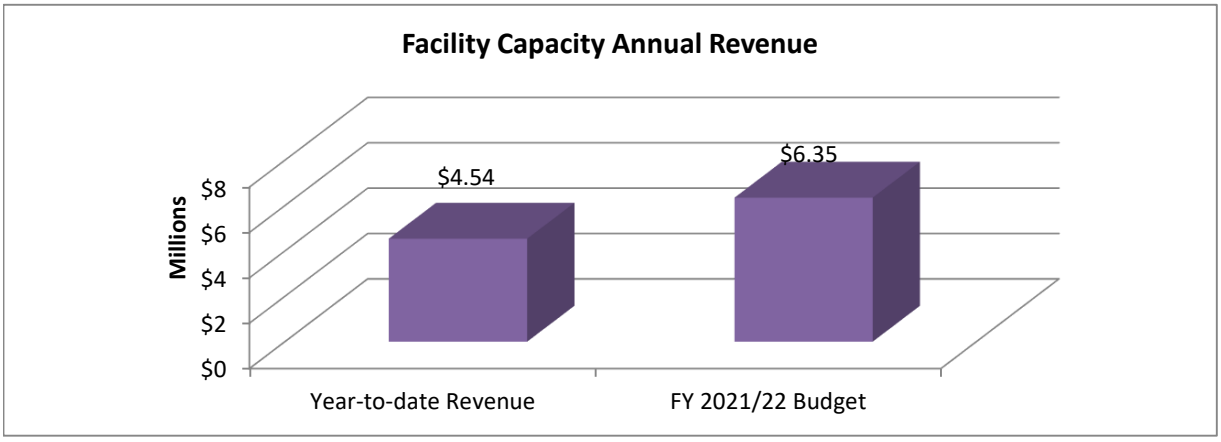
SCV WATER
FACILITY CAPACITY FEE REVENUES
FY 2021/22 as of December 31, 2021







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ITEM NO. 6.1

BOARD MEMORANDUM

DATE: March 4, 2022

TO: Board of Directors

FROM: Courtney Mael, P.E. CM
Chief Engineer

SUBJECT: Approve a Resolution for a Construction Contract to Zim Industries, Inc., a Purchase Order to Richard C. Slade & Associates LLC for Inspection and Engineering Services during Construction and a Purchase Order to Black & Veatch Corporation for Construction Management Services for the Saugus #3 and #4 Wells Construction (Replacement Wells) Project

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SUMMARY

The Saugus #3 and #4 Wells Construction (Replacement Wells) Project has been re-advertised for construction bids. A bid has been received and staff is recommending approval of a construction contract to Zim Industries, Inc. (Zim). Staff is also recommending approval of a purchase order to Richard C. Slade & Associates LLC (Slade) for Inspection and Engineering Services during construction, and a purchase order to Black & Veatch Corporation (Black & Veatch) for construction management services.

DISCUSSION

Santa Clarita Valley Water Agency's (Agency) Capital Improvement Program includes construction of new production wells that will replace capacity lost from wells that were shut down in 1997 because of perchlorate contamination. Construction of the Saugus #3 & #4 Wells Construction (Replacement Wells) Project consists of three parts: 1) two new wells just west of Magic Mountain amusement park, 2) site preparation and infrastructure and 3) a pipeline to convey the water along Commerce Center Drive to the Magic Mountain Parkway Pipeline.

This project will consist of constructing two wells with a capacity of 2,000 gallons per minute to drilled depths ranging between 2,000 and 3,000 feet below ground surface. Major tasks include pilot hole drilling, downhole geophysical surveying, isolated aquifer zone testing, pilot hole ream, caliper & deviation surveys, well casing, gravel pack, annular grout seal, well casing alignment testing, and well development.

The well construction project was initially advertised in 2020 and on August 4, 2020, the Board of Directors awarded a well drilling construction contract to Best Drilling and Pump, Inc. Unfortunately, due to permitting delays, the well construction contract was mutually terminated on June 21, 2021. Since then, the permit issue was resolved, and the Agency re-advertised the well construction project for construction bids on November 10, 2021. On January 26, 2022, one bid was received from the following bidder:

Bidder	Bidder Location	Total Bid Price
Zim Industries, Inc.	Fresno, CA	$12,751,494

Agency staff evaluated the submitted bid and it appears to be responsive and responsible. The engineer's estimate for the project is $10,223,336. Zim is a licensed Class A General Engineering Contractor and a licensed Class C-57 Well Drilling Contractor in the State of California and is registered with the Department of Industrial Relations.

Slade performed the design and prepared the specifications and will need to work with the contractor to finalize the design and inspect the well construction.

Black & Veach performed the construction management services for the initial well construction that was cancelled in 2021 and staff is recommending Black & Veatch to continue the construction management services for this work. The general scope of work includes providing inspection, overall construction coordination and material testing. Staff will facilitate division of responsibilities between Black & Veatch and Slade so that there will be no duplication of effort.

CEQA Determination

The proposed action today is to (1) authorize the award of a construction contract to Zim Industries, (2) authorize the General Manager to issue a purchase order to Richard C. Slade & Associates, LLC for engineering services and (3) authorize the General Manager to issue a separate purchase order to Black & Veatch for construction management services for the Saugus #3 and #4 Wells Construction (Replacement Wells) Project. The whole of the action also includes construction and operation of the project. The term "project" in CEQA refers to the whole of an action and to the underlying activity being approved, not to each governmental approval. (CEQA Guideline §15378(a), (c)–(d).) This definition ensures that the action reviewed under CEQA is not the approval itself but the development or other activities that will result from the approval. Therefore, the project is subject to CEQA.

The project was previously evaluated by the Castaic Lake Water Agency's (CLWA) Board of Directors. On September 14, 2005, CLWA, as the lead agency under CEQA, adopted the Mitigated Negative Declaration for the Groundwater Containment, Treatment, and Restoration Project (MND) and adopted findings and the Mitigation Monitoring and Reporting Programs with the adoption of Resolution No. 2429. CLWA filed the Notice of Determination with the Los Angeles County Clerk's Office and the State Clearinghouse (SCH No. 2005081053) on September 19, 2005.

As a result of the integration of CLWA into the Agency pursuant to SB 634, the Agency is now the lead agency under CEQA for the Saugus #3 and #4 Wells Construction (Replacement Wells) Project. In its role as lead agency, the Agency has now evaluated the adopted MND pursuant to CEQA Guideline 15162 to determine if, when taking subsequent discretionary actions in furtherance of a project for which an MND has been adopted, the Agency is required to review any changed circumstances to determine whether any of the circumstances under Public Resources Code Section 21166 and CEQA Guidelines Section 15162 require additional environmental review.

With the assistance of Woodard & Curran, an Addendum to the Saugus #3 and #4 Wells Construction (Replacement Wells) Project Mitigated Negative Declaration was prepared to analyze the potential environmental impacts associated with project modifications to the original project.

In accordance with Section 15164(a) of the State CEQA Guidelines, an Addendum to an MND can be prepared by the Lead Agency that prepared the original MND, or by a responsible agency if some changes or additions are necessary. Furthermore, the conditions that require

preparation of a Subsequent MND, as described in Section 15162(a) of the CEQA Guidelines are not met, therefore an Addendum to the MND is the appropriate level of CEQA documentation for the modified project.

The environmental evaluation in the Addendum has concluded that there are no substantial changes proposed in the modified project, nor substantial changes in the circumstances under which the modified project would be undertaken, which would require major revisions of the MND due to new significant environmental effects or a substantial increase in the severity of previously identified significant effects. The environmental evaluation in the Addendum has concluded that the impacts of the modified project are consistent with the impacts of the original Approved Project in the MND.

There are no new significant impacts resulting from implementation of the modified project, nor are there any substantial increases in the severity of any previously identified environmental impacts, and no new mitigation measures would be required.

On March 3, 2022, the Engineering and Operations Committee considered staff's recommendation to approve a resolution for a construction contract to Zim Industries, Inc., a purchase order to Richard C. Slade & Associates LLC for inspection and engineering services during construction and a purchase order to Black & Veatch Corporation for construction management services for the Saugus #3 and #4 Wells Construction (Replacement Wells) Project.

FINANCIAL CONSIDERATIONS

Zim's construction bid is $12,751,494. Slade's budget for engineering during construction and inspection services is an amount not to exceed $343,000. Black & Veatch's budget for construction management is an amount not to exceed of $914,000. Both Slade and Black & Veatch's services will be performed on a time and materials basis. Previously issued purchase orders will be terminated.

This project is funded in the Agency's Biennial Budget for FY 2021/22 and FY 2022/23. The budget for this FY is $1,400,000 and there are adequate funds remaining to initiate construction of the project. The FY 2022/23 budget will be revised to account for these updated cost amounts. The first $8.3 million of the project will be funded by Whittaker Corporation, consistent with terms of Castaic Lake Water Agency Litigation Settlement Agreement and amendments related to perchlorate contamination.

RECOMMENDATION

The Engineering and Operations Committee recommends that the Board of Directors (1) approve the attached resolution awarding funding in an amount not to exceed $12,751,494 for construction costs to Zim Industries, Inc., (2) authorize the General Manager to issue a purchase order for an amount not to exceed $343,000 for engineering during construction and inspection services to Richard C. Slade & Associates LLC and (3) issue a purchase order for an amount not to exceed $914,000 for construction management services to Black & Veatch for the Saugus #3 and #4 Wells Construction (Replacement Wells) Project.

Attachments

M65

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RESOLUTION NO. ____

**RESOLUTION OF THE BOARD OF DIRECTORS
OF THE SANTA CLARITA VALLEY WATER AGENCY
APPROVING FUNDING FOR CONSTRUCTION CONTRACT TO
THE ZIM INDUSTRIES, INC., FOR THE SAUGUS #3 & #4 WELLS
CONSTRUCTION (REPLACEMENT WELLS) PROJECT**

WHEREAS, Santa Clarita Valley Water Agency (SCVWA) desires to take steps to increase the reliability of its existing water system; and

WHEREAS, SCVWA's Capital Improvement Program includes construction of the Agency's future Saugus #3 & #4 Wells Construction (Replacement Wells) Project (formerly known as Replacement (Saugus 3 and 4) Well Project); and

WHEREAS, on September 14, 2005, Castaic Lake Water Agency (CLWA), as the lead agency under California Environmental Quality Act (CEQA), adopted the Mitigated Negative Declaration for the Groundwater Containment, Treatment, and Restoration Project (MND), and MND (Exhibit B) which evaluated the Replacement (Saugus 3 and 4) Well Project and adopted findings and the Mitigation Monitoring and Reporting Programs with the adoption of Resolution No. 2429; and

WHEREAS, Castaic Lake Water Agency (CLWA), as a CEQA Lead Agency, filed the Notice of Determination with the Los Angeles County Clerk's Office and the State Clearinghouse on September 19, 2005; and

WHEREAS, as a result of the integration of CLWA into SCVWA, SCVWA is now the lead agency under CEQA for the Saugus #3 & #4 Wells Construction (Replacement Wells) Project; and

WHEREAS, in its role as lead agency SCVWA has now evaluated and adopted the MND pursuant to CEQA Guideline 15162 to determine if, when taking subsequent discretionary actions in furtherance of a project for which an MND has been adopted, SCVWA is required to review any changed circumstances to determine whether any of the circumstances under Public Resources Code section 21166 and CEQA Guidelines section 15162 require additional environmental review; and

WHEREAS, an Addendum to the MND (Exhibit C) has been prepared by Woodard and Curran which analyzed the potential environmental impacts associated with the project modifications to the original project; and

WHEREAS, the environmental evaluation in the Addendum has concluded that there are no substantial changes proposed in the modified project, nor substantial changes in the circumstances under which the modified project would be undertaken, which would require major revisions of the MND due to new significant environmental effects or a substantial increase in the severity of previously identified significant effects; and

WHEREAS, the environmental evaluation in the Addendum has concluded that the impacts of the modified project are consistent with the impacts of the original approved project in the MND; and

WHEREAS, all bid proposals submitted to SCWA pursuant to the SCVWA's construction contract documents for the construction of the Saugus #3 & #4 Wells Construction (Replacement Wells) Project, as amended by Addenda, were publicly opened electronically on the SCVWA's bid website page on PlanetBids on Wednesday, January 26, 2022 by 2:00 p.m., in full accordance with the law and SCVWA customary procedures; and

WHEREAS, the Board of Directors finds, after considering the opinion of staff, that the total bid of Zim Industries, Inc., in the amount of $12,751,494 is the lowest responsible bid and only bid submitted, and that said bid substantially meets the requirements of said construction contract documents as amended by Addenda; and

WHEREAS, it is in the Agency's best interest that the Board of Directors, on behalf of the SCVWA, authorize its General Manager to accept the $12,751,494 bid from Zim Industries, Inc.

NOW, THEREFORE, BE IT RESOLVED, the SCVWA Board of Directors (Board) has reviewed and considered the MND and supporting materials and finds that those documents taken together contain a complete and accurate reporting of all of the environmental impacts associated with the project.

The Board further finds that the administrative record has been completed in compliance with CEQA, the CEQA Guidelines, and that the MND and supporting materials, taken together, reflect the Board's independent judgment.

Further, based on the substantial evidence set forth in the record, including but not limited to the MND and supporting materials the Board finds that, based on the whole record before it, none of the conditions under State CEQA Guidelines section 15162 requiring subsequent environmental review have occurred because the Project:

a) will not result in substantial changes that would require major revisions of the MND due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; and

b) will not result in substantial changes with respect to the circumstances under which the project is developed that would require major revisions of the MND due to the involvement of new significant environmental effects or a substantial increase in the severity of the previously identified significant effects; and

c) does not present new information of substantial importance that was not known and could not have been known with the exercise of reasonable diligence at the time the MND was adopted, as applicable, showing any of the following: (i) that the modifications would have one or more significant effects not discussed in the earlier environmental documentation; (ii) that significant effects previously examined would be substantially more severe than shown in the earlier environmental documentation; (iii) that mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects, but the applicant declined to adopt such measures; or (iv) that mitigation measures or alternatives are considerably different from those analyzed previously would substantially reduce one or more significant effects on the environment, but which the applicant declined to adopt.

Further, based on the substantial evidence set forth in the record, including but not limited to the MND and supporting materials, the Board finds that the applicable mitigation measures identified in the MND have been incorporated into a specific mitigation monitoring program for the project and would ensure that any potential environmental impacts would be reduced to less than significant levels.

The Board re-adopts those mitigation measures identified in the MND that are relevant to the project as detailed specifically in the Mitigation Monitoring Program attached as Exhibit A, attached hereto and by this reference incorporated herein.

The documents and materials that constitute the record of proceedings on which this Resolution has been based are located at the Santa Clarita Valley Water Agency Summit Circle Office at 26521 Summit Circle, Santa Clarita, CA 91350. The custodian for these records is Robert Banuelos. This information is provided in compliance with Public Resources Code section 21081.6.

A Notice of Determination shall be filed with the County of Los Angeles and the State Clearinghouse within 5 (five) working days of the Board's final project approval.

RESOLVED FURTHER that the SCVWA's Board of Directors does authorize its General Manager to accept said low bid and does therefore authorize the SCVWA's General Manager or its Chief Engineer to issue a Notice of Award to Zim Industries, Inc., hereby found to be the "lowest responsible bidder" for the Saugus #3 & #4 Wells Construction (Replacement Wells) Project for the total sum of $12,751,494.

RESOLVED FURTHER that the SCVWA's General Manager or its President and Secretary are thereupon authorized, upon receipt of appropriate payment and performance bonds, appropriate certificates of insurance and an executed Contract Agreement from Zim Industries, Inc., all of which must be approved by General Counsel, to execute the said Contract Agreement on behalf of the SCVWA.

RESOLVED FURTHER that the SCVWA's General Manager or Chief Engineer are thereafter authorized to execute and forward to Zim Industries, Inc. an appropriate Notice to Proceed.

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EXHIBIT A

Mitigation and Monitoring Plan
Castaic Lake Water Agency
Groundwater Containment, Treatment, and Restoration Project

This Mitigation and Monitoring Plan (MMP) specifies mitigation actions and monitoring and reporting requirements for the *Castaic Lake Water Agency Groundwater Containment, Treatment, and Restoration Project*, consistent with the project Initial Study and Final Mitigated Negative Declaration. For each action or class of actions identified in the above documents, this plan specifies the following:

The required action
The schedule
The party responsible for implementing the action
The required reports
The entity to receive reports

For ease of use, the MMP is presented in tabular format. Adoption of this Mitigation and Monitoring Plan constitutes a commitment by Castaic Lake Water Agency (CLWA) to comply with and fund the require mitigation and monitoring. At its discretion, CLWA will implement the MMP through construction contractors and other independent contractors, as noted. In all cases, CLWA's Project Manager and/or designated compliance staff will routinely audit contractor compliance with the requirements of the MMP.

In general, construction contractors will implement aspects of the MMP related to the acquisition and compliance with construction permits from the City of Santa Clarita, the County of Los Angeles, and the State of California. If it is determined that such plans are required, this may include preparation of construction plans such as the State of California Storm Water Pollution Prevention Plan. CLWA's primary role in these efforts will be to require these activities as part of the scope of work for each construction project and contract, to review plans and specifications, to periodically conduct compliance audits to ensure that contractors are acting in accordance with their plans, and to maintain records of all compliance activities and reports. CLWA may independently contract for specialized compliance monitoring, such as monitoring related to biological and cultural resources; these independent monitors will work with construction contractors to ensure compliance with mitigation and monitoring plan requirements. The MMP is thus organized to make the responsibilities of CLWA, design engineers, construction contractors, and independent contractors clear, and thus focuses on the actions required by each entity.

Table MMP-1. Mitigation and Monitoring Commitments Checklist (R = Review, C = Specify requirement in construction contract, A = Compliance Action, RP = Reporting Requirement, I = Inspect, M = Maintain during operation, NA = not applicable)

Impact Category	Mitigation Measure (See Initial Study for details)	Responsible Parties and Role			
		CLWA	Design Contractor	Construction Contractor	Independent Contractor
Aesthetics	Design and construct Treatment Plant to be consistent with Rio Vista Intake Pump Station	RC	A	AR	NA
	Landscape proposed treatment facility along the bike trail	RC	A	AR	NA
	Ensure Treatment Plant lights are directed away from bike trail	RC	A	AR	NA
	Contain wells in structures and landscape	RC	A	AR	NA
Air Quality	Comply with SCAQMD Rule 403	RI	NA	AR	NA
	Comply with SCAQMD Rule 1179 (b) (6)	RI	A	AR	NA
Biological Resources	Install automatic shut off valves in perchlorate pipeline to ensure pipeline shut down if pipeline is damaged during operation	RIM	A	AR	NA
	Schedule construction along south bank of Santa Clara River and Bouquet Canyon Road for September 1-February 1	RC	NA	AR	NA
	For construction outside of the September 1-February 1, survey weekly for raptor nests 30 days prior to initiation of construction.	RC	NA	NA	AR
	If nests are found within 300 feet of construction area (500 feet for raptors), suspend construction until nests are empty, young have fledged, and there is no evidence of new nesting activity	RC	NA	AR	AR
	Flag construction areas to clearly mark off-limits areas at 300-foot and 500-foot from active nests	RC	NA	AR	AR
	Survey for bats under the Bouquet Canyon Bridge. If bats are located, impacts may be avoided by scheduling work during the non-nesting season (after September 1 and before March 1). Bats leaving the structure at night may then be excluded from returning to the bridge with fine mesh. CLWA will consult with CDFG during implementation of such impact avoidance measures.	RC	NA	AR	AR
	Develop and conduct a CDFG and USFWS training program for workers along the south bank of the Santa Clara River and Bouquet Canyon Road; post species information at the site	RC	NA	AR	AR

	Following biological survey to confirm no special status species at the construction site, install fine-mesh drift fence along boundary between river and construction site along the south bank of the Santa Clara River and Bouquet Canyon Road	RC	NA	AR	AR
	For installation of pipelines at Bouquet Canyon Road bridge, comply with CDFG 1600 permit requirements. Specifically: a. All construction will be done in dry conditions; b. Construction equipment will access the river bed via an area without native riparian vegetation; c. Construction equipment fueling and maintenance will be performed outside of the riverbed or if necessary these activities will be performed using containment vessels; d. Spills of fuel or other materials used during construction will be immediately reported and cleaned up in accordance with rules of the Regional Water Quality Control Board.	RC	NA	AR	AR
	To the extent feasible, along Mainstem and South Fork of Santa Clara river, use landward right-of way for side casting of spoil and for construction laydown and vehicle fueling and maintenance to isolate these activities from the river.	RC	NA	AR	AR
Cultural Resources	Where there is potential to encounter buried cultural resources (roads and trails along the South Fork of the Santa Clara River): a. Prior to construction, train construction personnel regarding recognition of buried cultural remains and establish procedures to halt construction immediately and notify qualified archeologist. b. In areas near a known cultural resource site, a qualified archeologist shall monitor construction. If resources are found, initiate consultation with the State Historic Preservation Office. c. Comply with Department of Health Services requirements for treatment of buried human remains.	RC	NA	AR	AR
Geology and Soils	Install automatic shut off valves in perchlorate pipeline to ensure pipeline shut down if pipeline is damaged during operation	RIM	A	AR	NA
	On-going monitoring of Treatment Plant operation	A	NA	NA	NA
	Provide secondary containment vessels for hazardous treatment plant chemicals	AIM	A	AR	NA
Hazards and	Design, construct, and operate to provide for best management	AIM	A	AR	NA

Hazardous Materials	practices for handling of chemicals at chloramination facilities				
	Provide secondary containment vessels for hazardous treatment plant chemicals	AIM	A	AR	NA
	During construction, comply with City of Santa Clarita policies related to emergency response plans or evacuation plans	RC	NA	A	NA
	Comply with City of Santa Clarita Encroachment Policy and County of Los Angeles Code, Division 1, Title 16 (where appropriate) regarding trench backfill and covering	RC	NA	AR	NA
Hydrology and Groundwater Quality	Contain construction-site drainage and sediments: a. Daily pre-construction equipment inspections to detect and repair leaks b. Use of secondary containment for fueling and chemical storage areas c. Use of secondary containment for equipment wash water d. Use of silt traps or basins to control runoff e. Cover stockpiles to prevent runoff f. Protect loose soils areas from potentially erosive runoff g. For construction in the river channel, equipment shall be fitted with secondary containment materials at potential oil/fuel leakage sites.	RCI	NA	AR	NA
	Prepare a *Storm Water Pollution Prevention Plan* if required	RC	NA	AR	NA
Noise	For construction adjacent to housing, comply with City of Santa Clarita Noise ordinances: a. Permanent above-ground facilities (wells and treatment plant) will be contained in structures to ensure adjacent noise levels are below levels established for facilities in commercial and manufacturing areas; b. Limit construction to the period 7 am to 7 pm; c. Monitor noise levels adjacent to housing and if levels at adjacent housing exceed City Noise Ordinance permitted levels (65 dBA), install temporary noise attenuation barriers	RC	A	AR	NA
Recreation	No more than one segment of bike trail will be affected at any time	RC	NA	AR	NA
	Detours around the construction zone will be as short as possible and temporary. As part of this action, post and maintain	RC	NA	AR	NA

	signage related to trail closures and detours.				
Transportation and Traffic	Comply with City of Santa Clarita Encroachment Permit Policy and/or County of Los Angeles Public Works Encroachment Permit requirements, County Code Division 1, Title 16 As feasible, limit construction related truck trips on state highways to off-peak commute periods. Obtain Caltrans Transportation Permit for transport of oversized or over-weight vehicles on State highways. Avoid excessive or poorly timed truck platooning.	RC	NA	AR	NA

Table MMP-2. Mitigation and Monitoring Responsibilities

1. CLWA Responsibilities (CLWA Compliance Manager amd/or Project Manager)			
Action	**Schedule**	**Required Reports**	**Report provided to:**
Assign a staff person (compliance manager) to oversee compliance with the commitments of the Initial Study and Mitigated Negative Declaration.	Prior to issuing construction contracts	None	None
Incorporate monitoring requirements in construction contracts and scopes of work	Prior to issuing contracting documents	Memo Record of Review	PM
Review Designs and Specifications to ensure that mitigation commitments related to design and construction are met	Prior to approving designs and specifications	Memo Record of Review	PM
Review project schedule to ensure that mitigation commitments related to scheduling are met	Prior to approving schedule	Memo Record of Review	PM
Periodic inspection of contractor compliance records	On-going	Memo Record of Review	PM
Contracting for independent mitigation and monitoring services for biological monitoring and management for construction along the south bank of the Santa Clara River and at bridge crossings along Bouquet Canyon Road	Schedule to ensure that services will be available at least 30 days prior to initiation of construction in these alignments	Memo Record of Review Approved contract	PM
Contracting for independent mitigation and monitoring services for cultural resources monitoring and management for construction activities involving work where excavations may extend to previously undisturbed soils and to coordinate with permitting agencies and the State Historic Preservation office during pre-construction planning	Initiated upon CLWA Board adoption of MND or approval of the proposed project	Memo Record of Review Approved contract	PM
Periodic inspection of construction sites during construction to confirm contractor compliance with construction monitoring and mitigation requirements	During construction mobilization, activity, and demobilization	Inspection Report/Checklist	PM
On-going coordination with permitting agencies prior to, during, and following construction; resolution of construction-related issues	During construction mobilization, activity, and demobilization	Inspection Report/Checklist	PM
Resolution of issues raised by permitting agencies and/or the public related to contractor mitigation and monitoring activities	On-going following CLWA Board adoption of the mitigated negative declaration and approval of the project	Memo Report of issues and their resolution	PM
Maintain a file of mitigation and monitoring compliance documents	During design, construction, mobilization, demobilization, and	NA	PM

	initial start-up and inspection of facilities		
Apply for CDFG Section 1600 Permit for work in the Santa Clara River (installation of pipelines under bridge decks). Incorporate required monitoring and mitigation requirements into construction contracts.	Prior to issuance of construction contracts	Memo Report certifying that construction contracts include 1600 permit requirements	PM
Inspect, operate and maintain all facilities to minimize the potential for facility damage and associated release of water from pipelines and chemicals used in facility operations.	On-going	NA	NA
2. Design Engineers			
Action	**Schedule**	**Required Reports**	**Report provided to:**
Review Department of Health Services permit requirements for the treatment plant and ensure compliance with these requirements	During Design	Memo certifying compliance with approved plans and specifications	Compliance Manager and PM
Design facilities in accordance with (as appropriate) a. DHS requirements b. Standard Specifications for Public works Construction	During Design	Memo certifying compliance with approved plans and specifications	Compliance Manager and PM
Design above-ground facilities to be consistent with surrounding buildings per aesthetics commitments	During design	Memo certifying compliance with approved plans and specifications	Compliance Manager and PM
Design pipelines and treatment facilities to provide for pipeline automatic shutoff valves and hazardous materials containment	During design	Memo certifying compliance with approved plans and specifications	Compliance Manager and PM
3. Construction Contractors and Independent Monitoring Contractors (Biological and Cultural)			
Action	**Schedule**	**Required Reports**	**Report provided to:**
As needed, obtain permit applications and file permit requests with City of Santa Clarita for Encroachment Permit and/or County of Los Angeles Public works Encroachment Permit (including, as needed, development and processing of a State *Storm Water Pollution Prevention Plan*)	30 days prior to construction in the public right of way	Copy of Encroachment Permit Application	CLWA PM
Develop appropriate compliance and reporting procedures for all work for which action is specified on Table MMP-1.	Prior to initiation of construction	Copy of compliance and reporting procedures, with City/County approval as needed	CLWA PM
Comply with encroachment permits, including but not limited to:	On-going during mobilization,	Copies of insurance certificates,	CLWA PM

a. Notification of start of work b. Contact of Underground Service Alert c. 24-hour prior notification of persons within 300 feet of work d. Utility repair e. Caltrans MUTCD California Supplement f. Lane closure hours g. Reports of damage to traffic control equipment h. Trench/hole closure when work is not in progress i. Testing and certification of trench compaction j. Testing and certification of paving k. Removal of Underground Service Alert markings l. Compliance with utility cover requirements m. Use of non-skid steel plates to cover open trenches n. Use of recessed steel plating if required o. Night work plan approved by City as needed p. Backfill requirements met q. Concrete/asphalt removal requirements met r. Sidewalk removal and replacement requirements met s. Heavy equipment transportation requirements met	construction, and demobilization (Daily, weekly, monthly as specified in encroachment permits)	compliance reports, checklists, City/County inspection reports, correspondence with City and County, and other required reports or documentation	
Comply with SCAQMD Rule 403, including but not limited to: a. Designation of a dust control supervisor per Rule 403 b. Table 1: Best Available Control Measures	On-going during mobilization, construction, and demobilization (Daily, weekly, monthly as specified in encroachment permits)	Copies of insurance certificates, compliance reports, checklists, City/County inspection reports, correspondence with City and County, and other required reports or documentation	CLWA PM
Comply with biological resources mitigation measures per Table MMP-1. For work along the south bank of the Santa Clara River and Bouquet Canyon Road, the biological monitor shall periodically inspect construction and shall have the authority to stop construction if necessary to ensure compliance with biological resources mitigation measures.	On-going during mobilization, construction, and demobilization (Daily, weekly, monthly as specified in encroachment permits)	Copies of, compliance reports, checklists, results of field surveys prior to and during nesting season, correspondence with CDFG and USFWS, copies of construction training materials, and other required reports or documentation	CLWA PM
Comply with cultural resources mitigation measures per Table MMP-1.	On-going during mobilization, construction, and demobilization (Daily, weekly, monthly as specified in encroachment permits)	Copies of, compliance reports, checklists; correspondence with SHPO, DHS, and the Native American Heritage Commission,	CLWA PM

		as needed; copies of construction training materials; and other required reports or documentation	
Comply with plans and specifications with regard to all features related to leak prevention, and containment of hazards and hazardous materials.	On-going during mobilization, construction, and demobilization (Daily, weekly, monthly as specified in the noise ordinance)	Copies of insurance certificates, compliance reports, checklists, inspections, City inspection reports, correspondence with City, and other required reports or documentation	CLWA PM
Implementation of Best Management Practices for stormwater runoff control to contain runoff and sediment from construction. Preparation of a State *Storm Water Pollution Prevention Plan* if required. Specifically: a. Daily pre-construction equipment inspections to detect and repair leaks b. Use of secondary containment for fueling and chemical storage areas c. Use of secondary containment for equipment wash water d. Use of silt traps or basins to control runoff e. Cover stockpiles to prevent runoff f. Protect loose soils areas from potentially erosive runoff g. For construction in the river channel, equipment shall be fitted with secondary containment materials at potential oil/fuel leakage sites.	On-going during mobilization, construction, and demobilization (Daily, weekly, monthly as specified in the noise ordinance)	Copies of construction runoff control plan (a formal State *Storm Water Pollution Prevention Plan* as required), compliance reports, checklists, inspections, City inspection reports, correspondence with City, and other required reports or documentation	CLWA PM
Compliance with City of Santa Clarita Noise ordinances	On-going during mobilization, construction, and demobilization (Daily, weekly, monthly as specified in the noise ordinance)	Copies of insurance certificates, compliance reports, checklists, City inspection reports, correspondence with City, and other required reports or documentation	CLWA PM
Comply with MMP requirements for minimizing impacts to trails, including: a. Completion of construction and restoration of each segment of bike trail prior to initiation of construction of other segments b. Provide the shortest feasible detours around construction	On-going during mobilization, construction, and demobilization (Daily, weekly, monthly as specified in the noise ordinance)	Maps showing trail segments and proposed detours, schedule for construction,	CLWA PM

c. Post and maintain signs for trail closures and bike traffic detours d. Coordinate with City of Santa Clarita on bike trail closings and detours			

EXHIBIT B

PUBLIC NOTICE
INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION
Castaic Lake Water Agency, Santa Clarita, CA

Project Title, Description, and Location: Groundwater Containment, Treatment, and Restoration Project

Castaic Lake Water Agency proposes a two-component Groundwater Containment, Treatment, and Restoration Project. The first component will involve construction and use of existing facilities to intercept perchlorate contaminated groundwater, convey this water to a new treatment plant for treatment, and put the resulting clean water to beneficial use. The second component will involve construction and use of existing facilities to restore historic production from several wells that will be permanently closed due to contamination by perchlorate. Facilities will involve a new treatment plant, pipelines constructed in road and bike-trail rights-of-way, modifications to existing wells and pipelines, and new wells. If the Proposed Project is implemented, construction of underground pipelines and other facilities will occur in the following locations:

1. On the west side of San Fernando Road south of Magic Mountain Parkway
2. Parallel to Magic Mountain Parkway from San Fernando Road to Valencia Boulevard
3. Parallel to Valencia Boulevard/Soledad Canyon Road from Magic Mountain Parkway to the bridge at Bouquet Canyon Road
4. Across the Santa Clara River along Bouquet Canyon Bridge
5. Within the levee/bike trail west of Bouquet Canyon Bridge to The Rio Vista Intake Pump Station
6. Within the trail corridor west of the South Fork of the Santa Clara River
7. Within the bike trail along the south levee of the Santa Clara River from the Valencia Boulevard bridge to McBean Parkway
8. At Castaic Lake Water District's existing facilities at Furnivall Avenue
9. Parallel to Magic Mountain Parkway from Interstate 5 west to an unpaved road west of Magic Mountain Amusement Park
10. Along the unpaved road west of Magic Mountain Amusement Park

California State Law requires Castaic Lake Water Agency to conduct environmental review to determine if a project may have a potentially significant effect on the environment. Environmental review examines the nature and extent of any potentially significant adverse impacts on the environment that could occur if a project is approved and implemented. The Board of Directors of the Castaic Lake Water Agency would require the preparation of an Environmental Impact Report if the review concluded that the proposed project could have significant unavoidable effects on the environment. The California Environmental Quality Act (CEQA) requires this notice to disclose whether any listed toxic sites are present; there are no listed toxic sites within the proposed construction areas.

Based on initial study, the General Manager has concluded that the project, which incorporates a number of impact avoidance, minimization, and mitigation measures, will not have significant adverse effects on the environment. The project has been formulated to avoid such impacts where there was a potential for them to occur. Castaic Lake Water Agency has sent this intent to adopt a Mitigated Negative Declaration for the proposed project to the State Clearinghouse, responsible agencies, trustee agencies, and the County Clerks of Los Angeles and Ventura to inform them of a public hearing on the project that will be on September 14, 2005 at the administration building of Castaic Lake Water Agency, 27234 Bouquet Canyon Road, Santa Clarita, CA 91350 at 5:00 PM. The draft Mitigated Negative Declaration, initial study, and the referenced technical documents are available for review under the above file number from 9:00 a.m. to 4:30 p.m., Monday through Friday at Castaic Lake Water Agency, 27234 Bouquet Canyon Road, Santa Clarita, CA 91350. The public review period for the Mitigated Negative Declaration is from August 9, 2005 through September 8, 2005. Written comments on the Proposed Project must be received by Castaic Lake Water Agency, 27234 Bouquet Canyon Road, Santa Clarita, CA 91350, ATTN: Mr. Ken Petersen, Project Manager on or before 5:00 PM, September 8, 2005.

Adoption of a Mitigated Negative Declaration does not constitute approval of the proposed project. The decision to approve or deny the project described will be made separately. For additional information or to obtain a copy of the draft Mitigated Negative Declaration, please call Ken Petersen, Project Manager, at 661-513-1260.

Dan Masnada
General Manager
Castaic Lake Water Agency

Circulated on: August 5, 2005

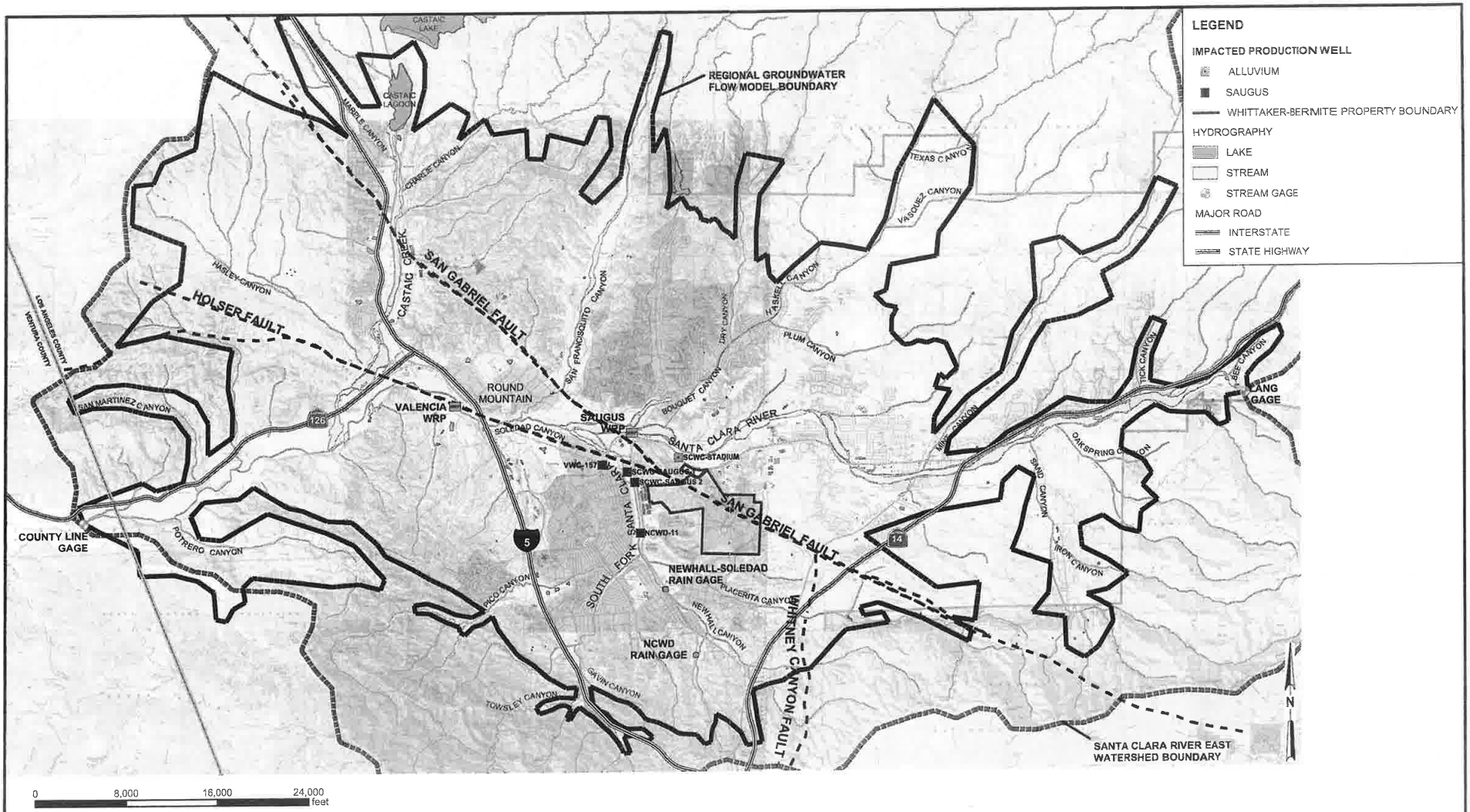

Figure 1
MAP OF STUDY AREA
ANALYSIS OF PERCHLORATE CONTAINMENT IN GROUNDWATER NEAR THE WHITTAKER-BERMITE PROPERTY
SANTA CLARITA, CALIFORNIA

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MITIGATED NEGATIVE DECLARATION

Project Name: Castaic Lake Water Agency, Groundwater Containment, Treatment, and Restoration Project

Project File Number: NA

Project Location: The project is located in the City of Santa Clarita and on lands west of the City of Santa Clarita and southwest of Magic Mountain Amusement Park.

County Supervisorial Districts: Fifth District (Michael Antonovich)

Mailing Address and Phone Number of Applicant Contact Person for this Project:

Mr. Ken Petersen,
Castaic Lake Water Agency
27234 Bouquet Canyon Road
Santa Clarita, CA 91350-2173
Phone 661-513-1260

Project Description:

The purpose of the proposed Castaic Lake Water Agency Groundwater Containment, Treatment, and Restoration Project (Proposed Project) is to prevent further perchlorate contamination of groundwater basins in the Santa Clarita Valley originating at an historic weapons manufacturing site located east of the South Fork of the Santa Clara River near the confluence of the South Fork and the Mainstem Santa Clara River. The Proposed Project will intercept the existing plume of perchlorate in the Saugus Formation groundwater and pump the contaminated water from intercepting wells to a new treatment plant, where perchlorate will be removed and the treated water utilized as part of Castaic Lake Water Agency's (CLWA) drinking water supply.

The Proposed Project would involve (a) modification of existing production wells, (b) construction and operation of new monitoring and production wells, (c) modification of existing pipelines and construction of new pipelines, (d) construction of a new, modular perchlorate water treatment plant, and (e) closing of existing production wells.

The Propose Project has two interrelated elements. First, there are facilities for the containment and treatment of perchlorate-contaminated groundwater. Second, there are service restoration facilities to replace and relocate existing facilities which must be closed or modified to accomplish the containment program objectives. With the exception of two pipeline segments under bridge decks, pipelines will be buried. The Proposed Project incorporates a number of conservation/impact minimization measures into its project description, including measures related to:

- Facility Siting
- Construction Schedule
- River Crossings

- Best Management Practices, Construction in Roads
- Best Management Practices, Construction in Bike Trails
- Aesthetic Treatment of the Treatment Facility
- Air quality
- Noise
- Biological Resources
- Water Quality
- Cultural Resources

As appropriate, these conservation/impact minimization procedures will be incorporated into construction contracts and performance will be independently verified by CLWA and/or qualified monitors. These elements of the project, described in full in the attached Initial Study, result in reduction of potential environmental impacts to a level of less-than-significant. In addition, CLWA proposes an additional site-specific monitoring and mitigation measure related to noise that may be implemented if on-site monitoring determines that minimization measures have not reduced noise levels to the desired levels.

The Proposed Project is described in greater detail in the attached Initial Study.

Measures Included in the Project to Reduce Potentially Significant Effects to a Level of Less-Than-Significant (See Initial Study for more detail on the measures outlined below.)

Aesthetics: Facilities have been sited to avoid impact to scenic resources. Above ground facilities will be designed to be consistent with existing visual character of adjacent development.

Agricultural Resources: None. The Proposed Project will not affect agricultural resources.

Air Quality: The Proposed Project incorporates best management practices per Rule 403 of the South Coast Air Quality Management District, Table 1.

Biological Resources: The project has been sited to avoid direct impact to wildlife and wildlife habitat. Indirect effects associated with noise and visual disturbance are avoided/minimized by construction scheduling outside of nesting/breeding season for special-status birds in the adjacent Santa Clara River. The project includes construction crew training, on-site biological monitoring, and isolation of the construction area from any adjacent habitats during construction to prevent adverse impacts associated with wildlife incidental use of the construction area.

Cultural Resources: Project siting focuses on already heavily disturbed areas, reducing the potential for effects on cultural resources. Where buried cultural resources may occur, construction personnel training, construction monitoring and resource recovery, and compliance with California Department of Health Services requirements of treatment of buried human remains will reduce cultural resource impacts to a level of less-than-significant.

Geology and Soils: Mitigation measures to reduce erosion and drainage from construction sites are included, consistent with the requirements of the City of Santa Clarita Encroachment Permit Policy.

Hazards and Hazardous Materials: Materials associated with operation of the perchlorate treatment facility are stable and not considered hazardous. All water treatment materials will be transported,

handled, and stored in accordance with current regulations, including use of secondary containment vessels.

Hydrology and Water Quality: The project includes best management practices for construction to avoid and minimize potential construction-related effects on drainage and water quality.

Land Use and Planning: None. The Proposed Project would have no effects on land use.

Mineral Resources: None. The Proposed Project would have no effects on mineral resources.

Noise: Project siting reduces potential construction and operation related noise impacts. The Proposed Project incorporates measures that will reduce potential noise from above ground facilities. The Proposed Project includes noise monitoring and mitigation measures to reduce noise effects on residential housing adjacent to pipeline construction areas.

Population and Housing: None. The Proposed Project would have no effects on population and housing.

Public Services: None. The Proposed project has no effects on public service requirements or facilities.

Recreation: None. The Proposed Project will have only temporary and less-than-significant impacts on recreation facilities.

Transportation and Traffic: Construction best management practices defined in the City of Santa Clarita Encroachment Permit will be implemented to minimize traffic effects associated with construction in and adjacent to roads.

Utilities and Service Systems: Pre-construction coordination will identify potential utilities which may be affected by the project and coordination with owners and construction best management practices will avoid impacts to utilities.

Cumulative Impacts: None. The Proposed Project has no significant cumulative impacts.

Mandatory Findings of Significance: None. The Proposed Project does not cause impacts that require a mandatory finding of significance

FINDINGS

With the implementation of the mitigation measures outlined above and detailed in the attached Initial Study, the Proposed Groundwater Containment, Treatment, and Restoration Project will have less-than-significant impacts on the environment.

PUBLIC REVIEW PERIOD

Before 5:00 PM on September 8, 2005, any person may:

(1) Review the Draft Mitigated Negative Declaration (MND)

(2) Submit written comments regarding the information, analysis, and mitigation measures in the Draft MND. Before the MND is adopted, CLWA staff will prepare written responses to any comments, and revise the Draft MND, if necessary, to reflect any concerns raised during the public review period. All written comments will be included as part of the Final MND, and/or

(3) File a formal written protest of the determination that the project would not have a significant effect on the environment. This formal protest must be filed at the Castaic Lake Water Agency, 27234 Bouquet Canyon Road, Santa Clarita, CA 91350-2173, Attention: Mr. Ken Peterson. The written protest should make "fair argument" based on substantial evidence that the project will have one or more significant effects on the environment. If a valid written protest is filed with the Board of Directors of the Castaic Lake Water Agency within the noticed review period, the Board of Directors may (1) adopt the MND and set a noticed public hearing on the protest before the Board of Directors, (2) require the preparation of an environmental impact report and refund the filing fee to the person who filed the protest, or (3) require the draft MND to be revised and undergo additional noticed public review, and refund the filing fee to the person who filed the protest.

Dan Masnada
General Manager
For Castaic Lake Water Agency

Circulated on: August 5, 2005

CEQA Initial Study

Castaic Lake Water Agency
Groundwater Containment, Treatment, and Restoration Project

August 2005

Castaic Lake Water Agency
27234 Bouquet Canyon Road
Santa Clarita, California 91350-2173

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CEQA Initial Study
Castaic Lake Water Agency
Groundwater Containment, Treatment, and Restoration Project

I. INTRODUCTION

A. Background

In 1962, Castaic Lake Water Agency (CLWA) was created by the California Legislature by the "Castaic Lake Water Agency Law." Under this and subsequent legislation, CLWA's mandate is to (a) acquire water from the State, (b) distribute such water wholesale through a transmission system to be acquired and constructed by CLWA, (c) reclaim (recycle) water, (d) sell water at retail within certain boundaries, and (e) exercise other related powers.

CLWA, through its Santa Clarita Water Division, also operates at a retail level in cooperation with Los Angeles County Waterworks District 36 (LACWD), Newhall County Water District (NCWD), and Valencia Water Company (VWC) to manage imported and local groundwater supplies. Historically, groundwater supplies have been derived from the Saugus Formation and the Santa Clara River Alluvial Aquifer (Kennedy/Jenks 2005a). The Saugus Formation is a deep aquifer covering approximately 85 square miles, contains about 1.65 million acre-feet of water which may be economically put to beneficial use, and has potential to produce approximately 35,000 acre-feet of water per year for short periods. The Alluvial Aquifer is shallower and is annually replenished by flow in the Santa Clara River, which percolates into the sandy-gravelly soils of the riverbed. Groundwater in the Alluvial Aquifer migrates downstream and, in the reach east of Interstate 5, recharges the Saugus Formation through percolation. In 2004, groundwater pumping in the Santa Clarita Valley totaled 40,300 acre-feet, with 33,800 acre-feet from the Alluvial Aquifer and 6,500 acre-feet from the deeper Saugus Formation (Luhdorff & Scalmanini 2005). CLWA's contractual rights to SWP water total 95,200 af/y, and include a water transfer of 41,000 af/y approved in 1999 from Wheeler Ridge-Maricopa Water Storage District, a member unit of the Kern County Water Agency[1]

1. CLWA's Environmental Impact report ("EIR") prepared in connection with the 41,000 af/y water transfer was challenged in *Friends of the Santa Clara River v. Castaic Lake Water Agency* (Los Angeles Superior Court, Case Number BS 056954) (*"Friends"*). On appeal, the Court of Appeal, Second Appellate District, held that since the 41,000 af/y EIR tiered off the Monterey Agreement EIR that was later decertified, CLWA would also have to decertify its EIR, as well as prepare a new EIR. On remand, however, the trial court refused to enjoin CLWA from using any water that is part of the 41,000 af/y transfer. Thereafter, CLWA prepared and circulated a draft EIR for the transfer; comments were received during the public comment period for the draft EIR. In addition, CLWA held two separate hearings on the EIR to give the public additional opportunities to comment. CLWA approved the revised EIR for the transfer on December 22, 2004 and lodged the revised EIR with the Los Angeles County Superior Court as part of its Return to the Preemptory Writ of Mandate in *Friends*. In January 2005, two new challenges to CLWA's environmental review were filed in the Ventura County Superior Court by the Planning and Conservation League and by the California Water Impact Network; these cases have been consolidated and transferred to Los Angeles Superior Court. In February, an order dismissing the original case, *Friends*, with prejudice was entered by the Los Angeles County Superior Court.

Based on the Department of Water Resources *Final State Water Project Delivery Reliability Report*, average SWP deliveries are anticipated to be 76% of Table A contractual supplies, or 72,352 af/y. Combined, groundwater and SWP supplies are adequate to provide an average of about 112,000 af/y. With available recycled water and supplemental SWP supplies, CLWA has more than 133,000 acre-feet of supply available in 2005. CLWA has entered into two ten-year agreements with Semitropic Water Storage District in Kern County, whereby CLWA banked almost 51,000 acre-feet of CLWA's Table A supply for later delivery in dry years, thus ensuring dry-year reliability through 2013. CLWA is also conducting environmental compliance of a long-term banking program with Rosedale-Rio Bravo Water Storage District as the first element of achieving full reliability of 76% of its Table A Amount. CLWA has an aggressive and successful voluntary water conservation program that, in the 1990's, resulted in a 10% to 20% decrease in water demand during that drought period.

Groundwater supplies and production in the Saugus Formation and downstream Alluvial Aquifer of the Santa Clara River are currently threatened by contamination from historic land uses at the Whittaker Corporation's Bermite Facility (Figure 1; hereafter "Whittaker-Bermite Property"). Past operations at this facility introduced perchlorate into the Saugus Formation. Recent Los Angeles District U. S. Army Corps of Engineers (USACE) and CLWA data (Slade 2001; CH2M HILL 2005) show elevated levels of perchlorate in 4 production wells downgradient from the Whittaker-Bermite Property and at other sites in and adjacent to the Alluvial Aquifer (Table 1; Figures 2 and 3 for site locations). The Office of Environmental Health Hazard Assessment established a Public Health Goal of 6 parts per billion (µg/L) in March 2005, which was adopted by the California Department of Health Services (DHS) as the notification level for perchlorate.

Characterization studies to date have detected perchlorate in the shallow groundwater on the Whittaker-Bermite Property. As the plume of perchlorate moves downgradient and downstream, it results in elevated concentrations in production wells, primarily along the South Fork of the Santa Clara River and south of the Mainstem of the Santa Clara River. These concentrations are 3 to 8 times the proposed DHS action levels. Further downstream, there is evidence of the plume as well. In this reach, perchlorate concentrations in the USACE data from reconnaissance studies are generally lower than those in the production wells, but still exceed 6 ppb in many locations. Other evidence of the need to intercept perchlorate moving downgradient includes recently detected migration of perchlorate-contaminated groundwater into the Alluvial Aquifer east of the alignment of San Fernando Road. Based on these data, it is clear that perchlorate has migrated offsite in the direction of groundwater flow. The maximum concentration was found to date was at the Whittaker-Bermite Property in shallow groundwater at concentrations up to 10,000 times the concentrations proposed by DHS for short-term exposure in drinking water. This occurrence presents a significant long-term risk to the Santa Clara River aquifer system. In 1997, CLWA Purveyors responded to indications of perchlorate contamination and ceased production from five production wells (Table 2).

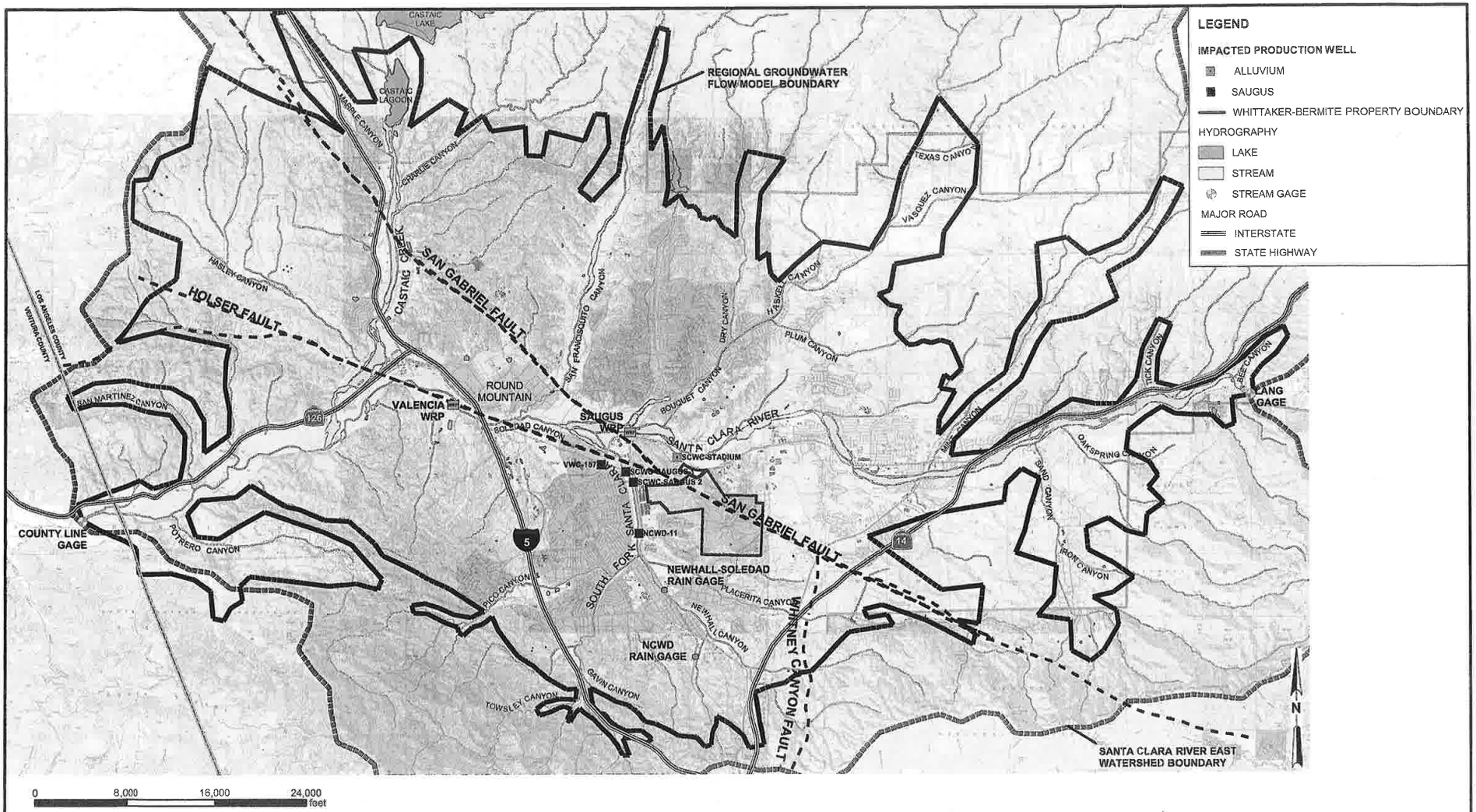

Figure 1
MAP OF STUDY AREA
ANALYSIS OF PERCHLORATE CONTAINMENT IN GROUNDWATER NEAR THE WHITTAKER-BERMITE PROPERTY SANTA CLARITA, CALIFORNIA

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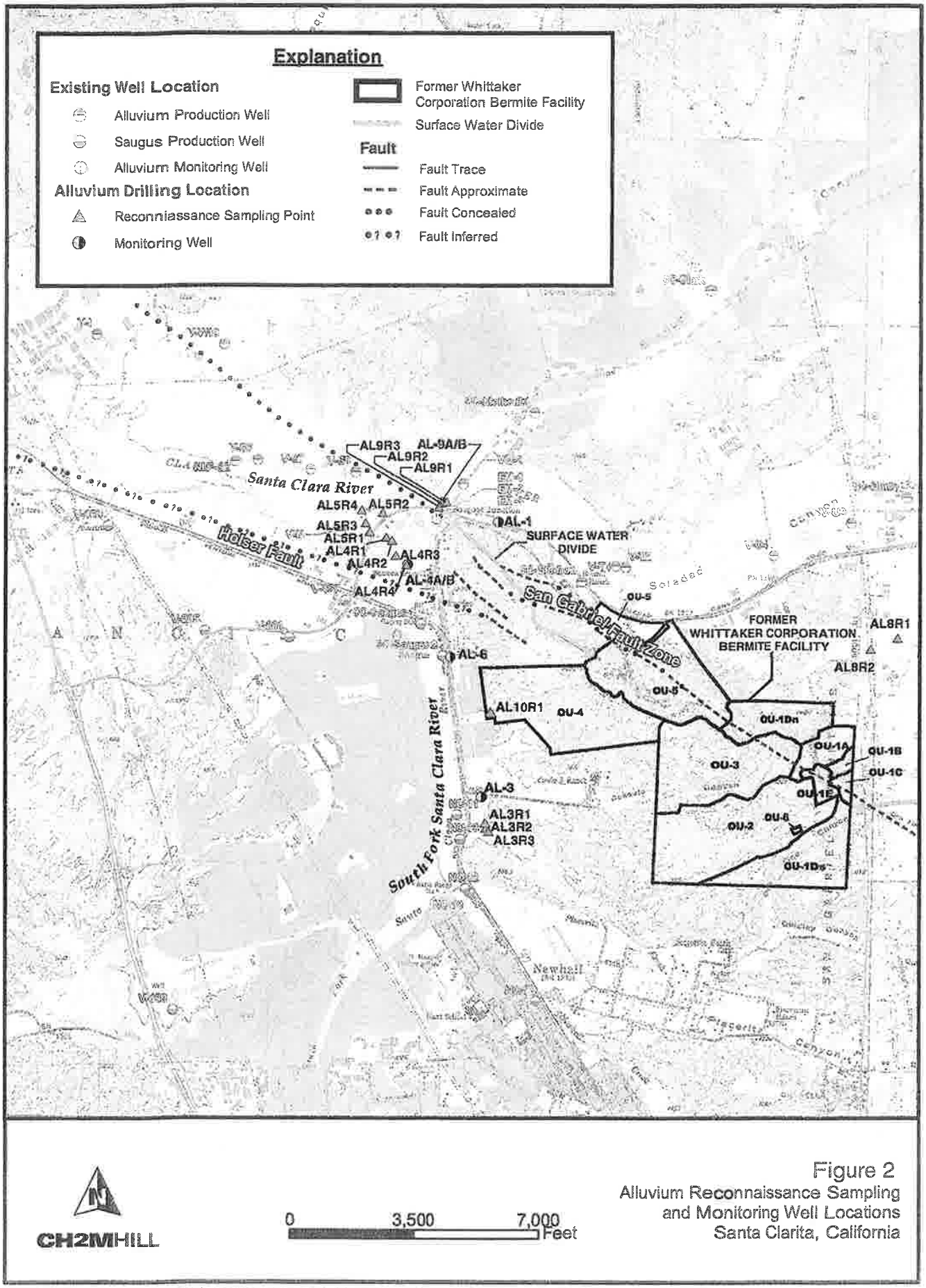

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Figure 2
Alluvium Reconnaissance Sampling and Monitoring Well Locations
Santa Clarita, California

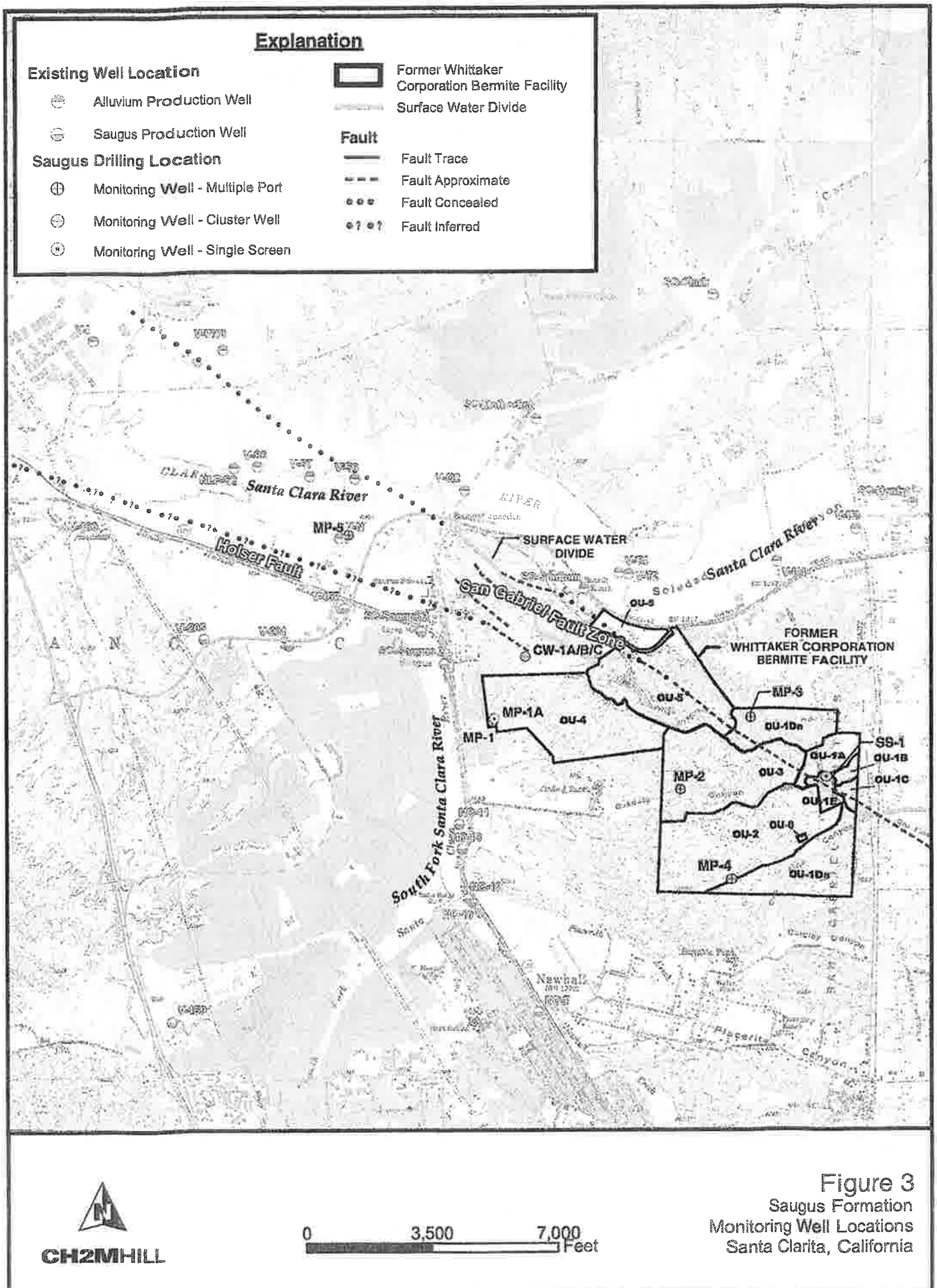


Figure 3
Saugus Formation
Monitoring Well Locations
Santa Clarita, California

Table 1. Results of perchlorate sampling in monitoring wells in the Saugus Formation and adjacent Alluvial Aquifer. (CH2M HILL 2005). Values in excess of 6 µg/l would exceed the California Department of Health Services Notification Level and are indicated in **bold type**.

AQUIFER: WELL	SURVEY DATES	PERCHLORATE CONCENTRATIONS (µg/l)
Alluvial: AL-1	10/09/03; 01/12/04; 04/20/04	**20.9 - 36.8**
Alluvial: AL-3	10/08/2003; 01/12/04; 04/20/04	**16.3 - 26.2**
Alluvial: AL-4A	10/08/03; 01/12/04; 04/20/04	**6.4 - 9.0**
Alluvial: AL-4B	10/08/03; 01/12/04; 04/20/04	**9.0-18.0**
Alluvial: AL-6	10/08/03; 01/13/04; 04/20/04	5.8 - **7.7**
Alluvial: AL-9A	10/08/03; 01/12/04; 04/20/04	**19.5 - 41.4**
Alluvial: AL-9B	10/09/03; 01/12/04; 04/20/04	**18.4 - 33.3**
Saugus: CW-1A	09/29/03; 01/13/04; 04/20/04	2.3 - 2.7
Saugus: CW-1B	09/30/03; 01/13/04; 04/20/04	1.2 - 3
Saugus: CW-1C	09/30/03; 01/13/04; 04/20/04	0.74 - 5.4
Saugus: EM-1	11/18/02; 07/10/03	3 - **6.5**
Saugus: EM-2	11/18/02; 07/10/03	3 - **23.0**
Saugus: EM3	07/10/03	**63.9**
Saugus: MP-1A	09/29/02; 01/13/04; 04/20/04	**19.3-21.0**
Saugus: MP1-01	01/16/03; 07/09/03; 01/15/04; 04/22/04	**20.9 - 25.0**
Saugus: MP1-02	01/16/03; 07/07/03; 01/15/04; 04/22/04	**9.1 - 114.0**
Saugus: MP1-03	01/16/03; 07/07/03; 01/15/04; 04/21/04	**14.9 - 29.9**
Saugus: MP1-04	01/16/03; 07/08/03; 01/15/04; 04/22/04	0.85-3.0
Saugus: MP1-05	01/15/03; 07/08/03	2.5 - 3.0
Saugus: MP1-06	01/15/03; 07/08/03	1.8 - 3.0
Saugus: MP1-07	01/14/03; 07/08/03	3.0 - 3.0
Saugus: MP1-08	01/14/03; 07/08/03	2.0 - 3.7
Saugus: MP1-09	01/13/03; 07/08/03	3.0 - **6.6**
Saugus: MP1-10	01/13/03; 07/08/03	3.0 - 3.0
Saugus: MP2-01	01/28/03; 07/10/03; 01/14/04	**56,000 - 64,500**
Saugus: MP2-02	01/29/03; 07/10/03; 01/13/04	**13,200 - 53,700**
Saugus: MP2-03	01/28/03; 07/10/03; 01/13/04	1.4 - **21,400**
Saugus: MP2-04	01/28/03; 07/10/03; 01/13/04	1.06 - **99.6**
Saugus: MP2-05	01/27/03; 07/10/03; 01/13/04	2.3 - 4.5
Saugus: MP2-06	01/27/03; 07/10/03; 01/13/04	**267 - 33,400**
Saugus: MP3-01	02/06/03; 07/10/03; 01/14/04; 04/21/04	3.0 - **7.0**
Saugus: MP3-02	02/06/03; 07/10/03; 01/14/04; 04/21/04	3.0 - **18.5**
Saugus: MP3-03	02/06/03; 07/09/03; 01/14/04; 04/21/04	3.0- **22.6**
Saugus: MP3-04	02/06/03; 07/10/03; 01/14/04; 04/20/04	3.0 - **29.0**
Saugus: MP4-01	02/05/03; 07/09/03; 01/15/04	2.0 - 3.0
Saugus: MP4-02	02/03/03; 07/09/03; 01/15/04	0.78 - 3.0
Saugus: MP4-03	02/03/03; 07/09/03	3.0 - 3.0
Saugus: MP4-04	02/03/03; 07/09/03	3.0 - 3.0
Saugus: MP4-05	02/03/03; 07/09/03	3.0 - 3.0
Saugus: MP5-01	02/03/03; 07/09/03; 10/02/03; 01/16/04; 04/22/04	3.0 - 4.9
Saugus: MP5-02	10/02/03; 01/16/04; 04/22/04	2.4 - 3.0
Saugus: MP5-03	10/01/03; 10/02/03; 01/16/04; 04/22/04	**7.6 - 9.1**
Saugus: MP5-04	10/01/03; 01/16/04; 04/22/04	**11 - 11.9**

Table 2. Production wells taken out of production due to perchlorate contamination, capacity in gallons per minute (gpm), historic production in af/y.

WELL NAME	AQUIFER	CAPACITY (GPM)	HISTORIC ANNUAL PRODUCTION (AF/Y)
Saugus (VWC-157)	Saugus	1500	NA
Saugus (Saugus 1)	Saugus	2600	NA
Saugus (Saugus 2)	Saugus	2600	NA
Saugus (NC-11)	Saugus	1200	NA
Subtotal		**7,900**	**4,000**
Stadium	Alluvial	800	1,300
Totals		**8,700**	**5,300**

B. Project Purpose and Need

Perchlorate contamination of water supplies is widely recognized as a potential threat to human health and safety. The perchlorate contamination in the vicinity of the Whittaker-Bermite Property threatens water quality in uncontaminated portions of the Saugus Formation and the Alluvial Aquifer, and has resulted in loss of about 5,300 acre-feet/year of production from five production wells. Without a program to contain and treat the contaminated water in the vicinity of the Whittaker-Bermite Property, the perchlorate is expected to migrate downstream and contaminate other portions of the Saugus Formation and Alluvial Aquifer groundwater basins. This, in turn, would result in further loss of local groundwater supply. To address these problems it is necessary to:

- Prevent further downstream migration of perchlorates (containment),
- Treat any water extracted as part of the containment process (containment); and
- Recover lost local groundwater production (production restoration).

Accomplishing these three objectives requires a coordinated strategy, because containment solutions involve the retirement of several wells and the conversion of existing treated water pipelines to convey untreated water to the new treatment facility. Treated water pipelines would then need to be replaced and re-aligned to (a) ensure reliable continued service and (b) connect replacement wells into the overall CLWA distribution system. The Proposed Project therefore has two functional but interrelated elements: containment/treatment facilities and service restoration facilities. These are treated distinctly below because the timing of their construction and operation varies. The primary objectives of the Proposed Project are to:

- Hydraulically contain perchlorate that is migrating westward in the Saugus Formation from the Whittaker-Bermite Property toward the impacted production wells;
- Hydraulically contain perchlorate that is present at wells MP-5 and VWC-157, which are located downgradient of the impacted wells;
- Protect downgradient production wells that are currently not impacted;
- Restore the annual volumes of water that were pumped from the impacted wells before they were shut down as a result of perchlorate contamination;

- Operate the impacted wells in a manner consistent with the CLWA's Amended 2000 Urban Water Management Plan (CLWA 2005) and the 2004 Santa Clarita Valley Water Report

In addition, it may be feasible to pump one or more of the impacted Saugus Formation production wells in a manner that also contains perchlorate migrating in the Alluvial Aquifer, but this is not a part of the Proposed Project.

II. PROPOSED PROJECT

A. Containment/Treatment Facilities

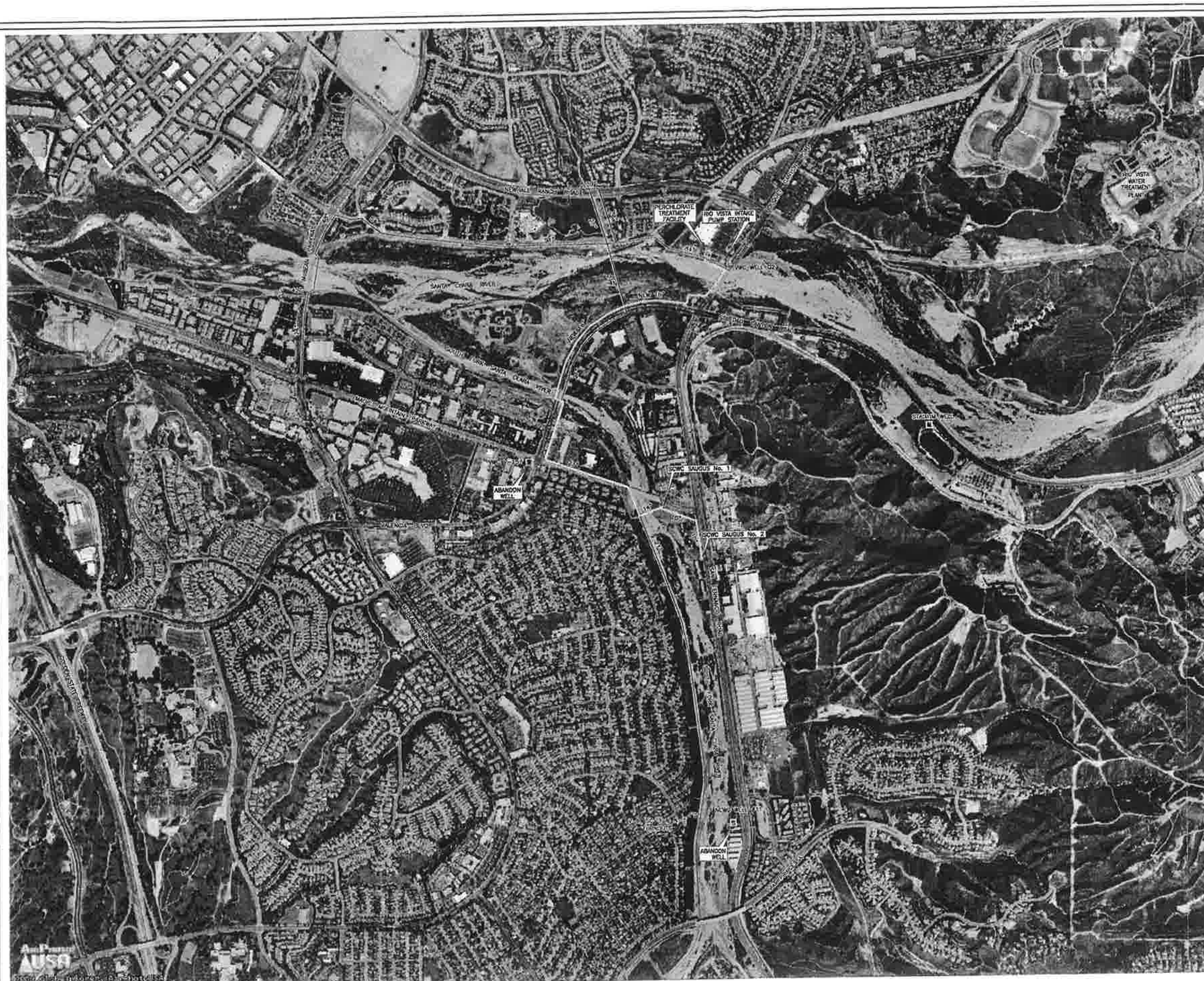
The Proposed Project for containment/treatment is based on analysis of temporal and spatial variations in groundwater flow patterns using the Regional Groundwater Flow Model for Santa Clarita Valley (Kennedy/Jenks 2005a). Model development and calibration are described in CH2M HILL (2004). Based on the model, the movement of contaminated water from the Whittaker-Bermite Property in the Saugus Formation was in a westerly direction. The San Gabriel Fault Zone, which runs east-west through the northern portion of the Whittaker-Bermite Property, was determined to provide a partial barrier to northward migration of the perchlorate-contaminated groundwater, and perchlorate-contaminated water could therefore be intercepted at the existing Saugus 1 and Saugus 2 wells, which are located near the intersection of Magic Mountain Parkway and San Fernando Road. Pumping of groundwater along the leading edge of the plume at these wells would effectively create a cone of depression adjacent to the wells. Perchlorate-contaminated water would then flow into this cone of depression where it would be extracted. The volume of extraction was evaluated to match it to the inflow of perchlorate-contaminated water, thereby maintaining a cone of depression that does not induce migration of better quality groundwater from the Alluvial Aquifer into the cone of depression. An extraction rate of from 1,100 gpm to 1,250 gpm is proposed.

Once extracted, the contaminated water would then be treated to remove the perchlorate and utilized. Over time, this interception of the contaminated plume would (a) reduce downstream migration of the plume and (b) collect the perchlorate and permanently remove it from the groundwater basin. Given that no new contamination would occur up-gradient from the interceptor wells, this strategy should eventually remediate the perchlorate problem.

The primary elements of the Containment Facilities to be constructed and operated (Figure 4; Table 3) are new pumps for existing production wells, new monitoring wells, new pipelines, and a new treatment plant for perchlorate removal. In addition, several existing wells would be removed. These facilities would provide for extraction of contaminated groundwater, conveyance of this water to a treatment facility, and treatment to remove perchlorates. The treatment plant would be tied into existing CLWA distribution pipelines to deliver treated water. Containment facility elements and specifications are shown on Table 3.

Table 3. Proposed Project Perchlorate Containment Facilities

FACILITY	SITE	DESCRIPTION (SEE FIGURE 4)
New pumps	Saugus-1 and Saugus-2 wells	**New** variable speed up to 1200 gpm each, installed at existing well site.
Network of monitoring wells	North of Saugus-2 and adjacent to alluvial basin	**New** Small-diameter wells not used for production, located to characterize the contaminant plume and to monitor program effectiveness; included up gradient wells managed in cooperation with other entities.
Conveyance to Treatment Plant	Road rights of way and bike trail	**Segment 1: New** 10" pipeline from Saugus-2, along San Fernando Road to connect with an existing 14-21 inch pipeline on the east side of the South Fork of the Santa Clara River.
		Segment 2: **Connection** of segment 1 to an existing 14-21" pipeline under the Santa Clara River, along Magic Mountain Parkway, and north along Valencia Blvd. to the bridge at the South Fork of the Santa Clara River.
		Segment 3. New 16" pipeline under the Valencia Blvd. bridge at the South Fork of the Santa Clara River, along the north/west right-of-way of Valencia Boulevard, along a bike path around the gas station at Bouquet Canyon Bridge, suspended on the west side of Bouquet Canyon Bridge, then west along a bike path to the Rio Vista Intake Pump Station.
Treatment Plant	At Rio Vista Intake Pump Station	**New** one-train, two vessel ion exchange system using Amberlite PWA2 strong-base anion exchange resin followed by chloramination disinfection with a rated capacity of 2400 gpm.
Conveyance from Treatment Plant	West of Treatment Plant	**Connect new Treatment Plant to existing Rio Vista Intake Pump Plant** and CLWA's existing treated water pipeline.



K/J FILE: N:\135542 – CLWA DHS 97-005\CEQA\Aerials photo

APPROX. SCALE IN FEET
1" = 800'

LEGEND

(E) CLWA PIPELINE

(E) CLWA PIPELINE CONVERTED TO CONTAMINATED WATER

(N) CONTAMINATED WATER PIPELINE

Kennedy/Jenks Consultants

Castaic Lake Water Agency

Figure 4
Containment Facilities

April 2005
K/J 034845.00

B. Containment Facility Operation

Containment wells would initially be operated at 1,100 gpm, and then adjusted based on monitoring well data to achieve effective containment of perchlorates. Adjustments would be made in consultation with the Department of Toxic Substance Control (DTSC). Contaminants would be treated in accordance with DHS requirements.

The containment treatment facility utilizes disposable filters to remove perchlorates (US Filter). The dual vessel design of the facility would provide for continuous operation. Primary filtration would occur in Vessel 1, with Vessel 2 providing a final "polishing." When the filter in Vessel 1 requires replacement, primary filtration would switch to Vessel 2 while the filter in Vessel 1 is removed and replaced. Filters would then be collected from the facility and transported off site to an approved commercial disposal facility. The perchlorate treatment plant would be monitored on a continuous 24-hour basis at the adjacent Rio Vista Intake Pump Station using a Supervisory Control and Data Acquisition (SCADA) program.

C. Facilities for Restoration of Service

The containment element of the Proposed Project would restore up to 43% of production from the Saugus-1 and Saugus-2 wells. The permanent closure of VWC's V-157 well (V-157), NCWD's well number 11 (NC 11), and the Stadium well operated by CLWA's Santa Clara Water Division has created a deficit in local groundwater production of 6,300 gpm capacity, or about 3,838 af/y. The containment project would also convert several existing pipelines from treated water use for conveyance of perchlorate-contaminated water to the treatment plant.

To restore local well production to pre-contamination levels and to restore service affected by conversion of existing facilities to carry untreated water, CLWA proposes to relocate production wells to areas outside of the zone of perchlorate contamination and to construct new conveyance facilities to replace the existing treated water pipelines that will be converted to convey water from Saugus 1 and Saugus 2 to the new treatment plant. This involves two elements (Figures 5 and 6).

First, to replace lost production east of the confluence of the Santa Clara River and the South Fork of the Santa Clara River from closure of the Stadium Well, CLWA would relocate the Stadium Well from its location adjacent to the Stadium along the south bank of the Santa Clara River to a location about 0.6 miles upstream from the Stadium site to an existing CLWA facility at Furnivall Avenue and Santa Clara Street and would construct a short (50-100 foot) pipeline from the well to an existing 8" distribution line.

Second, in addition to VWC's new 2500 gpm well northwest of Magic Mountain Amusement Park (hereafter MMA Park), CLWA would:

- Construct a new multiple-well 4,000 gpm facility (with chloramination facilities) along a dirt road to the west of the MMA Park), with wells connected via a 12" pipeline;
- Construct a new 18" treated water pipeline from CLWA's 48" pipeline at the McBean Parkway Bridge to a site opposite from NC 11; and
- Construct a new 18" groundwater pipeline along new road alignments that would connect these new wells directly to CLWA's existing 42" pipeline.

Long-term planning for CLWA's water storage and conveyance facilities includes potential development of a regulating reservoir southwest of the two proposed new wells. The regulating reservoir and the pipelines, which may be developed to connect it to the Proposed Project, are shown on Figure 6 for informational purposes and because they are addressed in the cumulative impacts discussion in this Initial Study. However, this reservoir facility and the pipelines needed to connect it to the Proposed Project are not a part of the Proposed Project and the Proposed Project does not depend upon them.

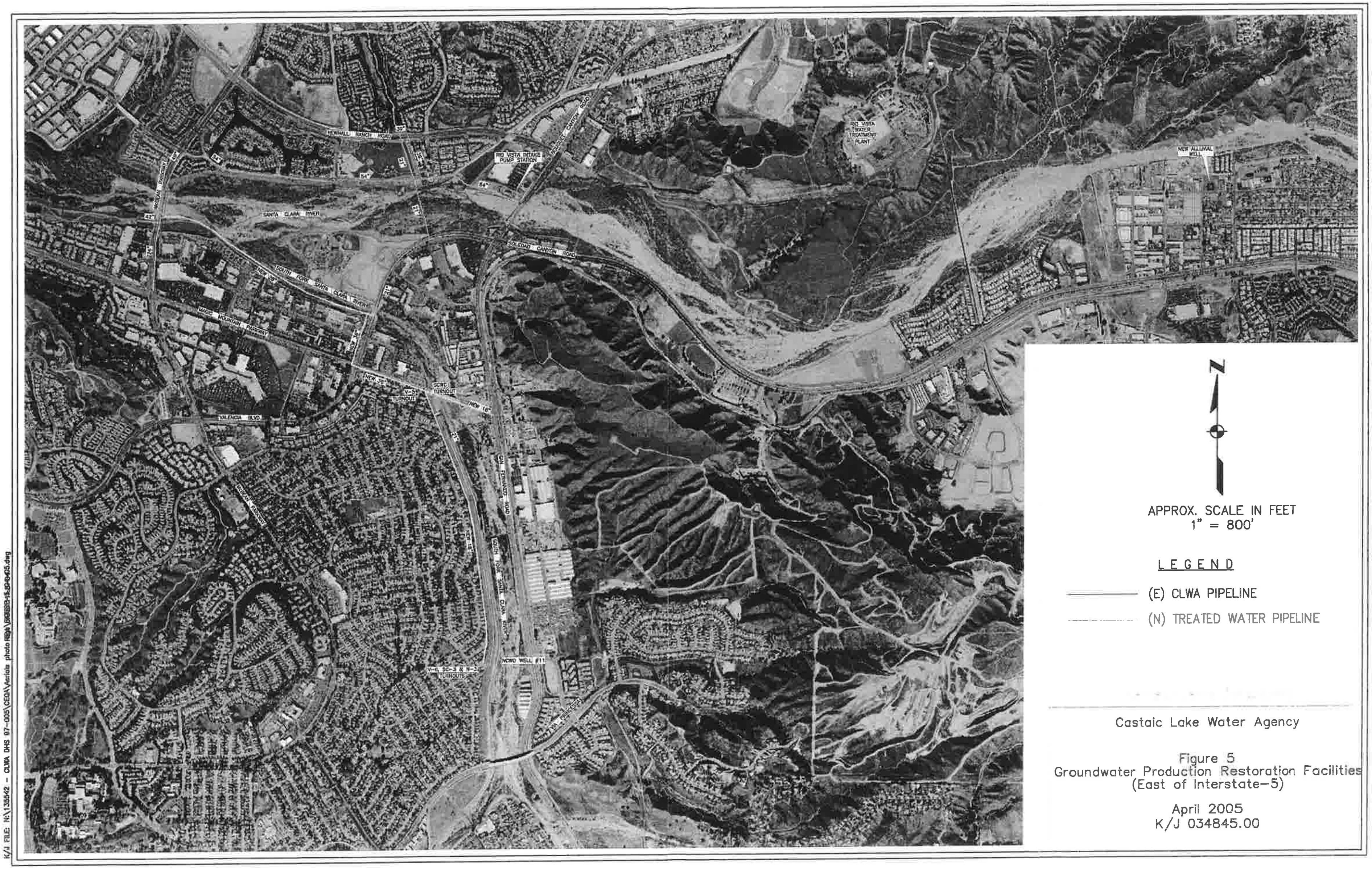
The wells, 12" connecting pipeline, chloramination facility, and 12" to 18" pipeline would be constructed within the road alignments of future planned roads. CLWA facilities would be constructed following the initial grading for these roads and the adjacent development. In combination with yield from the Saugus-1 and Saugus-2 wells and associated treatment plant, these actions would restore production lost due to perchlorate contamination and would restore service to areas previously served by the NC-11, V-157, and Stadium wells. Siting and details of the proposed restoration-of-service facilities are summarized on Table 4. Note that the planned reservoir is not a part of the Proposed Project.

D. Chloramination Facilities

Chloramination facilities would be constructed at two sites: (a) at the new perchlorate treatment facility and (b) at the new well field west of MMA Park. Chloramines are formed by mixing sodium hypochlorate and ammonia, which are produced or stored in separate areas prior to mixing into the water stream. Several types of facilities would be considered during final design. Regardless of facility type, these facilities would be fully contained, and storage of water treatment chemicals would be within double-walled containers with separate containment back-up systems capable of holding 1.5 times the capacity of each chemical tank.

Table 4. Proposed Project facilities for Restoration of Service

FACILITY	SITE	DESCRIPTION (SEE FIGURES 5 AND 6)
To replace Stadium Well		
New alluvial well	Furnivall Ave. & Santa Clara St.	**New** 800 gpm well and up to 100 foot long pipeline to connect to existing 8" pipeline.
To replace pumping capacity from contaminated wells to restore local dry year water supplies		
Well field and chloramination facility	West of MMA Park	**New** wells with a combined capacity of 4,000 gpm to be constructed along the unpaved perimeter road on the west boundary of the MMA Park, with a chloramination facility located at the last well along the 12" to 18" pipeline connecting these wells.
Pipeline from new wells to Existing 42" CLWA	West Magic Mountain Parkway to I-5	**Segment 4: New** 18" pipeline from the chloramination facility to Magic Mountain Parkway and then east along Magic Mountain Parkway to the terminus of CLWA's 42" pipeline at I-5.
Pipeline to serve area west of McBean Parkway	McBean Parkway to NC-11	**Segment 5. New** 33" pipeline along bikeway on south levee of the South Fork of the Santa Clara River to Valencia Boulevard; **Segment 6. New** 39" pipeline along Valencia Blvd. and Magic Mountain Parkway with a turnout west of San Fernando Road. **Segment 7. New** 18" pipeline from the Segment 5 turnout to San Fernando Road; and **Segment 8. New** turnout, connection to the CLWA existing 21" pipeline along the west side of the South Fork of the Santa Clara River, and 18" pipeline from the turnout parallel to CLWA's existing 21" pipeline along an access road to a site opposite NC-11, connecting to existing turnouts.



NEWHALL RANCH ROAD
RIO VISTA INTAKE PUMP STATION
RIO VISTA WATER TREATMENT PLANT
NEW ALLUVIAL WELL
SANTA CLARA RIVER
SOLEDAD CANYON ROAD
SOUTH FORK SANTA CLARA RIVER
VALENCIA BLVD
SAN FERNANDO ROAD
NCWD WELL #11
N
APPROX. SCALE IN FEET
1" = 800'
LEGEND
(E) CLWA PIPELINE
(N) TREATED WATER PIPELINE
Castaic Lake Water Agency
Figure 5
Groundwater Production Restoration Facilities
(East of Interstate-5)
April 2005
K/J 034845.00

N

APPROX. SCALE IN FEET
1" = 500'

LEGEND

(E) CLWA PIPELINE

(N) TREATED WATER PIPELINE

(N) GROUNDWATER PIPELINE

Castaic Lake Water Agency

Figure 6
Groundwater Production Restoration Facilities
(West of Interstate-5)

April 2005
K/J 034845.00

E. Operation of Service Restoration Facilities

These replacement production and service facilities would be operated in a manner consistent with CLWA's Amended 2000 Urban Water Management Plan (CLWA 2005). Based on demands and capacity of the perchlorate treatment system to meet demands, CLWA would determine whether excess demands may be met with imported water or by initiating operation of replacement wells. This decision would be based on the availability of imported water and in conformance to the plan for use of the Saugus Formation as described in the Amended 2000 Urban Water Management Plan (CLWA 2005). VWC would determine the operation of well V-206 according to the requirements of its water system.

F. Construction Methods and Schedule

The proposed facilities are of a conventional nature and no special construction measures would be required. The proposed treatment plant is modular in design and would be placed within a structure adjacent to the existing Rio Vista Intake Pump Station.

Most pipelines would be constructed in or immediately adjacent to existing paved and unpaved road rights-of-way and/or existing paved bike and hiking trails. Construction at the Bouquet Canyon Road Bridge would involve placement of the 16" pipeline under the bridge deck and use of construction equipment within the Santa Clara River (to avoid traffic impacts at the bridge). The pipeline crossings under the South Fork of the Santa Clara River at the Valencia Boulevard Bridge and along Magic Mountain Parkway would be constructed under the river using techniques that avoid open trenching.

Most pipelines would be constructed in open trenches along bike paths and in road rights-of-way. A continuous excavation, pipe placement, and backfill operation would result in a maximum of 200 to 300 feet of open trench at any time. Trenches would be backfilled as each pipeline segment was completed. When a defined segment of pipeline has been completed, it will be repaved prior to initiating the next segment. Construction would occur during daylight, and trenches would be covered with steel plates prior to shutting down construction each evening. It is estimated that about 200 feet of pipeline may be constructed per day. Including a 2-to-4-day mobilization and demobilization at each site, approximate construction times for pipeline segments are shown on Table 5.

Table 5. Estimated construction time for pipeline segments. (MD = mobilization and demobilization; CON = construction; MM Pkwy. = Magic Mountain Parkway; SF = South Fork of the Santa Clara River; SCR = mainstem of the Santa Clara River).

PIPELINE SEGMENT (FIGURES 5 & 6 FOR REFERENCE)	LENGTH IN FEET	CONSTRUCTION TIME IN DAYS		
		MD	CON	Total
Containment Facility Pipelines				
Segment 1. 10" pipeline from Saugus-2, along San Fernando Road to connect with an existing 14-21 inch pipeline on the east side of the South Fork of the Santa Clara River. Repaving as needed.	1300	2-4	8-12	10-16
Segment 2. Connection to existing 14-21" pipeline under the Santa Clara River, along Magic Mountain Parkway, and north along Valencia Blvd. to the bridge at the South Fork of the Santa Clara River.	NA	2-4	2-4	4-8
Segment 3. 16" pipeline under the Valencia Blvd. Bridge at the South Fork of the Santa Clara River, in the bike path along the north/west right-of-way of Valencia Boulevard, along a bike path around the gas station at Bouquet Canyon Bridge, suspended on the west side of Bouquet Canyon Bridge, then west along a bike path to the Rio Vista Intake Pump Station. Repaving as needed.	4620	2-4	24-30	26-34
Service Restoration Facility Pipelines				
Segment 4: New 12"-18" pipeline from the new well field and chloramination facility to Magic Mountain Parkway and then east along Magic Mountain Parkway to terminus of CLWA's 42" pipeline at I-5.	2000	2-4	10-12	14
Segment 5. New 33" pipeline along bikeway on south levee of the South Fork of the Santa Clara River to Valencia Boulevard. Repaving of bike trail.	4540	2-4	23-30	25-34
Segment 6. New 39" pipeline along Valencia Blvd. and Magic Mountain Parkway with a turnout west of San Fernando Road.	2810	2-4	14-20	16-24
Segment 7. New 18" pipeline from the turnout to San Fernando Road;	1310	2-4	7-15	9-19
Segment 8. New turnout, connection to the CLWA existing 21" pipeline along the west side of the South Fork of the Santa Clara River, and 18" pipeline from the turnout parallel to CLWA's existing 21" pipeline along an access road to a site opposite NC-11, connecting to existing turnouts.	5610	2-4	28-40	30-44

Including site preparation and installation of wells, new pumps, and the treatment plant, it is estimated that all elements of the Proposed Project east of Interstate 5 can be constructed and placed into operation within a 6 to 7 month period, beginning in August 2005 and ending in mid-March 2006.

Construction of project elements west of Interstate 5 would be separately scheduled, depending on the timing for construction of roads and other infrastructure for future development in the area. Road grading for this project would involve substantial cut and fill, and it is thus prudent to defer construction of pipeline elements associated with the western portion of conveyance until these roads have been initially graded. Pending construction of these facilities, CLWA currently has adequate supply from the SWP (either current year Table A, supplemental SWP supply, or banked supply) to make up for the short-term reduction in production associated with deferring construction of these facilities.

G. Mitigation Measures Incorporated into the Project

CLWA proposes a number of mitigation and/or impact avoidance measures to be incorporated into the project description. As such, they would be incorporated, as appropriate, into various construction contracts and compliance would be made a condition of the contracts. CLWA construction managers would then monitor compliance routinely as part of construction management. Compliance with biological resources mitigation measures and cultural resources mitigation measures would be monitored by a qualified biologist or archeologist, respectively.

1. Facility Site Selection

To the extent feasible, facilities have been sited to optimize interception of the plume of perchlorate-contaminated water, to utilize existing pipelines, to avoid wildlife habitats, and to avoid construction within roads. Given that small-diameter pipelines may be constructed under road intersections without trenching, the pipelines proposed for the containment element of the Proposed Project would avoid work in roads except between Saugus 2 and the proposed monitoring wells (Segment 1). The entire alignment of the containment pipeline is to be constructed in this short road section and within the alignment of existing bike trails, therefore avoiding impacts to wildlife habitat.

Most portions of the pipelines and wells for the service-restoration portion of the Proposed Project would be confined to existing roads (or constructed during construction of new roads). Wells would be constructed in areas where previous activity has removed all wildlife habitats. About 40% of the pipeline to be constructed for service restoration would be within the alignments of regional bike trails, thus minimizing traffic impacts.

2. Construction Schedule

With the exception of pipeline segments jacked under the river, suspended under the decks of bridges, and a few segments routed around commercial buildings, pipeline construction would take place within existing paved and unpaved roads or bike paths and there is no potential for direct impacts to special-status species habitat, nesting migratory birds could be affected by construction noise and visual disturbance. This would occur only in areas where construction would be in bike paths: (a) along the South Fork of the Santa Clara River and (b) along Valencia Boulevard/Soledad Canyon Road. The construction schedule provides for construction of pipelines adjacent to the river to occur in September through Mid-March, outside of the nesting period.

3. River Crossings

There are four river crossings included in the Proposed Project:

- A pipeline to carry contaminated water from Saugus 1 and Saugus 2 under the South Fork of the Santa Clara River from the new monitoring wells. This crossing would be accomplished by connecting to an existing CLWA pipeline.

- A pipeline to carry contaminated water under the South Fork of the Santa Clara River at Valencia Boulevard. This crossing would be made by jacking the pipe under the river without trenching.
- A pipeline to carry contaminated water across the mainstem of the Santa Clara River at the Bouquet Canyon Boulevard Bridge. This pipeline would be suspended under the bridge, with construction equipment working in the riverbed along an alignment heavily disturbed by recent (2005) bridge modifications.
- A pipeline to carry treated water under the South Fork of the Santa Clara River along the alignment of Magic Mountain Boulevard to an existing pipeline at San Fernando Road. This pipeline crossing would be accomplished by jacking the pipeline under the river without trenching.

Use of these construction measures would minimize disturbance of vegetation within the river.

4. Best Management Practices when Constructing in the Public Right-of-Way

CLWA would request a permit from and comply with the City of Santa Clarita Transportation and Engineering Services Encroachment Permit Policy (Appendix A). This policy specifies work schedules and work practices intended to minimize construction impacts on traffic, local businesses, local residents, storm water runoff, and utilities and public services. Although most work in public roads in Los Angeles County will occur during the initial construction of new roads associated with development west of Interstate 5, CLWA will also comply with County of Los Angeles Department of Public Works Encroachment Permit requirements, as outlined in County Code Division 1, Title 16.

5. Best Management Practices when Constructing in Bike Trails

No more than one section of bike trail would be affected at any time and each section of bike trail would be fully restored prior to initiation of construction of the next section; detours around the construction zone would be relatively short and temporary in nature. Bike path closing and detour routes would be coordinated with the City of Santa Clarita Parks Department and with the local cycling community. CLWA would ensure that detours are clearly marked.

In addition to minimizing impacts to cyclists, whenever work is occurring adjacent to the mainstem of the Santa Clara River or the South Fork of the Santa Clara River, CLWA would also utilize the landward right of way for temporary side casting of spoil and for construction laydown and vehicle fueling and maintenance. This would limit potential disturbance of vegetation on the river-side of the trail and place the active pipeline trench between these support activities and the river.

6. Aesthetic Treatment of the Water Treatment Plant

The water treatment plant would be sited next to the Rio Vista Intake Pump Station, which was designed to be consistent with the Spanish-American architecture of many historic buildings in the region. Located in a site which is visible from a major bike trail, the new treatment plant

would be screened and the screens would be consistent with the aesthetics of the existing pumping plant. The visual character of the site would therefore not conflict with the existing character of adjacent buildings.

7. Air Quality

CLWA would adopt best management practices for control of fugitive dust from construction, per Rule 403 of the South Coast Air Quality Management District, Table 1 (Amended April 2, 2004), which is attached as Appendix B and incorporated by reference herein.

8. Noise

The siting of the Proposed Project contributes to avoidance of noise impacts to adjacent business and residents. No portion of the containment element facilities would be constructed adjacent to residential development and a majority of containment facility pipelines would be separated from nearby commercial development by a major arterial road.

For the two sections of service-restoration pipeline which are adjacent to residential development (along the west side of the South Fork of the Santa Clara River south of Magic Mountain Parkway and along the bike trail between McBean Parkway and Valencia Boulevard), CLWA would comply with City of Santa Clarita noise policies. Specifically:

- Permanent above-ground facilities (wells and treatment plant) would be contained within structures that would ensure that adjacent ambient noise levels are below the levels established for facilities in commercial and manufacturing areas.
- Except when more stringent standards apply to construction in the roadway, construction work would be limited to the hours from 7 AM to 7 PM, with no construction on weekends.
- Construction noise would be monitored on site by the construction contractor and portable noise attenuation barriers would be erected between construction and housing if construction noise measured at the exterior of adjacent housing exceeds levels permitted in the City's Noise Ordinance.

9. Construction Crew Training, On-Site Biological Monitoring, and Isolation of the Construction Area

Although no construction would occur in wildlife habitats and construction laydown areas would be maintained on the landward side of bike trails to the extent feasible, there is a small potential for special-status wildlife species to move into the construction area, primarily during the night when there is no construction activity. To prevent adverse impacts associated with wildlife incidental use of the construction area, CLWA would implement the following avoidance and minimization measures:

- Construction and maintenance personnel would participate in an environmental awareness program approved by the United States Department of Interior, Fish and

Wildlife Service (USFWS) and California Department of Fish and Game (CDFG) . Under the program, workers shall be informed about the potential presence of special-status species and that unlawful take of these species is a violation of the Federal Endangered Species Act (FESA) and/or the California Endangered species act (CESA). Prior to construction activities, a qualified biologist would instruct construction personnel about the identification and the life history of the various special status species which may inhabit the Santa Clara River and its tributaries within the Proposed Project area. Color photographs would be provided for maintenance on site. Proof of instruction shall be provided to USFWS and CDFG.

- Prior to initiation of construction activities in bike trails adjacent to the two river channels, a qualified biologist would survey the area to confirm that no special-status species are present. If special-status species are present, they would be allowed to move away from construction activities.
- Once it has been determined that no special-status species are within the construction area, the construction contractor may isolate the construction area from the area to the river side of the bike path using a fine-mesh nylon drift fence at least 2 feet high and angled away from the construction site.

10. Water Quality

CLWA would implement best management practices to avoid construction runoff during construction activities, including:

- Daily pre-construction inspection of all construction equipment to ensure that oil and/or gas/diesel fuel are not leaking from equipment;
- Secondary containment for fueling and chemical storage areas shall be provided during construction and Proposed Project operation;
- Secondary containment for equipment wash water shall be provided to ensure that wash water is not allowed to run off the site;
- Silt traps and/or basins would be provided to prevent runoff from the construction site;
- Materials stockpiles would be covered to prevent runoff;
- Loose soils would be protected from potentially erosive runoff;
- If construction equipment is used within the river channel, the equipment would be fitted with secondary containment materials at potential oil/fuel leakage sites.

11. Cultural Resources Management

In general, siting and construction scheduling have reduced the potential for construction of the Proposed Project to impact cultural resources in many areas. Construction within the levees of the Santa Clara River would not have potential to affect cultural resources because excavations would not extend to undisturbed soils. Similarly, construction west of Interstate 5 would be within roadbeds that would already have been graded to depths below which prehistoric cultural resources are not likely to be found. Construction of two pipelines under the South Fork of the Santa Clara River would be in recently disturbed alluvium.

There is potential for construction to encounter buried cultural resources within existing roads and trails along the western edge of the South Fork of the Santa Clara River. In these areas, CLWA would address potential impacts to buried cultural resources through:

- Construction Personnel Training. Prior to initiation of construction, all construction personnel shall be trained regarding (a) the recognition of possible buried cultural remains and (b) procedures to be followed if archeological materials are discovered. Training would provide that construction in the area of a discovery shall be halted immediately and a qualified archeologist notified.
- Construction Monitoring and resource recovery. In areas near known cultural resource sites, construction monitoring shall be undertaken by a qualified archeologist familiar with the types of historic and prehistoric resources that could be found within the Proposed Project area. Monitored locations shall include all areas designated as having a high probability of finding subsurface cultural resources. If cultural resources are discovered during excavations, then the monitor would initiate consultation with the State Historic Preservation Office and develop and implement an appropriate resource recovery program.
- Compliance with DHS requirements for the treatment of buried human remains. If human remains are found during construction, CLWA would immediately halt construction and implement the notification and treatment protocols required by DHS.

III. ENVIRONMENTAL SETTING

A. General

The Proposed Project area is located in the inland alluvial valley about 35 miles north of downtown Los Angeles, at the base of the Tehachapi Mountains at an elevation of about 1,000 to 1,300 feet. The climate is classified as "southern California Mediterranean," characterized by warm dry summers with temperatures from 75 F to 100 F, temperate and semi-moist conditions (15 to 18 inches annual rainfall between November and March). Mean annual precipitation varies from year to year, and this is reflected in annual and monthly river flows along the Santa Clara River and the South Fork of the Santa Clara River. Based on U.S.G.S. streamflow monitoring, there is high variability in annual peak flows. At USGS, Station 11108000 (Santa Clara River at Saugus) annual peak flows ranged from 317 cubic feet per second (cfs) to 24,500 cfs. In addition to annual flow variability, mean monthly flows also reflect the high variability in climate. Even in years of very high peak flows, these flows have short duration and mean monthly flow may be several orders of magnitude below the peak flow.

The highly variable precipitation and hydrologic regimes of the region create variable conditions for plants and wildlife. In the rivers, flows may briefly inundate a wide floodplain in some years, but by summer flows are confined to a low-flow channel and much of the channel is dry.

In the Proposed Project area, the Santa Clara River and the South Fork of the Santa Clara River have highly variable habitat conditions. Infrequent floods scour the sandy streambed and remove

vegetation. Floods frequently alter the location of the low flow channel. During the intervening years between floods, riverine riparian vegetation recovers.

B. Demographics and Land Use

The Santa Clarita Valley (Valley) is one of the faster growing regions of southern California, with an annual growth rate of about 3.0%, compared to the overall Los Angeles County growth rate of about 1.7%. In 2002, the unemployment rate in the Valley was 3.6%, compared to 7.5% for Los Angeles County as a whole. Median income was also high ($73,000 per household), with over one-third of households earning between $75,000 and $150,000 per year. The number of people living below the poverty line was 4.9% in the Valley versus 14.7% in Los Angeles County as a whole. This reflects a business community dominated by recreation (MMA Park), public services, high technology industry, film production, and retail. Combined with this local employment base, numerous residents commute to high level jobs and 40% of employed residents are in management-level positions. The Valley has a low crime rate (about 45% of the national average).

The Southern California Association of Governments (SCAG) projects that population in the Valley will rise from 213,000 (2000) to 352,400 (2025). Population growth in the region is being driven by a booming southern California economy and by the relative lack of alternative building sites elsewhere in southern California. The Valley thus shares high growth rates with San Bernardino County and Riverside County, which also have available developable lands.

In the Proposed Project vicinity east of McBean Parkway, land use is industrial, commercial, and moderate-to-high density residential. Land use adjacent to new facilities to be constructed for the containment facilities is commercial and industrial. The new wells and pipelines proposed for the restoration-of-service facilities east of McBean Parkway would be between residential-commercial development and either the South Fork of the Santa Clara River or an open-space corridor along the South Fork of the Santa Clara River. Land use adjacent to the pipelines and wells proposed for the area west of Interstate 5, includes currently undeveloped areas along Magic Mountain Parkway, the MMA Park, and the historic Castaic Junction Oil Field (Newhall Ranch).

C. Traffic and Circulation

The Proposed Project would take place in and adjacent to a transportation, commercial, and residential hub. Magic Mountain Parkway is one of the primary connections to Interstate 5 and provides access to MMA Park to the west and to the City to the east. Major east-west arterial roads in the Proposed Project area include Newhall Ranch Road north of the Santa Clara River, Valencia Boulevard/Soledad Canyon Road south of the Santa Clara River and Magic Mountain Parkway. These east-west arterials are crossed and connected to the north-south San Fernando Road/Bouquet Canyon Road arterial. Average daily (weekday) traffic (City of Santa Clarita 2005) on these roads is shown on Table 6. Table 6 also reflects California Department of Transportation (CalTrans) data on average daily traffic and peak hour traffic loads for the state highway system (Caltrans 2003). These data for over 600 segments of State-maintained road show that peak hourly traffic (the 2 highest hours of traffic, morning plus evening) in the vicinity of Santa Clarita (such as Highway 126) is generally from 16% to 30% of average daily traffic

volume, reflecting high use during rush hours. CalTrans data show heavy traffic flow in one direction in the morning and heavy flow in the reverse direction in the evening. The City of Santa Clarita notes that average daily traffic varies. It is therefore not possible to precisely project traffic volumes on any given day or at any given time. The data and calculations on Table 6 are thus generalizations reflecting overall traffic trends.

Table 6. Recorded average daily traffic and calculated average daily traffic in each direction on major arterials in the Proposed Project area, with calculated peak traffic based on peak traffic equal to 16% to 30% (average 23% or 11.5% each way) of average daily traffic in the peak direction at 55% to 75% (average 65%) of peak hour traffic.

ROAD SEGMENT	TRAFFIC VOLUME (CARS PER DAY)		
	COLUMN A Average Daily Both Directions	Calculated Peak Am and PM Traffic at peak = 11.5% of average daily traffic	Calculated peak traffic in the heavy direction at 65% of peak traffic
Magic Mountain Parkway at Interstate 5:	28,250	3249	2112
Valencia Boulevard at Magic Mountain Parkway	43,900	5049	3282
Magic Mountain Parkway west of Valencia Boulevard	21,200	2438	1585
Magic Mountain Parkway east of Valencia Boulevard	13,000	1495	972
Valencia Boulevard at Santa Clara River Bridge:	47,450	5457	3547
San Fernando Road at Magic Mountain Parkway	70,270	8081	5253

Given that CalTrans data on peak hourly traffic for 2003 shows that peak hourly traffic in each direction is almost always about 55% to 75% of average daily traffic in that direction, Table 6 represents a probable range of peak traffic conditions on the major arterials in the Proposed Project area. A calculated peak1-hour morning and evening traffic equal to 11.5% of average daily traffic is most likely to apply to traffic in the Proposed Project portion of the City of Santa Clarita because this is similar to the traffic volume data for Highway 126, the nearest data point for Caltrans. If this 11.5% estimate is assumed and applied to a 2-hour morning and 2-hour evening rush hour period, it would mean that almost half of the average daily traffic in either direction would occur during the morning/evening rush hours.

D. Water Resources and Water Quality

- CLWA is the wholesale water supplier for the Santa Clarita Valley. Current water supplies are locally derived from groundwater in the Alluvial Aquifer and the Saugus Formation and are purchased from the SWP. CLWA does not utilize surface water flow as water supply. Estimates of existing local supplies available from the two groundwater basins are variable, depending on water year type. The May 2005 Santa Clarita Valley Water Report (Luhdorff & Scalmanini 2005) estimates normal-to-wet-year supply from the Alluvial Aquifer at 30,000 to 40,000 acre-feet and from the Saugus Formation at 7,500 to 15,000 acre feet. In dry/drought years, the Alluvial Aquifer supply is estimated

at from 30,000 to 35,000 acre feet per year and the supply from the Saugus Formation is estimated at up to 35,000 af/y.

CLWA's contractual rights to SWP water total 95,200 af/y, and include a water transfer of 41,000 afy approved in 1999 from Wheeler Ridge-Maricopa Water Storage District, a member unit of the Kern County Water Agency. Based on the Department of Water Resources *Final State Water Project Delivery Reliability Report,* average SWP deliveries are anticipated to be 76% of Table A contractual supplies, or 72,352 af/y. Combined, groundwater and SWP supplies are adequate to provide an average of about 110,000 to 120,000 af/y. With available recycled water and supplemental SWP supplies, CLWA has more than 133,000 acre-feet of supply available in 2005. CLWA has entered into two ten-year agreements with Semitropic Water Storage District in Kern County, whereby CLWA banked almost 51,000 acre-feet of CLWA's Table A supply for later delivery in dry years, thus ensuring dry-year reliability through 2013. The CLWA 2002 Ground Water Banking Project was challenged in the Ventura Superior Court. The Court held in favor of CLWA and the case is now on appeal. CLWA is also conducting environmental compliance of a long-term banking program with Rosedale-Rio Bravo Water Storage District as the first element of achieving full reliability of 76% of its Table A Amount. CLWA has an aggressive and successful voluntary water conservation program that, in the 1990's, resulted in a 10% to 20% decrease in water demand during that drought period.

Groundwater quality in both the Saugus Formation and Alluvial Aquifer generally meet Los Angeles Regional Water Quality Control Board (Regional Board) objectives/criteria, although there are some reaches of the Santa Clara River which have concentrations of ammonia, chloride, nitrates and nitrites, low dissolved oxygen, coliform bacteria, and/or sulfate in excess of Regional Board criteria. A majority of these problems occur in downstream reaches near the estuary at the mouth of the river well outside of the Proposed Project area. Groundwater in the Alluvial Aquifer has mineral concentrations (total dissolved solids or TDS) of 550 to 610 mg/l in the eastern portion of the aquifer to 660 to 710 mg/l in the western portion of the aquifer. TDS levels in the Saugus Formation can be higher (> 800 mg/l). Most wells in the Valley have non-detectable levels of arsenic, and blended drinking water supplies meet current DHS standards. Groundwater produced from both aquifers meets EPA and DHS standards for drinking water.

E. Air Quality

The Proposed Project is in the South Coast Air Basin. In this region, air quality does not meet California Ambient Air Quality Standards. Specifically, the South Coast Air Basin is in a "non-attainment" status for particulates (PM_{10}), in "serious non-attainment" for carbon monoxide (CO) and in "extreme non-attainment" for ozone (O_3).

F. Biological Resources

1. General

Like much of southern California, the Santa Clarita Valley and adjacent uplands habitats are complex ecologically as a result of complex topography, soils, and associated micro-climate conditions. Habitats are patchy and subject to significant disturbance from flood and wildfire. Historic regional development in the 6-county southern California area has resulted in loss of habitat and habitat diversity in the region as a whole. As a result, many native species are now rare. In the overall CLWA service area, there are a total of 76 special-status plant and animal species (Appendix C, attached), including 17 species that are listed as threatened or endangered or are proposed for such listing under the Federal Endangered Species Act (FESA) or the California Endangered Species Act (CESA).

Of the six FESA/CESA listed plant species and seven plant species potentially eligible for listing in the CLWA service area, four are likely to occur adjacent to the vicinity of the Proposed Project area (Table 7): Nevin's barberry, the slender-horned spineflower, the San Fernando Valley spineflower, and the many-stemmed dudleya. The other special-status plant species in the general CLWA service area are found in chaparral and dense coastal sage scrub habitats, rocky outcrops, and vernal pools. These habitats are not found within or immediately adjacent to the Proposed Project area. Of the 49 special-status animal species in the CLWA service area, 32 may occur in habitats adjacent to the Proposed Project area, primarily in the South Fork of the Santa Clara River and the Santa Clara River Mainstem (Table 8 summarizes probability of occurrence).

The Santa Clara River is the last significant southern California river not controlled by a major dam and thus represents a continuous wildlife corridor from its headwaters to its estuary. The highly variable flows of the Santa Clara River and its tributaries create a dynamic vegetative community. Much of the floodplain in the Proposed Project area has been preserved between "set-back" levees and the river is free to meander within this floodplain, which ranges from about 200 feet to 800 feet in width in the Proposed Project reach. Riparian vegetation grows in the bars and benches adjacent to the sandy river channel. In floods, much of this vegetation is removed by erosive flows which re-shape the riverbed. The result is a dynamic system that includes a mix of sparse and dense riparian habitats. The distribution of riparian species within these habitats varies from year to year, depending on habitat characteristics. Riparian habitats tend to be most robust at sites where the river has more room to meander (and where flood flows spread out and are less erosive). At constraining points, such as bridges and narrow portions of the canyon, high flows often erode the entire river bed and eliminate much of the riparian vegetation.

As a result of a variable flow regime, habitats in the Proposed Project reach of the Santa Clara River are patchy, and dense riparian tends to occur on benches and bars and along the low-flow channel. Riparian vegetation in areas where there is scour is patchy and sparse, and often fails to reach maturity due to repeated scour. The highly variable flow regime also creates conditions unsuitable to species such as the California red-legged frog, which generally requires perennial

ponds and slow moving water. While there is some potential for the red-legged frog to exist in patches of habitat in some reaches of the river or tributaries, it is not likely that the frog would occur in the Proposed Project reach, where recent flood flows covered the entire width of the river. This is particularly true of the Proposed Project reach of the South Fork of the Santa Clara River, where the 100-year floodplain includes all open space and developed areas up to the base of the hills on the east and to the fence line along the west side of an open space corridor on the west.

Upland habitats adjacent to the proposed wells, chloramination facility, and pipelines to the south and west of MMA Park are dominantly native and non-native grasslands, with sparse shrubs. Much of the area has been heavily disturbed by oil and gas exploration, and there are large areas which have been graded for oil and gas facilities and support no vegetation at all. Habitat for chaparral and sage scrub species in this area is limited.

2. Presence of Threatened and Endangered Species

Other than those listed on Table 7, special-status plant and animal species which may occur in the overall CLWA service area are not likely to occur in the vicinity of the Proposed Project itself because suitable habitat does not exist for them in this area. For example, the western spadefoot toad may occur in some portions of the CLWA service area, but requires non-riverine ponds or vernal pools in a grassland or shrub matrix. No habitat of this nature occurs in the Proposed Project area. Similarly, although there may be potentially suitable habitat for the California gnatcatcher within CLWA's service area, the habitat in the vicinity of the Proposed Project lacks patches of coastal sage scrub (CSS) large enough to support gnatcatchers (> 1 hectare in dry inland portions of the gnatcatcher's range). Review of the California Natural Diversity Data Base (CNDDB 2004) also shows no records of California gnatcatcher in the Proposed Project vicinity, although there are records of the species in coastal Ventura County to the west and in the foothills of the San Gabriel Mountains to the east. Similarly, the frequently high flows in the Proposed Project reach of Santa Clara River basin are likely to exclude California red-legged frogs from this area; they are not known to occur in this reach of the river and have not been found in recent surveys (Cadre Environmental 2004).

The presence of the southwestern arroyo toad in the floodplain of the Santa Clara River (between levees) has been confirmed in recent surveys conducted in 2003 and 2004 (Cadre Environmental 2004, see Appendix D). These surveys covered the river channel over the entire length of the Proposed Project reach. In these surveys, no arroyo toads, southwestern pond turtles, or red-legged-frogs were found in the reach immediately adjacent to proposed facilities, but arroyo toads and southwestern pond turtles were found about 800 feet downstream from the McBean Parkway Bridge, adjacent to benches of good quality riparian and upland grassland/shrubland vegetation. There is perennial flow in the low flow channel of the Santa Clara River Mainstem downstream of the water treatment plant at the Valencia Boulevard Bridge, and there are benches or bars along the meandering river which may provide suitable fall-winter estivation habitat.

Winter foraging and estivation habitat for the arroyo toad in Proposed Project reach of the Santa Clara River basin is constrained by roads (which separate the toad from upland areas) and

development (which eliminates potential burrowing habitat). The portion of the South Fork Trail that would be used as the alignment for pipelines from McBean Parkway to north of Via Princessa consists of:

- The riverside slope of levees, which is maintained free of vegetation;
- The levee top, which is dedicated to a wide asphalt bike and hiking trails;
- The edges of the trail, which are landscaped; and
- Adjacent land uses on the landside of the levees (from McBean Parkway), which consist of fenced paved parking lots for a number of auto dealerships and a mowed non-native grass strip of open space backing up to the fenced boundary of a residential development.

There are similar conditions along the portion of the Santa Clara River trail that would be used as the alignment of the proposed pipelines from the Valencia Boulevard Bridge over the South Fork of the Santa Clara River to the Bouquet Canyon Road Bridge over the Mainstem Santa Clara River. Along about 40% of this alignment, habitat on the river side of the channel has been disturbed by construction of the existing Pumping Plant. There is no suitable wildlife habitat to the landside of the bike trail.

The South Fork of the Santa Clara River goes dry in almost every summer, and thus there is no recent record of, nor likelihood of, arroyo toads or southwestern pond turtles in this reach. Vegetation is also sparse and there is a major arterial and commercial/industrial development between the east bank of the river and adjacent hills. This development/road probably limits wildlife movement between the river and upland habitats.

Table 7. Special-status plant and animal species which may occur in habitats adjacent to the Proposed Project area.

SPECIES	STATUS	HABITAT TYPE	POTENTIAL AREAS OF OCCURRENCE?	
			West of I-5	Santa Clara River: Mainstem and South Fork
Listed Species				
Arroyo toad (*Bufo californicus*)	FE/CSC	Perennial streams and adjacent	No	Yes
Least Bell's vireo (*Vireo bellii pusillus*)	FE/CE	Dense willow riparian with significant overstory.	No	Potential
Nevin's barberry (*Berberis nevinii*)	FE/CE	Coastal scrub and chaparral along sandy washes	No	Unlikely, but possible along river margin
Slender-horned spineflower (*Dodecahemia leptoceras*)	FE/CE	Alluvial fan and other sandy soil areas near drainage	Near drainage	Potential on berms and bars in the river
Southwestern willow flycatcher (*Empidonax traillii extimus*)	FE/CE	Dense willow thickets near slow-moving water	No	Yes
Unarmored three-spined stickleback (*Gasterosteus aculeatus williamsoni*)	FE/CE	Flowing water with emergent vegetation	No	Yes
Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*)	FT/CSC	Dense riverine woodlands and thickets	No	Potential

Unlisted Species				
Birds				
Bell's sparrow (*Amphispiza belli*)	FSC/CSC	Coastal slopes of CSS; known to avoid development	Potential	Not probable
Burrowing owl (*Athene cunicularia hypugea*)	FSC/CSC	Dry grasslands; berms, ditches, and grasslands adjacent to rivers.	Potential	Potential
California horned lark (*Eremophila alpestris actia*)	FSC/CSC	Grasslands, fields, open areas	Probable	Yes
Cooper's hawk (*Accipiter cooperii*)	-/CSC	Wooded to semi-open areas. Breeding in riparian and oak woodlands	Foraging only	Yes, summer breeder
Loggerhead shrike (*Lanius ludovicianus*)	FSC/CSC	Open grasslands and chaparral.	Yes	Potential
Long-eared owl (*Asio otus*)	-/CSC	Riparian. Coniferous and oak woodlands -- dense.	No	Potential in some dense riparian
Sharp-shined hawk (*Accipiter straitus*)	-/CSC	Wooded to semi-open areas.	Winter visitant	Winter visitant
Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*)	FSC/CSC	CSS, recently burned areas	Probable	Not probable
Summer tanager (*Piranga rubra*)	-/CSC	Cottonwood willow riparian	No	Probable
Tricolored blackbird (*Agelaius tricolor*)	FSC/CSC	Freshwater marshes and riparian scrub	No	Potential but uncommon in region
White-tailed kite (*Elanus leucurus*)	-/FP	Riparian nesting; forages in open meadows	Foraging	Yes
Yellow warbler (*Dendroica petechia brewsteri*)	-/CSC	Willow riparian	No	Possible
Herpetofauna				
Coastal western whiptail (*Cnemidophorus tigris multiscutalus*)	FSC/-	Sparse vegetation, loose soils in scrub habitats	Probable	Probable along river banks
Coast horned lizard (*Phrynosoma coronatum*)	FSC/CSC	Scrubland, grassland, sandy loose soils along washes	Yes	Yes
Coast patch-nosed snake (*Salvadora hexalepis virgultea*)	FSC/CSC	Dry scrub and chaparral, sandy washes	Potential	Unlikely; no winter burrows
Southwestern Pond Turtle (*Clemmys marmorata marmorata*)	FSC/CSC	Perennial ponds and slow-moving river channels	No	Recently found about 800 feet downstream from McBean Parkway
Two-striped garter snake (*Thamnophis hammondii*)	FSC/CSC	Riparian and freshwater marshes with perennial water	No	Potential in Mainstem; hibernate in winter
Fish				
Arroyo chub (*Gila orcutti*)	FSC/CSC	Warm fluctuating streams, slow moving water	No	Not in action area (dry during construction).
Mammals				
American badger (*Taxidea taxus*)	-/CSC	Open areas with sandy soils	Potential	Not likely; potential food limitation.
Pale Townsend's big-eared bat (*Plecotus townsendii pallescens*	FSC/CSC	Forages in woodlands to grasslands; nest in rocks and caves	Foraging	Foraging
Pallid bat (*Antrozous pallidus*)	-/CSC	Forage in open areas; nest in rocks and caves	Foraging	Foraging
San Diego black-tailed jackrabbit (*Lepus californicus bennettii*)	FSC/CSC	Open brushlands	Potential	Potential
San Diego woodrat (*Neotoma lepida intermedia*)	FSC/CSC	Dense riparian and chaparral	NONE	Potential

Plants				
Many-stemmed dudleya (*Dudleya multicaulis*):	--/--	Grassland and scrub habitats east of Simi Valley	Potential	No
San Fernando Valley spineflower (*Chorizanthe parryi* var. *fernandina*):	FSC/CSC	Sandy washes in coastal sage scrub	Potential	Potential on benches and bars adjacent to river channel

FEDERAL STATUS:
FE: Federal Endangered
FT: Federal Threatened
FSC: Federal Species of Concern
--: No formal status

STATE STATUS:
CE: California Endangered
CT: California Threatened
FP: California Fully Protected
CSC: California Species of Concern
--: No formal status

G. Cultural Resources

The CLWA service area is located in Ventura and Los Angeles counties, where at least four distinct ethno-linguistic groups were living at the time of first European contact. The area around Castaic Lake itself was the home of the Tataviam, a group of about 1,000 people who lived in villages along Piru Creek, Castaic Creek, and the upper portions of the Santa Clara River drainage (King and Blackburn 1978). The lower Santa Clara River drainage was home to the Ventureño Chumash, a much larger (about 4,000 people) and more maritime oriented group (Grant 1978b). The upper portions of Piru Creek, along with much of the inland portions of Ventura County, were inhabited by the Emigdiano and Castac Chumash (Grant 1978a). Native American archaeological sites from various time periods exists within the CLWA service area, especially along the Piru and Castaic drainage systems, at the Vasquez Rocks and Escondido Canyon, and along major ridgelines (CLWA 1999). Spanish contact with Native American groups along the coast began as early as the mid 1500s, but it was not until the late 1700s that the Spanish, and then Mexicans, established any kind of continuous presence. The discovery of gold in Placerita Canyon near Newhall during the 1840s attracted many miners to the area, and agricultural and livestock operations rose up in the Santa Clara River valley to support their need for provisions.

Oil was discovered in the area in the 1870s, and settlement accelerated throughout the late 1800s with the development of regional and interregional transportation systems. Historic resources documented in the CLWA service area are usually associated with major routes of travel, watercourses, and early homesteading practices in and around Newhall (Scientific Resource Surveys 1988). The CLWA service area contains at least three types of geologic units that have yielded fossilized material. Fossilized fish, shark teeth, and invertebrate remains have been recovered from the Castaic Formation, remains of Clarendonian land mammals have been recorded in the Saugus Formation, and marine invertebrates are often common in Quaternary terrace deposits (Scientific Resource Surveys 1988).

Field surveys of the Proposed Project area were not undertaken because the surface of all facility alignments has been paved or heavily disturbed or (west of I-5) would be excavated prior to

construction of CLWA pipelines and other facilities. A records search identified known cultural resource sites in the general project area, including a sparse lithic scatter and evidence of nine burials below fill on property owned by Hydraulic Research and Manufacturing Company within a mile of the Proposed Project area. Additional evidence of prehistoric Native American occupation would be expected given the long period of prehistoric and historic operation. Based on this records search and the history of previous disturbance, significant cultural resources are not likely to be found (a) within the levees of the Santa Clara River or South Fork of the Santa Clara River and (b) in the active channels of these rivers. Previous construction activity along the concrete-lined levees has mounded earth from the river channel to a height of 10 to 15 feet, and the Proposed Project is unlikely to excavate below this level. In the river bed itself, periods of high scour and deposition have affected the integrity of any cultural resource sites (although individual artifacts may be found). Intact buried cultural resource sites may occur on the alluvial benches of the two river channels, to the land side of the levees.

H. Geology and Soils

The Proposed Project would be constructed in two distinctive geological areas: (a) the alluvial basin at the confluence of the South Fork of the Santa Clara River and the Santa Clara River Mainstem and (b) the hills south of the Santa Clara River Mainstem west of Interstate 5. The alluvial basin reach of the Proposed Project consists of the historic floodplain of the Santa Clara River, an area of gravel, sand, silt, and clay deposits up to 200 feet deep underlying and immediately adjacent to major stream channels. The adjacent hills are characterized by sandy silts underlain by tertiary sedimentary rocks and soil erosion potential in the steep hillsides is high.

Like all of southern California, the CLWA service area is located in a seismically active zone, within about 18 miles northeast of the San Andreas Fault and crossed by two known smaller faults, the active San Gabriel Fault and the potentially active Hosler Fault. The San Fernando and Sierra Madre faults are also located in the vicinity of the Valley. These faults are capable of producing earthquakes of Richter-scale magnitude ranging from 6.7 to 8.25. Liquefaction in response to seismic events is likely in the alluvial plain.

The river basin is a potential sand and gravel mineral resource and sandstone in the hills is also considered a potential source of mineral resources. Oil and gas exploration occurred throughout much of the Proposed Project area, and the western element of the Proposed Project would be constructed within the boundary of the Castaic Junction Oil Field.

I. Related Projects

Containment of contaminants in groundwater and subsequent treatment and distribution of such supplies is a feature of groundwater management in many places in southern California. There are a number of groundwater basins which have contamination problems and a substantial portion of the groundwater in southern California has been affected by various forms of chemical pollution. There are impaired groundwater basins in all six southern California counties.

Perchlorate contamination has been found in 350 California groundwater basins, often associated with military weapons manufacturing or petroleum refining. Clean-up programs are underway throughout California. Examples include: (a) Pasadena in Los Angeles County (Jet Propulsion Laboratory), (b) Potrero Canyon in Riverside County (Lockheed), (c) Edwards AFB, and (d) Morgan Hill in Santa Clara County (petroleum refining). Containment and/or clean-up operations are complete or in progress in these areas. These efforts are part of a national program to address perchlorate contamination. As of 2004, over 65 perchlorate treatment technology projects had been funded. Ritchey (2004) notes that the anion exchange resin-based treatment process being proposed is currently in use in a number of locations.

In the Santa Clarita Valley, containment of the perchlorate-contaminated plume of groundwater would also be accomplished at VWC's existing well along the north side of the Santa Clara River east of the Bouquet Canyon Road Bridge.

The Proposed Project also takes place in the context of numerous other residential, commercial, and infrastructure development projects in the rapidly growing Valley.

IV. ALTERNATIVES CONSIDERED

A. No Action

Under the No Action Alternative, CLWA would not construct or improve wells at Saugus 1 and Saugus 2, which would continue to be out of service. No contaminated water would be treated. The plume of perchlorate from the Whittaker-Bermite Property would continue to spread within the Saugus Formation and into the Alluvial Aquifer.

The No Action Alternative would result in further contamination of the Alluvial Aquifer. Perchlorates have been found to affect iodide uptake in the thyroid, so use of highly contaminated groundwater would be a significant human health risk. Avoiding this risk under the No Action Alternative would result in loss of existing water supply as the Alluvial Aquifer became contaminated. More wells would have to be shut down. Given that CLWA and downstream agencies rely on this aquifer for a substantial portion of their existing groundwater supply, the No Action Alternative could potentially reduce drinking water and irrigation supplies throughout the Santa Clara River basin. The result would be a need to acquire additional SWP supplies to offset losses of local supplies. This would put additional stress on the SWP system, require additional export of water from the Sacramento-San Joaquin Bay Delta, and/or require purchase of supplies from other SWP contractors. Given that the availability of SWP supplies is limited, the No Action Alternative would reduce overall water supply in CLWA's service area.

The No Action Alternative could also have adverse impacts on fish and wildlife, because groundwater in the Alluvial Aquifer may surface downstream and become surface flow in areas designated as important habitat for threatened and endangered species such as steelhead and Southwestern arroyo toad (USFWS 2004). The effects of perchlorate on these and other aquatic species, and on the aquatic food chain, are not well understood.

B. Containment Elements Only: No New Facilities for Service Restoration

A "containment only" alternative would involve construction of only the facilities needed to (a) intercept the perchlorate-contaminated groundwater water and (b) treat this water to remove the contaminants. The resulting supply would be introduced into CLWA's distribution system as described. No new distribution facilities would be constructed.

A "containment only" alternative would not meet CLWA's project objectives and would constrain CLWA's ability to deliver treated water to CLWA retail purveyors and their customers because some existing facilities for distribution in the area east of McBean Parkway must be converted by the Proposed Project to provide an efficient route for the movement of perchlorate-contaminated groundwater to the treatment plant site. In short, the containment element of the Proposed Project could reduce service reliability to some customers and at best could create service bottlenecks. A containment-only alternative would thus not meet objectives. Full restoration of service requires replacement of lost conveyance capacity.

C. Restoration Elements Only

A restoration-only alternative would involve construction of new wells and pipelines as proposed, but not the use of Saugus 1 and Saugus 2 wells to intercept perchlorate-contaminated water supplies.

A restoration-only alternative would result in long-term contamination of the alluvial aquifer as perchlorate continued to move north and west from the Whittaker-Bermite Facility. This would affect more wells in and around the alluvial aquifer, ultimately resulting in greater loss of well capacity, as well as long-term adverse impacts to biological resources throughout the Santa Clara River drainage to the west. A restoration-only alternative therefore only defers accomplishment of perchlorate cleanup. Because cleanup is essential to meeting project objectives and to maintaining the alluvial aquifer as a viable source of water supply, deferring cleanup and allowing the plume of contaminated water to spread would only complicate the effort to intercept and clean up contaminated groundwater.

V. ASSESSMENT OF POTENTIAL EFFECTS

A. Mechanisms of Potential Effect

The Proposed Project has been sited to exclude the potential for direct impacts to fish and wildlife habitat and to housing or commercial buildings. The Proposed Project has potential to affect the physical environment in several ways:

- Construction would create noise and dust; noise and dust may affect sensitive people and wildlife;
- Construction would involve excavation to a depth of 6-12 feet in some areas where buried cultural resources may be present;

- Construction in the public right-of-way would cause temporary traffic delays and would interrupt bike traffic;
- Construction would generate additional traffic along roads used to access the construction sites; and
- Construction would temporarily disturb the (dry) river bed adjacent to the Bouquet Canyon Bridge.

Long-term operation would involve infrequent inspection and maintenance of facilities, including routine removal of disposable filtration modules from the proposed treatment plant and routine maintenance of equipment. Inspection and maintenance of wells and pipelines may involve short-term disturbance of auto and bike traffic in the event that underground pipelines need to be repaired. This is not anticipated at any given location more than once during the 100-year life of the Proposed Project.

These potential mechanisms for effect are discussed in terms of their potential to create significant adverse effects on various CEQA categories of effect. Under some CEQA categories of effect, the significance criteria from CEQA Guidelines Appendix G have been referenced explicitly in the analysis below. Explicit reference to these criteria is not made where it is clear that there is no mechanism by which the Proposed Project could have an effect.

B. Aesthetics

The Proposed Project would be considered to have a significant impact on aesthetics if it substantially affected a scenic vista by blocking the public view, damaged scenic resources, degraded the existing visual character of a site or its surroundings, or created a new light source which would adversely affect views in the area.

A majority of the Proposed Project facilities would be underground. Above-ground facilities would include:

- Two existing wells (Saugus 1 and Saugus 2), located adjacent to a commercial-industrial zone;
- A new well located at an existing CLWA facility between an industrial and residential area along the Santa Clara River Mainstem;
- Two new wells and a chloramination facility, outside of the western boundary of the MMA Park; and
- The proposed perchlorate treatment facility, located next to the existing Rio Vista Intake Pump Station, adjacent to large retail center and commercial offices, and next to an existing bike lane.

No changes to existing wells would be made that alter their current exterior condition. New wells, located in disturbed areas, would be contained within small structures and landscaped to reduce visual effects. The treatment plant screening would be designed to be architecturally consistent with the existing Pumping Plant.

The only facility which could affect a public viewshed is the new treatment plant, which would be on the landside of a bike trail along the Santa Clara River. The present view from this bike trail is of a parking lot, a gravel/landscaped area, and the side of the home improvement retail center. The proposed treatment facility would be landscaped along the bike trail. Given the impact minimization measure proposed for this site, it is probable that the view from the bike trail would be more visually pleasing than the present view of the home improvement center and parking lot.

The proposed perchlorate treatment facility is in an area already lighted by an adjacent pumping plant, storage facility, and large home improvement store with parking lot lighting. The perchlorate treatment plant would have lighting at its entrance, its lights would be directed away from the bike path between it and the Santa Clara River, and there would be landscape screening between it and the Santa Clara River. No lighting impacts on this viewshed would occur.

Based on these considerations, the Proposed Project would not have significant aesthetic impacts and no additional mitigation is required.

C. Agricultural Resources

The Proposed Project could be considered to have a significant impact on agricultural resources if it directly or indirectly resulted in conversion of a significant amount of prime or unique farmland or conflicted with existing zoning or Williamson Act designations. The State Department of Conservation considers conversion of 100 acres of farmland to be significant enough to require preparation of an EIR.

The Proposed Project occurs entirely within an urban setting, with facilities located within existing public rights-of-way and proposed road rights of way. No farmland would be converted to other uses as a result of the Proposed Project. The Proposed Project would not conflict with existing zoning for agricultural uses or a Williamson Act contract. The Proposed Project would reduce potential for contaminated water from the historic Whittaker-Bermite Property to affect either urban or agricultural water supplies in the Santa Clara River Basin, and thereby existing urban and agricultural water uses. The Proposed Project would therefore have no significant impacts on agricultural resources and no mitigation is required.

D. Air Quality

The proposed Project would be considered to have a significant air quality impact if it contributed substantially to an existing or projected air quality violation. The relevant regulations and thresholds of significance are contained in South Coast Air Quality Management District (SCAQMD) rules for fugitive dust and emissions from stationary sources.

1. Fugitive Dust

The Proposed Project would not involve exposure of more than approximately 0.2 acres at any given time (25-foot construction right-of-way, 300 feet long). Roads would be repaved as construction proceeds; bike trails in each pipeline segment would be backfilled and compacted on an ongoing basis and repaved prior to initiating construction along other segments. During construction, implementation of SCAQMD Rule 403 Best Management Practices (Appendix B) would control emissions of fugitive dust. Proposed Project-generated fugitive dust would thus be fully in compliance with Rule 403, Section (d). Exposed areas would be repaved. Construction contracts would specify that all construction equipment be equipped with current emissions reduction technology and would be inspected at manufacturer-recommended intervals to ensure that it is working properly. The construction schedule also reduces the potential for the Proposed Project to contribute to violation of air quality standards. Construction would occur in the fall and winter, when air quality in Los Angeles County is generally better due to prevailing winds from the west and reduced sunlight (and associated ozone creation). The small size of the Proposed Project, the implementation of best management practices, compliance with SCAQMD and City of Santa Clarita regulations, and construction scheduling reduce the potential for the Proposed Project to contribute to an air quality violation to less-than-significant.

2. Volatile Organic Compounds (VOC's)

The proposed perchlorate treatment plant would be a small-capacity Publicly-Owned Treatment Works (POTW), as defined in SCAQMD Rule 1179 (b) (6). As such, the Proposed Plant would provide the SCAQMD with appropriate reports related to emissions of VOC's from the proposed facility. The treatment plant would be a self-contained modular facility that utilizes a resin-based anion exchange technology which replaces the perchlorate ion with a chloride ion, which is non-toxic. No perchlorate would be released from the site. No VOC emissions are projected.

3. Other Emissions from Stationary Sources and Cumulative Energy Use

The proposed stationary facilities (well pumps and treatment plant) would be operated with electric power and would not make releases of NO_x, CO, or PM_{10}. The Proposed Project's electric usage would not constitute a significant portion of total electric use in the Valley and the Proposed Project would restore local production from groundwater wells. Within the framework of SCAG's population projections and CLWA's projected water demands within CLWA's service area, the Proposed Project would restore lost well capacity. For any given level of demand, without this well capacity there would need to be offsetting deliveries from the SWP, which must be conveyed from the Sacramento-San Joaquin Bay Delta to CLWA's service area. Energy use during this 250 to 300 mile conveyance would exceed that of the Proposed Project Facilities. The Proposed Project therefore reduces net energy use associated with meeting projected water demands within CLWA's service area.

4. Cumulatively considerable impacts

Construction impacts of the project would be considered significant if there was a "cumulatively considerable" increase in emissions of criteria pollutants. These would include particulates and ozone. The exposed construction area at any given time would not be greater than about 0.2 acres and best management practices for construction would be incorporated into construction contractors to minimize potential for fugitive dust generation on this small area. For comparison purposes, exposed soils in the Santa Clara River bed and adjacent levees in the Proposed Project Area constitute about 160 to 200 unwetted acres; at a maximum, then, the Proposed Project could increase wind blown dust in the project area by about 0.01 percent above the levels generated from the dry river bed. Following construction, project sites would be repaved and no long-term fugitive dust would be generated. A short-term increase in wind-blown dust of 0.01 percent or less would not be considered cumulatively considerable.

Construction equipment would consist of a backhoe, a small dozer for grading, a generator, and other pieces of small equipment. Assuming operation of 5-6 individual pieces of construction equipment and comparing this to the emissions from car and truck traffic on only major roads in the vicinity of the project, vehicle emissions from this equipment would constitute a small fraction of total emissions. As noted in Section III(C) (above), average daily traffic volume on the 6 major arterials in the Proposed Project area (not including Interstate 5) is about 224,000 per day. The City of Santa Clarita notes that these average daily traffic volumes vary. Within this context, emissions from construction equipment would fall within the range of daily variability related to emissions from traffic and would not be considered "cumulatively considerable."

5. Objectionable Odors

Along pipeline alignments, the project would involve repaving of roads and paved bike trails. This may create odors from asphalt use. Given that the project pipelines would be constructed at a rate of about 200 feet per day, no individuals would be subject to such common odors for more than 1-3 days. This is equivalent to a normal neighborhood street repair operation and would not be considered a significant impact.

Based on these considerations, and with the implementation of mitigation measures incorporated into the project, the Proposed Project would not conflict with or obstruct implementation of the SCAQMD's Basin Plan, would not violate any air quality standard or contribute to such a violation, would not result in a cumulatively considerable net increase for any air quality criteria as defined in SCAQMD Rule 1702, would not expose sensitive receptors to substantial pollutant concentrations, and would not create objectionable odors affecting a substantial number of people. No significant impacts are anticipated and no additional mitigation is required.

E. Biological Resources

Proposed Project would be considered to have a significant impact on biological resources if it: (a) had a substantial adverse effect on special-status species, on any riparian habitat or other sensitive natural community, on federally protected wetlands; (b) interfered substantially with

the movement of any resident or migratory fish or wildlife species; or (c) conflicted with local policies or ordinances protecting biological resources and/or with provisions of approved habitat conservation plans. The effects of the Proposed Project related to these issues are described below.

1. Habitat Loss

No rare plant, fish, or wildlife habitat would be either temporarily disturbed or permanently lost due to facility construction and/or operation because (a) the Proposed Project facilities would be sited within existing and planned paved public roads, paved/graded bike trails, and/or at existing CLWA developed facilities. Vegetation along the bike trails to be used as a part of the Proposed Project is landscaped and routinely maintained (mowed and weeded). In addition, the Proposed Project would not have indirect effects on habitat because implementation of best management practices for water quality would effectively prevent erosion, sedimentation, and/or spills of oil and gasoline from the construction site. In areas adjacent to the river, fueling and maintenance would be conducted on the landward side of the pipeline trench and appropriate spill containment pads would be used. Erosion control mats and/or fencing would minimize potential erosion and sedimentation during periods of rainfall.

For Proposed Project service restoration facilities west of Interstate 5, project construction would be deferred until the proposed subdivision in this location initiated grading. This can be accomplished in the short-term by substituting available water supplies for the supplies which would be restored at the three wells west of Interstate 5. Once the subdivision contractor begins grading roads and adjacent land for construction, the facilities to be constructed west of Interstate 5 would be constructed in an area which is substantially devoid of habitat and undergoing a level of disturbance such that the Proposed Project facilities would themselves have no potential for impact to wildlife or wildlife habitat.

2. Direct Effects on Special-Status Species Individuals

Given the implementation of conservation measures to prevent erosion, sediment discharge to the river, and discharge of oil, gas, and other construction-related hydrocarbons to the river, the Proposed Project has a negligible potential to directly affect fish and or amphibians. Given the disturbed nature of the proposed pipeline, well, and treatment plant sites, it is not likely that special-status terrestrial species would utilize these areas.

There is a small potential that special-status terrestrial species may incidentally stray into the areas along bike trails, although there is no habitat for any of these species in the actual bike trail alignment. The species which may utilize this habitat on an incidental basis include coastal western whiptail, San Diego black-tailed jackrabbit, coast horned lizard, coast patch-nosed snake, and two-striped garter snake. To access bike trails, these species would need to move from patches of habitat on benches in the river corridor, across the open river channel and up the face of the flood control levees. While this is feasible, it is not likely during the construction period for several reasons:

- Many of the species of the Santa Clara River basin, such as the two-striped garter snake, move out of the river channel in the winter and utilize adjacent coastal sage scrub and chaparral habitats;
- When there is no flow in the channel between habitat patches and the levee, animals moving towards the construction zone would be exposed to predation; and
- It is likely that there would be flow in the river during much of the fall-winter construction period, and that flow would isolate patches of habitat on bars and benches from the construction zone along the crest of the flood control levees.

In addition, all of these species may be readily identified in pre-construction surveys and subsequently excluded from the active construction site with fine-mesh exclusion fencing between the construction site and the river. In the unlikely event that special-status species did approach the construction site along the river, implementation of the best management practices would avoid and minimize potential for injury or death of special status individuals.
In the Proposed Project area west of Interstate 5, there is potential for burrowing owls, coastal western whiptail, coast horned lizard, San Diego black-tailed jackrabbit, and American badger to be found in the non-native grasslands and sparse shrubs adjacent to the proposed pipelines. As noted above, deferral of construction until planned development in the area occurs would mean that the Proposed Project would be undertaken in an existing construction zone where virtually all habitats would have been impacted by the subdivision.

3. Potential Impacts of a Perchlorate or Chloramine Spill due to Pipeline Failure

There is a potential for pipeline failure due to accidents or seismic events (as outlined in discussion of Geology and Soils). Spills of perchlorate-contaminated water would have potential to affect species in the river and their habitat. The magnitude and importance of spills is best examined in the context of the without-project alternative.

Perchlorate contamination of the Santa Clara River under the Without Project Alternative

The Proposed Project will intercept and treat about 3,000 to 4,500 acre-feet of perchlorate contaminated water per year. Over a 50-year project life, this will mean that 150,000 to 225,000 acre-feet of perchlorate contaminated water would be treated. Without the Proposed Project, this perchlorate-contaminated water would enter the alluvial aquifer and move downstream into the lower Santa Clara River basin, upwelling and becoming surface flow in the river itself. Based on the data in Table 1 (above), concentrations of perchlorate in this untreated groundwater would range from about 10 to 20 µg/l (micrograms per liter or 1 millionth of a gram per liter). Using the median value of 15 µg/l, this equates to approximately 18.5 grams/acre-foot. Over the 50-year project life, the containment of perchlorate will thus prevent approximately 6,000 to 9,000 pounds of perchlorate from entering the groundwater and surface water of the Santa Clara River.

The potential effects of perchlorate on wildlife are only partially understood, but perchlorate has been found to affect thyroid function in humans and wildlife (McNabb et al 2002), which affects basic metabolism and growth. Smith et al (2001) have shown that perchlorate is taken up by a variety of plants and wildlife, with plant accumulations that are often quite high (up to 1 part per

500). Animals consuming highly contaminated vegetation would be subject to perchlorate toxicity. In this study at a Texas ammunition plant, wildlife found to have accumulated perchlorate included green tree frogs, harvest mouse, cotton mouse, weed shiner, mosquitofish, sunfish, northern cricket frog, American toad, bullfrog (adults and larvae), blackstripe top minnow, chorus frog, largemouth bass. In short, perchlorate is actively assimilated by a variety of plant and wildlife species and it must be assumed that thyroid-related developmental effects occur in these species. Thuett et al (2002) note that exposure may occur in utero and lactationally, and that developmental effects may include low growth and low heart size in juveniles (mice). In a relatively large-scale investigation in the field (Las Vegas Wash), Tuttle et al (2002) found perchlorate in a mix of environmental toxicants, and that perchlorate in the wash affected downstream water quality below Hoover Dam, reflecting the relatively stability of perchlorate in the environment. In addition, Urbansky (2002) summarizes potential perchlorate effects and notes that perchlorate's persistence allows it to move up the food chain. Urbansky (2002) further notes that precise estimates of perchlorate toxicity in the environment are not feasible given the status of current research.

Nevertheless, it is clear that the 6,000 to 9,000 pounds of perchlorate that will enter the Santa Clara River system without the containment element of the Proposed Project would affect whole wildlife populations over many generations. Perchlorate would be expected to persist for some time, affecting aquatic and terrestrial resources from the Whittaker-Bermite Facility to the ocean. Without the Proposed Project, this long-term and persistent problem would result in bioaccumulation of perchlorates in plant communities and potentially significant adverse effects to wildlife throughout the Santa Clara River system.

Perchlorate contamination due to accidental or seismically-induced pipeline failure.

The maximum potential perchlorate spill from a broken pipeline would be limited by automatic shutoff valves to about 1 acre-foot. Pipeline failures would be either underground, where leakage would be relatively slow prior to detection and initiation of automatic shutoff, or along the undercarriage of bridges, where the leaks would be immediately visible. In dry conditions, spills would rapidly percolate into the sandy soils of the river bed. Leakage would be over a period of hours, and the surface area affected before percolation into groundwater would be low. In wet conditions, the spills would mix with surface water and be diluted. A 1 acre-foot spill would release about 0.041 pounds of perchlorate into the river, compared to 6,000 to 9,000 pounds of perchlorate introduced into the river without the proposed project, or about 0.00045% to 0.0007% of the potential perchlorate contamination likely without the Proposed Project.

Such accidental releases would occur only infrequently. New pipeline is expected to have a minimum life of 50+ years. There are no activities on the Santa Clara River or the South Fork of the Santa Clara River that would damage pipelines under bridge decks and there is very little possibility of activities that would damage underground pipelines in roads, rights, of way and/or in the few segments of pipe in private property. These pipelines will be recorded in general data bases related to utility facilities, and construction in the vicinity will require identification of these pipelines prior to any future construction. Accidents from normal levels of activity will therefore be rare.

Pipelines may fail during seismic events, but automated shut-off valves will limit spills to about 1 acre-foot. Seismic damage to pipelines is anticipated at some point because the proposed site is near the (inactive) San Gabriel Fault and is about 15 miles from the (active) San Andreas Fault. The San Andreas Fault has a record of movement on an average of 170 years. Predicting earthquake frequency is speculative, but given that the last movement on the San Andreas Fault in this region was in 1857 at Fort Tejon, there is a realistic potential for a seismic event in the project area over the life of the facility. Only one such event may occur, or several events may occur. Pipelines are designed to minimize damage; but there is potential for 1-2 spills related to accidents and/or seismic events. These spills would release miniscule amounts of perchlorate contaminated water when compared to the volume of such water entering the river ecosystem system without the Proposed Project. In this context, the potential impacts to biological resources associated with accidental or seismically-induced pipeline failure would be considered insignificant.

Further, if spills were to occur in dry periods, they would rapidly percolate into the sandy river bed, and it is not likely that they would have immediate effects on nearby downstream plants and animals. Temporary installation of a well in the vicinity of the spill could also allow for remediation of spills. If spills were to occur in wet periods, then they would be diluted and again would have little potential for short term effects on nearby plants and animals, passing downstream as surface flow to the ocean.

With regard to potential impacts on threatened and endangered species in the vicinity of the spill, spills from pipeline failure and the relatively small volume of release associated with pipelines governed by automatic shut-off valves would be no more than about 1 acre-foot. In dry conditions this volume would be contained in a small area of dry river bed and would percolate into groundwater. In wet conditions, such a small spill would be rapidly diluted. Effects to habitat and individuals would be substantially lower than the effects of continued seepage of perchlorate into the Santa Clara River system under the without-project condition.

Potential spills of treated water (chloramines).

Spills of chloramine-treated water are also possible, and chloramines are known to be toxic to fish and may have impacts to other aquatic species. Chloramines are not as persistent in the environment as perchlorate and would degrade relatively rapidly during percolation into the alluvial aquifer. In addition, potential for chloramine-contaminated spills would not vary as a result of the proposed project. The volume of treated water moved in CLWA pipelines for delivery to customers would not change as a result of the Proposed Project. In addition, given that several older water lines would be replaced by new facilities, the potential for spills and subsequent contamination of surface water and groundwater with chloramines would be marginally reduced by the Proposed Project when compared to the without-project condition. Potential impacts of the Proposed Project on the probability and magnitude of chloramine release as a result of pipeline failure would be considered beneficial (but not significant).

3. Noise and Visual Disturbance Effects

A number of special-status avian species which may utilize the riparian habitats of the Santa Clara River and the South Fork of the Santa Clara River may be sensitive to noise and visual disturbance during their nesting season. The nesting season for these species is shown on Table 8.

Table 8. Nesting season for special-status avian species (sources: CDFG 2005; USFWS 2005; Audubon 2005, Cornell University 2005)

SPECIES	FEDERAL-STATE STATUS	NESTING SEASON
Western yellow-billed cuckoo (*Coccyzus americanus occidentalis)*	T/CSC	June - August
Southwestern willow flycatcher (*Empidonax traillii extimus*)	E/E	May-August
Least Bell's vireo (*Vireo bellii pusillus*)	E/E	March-early September
California gnatcatcher (*Polioptila californica californica*)	T/CSC	March-August
Cooper's hawk (*Accipiter cooperii*)	-/CSC	April-August
Sharp-shined hawk (*Accipiter straitus*)	-/CSC	Does not breed in project area
Tricolored blackbird (*Agelaius tricolor*)	FSC/CSC	March-July
Southern california rufous-crowned sparrow (*Aimophila ruficeps canescens*)	FSC/CSC	March-July
Bell's sparrow (*Amphispiza belli*)	FSC/CSC	April-August
Long-eared owl (*Asio otus*)	-/CSC	March-August
Burrowing owl (*Athene cunicularia hypugea*)	FSC/CSC	April-July
Yellow warbler (*Dendroica petechia brewsteri*)	-/CSC	May-August
White-tailed kite (*Elanus leucurus*)	-/FP	Feb.- Sept. (peak May)
California horned lark (*Eremophila alpestris actia*)	FSC/CSC	Late February-June
Loggerhead shrike (*Lanius ludovicianus*)	FSC/CSC	March-August
Summer tanager (*Piranga rubra*)	-/CSC	May-August

As Table 8 indicates, the nesting/breeding season for special-status birds which may be found in the general project area is from March through early September, with the exception of the white-tailed kite, which may begin breeding in late February and rear nestlings into late September. Breeding season varies by location and annually, depending on weather, and the estimates of breeding season shown on Table 8 reflect the earliest and latest dates for breeding. The peak breeding season for the white-tailed kite, for example, is mid-spring to summer. For all but the white-tailed kite, then, the Proposed Project's construction schedule eliminates potential to cause noise and visual disturbance during nesting and therefore avoids noise and visual disturbance effects on nesting of special-status birds. For white-tailed kite, the Proposed Project may cause noise and visual disturbance during periods when the species may occasionally breed, but not during any portion of the peak breeding season.

Several special-status birds are potential year-round residents or winter visitants in the vicinity of the Proposed Project west of Interstate 5, including California gnatcatcher, Cooper's hawk, tricolored blackbird, southern California rufous-crowned sparrow, Bells sparrow, long-eared owl, burrowing owl, yellow warbler, white-tailed kite, California horned lark, loggerhead shrike, and summer tanager. None of these species exhibits strong territorial responses during the non-breeding season. Most of these species are non sensitive to human disturbance during the non-

breeding season, although the rufous-crowned sparrow and Bell's sparrow are generally sensitive to noise and human activity. In this portion of the Proposed Project area, however, pipeline and well construction would occur during or immediately following the grading of road alignments for a subdivision. Pipeline/well construction would therefore be only a minor component of an overall disturbance regime and would not in itself cause substantial levels of disturbance.

Finally, the Proposed Project would not affect special status bat roosting habitats. The only potential bat roosting habitat which could occur within proposed construction areas is the underdeck of the Bouquet Canyon Bridge, but this structure is currently being improved and no roosting is likely to occur prior to initiation of the Proposed Project. Bats may forage over the entire Proposed Project area, but construction activity would be limited to daylight hours and impacts on bat foraging would be negligible.

Given the implementation of the mitigation measures described in Section II(G), no significant project effects are anticipated and no further mitigation is required.

F. Cultural Resources

The Proposed Project would be considered to have a significant effect on cultural resources if it (a) caused a substantial adverse change in the significance of an historic or archeological resource, (b) directly or indirectly destroyed a unique paleontological resource, site, or a unique geologic feature, (c) if the project was sited in a manner that would disturb a known burial site or (d) buried remains identified during project construction were not treated in a manner consistent with applicable law and regulation.

A cultural resources literature survey was conducted and determined that no known significant historic or archeological resources have been found in the Proposed Project area. There are no known burial sites in the project area, and most of the proposed project is being constructed in areas that have been previously excavated and disturbed. Burials are not likely to be found. If burials are found, the implementation of proposed mitigation measures would ensure compliance with applicable State and Federal laws. Mitigation measures would be incorporated into construction contracts, with independent verification by a qualified archeologist, to ensure compliance.

The monitoring and mitigation measures outlined in Section II(G) would ensure compliance with procedures outlined in CEQA Section 15064.5 and would reduce impacts to cultural resources resulting from the Proposed Project to a level of less-than-significant.

G. Geology and Soils

The Proposed Project could be considered to have significant impacts related to geology and soils if it exposed people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving (a) rupture of a known earthquake fault, (b) strong seismic ground shaking, (c) seismic-related ground failure, including liquefaction, or (d) landslides. Significant impacts would also occur if the Proposed Project (a) resulted in substantial soil

erosion or the loss of topsoil, (b) was located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse, (c) was located on expansive soil creating substantial risks to life or property or (d) had soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water. Project effects related to geology and soils are described below.

Based on review of mapping for the City of Santa Clarita, elements of the Proposed Project are within a Seismic Hazard Zone, with facilities located near the San Gabriel Fault Zone. All project facilities would be designed to comply with standards for construction within such a zone. However, there is no physical mechanism by which the Proposed Project could cause or contribute to rupture of an earthquake fault, strong seismic ground shaking, seismic-related ground failure or liquefaction, or landslides.

In a seismic-related event, there is a potential for damage to pipelines and the perchlorate treatment plant. There is a risk of leakage from the buried pipeline. The risks associated with such damage and leakage are substantially reduced because rapid shutdown of pipeline flow and treatment plant operation would ensure that pipeline or treatment plant failure would not create a significant hazard due to erosion and/or release of large quantities of water. Only the amount of water contained in the pipelines at the time of damage would escape, and the proposed pipelines are relatively small and volumes released would be small. For example, the largest pipeline, a 39" diameter pipeline approximately 2800 feet in length would hold about 23,900 cubic feet of water, less than the volume of a small community swimming pool (a pool 30 x 100 x 8 feet deep). With automatic shutdown and the associated reduction in water pressure, drainage from a ruptured underground pipe would take several hours and would not create a significant risk.

The perchlorate treatment plant would be located on/adjacent to stable engineered levees, and would be monitored 24 hours a day by staff at the adjacent pumping plant. The perchlorate treatment plant can therefore be rapidly shut down should a seismic event result in damage to the plant. Secondary containment vessels are designed to retain their integrity during seismic events, would prevent mixing of stored chemicals, and therefore reduce the risk of release of hazardous materials from perchlorate treatment plant damage to a level of less-than-significant.

Constructed entirely in existing or planned public rights of way, the Proposed Project would not be in a landslide area and would not be affected by landslides. Implementation of best management practices incorporated into the project would eliminate potential for substantial soil erosion or loss of topsoil. No change in existing uses would result. The project facilities would be located under existing roads, in engineered levees, and adjacent to existing facilities. These are stable, engineered environments. Soils in the Proposed Project area are sandy loam alluvial soils, not expansive clays. The Proposed Project does not involve the use of septic tanks or the discharge of wastewater. Further, even if a pipeline were to fail as a result of a seismic event, rapid shut-off of flow to the pipeline would eliminate significant erosive flow, and significant landslides would not occur.

Based on these considerations and implementation of proposed best management practices, the Proposed Project has no significant effects and no further mitigation is required.

H. Hazards and Hazardous Materials

The Proposed Project would have a significant effect related to hazards and hazardous materials if it (1) created a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials; (2) created a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment; (3) emitted hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school; (4) was located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment; (5) for a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would result in a safety hazard for people residing or working in the project area; (6) for a project within the vicinity of a private airstrip, would result in a safety hazard for people residing or working in the project area; (7) would impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or (8) would expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

(1) Significant hazards associated with transport, use, or disposal of hazardous materials are not anticipated. First, construction of the Proposed Project would not involve the use or transport of hazardous materials except for fuels, and this transportation would be managed in accordance with the most current regulations in effect at the time of construction. Second, the resin units used in the proposed perchlorate treatment plant consist of filter units with polymer beads to which perchlorate ions bind in a process similar to water softening. These units are stable and non-toxic. They would be delivered to the site and collected by the manufacturer or an agent of the manufacturer and would be shipped to a proprietary disposal site. Chemical handling for the chloramination facilities would be in accordance with best management practices described above. Chloramination eliminates the use of free chlorine, and the chemicals utilized (sodium hypochlorate and ammonia) would be stored separately, with secondary containment vessels able to contain 1.5 times the volume held by the storage tanks. The excellent safety record of drinking water treatment facilities in transport and use of water treatment chemicals suggests that the potential for public exposure to such chemicals is negligible.

(2-3) The possibility of release of hazardous materials as a result of accident conditions is remote. The Proposed Project design incorporates features for handling and transport of chemicals used in the water treatment process. Chemicals transported, stored, and used in chloramination are sodium hypochlorate and ammonia. They would be transported in a manner consistent with all safety regulations. They would remain separated and stored in secondary containment vessels that preclude leakage even if the primary vessel is damaged. No release of

hazardous materials is anticipated. The project is not within 0.25 miles of an existing or proposed school.

(4) The Proposed Project is not located on a hazardous materials site.

(5-6) The Proposed project is not located within an airport use plan area or 2 miles of a public airport and is not located in the vicinity of a private airstrip.

(7) During construction, the Proposed Project would occupy one lane of several multi-lane arterial roads for a short period of time, and only outside of peak traffic hours. The Proposed Project would comply with City of Santa Clarita policies to ensure that construction does not have an effect on emergency response plans or evacuation plans.

City of Santa Clarita Encroachment Policy (incorporated into the Project description, see attached Initial Study) also requires daily backfill and re-paving of areas where excavation and pipeline placement have been completed. Similar requirements are included in the County of Los Angeles Code, Division 1, Title 16. Implementation of this policy means that there would be no more than about 200 feet of open trench at any time. In the event of an evacuation necessity, the City can immediately notify CLWA and its construction contractor, following which the short segment of trench can be rapidly backfilled by the construction crew and road function restored. Construction crews retain required steel plates to cover the exposed soils in the roadway and can place them rapidly if needed. It is likely that backfill and covering with steel plates would occur before significant emergency response or evacuation could be initiated or early in the implementation process. As a result, the Proposed Project would not cause a significant delay in the implementation of any emergency response plan or emergency evacuation plan.

(8) Review of data from the City of Santa Clarita indicates that none of the Proposed Project facilities would be within a fire hazard zone. Constructed entirely within existing or planned public roads and trails and existing facilities and constructed in compliance with local fire regulations, the Proposed Project facilities would not affect wildland fires.

Therefore, the Proposed Project, with implementation of best management practices, would have a less than significant impact related to hazards and hazardous materials. No additional mitigation is required.

I. Hydrology and Groundwater Quality

The Proposed Project would have a significant effect on the environment related to hydrology and groundwater quality if it (1) violated any water quality standards or waste discharge requirements; (2) substantially depleted groundwater supplies or interfered substantially with groundwater recharge; (3) substantially altered the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on-or off-site; (4) substantially altered the existing drainage pattern of the site or area, including through the alteration of the course of a stream or

river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site; (5) created or contributed runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff (6) otherwise substantially degraded water quality (7) placed housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map; (8) placed within a 100-year flood hazard area structures which would impede or redirect flood flows; or (9) exposed people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam or inundation by seiche, tsunami, or mudflow.
The primary purpose of the Proposed Project is to remediate a serious groundwater quality problem and prevent further degradation of the Saugus Formation and the Alluvial Aquifer from perchlorates. There would be no waste discharges; spent treatment materials would be removed from the site and disposed of by the service contractor. Even if there is a pipeline failure, the Proposed Project incorporates flow monitoring and control features that would limit discharges from the Proposed Project's small diameter pipelines so that only short-term and local discharges could occur. Specifically:

(1) The Proposed Project would comply with all existing water quality standards and would not involve discharges to a water body.

(2) The Proposed Project would protect groundwater water quality production from pre-existing wells (which would be relocated to areas where groundwater quality is not impaired).

(3-4) The footprint of the Proposed Project is small, and even the construction of the longest pipeline segment (5610 feet) would temporarily affect less than two acres of flat land (assuming an exposed soil area 15 feet wide during excavation and soil stockpiling). During construction, the implementation of best management practices, incorporated into construction contracts and independently verified by CLWA inspectors, would contain construction-site drainage and no substantial change in drainage patterns would occur. The Proposed Project would not permanently change topography, slope, or surface conditions and no long-term alteration of drainage patterns would occur. The Proposed Project would contain sediments within the construction site and discharges to waters of the United States would never approach levels requiring a discharge permit from regulatory agencies such as the US Army Corps of Engineers. The Proposed Project would not create or contribute runoff water to storm drains.

(5) There is no mechanism by which the Proposed Project would create substantial runoff. Project facilities will be located in areas that are currently paved and therefore have high runoff rates. During construction, runoff will be controlled to prevent erosion of sediment and runoff.

(6) The Proposed Project would enhance, not degrade water quality. As noted in discussion of biological resources (above), automatic shut-off valves will minimize potential for spill of perchlorate-contaminated water resulting from accidental pipeline failure. The maximum potential spill of about 1 acre-foot would release about 0.04 pounds of perchlorate to groundwater compared to the 6,000 to 9,000 pounds of perchlorate removed from groundwater by the Proposed Project.

(7) The Proposed Project would not affect the location of housing or cause a change in the designation of floodplains.

(8) None of the Proposed Project facilities is located in a manner that would impede or redirect flood flows. The Proposed Project facilities would not affect the structure of a levee or dam. Only the Proposed Project facilities on the west side of the South Fork of the Santa Clara River would be within the 100-year floodplain of this river; they would be buried. They would be outside of the portion of the river affected by high velocity flows that may significantly scour sediments and thus would not be affected by flooding or affect flood flows. The Proposed Project facilities would therefore not affect flood flows or the potential for such flows to affect people.

(9) The Proposed Project is not located in an area where seiche, tsunami, or mudflow would occur.

Based on these considerations, the Proposed Project would not have significant adverse effects related to hydrology and groundwater quality and no mitigation is required.

J. Land Use and Planning

The Proposed Project could have significant effects on the environment related to land use and planning if it (1) physically divided an established community (2) conflicted with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect; or (3) conflicted with any applicable habitat conservation plan or natural community conservation plan.

There is no mechanism by which the Proposed Project could divide an established community. The Proposed Project would be constructed within the constraints of existing roads, trails, and water utility facilities and would be consistent with applicable land use plans. No changes in land use are anticipated to result from Proposed Project construction or operation. As noted above, the Proposed Project would not conflict with any habitat conservation plan or natural community conservation plan (none currently exist for the project area). No significant effects are anticipated and no mitigation is required.

K. Mineral Resources

East of Interstate 5, the Proposed Project is outside of any potential mineral extraction area. West of Interstate 5, the Proposed Project is within the historic Castaic Junction Oil Field, but no facilities planned would affect mineral extractions from this field. All Proposed Project facilities would be within existing and planned road alignments with the minor exception of pipelines under the river, the treatment plant (on public land), and short sections of pipeline routed around commercial buildings.

Therefore, the Proposed Project would not adversely affect regional or local mineral resources or their extraction. No mitigation is required.

L. Noise

The Proposed Project could have significant effects on the environment related to noise if it (1) exposed persons to or generated of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies; (2) exposed persons to or generated excessive groundborne vibration or groundborne noise levels; (3) caused a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project; or (4) caused a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project. The Proposed Project is not located in an airport land use plan or in the vicinity of a public or private airport and could not affect noise associated with such facilities.

The City of Santa Clarita has established noise thresholds for specific land uses. Allowable daytime noise levels in residential areas and commercial areas are 65 decibels (dBA) and 80dBA, respectively. In residential/commercial areas, ambient daytime noise is likely to be in excess of 75 dBA. The Proposed Project would cause construction noise adjacent to residences and businesses in some reaches of the project area:

- RESIDENTIAL: Along a 5610-foot bike trail west of the South Fork of the Santa Clara River;
- RESIDENTIAL/COMMERCIAL: Along a 1300-foot portion of Magic Mountain Parkway east of Valencia Boulevard;
- COMMERCIAL: Along a 800-foot portion of the west side of Valencia Boulevard;
- RESIDENTIAL/COMMERCIAL: Along about 3600 feet of bike trail from Valencia Boulevard to McBean Parkway,
- COMMERCIAL: At the CLWA facility at Furnivall and Santa Clara Street, where a single new alluvial well would be constructed.

The Proposed Project will involve use of several pieces of construction equipment at each work site, including backhoes, small dozers, small water trucks, small cranes, asphalt paving equipment, and associated small machinery and tools. EPA (1971) estimates of noise levels from construction equipment are often used as a basis for impact analysis associated with multiple pieces of equipment. These estimates are:

- 78 dBA to 89 dBA (50 feet)
- 72 dBA to 83 dBA (100 feet)
- 66 dBA to 77 dBA (200 feet)
- 60 dBA to 71 dBA (400 feet)

The impacts associated with the Proposed Project are likely to fall at the low end of these EPA estimates for several reasons. First, since 1971, modern construction equipment design has been

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Appendix A.
City of Santa Clarita Encroachment Permit Policy

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City of Santa Clarita Transportation & Engineering Services

ENCROACHMENT PERMIT POLICY

I. GENERAL

1.1 Encroachment permits are required for all work or placement of objects within the public right-of-way. Permits help to protect the public and the contractor from unsafe conditions, ensure proper placement of materials in the right-of-way, prevent obstruction of underground facilities, protect against damage to existing facilities, guarantee that the work will be done in accordance with all applicable standards and specifications, and establish quality control inspections.

1.2 The permit assures that all the work will be done in accordance with applicable design and construction standards as well as insurance requirements needed to safeguard the public interest. Any person working within the public right-of-way must obtain a permit from the City and maintain a copy of the permit on site at all times during construction. Failure to obtain an encroachment permit will result in the assessment of a double fee penalty.

1.3 If determined necessary by the City, the applicant will be required to submit an encroachment permit plan. Depending upon the complexity of the proposed work, a plan may be required to provide sufficient detail regarding the horizontal and vertical placement of proposed facilities. Information required may include the area of placement, proximity to existing utility lines, safety measures needed to safeguard the public, and methods of protection of public and private facilities from damage during and after construction. All construction activity must comply with requirements of Dig Alert and California Government Code 4216, Code 7110, as outlined in State Assembly Bill No. 73, as well as design and construction standards approved by the City of Santa Clarita.

1.4 The holder of any encroachment permit, or any agent or employee working for said permit holder on any excavation, shall inform him/herself and obtain all necessary information as to the existence and location of all existing surface and underground facilities. The applicant shall protect The City against any damage caused to such structures. The applicant shall be responsible for any loss incurred as a result of the work performed under the permit. If the City must take immediate action to provide safety for the public or repairs to City property, such repairs shall be made or be caused to be made by the City and shall be billed to the applicant. In the event that damage occurs to property not under the jurisdiction of the City, the permittee shall be required to make repairs to the satisfaction of the facility owner.

II. REQUIREMENTS FOR SECURING AN ENCROACHMENT PERMIT

2.1 Encroachment permit applications may be obtained at the City of Santa Clarita Engineering/Planning Counter located on the third floor of City Hall. For your convenience, City Hall is located at 23920 Valencia Boulevard. An encroachment permit application may also be obtained by calling 661-255-4942.

2.2 A resident, or contractor acting as an agent, may secure an encroachment permit for work being done within the public right-of-way. By signing the encroachment permit application, the applicant accepts all responsibility for work associated with that permit.

2.3 Prior to the issuance of an encroachment permit, the applicant may be required to satisfy some or all of the following requirements:

a. The applicant should be familiar with the type of work or activity planned to occur within the public right-of-way or secure the assistance of a qualified agent or contractor to represent the applicant.

b. The applicant should be prepared to discuss with a member of the City's staff at the Engineering/Planning Counter at City Hall the type of work planned to take place within the public right-of-way.

c. Depending on the scope and size of the project, some plans may be required. Some work may require only an informal drawing, while more complicated work may call for detailed plans to be reviewed by the City's Engineering Division.

d. A certificate of insurance, with an endorsement naming the City as additionally insured, must be submitted with each permit application.

e. Three sets of plans must be submitted along with an encroachment permit application for work including, but not limited to, general construction, tract or parcel map developments, or public utilities.

III. ENCROACHMENT PERMIT REQUIREMENTS

3.1 All work in the public right-of-way shall be performed in accordance with the City Code, standards, policies, and these general provisions, as well as any special provisions attached. All work shall be done under the supervision of, and to the satisfaction of, the City Engineer or his representatives.

3.2 All work shall be done in accordance with the latest addition (including addendums) of the *Standard Specifications for Public Works Construction*, unless otherwise specified.

3.3 All work on City streets, other than travel lanes, shall be done between the hours of 7:00 a.m. and 4:30 p.m. Additional limitations may be applied as circumstances dictate.

3.4 The City of Santa Clarita Construction and Engineering Services Division shall be notified at least twenty-four (24) hours in advance of the start of work by phoning 661-255-4942. All forms for concrete work shall be inspected one hour prior to pour. Should the City inspector find work

in progress prior to notification by the applicant and/or a permit not on site during construction, work will be stopped until all permit requirements have been met.

3.5 As required by law the applicant must contact Underground Service Alert (USA): 1-800-422-4133 for underground locating two (2) working days before digging begins. The USA number must be attached to or noted on the permit.

3.6 Upon completion of the work, the applicant shall remove all USA marks.

3.7 All excavation work must be in compliance with Cal/OSHA standards. The Cal/OSHA number shall be attached to your permit. For questions or concern, contact CAL/OSHA directly at 818-901-5403.

3.8 Construction operations must be conducted in a manner that causes as little inconvenience as possible to abutting property owners. Convenient access to driveways, houses, and buildings along the area of the work shall be maintained at all times unless previously arranged in writing with the affected party. Any temporary approaches to crossings or intersecting highways shall be pre-approved by the City and kept in good condition. All business establishments or homes within 300 feet of this work shall be notified 24 hours in advance of any work and shall have access during construction at all times.

3.9 All inspection costs incurred as a result of this work or incidental thereto shall be borne by the applicant. Any overtime charges or night work inspections shall also be borne by the applicant. The cost for those hours shall be calculated prior to the start of work, with a four-hour minimum charge being paid 24 hours in advance of the work being performed.

3.10 Any utilities damaged by the applicant or his/her contractor must be repaired or replaced to the satisfaction of the owner of the facility at the applicant or contractor's expense. Any trees, shrubbery, or landscaping damaged shall be replaced as directed by the City Engineer or his representative if owned by the City or the owner if on private property. If any work is being done in a Landscape Maintenance District, the applicant or their contractor must notify the City's Landscape Maintenance District at 661-286-4005 prior to the start of any work.

3.11 Debris or spoils: no debris spoils or stockpiling of materials shall be allowed unless specifically authorized. Under no circumstances shall material stockpiles be left in the street or on sidewalks of the City right-of-way overnight. All proper traffic control devices shall be in place and maintained to provide adequate protection for vehicular and pedestrian traffic in accordance with the Caltrans *Work Area Traffic Control Handbook* or as approved by the City Engineer.

3.12 No above ground structures shall be located in a sidewalk less than six feet (6') in width when said sidewalk is adjacent to the curb. Compliance with A.D.A. Standards is required.

3.13 Traffic controls within any permit construction zone shall conform to the current *State of California Manual of Traffic Controls for Construction and Maintenance Work Zones*, and/or work area traffic control handbook, *The Watch Manual*. In areas where the above standards do not apply, a traffic control plan prepared by a licensed engineer may be required.

3.14 Lane Closures: a minimum of one, twelve-foot (12') lane in each direction on local streets shall be provided for traffic unless otherwise approved by the City Engineer. No lanes will be closed before 8:30 a.m. and all lanes will be reopened by 3:30 p.m., unless approved by the City

Engineer. If any damage to existing or temporary traffic control equipment occurs, the applicant shall bring it to the immediate attention of the Inspector. All work will be suspended until such time as the necessary repairs are completed. Public safety shall be the primary consideration at all times.

3.15 All trenches, open holes, and excavations shall be filled, covered, or plated and adequately barricaded at the end of each workday, or whenever work is not in progress.

3.16 Compaction of trenches in all pavement and traffic areas shall be a minimum ninety percent (90%) relative density in the pipe zone and ninety-five percent (95%) in the upper three feet (3') measured from the pavement sub-grade. Compaction tests are required at locations and depths as determined by the City Engineer or his representatives, and shall be performed at the cost of the applicant. Compaction of materials in the parkway and sidewalk areas shall be a minimum ninety percent (90%) relative density.

3.17 Repairs to asphalt concrete pavement shall be made with plant mix surfacing AR-4000. Asphalt patches shall be a minimum of four inches (4") but not less than existing pavement, plus one inch (1"), and placed on base material a minimum of six inches (6") thick. All edges shall be treated with tack coat. Base course shall be three-quarters of an inch (3/4") hot mix. The top course design shall be approved by the City inspector for the location in question.

3.18 All utilities shall be placed with a minimum thirty inches (30") of cover, measured from the flow line of the gutter on the low side of the street, except for water and sewer lines. For these facilities, the minimum shall be 42 inches (42") from the top of pipe to finish grade or as specified by the facility's owner.

3.19 Excavations in major roadways planned to be left open beyond the normal working hours shall be protected by Caltrans approved non-skid steel plates over open excavations. On roadways with speed limits of 40 miles per hour or greater, the plates shall be recessed in accordance with Caltrans guidelines to provide a smooth transition of traffic movement without bumps.

3.20 In roadways with speed limits below 40 mph, steel plates may be utilized for a period not to exceed 48 hours without recessing, provided an asphalt transition ramp is installed at a width not less 12 inches (12") per inch of plate thickness. (i.e., a 1-1/2" plate requires an 18" transition). Should the work extent beyond the 48-hour period, all plating will be recessed as described in Section 3.19.

3.21 Non-compliance with this or other permit conditions will be cause for permit revocation.

IV. EVENING CONSTRUCTION WORK WITHIN THE PUBLIC RIGHT-OF-WAY (NIGHT WORK)

4.1 In the event that a contractor, developer, or utility company requests to perform work activities at night, considerations must be made for the type of area where the construction will take place (residential, commercial, or industrial). Consideration must also be given for the type of street being affected and the corresponding volume of traffic. Encroachment permit applicants must meet the following requirements prior to the City's approval of a permit for night work.

4.2 Considerations for Night Work

a. Signs are to be posted at each end of the project area stating the dates and times that night work will occur. Signs must be placed as early as possible, but in no instances shall notice be given less than 72 hours prior to commencement of work.
b. Door hangers or letters are to be hand circulated to each resident or business in the affected area, with proof of distribution provided to The City Public Works Inspector 72 hours prior to the start of work.
c. Traffic plan approval must be obtained from the City's Traffic Engineer prior to the start of work.

4.3 All fees for overtime for City Inspection services must be paid in advance of work. Fees must be paid by noon the day prior to the start of work.

V. TRENCH BACKFILL REQUIREMENTS

5.1 All backfill material shall be as follows:

a. Pipe zone – One foot (1') of cover over top pipe or conduit with sand or slurry

b. Trenches thirty inches (30") in depth or more – If suitable native material is available, it may be used and compacted in 8-inch (8") lifts, and compaction shall be ninety percent (90%) relative density. If acceptable native material is not available, the contractor shall import appropriate material as determined by the City Engineer. Slurry may be used as an alternative backfill material.

c. Trench resurfacing shall be one inch (1") greater in thickness than existing pavement.

d. The asphalt pavement repair shall be compacted in four-inch (4") lifts. Compaction shall be ninety-five percent (95%) relative density.

e. The base section shall match existing or a minimum of eight inches (8") of crushed aggregate base, whichever is greater (Section 200-2.1 of the *Standard Specifications for Public Works Construction*). Base shall be thoroughly compacted in layers not to exceed four inches (4") in depth. Compaction tests may be required as determined by the City inspector and shall be paid for by the applicant. A copy of such test results shall be given to the inspector. Densities shall meet the requirements of Section 300-4-7 and 301-1.3 of the *Standard Specifications for Public Works Construction.*

f. All trenches crossing travel lanes or in intersections shall be slurry backfilled with a two-sack per cubic yard cement slurry, from one foot (1') above pipe or conduit zone to within four inches (4") of finish pavement grade, then capped with AR-4000 asphalt.

VI. REMOVAL REQUIREMENTS

6.1 Saw Cutting: The contractor must comply with N.P.D.E.S. Regulations at all times. All water and grindings resulting from the saw cut operation shall be removed from the site by vacuum or other approved method to prevent materials from entering the storm water system.

6.2 Any concrete removed shall be saw cut and replaced score line to score line or full panel, as directed by the City Engineer or his representatives. Concrete must be replaced to match existing color, finish, and scoring. Pavement to be removed shall be saw cut. Permanent sidewalk, parkway, and pavement repairs shall be completed within 30 days of installation of facilities covered under the permit.

6.3 Curb and Gutter Removal and Replacement: Contractor must saw cut curb and gutter at the nearest score line or natural joint, and saw cut between the lip of gutter and existing asphalt. Where necessary, the contractor shall saw cut between the back of curb and sidewalk. No saw cutting shall be done at the shiner unless approved by the City inspector. If curb and gutter is removed without damage to the asphalt, contractor may use asphalt edge for the header plate or form. Under no circumstances shall concrete be placed against an uneven edge of pavement. When joining new curb and gutter to existing curb and gutter, contractor must dowel both sections. Concrete shall be class 520-C-2500, concrete.

6.4 Sidewalk Removal and Replacement: Concrete sidewalks shall be cut to the nearest cold joint or score. No partial panel sections will be allowed, all removals and replacements shall consist of full panel sections. Sidewalks shall be Class 520-C-2500, concrete four inches (4") thick.

VII. STORM WATER PERMIT REQUIREMENTS

7.1 The applicant or contractor shall utilize Best Management Practices (BMP's) to minimize to the Maximum Extent Practicable (MEP) pollutant discharge to the storm drain system. Storm Water BMP's shall be implemented for all work. BMP's must be installed, which will be monitored to insure their effectiveness to protect all channels, catch basins, storm drains, and bodies of water from pollutants. The Contractor shall conduct and schedule operations that minimize and avoid muddying and silting of channels, drains, and waterways.

VIII. PUBLIC UTILITY ENCROACHMENT PERMITS

8.1 There are two types of permits for utility companies.

a. **Blanket Permits** -This permit allows the performance of noninvasive maintenance work, while maintaining proper traffic control per the *Watch Manual*, within the public right-of-way.

b. **Annual Open Permit** - This permit allows utility companies to perform normal construction activities that will require inspections such as potholing for utilities, trench excavation, boring of utilities, installing telephone or television lines, water lines, etc.

8.2 Permits must be pulled thirty (30) days prior to any work, and the notification to the City Inspection Division must be made twenty-four (24) hours prior to start of work. A copy of the permit must be given to the field crew doing such work. All work must be started and completed within thirty (30) days, unless otherwise stated, so all fees can be billed within thirty (30) days after construction is completed.

a. **Exception: In the event of an emergency situation, the utility may act without a permit after notifying the City of the emergency and the location of the emergency, as well as notifying Dig Alert. The utility company must process an encroachment permit within 30 days of repair. Failure to do so will result in the utility being charged a double fee.**

8.3 Utility Company Encroachment Permit Billing Process – Upon submittal of an application to the City, the process to issue an encroachment permit will commence. The encroachment permit is forwarded to the City's Construction Services Section. Encroachment permits will be activated 24 hours following the date that the applicant requests inspection services to commence. Applicants will be charged for each inspection conducted by a City Public Works Inspector at the project. Following project completion, the inspector will forward a copy of the encroachment permit and the applicable inspection charges to the City's Finance Division for billing processing. The City's Finance Division processes utility invoices every thirty (30) days.

8.4 Except for absolute emergency situations, no utility will be allowed to enter a street for a period of five (5) years after an overlay or slurry has been performed. Newly constructed streets shall likewise not be disturbed for the same period of time.

IX. HEAVY EQUIPMENT TRANSPORTATION OR OVERSIZE-LOAD PERMITS

9.1 Heavy equipment or trucks hauling in excess of 10,000 cubic yards of material require a designated haul route and shall be approved by the City's Planning Division and Traffic Division prior to execution. Heavy equipment oversize loads shall conform to the *California Vehicle Code* as to height, length, width, and axle loads. Vehicles classified as a legal load can be moved in daylight hours. Any oversize load must be moved at night and on designated roadways, with a CHP/Sheriff and City Public Works Inspector escort through the City. Annual transportation permits may be obtained at the City of Santa Clarita, Third Floor, Engineering/Planning Counter.

X. HIGHWAY CODE ORDINANCE

10.1 All information contained in this policy shall be in addition to those set forth in Highway Code Ordinance 89-20, Title 13 – Division 1.

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Appendix B.
SCAQMD Best Management Practices for Fugitive Dust (Rule 403)

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Appendix B.
SCAQMD Best Management Practices for Fugitive Dust (Rule 403)

(Adopted May 7, 1976) (Amended November 6, 1992) (Amended July 9, 1993) (Amended February 14, 1997) (Amended December 11, 1998)(Amended April 2, 2004)

RULE 403. FUGITIVE DUST

(a) Purpose

The purpose of this Rule is to reduce the amount of particulate matter entrained in the ambient air as a result of anthropogenic (man-made) fugitive dust sources by requiring actions to prevent, reduce or mitigate fugitive dust emissions.

(b) Applicability

The provisions of this Rule shall apply to any activity or man-made condition capable of generating fugitive dust.

(c) Definitions

(1) ACTIVE OPERATIONS means any source capable of generating fugitive dust, including, but not limited to, earth-moving activities, construction/demolition activities, disturbed surface area, or heavy-and light-duty vehicular movement.

(2) AGGREGATE-RELATED PLANTS are defined as facilities that produce and / or mix sand and gravel and crushed stone.

(3) AGRICULTURAL HANDBOOK means the region-specific guidance document that has been approved by the Governing Board or hereafter approved by the Executive Officer and the U.S. EPA. For the South Coast Air Basin, the Board-approved region-specific guidance document is the Rule 403 Agricultural Handbook dated December 1998. For the Coachella Valley, the Board-approved region-specific guidance document is the Rule 403 Coachella Valley Agricultural Handbook dated April 2, 2004.

(4) ANEMOMETERS are devices used to measure wind speed and direction in accordance with the performance standards, and maintenance and calibration criteria as contained in the most recent Rule 403 Implementation Handbook.

(5) BEST AVAILABLE CONTROL MEASURES means fugitive dust control actions that are set forth in Table 1 of this Rule.

(6) BULK MATERIAL is sand, gravel, soil, aggregate material less than two inches in length or diameter, and other organic or inorganic particulate matter.

(7) CEMENT MANUFACTURING FACILITY is any facility that has a cement kiln at the facility.

(8) CHEMICAL STABILIZERS are any non-toxic chemical dust suppressant which must not be used if prohibited for use by the Regional Water Quality Control Boards, the California Air Resources Board, the U.S. Environmental Protection Agency (U.S. EPA), or any applicable law, rule or regulation. The chemical stabilizers shall meet any specifications, criteria, or tests required by any federal, state, or local water agency. Unless otherwise indicated, the use of a non-toxic chemical stabilizer shall be of sufficient concentration and application frequency to maintain a stabilized surface.

Unpaved Roads	(4a)	Water all roads used for any vehicular traffic at least once per every two hours of active operations [3 times per normal 8 hour work day]; OR
	(4b) (4c)	Water all roads used for any vehicular traffic once daily and restrict vehicle speeds to 15 miles per hour; OR Apply a chemical stabilizer to all unpaved road surfaces in sufficient quantity and frequency to maintain a stabilized surface.
Open storage piles	(5a) (5b)	Apply chemical stabilizers; OR Apply water to at least 80 percent of the surface area of all open storage piles on a daily basis when there is evidence of wind driven fugitive dust; OR
	(5c) (5d)	Install temporary coverings; OR Install a three-sided enclosure with walls with no more than 50 percent porosity which extend, at a minimum, to the top of the pile. This option may only be used at aggregate-related plants or at cement manufacturing facilities.
All Categories	(6a)	Any other control measures approved by the Executive Officer and the U.S. EPA as equivalent to the methods specified in Table 2 may be used.
Earth-moving	(1A) (2A)	Cease all active operations; OR Apply water to soil not more than 15 minutes prior to moving such soil.
Disturbed surface areas	(0B) (1B) (2B) (3B) (4B)	On the last day of active operations prior to a weekend, holiday, or any other period when active operations will not occur for not more than four consecutive days: apply water with a mixture of chemical stabilizer diluted to not less than 1/20 of the concentration required to maintain a stabilized surface for a period of six months; OR Apply chemical stabilizers prior to wind event; OR Apply water to all unstabilized disturbed areas 3 times per day. If there is any evidence of wind driven fugitive dust, watering frequency is increased to a minimum of four times per day; OR Take the actions specified in Table 2, Item (3c); OR Utilize any combination of control actions (1B), (2B), and (3B) such that, in total, these actions apply to all disturbed surface areas.
Unpaved roads	(1C) (2C) (3C)	Apply chemical stabilizers prior to wind event; OR Apply water twice per hour during active operation; OR Stop all vehicular traffic.
Open storage piles	(1D) (2D)	Apply water twice per hour; OR Install temporary coverings.
Paved road track-out	(1E) (2E)	Cover all haul vehicles; OR Comply with the vehicle freeboard requirements of Section 23114 of the California Vehicle Code for both public and private roads.
All Categories	(1F)	Any other control measures approved by the Executive Officer and the U.S. EPA as equivalent to the methods specified in Table 3 may be used.

Appendix C.
USFWS List of Special Status Species with Potential to Occur in the Santa Clarita Valley

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SCIENTIFIC NAME / COMMON NAME	STATUS FED/STATE CNPS	HABITAT AND REGIONAL OCCURRENCE
State or Federally Listed Species		
PLANTS		
Astragalus brauntonii Braunton's milk-vetch	E/-/1B	Recently burned chaparral vegetation, limestone soils; known from Simi Hills, Santa Monica Mountains.
Berberis nevinii Nevin's barberry	E/E/1B	Coastal scrub and chaparral along sandy washes; scattered occurrences in Transverse Ranges.
Brodiaea filifolia Thread-leaved brodiaea	T/E/1B	Vernal pools, recently rediscovered in Los Angeles County (1996).
Dodecahema leptoceras Slender-horned spineflower	E/E/1B	Restricted to alluvial fan sage scrub; known from SantaClara River tributaries.
Navarretia fossalis Spreading navarretia	T/-/1B	Chenopod scrub, shallow fresh water marshes, and vernal pools; reported from Cruzan Mesa.
Orcuttia californica California Orcutt grass	E/E/1B	Vernal pools; historic and recent records from Cruzan Mesa.
ANIMALS		
Bufo californicus Arroyo toad	E/CSC	Sandy stream terraces with closed canopies and grassy groundcover next to perennial stream. Primarily in Ventura and northern Los Angeles counties; Santa Clara River.
Buteo swainsoni Swainson's hawk	—/T	Forages over grasslands, savannas, and open areas. Nests in scattered trees near open areas. Nesting rare in Southern California. Possible as brief migrant, not likely to breed.
Catostomus santaanae Santa Ana sucker	T/CSC	Found in flowing streams with coarse substrate and little modification or pollution. Present in Santa Clara River but may have hybridized with the introduced Owens sucker.
Coccyzus americanus occidentalis Western yellow-billed cuckoo	—/E	Riverine woodlands, thickets, and farms. Known to occur in the region.
Empidonax trailii extimus Southwestern willow flycatcher	E/E	Dense willow thickets near slow-moving streams. Nests along Santa Clara River and other large streams.
Falco peregrinus anatum American peregrine falcon	DM/E	Forages over open areas, especially over water. Nests on cliffs with small caves.
Gasterosteus aculeatus williamsoni	E/E	Unarmored threespine stickleback Found in streams and pools with flowing water and emergent vegetation. Inhabits Santa Clara River.
Gymnogyps californianus California condor	E/E	Open savannahs and grassland. Nests on cliffs with small caves. Possibly forages over open areas.
Polioptila californica californica Coastal California gnatcatcher	T/CSC	Inhabits coastal sage scrub. Scattered observations throughout the area.
Rana aurora draytonii California red-legged frog	T/CSC	Inhabits unpolluted freshwater streams and marshes with emergent aquatic vegetation such as tules, bulrushes, or cattails. Known from Piru Creek, San Francisquito Creek; possible elsewhere.
Vireo bellii pusillus Least Bell's vireo	E/E	Extensive, dense willow riparian thicket. Nests along Santa Clara River and other large streams.
Federal and State Special Status Species and CNPS Lists 1 and 2 Species that Could Be Eligible for Listing		
PLANTS		
Calochortus clavatus var. *gracilis* Slender mariposa lily	-/-/1B	Foothill canyons in chaparral; occurs in San Gabriel Mountains.
Calochortus plummerae Plummer's mariposa lily	-/-/1B	Chaparral, other habitats, usually on granitic soils; Transverse and Peninsular Ranges
Chorizanthe parryi var. *fernandina* San Fernando Valley spineflower	FL/SL/1B	Sand/gravel washes in coastal scrub; historically near Castaic, Newhall; recently discovered in Simi Hills.
Deinandra (= Hemizonia) minthornii Santa Susana tarplant	-/R/1B	Rocky areas in chaparral, coastal scrub; common in Santa Susana Pass.
Many-stemmed dudleya	-/-/1B	Grassland and scrub habitats, associated with rock outcrops on clay soils; known east of Simi Valley.

Dudleya multicaulisGalium grande San Gabriel bedstraw	-/-/1B	Lower montane coniferous forest, south slope of San Gabriel Mountains.
Opuntia basilaris var. *brachyclada* Short-joint beavertail	-/-/1B	Dry slopes in chaparral (at higher elevations than on project site); known from Santa Susana Pass.
		ANIMALS
Accipiter cooperii Cooper's hawk	—/CSC	Heavily wooded, semi-open areas, breeds in riparian and oak woodlands. Known to occur throughout the region.
Accipiter striatus Sharp-shinned hawk	—/CSC	Uncommon migrant and winter visitor in heavily wooded semi-open areas. Mostly likely during winter, unlikely breeder.
Agelaius tricolor Tricolored blackbird	FSC/CSC	Freshwater marshes and riparian scrub. Few occurrences in region.
Aimophila ruficeps canescens Southern California rufous crowned sparrow	FSC/CSC	Generally, steep, rocky areas within coastal sage scrub and chaparral, often with scattered bunches of grass; prefers relatively recently burned areas. Observed on Newhall Ranch; locally common.
Amphispiza belli Bell's sparrow	FSC/CSC	Dense, dry chamise chaparral and coastal slopes of coastal sage scrub. Locally common.
Anniella pulchra pulchra Silvery legless lizard	FSC/CSC	Several habitats but especially in coastal dune, valley foothill, chaparral, and coastal scrub habitats; loose sandy soil. Known to occur throughout the region.
Antrozous pallidus Pallid bat	—/CSC	Forages in open areas; roosts in rock crevices and caves.
Aquila chrysaetos Golden eagle	—/CSC	Mountains, deserts, and open country. Suitable nest habitat is primarily cliffs and rocky ledges, sometimes trees, and occasionally ground and man-made structures. Occasionally observed in the region.
Asio otus Long-eared owl	—/CSC	Riparian and live oak woodlands. Known to occur in region.
Athene cunicularia hypugea Burrowing owl	FSC/CSC	Dry grasslands, desert habitats, open pinyon-juniper, ponderosa pine woodlands below 5,300 feet elevation; berms, ditches, and grasslands adjacent to rivers, agricultural, and scrub areas. Occasional visitor.
Buteo regalis Ferruginous hawk	--/CSC	Rivers, lakes, and coasts; open tracts of sparse shrubs and grasslands, and agricultural areas during winter. Rare migrant through region.
Circus cyaneus Northern harrier	—/CSC	Forages in marshes and grassy meadows; uncommon; occasionally forages over open desert and brushlands.
Cnemidophorus tigris multiscutalus Coastal western whiptail	FSC/—	Arid and semi-arid desert to open woodlands, where vegetation is sparse; loose soils in chaparral and scrub habitats. Known to occur throughout the region.
Dendroica petechia brewsteri Yellow warbler	—/CSC	Inhabits willow-riparian habitats. Numerous records from region.
Elanus leucurus White-tailed kite	—/FP	Forages in meadows and open areas. Nests in riparian woodland. Nesting in woodlands along Santa Clara River, Live Oak Springs and Placerita Canyon; near Pico Canyon; common locally.
Eremophila alpestris actia California horned lark	FSC/CSC	Open grasslands, fields, and agricultural areas. Known to occur throughout the region.
Euderma maculatum Spotted bat	FSC/CSC	Deserts, scrublands, chaparral, and coniferous woodlands. At least one record from the region.
Eumops perotis californicus Greater western mastiff-bat	FSC/CSC	Forages over chaparral and grasslands; roosts in rock crevices and old buildings.
Falco mexicanus Prairie falcon	—/CSC	Forages in dry open habitat. Nests on cliffs with potholes. Known to breed in area.
Felis concolor Mountain lion	—/CSC	Rare residents of rugged terrain with dense cover, forages over large area. Tracks observed in Newhall Ranch area and presumed to occasionally forage at this site.

Gila orcutti Arroyo chub	FSC/CSC	Adapted to the warm fluctuating streams of the Los Angeles Plain. Prefers the slowest moving sections of stream where bottom is sand or mud. Inhabits Santa Clara River and Castaic Creek.
Icteria virens Yellow-breasted chat	—/CSC	Prefer dense willow-riparian habitats. At least one record from San Francisquito Creek.
Ixobrychus exilis hesperis Western least bittern	—/CSC	Emergent wetlands of cattails and tules. Records from the Santa Clara River.
Lanius ludovicianus Loggerhead shrike	FSC/CSC	Open grassland, savannas, and chaparral. Fairly common.
Lepus californicus bennettii San Diego black-tailed jackrabbit	FSC/CSC	Open brushlands and scrub habitats between sea level and 4,000 feet elevation. Known to occur in region.
Macrotus californicus California leaf-nosed bat	FSC/CSC	Desert riparian, desert wash, desert scrub, desert succulent shrub, alkali desert scrub, and palm oasis. Roosts in tunnels, caves and possible buildings and bridges. Becoming rare locally.
Myotis thysanodes Fringed myotis	FSC/—	Dry, rocky habitats/caves, crevices in rocks, arid habitats, chaparral. Known to occur in region.
Myotis yumanensis Yuma myotis	FSC/CSC	Open forests and woodlands with water are optimal but uses a variety of habitats. Known to occur in region.
Neotoma lepida intermedia San Diego desert woodrat	FSC/CSC	Dense riparian and chaparral. Observed on Newhall Ranch and likely elsewhere.
Phrynosoma coronatum Coast horned lizard	FSC/CSC	Scrubland, grassland, coniferous forest, broad-leaf woodlands; sandy loose soils in chaparral scrub and washes. Known to occur throughout the region.
Onychomys torridus Ramona Southern grasshopper mouse	FSC/CSC	Grasslands, desert areas, especially scrub with friable soils. Recorded in Soledad Canyon.
Plecotus townsendii pallescens Pale Townsend's big-eared bat	FSC/CSC	Forages in forests, woodlands, grasslands, and open areas; roosts in caves and man-made structures.
Piranga rubra Summer tanager	—/CSC	Cottonwood-willow woodland and riparian scrub. Record from Santa Clara River near Lang.
Salvadora hexalepis virgultea Coast patch-nosed snake	FSC/CSC	Found in coastal chaparral, desert scrub, washes, sandy flats, and rocky areas. Barren creosote bush desert flats. Sagebrush semi-deserts; sea level to 7,000 feet. Known to occur throughout the region.
Scaphiopus hammondii Western spadefoot toad	FSC/CSC	Lowland washes, floodplains, temporary ponds and vernal pools. Observed in Potrero Canyon Pond (Aspen 1996) and likely elsewhere.
Strix occidentalis occidentalis California spotted owl	—/CSC	Oak and oak-conifer habitats. Reported within the region.
Taxidea taxus American badger	—/CSC	Open areas with sandy soils.
Thamnophis hammondii Two-striped garter snake	FSC/CSC	Riparian and freshwater marshes with perennial water. Several records within the region.

Source: CDFG (2004), USFWS (2005), CNPS (2001), Aspen Environmental Group (1996), Hickman (1993), PCR (2000), and County of Los Angeles (1996).

Status:

Federal:
E = Listed as Endangered.
T = Listed as Threatened.
FL = Federal Candidate for Listing.
DM = Delisted Taxon, Recovered, Being Monitored First 5 Years

State:
E = Listed as Endangered.
R = Listed as Rare.
SL = State Candidate for Listing.
CSC = California Species of Special Concern.

CNPS:
1B = List 1B - Plants rare and endangered in California and elsewhere
4 = List 4 - A watch list, plants of limited distribution

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Appendix D.
Aerial Photograph of location of arroyo toads and southwestern pond turtles in 2003 surveys, from Cadre Environmental, 2004

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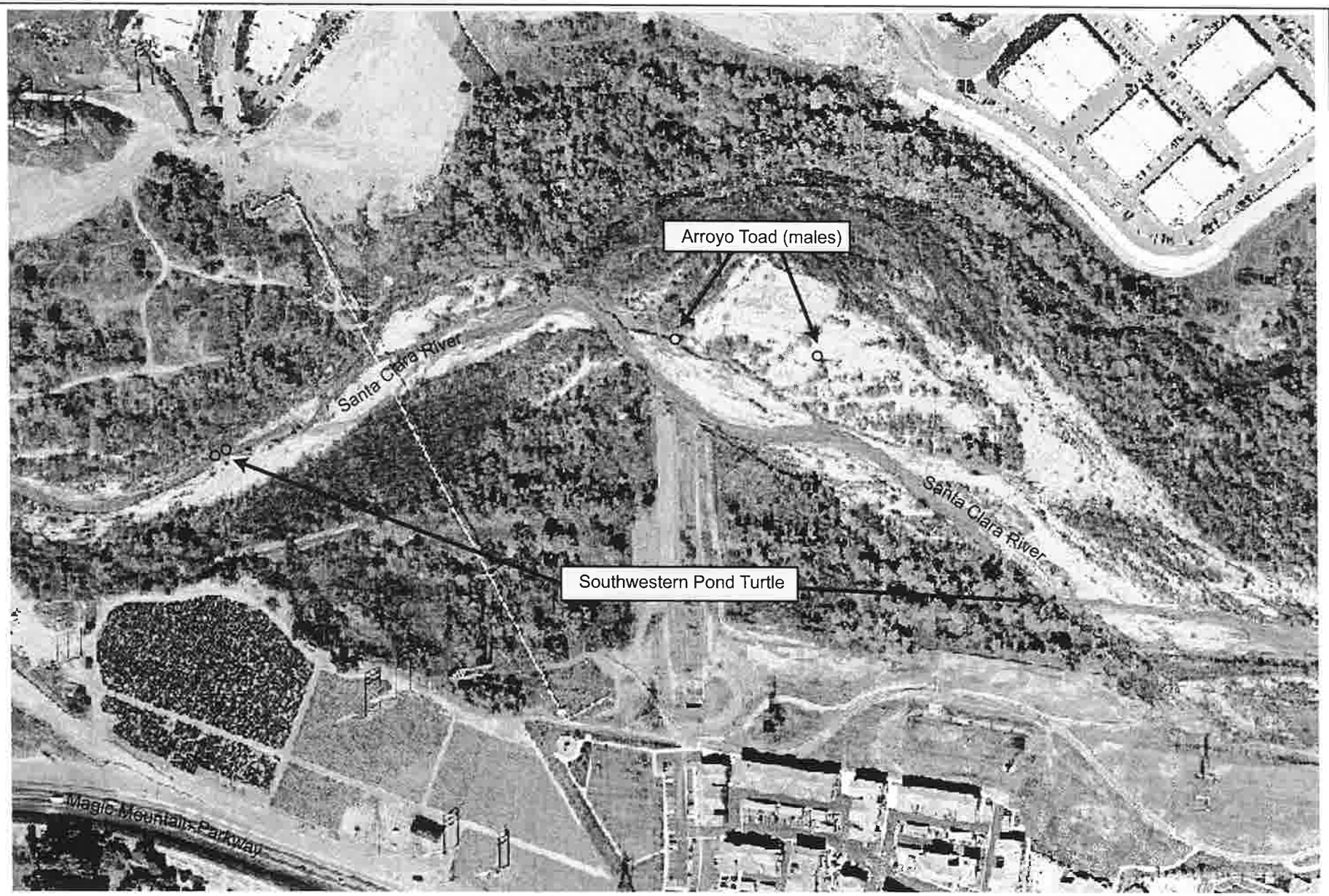

Arroyo Toad Focused Surveys 2003
Santa Clara River, Santa Clarita - California

CADRE
Environmental

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Appendix E.
(CEQA Appendix G)
Environmental Checklist

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CEQA Appendix G
Environmental Checklist

1. Project title:

Castaic Lake Water Agency, Groundwater Containment, Treatment, and Restoration Project

2. Lead agency name and address:

Castaic Lake Water Agency
27234 Bouquet Canyon Road
Santa Clarita, CA 91350-2173

3. Contact person and phone number:

Mr. Ken Petersen, 661-513-1260

4. Project location:

The project is located in the City of Santa Clarita and on lands west of the City of Santa Clarita and southwest of Magic Mountain Amusement Park.

5. Project sponsor's name and address:

Castaic Lake Water Agency
27234 Bouquet Canyon Road
Santa Clarita, CA 91350-2173

6. General plan designation: NA

7. Zoning: NA

8. Description of project: (Describe the whole action involved, including but not limited to later phases of the project, and any secondary, support, or off-site features necessary for its implementation. Attach additional sheets if necessary.)

The purpose of the proposed Castaic Lake Water Agency Groundwater Containment, Treatment, and Restoration Project (Proposed Project) is to prevent further perchlorate contamination of groundwater basins in the Santa Clarita Valley originating at an historic weapons manufacturing site located east of the South Fork of the Santa Clara River near the confluence of the South Fork and the Mainstem Santa Clara River. The Proposed Project will intercept the existing plume of perchlorate in the Saugus Formation groundwater and pump the contaminated water from intercepting wells to a new treatment plant, where perchlorate will be removed and the treated water utilized as part of Castaic Lake Water Agency's (CLWA) drinking water supply.

The Proposed Project would involve (a) modification of existing production wells, (b) construction and operation of new monitoring and production wells, (c) modification of existing pipelines and construction of new pipelines, (d) construction of a new, modular perchlorate water treatment plant, and (e) closing of existing production wells.

The Propose Project has two interrelated elements. First, there are facilities for the containment and treatment of perchlorate-contaminated groundwater. Second, there are service restoration facilities to replace and relocate existing facilities which must be closed or modified to accomplish the containment program objectives. Except for pipelines under the decking of two bridges, all pipelines will be buried. The Proposed Project incorporates a number of conservation/impact minimization measures into its project description, including measures related to:

- Facility Siting
- Construction Schedule
- River Crossings
- Best Management Practices, Construction in Roads
- Best Management Practices, Construction in Bike Trails
- Aesthetic Treatment of the Treatment Facility
- Air quality
- Noise
- Biological Resources
- Water Quality
- Cultural Resources

As appropriate, these conservation/impact minimization procedures will be incorporated into construction contracts and performance will be independently verified by CLWA and/or qualified monitors. These elements of the project, described in full in the attached Initial Study, result in reduction of potential environmental impacts to a level of less-than-significant. In addition, CLWA proposes an additional site-specific monitoring and mitigation measure related to noise that may be implemented if on-site monitoring determines that minimization measures have not reduced noise levels to the desired levels.

The Proposed Project is described in greater detail in the attached Initial Study.

9. Surrounding land uses and setting: Briefly describe the project's surroundings:

All containment element facilities and some service restoration facilities will be constructed within public rights-of-way (roads, paved bike trails, and existing CLWA facility sites) in the urbanized area of the City of Santa Clarita near the confluence of the Santa Clara River Mainstem and the South Fork of the Santa Clara River. In addition, two new production wells, a small chloramination facility, and about 3000 feet of buried pipeline will be constructed outside of the City of Santa Clarita, along existing and planned roads (Magic Mountain Parkway and its planned extension) west of Interstate 5. Within the City of Santa Clarita, the project will occur in an urban setting, with all project facilities located in or adjacent to development. To the west of Interstate 5, the Proposed Project will be within a planned development.

10. Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement.)

City of Santa Clarita
County of Los Angeles
California Department of Fish and Game
United States Department of Interior, Fish and Wildlife Service

U.S. Army Corps of Engineers
California Department of Health Services
California Department of Toxic Substances Control

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

- ☒ Aesthetics (mitigated to less than significant)
- ☐ Agriculture Resources (less than significant effects)
- ☒ Air Quality (mitigated to less than significant)
- ☒ Biological Resources (mitigated to less than significant)
- ☒ Cultural Resources (mitigated to less than significant)
- ☒ Geology/Soils (mitigated to less than significant)
- ☒ Hazards & Hazardous Materials (mitigated to less than significant)
- ☒ Hydrology/Water Quality (mitigated to less than significant)
- ☐ Land Use/Planning (less than significant effects)
- ☐ Mineral Resources (less than significant effects)
- ☒ Noise (mitigated to less than significant)
- ☐ Population/Housing (less than significant effects)
- ☐ Public Services (less than significant effects)
- ☐ Recreation (less than significant effects)
- ☒ Transportation/Traffic (mitigated to less than significant)
- ☐ Utilities/Service Systems (less than significant effects)
- ☐ Cumulative Impacts (less than significant effects)
- ☐ Mandatory Findings of Significance (less than significant effects)

DETERMINATION:

On the basis of this initial evaluation:

- ☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- The Castaic Lake Water Agency Board of Directors finds that although the proposed

project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature: _____ Date: August 5, 2005

Dan Masnada, General Manager
Printed Name

For: Castaic Lake Water Agency

EVALUATION OF ENVIRONMENTAL IMPACTS (See also attached Initial Study)

I. AESTHETICS: Would the project:

a) Have a substantial adverse effect on a scenic vista?

☐ Potentially Significant Impact ☒ Less Than Significant with Mitigation

☐ Less Than Significant Impact ☐ No Impact

All above-ground project facilities have been sited at or adjacent to existing CLWA facilities or outside of a public viewshed. As a result of siting, above-ground facilities will therefore not affect a scenic vista.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

☐ Potentially Significant Impact ☐ Less Than Significant with Mitigation

☐ Less Than Significant Impact ☒ No Impact

No scenic resources will be affected. The Proposed Project facilities will be constructed within an urban commercial matrix or have otherwise been disturbed by past activity, such as oil exploration.

c) Substantially degrade the existing visual character or quality of the site and its surroundings?

☐ Potentially Significant Impact ☐ Less Than Significant with Mitigation

☐ Less Than Significant Impact ☒ No Impact

Above ground facilities which may be viewed by the public will be designed to be consistent with adjacent architecture and land uses. No change in the existing visual character of the site will occur.

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

☐ Potentially Significant Impact ☒ Less Than Significant with Mitigation

☐ Less Than Significant Impact ☐ No Impact

Only the proposed modular perchlorate treatment plant will be lighted. The facility is in an area already lighted by an adjacent pumping plant, a storage facility, and a large home improvement store with parking-lot lighting. The modular perchlorate treatment plant will have lighting at its entrance, its lights will be directed away from the bike path between it and the Santa Clara River, and there will be landscape screening between it and the Santa Clara River. No lighting impacts on this viewshed will occur.

II. AGRICULTURE RESOURCES: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

☐ Potentially Significant Impact ☐ Less Than Significant with Mitigation

☐ Less Than Significant Impact | No Impact

No farmland is affected by the Proposed Project.

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

☐ Potentially Significant Impact ☐ Less Than Significant with Mitigation

☐ Less Than Significant Impact | No Impact

No farmland is affected by the Proposed Project.

c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?

☐ Potentially Significant Impact ☐ Less Than Significant with Mitigation

☐ Less Than Significant Impact | No Impact

Agricultural water uses and volumes will not be affected; the project will not cause conversion of farmland to other uses. No impacts will occur.

III. AIR QUALITY: Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:

a) Conflict with or obstruct implementation of the applicable air quality plan?

☐ Potentially Significant Impact ☐ Less Than Significant with Mitigation

☐ Less Than Significant Impact | No Impact

The Proposed Project facilities will not emit criteria pollutants. The Proposed Project is consistent with the rules of the South Coast Air Quality Management District (SCAQMD) and its Basin Plan.

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

☐ Potentially Significant Impact | Less Than Significant with Mitigation

☐ Less Than Significant Impact ☐ No Impact

In the long-term, the Proposed Project will not emit criteria pollutants (volatile organic compounds or ozone). No long-term operational effect is therefore anticipated.

Proposed Project construction may result in short-term generation of fugitive dust but the project incorporates City of Santa Clarita and SCAQMD best management practices for fugitive dust control (See attached Initial Study). These best management practices will be incorporated into construction contracts. In addition, the total area of soil exposed at any time during construction will be small (< 0.2 to 0.5 acres). Exposed areas will be repaved as construction proceeds. Construction contracts will specify that all construction equipment be equipped with current emissions reduction technology and will be inspected at manufacturer-recommended intervals to ensure that it is working properly.

The construction schedule reduces potential for the Proposed Project to contribute to violation of air quality standards. Construction will occur in the fall and winter, when air quality in Los Angeles County is generally better due to prevailing winds from the west and reduced sunlight/ozone creation.

The small size of the Proposed Project, the implementation of best management practices, compliance with SCAQMD and City of Santa Clarita regulations, and construction scheduling reduce the potential for the Proposed Project to contribute to an air quality violation to less-than-significant.

c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

☐ **Potentially Significant Impact** ☐ **Less Than Significant with Mitigation**

☒ **Less Than Significant Impact** ☐ **No Impact**

The Proposed Project, including the modular perchlorate treatment plant and the chloramination facilities, is essentially a closed system and will not generate emissions. The construction project will generate some fugitive dust (particulates) and ozone precursors from operation of construction equipment.

Regarding fugitive dust, the exposed construction area at any given time will not be greater than about 0.2 to 0.5 acres and best management practices, such as watering and suspension of construction during periods of high wind, will be incorporated into construction contractors to minimize potential for fugitive dust generation on this small area. The magnitude of these effects is less-than-significant when compared to fugitive dust generated by exposed soils in the Santa Clara River bed and adjacent levees in the Proposed Project Area. The dry river bed and levees constitute about 160 to 200 acres, much of this area exposed fine sediment deposited as river flow declines. At a maximum, then, the Proposed Project could increase wind blown dust in the project area by about 0.02 percent. Given mitigation proposed, the actual contribution of the Proposed Project to fugitive dust will be lower. Following construction, project sites will be repaved and no long-term fugitive dust will be generated. A short-term increase in wind-blown dust of 0.02 percent or less would probably not be detectable and would not be considered cumulatively considerable.

Regarding emissions from construction equipment, construction equipment will consist of a backhoe, a small dozer for grading, a small crane, a small water truck, a generator, paving equipment, and other pieces of small equipment. Assuming operation of 5-6 individual pieces of construction equipment and comparing this to the emissions from car and truck traffic on only major roads in the vicinity of the project, vehicle emissions from this equipment will constitute a small fraction of total emissions. As

noted in Section III(D) of the Initial Study (attached), average daily traffic volume on the 6 major arterials in the Proposed Project area (not including Interstate 5) is over 200,000 cars and trucks per day. The City of Santa Clarita notes that these average daily traffic volumes vary. Within this context, emissions from construction equipment would fall within the range of daily variability related to emissions from traffic and would not be considered "cumulatively considerable."

d) Expose sensitive receptors to substantial pollutant concentrations?

☐ Potentially Significant Impact ☐ Less Than Significant with Mitigation

☐ Less Than Significant Impact | No Impact

This is a small project using conventional construction equipment. It will not generate substantial pollutant concentrations. See (c) above.

e) Create objectionable odors affecting a substantial number of people?

☐ Potentially Significant Impact ☐ Less Than Significant with Mitigation

| Less Than Significant Impact ☐ No Impact

Proposed Project pipelines will involve repaving of roads and paved bike trails. This may create odors from asphalt use. Given that the project pipelines will be constructed at a rate of about 200 feet per day, no individuals will be subject to these common construction odors for more than 1-3 days. This is equivalent to a normal neighborhood street repair operation and is not considered a significant impact.

IV. BIOLOGICAL RESOURCES: Would the project:

a) Have a substantial adverse impact, either directly or through habitat modifications, on an species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by California Department of Fish and Game or US Fish and Wildlife Service?

☐ Potentially Significant Impact | Less Than Significant with Mitigation

☐ Less Than Significant Impact ☐ No Impact

The Proposed Project has been sited to avoid direct impact to wildlife and fish habitat and Proposed Project scheduling of facilities west of Interstate 5 provides for construction following initial grading for proposed development; no fish or wildlife habitat will be taken by the project. There will be no habitat for special status species affected by the Proposed Project. Pipelines crossing rivers will be constructed in dry conditions, without open trenching and/or by placing the pipeline under the decking of existing bridges. If construction equipment is used in the river bed beneath a bridge, this will be done in dry conditions, using best management practices for avoidance and minimization of fuel and oil spills during construction, and will occur in an area with no riparian vegetation.

The Proposed Project schedule effectively eliminates potential for the Proposed Project to affect nesting of special-status birds in adjacent habitats, because the project will be constructed out of the nesting season. No avian habitat will be affected by the project.

The Proposed Project has been sited to minimize potential for special-status terrestrial species to access the construction site. Within the City of Santa Clarita, there is virtually no wildlife habitat adjacent to the

construction site, and construction is isolated from any such habitat by the levees of the Santa Clara Mainstem and South Fork of the Santa Clara River. The fall-winter construction schedule eliminates potential for terrestrial species nesting to be indirectly affected by noise and visual disturbance associated with construction activity. Implementation of best management practices incorporated into the project will further reduce potential for incidental terrestrial wildlife access to the active construction zone.

For project elements west of Interstate 5, CLWA will initiate construction following proposed grading of roads and other infrastructure associated with an unrelated subdivision. This is necessary because grading of such roads and adjacent lands for construction may involve significant excavation below existing grade. CLWA actions related to these elements of the proposed project will therefore occur during the construction period for these roads and other infrastructure. In the interim, CLWA will meet service restoration objectives using SWP water supplies and the Proposed Project facilities constructed east of Interstate 5.

There is a potential for a perchlorate spill during conveyance to the treatment plant resulting from accidental or seismically-related pipeline failure. Given new pipeline and a project life of 50+ years, the potential for a spill is small and the volume spilled would be equal to less than 0.001% of the volume of perchlorate-contaminated water that would otherwise reach the alluvial aquifer and then become surface flow further downstream. Potential effects of a spill on wildlife would be minimal because (a) slow release from a ruptured pipeline fitted with automatic shut-off valves would percolate into groundwater rapidly (in dry conditions) or be rapidly diluted (during wet conditions). In the context of the No Project Alternative, with the mitigation provided by automatic shut-off valves, the significance of a potential spill is less than significant.

A similar spill of chloramine-treated water from treated-water pipelines is also possible. The proposed Project probably reduces this potential because (a) new pipeline will be constructed and will replace segments of older pipeline nearing the end of its useful life and (b) the volume of chloramine-treated water used would not change as a result of the Proposed Project because it only replaces existing capacity.

In summary, (a) the Proposed Project will not involve take of fish or wildlife habitat and, (b) as a result of project scheduling, no threatened, or endangered bird species will be in the project area during construction, and (c), as a result of implementation of avoidance and minimization measures, the project will be isolated from the riverine habitat of other threatened and endangered species. With siting, scheduling and other proposed mitigation, biological impacts will be less than significant.

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or US Fish and Wildlife Service?

☐ **Potentially Significant Impact** ☒ **Less Than Significant with Mitigation**

☐ **Less Than Significant Impact** ☐ **No Impact**

The Proposed Project will not affect riparian or other habitats because, as part of mitigation, it has been sited to avoid such effects.

c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

☐ Potentially Significant Impact ☐ Less Than Significant with Mitigation

☐ Less Than Significant Impact | No Impact

The Proposed Project does not occur where these habitats are found. Construction of the pipeline under the Bouquet Canyon Bridge will be under dry conditions and no discharge or habitat alteration will occur.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

☐ Potentially Significant Impact ☐ Less Than Significant with Mitigation

☐ Less Than Significant Impact | No Impact

Except at the bridge crossing of the Santa Clara River Mainstem, the Proposed Project does not occur where wildlife movement would be affected. In this highly disturbed area, wildlife movement along the Santa Clara River would generally occur at night, after all construction activity had been ceased and all construction materials had been removed from the area under the bridge.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

☐ Potentially Significant Impact ☐ Less Than Significant with Mitigation

☐ Less Than Significant Impact | No Impact

Because Proposed Project facilities will be constructed within existing road and/or bike path rights of way, and all of these rights-of-way are paved or otherwise disturbed, the Proposed Project will not affect protected resources or be in conflict with any local protection policies.

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

☐ Potentially Significant Impact ☐ Less Than Significant with Mitigation

☐ Less Than Significant Impact | No Impact

The Proposed Project has no potential effects on wildlife habitat and will not conflict with any current Habitat Conservation Plan, Natural Communities Conservation Plan, or other approved plan.

V. CULTURAL RESOURCES: Would the project:

a) Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5?

☐ Potentially Significant Impact ☐ Less Than Significant with Mitigation

☐ Less Than Significant Impact | No Impact

Based on a cultural resources literature search, no known significant historic resource occurs within the Proposed Project area. No change in the significance of an historical resource would occur.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?

☐ Potentially Significant Impact ☐ Less Than Significant with Mitigation

☐ Less Than Significant Impact | No Impact

Because there are no known archeological resources in the Proposed Project area, the Proposed Project will not affect the significance of a known archeological resource.

c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

☐ Potentially Significant Impact ☐ Less Than Significant with Mitigation

☐ Less Than Significant Impact | No Impact

There are no known paleontological resources in the Proposed Project area. The Proposed Project excavations will be less than 10 feet deep, in soils that have been subject to scour and deposition. Relatively young alluvial soils are not likely to contain unique paleontological resources. The project occurs in a disturbed floodplain; no unique geologic features exist in the Proposed Project action area.

d) Disturb any human remains, including those interred outside of formal cemeteries?

☐ Potentially Significant Impact | Less Than Significant with Mitigation

☐ Less Than Significant Impact ☐ No Impact

Per the Initial Study, there are no known burial sites in the project area, and most of the proposed project is being constructed in areas that have been previously excavated and disturbed. Burials are not likely to be found. If burials are found, the implementation of proposed mitigation measures (Initial Study, attached) will ensure compliance with applicable State and Federal laws. Mitigation measures will be incorporated into construction contracts, with independent verification by a qualified archeologist.

VI. GEOLOGY AND SOILS: Would the project:

a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

☐ Potentially Significant Impact ☐ Less Than Significant with Mitigation

☐ Less Than Significant Impact | No Impact

The Proposed Project will not alter the physical environment in a manner that would affect seismic processes. The Proposed Project will be monitored during operation, and flow in pipelines shut down in the event that seismic shaking causes a pipeline or other facility failure.

ii) Strong seismic ground shaking?

☐ Potentially Significant Impact ☐ Less Than Significant with Mitigation

☐ Less Than Significant Impact | No Impact

The Proposed Project will be monitored during operation and flow in pipelines shut down in the event that seismic shaking causes a pipeline or other facility failure. No adverse effect is anticipated.

iii) Seismic-related ground failure, including liquefaction?

☐ Potentially Significant Impact ☐ Less Than Significant with Mitigation

| Less Than Significant Impact ☐ No Impact

In the event of seismic-related ground failure, rapid shut down of pipeline flow will ensure that pipeline failure will not create a significant hazard due to erosion and/or release of large quantities of water. The perchlorate treatment plant will be located on/adjacent to stable engineered levees, and will be monitored 24 hours a day by staff at the adjacent pumping plant. The perchlorate treatment plant can therefore be rapidly shut down should a seismic event result in damage to the plant. Secondary chemical containment vessels are capable of holding any chemicals released during a seismic event.

iv) Landslides?

☐ Potentially Significant Impact ☐ Less Than Significant with Mitigation

☐ Less Than Significant Impact | No Impact

To be constructed within existing or planned public rights of way, the Proposed Project will not be in a landslide area and will not create conditions likely to lead to landslides. During operation, rapid shut down of pipeline flow will ensure that pipeline failure could not create erosion or other adverse effects likely to cause, or exacerbate the effects of, a landslide.

b) Result in substantial soil erosion or the loss of topsoil?

☐ Potentially Significant Impact | Less Than Significant with Mitigation

☐ Less Than Significant Impact ☐ No Impact

Implementation of best management practices will contain soil from excavations within the project right-of-way and eliminate potential for substantial soil erosion or loss of topsoil. Post-construction repaving and planting will return roads, bike trails, and adjacent landscaping to pre-project conditions.

c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

☐ Potentially Significant Impact ☐ Less Than Significant with Mitigation

☐ Less Than Significant Impact | No Impact

The project facilities will be located under existing roads, in engineered levees, and adjacent to existing facilities. These are stable, engineered environments.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

☐ Potentially Significant Impact ☐ Less Than Significant with Mitigation

☐ Less Than Significant Impact | No Impact

Soils in the Proposed Project area are sandy loam alluvial soils, not expansive clays.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

☐ Potentially Significant Impact ☐ Less Than Significant with Mitigation

☐ Less Than Significant Impact | No Impact

The Proposed Project does not involve the use of septic tanks or the discharge of wastewater.

VII. HAZARDS AND HAZARDOUS MATERIALS: Would the project:

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

☐ Potentially Significant Impact | Less Than Significant with Mitigation

☐ Less Than Significant Impact ☐ No Impact

Significant hazards associated with transport, use, or disposal of hazardous materials are not anticipated. The resin units used in the proposed perchlorate treatment plant consist of polymer resin beads to which perchlorate ions bind in a process similar to water softening. These polymer resin beads are stable and non-toxic. The new resin units will be delivered to the site and spent resin units will be collected by the

manufacturer or an agent of the manufacturer and will be transported to a proprietary solid waste incineration facility. Chemicals utilized in chloramination will be handled in a manner consistent with current regulations and stored with secondary containment vessels.

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

☐ Potentially Significant Impact | Less Than Significant with Mitigation

☐ Less Than Significant Impact ☐ No Impact

The possibility of release of hazardous materials as a result of accident conditions is remote. The Proposed Project design incorporates features for handling and transport of chemicals used in the water treatment process. Chemicals transported, stored, and used in chloramination are sodium hypochlorite and aqueous ammonia. They will be transported in a manner consistent with all safety regulations. They will remain separated and stored in secondary containment vessels that preclude leakage even if the primary vessel is damaged. With appropriate handling and transport of materials and use of containment vessels during operations, no release of hazardous materials is anticipated.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

☐ Potentially Significant Impact ☐ Less Than Significant with Mitigation

☐ Less Than Significant Impact | No Impact

Chemicals transported, stored, and used in chloramination are sodium hypochlorite and aqueous ammonia. The proposed treatment facilities are not within 1/4th of a mile of a school.

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

☐ Potentially Significant Impact ☐ Less Than Significant with Mitigation

☐ Less Than Significant Impact | No Impact

The Proposed Project is not located at a hazardous materials site.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

☐ Potentially Significant Impact ☐ Less Than Significant with Mitigation

☐ Less Than Significant Impact | No Impact

The Proposed Project is not located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport.

f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

☐ Potentially Significant Impact ☐ Less Than Significant with Mitigation

☐ Less Than Significant Impact | No Impact

The project is not within the vicinity of a private airstrip.

g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

☐ Potentially Significant Impact | Less Than Significant with Mitigation

☐ Less Than Significant Impact ☐ No Impact

During construction, the Proposed Project will occupy one lane of several multi-lane arterial roads for a short period of time, and only outside of peak traffic hours. The Proposed Project will comply with City of Santa Clarita policies to ensure that construction does not have an effect on emergency response plans or evacuation plans. City of Santa Clarita Encroachment Policy (incorporated into the Project description, see attached Initial Study) also requires daily backfill and re-paving of areas where excavation and pipeline placement have been completed. Implementation of this policy means that there will be no more than about 200 feet of open trench during active construction. In the event of an evacuation necessity, the City can immediately notify CLWA and its construction contractor, following which the short segment of trench can be rapidly backfilled by the construction crew and road function restored. Construction crews retain required steel plates to cover the exposed soils in the roadway and can place them rapidly if needed. It is likely that backfill and covering with steel plates would occur before significant emergency response or evacuation could be initiated or early in the implementation process. The Proposed Project will not cause a significant delay in the implementation of any emergency response or emergency evacuation plan.

h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

☐ Potentially Significant Impact ☐ Less Than Significant with Mitigation

☐ Less Than Significant Impact | No Impact

Constructed entirely within existing or planned public roads, paved bike trails, and existing facilities and constructed in compliance with local fire regulations, the Proposed Project facilities will not affect wildland fires.

VIII. HYDROLOGY AND WATER QUALITY -- Would the project:

a) Violate any water quality standards or waste discharge requirements?

☐ Potentially Significant Impact ☐ Less Than Significant with Mitigation

☐ Less Than Significant Impact | No Impact

The project will comply with applicable water quality standards and will not discharge to a water body.

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

☐ Potentially Significant Impact ☐ Less Than Significant with Mitigation

☐ Less Than Significant Impact ☒ No Impact

The Proposed Project will protect groundwater water quality production from pre-existing wells (which will be relocated to areas where groundwater quality is not impaired).

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?

☐ Potentially Significant Impact ☒ Less Than Significant with Mitigation

☐ Less Than Significant Impact ☐ No Impact

The footprint of the Proposed Project is small, and even the construction of the longest pipeline segment (5600 feet) will temporarily expose about two acres of flat land. During construction, the implementation of best management practices, incorporated into construction contracts and independently verified by CLWA inspectors, will contain construction-site drainage and no substantial change in drainage patterns will occur. The Proposed Project will not permanently change topography, slope, or surface conditions and no long-term alteration of drainage patterns will occur.

d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

☐ Potentially Significant Impact ☒ Less Than Significant with Mitigation

☐ Less Than Significant Impact ☐ No Impact

The Proposed Project has a small footprint and will implement best management practices for control of drainage from construction zones. Construction would alter the course of a stream or river. Containment of runoff within the construction area will ensure that there is no increase in surface runoff to a river.

e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

☐ Potentially Significant Impact ☐ Less Than Significant with Mitigation

☐ Less Than Significant Impact ☒ No Impact

Containment of runoff will ensure that the Proposed Project will not create or contribute runoff water to storm drains.

f) Otherwise substantially degrade water quality?

☐ Potentially Significant Impact ☐ Less Than Significant with Mitigation

☐ Less Than Significant Impact | No Impact

The Proposed Project will enhance, not degrade water quality.

g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

☐ Potentially Significant Impact ☐ Less Than Significant with Mitigation

☐ Less Than Significant Impact | No Impact

The Proposed Project will not place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map.

h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?

☐ Potentially Significant Impact ☐ Less Than Significant with Mitigation

☐ Less Than Significant Impact | No Impact

None of the Proposed Project facilities is located in a manner that would impede or redirect flood flows.

i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

☐ Potentially Significant Impact ☐ Less Than Significant with Mitigation

☐ Less Than Significant Impact | No Impact

The Proposed Project facilities would not affect the structure of a levee or dam. Only the Proposed Project facilities on the west side of the South Fork of the Santa Clara River will be within the 100-year floodplain of this river; they will be buried. They will be outside of the portion of the river affected by high velocity flows that may significantly scour sediments and thus will not be affected by flooding or affect flood flows. The Proposed Project facilities will therefore not affect flood flows or the potential for such flows to affect people.

j) Inundation by seiche, tsunami, or mudflow?

☐ Potentially Significant Impact ☐ Less Than Significant with Mitigation

☐ Less Than Significant Impact | No Impact

The Proposed Project is not located in an area where seiche, tsunami, or mudflow would occur.

IX. LAND USE AND PLANNING - Would the project:

a) Physically divide an established community?

☐ Potentially Significant Impact ☐ Less Than Significant with Mitigation

☐ Less Than Significant Impact | No Impact

None of the Proposed Project facilities will physically divide an established community.

b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

☐ Potentially Significant Impact ☐ Less Than Significant with Mitigation

☐ Less Than Significant Impact | No Impact

The Proposed Project is consistent with local and regional land use plans.

c) Conflict with any applicable habitat conservation plan or natural community conservation plan?

☐ Potentially Significant Impact ☐ Less Than Significant with Mitigation

☐ Less Than Significant Impact | No Impact

There is no habitat conservation plan or natural community conservation plan in effect in the Proposed Project area; no conflicts will occur.

X. MINERAL RESOURCES -- Would the project:

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

☐ Potentially Significant Impact ☐ Less Than Significant with Mitigation

☐ Less Than Significant Impact | No Impact

The Proposed Project facilities are not to be located in any area where mineral resource extraction is anticipated. No effects will occur.

b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

☐ Potentially Significant Impact ☐ Less Than Significant with Mitigation

☐ Less Than Significant Impact | No Impact

The Proposed Project facilities are not to be located in any area where resource extraction is potential. No effects will occur.

XI. NOISE -- Would the project result in:

a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

☐ Potentially Significant Impact | Less Than Significant with Mitigation

☐ Less Than Significant Impact ☐ No Impact

The Proposed Project includes noise minimization measures required by the City of Santa Clarita (which reference CALTRANS standards), including monitoring, and will comply with all applicable standards. Specifically, the Proposed Project will utilize modern construction equipment that is not likely to generate noise levels in excess of those mandated by the City of Santa Clarita. In addition, as an added precaution, CLWA will periodically monitor noise conditions during the construction of the pipeline along the west side of the South Fork of the Santa Clara River, where construction will be near existing homes. If monitoring detects noise levels in excess of 65 dBA, at the fence line of these homes, CLWA will require the contractor to place temporary noise barriers between the active construction area and adjacent housing.

b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

☐ Potentially Significant Impact ☐ Less Than Significant with Mitigation

☐ Less Than Significant Impact | No Impact

Construction will occur on sandy alluvial soils and will not involve pile driving or other construction methods that would generate significant groundborne vibration.

c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

☐ Potentially Significant Impact ☐ Less Than Significant with Mitigation

☐ Less Than Significant Impact | No Impact

The project facilities will be buried or enclosed and no permanent noise increase above ambient levels will occur.

d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

☐ Potentially Significant Impact | Less Than Significant with Mitigation

☐ Less Than Significant Impact ☐ No Impact

Daylight ambient noise levels from heavy traffic and other activity in most portions of the Proposed Project area equal or will exceed noise generated by construction equipment at a distance of 100 feet. Ambient noise levels in urban commercial areas are often equal to or in excess of 80 dBA, and commonly used construction equipment may generate noise of approximately 69 dBA at 100 feet (see Initial Study, attached). There is a small potential for construction noise to marginally exceed ambient noise levels

along the pipeline alignment on the South Fork Trail. If construction noise levels at the boundary of residential development are found to exceed 65 dBA during monitoring, additional mitigation measures (temporary sound barriers) will be installed to reduce noise in the construction area to a level of less than significant.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

☐ Potentially Significant Impact ☐ Less Than Significant with Mitigation

☐ Less Than Significant Impact | No Impact

The Proposed Project is not located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport.

f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

☐ Potentially Significant Impact ☐ Less Than Significant with Mitigation

☐ Less Than Significant Impact | No Impact

The Proposed Project is not located within the vicinity of a private airstrip.

XII. POPULATION AND HOUSING -- Would the project:

a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

☐ Potentially Significant Impact ☐ Less Than Significant with Mitigation

☐ Less Than Significant Impact | No Impact

The Proposed Project does not directly or indirectly affect housing or population. The Proposed Project restores groundwater quality and groundwater production that was assumed during land use planning for the major developments already proposed and approved. It thus returns conditions of groundwater production to a pre-1997 baseline condition that was assumed in prior planning, and will not induce additional growth

b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

☐ Potentially Significant Impact ☐ Less Than Significant with Mitigation

☐ Less Than Significant Impact | No Impact

No housing will be displaced by the Proposed Project.

c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

☐ Potentially Significant Impact ☐ Less Than Significant with Mitigation

☐ Less Than Significant Impact | No Impact

No people will be displaced by the Proposed Project.

XIII. PUBLIC SERVICES

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

Fire protection?

☐ Potentially Significant Impact ☐ Less Than Significant with Mitigation

☐ Less Than Significant Impact | No Impact

The Proposed Project will not create a need for new public services or facilities.

Police protection?

☐ Potentially Significant Impact ☐ Less Than Significant with Mitigation

☐ Less Than Significant Impact | No Impact

The Proposed Project will not affect police facilities. No impacts to police protection will occur.

Schools?

☐ Potentially Significant Impact ☐ Less Than Significant with Mitigation

☐ Less Than Significant Impact | No Impact

The Proposed Project will not affect schools or access to schools.

Parks?

☐ Potentially Significant Impact ☐ Less Than Significant with Mitigation

☐ Less Than Significant Impact | No Impact

The Proposed Project will not create a need for additional park facilities, as all facilities impacted during construction will be returned to pre-project condition.

Other public facilities?

☐ Potentially Significant Impact ☐ Less Than Significant with Mitigation

☐ Less Than Significant Impact | No Impact

No other public facilities are located in the project area.

XIV. RECREATION

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

☐ Potentially Significant Impact ☐ Less Than Significant with Mitigation

☐ Less Than Significant Impact | No Impact

The Proposed Project does not change long-term recreational use levels.

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

☐ Potentially Significant Impact ☐ Less Than Significant with Mitigation

☐ Less Than Significant Impact | No Impact

The Proposed Project will not require construction of additional recreation facilities.

XV. TRANSPORTATION/TRAFFIC -- Would the project:

a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?

☐ Potentially Significant Impact ☐ Less Than Significant with Mitigation

☐ Less Than Significant Impact | No Impact

The Proposed Project will not create long-term changes in traffic.

b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?

☐ Potentially Significant Impact ☐ Less Than Significant with Mitigation

☐ Less Than Significant Impact | No Impact

The Proposed Project will not create conditions that would change a level of service.

c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

☐ Potentially Significant Impact ☐ Less Than Significant with Mitigation

☐ Less Than Significant Impact | No Impact

The Proposed Project will not involve activities that would affect air traffic patterns.

d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

☐ Potentially Significant Impact ☐ Less Than Significant with Mitigation

☐ Less Than Significant Impact | No Impact

The Proposed Project will not change the design of a roadway or have incompatible uses.

e) Result in inadequate emergency access?

☐ Potentially Significant Impact | Less Than Significant with Mitigation

☐ Less Than Significant Impact ☐ No Impact

For short periods during construction, the Proposed Project will involve the closure of 1 lane of traffic on multi-lane roads for only a distance of several hundred feet in any given day. Construction will be limited to off-peak hours, when hourly traffic volume is generally less than peak hourly traffic volume. A one-lane closure therefore will result in traffic congestion no worse than that occurring during peak hours and a lower level of congestion is probable. See the attached Initial Study analysis. When emergency vehicles utilize these roads, their sirens will signal that emergency access is needed. It will be feasible to clear traffic from the lane adjacent to the 200-foot long construction zone rapidly and to maintain an open lane for emergency passage. Significant impacts to emergency access during construction are thus not anticipated. In the long-term, the Proposed Project will have no effect on emergency access.

f) Result in inadequate parking capacity?

☐ Potentially Significant Impact ☐ Less Than Significant with Mitigation

☐ Less Than Significant Impact | No Impact

The Proposed Project will not affect parking access or capacity.

g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?

☐ Potentially Significant Impact ☐ Less Than Significant with Mitigation

☐ Less Than Significant Impact | No Impact

The Proposed Project will not affect alternative transportation facilities.

XVI. UTILITIES AND SERVICE SYSTEMS -- Would the project:

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

☐ Potentially Significant Impact ☐ Less Than Significant with Mitigation

☐ Less Than Significant Impact | No Impact

The Proposed Project will not generate wastewater nor change wastewater treatment facilities.

b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

☐ Potentially Significant Impact ☐ Less Than Significant with Mitigation

☐ Less Than Significant Impact | No Impact

The Proposed Project is a water treatment facility for groundwater, but would not result in wastewater nor change wastewater treatment facilities.

c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

☐ Potentially Significant Impact ☐ Less Than Significant with Mitigation

☐ Less Than Significant Impact | No Impact

The Proposed Project will not affect runoff or drainage from areas adjacent to the Santa Clara River or South Fork of the Santa Clara River and will not require construction of new facilities.

d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

☐ Potentially Significant Impact ☐ Less Than Significant with Mitigation

☐ Less Than Significant Impact | No Impact

The Proposed Project does not generate new water supply, nor cause a demand for new water supply.

e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

☐ Potentially Significant Impact ☐ Less Than Significant with Mitigation

☐ Less Than Significant Impact | No Impact

The Proposed Project will not generate wastewater.

f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

☐ Potentially Significant Impact ☐ Less Than Significant with Mitigation

☐ Less Than Significant Impact | No Impact

The disposal of spent treatment resin will be accomplished by a licensed vendor with suitable, permitted disposal facilities. It is anticipated that the spent resin will be incinerated.

g) Comply with federal, state, and local statutes and regulations related to solid waste?

☐ Potentially Significant Impact ☐ Less Than Significant with Mitigation

☐ Less Than Significant Impact | No Impact

The Proposed Project will require the disposal vendor to comply with applicable federal, state, and local statutes related to solid waste.

XVII. MANDATORY FINDINGS OF SIGNIFICANCE

a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

☐ Potentially Significant Impact | Less Than Significant with Mitigation

☐ Less Than Significant Impact ☐ No Impact

The Proposed Project has no direct effect on wildlife habitat; no habitat is lost due to the Proposed Project. The Proposed Project's siting and schedule avoid indirect effects to nesting birds and to special-status species in adjacent habitats by avoiding the nesting season and thereby avoiding effects that could reduce a fish and wildlife population. Because no part of the Proposed Project occurs on wildlife habitat, the Proposed Project will not restrict the range of a species. No known cultural sites reflecting important examples of major periods of California history or prehistory exist within the Proposed Project area.

b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?

☐ Potentially Significant Impact ☐ Less Than Significant with Mitigation

| Less Than Significant Impact ☐ No Impact

When viewed from the perspective of the long-term trend towards groundwater degradation as a result of domestic and industrial activities and discharges to groundwater, the Proposed Project runs counter to this trend towards groundwater degradation in southern California and elsewhere in California. The Proposed

Project does not, therefore, contribute to an adverse trend; rather, it will contribute to a trend towards remediating these historic problems.

Other construction projects in the Santa Clarita Valley (a) may have short-term temporary impacts and (b) may have long-term effects on land and other resource use, traffic, population, housing, public services, utilities, biological resources, cultural resources, and aesthetics. From the perspective of short-term construction-related effects, the Proposed Project will contribute to the overall level of short-term construction-related inconvenience associated with this construction activity. However, the Proposed Project activities are located in a generally fully-developed area or will occur during development of infrastructure for other development.

An estimate of the magnitude of the Proposed Project's contribution to overall construction activity in the Santa Clarita Valley can be made by comparing the acreage affected by the project to acreage affected by other projects. In an 8-year period (1996 through 2003), a total of 3320 new single-family buildings were permitted, an average of 415 per year, with yearly building permits ranging from 146 to 595. Assuming 5 units per acre, this represents 664 acres, or 83 acres per year within the City of Santa Clarita alone. The Proposed Project's footprint at any given time will be less than 2 acres (2.4% of average annual residential construction) and the total area of construction would be about 10 acres (1.5% of total 1996-2003 residential construction. Given that construction activity in the City of Santa Clarita varied by over 75% in any given year, the Proposed Project's impacts (2.4% of average annual construction) fall within the range of normal variation in the level of construction. Impacts are insignificant in terms of a contribution to overall construction activity.

In addition, all of the Proposed Project's construction-related impacts are temporary. The Proposed Project will not contribute directly or indirectly to the suite of permanent effects associated with the majority of other existing and future construction, because the Proposed Project has no long-term effects on land and other resource use, traffic, population, housing, public services, utilities, biological resources, cultural resources, and aesthetics.

The Proposed Project's cumulative effects are thus less than significant.

c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

☐ **Potentially Significant Impact** ☐ **Less Than Significant with Mitigation**

☐ **Less Than Significant Impact** | **No Impact**

Outside of less-than-significant short-term construction impacts, the project has only long-term beneficial effects on human beings, by protecting them from potential contamination of essential groundwater supplies. There are no adverse effects on human beings from the Proposed Project facilities and their operation to remediate a serious groundwater quality problem.

EXHIBIT C

ADDENDUM TO 2005 MITIGATED NEGATIVE DECLARATION

GROUNDWATER CONTAINMENT, TREATMENT AND RESTORATION PROJECT

State Clearinghouse # 2005081053

February 2022

1. BACKGROUND

In 2005, acting as the California Environmental Quality Act (CEQA) lead agency, Castaic Lake Water Agency prepared a Mitigated Negative Declaration (MND) for the Groundwater Containment, Treatment, and Restoration Project (the "Approved Project"). On September 14, 2005, the MND was adopted. The purpose of the Approved Project is to prevent further perchlorate contamination of groundwater basins in the Santa Clarita Valley originating at a historic weapons manufacturing site located east of the South Fork of the Santa Clara River, near the confluence of the South Fork and Mainstem Santa Clara River. The Approved Project intercepts the existing perchlorate plume in groundwater of the Saugus Formation, and pumps the contaminated groundwater from intercepting wells to a new treatment plant, where perchlorate is removed, and the treated water used as part of the drinking water supply.

2. APPROVED PROJECT

The Approved Project evaluated in the 2005 MND was proposed as two elements. The first included facilities for containment and treatment of perchlorate-contaminated groundwater. The second element was comprised of service restoration facilities designed to replace and relocate existing facilities that needed to be closed or modified. The overall Approved Project facilities included: modification of existing production wells; construction and operation of new monitoring and production wells; modification of existing pipelines and construction of new pipelines; construction of a new modular perchlorate water treatment plant; and closing of existing production wells. As described in the 2005 MND, these various facilities would be located within portions of the City of Santa Clarita and unincorporated Los Angeles County as follows:

1. On the west side of Railroad Avenue (previously known as San Fernando Road) south of Magic Mountain Parkway
2. Parallel to Magic Mountain Parkway from Railroad Avenue (San Fernando Road) to Valencia Boulevard
3. Parallel to Valencia Boulevard/Soledad Canyon Road from Magic Mountain Parkway to the bridge at Bouquet Canyon Road

4. Across the Santa Clara River along Bouquet Canyon Bridge
5. Within the levee/bike trail west of Bouquet Canyon Bridge to The Rio Vista Intake Pump Station
6. Within the trail corridor west of the South Fork of the Santa Clara River
7. Within the bike trail along the south levee of the Santa Clara River from the Valencia Boulevard bridge to McBean Parkway
8. At existing water agency facilities at Furnivall Avenue
9. Parallel to Magic Mountain Parkway from Interstate 5 west to an unpaved road west of Magic Mountain Amusement Park
10. Along the unpaved road west of Magic Mountain Amusement Park

Construction has already taken place at locations 1 through 8 above. Santa Clarita Valley Water Agency (SCV Water) (which formed as a consolidation of three different water agencies, including Castaic Lake Water Agency) is contemplating modifications to the Approved Project (referred to hereafter as the "Modified Project").

3. MODIFICATIONS TO THE PROJECT

The Modified Project includes: 1) refinements to a subset of the components included in the Approved Project; and 2) minor additional facilities identified after approval of the project and not previously evaluated in the 2005 MND. All components of the Modified Project would be located within unincorporated Los Angeles County. Modified Project components are described in detail below and shown in Figure 1.

3.1 Refinements to Components in Approved Project

The new well field and chloramination facility west of Six Flags Magic Mountain and described in the 2005 MND would include the following components, which were generally evaluated in the 2005 MND and are shown in Figures 5 and 6 of the 2005 MND:

- Equip Saugus Wells #3 & #4 with permanent well equipment,
- Construct a new chloramination facility,
- Construct pipelines connecting the new wells and chloramination facility, and
- Connect the chlorination facility to existing transmission and distribution pipelines.

Since preparation of the 2005 MND, design of this facilities has been further refined. Although specific design details (e.g., pipe sizes) may have changed somewhat since the 2005 MND, these facilities would be sited in the same locations, utilize the same construction techniques and staging locations, and generally include the same components as those evaluated in the 2005 MND. Further facility details are listed below, and shown on Figure 1.

- New permanent well equipment at Saugus Wells #3 and #4 (each of which has a footprint of approximately 3,680 square feet), including a 16-inch discharge line from each well to

the chloramination facility (approximately 300 linear feet from Well #3 and approximately 550 linear feet from Well #4, totaling 850 linear feet of discharge line).

- Chloramination facility, including:
    - A new chemical building, measuring approximately 45 feet by 32 feet (total footprint 1,440 square feet) with a height of approximately 21 feet
    - Concrete pad for a potential future treatment facility, if needed (approximately 29,000 square feet)
    - Electrical service and SCADA improvements
    - Site improvements (fence/wall enclosure, site grading, site pavement, site drainage, chemical building, concrete pads)
- 1,060 linear feet of 30-inch pipeline to connect the chloramination facility to the existing 30-inch transmission cement-mortar lined and coated (CML&C) pipeline in North Commerce Center Drive
- A turnout from the new transmission line connection (named V-10 turnout), and 1,060 linear feet of 20-inch pipeline from the turnout to the existing 20-inch distribution pipeline in North Commerce Center Drive

Numerous components of the Approved Project are not included in the Modified Project, including the perchlorate containment facilities and additional pipelines along bikeways, levees, and four river crossings.

3.2 Additional Project Modifications

Since approval of the 2005 MND, additional project modifications were deemed necessary and would require construction of the following facilities not previously evaluated in the 2005 MND:

- Two parallel 24-inch pipelines between the chloramination facility and existing Well V207 (each approximately 3,250 linear feet, totaling 6,500 linear feet) located in the existing dirt road along the west side of Six Flags Magic Mountain
- A 16-inch well pump-to-waste line from Saugus Wells #3 and #4 to the existing concrete channel near Well V207, totaling approximately 3,600 linear feet, also located in the existing dirt road along the west side of Six Flags Magic Mountain
- Connection from well pump-to-waste line to existing concrete drainage channel (near Well V207), to allow discharge from Saugus Wells #3 and #4 and Well V207. Discharges would consist of test water upon completion of well construction and equipping, and occasional discharges during the course of normal operation and maintenance and after periods of inactivity.

These facilities are shown in Figure 1.

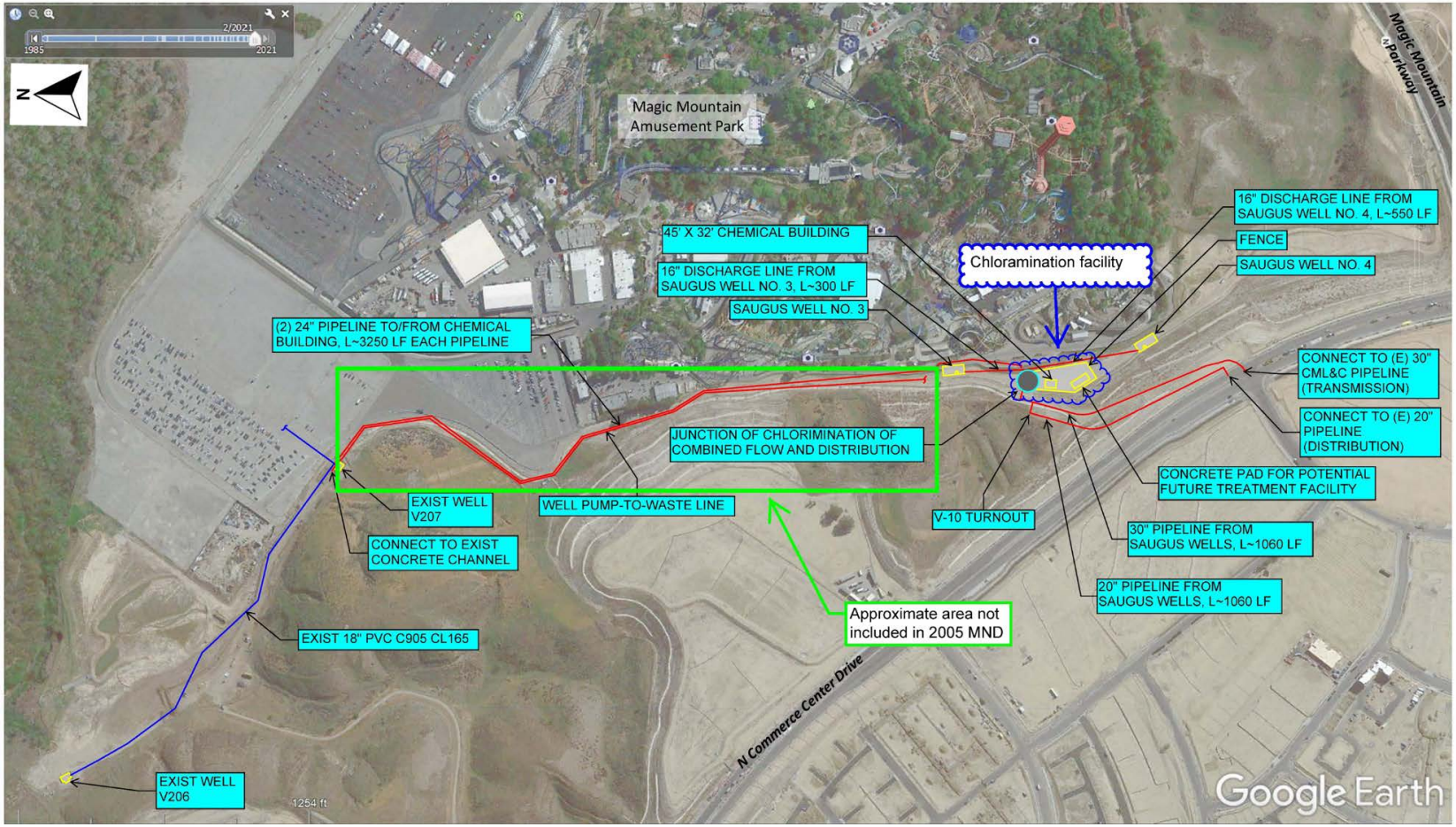

Figure 1: Modified Project Components

4. PURPOSE OF ADDENDUM

This Addendum addresses potential environmental effects of the construction and operation of the Modified Project as shown in Figure 1 and described in Section 3. The MND and Addendum, together with the other documents incorporated by reference herein, serve as the environmental review of the Groundwater Containment, Treatment and Restoration Project (Modified Project), as required pursuant to the provisions of CEQA, the CEQA Guidelines, 14 California Code of Regulations (CCR) Section 15164 et seq. The environmental analysis in this Addendum and all feasible mitigation measures identified in the MND would be incorporated into the resolutions approving the Modified Project.

5. BASIS OF ADDENDUM

Section 15164(b) of the CEQA Guidelines states: "An addendum to an adopted negative declaration may be prepared if only minor technical changes or additions are necessary or none of the conditions described in Section 15162 calling for the preparation of a subsequent EIR or negative declaration have occurred." Pursuant to Section 15162 of the CEQA Guidelines, no subsequent EIR or negative declaration may be required for the project unless the lead agency determines, on the basis of substantial evidence, that one or more of the following conditions are met:

A. When an EIR has been certified or a negative declaration adopted for a project, no subsequent EIR shall be prepared for that project unless the lead agency determines, on the basis of substantial evidence in the light of the whole record, one or more of the following:

   (1) Substantial changes are proposed in the project which would require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;

   (2) Substantial changes occur with respect to the circumstances under which the project is undertaken which would require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or

   (3) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the negative declaration was adopted, shows any of the following:

      The project would have one or more significant effects not discussed in the previous EIR or negative declaration;

      Significant effects previously examined would be substantially more severe than shown in the previous EIR;

Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or

Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

B. If changes to a project or its circumstances occur or new information becomes available after adoption of a negative declaration, the lead agency shall prepare a subsequent EIR if required under subdivision a). Otherwise, the lead agency shall determine whether to prepare a subsequent negative declaration, an addendum, or no further documentation.

C. Once a project has been approved, the lead agency's role in project approval is completed, unless further discretionary approval on that project is required. Information appearing after an approval does not require reopening of that approval. If after the project is approved, any of the conditions described in subdivision a) occurs, a subsequent EIR or negative declaration shall only be prepared by the public agency which grants the next discretionary approval for the project, if any. In this situation no other responsible agency shall grant an approval for the project until the subsequent EIR has been certified or subsequent negative declaration adopted.

SCV Water, as the Lead Agency for the Groundwater Containment, Treatment and Restoration Project, has assessed the proposed project modifications in light of the requirements defined under Section 15162 of the CEQA Guidelines. As discussed in this Addendum, none of the conditions requiring preparation of a subsequent negative declaration under Section 15162 of the CEQA Guidelines are satisfied.

6. IMPACT EVALUATION

Table 1 describes the impacts of the Modified Project as compared to the Approved Project for each environmental resource topic discussed in the 2005 MND. Applicable mitigation measures from the 2005 MND are identified in the table. This analysis focuses on the components of the Modified Project that were not previously evaluated in the 2005 MND (i.e., the pipelines between Well V207 and the chloramination facility, and connection from Well V207 to the existing concrete drainage channel), because the other Modified Project components (i.e., equipping Saugus Wells #3 & #4, construction a new chloramination facility, constructing pipelines connecting the new wells and chloramination facility, and connecting the chlorination facility to existing transmission and distribution pipelines) are refinements and have not changed substantially from the Approved Project. Thus, environmental impacts of the refined components discussed in the 2005 MND would remain unchanged and are not specifically addressed in Table 1.

Table 1: Summary of Modified Project Impacts

Resource Topic	Impact Conclusion from 2005 MND	Description of Changes and Applicable Mitigation Measures (if any)	Impact of Modified Project
Aesthetics	Less Than Significant with Mitigation	The above ground components of the Modified Project (i.e., chloramination facility and well facilities) do not differ from those evaluated in the 2005 MND. The additional components of the Modified Project include buried pipelines and a connection from Well V207 to the existing concrete drainage channel, which would not result in permanent alteration of views or lighting in the area. The 2005 MND identified a mitigation measure for aesthetics, however, it applies only to the water treatment plant in the Approved Project. This measure would not apply to the Modified Project. There would be no new or substantial increase in the severity of aesthetic impacts as compared to the impacts described in the 2005 MND and no additional mitigation would be required	No new or increased impact
Agricultural Resources	Less Than Significant	The additional components of the Modified Project would be located in an existing dirt road and would not impact agricultural or forest resources or related zoning. Thus, there would be no new or substantial increase in the severity of agricultural resource impacts as compared to the impacts described in the 2005 MND, and no mitigation would be required.	No new or increased impact
Air Quality	Less Than Significant with Mitigation	The additional components of the Modified Project would consist of two parallel 24-inch pipelines between Well V207 and the chloramination facility, a 16-inch well pump-to-waste line from Saugus Wells #3 and #4 to Well V207, and a connection from Well V207 to the adjacent concrete drainage channel. The pipelines would all be located in the existing dirt road between Well V207 and the chloramination facility; this stretch of road is approximately 3,250 feet. These components of the Modified Project (buried pipelines and drainage channel connection) would create criteria air pollutant emissions during construction through use of construction	No new or increased impact

		equipment, soils and materials transport, and worker vehicle trips. Operation of the pipeline facilities would not consume electricity or fuel. The Approved Project included approximately 22,000 linear feet of new pipelines (as summarized in Table 5 of the 2005 MND). Pipeline construction methods, equipment use, and rate of construction for the Modified Project are not expected to vary materially from those evaluated in the 2005 MND. Given the overall length of pipeline in the Approved Project, construction of pipelines in an additional 3,250-foot segment of dirt road is not expected to create a new significant impact in terms of air pollutant emissions. As discussed in the 2005 MND, pipeline construction would proceed in segments of approximately 300 feet at a time, and applicable South Coast Air Quality Management District (SCAQMD) rules (e.g., construction best management practices for fugitive dust) would be implemented. Construction emissions from the additional Modified Project facilities would be insignificant in comparison to the Approved Project as a whole. Thus, the Modified Project would not be expected to violate air quality standards or conflict with applicable air quality management plans. The additional components of the Approved Project would not include facilities with the potential to create objectionable odors. Section II(G) of the 2005 MND identifies a mitigation measure to ensure compliance with SCAQMD Rule 403 (for fugitive dust control). Compliance with this rule, and other applicable SCAQMD rules, is a statutory requirement. Thus, this measure would be implemented during construction of the Modified Project. There would be no new or substantial increase of the severity of air quality impacts as compared to impacts described in the 2005 MND, and no new mitigation measures would be required.	
Biological Resources	Less Than Significant	The additional components of the Modified Project would be constructed in a graded dirt road and would not disturb habitat. The pipeline area is not located within a habitat conservation plan area or a Los Angeles County Significant	No new or increased impact

	with Mitigation	Ecological Area (California Department of Fish and Wildlife, 2022; Los Angeles County, 2022). Construction methods for the additional components and associated indirect impacts (such as noise) would not differ from those evaluated in the 2005 MND. Because the footprint of the Modified Project is limited to a previously disturbed and graded area, construction in this area would not create a new significant impact. The 2005 MND identified a mitigation measure to prevent adverse impacts associated with incidental wildlife use of the construction areas, which requires steps such as construction crew training (described in Section II (G) of the 2005 MND). This measure would be implemented during construction of the Modified Project. There would be no new or substantial increase of the severity of impacts on biological resources as compared to impacts described in the 2005 MND, and no new mitigation measures would be required.	
Cultural Resources	Less Than Significant with Mitigation	The additional components of the Modified Project would be located in a previously graded dirt road west of Six Flags Magic Mountain. Although work in this portion of the road was not explicitly evaluated in the 2005 MND, the discussion notes that elements of the Approved Project west of Interstate 5 (which would include the Modified Project) would be located within roadbeds that have already been graded to depths below which prehistoric cultural resources are not likely to be found. Thus, it is not anticipated that the Modified Project would create a new potential to encounter buried cultural resources. The 2005 MND identified a cultural resources management mitigation measure, although it is focused on portions of the Approved Project along the South Fork of the Santa Clara River, and not in the Modified Project area. Thus, this measure would not apply to the Modified Project.	No new or increased impact

		There would be no new or substantial increase of the severity of impacts on cultural resources as compared to impacts described in the 2005 MND, and no new mitigation measures would be required.	
Geology and Soils	Less Than Significant with Mitigation	The additional components of the Modified Project would consist of buried pipelines and a connection from Well V207 to the nearby existing concrete drainage channel. These facilities would be constructed and operated in the same fashion as the pipelines evaluated in the 2005 MND and would not carry additional risks or pose geological hazards that were not evaluated previously (such as crossing a fault zone). The 2005 MND stated that the Approved Project could release perchlorate from the treatment plant during seismic events, but this impact would be mitigated to a less-than-significant level through use of secondary containment vessels. The perchlorate treatment plant is not included in the Modified Project and thus this mitigation measure would not apply. There would be no new or substantial increase of the severity of impacts on geology and soils as compared to impacts described in the 2005 MND, and no new mitigation measures would be required.	No new or increased impact
Hazards and Hazardous Materials	Less Than Significant with Mitigation	The additional buried pipelines and drainage channel connection included in the Modified Project would not require use of hazardous materials during operation, and these facilities would not be located near a school or on a listed hazardous waste site (SWRCB, 2022; DTSC, 2002). The additional components would not create new hazards that were not previously evaluated in the 2005 MND. The 2005 MND included mitigation to reduce the Approved Project's impact on emergency response plans and evacuation plans. Mitigation consists of compliance with City of Santa Clarita and Los Angeles County encroachment permit requirements, which limit the length of open trench at a given time and ensure rapid restoration of road function if needed. The additional buried pipelines and drainage channel connection included in the Modified Project would not be located	No new or increased impact

		in a public road, and thus the potential to impact emergency response or evacuation is less than significant and no mitigation would be required. There would be no new or substantial increase of the severity of impacts related to Hazards and Hazardous Materials as compared to impacts described in the 2005 MND, and no new mitigation measures would be required.	
Hydrology and Groundwater Quality	Less Than Significant with Mitigation	The additional components of the Modified Project would be similar to pipelines evaluated in the 2005 MND. The new connection to the drainage channel would allow test water discharges from the existing Well V207 and the new Saugus Wells #3 and #4, in accordance with NPDES discharge permit to protect water quality, and would not violate water quality standards, create substantial new runoff or significantly alter drainage patterns. Due to the nature of the Modified Project facilities, and with the use of standard best management practices specified in a Stormwater Pollution Prevention Plan (SWPPP) as required by the State Water Resources Control Board's Construction General Permit for storm water discharges, there would be no new impact on hydrology or water quality. Construction of the Modified Project would include the same best management practices identified in Section II(G) of the 2005 MND (such as inspection for leaking equipment, measures to prevent runoff from construction sites, and secondary containment for fueling and chemical storage areas during both construction and operation). These measures would be included in the project construction SWPPP. There would be no new or substantial increase of the severity of impacts on hydrology and water quality as compared to impacts described in the 2005 MND, and no new mitigation measures would be required.	No new or increased impact
Land Use and Planning	Less Than Significant	The additional components of the Modified Project would be below ground and located in an existing dirt road. Therefore, they would not have the potential to divide a community or conflict with zoning or land use plans.	No new or increased impact

		There would be no new or substantial increase of the severity of impacts related to land use as compared to impacts described in the 2005 MND, and no new mitigation measures would be required.	
Mineral Resources	Less Than Significant	The Modified Project would be within the historic Castaic Junction Oil Field (discussed in the 2005 MND). However, the Modified Project facilities would not affect mineral extraction from this field. All components of the Modified Project would be within existing roads, and would not affect regional or local mineral resources or their extraction. There would be no new or substantial increase of the severity of impacts on mineral resources as compared to impacts described in the 2005 MND, and no new mitigation measures would be required.	No new or increased impact
Noise	Less Than Significant with Mitigation	Construction noise impacts from the additional components of the Modified Project would be similar to those evaluated in the 2005 MND, because similar construction activities would occur (e.g., open trench installation of pipeline) and the same types of equipment would be used. The additional components of the Modified Project (pipelines between Well V207 and the chloramination facility, and drainage channel connection) would not be closer to sensitive receptors than the Approved Project facilities. The additional components would not generate operational noise. The noise mitigation measures identified in Section II(G) of the 2005 MND apply to specific portions of the Approved Project that are not included in the Modified Project (i.e., certain portions of the service restoration pipeline adjacent to residential development within the city of Santa Clarita). Thus, no mitigation measures would apply to the Modified Project facilities. There would be no new or substantial increase of the severity of noise impacts as compared to impacts described in the 2005 MND, and no new mitigation measures would be required.	No new or increased impact

Population and Housing	Less Than Significant	The Modified Project would have no direct impact on housing or population and would not interfere with approved residential land uses. Groundwater pumping from the Modified Project would help to restore system capacity to compensate for reduced production from other wells as a result of perchlorate pollution. The Modified Project wells would be operated consistent with applicable planning documents (such as the Urban Water Management Plan and Groundwater Sustainability Plan) and thus would not indirectly affect population or housing. There would be no new or substantial increase of the severity of impacts associated with population and housing as compared to impacts described in the 2005 MND, and no new mitigation measures would be required.	No new or increased impact
Public Services	Less Than Significant	The Modified Project would not require new or physically altered government facilities, and would not adversely impact public services. No mitigation measures are required. There would be no new or substantial increase of the severity of impacts on public services as compared to impacts described in the 2005 MND, and no new mitigation measures would be required.	No new or increased impact
Recreation	Less Than Significant	The Modified Project would be located in existing unpaved roads and would not alter recreation facilities. The Approved Project would require construction within trails; however, the Modified Project does not include construction of these facilities and would not impact any recreational trails. Section II(G) of the 2005 MND identifies best management practices when constructing in bike trails, which would not apply to any components of the Modified Project. There would be no new or substantial increase of the severity of impacts on recreation as compared to impacts described in the 2005 MND, and no new mitigation measures would be required.	No new or increased impact

Transportation and Traffic	Less Than Significant with Mitigation	The additional pipelines of the Modified Project would be constructed in an existing dirt road along the western edge of Six Flags Magic Mountain. The road is not yet developed and is not open to the public, and therefore construction of additional pipelines in the road (between Well V207 and the chloramination facility) would not impact traffic or transportation or emergency access in the local or regional area. The Modified Project also includes connections to the existing transmission and distribution lines in North Commerce Center Drive, which could require work in the road. This portion of the Modified Project was evaluated in the 2005 MND and has not been modified from the Approved Project. The 2005 MND identified a mitigation measure to ensure compliance with applicable City of Santa Clarita and Los Angeles County policies. The Modified Project is located entirely in Los Angeles County, and thus would implement the portion of the mitigation measure ensuring compliance with County of Los Angeles Department of Public Works Encroachment Permits as described in Section II(G) of the 2005 MND. There would be no new or substantial increase of the severity of impacts on transportation and traffic as compared to impacts described in the 2005 MND, and no new mitigation measures would be required.	No new or increased impact
Utilities and Service Systems	Less Than Significant	The Modified Project components not included in the 2005 MND include buried pipelines between Well V207 and the chloramination facility and a connection from Well V207 to an existing drainage channel for discharges of test water from construction and equipping of Saugus Wells #3 and #4, and thereafter for discharges of test water during operation and maintenance of Saugus Wells #3 and #4 and Well V207 and after periods of inactivity. As described throughout this document, these facilities would not have significant environmental effects. No other new utility facilities would be required to support the Modified Project.	No new or increased impact

		There would be no new or substantial increase of the severity of impacts on utilities and service systems as compared to impacts described in the 2005 MND, and no new mitigation measures would be required.	
Cumulative Effects	Less Than Significant	The additional Modified Project components would not create a new significant impact or substantial increase in the severity of impacts for any resource topics as compared to the Approved Project, and thus no new cumulative impacts would occur and no additional mitigation measures would be required.	No new or increased impact
Mandatory Findings of Significance	Less Than Significant	The additional Modified Project components would not have a significant impact on biological or cultural resources. As described above, the Modified Project would not create new cumulative impacts. Lastly, as described in the applicable sections of this table, the Modified Project would not create new impacts on human beings such as air quality, hazards and hazardous materials, noise, or transportation impacts. There would be no new or substantial increase of the severity of environmental impacts on as compared to impacts described in the 2005 MND, and no new mitigation measures would be required.	No new or increased impact

Table 2: Topics New to CEQA Since 2005 MND

Resource Topic	Impact Conclusion from 2005 MND	Description of Changes and Applicable Mitigation Measures (if any)	Impact of Modified Project
Energy	N/A	The additional Modified Project components would require energy resources for construction. Construction would be completed using typical techniques and equipment and would not result in wasteful, inefficient, or unnecessary consumption of energy resources. The Modified Project would not consume more energy for operation than the Approved Project would, thus the additional Modified Project components would not conflict with or obstruct a renewable energy or energy efficiency plan. Thus, there would be no new significant impacts and no new mitigation measures would be required.	No new or increased impact
Greenhouse Gas Emissions	N/A	The additional Modified Project components would create minor greenhouse gas emissions during construction. These would not be expected to increase the emissions substantially from the Approved Project. The additional Modified Project components would not result in new long-term operational greenhouse gas emissions. Therefore, the additional Modified Project components would not result in new significant impacts to the environment or conflict with an applicable plan and no new measures would be required.	No new or increased impact
Tribal Cultural Resources	N/A	As discussed in this table under "Cultural Resources" the additional Modified Project components would be located within graded roadbeds where unknown tribal or cultural resources are not anticipated to occur. Thus, it is not anticipated that the Modified Project would create a new or increased potential impact to tribal cultural resources. Thus, there would be no new significant impacts and no new mitigation measures would be required.	No new or increased impact
Wildfire	N/A	The additional Modified Project components would be located in a Very High Fire Hazard Severity Zone (VHFHSZ) (CalFire, 2020). The Approved Project is also located in a VHFHSZ. The additional Modified Project components would be located in graded dirt roads adjacent to the Approved Project, and would use similar construction techniques and equipment to the Approved Project. Therefore, the Modified Project would not create a new significant impact related to wildfire and no new mitigation measures would be required.	No new or increased impact

7. CONCLUSION

The environmental evaluation in this Addendum has concluded that major revisions of the MND due to new significant environmental effects or a substantial increase in the severity of previously identified significant effects are not required. There are no substantial changes proposed in the Modified Project; no substantial changes in the circumstances under which the Modified Project would be undertaken; and no new information of substantial importance which was unknown or could not have been known at the time the MND was certified. The impacts of the Modified Project are consistent with the impacts of the original Approved Project in the MND. There are no new significant impacts resulting from implementation of the Modified Project, nor are there any substantial increases in the severity of any previously identified environmental impacts, and no new mitigation measures would be required. The environmental analysis in this Addendum and all feasible and applicable mitigation measures identified in the MND would be incorporated into the resolutions approving the Modified Project.

8. REFERENCES

Castaic Lake Water Agency. 2005. Initial Study/Mitigated Negative Declaration (SCH # 2005081053). Groundwater Containment, Treatment, and Restoration Project.

California Department of Fish and Wildlife. 2022. BIOS Interactive Map, Conservation Plan Boundaries, HCP and NCCP. Accessed February 3, 2022. Available online at: https://apps.wildlife.ca.gov/bios/?al=ds760

California Department of Forestry and Fire Protection (CalFire). 2022. VHFHSZ Viewer. Accessed January 25, 2022. Available online at: https://egis.fire.ca.gov/FHSZ/

California State Water Resources Control Board (SWRCB). 2021. Geotracker Database. Accessed January 10, 2021. Available online at: https://geotracker.waterboards.ca.gov/map/?CMD=runreport&myaddress=santa+clarita#

California Department of Toxic Substances Control (DTSC). 2021. EnviroStor Database. Accessed January 10, 2021. Available online at: https://www.envirostor.dtsc.ca.gov/public/map/?myaddress=santa+clarita+ca

Los Angeles, County of. 2022. GIS-NET Public, Planning & Zoning Information for Unincorporated Los Angeles County. Accessed February 3, 2022. Available online at: http://rpgis.isd.lacounty.gov/Html5Viewer/index.html?viewer=GISNET_Public.GIS-NET_Public

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April 5, 2022

Saugus #3 & #4 Wells Construction (Replacement Wells) Project

Board Meeting

Saugus #3 & #4 Wells Construction (Replacement Wells)
-- Location --

Saugus #3 & #4 Wells Construction (Replacement Wells)
-- Project Description --

- This project will consist of constructing two wells with a capacity of 2,000 gallons per minute to drilled depths ranging between 2,000 and 3,000 feet below ground surface.

Saugus #3 & #4 Wells Construction (Replacement Wells)
-- Completed Activities --

- Well sites identified
- Initial design completed and specifications prepared.
- Project re-bid.
- January 26, 2022: One (1) Construction Bid received
- Recommend Zim Industries, Inc. for well construction contract award.

Bidder	Total Base Bid Price
Zim Industries, Inc. (Fresno, CA)	**$12,751,494**

* Engineer's Estimate: $10,223,336

Replacement (Saugus 3 and 4) Wells Construction Project
-- Project Schedule --

- March 3, 2022: Engineering & Operations Committee (construction funding)
- April 5, 2022: Board Meeting (construction funding)
- May 16, 2022 – June 20, 2023: Construction Period (400 calendar days)

Replacement (Saugus 3 and 4) Wells Construction Project
-- Recommendations --

The Engineering and Operations Committee recommends that the Board of Directors:

1. Approve a resolution awarding funding for an amount not to exceed $12,751,494 for construction costs to Zim Industries, Inc.; and
2. Authorize the General Manager to issue a purchase order to Richard C. Slade, LLC for an amount not to exceed $343,000 for engineering services during construction; and
3. Authorize the General Manager to issue a purchase order to Black & Veatch for an amount not to exceed $914,000 for construction management services.

ITEM NO.
6.2

BOARD MEMORANDUM

DATE: March 10, 2022

TO: Board of Directors

FROM: Dirk Marks
Director of Water Resources

SUBJECT: Adopt a Resolution Approving the SB 610 Water Supply Assessment for the Castaic Mountainview Apartment Project

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SUMMARY

The County of Los Angeles, Department of Regional Planning, acting as lead agency in the preparation of an Environmental Impact Report (EIR) for the Castaic Mountainview Apartments (County Project No. R2014-01512-(5)), has requested that the Santa Clarita Valley Water Agency (SCVWA) provide an SB 610 Water Supply Assessment (WSA) for the project. For Board consideration, staff prepared a Draft WSA for the project that concludes, consistent with the 2020 Urban Water Management Plan (UWMP), current and future water supplies are sufficient to meet demands for the project.

BACKGROUND AND DISCUSSION

SB 610 requires that a Water Supply Assessment (WSA) be prepared for all development projects of 500 or more dwelling units, or that have a commercial footprint of more than 500,000 square feet. It also requires that the "entity serving domestic water supplies whose service area includes the project site" shall prepare the WSA and that "the governing body of each public water system…shall approve the assessment…at a regular or special meeting." The most recently adopted UWMP, along with other planning and analysis documents, should serve as the basis of the WSA. SB 610 also requires that "If, as a result of its assessment, the public water system concludes that its water supplies are, or will be, insufficient, the public water system shall provide to the City or County its plans for acquiring additional water supplies, setting forth the measures that are being undertaken to acquire and develop those water supplies. When exercising its statutory powers, a district's governing board of necessity has considerable discretion to decide what is in the best interest of the population it serves.

SCVWA staff contracted with Kennedy Jenks to prepare the attached Draft WSA for the Castaic Mountainview Apartment Project. The Draft WSA is included as Exhibit 1 to the attached resolution. The WSA is largely based on the 2020 UWMP with some noted updates to reflect the (1) revised timing for recovery of capacity from certain wells from perchlorate and PFAS contamination and (2) reduced near term average SWP reliability from 58% to 56% as indicated in the recently released SWP Delivery Capability Report. Additionally, the Draft WSA also contains a more in-depth discussion on how climate change and other uncertainties are addressed. Overall, the Draft WSA evaluated the long-term water needs (water demand) within the SCVWA service area and has compared these needs against existing and future water supplies. Demand projections are based on applicable population projections and County and

City land use plans, and account for conservation as well as climate change impacts and other relevant factors. Results indicate that the total projected water supplies available to the SCVWA service area through 2050 during normal, single-dry, and multiple-dry year (5-year drought) periods are sufficient to meet the total projected water demands throughout the Valley including that of the proposed Castaic Mountainview Apartments Project demand (between 260 & 276 acre-feet per year); provided that SCVWA continues to utilize available SWP Table A Amounts, and will continue to incorporate conjunctive use (coordinated use of surface water and groundwater), water conservation, water transfers, recycled water, and water banking as part of the total water supply portfolio and management approach to long-term water supply planning and strategy.

The Draft WSA concludes adequate water availability to serve the project is based on a review of numerous water supply planning documents, including the 2020 Urban Water Management Plan, the 2019 California Department of Water Resources Draft State Water Project Delivery Reliability Report and the 2021 SCV Reliability Plan Update. All these sources were used to determine current and future supply and were compared with the anticipated water demand including those for the proposed project.

On March 9, 2022, the Water Resources and Watershed Committee considered staff's recommendation to adopt a resolution approving the SB 610 Water Supply Assessment for the Castaic Mountainview Apartment Project.

FINANCIAL CONSIDERATIONS

None.

RECOMMENDATIONS

The Water Resources and Watershed Committee recommends that the Board of Directors adopt the attached resolution approving the Water Supply Assessment for the Castaic Mountainview Apartment Project and direct staff to forward the WSA to the County of Los Angeles Department of Regional Planning.

RGV

Attachment

M65

RESOLUTION NO. _____

RESOLUTION OF THE BOARD OF DIRECTORS OF THE SANTA CLARITA VALLEY WATER AGENCY ADOPTING THE SB 610 WATER SUPPLY ASSESSMENT FOR CASTAIC MOUNTAINVIEW APARTMENT PROJECT (COUNTY PROJECT NO. R2014-01512-(5))

WHEREAS, the Santa Clarita Valley Water Agency (SCVWA) provides retail water service to portions of the City of Santa Clarita and to unincorporated portions of Los Angeles County in the Santa Clarita Valley; and

WHEREAS, the SCVWA is a "public water system" as defined by California Government Code section 66473.7(a)(3) and California Water Code section 10912 and may receive requests from time to time to prepare a Water Supply Assessment pursuant to Water Code section 10910 et seq. (commonly referred to as SB 610) and/or a Water Supply Verification pursuant to Government Code section 66473.7 (commonly referred to as SB 221); and

WHEREAS, the SCVWA received a request from the Department of Regional Planning of the County of Los Angeles for SCVWA to prepare a Water Supply Assessment for the County's "Project No. R2014-10512-(5) for Conditional Use Permit No. 201400061", otherwise referred to as the Castaic Mountainview Apartments (the Project), where the County is the lead agency for the Project under the California Environmental Quality Act (CEQA) and the County is responsible for all land use decisions related to the Project; and

WHEREAS, the Project is within SCVWA's service area, and therefore SCVWA is the public water system to provide water service to the Project; and

WHEREAS, pursuant to the County's request for SCVWA to prepare a Water Supply Assessment for the Project, SCVWA has prepared a Water Supply Assessment for the Project in accordance with the requirements of Water Code section 10910 et seq.

NOW THEREFORE, BE IT RESOLVED that, the Board of Directors of SCVWA, as the governing body of the Santa Clarita Valley Water Agency, (1) has determined that all of the foregoing Recitals are true and correct and are incorporated herein and made an operative part of this Resolution; (2) has reviewed the Water Supply Assessment for the Project; (3) has determined, exercising its independent judgment, that a "sufficient water supply" is available for the Project based on the requirements of Water Code section 10910 et seq., the information and analyses contained in the Water Supply Assessment, the documentation contained in the administrative record in support of the Water Supply Assessment, and other relevant records on file with SCVWA; and (4) hereby approves the Water Supply Assessment for the Project, a copy of which is attached hereto as Exhibit 1 and incorporated herein by reference.

RESOLVED FURTHER that, the Agency's General Manager or his designee is authorized and directed to forward a copy of the approved Water Supply Assessment to the County of Los Angeles in response to the County's request, and to take any and all actions necessary in furtherance of the matters authorized or contemplated by the foregoing Resolution.

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EXHIBIT 1

Kennedy/Jenks Consultants

2775 N Ventura Rd, Suite 202
Oxnard, CA 93036
805-973-5700

Water Supply Assessment

Castaic Mountainview Apartments

March 17, 2022

Prepared for

Santa Clarita Valley
Water Agency
27234 Bouquet Canyon Road
Santa Clarita, CA 91350

K/J Project No. 2144219

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List of Acronyms

AF	Acre-Feet
AFY	Acre-Feet Per Year
AIP	Agreement in Principle
AVEK	Antelope Valley East-Kern Water Agency

Bay-Delta	San Francisco Bay/Sacramento-San Joaquin Delta Estuary
BO	Biological Opinion
BVWSD	Buena Vista Water Storage District
Cal OES	California Office of Emergency Services
CASGEM	California Statewide Groundwater Elevation Monitoring
CCR	California Code of Regulations
CCWA	Central Coast Water Authority
CEC	California Energy Commission
CESA	California Endangered Species Act
CEQA	California Environmental Quality Act
CEPA	California Environmental Protection Agency
CDFW	California Department of Fish and Wildlife
cfs	Cubic Feet Per Second
CII	Commercial, Industrial, Institutional
CLWA	Castaic Lake Water Agency
CNRA	California National Resources Agency
COA	Coordinated Operation Agreement
CORPS	Corps of Engineers
CVP	Central Valley Project
BPD	Disinfection By-Products
DCP	Delta Conveyance Project
DCP	Delivery Capability Report
DDW	Division of Drinking Water
DFW	Department of Fish and Wildlife
DLR	Detection Level for Reporting
DPH	California Department of Public Health
DPR	Direct Potable Reuse
DSS	Decision Support System
DTSC	Department of Toxic Substances Control
DWR	Department of Water Resources
FBR	Fluidized Bed Reactor
FWS	Fish and Wildlife Service
GSA	Groundwater Sustainability Agency
GSP	Groundwater Sustainability Plan
GWMP	Groundwater Management Plan

HET	High Efficiency Toilets
HEU	High Efficiency Urinals
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
ESA	Endangered Species Act
FBR	fluidized bed reactor
GIS	Geographic Information System
HAA5	Haloacetic Acids
KCWA	Kern County Water Agency
IRWMP	Integrated Regional Water Management Plan
LACWWD 36	Los Angeles County Water Works District 36
LARWQCB	Los Angeles Regional Water Quality Control Board
MAF	Million Acre-Feet
MGD	Million Gallons per Day
MGL	Micrograms per Liter
MOU	Memorandum of Understanding
NCWD	Newhall County Water District
NEPA	National Environmental Policy Act
Ng/L	nanograms per liter
NL	Notification Level
NLF	Newhall Land and Farming
NMFS	National Marine Fisheries Service
NPDES	National Pollutant Discharge Elimination System
NOP	Notice of Preparation
NWD	Newhall Water Division
OAL	Office of Administrative Law
OVOV	One Valley One Vision
PFAS	Per- and Polyfluoroalkyl Substances
PFOA	Perfluorooctonic acid
PFOS	Perflurooctane sulfonate
PWAs	Public Water Agencies
RL	Response Level
RRBWSD	Rosedale Rio-Bravo Water Storage District
RWMP	Recycled Water Management Plan
SATP	Saugus Aquifer Treatment Plant

SB	Senate Bill
SCWD	Santa Clarity Water Division
SCVSD	Santa Clarita Valley Sanitation District
SCV Water	Santa Clarita Valley Water Agency
Semitropic	Semitropic Water Storage District
SGMA	Sustainable Groundwater Management Act
SLDMWA	San Luis & Delta Mendota Water Authority
SNMP	Salt and Nutrient Management Plan
SOC	Synthetic organic compounds
SWRCB	State Water Resources Control Board
SWP	State Water Project
SWRU	Stored Water Recovery Unit
THMS	Trihalomethanes
TTHMs	Total Trihalomethanes
TMDL	Total Maximum Daily Load
TOC	Total Organic Carbon
USCR	Upper Santa Clara River
VOC	Volatile Organic Compound
WMT	Water Management Tools
WQOs	Water Quality Objectives
WSA	Water Supply Assessment
WUESP	Water Use Efficiency Strategic Plan
ug/L	micrograms per liter
UIF	Unimpaired Flow
UWCD	United Water Conservation District
USEPA	United State Environmental Protection Agency
USBR	United States Bureau of Reclamation
UWMP	Urban Water Management Plan
UV	Ultra-Violet
WKWD	West Kern Water District
WQR	Water Quality Report
WRP	Water Reclamation Plant
VWC	Valencia Water Company
VWD	Valencia Water Division

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Section 1: Introduction

1.1 Background

This Water Supply Assessment (WSA) has been prepared by the Santa Clarita Valley Water Agency (SCV Water) for the Castaic Mountainview Apartments (Project), a residential community with commercial space located in the unincorporated community of Castaic, in the Santa Clarita Valley in Los Angeles County, California. The WSA is prepared pursuant to the requirements of California Water Code Sections 10910, et seq., commonly known as Senate Bill 610 (SB 610; Costa; Chap. 643, Stats. 2001) and has been further amended from time to time.

SB 610 amended state law, effective January 1, 2002, to improve the link between information on water supply availability and certain land use decisions made by cities and counties. SB 610 requires that the water purveyor of a public water system prepare a water supply assessment to be included in the environmental documentation of certain proposed projects.

Once a city or county determines that a project, as defined by California Water Code section 10912, is subject to the California Environmental Quality Act, Public Resources Code section 21000, et seq. (CEQA), SB 610 requires the city or county to identify a public water system that may supply water for the project, and request that the public water system prepare a water supply assessment.[1]

A "public water system" is defined by the Water Code to mean "a system for the provision of piped water to the public for human consumption that has 3,000 or more service connections." SCV Water serves piped water to the public (i.e., residents of the Santa Clarita Valley) within its current service area, and the area includes about 73,542 service connections in the City of Santa Clarita and in the unincorporated Los Angeles County communities. As a result, SCV Water is the "public water system" for the purposes of this WSA.

As noted above, a WSA is required for any "project" as defined by Water Code Section 10912 that is subject to CEQA. In this case, the Project proposes, among other things, a residential development of more than 500 dwelling units, and therefore a WSA is required.[2] SCV Water is the retail purveyor for the Project site, and thus SCV Water is required to prepare a WSA for the Project, pursuant to a request by CEQA lead agency the County of Los Angeles.[3]

1.2 Purpose

The general purpose of a WSA is to evaluate the following question:

> *Whether the public water system's total projected water supplies available during normal, single-dry, and multiple-dry water years during a 20-year projection will meet the*

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1 California Water Code §§ 10910(b), 10910(c)(1).

2 Water Code § 10912(a)(1). This section also includes other types of development that are defined as a "project" by this section of the code.

3 Water Code § 10910(b).

projected water demand of the Project, in addition to the public water system's existing and planned future uses, including agricultural and manufacturing uses.[4]

If, as a result of its WSA, the public water system concludes that its water supplies are or will be insufficient, the public water system must provide to the applicable land use authority its plans for acquiring additional water supplies, setting forth the measures being undertaken to acquire and develop those supplies.[5] The WSA must include, among other information, an identification of any existing water supply entitlements, water rights, or water service contracts relevant to the identified water supply for the project, and water received in prior years by the public water system pursuant to those entitlements, rights, or contracts.[6]

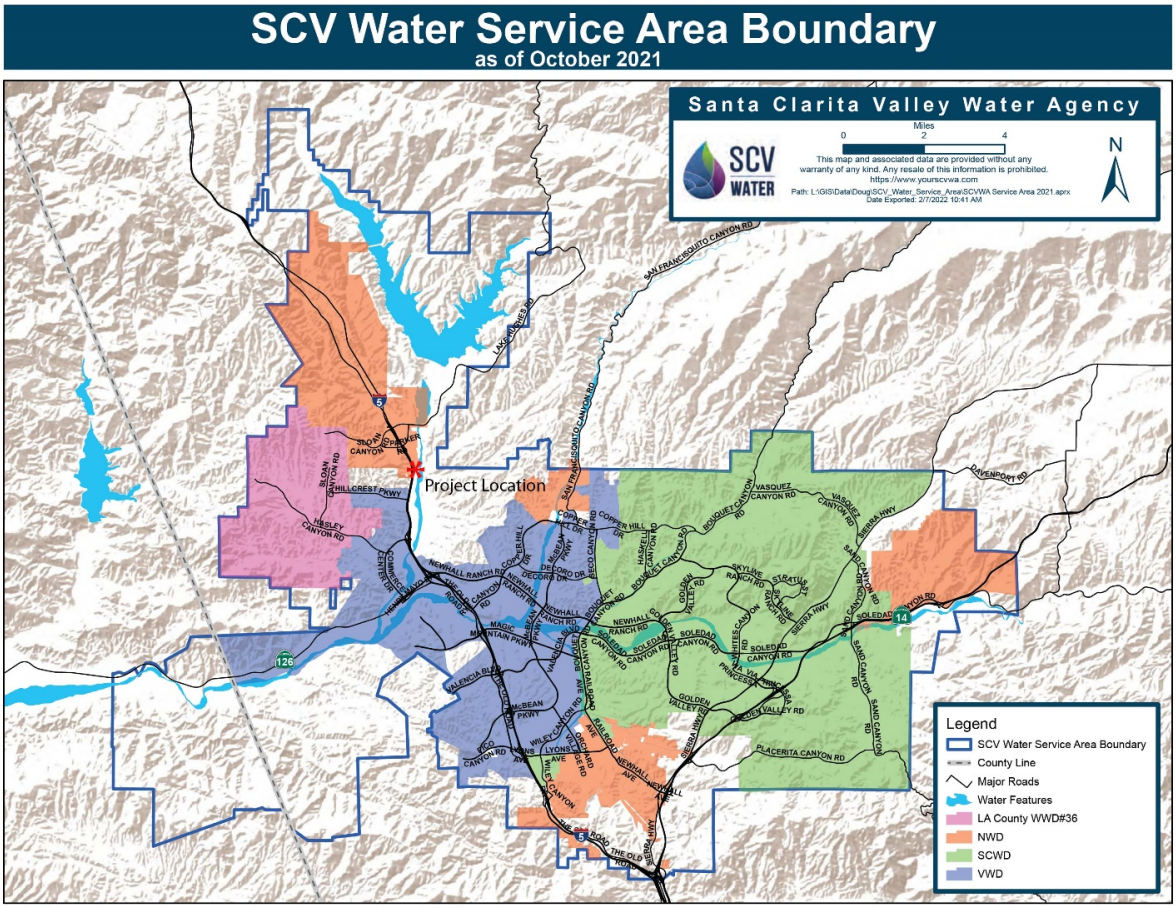
The WSA is required to be included in any environmental document prepared for the project pursuant to CEQA.[7] In this case, the County of Los Angeles is the lead agency under CEQA, and it has determined that an Environmental Impact Report (EIR) is required for the Project; thus, this WSA will be included as part of the Castaic Mountainview Apartments Draft EIR. This WSA evaluates water supplies that are or will be available during normal, single-dry, and multiple-dry water years during a 30-year projection to meet existing demands, expected demands of the Project, and reasonably foreseeable planned future water demands served by SCV Water.

1.3 Project Description

The Castaic Mountainview Apartments Project (County Project No. R2014-01512) is located on the west side of The Old Road at Romeo Canyon Road, in Castaic, California. The Project is located within SCV Water's service area as shown in Figure 1-1. The Project is located on 106 acres of residential and light industrial land uses. The Project consists of up to 648 residential units, including 354 one-bedroom units, 234 two-bedroom units, and 60 three-bedroom units in 24 individual apartment buildings. The Project also consists of 8 acres of light industrial that can accommodate 351,000 square feet of building area for future industrial/commercial space. The total estimated water demand for the Project at build-out is approximately 260 AFY in an average/normal year. The Project Site Plan is shown in Appendix A.

4 Water Code § 10910(c).
5 Water Code § 10911(a).
6 Water Code § 10910(d).
7 Water Code § 10911(b).

Figure 1-1 Project Location Map



1.4 Santa Clarita Valley Water Agency

SCV Water is located in the northwestern portion of Los Angeles County. SCV Water is the regional water wholesaler and retailer for the Santa Clarita Valley. The Project site is located within SCV Water's service area and therefore, SCV Water is the water supplier for the Project.

SCV Water's service area includes nearly the entire city of Santa Clarita and unincorporated portions of Los Angeles County. SCV Water's current service area includes a mix of residential and commercial, and light industrial land uses, mostly comprised of single-family homes, apartments, condominiums, and several local shopping centers and neighborhood commercial developments. SCV Water serves approximately 73,542 service connections. SCV Water generally meets potable water demands using a mix of local groundwater, banked groundwater supplies, imported State Water Project (SWP) water and other imported supplies. Recycled water is delivered to some customers for non-potable uses, such as landscape irrigation.

The groundwater basin in the Santa Clarita Valley is un-adjudicated, meaning that SCV Water does not have specific adjudicated, or defined, water rights or specific limitations that dictate its water supply. However, in practice, SCV Water assesses available groundwater supplies pursuant to appropriative groundwater rights in the basin and in accordance with a groundwater operating plan developed by SCV Water and other retail water purveyors in the Santa Clarita Valley and complemented by analyses based on a numerical groundwater flow model of the basin. SCV Water is also a member of the Santa Clarita Valley Groundwater Sustainability Agency (SCV-GSA) for the Santa Clara River East Subbasin. In preparing the basin's Groundwater Sustainability Plan (GSP), it conducted additional numeric modeling that further refined the groundwater operating plan for the basin as further discussed in Section 3.3.2.1.

1.4.1 Water Management Within SCV Water

SCV Water was formed on January 1, 2018, when the Castaic Lake Water Agency (CLWA), which included Santa Clarita Water Division (SCWD) and Newhall County Water District (NCWD), merged to become a single agency pursuant to state legislation (SB 634, Chapter 833 2017). Later in January 2018, Valencia Water Company (VWC) was dissolved, and its assets were transferred to SCV Water. The SCV Water service area is shown on Figure 1-1. The formation of SCV Water occurred through a collaborative process. Until the merger, CLWA served as the regional wholesaler to the Santa Clarita Valley, encompassing a service area of 195 square miles in Los Angeles and Ventura Counties. SCV Water now serves the same service area and is made up of three water divisions with separate but interconnected distribution systems: NWD, SCWD, and VWD. Those divisions cover nearly the entire City of Santa Clarita and unincorporated portions of Los Angeles County. In addition, SCV Water serves as a wholesale water provider to LACWWD 36 whose service area includes the Hasley Canyon and the Val Verde communities in the Los Angeles County unincorporated area. LACWWD 36, which is in the SCV Water service area, relies primarily on its own groundwater. SCV Water provides imported water as a supplemental supply.

1.5 2020 Urban Water Management Plan

Pursuant to SB 610 requirements, if the projected water demand associated with the proposed project was accounted for in the most recently adopted Urban Water Management Plan (UWMP),[8] then relevant information from that document may be incorporated into the WSA. The 2020 UWMP was adopted by the SCV Water Board of Directors in June 2021 and filed with DWR.[9] It is noted that since the 2020 UWMP was submitted to DWR in 2021, additional information has become available which staff incorporated into this WSA. These updates primarily reflect revised SWP reliability data, that became available from the December 31, 2021 Draft SWP Delivery Capability Report (DCR) (see Section 3.2.7 SWP Water Supply Estimate).as well as updated planning, construction and permitting schedule for several groundwater well recovery projects (see Section 3.3.2.3 Available Groundwater Supplies) The 2020 UWMP information was therefore updated to provide the SCV Water Board with the most current information when it considers adoption of this WSA.
The 2020 UWMP is a planning document covering the SCV Water service area. The 2020 UWMP encouraged extensive public participation that included information dissemination; public

[8] California Urban Water Management Planning Act (UWMP Act), Water Code § 10610, et seq.
[9] The 2020 UWMP, Section 1.

workshops, meetings, and hearings; plan adoption; and plan submittal to DWR. The 2020 UWMP includes the following ten major sections:

Section 1: Introduction
Section 2: Water Use
Section 3: SBX7-7 Baseline, Targets, and 2020 Compliance
Section 4: Water Resources
Section 5: Recycled Water
Section 6: Water Quality
Section 7: Reliability Planning
Section 8: Demand Management Measures
Section 9: Catastrophic Interruptions in Water Service
Section 10: References

Consistent with the UWMP Act, the 2020 UWMP accomplishes water supply planning over the required 20-year period in five-year increments. While not required, SCV Water exceeded the requirements of the UWMP Act by including a span of 30 years in the 2020 UWMP, extending out to 2050. The 2020 UWMP identifies and quantifies adequate water supplies for existing and future demands, in normal/average, single-dry, and multiple-dry years, and describes implementation of conservation and efficient use of urban water supplies.

The Project's total projected water demand was accounted for in the 2020 UWMP because the timing of the Project places it within the time frame for calculating "planned future uses" within the 2020 UWMP. Also, in order to estimate demand out to 2050 (assumed year of designated land use-buildout), population and water use projections were made based upon existing land uses and planned land use development compiled for the service area, including the City of Santa Clarita and County of Los Angeles land use plans, also known as the One Valley One Vision general plan (OVOV). The Project is located in the unincorporated area of the County covered by the OVOV. It is SCV Water's understanding that this development is contained in and consistent with the OVOV plan. As the UWMP is based on the housing and commercial development projected in the OVOV plan, the project's water demand has already been incorporated into the existing UWMP demand projections. This information is incorporated by reference in this WSA and can be found on SCV Water's website at https://yourscvwater.com/uwmp/. Demands for the Project are included in Section 2.3 of this WSA.

1.6 SCV Water Policies and Regulatory Approvals/Permits

SCV Water Policies. The Project will be subject to all SCV Water policies that govern development and connection to the SCV Water public water system. As with other projects within its service area, the Project applicant is responsible for making appropriate financial and contractual arrangements with SCV Water to assure the necessary improvements are made to the water supply infrastructure to serve the Project site.

Other Regulatory Approvals/Permits. SCV Water is regulated by the State Water Resources Control Board – Division of Drinking Water (DDW) and must meet rigorous water quality standards. In addition, the Project is located in unincorporated Los Angeles County, therefore LA County will evaluate the Project, conduct extensive environmental oversight, and review, and

independently determine the sufficiency of the water supplies to serve the Project site. (Water Code § 10911(b)-(c).) In doing so, the County will determine if the Project will be provided with an acceptable level of water supply based on the criteria set forth in the County's General Plan, because the Project is located within the Santa Clarita Valley, and because it includes a subdivision map application. In making this determination, the County may use water-related data set forth in documents such as the 2020 UWMP and other information provided by SCV Water.

1.7 Information Used or Relied Upon in Preparing this WSA

This WSA used or relied on information contained in the documents listed below. Documents may be available online or by contacting the SCV Water - Water Resources Department at (661) 297-1600. The documents are part of SCV Water's record for the preparation of this WSA.

- California Department of Water Resources, 2021 Draft State Water Project Delivery Capability Report
- California Department of Water Resources 2019 State Water Project Delivery Capability Report
- California Department of Water Resources. 2018. Delta Flood Emergency Plan.
- California Department of Water Resources. 2018a. Guidance for Climate Change Data Use During Groundwater Sustainability Plan Development
- California Department of Water Resources. November 2011. "Climate Change Handbook for Regional Water Planning"
- California Department of Water Resources, 2016. Bulletin 118 – Update 2016
- California Department of Water Resources and the Army Corps of Engineers, 2019. Delta Emergency Integration Plan.
- California Department of Water Resources Climate Change Technical Advisory Group (CCTAG). 2015. Producing Scientific and Strategic Guidance for California's Department of Water Resources
- California Division of Drinking Water, November 1997. Policy Memo 97-005: Policy Guidance for Direct Domestic Use of Extremely Impaired Sources
- California Ocean Protection Council. 2018. Sea-Level Rise Guidance
- California Office of Emergency Services (Cal OES). 2018. Northern California Catastrophic Flood Response Plan
- California State Water Resources Control Board, 2000. Revised Water Right Decision 1641
- Carollo Engineers, June 2015. Santa Clarita Valley Water Agency Water Resources Reconnaissance Study
- CH2M Hill, 2004a. Regional Ground water Flow Model for the Santa Clarita Valley, Model Development and Calibration
- CH2M Hill, 2004 b. Analysis of Perchlorate Containment in Ground water Near the Whittaker-Bermite Property, Santa Clarita, California, Prepared in support of the 97-005 Permit Application
- CH2M Hill, 2005a. Technical Memorandum, Calibration Update of the Regional Ground Water Flow Model for the Santa Clarita Valley, Santa Clarita, California

- CH2M Hill and Luhdorff & Scalmanini, Consulting Engineers, 2005. Analysis of Ground Water Basin Yield, Upper Santa Clara River Groundwater Basin, East Subbasin, Los Angeles County, California, prepared for Upper Basin Water Purveyors
- Geoscience. 2014. Salt and Nutrient Management Plan for the Upper Santa Clara River Groundwater Basin Volumes 1 and 2
- Geosyntec Water Supply Reliability Plan, 2021
- GSI Water Solutions (GSI), Inc. 2022. Santa Clara River Valley East Groundwater Sustainability Plan
- GSI Water Solutions (GSI), Inc. 2020a. Water Budget Development for the Santa Clara River Valley East Groundwater Subbasin, Draft Technical Memorandum
- GSI Water Solutions, Inc. 2020. Development of a Numerical Groundwater Flow Model for the Santa Clara River Valley East Groundwater Subbasin
- GSI & LSCE. 2014. Draft Report: Perchlorate Containment Plan for Well V201 and Saugus Formation Groundwater in the Santa Clarita Valley (Task 3 of the Well V201 Restoration Program)
- Kennedy/Jenks Consultants. 2021. Santa Clarita Valley Water Agency Groundwater Treatment Implementation Plan
- Kennedy/Jenks Consultants. 2021. Santa Clarita Valley 2020 Urban Water Management Plan
- Kennedy/Jenks Consultants. 2002. Recycled Water Master Plan Update
- Kennedy/Jenks Consultants. 2016a. Recycled Water Master Plan Update
- Kennedy/Jenks Consultants. 2016b. Santa Clarita Valley Recycled Water Rules and Regulations Handbook
- Kennedy/Jenks Consultants. 2015. Final Preliminary Design Report for the Recycled Water System Phase 2B
- Kennedy/Jenks Consultants. 2014 and 2018 Update. Integrated Regional Water Management Plan for the Upper Santa Clara River Region
- Los Angeles Regional Water Quality Control Board (LARWQCB). 1994. Water Quality Control Plan: Los Angeles Region Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties, 2020 version
- Luhdorff & Scalmanini, Consulting Engineers, 2021. 2020 Santa Clarita Valley Water Report
- Luhdorff & Scalmanini, Consulting Engineers, 2020. 2019 Santa Clarita Valley Water Report
- Luhdorff & Scalmanini and GSI Water Solutions. August 2009. Analysis of Ground Water Supplies and Ground water Basin Yield, Upper Santa Clara River Ground Water Basin, East Subbasin
- Luhdorff and Scalmanini, 2005. Consulting Engineers, Impact and Response to Perchlorate Contamination, Valencia Water Company Well Q2, prepared for Valencia Water Company
- Luhdorff & Scalmanini, Consulting Engineers, December 2003. Ground Water Management Plan for the Santa Clara Valley Ground Water Basin, East Subbasin
- M&N. 2007. Levee Repair, Channel Barrier, and Transfer Facility Concept Analyses to Support Emergency Preparedness Planning
- Maddaus Water Management (MWM), Inc. 2021. Draft 2021 SCV Demand Study: Land-Use-Based Demand Forecast Analysis

- Maddaus Water Management (MWM), Inc. 2016. SCV Demand Study Update: Land-Use Based Demand Forecast, Final Technical Memorandum No.2
- Maddaus Water Management (MWM), Inc. 2015. SCV Family of Water Supplies Water Use Efficiency Strategic Plan
- Pacific West. 2021. Letter to Santa Clarita Valley Water Agency re: PWHS W.O. # 1030-001 Mountainview Apartments
- Pacific West. 2021. CUP No. 201400061 – Mountainview Apartments, Castaic, CA. Dwelling Unit and Bathroom Count Analysis Table
- Richard C. Slade & Associates, LLC,2001 Update Report, Hydrogeologic Conditions in the Alluvial and Saugus Formation Aquifer Systems, prepared for Santa Clarita Valley Water Purveyors, July 2002
- Sanitation Districts of Los Angeles County, 2013. Santa Clarita Valley Sanitation District Chloride Compliance Facilities Plan and Environmental Impact Report
- Santa Clarita Valley Water Agency (SCVWA). 2021. Water Supply Reliability Plan Update, prepared by Geosyntec
- Santa Clarita Valley Water Agency (SCVWA). 2021. 2020 Urban Water Management Plan for Santa Clarita Valley Water Agency
- Santa Clarita Valley Water Agency (SCVWA). 2021. Final Water Shortage Contingency Plan
- Santa Clarita Valley Water Agency (SCVWA), July 2015. Castaic Lake Water Agency 2015 Strategic Plan, 2017 Addendum
- Sites Program Management Team. 2020. Sites Reservoir Value Planning Report
- Slade, R. C. Hydrogeologic Assessment of the Saugus Formation in the Santa Clara Valley of Los Angeles County, California, Vols. I and II, prepared for Castaic Lake Water Agency,1988
- Slade, R. C. Hydrogeologic Investigation of Perennial Yield and Artificial Recharge Potential of the Alluvial Sediments in the Santa Clarita River Valley of Los Angeles County, California, Vols. I and II, prepared for Upper Santa Clara Water Committee, 1986
- Wang, Jianzhong, Hongbing Yin, Erik Reyes, Tara Smith, Francis Chung (California Department of Water Resources). 2018. Mean and Extreme Climate Change Impacts on the State Water Project. California's Fourth Climate Change Assessment. Publication number: CCCA4-EXT-2018-004
- Woodard and Curran, 2021. Recycled Water Seasonal Storage Study Technical Memo, January 14, 2021
- Santa Clarita Valley Water Agency State Water Contract with the Department of Water Resources (DWR)
- Santa Clarita Valley Water Agency 2014, Agreement in Principle with the Department of Water Resources for extension of contracts, September 12, 2014
- Department of Water Resources Contract Extension Amendment, February 2019
- Santa Clarita Valley Water Agency 2015, Agreement with Ventura County for use of their Flexible Storage Account
- Department of Water Resources Coordinated Operations Agreement with the Bureau of Reclamation, 1986
- Department of Water Resources Addendum to the Coordinated Operations Agreement with the Bureau of Reclamation, December 2018

- Santa Clarita Valley Water Agency Transfer Agreement with Buena Vista Water Storage District and Rosedale Rio Bravo Water Storage District
- Santa Clarita Valley Water Agency 2018, Yuba Accord Agreement
- Santa Clarita Valley Water Agency Two-for-One Water Exchange Program with Antelope Valley-East Kern Water Agency (AVEK), 2019
- Santa Clarita Valley Water Agency Two-for-One Water Exchange Program with United Water Conservation District, 2019
- Santa Clarita Valley Water Agency Agreement with Semitropic Water Storage District for participation in the Storage Water Recovery Unit (SWRU), 2015
- Santa Clarita Valley Water Agency Water Banking and Exchange Program Agreement with Rosedale Rio Bravo Water Storage District, 2005-2015
- Santa Clarita Valley Water Agency contract with the Santa Clarita Valley Sanitation District
- Santa Clarita Valley Water Agency, Biennial Budget for FY 2021/22, and FY 2022/23

Section 2: Historical and Projected Water Demands

This section describes historical and projected water use in the SCV Water service area and the methodology used to project future demands within SCV Water service area. In order to estimate demand out to 2050 (assumed year of designated land use-buildout), population and water use projections were made based upon existing land uses and planned land use development compiled for the service area, including the City of Santa Clarita and County of Los Angeles land use plans, also known as the One Valley One Vision general plan (OVOV). The Castaic Mountain View Apartments project is located in the unincorporated area of the county covered by the OVOV. It is SCV Water's understanding that this development is contained in and consistent with the OVOV plan. As the UWMP is based on the housing and commercial development projected in the OVOV plan, the project's water demand has already been incorporated into the existing UWMP demand projections. In addition, weather and water conservation effects on water usage were considered for this WSA consistent with the approach of the 2020 UWMP.

2.1 Existing and Projected SCV Water Demands

As part of the 2020 UWMP update, 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 were made to accurately project water use over the next 30 years. The demand projections include econometric modeling and plumbing code changes and assume that water conservation programs will continue to be implemented. Climate change impacts on demands were assessed and incorporated in the demand projections. These projections were based on the 2021 Maddaus Technical Memorandum, which serves as the land-use demand forecast for SCV Water and its service area. The historical potable water demands for SCV Water's service area are shown in Table 2-1 and graphically in Figure 2-1. The current water use in SCV Water's service area (2020) is shown in Table 2-2.

TABLE 2-1 HISTORICAL WATER USE IN THE SCV WATER SERVICE AREA (AF)[(a)]

Year	SCV Water	LACWWD 36[(b)]	Total
1995	45,196	477	45,673
1996	49,614	533	50,147
1997	53,388	785	54,173
1998	48,280	578	48,858
1999	56,596	654	57,250
2000	60,188	800	60,988
2001	59,784	907	60,691
2002	67,156	1,069	68,225
2003	66,272	1,175	67,447
2004	71,062	1,234	72,296
2005	69,568	1,200	70,768
2006	72,837	1,289	74,126
2007	76,086	1,406	77,492
2008	74,546	1,354	75,900

Year	SCV Water	LACWWD 36[(b)]	Total
2009	68,731	1,243	69,974
2010	62,925	1,141	64,066
2011	63,633	1,172	64,805
2012	68,447	1,265	69,712
2013	72,164	1,296	73,460
2014	66,936	1,242	68,178
2015	53,515	976	54,491
2016	56,916	1,050	57,966
2017	62,461	1,094	63,555
2018	64,011	1,209	65,220
2019	59,098	979	60,077
2020	64,734	1,262	65,996

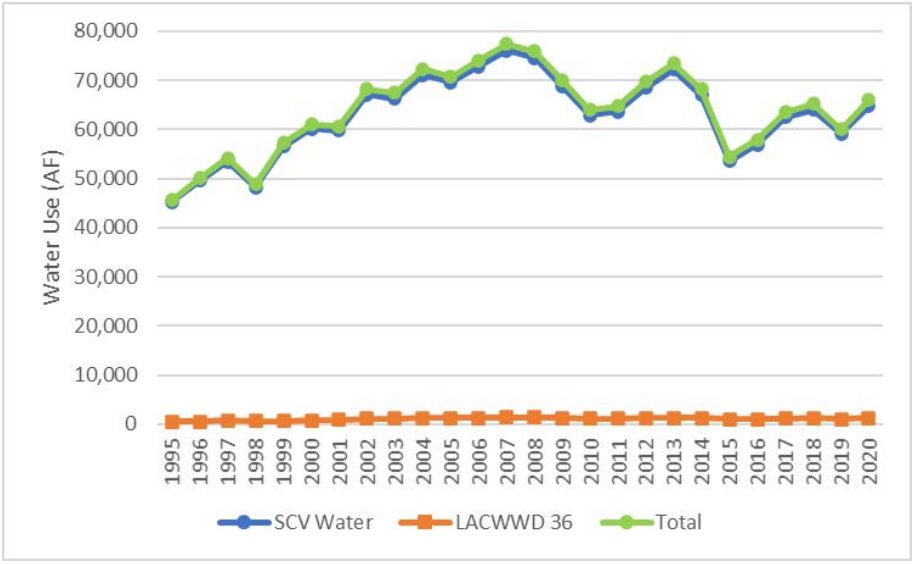
Source: 2019 Santa Clarita Valley Water Report (July 2020) and 2020 data provided by SCV Water and LACWWD 36.

Notes:

(a) Total potable and non-potable water use.

(b) LACWWD 36 is included for purposes of providing regional completeness; however, it is not required to prepare an UWMP.

FIGURE 2-1 HISTORICAL WATER USE IN THE SCV WATER SERVICE AREA (AF)[(a)]



(a) Source: 2019 Santa Clarita Valley Water Report (July 2020) and 2020 data provided by SCV Water and LACWWD 36.
Note: Water use shown here includes potable and non-potable (recycled water) use. Recycled water makes up less than 1 percent of total use.

TABLE 2-2
SUMMARY OF WATER SUPPLIES USED IN 2020 (AF)

	2020[(a)]
Existing Groundwater	
Alluvial Aquifer	7,571
Saugus Formation	9,761
Total Groundwater[(b)]	**17,332**
Recycled Water	
Total Recycled	**468**
Imported Water	
State Water Project	14,587
Buena Vista-Rosedale	11,000
Yuba Accord Water	284
Total Imported	**25,871**
Existing Banking and Exchange Programs	
Rosedale Rio-Bravo Bank	1,600
Semitropic Bank	5,000
Rosedale Rio-Bravo Exchange	14,451
Antelope Valley East Kern Water Agency Exchange	1,406
West Kern Exchange	500
Total Bank/Exchange	**22,957**
Total Supplies	**66,630**

Notes:
(a) Actual 2020 supplies utilized.
(b) Reflects temporary greater pumping of Saugus Formation to mitigate for lost Alluvial Aquifer pumping pending installation of PFAS treatment described in Tables 3-4A, 3-4B, 3-4C, 3-5A, 3-5B and 3-5C. Additional details on water quality impacts to groundwater supply availability is provided in Section 3.3.

2.2 Projected Water Use

The demand projections for the SCV Water service area have been estimated through 2050. For the UWMP, a land use-based approach was used (which incorporates information from a population-based approach) because such an approach can further reflect assumptions regarding how future development is planned. It can also demonstrate how water usage patterns have evolved from what they were in the past as the Santa Clarita Valley approaches buildout.

2.2.1 Potable Water Use Projections

Potable water use projections are based on a combination of SCV Water and LACWWD 36 demands. For SCV Water's three retail water divisions, the potable demand forecast was determined from land-use-based estimates from 2020 through 2050 (buildout). The land use-based estimates were determined in a land use analysis that compiled data from planned

development contracts and the OVOV General Plan. In general, the land use analysis leveraged the following information:

- Estimated dwelling units provided by City of Santa Clarita and Los Angeles County Planning Department,
- Land use-based GIS map shape files from City of Santa Clarita and Los Angeles County planners for determining the appropriate number of dwelling units and non-residential building area,
- Queries from GIS maps to determine dwelling units were multiplied by persons per household from the U.S. Census appropriate to each retailer's service area,
- Monthly billing data by customer category (single-family, multi-family, non-residential, etc.),
- Climate and economic adjustment factors for normalizing demands, and
- Future demand factors.

The LACWWD 36 potable demand projections relied on a population-based approach using OVOV-based population estimates. Based on these estimates for SCV Water and LACWWD 36, potable demand projections were developed using a Least Cost Planning Decision Support System Model (DSS Model), which incorporates econometric-based adjustments to better develop an accurate forecast through the year 2050. The DSS Model accounts for existing and future potable water consumption by water customers and estimated passive and active water conservation savings. Demand adjustments include accounting for climate change, drought rebound, weather normalization, work-at-home trends, and overwatering/irrigation equipment efficiency degradation.

In addition, recent legislation provides that, where available, demand projections "shall" display and account for the water savings estimated to result from adopted codes, standards, ordinances, or transportation and land use plans identified by the urban water supplier, as applicable to the service area. If such information is reported, the assessment will provide citations of the various codes, standards, ordinances, or transportation and land use plans utilized in making the projections. The UWMP must indicate the extent that the demand projections consider savings from codes, standards, ordinances, or transportation and land use plans (referred to as savings from passive conservation).

The demand forecast conducted for the UWMP accounts for savings from passive conservation and active conservation. Passive conservation savings focus on plumbing code change impacts on indoor fixtures and include the following laws, codes, and regulations:

- National Plumbing Code (also known as the Energy Policy Act) – Passed in 1992, has long required more efficient plumbing fixtures to be for sale throughout the United States.

- Assembly Bill (AB) 715 – California Plumbing Code includes the new California Code of Regulations (CCR) Title 20 Appliance Efficiency Standards requiring High Efficiency Toilets and High Efficiency Urinals to be exclusively sold in the state by January 1, 2014.

- SB 407 and SB 837 – SB 407 addresses plumbing fixture retrofits on resale or remodel, requiring single family residential property owners of pre-1994 buildings or dwelling units to replace existing plumbing fixtures with water conserving fixtures by 2017 and multi-family and commercial property owners of pre-1994 buildings to replace fixtures by 2019. It also requires all owners to upgrade existing buildings upon any remodel initiated after January 1, 2014, and authorizes the enactment of local ordinances for greater water savings. SB 837 (enacted in 2011) requires that sellers of real estate property disclose on their Real Estate Transfer Disclosure Statement whether their property complies with these requirements. Both laws are intended to accelerate the replacement of older, low efficiency plumbing fixtures, and ensure that only high efficiency fixtures are installed in new residential and commercial buildings.

- 2019 CALGreen and 2015 California Code of Regulations Title 20 Appliance Efficiency Regulations – Fixture characteristics in the DSS Model are tracked in new accounts, which are subject to the requirements of the 2019 California Green Building Code and 2015 California Code of Regulations Title 20 Appliance Efficiency Regulations adopted by the California Energy Commission (CEC) on September 1, 2015. The CEC 2015 appliance efficiency standards apply to the following new appliances, if they are sold in California: showerheads, lavatory faucets, kitchen faucets, metering faucets, replacement aerators, wash fountains, tub spout diverters, public lavatory faucets, commercial pre-rinse spray valves, urinals, and toilets. The DSS Model accounts for plumbing code savings due to the effects these standards have on showerheads, faucet aerators, urinals, toilets, and clothes washers.

- AB 1881 – State Model Water Efficient Landscape Ordinance adopted by the City of Santa Clarita effective January 1, 2010; improves efficiency in water use in new and existing urban irrigated landscapes.

The conservation savings analysis includes SCV Water's current active water conservation measures and also passive water savings such as indoor plumbing code measures as follows:

- Fixture Retrofit on Resale or Water Account Change
- New Development Submetering
- Landscape & Irrigation Codes
- Water Waste Implementation
- AMI
- Real Water Loss Reduction
- Education
- Water Smart Workshop Credit
- Landscape Transformation Incentives
- Smart Controller Rebates
- Irrigation Incentives
- Irrigation Check-Ups
- Pool Cover Rebates
- Residential Check-Ups
- Hot Water on Demand Rebate
- CII Check-Ups
- CII HET and HEU Rebates
- High Efficiency Fixture Giveaway
- Schools Retrofits

This active conservation methodology is an update from SCV Water's 2016 Water Use Efficiency Strategic Plan (WUESP) and the 2015 UWMP analysis.

Table 2-3 provides a summary of the projected total water use for the SCV Water service area in a normal/average water year. Table 2-4 provides projected demands in a single-dry year and Table 2-5 provides demands in a multiple-dry year.

Additional details of the demand projections analysis are provided in the 2021 Maddaus Technical Memorandum (Maddaus 2021).

TABLE 2-3 SCV WATER PROJECTED NORMAL/AVERAGE YEAR DEMANDS (AFY)[(a)(b)]

Year	2025	2030	2035	2040	2045	2050
Total Water Use	76,400	81,700	88,700	93,600	97,500	101,000

Source: Maddaus Water Management (MWM), Inc. 2021. Draft 2021 SCV Demand Study: Land-Use-Based Demand Forecast Analysis. April. Table 5 Estimated total demand with active conservation and plumbing code savings. Demands include climate change and recycled water.

[a] LACWWD 36 is included for purposes of providing regional completeness; however, it is not required to prepare an UWMP.

[b] Demands include the Castaic Mountainview Apartments Project.

TABLE 2-4 SCV WATER PROJECTED SINGLE-DRY YEAR DEMANDS (AFY) [(a)(b)(c)]

Year	2025	2030	2035	2040	2045	2050
Total Water Use	81,000	86,600	94,000	99,200	103,400	107,100

Source: WSA5-3. Demands include savings from plumbing code and standards, and active conservation. Demands account for an estimated increase from climate change.

[a] LACWWD 36 is included for purposes of providing regional completeness; however, it is not required to prepare an UWMP.

[b] Demands include the Castaic Mountainview Apartments Project

[c] Demands assume a 6% increase above normal demand during dry years.

TABLE 2-5 SCV WATER PROJECTED MULTIPLE-DRY YEAR DEMANDS (AFY) [(a)(b)(c)]

Year	2025	2030	2035	2040	2045	2050
Total Water Use	77,830	83,620	90,570	95,780	99,670	102,870

Source: WSA Table 5-4.

[a] LACWWD 36 is included for purposes of providing regional completeness; however, it is not required to prepare an UWMP.

[b] Demands include the Castaic Mountainview Apartments Project.

[c] Demands are weather adjusted for dry 1988-1992 hydrology.

2.3 Mountainview Apartments Demands

Using SCV Water's water demand factors from 2021 Maddaus Technical Memorandum, the total estimated water demand for the Project at build-out is approximately 260 AFY in an average/normal year. Water demand for the Project at build-out may increase by approximately

six percent in a single dry year to a total of 276 AFY and approximately two percent in multiple dry years to a total of 265 AFY, consistent with projections from SCV Water's 2020 UWMP. The total estimated water demand for the Project at build-out is summarized in Table 2-6 below.

TABLE 2-6 WATER DEMAND ESTIMATES – CASTAIC MOUNTAINVIEW APARTMENTS

Projected Normal/Average Year Demands

Land Use	# of Units	Unit	Demand (AFY)
Multi-Family Residential (Apartments) 1 Bedroom	354	Dwelling Units	47
Multi-Family Residential (Apartments) 2 Bedroom	234	Dwelling Units	31
Multi-Family Residential (Apartments) 3 Bedroom	60	Dwelling Units	8
Light Industrial	351	1,000 Square Feet	10
Landscaped Areas	23	Acres	72
		Total Average Year Demands (AFY)	**260**
		Projected Single Dry Year Demands (AFY)	**276**
		Projected Multiple-Dry Year Demands (AFY)	**265**

Section 3: Existing and Projected Water Supplies

Water Code Section 10910(b) requires a WSA to identify any existing water supply entitlements, water rights, or water service contracts relevant to the identified water supply for the Project and describe the quantities of water received in prior years by the public water system. The identification of existing water supply entitlements, water rights, or water service contracts held by the public water system must be demonstrated by providing information related to the following:

1. Written contracts or other proof of entitlement to an identified water supply;
2. Copies of a capital outlay program for financing the delivery of a water supply that has been adopted by the public water system;
3. Federal, state, and local permits for construction of necessary infrastructure associated with delivering the water supply; and
4. Any necessary regulatory approvals that are required in order to be able to convey or deliver the water supply.

In accordance with SB 610 (Water Code Section 10910(d)), Section 2 of the 2020 UWMP (June 2020) and the 2019 Santa Clarita Valley Water Report summarize the total quantity of water used by SCV Water to meet water demand since importation of SWP water began in 1980. Also, Section 1.7, above, contains a list of documents with information related to the identification of the existing water supply entitlements, water rights, or water service contracts relevant to meet the Project's water demand, in addition to the existing and projected water supplies reported in the 2020 UWMP and the most recent 2019 and 2020 Santa Clarita Valley Water Reports.

SCV Water has existing water entitlements, rights, and contracts to meet demand as needed over a 25-year horizon and beyond and has committed sufficient capital resources and planned investments in various water programs and facilities to serve all its existing and planned customers. As discussed herein, SCV Water also has identified an operational strategy combined with a prudent and flexible management approach to ensure water supply reliability.

SCV Water's existing supplies include imported water, local groundwater, recycled water, and water from existing groundwater banking programs. Planned supplies include new groundwater production as well as additional banking programs. The mix of supplies can vary significantly depending on local and statewide hydrology, access to groundwater, and other factors. For example, in 2019, a wet year, imported water supplies made up 58%, groundwater 41%, and recycled water less than 1%. In 2020 dry hydrology and perchlorate and PFAS in local groundwater resulted in groundwater production making up approximately 26% of SCV Water's total supplies, imported water making up 39%, recycled water making up less than 1% of supplies, and existing banking and exchange programs making up approximately 34% of total supplies. A further description of the variability of the mix of supplies is included in Section 5.1 of this WSA.

3.1 Imported Water Supplies

SCV Water's imported water supplies consist primarily of SWP supplies, which were first delivered to SCV Water (CLWA at the time) in 1980. From the SWP, SCV Water also has access to water from Flexible Storage Accounts in Castaic Lake, which are planned for dry-year use, but are not strictly limited as such. In addition to its SWP supplies, SCV Water has an imported supply from the Buena Vista Water Storage District (BVWSD) and Rosedale Rio-Bravo Water Storage District (RRBWSD) in Kern County, which was first delivered to SCV Water (CLWA at the time) in 2007. Additionally, Newhall Land and Farming Company (Newhall Land or NLF) (now also referred to as Five Point) has a water transfer supply from a source in Kern County, referred to as Nickel Water that for planning purposes is anticipated to be available beginning in 2035.

3.2 State Water Project Supplies

3.2.1 SWP Facilities

The SWP is the largest state-built, multi-purpose water project in the country. It was authorized by the California State Legislature in 1959, with the construction of most initial facilities completed by 1973. Today, the SWP includes 28 dams and reservoirs, 26 pumping and generating plants and approximately 660 miles of aqueducts. The primary water source for the SWP is the Feather River, a tributary of the Sacramento River. Storage released from Oroville Dam on the Feather River flows down natural river channels to the Sacramento-San Joaquin River Delta (Delta). While some SWP supplies are pumped from the northern Delta into the North Bay Aqueduct, the vast majority of SWP supplies are pumped from the southern Delta into the 444-mile-long California Aqueduct. The California Aqueduct conveys water along the west side of the San Joaquin Valley to Edmonston Pumping Plant, where water is pumped over the Tehachapi Mountains and the aqueduct then divides into the East and West Branches. SCV Water takes delivery of its SWP water at Castaic Lake, a terminal reservoir of the West Branch. From Castaic Lake, SCV Water delivers its SWP supplies to its customers through an extensive transmission pipeline system.

3.2.2 SWP Water Supply Contract Amendments

SWP Contract and Extension

The Department of Water Resources (DWR) provides water supply from the SWP to 29 SWP Contractors (Contractors) in exchange for Contractor payment of all costs associated with providing that supply. DWR and each of the Contractors entered into substantially uniform long-term water supply contracts (Contracts) in the 1960s with 75-year terms. The first Contract terminates in 2035, and most of the remaining Contracts terminate within three years after that. SCV Water is one of the 29 Contractors that have an SWP Contract with DWR.

The majority of the capital costs associated with the development and maintenance of the SWP is financed using revenue bonds. These bonds have historically been sold with 30-year terms. It has become more challenging in recent years to affordably finance capital expenditures for the SWP because bonds used to finance these expenditures are limited to terms that only extend to the year 2035, fewer than 15 years from now. To ensure continued affordability of debt service to Contractors, it was necessary to extend the termination date of the Contracts to allow DWR to continue to sell bonds with 30-year terms.

Public negotiations to extend the Contracts took place between DWR and the Contractors during 2013 and 2014. An Agreement in Principle (AIP) was reached and was the subject of analysis under the requirements of the CEQA (Notice of Preparation dated September 12, 2014). On December 11, 2018, the DWR Director approved the Water Supply Contract Extension Project. In accordance with CEQA, DWR also filed its Notice of Determination for the project with the Governor's Office of Planning and Research. In addition, DWR filed an action in Sacramento County Superior Court to validate the Contract Extension Amendments (https://Water.ca.gov/Programs/State-Water-Project/Management/Water-Supply-Contract-Extension). After CEQA was completed and contract language was finalized, DWR and 22 contractors have executed the Extension Amendment, including SCV Water, which executed the amendment in February 2019. The Extension Amendment extends the contracts through 2085 or the period ending with the latest maturity date of any bond issued to finance the construction costs of Project facilities, whichever is longer. The Extension Amendment will improve the project's overall financial integrity and management. The Extension Amendment is the subject of a validation action and two CEQA lawsuits.

Water Management Tools Contract Amendment

In a December 2017 Notice to Contractors, DWR indicated its desire to supplement and clarify existing SWP Contract's water transfer and exchange provisions to provide improved water management among public water agencies (PWAs). The purpose was to seek greater flexibility to manage the system in order to address changes in hydrology and further constraints placed on DWR's operation of the SWP. To this end, PWAs and DWR conducted public negotiations in 2017 with the purpose of improving these water management tools (WMT). Importantly, the transfers and exchanges provided for in a WMT Contract amendment are limited to those transfers and exchanges between PWAs with SWP Contracts.

In June 2018, PWAs and DWR agreed upon an Agreement in Principle (AIP), which included specific principles to accomplish this goal. These principles included a process for transparency for transfers and exchanges, new flexibility for single and multi-year non-permanent water transfers, allowing PWAs to set terms of compensation for transfers and exchanges, and providing for the limited transfer of carryover and Article 21 water.

In October 2018, a Draft Environmental Impact Report (DEIR) was circulated based on the agreed upon AIP principles for a WMT Contract amendments. At that time, the AIP included cost allocation for the California WaterFix project (WaterFix). In early 2019, Governor Newsom decided not to move forward with WaterFix, and DWR rescinded its approvals for WaterFix. After this shift, the PWAs and DWR held a public negotiation session and agreed to remove the WaterFix cost allocation sections from the AIP, but to keep all the water management provisions in the AIP. The AIP for water management provisions was finalized on May 20, 2019. In February 2020, DWR amended and recirculated the Partially Recirculated DEIR for the SWP Supply Contract Amendments for Water Management and in August 2020, DWR certified the Final EIR. The EIR is being challenged in court. The WMT Amendment became effective for those PWAs who executed the amendment on February 28, 2021. The transfer and exchange tools are available during litigation and will remain in effect unless there is a final court order that prohibits their continuation.

Delta Conveyance Project Agreement in Principle

On March 29, 2021, as part of a public negotiation that began in 2019, DWR and PWAs agreed upon an Agreement in Principle for a Contract amendment on a Delta Conveyance Project

(DCP). The objective of the DCP AIP is to develop an agreement to equitably allocate costs and benefits among SWP PWAs of a potential Delta Conveyance Facility that preserves operational flexibility. A decision by each participating PWA for approving a contract amendment with DWR would not occur until after the environmental review for the DCP is completed. That decision would likely occur in 2023, at the earliest.

3.2.3 SWP Water Supplies

Each SWP contractor's SWP Contract contains a "Table A," which lists the maximum amount of contract water supply, or "Table A Water," an agency may request each year throughout the life of the contract. The Table A Amounts in each contractor's SWP Contract ramped up over time, based on projections at the time the contracts were signed and future increases in population and water demand, until they reached a maximum Table A Amount. Most contractor's Table A Amounts reached their maximum levels in the early to mid-1990s. Table A Amounts are used in determining each contractor's proportionate share, or "allocation," of the total SWP Water supply DWR determines to be available each year.

The total planned annual delivery capability of the SWP and the sum of all contractors' maximum Table A Amounts was originally 4.23 million acre-feet (MAF). The initial SWP storage facilities were designed to meet contractors' water demands in the early years of the SWP, with the construction of additional storage facilities planned as demands increased. However, essentially no additional SWP storage facilities have been constructed since the early 1970s. SWP conveyance facilities were generally designed and have been constructed to deliver maximum Table A amounts to all contractors. After the permanent retirement of some Table A amount by two agricultural contractors in 1996, the maximum Table A Amounts of all SWP contractors now total about 4.17 MAF. Currently, SCV Water's annual Table A Amount is 95,200 AF,[10]

The primary supply of SWP water made available under the SWP Contracts is allocated Table A supply.

In addition to Table A supplies, the SWP Contracts provide for additional types of water that may periodically be available, including "Article 21" water and water made available through transfers from other SWP Contractors pursuant to the WMT amendment described above (amended Article 56). Article 21 water (which refers to the SWP Contract provision defining this supply) is water that may be made available by DWR when excess flows are available in the Delta (i.e., when Delta outflow requirements have been met, SWP storage south of the Delta is full and conveyance capacity is available beyond that being used for SWP operations and delivery of allocated and scheduled Table A supplies). Article 21 water is made available on an unscheduled and interruptible basis and is typically available only in average to wet years, generally only for a limited time in the late winter.

The availability of Article 21 water and water from transfers with other SWP Contractors can fluctuate significantly. When available, these supplies provide additional water that SCV Water may be able to use, either directly to meet demands or for later use after storage in its groundwater banking programs. Because of the fluctuations in availability of Article 21 water

[10] SCV Water's original SWP Contract with DWR was amended in 1966 for a maximum annual Table A Amount of 41,500 AF. In 1991, SCV Water (CLWA at the time) purchased 12,700 AF of annual Table A Amount from a Kern County Water district, and in 1999 purchased an additional 41,000 AF of annual Table A Amount from another Kern County Water district, for a current total annual Table A Amount of 95,200 AF.

and water from transfers, supplies of these types of SWP water are not included in this WSA. However, to the extent SCV Water is able to make use of these supplies when available, SCV Water may be able to improve the reliability of its SWP supplies beyond the values used throughout the 2020 UWMP and this WSA.

While not specifically provided for in the SWP Contracts, DWR or the State Water Contractors have in dry years facilitated Dry Year Water Purchase Programs for contractors needing additional supplies. Through these programs, water is purchased from willing sellers in areas that have available supplies and is then sold to contractors willing to purchase those supplies. The availability of these supplies is annually variable and therefore they are not included in this WSA. However, SCV Water's access to these supplies when they are available would enable it to improve the reliability of its dry-year supplies beyond the values used throughout this WSA.

Flexible Storage Account

As part of its SWP Contract with DWR, SCV Water has access to a portion of the storage capacity of Castaic Lake. This Flexible Storage Account allows SCV Water to utilize up to 4,684 AF of the storage in Castaic Lake for SCV Water. Any of this amount that SCV Water withdraws must be returned to storage by SCV Water within five years of its withdrawal. SCV Water manages this storage by keeping the account full in normal and wet years and then delivering that stored amount (or a portion of it) during dry periods. The account is refilled during the next year that adequate SWP supplies are available to SCV Water to do so. In 2005 and again in 2015, SCV Water negotiated with Ventura County SWP contractor agencies to obtain the use of their Flexible Storage Account. This allows SCV Water access to another 1,376 AF of storage in Castaic Lake. With the extension to the term of the agreement, SCV Water access to this additional storage is available on a year-to-year basis through 2025. While it is expected that SCV Water and Ventura County will extend the existing flexible storage agreement beyond the 2025 term, it is not assumed to be available beyond 2025 in the 2020 UWMP or this WSA.

Water Management Provisions

The SWP Contract includes a number of provisions that give each contractor flexibility in managing the supplies that are available to it in a given year. For example, a contractor may take delivery of its allocated SWP supplies for direct use or storage within its service area, store that water outside its service area for later withdrawal and use within its service area, carry over a portion of that supply for storage on an as-available-basis in SWP reservoirs for delivery in following years (commonly referred to as "carryover"), exchange a portion of that supply with others for return in a future year, or transfer water with other PWAs pursuant to the newly approved WMT amendment. The SWP Contract also provides for DWR to deliver non-SWP water supplies for contractors through SWP conveyance facilities.

SCV Water takes advantage of these water management provisions in wetter years by storing excess SWP allocated water supply, either in groundwater banking programs or as carryover, or by exchanging supplies with another contractor or water agency. Then in drier years, SCV Water withdraws its previously stored supplies or recovers water from its exchange partner(s). Water stored in groundwater banking programs has the benefit of remaining available until needed, and the water SCV Water currently has in storage is assumed to be available as described in the 2020 UWMP and incorporated herein. At current demand levels, SCV Water also regularly stores a portion of any excess supply as carryover in SWP reservoirs, which can provide it with additional supply for use in following years. Carryover is a no-added-cost storage option, is an easily and quickly accessible supply, and is a valuable benefit if the next year is

dry. However, SCV Water carryover water may be lost when SWP reservoirs fill, which can occur in wetter years. Although the carryover water is considered in the 2021-2025 water drought assessment, because of the variability in how frequently SWP reservoir space would be available to store SCV Water's carryover, it is not specifically included in other supply projections of the 2020 UWMP or this WSA.

3.2.4 Factors Affecting SWP Table A Supplies

While Table A identifies the maximum annual amount of Table A Water a SWP contractor may request, the amount of SWP water actually available and allocated to SWP contractors each year is dependent on a number of factors and 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.

Availability of SWP Source Water

SWP supplies originate in northern California, primarily from the Feather River Watershed. The availability of these supplies is dependent on the amount of precipitation in the Watershed, the amount of that precipitation that runs off into the Feather River, water use by others in the Watershed, and the amount of water in storage in the SWP's Lake Oroville at the beginning of the year. Variability in the location, timing, amount, and form (rain or snow) of precipitation, as well as how wet or dry the previous year was, produces variability from year to year in the amount of water that flows into Lake Oroville. However, Lake Oroville acts to regulate some of that variability, storing high inflows in wetter years that can be used to supplement supplies in dry years with lower inflows.

In DWR's 2019 State Water Project Delivery Capability Report (2019 DCR), climate change adds another factor in estimating the future availability of SWP source water. Current projections indicate that global warming may change precipitation patterns in California from the patterns that have occurred historically. While different climate change models show differing effects, potential changes are anticipated to include more precipitation falling in the form of rain rather than snow and earlier snowmelt, which would result in more runoff occurring in the winter and early spring rather than spread out over the winter and spring, creating challenges in capturing this runoff for later use in the SWP delivery system.

Ability to Convey SWP Source Water

As discussed previously, water released from Lake Oroville flows down natural river channels into the Delta. The Delta is a network of channels and reclaimed islands at the confluence of the Sacramento and San Joaquin rivers. The SWP and the federal CVP use Delta channels to convey water to the southern Delta for diversion, making the Delta a focal point for water distribution throughout the state.

A number of issues affecting the Delta can impact the ability to divert water supplies from the Delta, including water quality, fishery protection and levee system integrity. Water quality in the Delta can be adversely affected by both SWP and CVP diversions, which primarily affect salinity, as well as by urban discharge and agricultural runoff that flows into the Delta, which can

increase concentrations of constituents such as mercury, organic carbon, selenium, pesticides, toxic pollutants and reduce dissolved oxygen. The Delta also provides a unique estuarine habitat for many resident and migratory fish species, some of which are listed as threatened or endangered. The decline in some fish populations is likely the result of a number of factors, including water diversions, habitat destruction, degraded water quality, and the introduction of non-native species. Delta islands are protected from flooding by an extensive levee system. Levee failure and subsequent island flooding can lead to increased salinity requiring the temporary shutdown of SWP pumps. In addition, climate change analyses also project that salinity issues will increase with seal level rise, requiring extra Delta outflow to dilute more brackish Delta water to meet environmental standards.

In order to address some of these issues, SWP and CVP operations in the Delta are limited by a number of regulatory and operational constraints. These constraints are primarily incorporated into the SWRCB Water Rights Decision 1641 (D-1641), which establishes Delta water quality standards and outflow requirements with which the SWP and CVP must comply. In addition, SWP and CVP operations are further constrained by requirements included in Biological Opinions (BOs) for the protection of threatened and endangered fish species in the Delta issued by the FWS in December 2008 and the NMFS in June 2009, and most recently in 2019 by the FWS as described in Section 4.2. The requirements in the BOs are based on real-time physical and biological phenomena (such as turbidity, water temperature, and location of fish), which results in uncertainty in estimating potential impacts on supply of the additional constraints imposed by the BOs.

Demand for SWP Water

The reliability of SWP supplies is affected by the total amount of water requested and used by SWP contractors, since an increase in total requests increases the competition for limited SWP supplies. As previously mentioned, contractor Table A Amounts in the SWP Contracts ramped up over time, based on projected increases in population and water demand at the time the contracts were signed. Urban SWP contractors' requests for SWP water were low in the early years of the SWP, but have increased steadily over time, although more slowly than the initial ramp-up in their Table A Amounts, which reached a maximum for most contractors in the early to mid-1990s. Since that time, urban contractors' requests for SWP water have continued to increase until recent years when nearly all SWP contractors are requesting their maximum Table A Amounts.

Consistent with other urban SWP contractors, SWP deliveries to SCV Water have increased as its requests for SWP water have increased. Historical total SWP deliveries to SCV Water are shown in Section 3. The table shows deliveries to the SCV Water service area for supply to the purveyors, as well as delivery of SCV Water supplies to storage programs outside the service area and to exchange partners. SCV Water demand projections provided to DWR are typically conservative in order to maximize water deliveries available to SCV Water in any given year for both deliveries and to current and future storage programs.

3.2.5 Biological Opinion

In late 2019, the FWS and NMFS issued new Biological Opinions (BOs) for the Long-Term Operation of the CVP and SWP. Consultation on the BOs began in 2016 to update the prior 2008 and 2009 BO and provide Federal Endangered Species Act (ESA) compliance for the CVP and SWP. Additionally, in early 2020, the California Department of Fish and Wildlife (DFW)

issued DWR an Incidental Take Permit for the Long-Term Operation of the SWP pursuant to the California Endangered Species Act (CESA) with regards to state-protected longfin smelt and state- and federally protected delta smelt, winter-run Chinook and spring-run Chinook. Previously, DFW had issued the SWP an Incidental Take Permit for the state-listed longfin smelt and Consistency Determinations with the 2008 and 2009 Biological Opinions for the state and federally listed species, not a separate permit. Some of the operational restrictions in the 2019 Biological Opinions differ from those in the 2020 Incidental Take Permit. Specifically, even though the projects' operations are coordinated, the SWP is subject to additional operational constraints that reduce SWP supplies and create operational conflicts. Both the 2019 BOs and the 2020 Incidental Take Permit are subject to multiple court challenges that are ongoing.

Biological Opinion Litigation. Two cases were filed challenging the BOs under the ESA, Administrative Procedure Act, and National Environmental Policy Act (NEPA). The first case, *Pacific Coast Federation of Fisherman's Association, et al. v.* Ross (Case No. 1:20-CV-00431-DAD-SAB (*"PCFFA v. Ross*"), was brought by six environmental organizations. The second case, *California Natural Resources Agency, et al. v. Ross* (Case No. 1:20) ("*CNRA v. Ross"*), was brought by the California Natural Resources Agency (CNRA), the California Environmental Protection Agency, and the California Attorney General. The State's case includes a cause of action under CESA alleging that the federal CVP must comply with CESA. The cases were coordinated and transferred to the Eastern District. State and federal water contractors have intervened as defendants in both cases. On October 1, 2021, the federal agencies announced re-initiation of consultation on the BOs. The court is currently considering motions by the Federal defendants, State plaintiffs, and environmental plaintiffs to impose an interim operations plan for the first year of reinitiated consultation.

CESA Incidental Take Permit Litigation. Eight cases, listed below, have been filed in state court by public agencies, environmental organizations, and a Native American tribe challenging DWR's approval of the Long-Term Operations of the SWP and associated environmental review. Most of the cases also challenge CDFW's issuance of an Incidental Take Permit for the SWP.

- *North Coast Rivers Alliance, et al. v. Department of Water Resources, et al.*, County of San Francisco Superior Court Case No. CPF-20-517078, filed April 28, 2020;

- *State Water Contractors, et al. v. California Department of Water Resources, et al.*, County of Fresno Superior Court Case No. 20CECG01302, electronically filed April 28, 2020;

- *Tehama-Colusa Canal Authority, et al. v. California Department of Water Resources, et al.*, County of Fresno Superior Court Case No. 20CECG01303, electronically filed April 28, 2020;

- *The Metropolitan Water District of Southern California, et al. v. California Department of Water Resources, et al.*, County of Fresno Superior Court Case No. 20CECG01347, electronically filed April 28, 2020;

- *Sierra Club, et al. v. California Department of Water Resources*, County of San Francisco Superior Court Case No. CPF-20-517120, filed April 29, 2020;

- *Central Delta Water Agency, et al. v. California Department of Fish and Wildlife, et al.*, County of Sacramento Superior Court Case No. 34-2020-80003368, filed May 6, 2020;

- *San Bernardino Valley Municipal Water District v. California Department of Water Resources, et al.*, County of Fresno Superior Court Case No. 20CECG01556, filed May 28, 2020;

- *San Francisco Baykeeper, et al. v. California Department of Water Resources, et al.*, County of Alameda Superior Court Case No. RG20063682, filed June 5, 2020.

The challenges are raised on several legal grounds, including CESA, California Environmental Quality Act, the Delta Reform Act, Public Trust Doctrine, area of origin statutes, breach of contract, and breach of covenant of good faith and fair dealing. All eight cases have been coordinated in Sacramento County Superior Court.

Litigation over the 2019 BOs and 2020 Incidental Take Permit will likely take several years. The projects began operating in accordance with the new requirements in 2020. Throughout implementation, any party may seek preliminary injunctive relief during the litigation, such as that described above. It is likely that the 2019 BOs and 2020 Incidental Take Permit, or some form of interim operations, will govern operations until final judicial determinations on the merits are made or the reinitiated consultation results in a new Biological Opinion and amended Incidental Take Permit. Thus, it is unlikely that SWP water supply would increase beyond that resulting from the limitations in the 2019 BOs and 2020 Incidental Take Permit during this timeframe.

3.2.6 SWP Table A Supply Assessment

DWR prepares a biennial report to assist SWP contractors and local planners in assessing the availability of supplies from the SWP. DWR issued its most recent update, the 2019 DCR, in August 2020. In this update, DWR provides SWP supply estimates for SWP Contractors to use in their planning efforts, including for use in their 2020 UWMPs. The 2019 DCR includes DWR's estimates of SWP water supply availability under both existing (2020) and future conditions (2040).

DWR's estimates of SWP deliveries are based on a computer model that simulates monthly operations of the SWP and Central Valley Project systems. Key inputs to the model include the facilities included in the system, hydrologic inflows to the system, regulatory and operational constraints on system operations, and contractor demands for SWP water. In conducting its model studies, DWR must make assumptions regarding each of these key inputs.

In the 2019 DCR for its model study under existing conditions, DWR assumed: existing facilities, hydrologic inflows to the model based on 82 years of historical inflows (1922 through 2003), current regulatory and operational constraints including 2018 Coordinated Operation Agreement Amendment, 2019 BOs and 2020 Incidental Take Permit, and contractor demands at maximum Table A Amounts. The long-term average allocation reported in the 2019 DCR for the existing conditions study provides an appropriate estimate of the SWP water supply availability under current conditions.

To evaluate SWP supply availability under future conditions, the 2019 DCR included a model study representing hydrologic and sea level rise conditions in the year 2040. The future condition study used all the same model assumptions as the study under existing conditions, but reflected changes expected to occur from climate change, specifically, projected temperature and precipitation changes centered around 2035 (2020 to 2049) and a 45 cm sea level rise. For the long-term planning purposes of this WSA and the 2020 UWMP, the long-term average allocations reported for the future conditions study from 2019 DCR is the most appropriate estimate of future SWP water supply availability.

3.2.7 SWP Water Supply Estimates

In the 2019 DCR, DWR estimates that for all Contractors combined, the SWP can deliver on a long-term average basis a total Table A supply of 58 percent of total maximum Table A Amounts under existing conditions and 52 percent under future conditions.

DWR's 2019 DCR indicates that the modeled single dry year SWP water supply allocation is 7% under the existing conditions. However, historically the lowest SWP allocations were at 5% in 2014 and initial allocations in 2021. Due to extraordinarily dry conditions in 2013 and 2014, the initial 2014 SWP allocation was a historically low 5% of Table A Amounts, was later reduced to 0% in January 2014, and was later raised back to 5%, the lowest ever final total SWP water supply allocation. In 2021, the initial allocation was 0%, the lowest ever on record and later increased to 5%. Similarly, the initial allocation for 2022 was set at 0% with DWR prioritizing deliveries to Human Health and Safety where alternative supplies were not available. Significant precipitation occurred in October and December of 2021. In January 2022, DWR raised its initial allocation to 15%.

Each year by October 1, SWP contractors submit their requests for SWP supplies for the following calendar year. By December 1, DWR estimates the available water supply for the following year and sets an initial supply allocation based on the total of all contractors' requests, current reservoir storage, forecasted hydrology through the next year, and target reservoir storage for the end of the next year. The most difficult of these factors to evaluate is the forecasted hydrology. In setting water supply allocations, DWR uses a conservative 90% hydrologic forecast, where nine out of ten years will be wetter and one out of ten years drier than assumed. DWR re-evaluates its estimate of available supplies throughout the runoff season of winter and early spring, using updated reservoir storage and hydrologic forecasts, and revises SWP supply allocations as warranted. Since most of California's annual precipitation falls in the winter and early spring, by the end of spring the supply available for the year is much more certain, and in most years DWR issues its final SWP allocation by this time. While most of the water supply is certain by this time, runoff in the late fall remains somewhat variable as the next year's runoff season begins. A drier than forecasted fall can result in not meeting end-of-year reservoir storage targets, which means less water available in storage for the following year.

Water year 2013 was a year with two hydrologic extremes. October through December 2012 was one of the wettest fall periods on record but was followed by the driest consecutive 12 months on record. The supply allocation for 2013 was a 35% allocation. However, the 2013 hydrology ended up being even drier than DWR's conservative hydrologic forecast, so the SWP began 2014 with reservoir storage lower than targeted levels and less stored water available for 2014 supplies. Compounding this low storage situation, 2014 also was a critically dry year, with runoff for water year 2014 the fourth driest on record.

The exceedingly dry sequence from the beginning of January 2013 through the end of 2014 was one of the driest two-year periods in the historical record. The dry-year sequence in 2020 through 2021 also represents an extreme hydrologic event in terms of temperature and precipitation. Water Year 2020 was California's fifth driest year on record based on statewide runoff, followed by Water Year 2021 which was the second driest year and warmest year on record. The warmer temperatures in 2014 and 2021 resulted in an increased climatic water deficit. This historical data has shown that California's climate is transitioning to a much warmer setting where historical relationships among temperature, precipitation and runoff are changing, and these conditions may become more frequent. As noted above, the circumstances that led to the low 2014 and 2021 SWP water supply allocation were unusual, and likely have a low probability of frequent occurrence in the future. Thus, the assumption for SWP contractors such as SCV Water is that a 5% allocation in 2014 and 2021 represents the "worst-case" scenario.

The 2020 UWMP reflected information from DWR's 2019 DCR. The report was based on DWR's CALSIM 2 model that utilizes a repeat of the historic hydrologic period of 1922 through 2003. DWR's analysis of existing (2020) conditions was used to estimate SWP supplies between 2020 and 2040 and its analysis of future (2040) conditions is used to estimate 2040-2050 SWP supplies. SWP supplies for the five-year increments between 2020 and 2040 are interpolated between these values. SWP supplies for years beyond 2040 are assumed to be the same as for 2040.

On December 31, 2021, DWR released its Draft 2021 DCR. This draft report is based on DWR's new CALSIM 3 model that extends the hydrologic period through 2015 thus incorporating the historic dry years of 2014 and 2015 but does not include the wet years in 2017 and 2019. This report reduces the 2020 average yield from 58% to 56%. The Draft 2021 DCR does not contain an analysis for 2040 conditions as it was not contained in the 2019 DCR. Thus, the SWP reliability shown in Table 3-1 reflects reduced reliability of 56% in 2020 and other year's supplies are interpolated between 2020 and 2040 values.

The Draft 2021 DCR also reduced the single year delivery capability in 2020 to 5%. As the 2020 UWMP was already using that value for its Single Years SWP supply, that value was not changed in the single year dry period. This is reflected in Table 3-1.

The Draft 2021 DCR did not provide Table A allocations for each individual year that would enable a re-analysis of the five-year multiple dry year period. The report does contain a summary of six-year drought that indicate an average allocation of 25% of Table A amounts. That is the same average value that was used in the 2020 UWMP. Thus, for purposes of this WSA, Table 3-1 reflects the same five-year multiple dry year analysis.

TABLE 3-1 SWP TABLE A SUPPLY RELIABILITY (AF)[a][b]

Wholesaler (Supply Source)	2020	2025	2030	2035	2040-2050
Average Water Year[c]					
SWP Table A Supply	53,312	52,360	51,408	50,456	49,504
% of Table A Amount[d]	56%	55%	54%	53%	52%
Single-Dry Year					
SWP Table A Supply[e]	6,664	7,616	8,568	9,520	10,472
% of Table A Amount[e]	7%	8%	9%	10%	11%
SWP Table A Supply[f]	4,760	4,760	4,760	4,760	4,760
% of Table A Amount[f]	5%	5%	5%	5%	5%
Multiple-Dry Year[h]					
SWP Table A Supply[g]	23,800	23,800	23,800	23,800	23,800
% of Table A Amount[d]	25%	25%	25%	25%	25%

Notes:
(a) Supplies to SCV Water are based on DWR analyses presented in its 2021 draft DCR and 2019 DCR, assuming existing SWP facilities and current regulatory and operational constraints (except as indicated in Note f).
(b) Table A supplies include supplies allocated in one year that are carried over for delivery the following year.
(c) Based on average deliveries over a repeat of the study's historic hydrologic period of 1922 through 2003 for 2019 DCR, and 1922 through 2015 for the 2021 draft DCR.
(d) Supply as a percentage of SCV Water's Table A Amount of 95,200 AF.
(e) Based on a repeat of the worst case historic single dry year of 1977 (from 2019 DCR)
(f) Based on the worst-case actual allocation of 2014.
(g) Supplies shown are annual averages over five consecutive dry years, based on a repeat of the historic five-year dry period of 1988-1992.

3.2.8 Coordinated Operations Agreement

The Coordinated Operation Agreement (COA) was originally signed in 1986 and defines how the state and federal water projects share the available water supply and the obligations including senior water right demands, water quality and environmental flow requirements imposed by regulatory agencies. The agreement calls for periodic review to determine whether updates are needed in light of changed conditions. After completing a joint review process, DWR and the Bureau of Reclamation agreed to an addendum to the COA in December 2018, to reflect water quality regulations, biological opinions and hydrology updated since the agreement was signed.

The COA Addendum includes changes to the percentages for sharing responsibilities for in basin uses, sharing available export capacity, and the review process. The 1986 Agreement required CVP to meet 75% of the in basin uses and the SWP to meet 25%. The COA Addendum now distinguishes responsibility based on water year type and CVP responsibilities range from 80% in wet years to 60% in critical years. SWP responsibility ranges from 20% in wet years to 40% in critical years. Additionally, the COA Addendum changed sharing export capacity. Previously, export capacity was shared 50% to CVP and 50% to SWP. The COA addendum changed this formula to be 65% CVP and 35% SWP during balanced conditions and 60% CVP and 40 % SWP during excess conditions. Overall, based on modeling, these changes result in an approximately 115,000 AFY on average reduction in SWP supplies.

Finally, the 2018 COA Addendum updated the review process to require review of the COA Agreement and Addendum every 5 years. Litigation regarding the COA addendum environmental review is ongoing. The litigation is unlikely to change the negotiated COA addendum and implementation has already begun.

3.2.9 Delta Conveyance Project

Consistent with Executive Order N-10-19, in early 2019, the state announced a new single tunnel project, which proposed a set of new diversion intakes along Sacramento River in the north Delta for the SWP. In 2019, DWR initiated planning and environmental review for a single tunnel DCP to protect the reliability of SWP supplies from the effects of climate change and seismic events, among other risks. DWR's current schedule for the DCP environmental planning and permitting extends through the end of 2024. DCP will potentially be operational in 2040 following extensive planning, permitting and construction.

DWR estimates of SWP supply reliability in its 2019 DCR are based on existing facilities, and so do not include the proposed conveyance facilities that are part of the DCP. Since the 2020 UWMP uses DWR's 2019 DCR to estimate SWP supplies at 2040, any changes in SWP supply reliability that would result from the proposed DCP are not included in the UWMP. If the DCP is implemented, SWP reliability would improve, but to be conservative, that analysis is not incorporated in this WSA.

3.2.10 Emergency Freshwater Pathway Description (Sacramento-San Joaquin Delta)

It has been estimated by DWR that in the event of a major earthquake in or near the Delta, water supplies could be interrupted for up to three years, posing a significant and unacceptable risk to the California business economy. A post-event strategy would provide necessary water supply protections to avert this catastrophe. Such a plan has been coordinated through DWR, Corps of Engineers (Corps), Reclamation, California Office of Emergency Services (Cal OES), the Metropolitan Water District of Southern California, and the State Water Contractors.

DWR Delta Flood Emergency Management Plan: The Delta Flood Emergency Management Plan (DWR, 2018) provides strategies for response to Delta levee failures, up to and including earthquake-induced multiple island failures during dry conditions when the volume of flooded islands and saltwater intrusion are large, resulting in curtailment of export operations. Under these severe conditions, the plan includes a strategy to establish an emergency freshwater pathway from the central Delta along Middle River and Victoria Canal to the export pumps in the south Delta. The plan includes the prepositioning of emergency construction materials at existing and new stockpile and warehouse sites in the Delta, and development of tactical modeling tools (DWR Emergency Response Tool) to predict levee repair logistics, timelines of levee repair and suitable water quality to restore exports. The Delta Flood Emergency Management Plan has been extensively coordinated with state, federal and local emergency response agencies. DWR, in conjunction with local agencies, the Corps and Cal OES, conduct tabletop and field exercises to test and revise the plan under real time conditions.

DWR and the Corps provide vital Delta region response to flood and earthquake emergencies, complementary to Cal OES operations. These agencies perform under a unified command structure and response and recovery framework. The Northern California Catastrophic Flood Response Plan (Cal OES, 2018) incorporates the DWR Delta Flood Emergency Management

Plan. The Delta Emergency Operations Integration Plan (DWR and USACE, 2019) integrates personnel and resources during emergency operations.

Pathway Implementation Timeline: The Delta Flood Emergency Management Plan has found that using pre-positioned stockpiles of rock, sheet pile and other materials, multiple earthquake-generated levee breaches and levee slumping along the freshwater pathway can be repaired in less than six months. A supplemental report (Levee Repair, Channel Barrier, and Transfer Facility Concept Analyses to Support Emergency Preparedness Planning, M&N, August 2007) evaluated among other options, the placement of sheet pile to close levee breaches, as a redundant method if availability of rock is limited by possible competing uses. The stockpiling of sheet pile is vital should more extreme emergencies warrant parallel and multiple repair techniques for deep levee breaches. Stockpiles of sheet pile and rock to repair deep breaches and an array of levee slumping restoration materials are stored at DWR and Corps stockpile sites and warehouses in the Delta.

Emergency Stockpile Sites and Materials: DWR has acquired lands at Rio Vista and Stockton as major emergency stockpile sites, which are located and designed for rapid response to levee emergencies. The sites provide large loading facilities, open storage areas and new and existing warehousing for emergency flood fight materials, which augment existing warehousing facilities throughout the Delta. The Corps maintains large warehousing facilities in the Delta to store materials for levee freeboard restoration, which can be augmented upon request of other stockpiles in the United States. Pre-positioned rock and sheet pile are used for closure of deep levee breaches. Warehoused materials for rapid restoration of slumped levees include muscle (k-rail) walls, super sacks, caged rock containers, sandbags, stakes, and plastic tarp. Stockpiles will be augmented as materials are used.

Emergency Response Drills: Earthquake-initiated multiple island failures will mobilize DWR and Corps resources to perform Delta region flood fight activities within an overall Cal OES framework. In these events, DWR and the Corps integrate personnel and resources to execute flood fight plans through the Delta Emergency Operations Integration Plan (DWR and USACE, 2019). DWR, the Corps and local agencies perform emergency exercises focusing on communication readiness and the testing of mobile apps for information collection and dissemination. The exercises train personnel and test the readiness of emergency preparedness and response capabilities under unified command and provide information to help to revise and improve plans.

Levee Improvements and Prioritization: The DWR Delta Levees Subventions and Special Projects Programs have prioritized, funded, and implemented levee improvements along the emergency freshwater pathway and other water supply corridors in the central and south Delta. These efforts are complementary to the Delta Flood Emergency Management Plan, which along with pre-positioned emergency flood fight materials, ensures reasonable seismic performance of levees and timely pathway restoration after a severe earthquake. These programs have been successful in implementing a coordinated strategy of emergency preparedness to the benefit of SWP and CVP export systems.

Significant improvements to the central and south Delta levees systems along Old and Middle Rivers began in 2010 and are continuing to the present time. This complements substantially improved levees at Mandeville and McDonald Islands and portions of Victoria and Union Islands. Levee improvements along the Middle River emergency freshwater pathway and Old River consist of crest raising, crest widening, landside slope fill and toe berms, which improve seismic stability, reduce levee slumping, and create a more robust flood-fighting platform. Urban

agencies, including Metropolitan, Contra Costa Water District, East Bay Municipal Utility District, and others have participated in levee improvement projects along or near the Old and Middle River corridors.

3.2.11 Sisk Dam Raise and San Luis Reservoir Expansion

Reclamation and San Luis & Delta Mendota Water Authority (SLDMWA) are proposing to raise Sisk Dam and increase storage capacity in San Luis Reservoir. The proposed 10-foot dam raise is in addition to the ongoing 12-foot raise of Sisk Dam to improve dam safety and would expand San Luis Reservoir storage by 130 thousand AF. The final supplemental EIS/EIR, released on December 18, 2020, estimated that the SWP exports could potentially reduce by about 23 thousand AFY on average under the preferred alternative. This project is currently undergoing design, environmental planning, and permitting. Construction is estimated to complete by 2030, following environmental planning and permitting.

DWR estimates of SWP supply reliability in its 2019 DCR are based on existing facilities, and do not include this project.

3.2.12 SWP Seismic Improvements

DWR's recent SWP seismic resiliency efforts have focused heavily on SWP Dam Safety. The most prominent is the joint Reclamation/DWR corrective action study of Sisk Dam which will result in a massive seismic stability alteration project and is expected to begin construction in 2021. Several analyses have been conducted on SWP dam outlet towers/access bridges which has resulted in seismic upgrades (some completed/some on-going). Castaic Reservoir outlet towers were determined to be vulnerable to a major earthquake. DWR is currently undertaking retrofits to the access bridge to the Castaic outlet tower. That work is scheduled to be completed in 2022. Updated dam seismic safety evaluations are being performed on the Oroville Dam embankment and the radial gate control structure on the flood control spillway.

Seismic retrofits have also been completed on 23 SWP bridges located in four Field Divisions with additional retrofits in various development stages. DWR has also updated the earthquake notification procedures and has replaced and expanded instrumentation for the SWP's seismic network.

3.2.13 Water Quality Control Plan/Voluntary Agreement

The State Water Board is responsible for adopting and updating the Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary (Bay-Delta Plan), which establishes water quality control objectives and flow requirements needed to provide reasonable protection of beneficial uses in the Watershed. The State Water Board has been engaged for many years in updating the Bay Delta Plan.

The Bay-Delta Plan is being updated through phases. Phase 1 is updating the Bay-Delta Plan objectives for the San Joaquin River and its major tributaries and the southern Delta salinity objectives. Phase 2 is updating the objectives for the Sacramento River and Delta and their major tributaries. (Plan amendments). On December 12, 2018, through State Water Board Resolution No. 2018-0059, the State Water Board adopted the Phase 1 Plan amendments and Final Substitute Environmental Document (SED) establishing the Lower San Joaquin River flow objectives and revised southern Delta salinity objectives. On February 25, 2019, the Office of Administrative Law approved the Plan amendments. The 2020 UWMP requires an adaptive

range of 30-50 percent of the unimpaired flow to be maintained from February through June in the Stanislaus, Tuolumne, and Merced Rivers, with a starting point of 40 percent of the unimpaired flow. During this same time period, the flows at Vernalis on the San Joaquin River, as provided by the unimpaired flow objective, are required to be no lower than a base flow of 1,000 cubic feet per second (cfs), with an adaptive range between 800 and 1,200 cfs, inclusive. Phase 1 plan amendments are the subject of litigation.

The State Water Board is also considering Phase 2 Plan amendments focused on the Sacramento River and its tributaries, Delta eastside tributaries (including the Calaveras, Cosumnes, and Mokelumne rivers), Delta outflows, and interior Delta flows. Staff is recommending an adaptive range of 45-65 percent Unimpaired Flow (UIF) objective with a starting point of 55 percent. Once the State Water Board adopts Phase 2 Plan amendments, the Board will need to conduct hearings to determine, consistent with water rights, water users' responsibilities for meeting the objectives in both Phase 1 and 2. At this time, the potential impacts to the SWP are unknown, but this objective would have a large impact on water users in the Phase 2 planning area.

The State and several water users began working on an alternative to the Bay-Delta Plan update in 2018, known as the Voluntary Agreement process. The Voluntary Agreement process offers an alternative to the State Water Board staff's flow only approach. A Voluntary Agreement, if agreed to by the State Water Board, would be a substitute for the UIF approach and would become the Program of Implementation for the Plan amendments. Implementing the Voluntary Agreement would not require a water rights hearing because the parties are agreeing to take the actions. The Voluntary Agreement approach would provide flow, and funding for flows, habitat actions, and a robust science program. The Voluntary Agreement approach could provide an opportunity to combine flow and habitat actions to protect public trust resources, while providing certainty for water users. If successful, it provides a pathway to avoid years of hearings and litigation.

3.2.14 Delta Reliance

Approximately half of SCV Water's water supply comes from the Delta. The 2020 UWMP Guidebook describes how urban water suppliers that anticipate participating in or receiving water from a "covered action" related to the Delta should provide information in their 2020 UWMPs to demonstrate consistency with *Delta Plan Policy WR P1, Reduce Reliance on the Delta Through Improved Regional Water Self-Reliance* (Reduced Reliance Policy). SCV Water completed such documentation which is included in Appendix K of the 2020 UWMP.

3.2.15 Other Imported Supplies

The following supplies are available to SCV Water through agreements that have been executed since 2005. These supplies are now part of the imported supplies available to the service area.

3.2.15.1 Buena Vista-Rosedale Rio Bravo

SCV Water has executed a long-term transfer agreement for 11,000 AFY with BVWSD and RRBWSD. These two districts, both located in Kern County, joined together to develop a program that provides both a firm water supply and a water banking component. Both districts are member agencies of the Kern County Water Agency (KCWA), a SWP contractor, and both districts have contracts with KCWA for SWP Table A Amounts. The supply is based on existing long-standing Kern River water rights held by BVWSD and is delivered by exchange of the two districts' SWP Table A supplies or directly to the California Aqueduct via the Cross Valley Canal. This water supply is firm; that is, the total amount of 11,000 AFY is available in all water year types based on the Kern River Water right. SCV Water began taking delivery of this supply in 2007.

SCV Water has entered into agreements that reserved 3,378 AF of the Buena Vista-Rosedale Rio Bravo water for potential annexations into its service area. 389 AF is reserved for the second phase of the Tesoro Del Valle development. This development is scheduled to be completed by the end of 2025. 489 AF has been reserved for the Tapia Ranch development with development estimated to be completed in the late 2020s. 2,500 AF is reserved for the planned Legacy Village development. This development is assumed to occur after 2030 but before 2035. During the periods before demands for these developments occur, or if these developments occur but do not use all the amounts reserved for them in any year or years, the remaining supply would be available to the entire SCV Water service area.

3.2.15.2 Nickel Water - Newhall Land

Newhall Land has acquired a water supply from Kern County sources known as the Nickel water. This source of supply totals 1,607 AFY. As provided in its water purchase agreement, the Nickel water provides a firm source of supply and is available in all hydrologic water year types. This source of supply was acquired in anticipation of the development of the Newhall Ranch Specific Plan Development. Newhall Land currently stores its annual supply of Nickel water in its Semitropic Water Storage District Water Banking Program. Upon completion of the Newhall Ranch Specific Plan, Newhall Land will transfer its rights to this supply to SCV Water. In the 2020 UWMP, it is assumed for planning purposes that Newhall Ranch will be developed and that this water supply will be transferred to SCV Water in 2035 (i.e., the assumed completion of the Newhall Ranch Specific Plan), thereafter becoming available as an annual supply to SCV Water. Prior to any permanent transfer to SCV Water, Newhall Land may make this supply available to SCV Water for purchase. However, because there is no history of such purchases, the 2020 UWMP, and this WSA, does not assume this Nickel water will be generally available to meet SCV Water demands until 2035. Further, SCV Water is not aware of any agreement that Newhall Land has entered into to sell this water to other public water systems prior to the transfer of the Nickel water to SCV Water.

SCV Water and NLF will monitor the use and storage of Nickel water. SCV Water is required to undertake this effort to manage its overall supply portfolio, to meet SCV Water's obligations under applicable state law, and by request of the County of Los Angeles in the Specific Plan EIR. Based on current estimates, the Nickel water and the stored water in the Semitropic bank provide adequate reserves for potential future needs within the Specific Plan area. Under the Specific Plan EIR, NLF is to transfer Nickel water from its Semitropic Water Bank to make up a shortfall.

3.2.15.3 Yuba Accord Water

In 2008, SCV Water entered into the Yuba Accord Agreement, which allows for the purchase of water from the Yuba County Water Agency through DWR to 21 SWP contractors (including SCV Water) and the San Luis and Delta-Mendota Water Authority. Yuba Accord water comes from north of the Delta, and the water purchased under this agreement is subject to losses associated with transporting it through the Delta. These losses can vary from year to year, depending on Delta conditions at the time the water is transported. Under the agreement, an estimated average of up to 1,000 AFY of non-SWP supply (after losses) is available to SCV Water in dry years, through 2025. In 2021, with a SWP allocation of 5% of Table A Amount, a supply of 1,640 AF north of the Delta is available to SCV Water (based on September 27, 2021, estimate). Under certain hydrologic conditions, additional water may be available to SCV Water from this program. SCV Water received 284 AF from this source in 2020.

3.3 Groundwater

This section presents information about groundwater supplies, including a summary of the previously adopted groundwater management plan (GWMP) along with the recently adopted GSP.

3.3.1 Santa Clara River Groundwater Basin – East Subbasin

The sole source of local groundwater for urban water supply in the Valley is the groundwater Basin identified in the DWR Bulletin 118 (DWR 2016) as the Santa Clara River Valley Groundwater Basin, East Subbasin (Basin) (Basin No. 4-4.07). The un-adjudicated Basin is comprised of two aquifer systems, the Alluvium and the Saugus Formation. The Alluvium generally underlies the Santa Clara River and adjacent areas, including its several tributaries, to maximum depths of about 200 feet; and the Saugus Formation underlies practically the entire Upper Santa Clara River (USCR) area, to depths of at least 2,000 feet. There are also some scattered outcrops of Terrace deposits in the Basin that likely contain limited amounts of groundwater. However, since these deposits are located in limited areas situated at elevations above the regional water table and are also of limited thickness, they are of no practical significance as aquifers for municipal water supply; consequently, they have not been developed for any significant water supply in the Basin and are not included as part of the existing or planned groundwater supplies described in this WSA. The Basin is defined in Bulletin 118 as being bordered on the north by the Piru Mountains, on the west by impervious rocks of the Modelo and Saugus Formations and a constriction in the alluvium, on the south by the Santa Susana Mountains, and on the south and east by the San Gabriel Mountains (DWR 2016). The extent of the basin generally coincides with the outer extent of the Alluvium and Saugus Formation.

The Santa Clara River Valley Groundwater Basin, East Subbasin has been identified by DWR as a high priority basin, not subject to critical conditions of overdraft, thereby requiring preparation of a GSP, described below.

3.3.2 Groundwater Management Planning

As part of legislation authorizing SCV Water to provide retail water service to individual municipal customers, Assembly Bill (AB) 134 (2001) included a requirement that SCV Water prepare a GWMP (provided as Appendix I of the 2020 UWMP) in accordance with the provisions of Water Code Section 10753, which was originally enacted by AB 3030. This

legislation has since been superseded by the passage of SGMA in 2014 and the submittal of a GSP to DWR by the SCV-GSA in January 2022. The GSP is available at https://scvgsa.org/wp-content/uploads/2021/12/SCV-GSP-Sections-Combined-20211217.pdf. The GSP was in large part built on the GWMP with the groundwater basin operating within the yields identified in the GWMP. A summary of GWMP and the GSP are provided below.

3.3.2.1 Groundwater Sustainability Plan

The Santa Clarita Valley Groundwater Sustainability Agency (SCV-GSA) operates under a Joint Powers Agreement, which was executed by member Agencies in 2018. The SCV-GSA has adopted the State-required GSP for the East Subbasin of the Santa Clara River Valley Groundwater Basin. The plan represents a significant multi-year undertaking concluding with its adoption and submittal to DWR in January 2022. Development of the GSP reflected a significant stakeholder engagement effort with the involvement of a Stakeholder Advisory Committee to reflect the views from private well owners, members at large, environmental interests, and the business community. This Stakeholder Advisory Committee met regularly to review technical memoranda and provided advisement to the GSA on materials and assistance with several public workshops.

The final Board- adopted GSP is consistent with the current groundwater operating plan as described in the GWMP (AB 3030 plan), and its 2009 update, described below. The GSP, however refined the technical analysis as it utilized a new groundwater flow model (an unstructured grid version of ModFlow called ModFlow USG) that models the groundwater operating plan. These refinements include updates such as redistribution of pumping and current Basin conditions. The plan also developed minimum thresholds as a basis to determine that the groundwater basin is being managed in a sustainable manner. The SCV-GSA will conduct the required annual monitoring and reports for the GSP.

3.3.2.2 Groundwater Management Plan

The general contents of the GWMP were outlined in 2002, and a detailed plan was adopted in 2003 to satisfy the requirements of AB 134. The plan both complements and formalized a number of existing water supply and water resource planning and management activities in SCV Water's service area, which effectively encompass the East Subbasin of the Santa Clara River Valley Groundwater Basin. Notably, the GWMP also includes a basin-wide monitoring program, the results of which provide input to annual reporting on water supplies and water resources in the Basin, as well as input to assessment of Basin yield for water supply as described herein. Groundwater level data from the existing groundwater monitoring program is reported to DWR as part of SBX7-6 implementation CASGEM. SCV Water serves as the monitoring entity for CASGEM for the basin. Available groundwater level data for the CASGEM program is submitted twice a year. SCV Water will continue to provide groundwater level data consistent with the CASGEM program.

The GWMP contains four management objectives, or goals, for the Basin including (1) development of an integrated surface water, groundwater and recycled water supply to meet existing and projected demands for municipal, agricultural and other water uses; (2) assessment of groundwater basin conditions to determine a range of operational yield values that use local groundwater conjunctively with supplemental SWP supplies and recycled water to avoid groundwater overdraft; (3) preservation of groundwater quality, including active characterization and resolution of any groundwater contamination problems, and (4) preservation of interrelated surface water resources, which includes managing groundwater to not adversely impact surface and groundwater discharges or quality to downstream basin(s).

Prior to preparation and adoption of the GWMP, a local MOU process among the former CLWA, the CLWA retail water purveyors and UWCD in neighboring Ventura County, downstream of the East Subbasin of the Santa Clara River Valley, produced the beginning of local groundwater management. This is now embodied in the GWMP prepared and implemented in 2001. The MOU was a collaborative and integrated approach to several aspects of water resource management included in the GWMP. As a result of the MOU, the cooperating agencies integrated their respective database management efforts and continued to monitor and report on the status of Basin conditions, as well as on geologic and hydrologic aspects of their respective parts of the overall stream-aquifer system. Following adoption of the GWMP, the water suppliers developed and utilized a numerical groundwater flow model for analysis of groundwater basin yield and for analysis of extraction and containment of groundwater contamination. The results of those basin yield and contamination analyses, updated in 2009 by Luhdorff and Scalmanini Consulting Engineers and GSI Water Solutions, Inc. (LSCE & GSI, 2009), are bases for the amounts and allocations of groundwater supplies in the 2020 UWMP.

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

- Monitoring of groundwater levels, quality, production, and subsidence
- Monitoring and management of surface water flows and quality
- Determination of Basin yield and avoidance of overdraft
- Development of regular and dry-year emergency water supply
- Continuation of conjunctive use operations
- Long-term salinity management
- Integration of recycled water
- Identification and mitigation of soil and groundwater contamination, including involvement with other local agencies in investigation, cleanup, and closure
- Development and continuation of local, state, and federal agency relationships
- Groundwater management reports
- Continuation of public education and water conservation programs
- Identification and management of recharge areas and wellhead protection areas
- Identification of well construction, abandonment, and destruction policies
- Provisions to update the groundwater management plan

Work on a number of the GWMP elements had been ongoing for some time prior to the formal adoption of the GWMP and expanded work on implementation of the GWMP will continue on an ongoing basis through the administration of the GSP. The GSP evaluates the operating plan going forward and these analyses of the groundwater basin are reflected in the 2020 UWMP and this WSA. Notable in the implementation of the GWMP has been the annual preparation of a Santa Clarita Valley Water Report (Annual Report) that summarizes (1) water requirements, (2) all three sources of water supply (groundwater, imported surface water and recycled water, all as part of the GWMP's overall management objectives), and (3) projected water supply availability to meet the following year's projected water requirements. Besides for addressing GWMP requirements, the Annual Report is also prepared in response to a request by the Los Angeles County Board of Supervisors and the MOU between the water purveyors in the Basin and UWCD. SGMA also requires preparation of an annual report on basin conditions. The first report being due in April of 2022 will address much of the same information but framed in the context of the GSP Sustainability Criteria discussed below.

3.3.2.3 Available Groundwater Supplies

The groundwater component of overall water supply in the Valley derives from a groundwater operating plan developed and analyzed to meet water requirements (municipal, agricultural, small domestic) while maintaining the Basin in a sustainable condition, specifically no long-term depletion of groundwater or interrelated surface water. The operating plan also addresses groundwater contamination issues in the Basin, all consistent with the GWMP described above. The groundwater operating plan and the GSP are based on the concept that pumping can vary from year to year to allow increased groundwater use in dry periods and increased recharge during wet periods to collectively assure that the groundwater Basin is adequately replenished through various wet/dry cycles. As ultimately formalized in the GWMP and described in the Basin Yield Report (LSCE and GSI, 2009), and in the GSP, the operating yield concept has been quantified as ranges of annual pumping volumes to capture year-to-year pumping fluctuations in response to both hydrologic conditions and customer demand.

Ongoing work through implementation of the GWMP has produced three detailed technical reports in addition to the annual Water Reports (the most recent of which, for 2020, was the twenty-third annual report). The first detailed technical report (CH2M Hill, April 2004) documents the construction and calibration of the groundwater flow model for the Valley. The second report (CH2M Hill and LSCE, August 2005) presents the initial modeling analysis of the purveyors' original groundwater operating plan. The most recent report, an updated analysis of the Basin (LSCE & GSI, 2009) presents the modeling analysis of the current groundwater operating plan, including restoration of two Saugus Formation wells for municipal supply after treatment and also presents a range of potential impacts deriving from climate change considerations. All those results are reflected in this WSA. The primary conclusion of the technical analysis is that the groundwater operating plan will not cause detrimental short- or long-term effects to the groundwater and surface water resources in the Valley and is therefore sustainable. The analysis of sustainability for groundwater and interrelated surface water is described in detail in "Analysis of Groundwater Supplies and Groundwater Basin Yield, USCR Groundwater Basin, East Subbasin" (Basin Yield Analysis) prepared August 2009 (LSCE & GSI, 2009).

Additional technical work performed for the SCV-GSA in preparation of its GSP confirmed previous conclusions that the basin plan was sustainable. Utilizing the new MODFLOW-USG model, additional analysis of the basin plan operating plan was performed for the Water Budget Development for the Santa Clara River Valley East Groundwater Subbasin report, GSI Water Solutions Inc, October 2021. The analysis was based on the existing operating plan, modified spatial pumping distribution, incorporated updated climate change data, and made other refinements. The analysis concluded that chronic lowering of groundwater levels and groundwater storage would not occur under the operating plan and therefore operation was within the safe yield of the Basin.

The updated groundwater operating plan (LSCE & GSI, 2009), as well as operations anticipated under the GSP are summarized in Table 3-2, is as follows:

- **Alluvium:** Pumping from the Alluvial Aquifer in a given year is governed by local hydrologic conditions in the eastern Santa Clara River Watershed. Pumping for municipal, agricultural, and private purposes ranges between 30,000 and 40,000 AFY during normal and above-normal rainfall years. However, due to hydrogeologic constraints in the eastern part of the Basin along with distribution of groundwater pumping, pumping is reduced to between 30,000 and 35,000 AFY during locally dry

years. These amounts result in an ability to operate supply wells in the Basin in a feasible and sustainable manner.

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

TABLE 3-2 GROUNDWATER OPERATING PLAN FOR THE SANTA CLARITA VALLEY

	Groundwater Production (AF)			
Aquifer	**Normal Years**	**Dry Year 1**	**Dry Year 2**	**Dry Years 3-5**
Alluvium	30,000 to 40,000	30,000 to 35,000	30,000 to 35,000	30,000 to 35,000
Saugus Formation	7,500 to 15,000	15,000 to 25,000	21,000 to 25,000	21,000 to 35,000
Total	**37,500 to 55,000**	**45,000 to 60,000**	**51,000 to 60,000**	**51,000 to 70,000**

Within the groundwater operating plan, three factors affect the availability of groundwater supplies: sufficient source capacity (wells and pumps), sustainability of the groundwater resource to meet pumping demand on a renewable basis ,and protection of groundwater sources (wells) from known contamination, or provisions for treatment in the event of contamination. These factors are discussed below.

Protection of groundwater sources and provisions for treatment in the event of contamination is briefly discussed below and discussed further in Section 4.

Perchlorate has been a water quality concern since 1997 when first detected in SCV Water's service area. Several Saugus Formation and Alluvial wells were initially removed from service. Treatment facilities for two wells, Saugus 1 and Saugus 2, have been installed and are currently operational. A treatment facility has been installed for the V201 well and awaits final permitting. Treatment system design has been initiated for Well 205. Additionally, two new wells, Saugus 3 and 4 have been designed and await permitting from DDW prior to drilling. Additional details on DDW permitting and associated timeline for Saugus wells are provided in Section 4.

Recently, USEPA provided a health advisory of lifetime exposure to PFOA and PFOS of 70 parts per trillion (or 70 nanogram per liter (ng/l)) for polyfluoroalkyl substances (PFAS). The health advisory is non-enforceable and non-regulatory and is intended to provide technical information to local and state agencies. In August of 2019, DDW set notification level (NL) and response levels for various PFAS constituents. SCV Water wells were tested and as of February 2020, over 60% of Alluvium wells exceeded the NL or RL resulting in 18 wells being taken out of service. Treatment for three of these wells (N-Wells) has been installed and the

wells are now operational. Construction is also currently underway at the Valley Center Wells with a scheduled completion in 2022. Design is underway for treatment of two additional wells, Honby and Santa Clara, scheduled to be back online by 2023. Preliminary design for an additional 6 wells is under way and they are anticipated to be back online between 2024 and 2025. The remaining wells are anticipated to have treatment installed by 2030.

During this interim period of operation, pumping from non-impacted alluvium wells and Saugus Formation wells will be increased to partially mitigate for lost production capacity. The pumping distribution for alluvium wells and Saugus wells is shown in Table 3-4A and Table 3-4B respectively and summarized in Table 3-4 below. The originally anticipated schedule for installation of treatment for alluvium wells and Saugus Formation wells is contained in Appendix E of the 2020 UWMP. Updated Detailed Water Supply Tables are provided in Tables 3-4B, 3-4C, 3-5B and 3-5C (these tables updated planning and construction and permitting schedules and have been prepared in consultation with SCV Water's Engineering and Operations divisions.). For example, the online date for Saugus Formation Well 201 was changed from 2022 to 2024 to reflect inclusion of VOC treatment facilities. Similarly, the Santa Clara and Honby alluvial wells, originally scheduled to be online in 2023, are now scheduled to be available in 2024 to reflect scheduling experience gained from the previously treatment facilities constructed at the N wells. These tables reflect a likely operation moving forward but will be adjusted to reflect operational conditions that may develop.

Recent historical groundwater pumping by SCV Water and other groundwater users is summarized in Table 3-3. The quantity of groundwater used can significantly vary year to year based on a number of factors. For example, in 2016 continued dry conditions in northern California resulted in an allocation of only 20% of SCV Water's Table A amount and SCV Water relied more heavily on groundwater. In contrast 2017 and 2019 were wet years in the watersheds that provide SWP supplies, and higher SWP allocations allowed SCV Water to reduce groundwater extraction allowing the basin to recover storage. 2020 groundwater production was significantly curtailed due to newly implemented PFAS regulatory actions.

Planned future groundwater pumping in normal years, by the retail water purveyors as well as by other groundwater users, is summarized in Table 3-4. Existing and planned groundwater pumping by SCV Water as well as by other groundwater users, for normal, single-dry and multiple-dry year periods, are summarized in Section 4 and in Table 3-6 through Table 3-8 below.

TABLE 3-3 RECENT HISTORICAL GROUNDWATER PRODUCTION (AF)[(a)]

Santa Clara River Valley East Subbasin	2016	2017	2018	2019	2020
SCWD	6,892	3,900	5,383	5,948	5,311
Alluvium	3,485	907	2,465	2,762	2,517
Saugus Formation[(b)]	3,407	2,993	2,918	3,186	2,794
LACWWD 36	1,047	1,093	1,204	972	1,257
Alluvium	0	0	0	0	0
Saugus Formation	1,047	1,093	1,204	972	1,257
NCWD/NWD	4,468	2,303	2,608	3,708	4,591
Alluvium	626	780	728	1,044	1,322
Saugus Formation	3,842	1,523	1,880	2,664	3,269
VWC/VWD	13,922	9,107	13,674	6,919	6,173
Alluvium	11,133	7,737	10,837	5,243	3,732
Saugus Formation	2,789	1,370	2,837	1,676	2,441

Santa Clara River Valley East Subbasin	2016	2017	2018	2019	2020
Total Purveyor	**26,329**	**16,403**	**22,869**	**17,547**	**17,332**
Alluvium	**15,244**	**9,424**	**14,030**	**9,049**	**7,571**
Saugus Formation	**11,085**	**6,979**	**8,839**	**8,498**	**9,761**
Agricultural and Other[(d)(c)]	14,359	13,438	13,071	12,510	12,300
Alluvium	13,605	12,554	12,437	11,967	9,190
Saugus Formation	754	884	843	1067	1060
Total Basin	**40,688**	**29,841**	**36,149**	**30,581**	**27,582**
Alluvium	**28,849**	**21,978**	**26,467**	**21,016**	**16,761**
Saugus Formation	**11,839**	**7,863**	**9,682**	**9,565**	**10,821**
Groundwater Fraction of Total Municipal Water Supply	**56%**	**39%**	**46%**	**42%**	**36%**

Notes:

(a) From 2019 Santa Clarita Valley Water Report (July 2020) and recorded amounts for 2020.

(b) Represents pumping from Saugus 1 and Saugus 2 wells.

(c) Includes agricultural and other small private well pumping.

(d) 2020 Agricultural and Other alluvial production includes Pitches Detention Center = 1,282 AF, Sand Canyon Country Club 116 AF, Small Pumpers = 500 AF and 2020 Newhall Land and Farming pumping = 7,292 AF for a total of 9,190 AF. Saugus includes private irrigation pumping from Valencia Country Club and Vista Valencia Golf Course 612 AF Saugus and Whittaker Bermite Treatment = 448 AF, for a total of 1,060 AF.

TABLE 3-4 PROJECTED GROUNDWATER PRODUCTION (NORMAL YEAR) (AF)

	Groundwater Pumping (AF)					
Basin Name	**2025**	**2030**	**2035**	**2040**	**2045**	**2050**
Santa Clara River Valley East Subbasin						
Purveyor						
Alluvium[a]	19,240	28,050	30,790	30,790	30,790	30,790
Saugus Formation[b]	17,450	9,900	9,900	9,900	9,900	9,900
Total Purveyor	**36,690**	**37,950**	**40,690**	**40,690**	**40,690**	**40,690**
Non-Purveyor (Agricultural and Other)[c]						
Alluvium[d]	11,540	9,150	6,410	6,410	6,410	6,410
Saugus Formation	1,200	1,200	1,200	1,200	1,200	1,200
Total Agricultural and Other	**12,740**	**10,350**	**7,610**	**7,610**	**7,610**	**7,610**
Basin						
Alluvium	30,780	37,200	37,200	37,200	37,200	37,200
Saugus Formation	18,650	11,100	11,100	11,100	11,100	11,100
Total Basin	**49,430**	**48,300**	**48,300**	**48,300**	**48,300**	**48,300**

Notes:

(a) Includes existing, future (associated with the assumed development under the Newhall Ranch Specific Plan) and recovered pumping capacity after PFAS and Perchlorate treatment.

(b) Saugus Normal Year pumping in 2025 is higher than normal to mitigate for lost alluvial pumping capacity due to impacted PFAS wells.

(c) Non purveyor pumping includes Five Point (Newhall Ranch Agriculture), Pitches Detention Center, and Small Private Domestic pumping and irrigation at Sand Canyon Country Club, private irrigation pumping from Valencia Country Club and Vista Valencia Golf Course, as well as projected Whittaker-Bermite pumping for perchlorate treatment.

(d) Reflects reduction of up to 7,038 AF associated with the assumed development under the Newhall Ranch Specific Plan.

As reflected in Table 3-4, the groundwater operating plan recognizes ongoing pumping for the two major uses of groundwater in the Basin, municipal and agricultural (including private pumpers) water supply. Consistent with the groundwater operating plan, projected groundwater pumping includes an ongoing conversion of pumping, coincident with planned land-use changes, from agricultural to municipal water supply. This is shown in Table 3-4, with projected pumping by agricultural and other users decreasing as purveyor pumping increases in such a manner that overall pumping remains within the basin operating plan. The reduction in pumping for agricultural supply is primarily due to the development of Newhall Ranch (expected buildout date of 2034) and is expected to shift to an increase in pumping by SCV Water. The groundwater operating plan and projected pumping also includes other small private domestic and related pumping. As shown in Table 3-4, total projected groundwater pumping by all users within each aquifer is within the ranges for normal year pumping identified in the groundwater operating plan (Table 3-2). SCV Water recognizes that these estimates of projected groundwater use are subject to adjustment based on various factors and conditions occurring from time to time. These estimates are provided for the planning purposes of this report and the UWMP, and do not constitute an allocation of groundwater from the local groundwater basins.

3.3.2.4 Alluvium

Based on a combination of historical operating experience and groundwater modeling analyses (2005 and 2009 groundwater operation plan updates), the Alluvial Aquifer can supply groundwater on a long-term sustainable basis in the overall range of 30,000 to 40,000 AFY, with a probable reduction in dry years to a range of 30,000 to 35,000 AFY. Both of those ranges include 13,000 to 6,400 AFY (as reflected in Table 3-6 and Table 3-7) of Alluvial pumping for agricultural and other non-municipal water uses. The dry year reduction is a result of practical constraints in the eastern part of the Basin, where lowered groundwater levels in dry periods have the effect of reducing pumping capacities in that shallower portion of the aquifer. The GSP will also consider potential impacts on Groundwater Dependent Ecosystems throughout the basin and available analysis supports a determination that historic pumping patterns and future pumping patterns consistent with the Groundwater Basin Operating Plan were protective of these systems. In addition, in general, increased water conservation practices are expected to reduce both indoor and outdoor irrigation demands. Less outdoor irrigation water use creates less return flow to the basin and less indoor water use creates less recycled water both for use within SCV Water and for return to the Santa Clara River. SCV Water will monitor these effects to ensure that pumping by SCV Water does not impact groundwater supply for other uses, including groundwater dependent ecology. Additionally, it is anticipated that the SCV-GSA will monitor groundwater conditions and implement management actions if Sustainable Management Criteria, or Groundwater Dependent Ecosystem triggers are reached so as to protect resources and ensure sustainable operation of the basin.

One notable change in the future geographic patterns of production compared to historical distributions concerns the historic distribution of agricultural pumping compared to future distribution among SCV Water wells. Under the Newhall Ranch Specific Plan, NLF is to dedicate up to 7,038 AFY by fallowing lands and reducing agricultural pumping on its lands. Under the Specific Plan, SCV Water would then have the ability to pump water to serve the new development. The project will be constructed in stages over a number of years depending on market conditions. Likewise, SCV Water pumping would increase over time in such a manner that the overall pumping remains within the basin operating plan. The Specific Plan

development is projecting to implement water conservation practices which will reduce both indoor and outdoor irrigation demands. This reduces the overall water demand of the development. Consistent with the above, SCV Water will monitor the transfer of water from NLF to ensure it does not impact other uses

If the 7,038 AFY dedicated by NLF is not sufficient to support the Specific Plan Development, NLF (or its successor in interest), will transfer additional water to SCV Water from the Nickel Water and/or the Semitropic Water Bank to backstop demands. In anticipation of this development, VWC, a PUC regulated private utility then owned by NLF, installed four wells. However, to manage future potential reductions in groundwater levels in the vicinity of these new wells, particularly during drought conditions, the GSP Water Budget Analysis indicated it would be desirable to install several wells located near the confluence of Castaic Creek and the Santa Clara River near the existing “C” wells that are currently used for agricultural production for Newhall Land’s operations in Los Angeles County.

Adequacy of Supply

Three factors affecting the availability of groundwater are (1) sufficient source infrastructure 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 from potential sources of contamination.

For source infrastructure, existing and planned wells, and pumps, SCV Water has a combined pumping capacity from active Alluvial wells of approximately 51,000 gallons per minute (gpm), which translates into a current full-time Alluvial source pumping capacity of approximately 83,000 AFY. The higher individual and cumulative pumping capacities are primarily for operational reasons (i.e., to meet daily and other fluctuations from average day to maximum day and peak hour system demands). Further, to achieve these levels of production, SCV Water must complete treatment facilities for PFAS compliance. The timing for returning PFAS and Perchlorate impacted wells is shown in the 2020 UWMP and incorporated herein. Alluvial pumping capacity from all the active and future municipal supply wells is summarized in Table 3-4C.

In terms of adequate source capacity to provide flexible and adaptive management in the sustainable use of groundwater resources, the current and projected availability of Alluvial groundwater source capacity of municipal wells is approximately 83,000 AFY. This source capacity is more than sufficient to meet the 21,400 AFY in 2025 and increases to 30,800 in 2035 (Table 3-4). The higher individual and cumulative pumping capacities are primarily for operational reasons (i.e., to meet daily and other fluctuations from average day to maximum day and peak hour system demands). As illustrated on Table 3-4C, the balance of all Alluvial pumping 37,200 AFY, including non-SCV Water pumping, remains within the operating plan range of 30,000 to 40,000 AFY.

TABLE 3-4A ACTIVE MUNICIPAL GROUNDWATER SOURCE CAPACITY — ALLUVIAL AQUIFER WELLS[a]

Well	Permitted Capacity (gpm)	Max. Annual Capacity (AF)	GSP Water Budget Analysis[b] Normal Year (AF)	GSP Water Budget Analysis[b] Dry Year (AF)
Existing Wells[c]				
Castaic 1	640	1,030	430	420
Castaic 2	500	810	220	220
Castaic 4	330	530	-	-
Castaic 6	600	970	-	-
Castaic 7	2,000	3,230	580	730
Pinetree 3	550	890	310	-
Pinetree 4	500	810	-	-
Guida	1,000	1,610	560	560
Lost Canyon 2[d]	800	1,290	410	250
Lost Canyon 2A[d]	1,000	1,610	420	160
N. Oaks West	750	1,210	-	-
Sand Canyon	1,200	1,940	730	310
Well E-15[d]	1,400	2,260	725	620
Well W9	800	1,290	1,010	700
Well W11	1,000	1,610	1,180	1,000
Well E-17[d]	1,200	1,940	725	620
Existing Subtotal	*14,270*	*23,030*	*7,300*	*5,590*
Future[e] and Recovered Wells				
Pinetree 1[f]	300	480	190	0
Pinetree 5[f]	500	810	200	0
Clark[f]	550	890	380	270
Honby[f]	950	1,530	760	110
Mitchell 5B[f]	1,000	1,610	200	60
N. Oaks Central[f]	1,200	1,940	500	340
N. Oaks East[f]	950	1,530	500	220
Santa Clara[f]	1,500	2,420	770	250
Sierra[f]	1,000	1,610	400	60
Valley Center[f]	1,200	1,940	1,000	610
Well D[f]	1,050	1,690	1,210	920
Well N[f]	1,250	2,020	630	1,060
Well N7[f]	2,500	4,040	1,470	1,680
Well N8[f]	2,500	4,040	1,430	1,680
Well Q2[g][f]	1,200	1,940	770	850
Well S6[f]	2,000	3,230	640	2,080

Well	Permitted Capacity (gpm)	Max. Annual Capacity (AF)	GSP Water Budget Analysis[b] Normal Year (AF)	Dry Year (AF)
Well S7[f]	2,000	3,230	620	780
Well S8[f]	2,000	3,230	610	760
Well T7[f]	1,200	1,940	880	360
Well U4[f]	1,000	1,610	940	570
Well U6[f]	1,250	2,020	1,050	660
Well W10[f]	1,500	2,420	1,700	1,490
Well E-14[h]	1,200	1,940	725	610
Well E-16[h]	1,200	1,940	725	610
Well G-45[h]	1,200	1,940	1,670	1,430
Well C-11[h]	2,000	3,230	1,600	1,360
Well C-12[h]	2,000	3,230	1,600	1,360
S9 (Mitchell 5A Replacement)[h]	1,000	1,610	320	320
Future Subtotal	*37,200*	*60,060*	*23,490*	*20,500*
Total	**51,470**	**83,090**	**30,790**	**26,090**

Notes:

(a) The quantities of groundwater extracted by existing or future and recovered well capacity will vary depending on operating conditions. However, overall pumping remains within the groundwater basin yields per the GSP (GSI 2022) and the updated Basin Yield Analysis (LSC & GSI 2009).

(b) Production for Normal and Dry years represented in this table represent the period after all impacted wells (PFAS and Perchlorate impacts) are recovered. Dry-year production represents anticipated maximum dry year production. Schedule for recovered well capacity based on Groundwater Treatment Implementation Plan Technical Memorandum, Kennedy Jenks 2021 in Appendix M of the 2020 UWMP.

(c) Existing Category includes all wells currently online and in use.

(d) E Wells and Lost Canyon have been below the RL so are not impacted wells but they are anticipated to be connected into central treatment systems.

(e) Future Category includes all wells restored from PFAS and Perchlorate water quality issues, and other future alluvial wells including those associated with development under the Newhall Ranch Specific Plan.

(f) PFAS impacted well.

(g) Perchlorate impacted well.

(h) Future wells.

TABLE 3-4B
ACTIVE MUNICIPAL GROUNDWATER SOURCE CAPACITY -
EXISTING, FUTURE AND RECOVERED ALLUVIAL AQUIFER WELLS[a]
NORMAL YEAR DETAIL (2021-2030)

Well	Permitted Capacity (gpm)	Max. Annual Capacity (AF)	Normal Year (AF)[b]									
			2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Existing Wells[c]												
Castaic 1	640	1,030	430	430	430	430	430	430	430	430	430	430
Castaic 2	500	810	220	220	220	220	220	220	220	220	220	220
Castaic 4	330	530	-	-	-	-	-	-	-	-	-	-
Castaic 6	600	970	-	-	-	-	-	-	-	-	-	-
Castaic 7	2,000	3,230	580	580	580	580	580	580	580	580	580	580
Pinetree 3	550	890	310	310	310	310	310	310	310	310	310	310
Pinetree 4	500	810	-	-	-	-	-	-	-	-	-	-
Guida	1,000	1,610	560	560	560	560	560	560	560	560	560	560
Lost Canyon 2[d]	800	1,290	410	410	410	410	410	410	410	410	410	410
Lost Canyon 2A[d]	1,000	1,610	420	420	420	420	420	420	420	420	420	420
N. Oaks West	750	1,210	-	-	-	-	-	-	-	-	-	-
Sand Canyon	1,200	1,940	730	730	730	730	730	730	730	730	730	730
Well E-15[d]	1,400	2,260	1,680	1,680	1,680	1,680	1,680	1,680	1,680	1,680	1,600	1,600
Well W9	800	1,290	1,030	1,030	1,030	1,030	1,030	1,030	1,030	1,030	1,010	1,010
Well W11	1,000	1,610	1,240	1,240	1,240	1,240	1,240	1,240	1,180	1,180	1,180	1,180
Well E-17[d]	1,200	1,940	1,290	1,290	1,290	1,290	1,290	1,290	1,290	1,290	730	730

Existing Subtotal	*14,270*	*23,030*	*8,900*	*8,900*	*8,900*	*8,900*	*8,900*	*8,900*	*8,840*	*8,840*	*8,180*	*8,180*
Future[e] and Recovered Wells												
Pinetree 1[f]	300	480	-	-	-	-	-	-	-	-	-	190
Pinetree 5[f]	500	810	-	-	-	-	-	-	-	-	-	200
Clark[f]	550	890	-	-	-	-	-	-	-	-	-	380
Honby[f]	950	1,530	-	-	-	760	760	760	760	760	760	760
Mitchell 5B[f]	1,000	1,610	-	-	-	-	-	-	-	-	-	200
N. Oaks Central[f]	1,200	1,940	-	-	-	-	-	-	-	-	-	500
N. Oaks East[f]	950	1,530	-	-	-	-	-	-	-	-	-	500
Santa Clara[f]	1,500	2,420	-	-	-	1,010	1,010	1,010	1,010	1,010	1,010	1,010
Sierra[f]	1,000	1,610	-	-	-	-	-	-	-	-	-	400
Valley Center[f]	1,200	1,940	-	1,190	1,190	1,030	1,030	1,030	1,030	1,030	1,030	1,030
Well D[f]	1,050	1,690	-	-	-	-	-	-	-	1,210	1,210	1,210
Well N[f]	1,250	2,020	980	870	870	870	630	630	630	630	630	630
Well N7[f]	2,500	4,040	2,600	2,180	2,180	2,180	1,470	1,470	1,470	1,470	1,470	1,470
Well N8[f]	2,500	4,040	2,600	2,180	2,180	2,810	1,430	1,430	1,430	1,430	1,430	1,430
Well Q2[g][f]	1,200	1,940	-	940	940	940	770	770	770	770	770	770
Well S6[f]	2,000	3,230	-	-	-	-	-	640	640	640	640	640
Well S7[f]	2,000	3,230	-	-	-	-	-	620	620	620	620	620
Well S8[f]	2,000	3,230	-	-	-	-	-	610	610	610	610	610
Well T7[f]	1,200	1,940	-	-	-	-	750	750	750	750	750	750
Well U4[f]	1,000	1,610	-	-	-	-	700	700	700	700	700	700
Well U6[f]	1,250	2,020	-	-	-	-	800	800	800	800	800	840
Well W10[f]	1,500	2,420	-	-	-	-	-	-	1,650	1,650	1,650	1,650
Well E-14[h]	1,200	1,940	-	-	-		740	740	740	740	740	740

Well E-16[(h)]	1,200	1,940	-	-	-		250	650	650	650	650	650
Well G-45[(h)]	1,200	1,940	-	-	-	-	-	-	-	-	1,670	1,670
Well C-11[(h)]	2,000	3,230	-	-	-	-	-	-	-	-	-	-
Well C-12[(h)]	2,000	3,230	-	-	-	-	-	-	-	-	-	-
S9 (Mitchell 5A Replacement)[(h)]	1,000	1,610	-	-	-	-	-	320	320	320	320	320
Future Subtotal	*37,200*	*60,060*	*6,180*	*7,360*	*7,360*	*9,600*	*10,340*	*12,930*	*14,580*	*15,790*	*17,460*	*19,870*
Total	**51,470**	**83,090**	**15,080**	**16,260**	**16,260**	**18,500**	**19,240**	**21,830**	**23,420**	**24,630**	**25,640**	**28,050**

Notes:
(a) The quantities of groundwater extracted by existing or future and recovered well capacity will vary depending on operating conditions. However, overall pumping remains within the groundwater basin yields per the 2020 SCV-GSA Water Budget Development Tech Memo (GSI 2020) and the updated Basin Yield Analysis (LSC & GSI 2009).
(b) Schedule for recovered well capacity based on Groundwater Treatment Implementation Plan Technical Memorandum, Kennedy Jenks 2021 in Appendix M of the 2020 UWMP. 2023 through 2025 adjustments based on January 2022 engineering project schedule updates.
(c) Existing Category includes all wells currently online and in use.
(d) E Wells and Lost Canyon have not come below the RL so are not impacted wells but are anticipated to be connected into central treatment systems.
(e) Future Category includes all wells restored from PFAS and Perchlorate water quality issues, and other future alluvial wells including those associated with development under the Newhall Ranch Specific Plan.
(f) PFAS impacted well.
(g) Perchlorate impacted well.
(h) Future wells.

TABLE 3-4 C
ACTIVE MUNICIPAL GROUNDWATER SOURCE CAPACITY
EXISTING, FUTURE AND RECOVERED ALLUVIAL AQUIFER WELLS[a]
DRY YEAR DETAIL (2021-2030)

Well	Permitted Capacity (gpm)	Max. Annual Capacity (AF)	Dry Year (AF)[b]									
			2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Existing Wells[c]												
Castaic 1	640	1,030	420	420	420	420	420	420	420	420	420	420
Castaic 2	500	810	220	220	220	220	220	220	220	220	220	220
Castaic 4	330	530	-	-	-	-	-	-	-	-	-	-
Castaic 6	600	970	-	-	-	-	-	-	-	-	-	-
Castaic 7	2,000	3,230	730	730	730	730	730	730	730	730	730	730
Pinetree 3	550	890	0	0	0	0	0	0	0	0	0	0
Pinetree 4	500	810	-	-	-	-	-	-	-	-	-	-
Guida	1,000	1,610	560	560	560	560	560	560	560	560	560	560
Lost Canyon 2[d]	800	1,290	250	250	250	250	250	250	250	250	250	250
Lost Canyon 2A[d]	1,000	1,610	160	160	160	160	160	160	160	160	160	160
N. Oaks West	750	1,210	-	-	-	-	-	-	-	-	-	-
Sand Canyon	1,200	1,940	310	310	310	310	310	310	310	310	310	310
Well E-15[d]	1,400	2,260	1,440	1,440	1,440	1,440	1,440	1,440	1,440	1,440	1,440	1,360
Well W9	800	1,290	940	940	940	940	940	940	940	940	940	700
Well W11	1,000	1,610	1,210	1,210	1,210	1,210	1,210	1,210	1,210	1,210	1,210	1,000
Well E-17[d]	1,200	1,940	1,060	1,060	1,060	1,060	1,060	1,060	1,060	1,060	1,060	620
Existing Subtotal	*14,270*	23,030	7,300	7,300	7,300	7,300	7,300	7,300	7,300	7,300	7,300	6,330

Future[e] and Recovered Wells												
Pinetree 1[f]	300	480	-	-	-	-	-	-	-	-	-	0
Pinetree 5[f]	500	810	-	-	-	-	-	-	-	-	-	0
Clark[f]	550	890	-	-	-	-	-	-	-	-	-	270
Honby[f]	950	1,530	-	-	-	110	110	110	110	110	110	110
Mitchell 5B[f]	1,000	1,610	-	-	-	-	-	-	-	-	-	60
N. Oaks Central[f]	1,200	1,940	-	-	-	-	-	-	-	-	-	340
N. Oaks East[f]	950	1,530	-	-	-	-	-	-	-	-	-	220
Santa Clara[f]	1,500	2,420	-	-	-	250	250	250	250	250	250	250
Sierra[f]	1,000	1,610	-	-	-	-	-	-	-	-	-	60
Valley Center[f]	1,200	1,940	-	800	800	800	610	610	610	610	610	610
Well D[f]	1,050	1,690	-	-	-	-	-	-	-	920	920	920
Well N[f]	1,250	2,020	1,060	1,060	1,060	1,060	1,060	1,060	1,060	1,060	1,060	1,060
Well N7[f]	2,500	4,040	2,310	2,310	2,310	2,310	1,680	1,680	1,680	1,680	1,680	1,680
Well N8[f]	2,500	4,040	2,310	2,310	2,310	2,310	1,680	1,680	1,680	1,680	1,680	1,680
Well Q2[g][f]	1,200	1,940	-	1,110	1,110	1,110	850	850	850	850	850	850
Well S6[f]	2,000	3,230	-	-	-	-	-	2,080	2,080	2,080	2,080	2,080
Well S7[f]	2,000	3,230	-	-	-	-	-	780	780	780	780	780
Well S8[f]	2,000	3,230	-	-	-	-	-	760	760	760	760	760
Well T7[f]	1,200	1,940	-	-	-	-	360	360	360	360	360	360
Well U4[f]	1,000	1,610	-	-	-	-	570	570	570	570	570	570
Well U6[f]	1,250	2,020	-	-	-	-	660	660	660	660	660	660
Well W10[f]	1,500	2,420	-	-	-	-	-	-	1,030	1,030	1,030	1,490
Well E-14[h]	1,200	1,940	-	-	-		620	620	620	620	620	620
Well E-16[h]	1,200	1,940	-	-	-		580	580	580	580	580	580

Well G-45[(h)]	1,200	1,940	-	-	-	-					650	690
Well C-11[(h)]	2,000	3,230	-	-	-	-	-	-	-	-	-	-
Well C-12[(h)]	2,000	3,230	-	-	-	-	-	-	-	-	-	-
S9 (Mitchell 5A Replacement)[(h)]	1,000	1,610	-	-	-	-	-	320	320	320	320	320
Future Subtotal	*37,200*	*60,060*	*5,680*	*7,590*	*7,590*	*7,950*	*9,030*	*12,970*	*14,000*	*14,920*	*15,570*	*17,020*
Total	**51,470**	**83,090**	**12,980**	**14,890**	**14,890**	**15,250**	**16,330**	**20,270**	**21,300**	**22,220**	**22,870**	**23,350**

Notes:

(a) The quantities of groundwater extracted by existing or future and recovered well capacity will vary depending on operating conditions. However, overall pumping remains within the groundwater basin yields per the 2020 SCV-GSA Water Budget Development Tech Memo (GSI 2020) and the updated Basin Yield Analysis (LSC & GSI 2009).

(b) Dry-year production represents anticipated maximum dry year production. Schedule for recovered well capacity based on Groundwater Treatment Implementation Plan Technical Memorandum, Kennedy Jenks 2021 in Appendix M of the 2020 UWMP. 2023 through 2025 adjustments based on January 2022 engineering project schedule updates.

(c) Existing Category includes all wells currently online and in use.

(d) E Wells and Lost Canyon have not come below the RL so are not impacted wells but are anticipated to be connected into central treatment systems.

(e) Future Category includes all wells restored from PFAS and Perchlorate water quality issues, and other future alluvial wells including those associated with development under the Newhall Ranch Specific Plan.

(f) PFAS impacted well.

(g) Perchlorate impacted well.

(h) Future wells.

Sustainability

Until 2003, the long-term renewability of Alluvial groundwater was empirically determined from approximately 60 years of pumping and groundwater level records. Generally, those long-term observations included stability in groundwater levels and storage, with some dry-period fluctuations in the eastern part of the Basin. During this period, the total Alluvial pumpage ranged from a low of about 20,000 AFY to as high as about 43,000 AFY. Those empirical observations have since been complemented by the development and application of a numerical groundwater flow model, which has been used to simulate aquifer response to the planned operating ranges and distribution of pumping. The numerical groundwater flow model has also been used to analyze the control of perchlorate contaminant migration. The model was used to evaluate the likelihood of perchlorate migration to the then VWC wells, in particular Well Q2 and the wells in the VWC Pardee wellfield. The assessment of perchlorate migration also evaluated the sustainability and reliability of water supplies from the Alluvial aquifer. This analysis (LSCE, 2005) concluded that there was sufficient production capacity in the Alluvium to meet water demands in the case of VWC Well Q2 and/or the Pardee well field being temporarily taken out of service due to perchlorate impacts.

To examine the yield of the Alluvium, or more specifically the sustainability of the Alluvium on a renewable basis, the original groundwater flow model was used to examine the long-term projected response of the aquifer to pumping for municipal and agricultural uses in the 30,000 to 40,000 AFY range under average/normal and wet conditions, and in the 30,000 to 35,000 AFY range under locally dry conditions, documented in the 2005 basin yield analysis (2005 Basin Yield Analysis), prepared by CH2M Hill & LSCE, 2005. To examine the response of the entire aquifer system, the original model also incorporated pumping from the Saugus Formation in accordance with the normal (7,500 to 15,000 AFY) and dry year (15,000 to 35,000 AFY) operating plan for that aquifer. The model was run over a synthetic 78-year hydrologic period, which was selected from actual historical precipitation to examine a number of hydrologic conditions expected to affect both groundwater pumping and groundwater recharge and including projected impacts from climate change.

Simulated Alluvial Aquifer response to the range of hydrologic conditions and pumping stresses was essentially a long-term repeat of the historical conditions that have resulted from similar pumping over the last several decades. The resultant response included (1) generally constant groundwater levels in the middle to western portion of the Alluvium, and fluctuating groundwater levels in the eastern portion as a function of wet and dry hydrologic conditions, (2) variations in recharge that directly correlate with wet and dry hydrologic conditions and (3) no long-term decline in groundwater levels or storage. Consequently, the Alluvial Aquifer was considered in the 2005 UWMP to be a sustainable water supply source to meet the Alluvial portion of the operating plan for the groundwater Basin.

In 2008, partly in preparation for the 2010 UWMP and partly in response to concerns about events expected to impact the future reliability of supplemental water supply from the SWP, an updated analysis was undertaken to assess groundwater development potential and possible augmentation of the groundwater operating plan. In addition to extending the model's calibration, the updated analysis simulated the historical record of climate and incorporated SWP deliveries for those climatic conditions for an 86-year period from 1922 through 2007, in place of the original model's synthetic 78-year hydrologic period that had been developed prior

to the availability of combined climate and SWP deliveries since 1922. While the overall operating plan ranges in the updated basin yield analysis did not change from the original operating plan, prevailing land-use conditions and the specific distributions of pumping were found to produce the same kinds of resultant Alluvial groundwater conditions as concluded to be sustainable in 2005 – (1) no long-term declines in Alluvial groundwater levels and storage; (2) multi-year periods of locally declining, or locally increasing, groundwater levels in response to cycles of below-normal and above-normal precipitation and (3) short-term impacts on pumping capacities in eastern parts of the basin due to declining groundwater levels during dry periods, mitigable by short-term redistribution of pumping to wells located in the central and western portions of the Basin (reflected in pumping volumes included in this WSA and the 2020 UWMP) and by conformance with the dry-period reduction in Alluvial pumping in the operating plan (Table 3-2). Based on the results of the updated basin yield analysis (LSCE & GSI, 2009), the operating plan is considered to reflect ongoing sustainable groundwater supply rates. In the Alluvium, sustainability was found via explicit simulation of pumping in wet/normal years near the upper end of the operating plan range. In dry years, sustainability was found via explicit simulation of pumping throughout the dry-year operating plan range, with the additional consideration that some redistribution of municipal pumping (reflected in this WSA and the 2020 UWMP and experienced in the dry years of 2014 and 2015) be implemented to achieve pumping rates near the dry-period range.

The SCV-GSA's work on Basin sustainability for the GSP has advanced the technical understanding of basin conditions since the 2009 basin yield analysis and confirms the previous conclusion. A new groundwater flow model using the U.S Geological Survey software MODFLOW-USG was developed calibrated and peer reviewed. The MODFLOW-USG model improves the spatial resolution and employs more sophisticated methods of representing stream/aquifer interactions among other advancements over the previous model. A more thorough discussion is documented in Development of a Numerical Groundwater Flow Model for the Santa Clara River Valley East Groundwater Subbasin GSI September 22, 2020. Additionally, the GSP Water Budget Analysis reflects updated climate change assumptions provided by DWR. New GSP technical reports defining the extent and nature of groundwater dependent ecosystems informed potential future adjustments of pumping distributions throughout the Alluvial Aquifer and Saugus Formation when considering sustainability criteria including potential impacts on groundwater dependent ecosystems. Accordingly, the 2020 UWMP reflects adjusted pumping distributions that are reflected in this WSA's Table 3-4C.

On January 3, 2022, the GSP was adopted which reflects updated technical resources and analysis, and a robust public involvement and review process. The plan can be accessed at. *https://scvgsa.org/wp-content/uploads/2021/12/SCV-GSP-Sections-Combined-20211217.pdf*.

The plan reached the following conclusions relating to sustainability:

1. Chronic Lowering of Groundwater Levels – Alluvium and Saugus Formation pumping consistent with the basin operating plan does not result in chronic lowering of groundwater levels.

2. Reduction of Groundwater Storage - Alluvium and Saugus Formation pumping consistent with the basin operating plan does not result in long-term groundwater storage depletion.

3. Degraded Water Quality – Implementation of treatment for known contaminants support continued Alluvium and Saugus Formation groundwater use consistent with the operating plan.

4. Land Subsidence – An evaluation of the available information indicates there is no evidence of land subsidence occurring. The GSP does identify additional data collection needs to ensure land subsidence remains a non-issue while achieving the basin operation plan. The GSP incorporates active monitoring stations.

5. Depletion of Interconnected Surface Water/Groundwater Dependent Ecosystems – Existing riparian habitat along the Santa Clara River is considered by resource agencies as having very high value. The extent and quality of the habitat can vary significantly from year to year in response to very wet or dry conditions and demonstrates considerable resiliency. Certain aquatic habitats are critical for known protected species such as the Three Spined Unarmored Stickle Back. The GSP incorporates a process that avoids groundwater pumping related permanent loss of riparian habitat or the temporary loss of critical aquatic habitat. Active monitoring of groundwater levels will occur and when trigger levels (set at or above historical groundwater levels) are reached, an assessment of the cause would be conducted. If impacts are related to pumping, then responsive measures and/or projects would be implemented. These could include a reduction of groundwater pumping.

6. Seawater Intrusion – The significant distance of the Alluvial Aquifer and Saugus Formation from the ocean, as well as differences in elevation, do not allow for seawater intrusion into the upper basin.

Considering the results of the 2009 basin yield analysis and the results of the updated groundwater analysis performed by the SCV-GSA for its GSP which included the pumping distributions consistent with those shown in Table 3-4C, the basin can be sustainably operated without chronic lowering of groundwater levels or groundwater storage.

3.3.2.5 Saugus Formation

Based on historical operating experience and recent (2005 and 2009) groundwater modeling analysis, the Saugus Formation can supply water on a long-term sustainable basis in a normal range of 7,500 to 15,000 AFY. Intermittent increases to 25,000 to 35,000 AF in dry years have not been historically experienced operationally, however, investigations of the Saugus Formation, historical groundwater level monitoring data, and numerical modeling indicate that the Saugus Formation can be pumped sustainably at these higher rates in dry years, followed by reductions in pumping in wet to normal years. The dry-year increases, based on modeled projections, demonstrate that the 25,000 to 35,000 AFY is a small amount of the large groundwater storage in the Saugus Formation and these amounts can be pumped over a relatively short (dry) period. This would be followed by recharge (replenishment) of that storage during a subsequent normal-to-wet period when the Saugus pumping would be reduced to 7,500 to 15,000 AFY.

Adequacy of Supply

For municipal water supply with existing wells, SCV Water has a combined pumping capacity from active Saugus wells of nearly 16,200 gpm, which translates into a full-time Saugus

Formation source capacity of about 26,120 AFY. Additionally, LACWWD 36 completed a Saugus Formation Well with a pumping capacity estimated at 2,000 gpm and an annual capacity of 3,220 AFY. Saugus Formation pumping capacity from all the existing active municipal supply wells is summarized in Table 3-5A, as well as restored, replacement, and planned new supply wells. The active wells include two Saugus Formation wells contaminated by perchlorate (Saugus 1 and 2), which were returned to service in 2010 with treatment facilities for use of the treated water for municipal supply under permit from the California Department of Public Health (DPH). The permit is now with DDW. The active wells also include the most recent replacement well, Well 207, in a non-impacted part of the basin. Also included in Table 3-5A is Well 201, which was impacted by the detection of perchlorate and removed from service in 2010. The well has been equipped with treatment facilities for perchlorate and was awaiting final DDW approval), however, a second treatment train is being designed for treatment of VOCs. Well 201 is anticipated to provide a total of 2,000 gpm of pumping capacity and is anticipated to return to service sometime in 2024. Similarly, Well 205, was taken out of service for perchlorate. Treatment for this facility is under the early stages of design and it is anticipated to return to service in 2024 as shown in Table 3-6.

To achieve full dry year production of 33,800 AFY six additional Saugus wells are planned. Two of these wells, Saugus 3 and 4, located behind Magic Mountain, have been designed and rebid after consultation with DDW on the criteria for obtaining an operating permit as related to issues surrounding the proximity of abandoned oil wells. It is estimated that these wells should be available in 2025. The next wells anticipated to be available are Saugus 5 and 6, located in the Castaic Junction area. Sites have been secured for these wells and they are anticipated to be available in 2027. To accommodate the shifting of pumping patterns associated with treatment being added at Well 201 and Well 205 the GSP Water Budget Analysis concluded that two additional dry-year wells would be required to meet the Saugus Formation pumping objectives. These final two wells, Saugus 7 and Saugus 8, do not have specific sites. The GSP Water Budget Analysis assumed these wells would be located near the South Fork of the Santa Clara River in the vicinity of the existing well 12 and 13. These wells are anticipated to become available in 2030. Additional details on DDW permitting and associated timeline for Saugus wells are provided in Section 4.7.

In terms of adequacy and availability, the combined active (existing) Saugus groundwater source capacity of municipal wells of about 29,340 AFY is more than sufficient to meet the planned use of Saugus groundwater in normal years of 7,500 to 15,000 AFY. This existing active capacity is also more than sufficient to meet near term dry year water demands, in combination with other sources. In order to supplement long term dry-year supplies, additional Saugus Formation wells are planned to be operational within the next ten years.

With the restored capacity of Wells 201 and 205 and the additional planned new Saugus Formation wells, the total dry year combined capacity will increase to about 54,680 AFY. As shown in Table 3-5C, this combined capacity is more than sufficient to meet the multiple dry year municipal production target of 33,880 AFY.

TABLE 3-5A MUNICIPAL GROUNDWATER SOURCE CAPACITY- EXISTING, FUTURE, AND RECOVERED SAUGUS FORMATION WELLS[a]

Well		Permitted Capacity (gpm)	Max. Annual Capacity (AF)	GSP Water Budget Analysis[b] Normal Year (AF)	GSP Water Budget Analysis[b] Dry Year (AF)
Existing Wells[c]					
LACWWD36[d]					
	Palmer	2,000	3,220	500	1,250
SCV Water					
	12[i]	2,500	4,030	530	2,280
	13	2,500	4,030	540	2,280
	160	2,000	3,230	0	680
	206	2,500	4,030	180	2,830
	207	2,500	4,030	140	2,860
	Saugus 1	1,100	1,770	1,450	1,450
	Saugus 2	1,100	1,770	1,350	1,350
SCV Water Subtotal		*14,200*	*22,890*	*4,190*	*13,730*
Existing Purveyor Subtotal		*16,200*	*26,110*	*4,690*	*14,980*
Future[f] and Recovered Wells					
	201[e]	2,000	3,230	2,420	2,900
	205[g]	2,700	4,360	2,610	2,920
	Saugus 3[h]	2,500	4,030	30	2,620
	Saugus 4[h]	2,500	4,030	30	2,620
	Saugus 5[h]	2,000	3,230	30	1,940
	Saugus 6[h]	2,000	3,230	30	1,940
	Saugus 7[h]	2,000	3,230	30	1,940
	Saugus 8[h]	2,000	3,230	30	1,940
Future Subtotal		*17,700*	*28,570*	*5,210*	*15,920*
Total Purveyors		**33,900**	**54,680**	**9,900**	**33,800**

Notes:

(a) The quantities of groundwater extracted by existing or future and recovered well capacity will vary depending on operating conditions. However, overall pumping remains within the groundwater basin yields per the GSP (GSI 2022) and the updated Basin Yield Analysis (LSC & GSI 2009).

(b) Production for Normal and Dry years represented in this table represent the period after all impacted wells (PFAS and Perchlorate impacts) are recovered. See Tables 3-5B and 3-5C for anticipated production from 2021-2030. Dry-year production represents anticipated maximum dry year production. Schedule for recovered well capacity based on Groundwater Treatment Implementation Plan Technical Memorandum, Kennedy Jenks 2021 in Appendix M of the 2020 UWMP.
(c) Existing Category includes all wells currently online and in use.
(d) LAWWD36 anticipated production for normal and dry years.
(e) Well 201 is awaiting VOC treatment and DDW permitting, returning to service in 2024.
(f) Future Category includes two wells restored from Perchlorate and VOC water quality issues, and other future Saugus wells.
(g) Well 205 is impacted by Perchlorate and is expected to return to service in 2024.
(h) Future wells, Saugus 3 & 4, are planned replacement wells, Saugus 5-8 are new Dry Year wells. The new dry-year wells would not typically be operated during average/normal years.
(i) Permitted at 2,500 gpm but capacity was reduced to 2,000 gpm during last rehab.

TABLE 3-5 B
MUNICIPAL GROUNDWATER SOURCE CAPACITY
EXISTING, FUTURE AND RECOVERED SAUGUS FORMATION WELLS[a]
NORMAL YEAR DETAIL (2021-2030)

Well	Permitted Capacity (gpm)	Max. Annual Capacity (AF)	Normal Year (AF) [b]									
			2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Existing Wells [c]												
LACWWD36[d]												
Palmer	2,000	3,220	500	500	500	500	500	500	500	500	500	500
SCV Water												
12[i]	2,500	4,030	2,220	2,220	2,220	2,220	2,220	530	530	530	530	530
13	2,500	4,030	2,280	2,280	2,280	2,280	2,280	540	540	540	540	540
160	2,000	3,230	-	-	-	-	-	-	-	-	-	-
201[e]	2,000	3,230	-	-	-	2,580	2,580	2,480	2,420	2,420	2,420	2,420
206	2,500	4,030	2,830	2,830	2,830	2,020	2,020	200	200	200	200	180
207	2,500	4,030	2,860	2,860	2,860	2,040	2,040	180	180	180	180	140
1 Saugus	1,100	1,770	1,450	1,450	1,450	1,450	1,450	1,450	1,450	1,450	1,450	1,450
2 Saugus	1,100	1,770	1,350	1,350	1,350	1,350	1,350	1,350	1,350	1,350	1,350	1,350
SCV Water Subtotal	*16,200*	*26,120*	*12,990*	*12,990*	*12,990*	*13,940*	*13,940*	*6,730*	*6,670*	*6,670*	*6,670*	*6,610*
Existing Purveyor Subtotal	*18,200*	*29,340*	*13,490*	*13,490*	*13,490*	*14,440*	*14,440*	*7,230*	*7,170*	*7,170*	*7,170*	*7,110*
Future[f] and Recovered Wells												
205[g]	2,700	4,360	-	-	-	3,010	2,610	2,610	2,610	2,610	2,610	2,610
3[h] Saugus	2,500	4,030					200	30	30	30	30	30
4[h] Saugus	2,500	4,030					200	30	30	30	30	30

5[h]	Saugus	2,000	3,230							30	30	30	30
6[h]	Saugus	2,000	3,230							30	30	30	30
7[h]	Saugus	2,000	3,230										30
8[h]	Saugus	2,000	3,230										30
Future Subtotal		*15,700*	*25,340*	*0*	*0*	*0*	*3,010*	*3,010*	*2,670*	*2,730*	*2,730*	*2,730*	*2,790*
Total Purveyors [j]		**33,900**	**54,680**	**13,490**	**13,490**	**13,490**	**17,450**	**17,450**	**9,900**	**9,900**	**9,900**	**9,900**	**9,900**

Notes:

(a) The quantities of groundwater extracted by existing or future and recovered well capacity will vary depending on operating conditions. However, overall pumping remains within the groundwater basin yields per the 2020 SCV-GSA Water Budget Development Tech Memo (GSI 2020) and the updated Basin Yield Analysis (LSC & GSI 2009).

(b) Schedule for recovered well capacity based on Groundwater Treatment Implementation Plan Technical Memorandum, Kennedy Jenks 2021 in Appendix M of the 2020 UWMP. 2022 and 2023 updates based on permitting and treatment project schedule changes.

(c) Existing Category includes all wells currently online and in use.

(d) LAWWD36 anticipated production for normal and dry years.

(e) Well 201 could have been put online through 97-005 permitting process, however treatment plans were altered and Well 201 is now awaiting supplemental VOC treatment and DDW permitting. Anticipate return to service in 2024.

(f) Future Category includes one well restored from Perchlorate water quality issues, and other future Saugus wells.

(g) Well 205 is impacted by Perchlorate and is expected to return to service in 2024.

(h) Future wells, Saugus 3 & 4, are planned replacement wells, Saugus 5-8 are new Dry Year wells. The new dry-year wells would not typically be operated during average/normal years.

(i) Permitted at 2,500 gpm but capacity was reduced to 2,000 gpm during last rehab.

TABLE 3-5 C
MUNICIPAL GROUNDWATER SOURCE CAPACITY
EXISTING, FUTURE AND RECOVERED SAUGUS FORMATION WELLS[a]
DRY YEAR DETAIL (2021-2030)

Well	Permitted Capacity (gpm)	Max. Annual Capacity (AF)	Dry Year (AF)[b] 2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Existing Wells €												
LACWWD36[d]												
Palmer	2,000	3,220	1,250	1,250	1,250	1,250	1,250	1,250	1,250	1,250	1,250	1,250
SCV Water												
12[i]	2,500	4,030	2,280	2,280	2,280	2,280	2,280	2,280	2,280	2,280	2,280	2,280
13	2,500	4,030	2,280	2,280	2,280	2,280	2,280	2,280	2,280	2,280	2,280	2,280
160	2,000	3,230	680	680	680	680	680	680	680	680	680	680
201€	2,000	3,230	-	-	-	2,900	2,900	2,900	2,900	2,900	2,900	2,900
206	2,500	4,030	2,830	2,830	2,830	2,830	2,830	2,830	2,830	2,830	2,830	2,830
207	2,500	4,030	2,860	2,860	2,860	2,860	2,860	2,860	2,860	2,860	2,860	2,860
Saugus 1	1,100	1,770	1,450	1,450	1,450	1,450	1,450	1,450	1,450	1,450	1,450	1,450
Saugus 2	1,100	1,770	1,350	1,350	1,350	1,350	1,350	1,350	1,350	1,350	1,350	1,350
SCV Water Subtotal	*16,200*	*26,120*	*13,730*	*13,730*	*13,730*	*16,630*	*16,630*	*16,630*	*16,630*	*16,630*	*16,630*	*16,630*
Existing Purveyor Subtotal	*18,200*	*29,340*	*14,980*	*14,980*	*14,980*	*17,880*	*17,880*	*17,880*	*17,880*	*17,880*	*17,880*	*17,880*
Future[f] and Recovered Wells												
205[g]	2,700	4,360	-	-	-	3,050	3,050	3,050	3,050	3,050	3,050	2,920
Saugus 3[h]	2,500	4,030					3,020	3,020	2,620	2,620	2,620	2,620
Saugus 4[h]	2,500	4,030					3,020	3,020	2,620	2,620	2,620	2,620

5[h]	Saugus	2,000	3,230							2,420	2,420	2,420	1,940
6[h]	Saugus	2,000	3,230							2,420	2,420	2,420	1,940
7[h]	Saugus	2,000	3,230										1,940
8[h]	Saugus	2,000	3,230										1,940
Future Subtotal		*15,700*	*25,340*	*0*	*0*	*0*	*3,050*	*9,090*	*9,090*	*13,130*	*13,130*	*13,130*	*15,920*
Total Purveyors		**33,900**	**54,680**	**14,980**	**14,980**	**14,980**	**20,930**	**26,970**	**26,970**	**31,010**	**31,010**	**31,010**	**33,800**

Notes:

(a) The quantities of groundwater extracted by existing or future and recovered well capacity will vary depending on operating conditions. However, overall pumping remains within the groundwater basin yields per the 2020 SCV-GSA Water Budget Development Tech Memo (GSI 2020) and the updated Basin Yield Analysis (LSC & GSI 2009).

(b) Dry-year production represents anticipated maximum dry year production. Schedule for recovered well capacity based on Groundwater Treatment Implementation Plan Technical Memorandum, Kennedy Jenks 2021 in Appendix M of the 2020 UWMP. 2022 and 2023 updates based on permitting and treatment project schedule changes.

(c) Existing Category includes all wells currently online and in use.

(d) LAWWD36 anticipated production for normal and dry years.

(e) Well 201 could have been put online through 97-005 permitting process, however treatment plans were altered and Well 201 is now awaiting supplemental VOC treatment and DDW permitting. Anticipate return to service in 2024.

(f) Future Category includes one well restored from Perchlorate water quality issues, and other future Saugus wells.

(g) Well 205 is impacted by Perchlorate and is expected to return to service in 2024.

(h) Future wells, Saugus 3 & 4, are planned replacement wells, Saugus 5-8 are new Dry Year wells. The new dry-year wells would not typically be operated during average/normal years.

(i) Permitted at 2,500 gpm but capacity was reduced to 2,000 gpm during last rehab.

Sustainability

Until 2003, the long-term sustainability of Saugus Formation groundwater was empirically estimated from limited historical experience. Historically (and continuing to the present), pumping from the Saugus Formation has been fairly low in most years, with one four-year period of increased pumping up to about 15,000 AFY that had short-term water level impacts but produced no long-term depletion of the substantial groundwater storage in the Saugus Formation. Those empirical observations have now been complemented by the development and application of the numerical groundwater flow model. The numerical groundwater flow model has also been used to analyze the control of perchlorate contaminant migration on two separate occasions under selected pumping conditions. The first occasion resulted in the implementation of a plan to restore, with treatment, pumping capacity that was formerly inactivated due to perchlorate contamination detected in the Saugus 1 and Saugus 2 wells in the Basin. The second occasion utilized the numerical groundwater flow model to evaluate preferred plans to control the migration of perchlorate in the vicinity of Well 201. As discussed in Section 3, those restoration efforts have been undertaken and the restoration of that pumping is reflected in the Saugus Formation operating plan (Table 3-2) and pumping distribution (Table 3-5A).

To examine the yield of the Saugus Formation, or its sustainability on a renewable basis, the original groundwater flow model was used to examine long-term projected response to pumping from both the Alluvium and the Saugus Formation over the synthetic 78-year period of hydrologic conditions that incorporated alternating wet and dry periods as have historically occurred (CH2M Hill and LSCE, 2005). The model was based upon field investigations and historical data collected from numerous sources including annual reports prepared by LSCE and investigations of Saugus Formation and Alluvial aquifers by CH2M Hill and Richard C. Slade and Associates among others (CH2M Hill, 2004a, 2004b, 2005a; CH2M Hill & LSCE 2005; LSCE 2005; Slade & Associates 1986, 1988, 2002). The pumping simulated in the model was in accordance with the then-current operating plan for the Basin. For the Saugus Formation, simulated pumping included the then-planned restoration of historic pumping from the wells impacted by perchlorate at that time (Saugus 1 and Saugus 2).

The originally simulated Saugus Formation response to the ranges of operating plan pumping under assumed recurrent historical hydrologic conditions was consistent with actual experience under smaller pumping rates: (1) short-term declines in groundwater levels and storage near pumped wells during dry-period pumping, (2) 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 Formation recharge and pumping up to about 15,000 AFY, complemented by modeled projections of aquifer response that showed long-term utility of the Saugus Formation at 7,500 to 15,000 AFY in normal years and rapid recovery from higher pumping rates during intermittent dry periods, was the basis for concluding that the Saugus Formation could be considered a sustainable water supply source to meet the Saugus Formation portion of the operating plan for the groundwater Basin.

As discussed under Sustainability of the Alluvium above, an updated basin yield analysis was undertaken in 2008 to assess groundwater development potential and possible augmentation of the groundwater operating plan. After extended and updated model calibration and

incorporation of extended historical records, the overall operating plan (Table 3-2) and specific distribution of Saugus Formation pumping were found to produce the same kinds of resultant Saugus Formation groundwater conditions as concluded to be sustainable in 2005 – (1) long-term stability of groundwater levels, with no sustained declines; (2) groundwater levels slightly below historic Saugus Formation levels, in response to greater long-term utilization of the Saugus and (3) maintenance of sufficiently high Saugus Formation groundwater levels to ensure achievement of planned individual pumping capacities (Table 3-5). Thus, the operating plan for the Saugus Formation, with fairly low pumping in wet/normal years and increased pumping through dry periods, is concluded to reflect sustainable groundwater supply rates.

The SCV-GSA's work on basin sustainability for the GSP has advanced the technical understanding of basin conditions since the 2009 basin yield analysis and confirms the previous conclusion. A new groundwater flow model using the U.S Geological Survey software MODFLOW-USG was developed calibrated and peer reviewed. The MODFLOW-USG model improves spatial resolution and employs more sophisticated methods of representing stream/aquifer interactions among other advancements over the previous model. A more thorough discussion is documented in Development of a Numerical Groundwater Flow Model for the Santa Clara River Valley East Groundwater Subbasin (GSI 2020). Additionally, the GSP Water Budget Analysis reflects updated climate change assumptions provided by DWR. New GSP technical reports defining the extent and nature of groundwater dependent ecosystems informed potential future adjustments of pumping distributions throughout the Alluvial Aquifer and Saugus Formation when considering likely sustainability criteria and potential impacts on groundwater dependent ecosystems. Accordingly, the 2020 UWMP reflects adjusted pumping distributions that are reflected in this WSA's Table 3-5A.

On January 3, 2022, the SCV GSP adopted the GSP which reflected updated technical resources and analysis, and a robust public involvement and review process. The plan can be accessed at: https://scvgsa.org/wp-content/uploads/2022/02/Santa-Clara-River-Valley-East-Groundwater-Subbasin-GSP.pdf

The plan reached the following conclusions relating to sustainability:

1. Chronic Lowering of Groundwater Levels – Alluvium and Saugus Formation pumping consistent with the basin operating plan does not result in chronic lowering of groundwater levels.

2. Reduction of Groundwater Storage - Alluvium and Saugus Formation pumping consistent with the basin operating plan does not result in long-term groundwater storage depletion.

3. Degraded Water Quality – Implementation of treatment for known contaminants support continued Alluvium and Saugus Formation pumping consistent with the operating plan.

4. Land Subsidence – An evaluation of the available information indicates there is now evidence of land subsidence occurring. The GSP does identify additional data

collection needs to ensure land subsidence remains a non-issue while achieving the basin operating plan. The GSP incorporates active monitoring stations.

5. Depletion of Interconnected Surface Water/Groundwater Dependent Ecosystems – Existing riparian habitat along the Santa Clara River is considered by resource agencies as having very high value. The extent and quality of the habitat can vary significantly from year to year in response to very wet or dry conditions and demonstrates considerable resiliency. Certain aquatic habitats are critical for known protected species such as the Three Spined Unarmored Stickle Back. The GSP incorporates a process that avoids groundwater pumping related to permanent loss of riparian habitat or the temporary loss of critical aquatic habitat. Active monitoring of groundwater levels will occur and when trigger levels (set at or above historical groundwater levels) are reached, an assessment of the cause would be conducted. If impacts are related to pumping, then responsive measures and/or projects would be implemented. These could include a reduction of groundwater pumping

6. Sea Water Intrusion – The proximity of the Alluvial Aquifer and Saugus Formation to the ocean as well as differences in elevation, do not allow for seawater intrusion into the upper basin.

The results of the 2009 basin yield analysis and the results of the updated groundwater analysis performed by the SCV-GSA for the GSP, which included pumping distributions consistent with those shown in Table 3-5A, show that the basin can be sustainably operated without chronic lowering of groundwater levels or groundwater storage.

Thus, the operating plan for the Saugus Formation, with fairly low pumping in wet/normal years and increased pumping through dry periods, is concluded to reflect sustainable groundwater supply rates.

3.3.3 Existing and Planned Groundwater Pumping

3.3.3.1 Impacted Well Capacity

As discussed in Section 6, USEPA recently implemented a new lifetime health advisory level of 70 parts per trillion (or 70 nanogram per liter (ng/l)) for polyfluoroalkyl substances (PFAS). In August of 2019, DDW set notification level (NL) and response levels for various PFAS constituents. SCV Water wells were tested and as of February 2020, over 60% of Alluvium wells exceeded the NL or RL resulting in 18 wells being taken out of service. Treatment for three of these wells (N-Wells) has been installed and is now operational. Design is underway for treatment of two additional wells, Honby and Santa Clara, that are scheduled to be returning to service by 2023. Preliminary design for an additional 6 wells is under way and these are anticipated to be returning to service between 2024 and 2025. The remaining wells are anticipated to have treatment installed by 2030. A feasibility assessment and schedule for completion of these wells are shown in the April 2021 Technical Memorandum, Groundwater Treatment Implementation Plan (Kennedy Jenks 2021). The Capital Improvement Section of SCV Water's FY 2021/222 and FY2022/23 Biennial Budget provides near term funding treatment for PFAS impacted alluvial wells.

As discussed in Section 6.2.1 of the 2020 UWMP and incorporated herein, certain wells in the Basin were impacted by perchlorate contamination and thus represented a temporary loss of well capacity within SCV Water's service area. Six wells were initially taken out of service upon the detection of perchlorate including four Saugus wells and two Alluvial wells. All have either been (1) abandoned and replaced, (2) returned to service with the addition of treatment facilities that allow the wells to be used for municipal Water supply as part of the overall water supply systems permitted by DDW, or (3) will be replaced under an existing perchlorate litigation settlement agreement (see Section 4). The restored wells (two Saugus wells and one Alluvial well), one Saugus well which is currently being restored, and the replacement wells (one Saugus and one Alluvial well), which collectively restore much of the temporarily lost well capacity, are now included as parts of the municipal groundwater source capacities. Additional wells will be drilled to fully restore the impacted well capacity, thus restoring the operational flexibility that existed prior to perchlorate contamination being discovered.

In August 2010, Well 201, located downgradient from the Whittaker-Bermite site and downgradient from the initially impacted Saugus 1 and Saugus 2 wells and well 157 had detections of perchlorate and was removed from service. Treatment facilities were constructed, are operational, and are now awaiting final DDW approval to be returned to potable drinking water service, similar to the Saugus 1 and Saugus 2 wells. Well 201 is anticipated to provide a total of 2,000 gpm of pumping capacity (for a dry-year production capacity of 2,900 AFY) and is shown in Table 3-5A. Similarly, Well 205, was taken out of service for perchlorate. Treatment for this facility is under the early stages of design and it is anticipated to return to service in 2024 as shown in Tables 3-5B and 3-5C. Additional details on DDW permitting and associated timeline for Saugus wells 201 and 205 are provided in Section 4.7.

To achieve full dry-year production of 33,800 AFY six additional Saugus wells are planned. Two of these wells Saugus 3 and 4, located west of Magic Mountain, have been designed and are being rebid. As indicated above, this delay was related to issues surrounding the proximity to abandoned oil wells and discussion with DDW resulted in an approach that should facilitate DDW issuing an operating permit. It is estimated that these wells should be available in 2025. The next wells anticipated to be available are Saugus 5 and 6, located in the Castaic Junction area. Sites for these wells have been secured and the wells are anticipated to be available in 2027. The final two wells, Saugus 7 and 8, do not have specific sites. The GSP Water Budget Analysis (GSI 2020a) assumed these wells would be located near the South Fork of the Santa Clara River in the vicinity of the existing well 12 and 13. These wells are anticipated to become available in 2030. Additional details on DDW permitting and associated timeline for Saugus wells are provided in Section 4.7.

3.3.3.2 Alluvium

In terms of adequacy and availability, the current Alluvial Aquifer groundwater pumping capacity is constrained, however the current reductions in supply are being met by other sources of supply such as imported SWP water or banked water supplies. The schedule for recovery of this supply is shown in Table 3-4B for normal years and Table 3-4C for dry years. When well capacity is recovered in 2030 and other future wells are in service in 2035 the combined Alluvial Aquifer groundwater source municipal well capacity of approximately 83,090 AFY will be sufficient to meet anticipated demands. The higher cumulative pumping capacities are for

operational reasons (i.e., to meet daily and other fluctuations from average day to maximum day and peak hour system demands).

Table 3-4B and 3-4C include future and recovered Alluvial Aquifer supplies. These planned supplies do not increase the total quantity of water being withdrawn from the Alluvial Aquifer but represent anticipated or potential shifts in pumping involving different or new wells.

For example, as shown on Table 3-4, planned Alluvial Aquifer supplies assume a reduction of Newhall Land agricultural uses and a corresponding increase in SCV Water Alluvial water use for the Newhall Ranch Specific Plan area. Total purveyor and non-purveyor supplies remain consistent with the operating plan shown on Table 3-2. Based on existing information the conclusion of the analysis is that total Alluvial Aquifer pumping is sustainable. However, should droughts extend for periods longer than those shown in the historical record, potential exists for future curtailments.

3.3.3.3 Saugus Formation

In terms of adequacy and availability, the combined active Saugus groundwater source municipal well capacity of 26,120 AFY (29,340 including LACWD36 well) is more than sufficient to meet the planned use of Saugus groundwater in normal years of 7,500 to 15,000 AFY (Table 3-5A). Near term dry-year supplies will be augmented once Well 205 is restored to service by 2024 utilizing treatment technologies currently being used in the Santa Clarita Valley. In order to accommodate the longer-term demands, current GSP Water Budget Analysis indicates six additional wells will be required. Two of these wells have been designed and await permitting, sites for two additional wells have been secured and the final two wells need to be sited. These additional Saugus wells would provide for meeting the planned maximum purveyor use of 33,800 AFY of Saugus groundwater during a multiple-dry year period. That amount combined with non-purveyor pumping of 1,200 AFY is at the maximum of 35,000 AFY consistent with operating plan shown on Table 3-2. The conclusion of the analysis is that the Saugus operating plan is sustainable. However, associated with the implementation of the GSP, the potential exists for some future curtailment of pumping during extreme long-term drought events over the upcoming twenty years. Table 3-6, Table 3-7, and Table 3-8 include planned Saugus Formation supplies.

3.3.3.4 Summary

Overall, the total municipal supply in the 2020 UWMP, incorporated herein, includes a groundwater component that is, in turn, part of the overall groundwater supply of the Santa Clarita Valley. As such, the municipal groundwater supply 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 3-2) that has been analyzed for sustainability.

TABLE 3-6 AVERAGE/NORMAL YEAR EXISTING AND PLANNED GROUNDWATER USAGE (AF)[a]

Alluvium Supplies	**2025**	**2030**	**2035**	**2040**	**2045**	**2050**
Purveyors Existing	8,900	8,180	7,300	7,300	7,300	7,300
Purveyors Future and Recovered[b]	10,340	19,870	23,490	23,490	23,490	23,490
Purveyors Total	*19,240*	*28,050*	*30,790*	*30,790*	*30,790*	*30,790*
Non-Purveyors (Agricultural & Other)[c]	11,540	9,150	6,410	6,410	6,410	6,410
Total Alluvium Production	**30,780**	**37,200**	**37,200**	**37,200**	**37,200**	**37,200**
Alluvial Operating Plan Range for Average/Normal Year (30,000-40,000)						

Saugus Formation Supplies	**2025**	**2030**	**2035**	**2040**	**2045**	**2050**
Purveyors Existing	14,440	7,110	7,110	7,110	7,110	7,110
Purveyors Future and Recovered[d]	3,010	2,790	2,790	2,790	2,790	2,790
Purveyors Total	*17,450*	*9,900*	*9,900*	*9,900*	*9,900*	*9,900*
Non purveyors[e]	1,200	1,200	1,200	1,200	1,200	1,200
Total Saugus[f]	**18,650**	**11,100**	**11,100**	**11,100**	**11,100**	**11,100**
Saugus Operating Plan Range for Average/Normal Year (7,500-15,000)						

Notes:

(a) The quantities of groundwater extracted by existing or future and recovered well capacity will vary depending on operating conditions. However, overall pumping remains within the groundwater basin yields per the 2020 SCV-GSA Water Budget Development Tech Memo (GSI 2020) and the updated Basin Yield Analysis (LSC & GSI 2009).

(b) These values account for recovery of alluvial PFAS and Perchlorate impacted wells along with additional pumping to supply Newhall Ranch Specific Plan.

(c) Alluvial non purveyor pumping includes Five Point (Newhall Ranch Agriculture), Pitches Detention Center, and Small Private Domestic pumping and irrigation at Sand Canyon Country Club. Decline in pumping rates incorporate reduced pumping by Five Point of 7,038 AFY for Newhall Ranch Specific Plan.

(d) This includes Saugus Perchlorate impacted wells 201 and 205, two replacement wells (Saugus 3 & 4), and up to four new wells (Saugus 5-8) planned to provide additional dry-year supply. The new dry-year wells would not typically be operated during average/normal years.

(e) This includes private irrigation pumping from Valencia Country Club and Vista Valencia Golf Course, as well as projected Whittaker-Bermite pumping for perchlorate treatment, assumed constant.

(f) Higher total Saugus Production from 2021 to 2026 reflect temporary increase in purveyor production to mitigate for lost Alluvial pumping capacity due to PFAS impacted wells.

TABLE 3-7 SINGLE-DRY YEAR EXISTING AND PLANNED GROUNDWATER USAGE (AF) [(a)]

Alluvium Supplies	**2025**	**2030**	**2035**	**2040**	**2045**	**2050**
Purveyors Existing	7,300	6,330	5,590	5,590	5,590	5,590
Purveyors Future and Recovered[(b)]	9,030	17,020	20,500	20,500	20,500	20,500
Purveyors Total	*16,330*	*23,350*	*26,090*	*26,090*	*26,090*	*26,090*
Non-Purveyors (Agricultural & Other)[(c)]	11,540	9,150	6,410	6,410	6,410	6,410
Total Alluvium Production	**27,870**	**32,500**	**32,500**	**32,500**	**32,500**	**32,500**
Alluvial Operating Plan Range for Single Dry Year (30,000-35,000)						

Saugus Formation Supplies	**2025**	**2030**	**2035**	**2040**	**2045**	**2050**
Purveyors Existing	17,880	17,880	17,880	17,880	17,880	17,880
Purveyors Future and Recovered[(d)]	9,090	15,920	15,920	15,920	15,920	15,920
Purveyors Total	*26,970*	*33,800*	*33,800*	*33,800*	*33,800*	*33,800*
Non purveyors[(e)]	1,200	1,200	1,200	1,200	1,200	1,200
Total Saugus	**28,170**	**35,000**	**35,000**	**35,000**	**35,000**	**35,000**
Saugus Operating Plan Range for Single Dry Year (21,000-35,000)						

Notes:

(a) The quantities of groundwater extracted by existing or future and recovered well capacity will vary depending on operating conditions. However, overall pumping remains within the groundwater basin yields per the 2020 SCV-GSA Water Budget Development Tech Memo (GSI 2020) and the updated Basin Yield Analysis (LSC & GSI 2009).

(b) These values account for recovery of alluvial PFAS and Perchlorate impacted wells along with additional pumping to supply Newhall Ranch Specific Plan.

(c) Alluvial non purveyor pumping includes Five Point (Newhall Ranch Agriculture), Pitches Detention Center, and Small Private Domestic pumping and irrigation at Sand Canyon Country Club. Decline in pumping rates incorporate reduced pumping by Five Point of 7,038 AFY for Newhall Ranch Specific Plan.

(d) This includes Saugus Perchlorate impacted well 205, two replacement wells (Saugus 3 & 4), and up to four new wells (Saugus 5-8) planned to provide additional dry-year supply. The new dry-year wells would not typically be operated during average/normal years.

(e) This includes private irrigation pumping from Valencia Country Club and Vista Valencia Golf Course, as well as projected Whittaker-Bermite pumping for perchlorate treatment, assumed constant.

TABLE 3-8 MULTIPLE DRY YEAR (5-YEAR) EXISTING AND PLANNED GROUNDWATER USAGE (AF) [a]

Alluvium Supplies	**2025**	**2030**	**2035**	**2040**	**2045**	**2050**
Purveyors Existing	7,300	6,330	5,890	5,590	5,590	5,590
Purveyors Future and Recovered[b]	11,930	16,310	19,900	20,500	20,500	20,500
Purveyors Total	19,230	22,640	25,790	26,090	26,090	26,090
Non-Purveyors (Agricultural & Other)[c]	11,490	9,190	6,710	6,410	6,410	6,410
Total Alluvium Production	**30,720**	**31,830**	**32,500**	**32,500**	**32,500**	**32,500**
Alluvial Operating Plan Range for Single Dry Year (30,000-35,000)						

Saugus Formation Supplies	**2025**	**2030**	**2035**	**2040**	**2045**	**2050**
Purveyors Existing	17,880	17,610	17,610	17,610	17,610	17,610
Purveyors Future and Recovered[d]	5,750	8,020	8,020	8,020	8,020	8,020
Purveyors Total	23,630	25,630	25,630	25,630	25,630	25,630
Non purveyors[e]	1,200	1,200	1,200	1,200	1,200	1,200
Total Saugus	**24,830**	**26,830**	**26,830**	**26,830**	**26,830**	**26,830**
Saugus Operating Plan Range for Single Dry Year (21,000-35,000)						

Notes:

(a) The quantities of groundwater extracted by existing or future and recovered well capacity will vary depending on operating conditions. However, overall pumping remains within the groundwater basin yields per the 2020 SCV-GSA Water Budget Development Tech Memo (GSI 2020) and the updated Basin Yield Analysis (LSC & GSI 2009).

(b) These values account for recovery of alluvial PFAS and Perchlorate impacted wells along with additional pumping to supply Newhall Ranch Specific Plan.

(c) Alluvial non purveyor pumping includes Five Point (Newhall Ranch Agriculture), Pitches Detention Center, and Small Private Domestic pumping and irrigation at Sand Canyon Country Club. Decline in pumping rates incorporate reduced pumping by Five Point of 7,038 AFY for Newhall Ranch Specific Plan.

(d) This includes Saugus Perchlorate impacted well 205, two replacement wells (Saugus 3 & 4), and up to four new wells (Saugus 5-8) planned to provide additional dry-year supply. The new dry-year wells would not typically be operated during average/normal years.

(e) This includes private irrigation pumping from Valencia Country Club and Vista Valencia Golf Course, as well as projected Whittaker-Bermite pumping for perchlorate treatment, assumed constant.

3.4 Transfers and Exchanges

An opportunity available to SCV Water to increase water supplies is to participate in voluntary Water transfer programs. Since the drought of 1987-1992, the concept of water transfer has evolved into a viable supplemental source to improve supply reliability. The initial concept for water transfers was codified into law in 1986 when the California Legislature adopted the “Katz” Law (California Water Code, Sections 1810-1814) and the Costa-Isenberg Water Transfer Law of 1986 (California Water Code, Sections 470, 475, 480-483). These laws help define parameters for water transfers and set up a variety of approaches through which water or water rights can be transferred among individuals or agencies.

Up to 27 million AF of water are delivered for agricultural use every year. Over half of this water use is in the Central Valley, and much of it is delivered by, or adjacent to, SWP and CVP conveyance facilities. This proximity to existing water conveyance facilities could allow for the voluntary transfer of water to many urban areas, including SCV Water, via the SWP. Such water transfers can involve water sales, conjunctive use and groundwater substitution and water sharing. They usually occur as a form of spot, option, or core transfers agreements. The costs of a water transfer would vary depending on the type, term, and location of the transfer.

One of the most important aspects of any resource planning process is flexibility. A flexible strategy minimizes unnecessary or redundant investments (or stranded costs). The voluntary transfer of water between willing sellers and buyers can be an effective means of achieving flexibility. However, not all water transfers have the same effectiveness in meeting resource needs. Through the resource planning process and ultimate implementation, several different types of Water transfers could be undertaken.

3.4.1 Core Transfers

Core transfers are agreements to purchase a defined quantity of water every year. These transfers have the benefit of more certainty in costs and supply, but in some years can be surplus to imported water (available in most years) that is already paid for.

3.4.2 Spot Market Transfers

Spot market transfers involve water purchased only during a time of need (usually a drought). Payments for these transfers occur only when water is actually requested and delivered, but there is usually greater uncertainty in terms of costs and availability of supply. Examples of such transfers were the Drought Water Banks of 1991, 1992 and 1994 and DWR Dry Year Water Purchase Programs in 2001 through 2004 and 2008 along with transfers between willing sellers and buyers during the current drought period. In 2021, the Dry Year Water Purchase Program provided approximately 200 AF. An additional risk of spot market transfers is that the purchases may be subject to institutional limits or restricted access (e.g., requiring the purchasing agency to institute rationing before it is eligible to participate in the program).

3.4.3 Option Contracts

Option contracts are agreements that specify the amount of water needed and the frequency or probability that the supply will be called upon (an option). Typically, a relatively low up-front option payment is required and, if the option is actually called upon, a subsequent payment would be made for the amount called. These transfers have the best characteristics of both core and spot transfers. With option contracts, the potential for redundant supply is minimized, as are the risks associated with cost and supply availability.

SCV Water has entered into one such transfer, for Yuba Accord water, as discussed previously. SCV Water and a number of other entities entered into the Yuba Accord Agreement, which allows for the purchase of water from the Yuba County Water Agency through DWR. Under the agreement, an estimated average of up to 1,000 AFY of Water (after losses) is available to SCV Water in dry years, through 2025. Under certain hydrologic conditions, additional water may be available to SCV Water under this program. In 2014, 2020, and 2021, SCV Water received approximately 1,900 AF from this source (see Table 5-1).

3.4.4 Future Market Transfers

The most viable types of water transfers are core and option transfers and, as such, are a part of SCV Water's long-term strategy.

3.4.5 Water Exchanges

In addition to water transfers, short-term water exchanges may also serve as a means to enhance water reliability.

In 2011 SCV Water entered into two unbalanced exchange agreements to enhance the management of its water supplies. SCV Water executed a Two-for-One Water Exchange Program with RRBWSD, whereby SCV Water can recover one acre-foot of water for each two acre-feet SCV Water delivered to RRBWSD (less losses). SCV Water delivered 15,602 AF to the program in 2011, delivered another 3,969 AF in 2012 and, after program losses, had about 9,500 AF of recoverable water. The term for this agreement was ten years. In 2020, 9,500 AF of water was withdrawn from this exchange account, completing the execution of this agreement.

SCV Water also entered into a Two-for-One Water Exchange Program with the West Kern Water District (WKWD) in Kern County and SCV Water delivered 5,000 AF in 2011, resulting in a recoverable total of 2,500 AF. The term of the agreement was ten years. In 2014, 2,000 AF of water was withdrawn from this exchange program leaving a balance of 500 AF. In 2020, the remaining balance of 500 AF of water was withdrawn, completing the execution of this agreement.

In 2014, SCV Water entered into an unbalanced exchange agreement to enhance the management of its water supplies. SCV Water executed a Two-for-One Water Exchange Program with the NLF, whereby SCV Water could recover one acre-foot of water for every two acre-feet SCV Water delivered to NLF's Semitropic Water Storage District Banking Program. SCV Water transferred 10,000 AF of water to the program in 2014 and recovered 4,950 AF in

2014, fully executing the exchange. Additional details on the Semitropic Banking Program are provided below.

In 2016, SCV Water entered into an unbalanced exchange agreement to enhance the management of its water supplies. SCV Water executed a Two-for-One Water Exchange Program with the Central Coast Water Agency (CCWA) on behalf of the Santa Barbara County Flood Control and Water Conservation District (Santa Barbara), whereby SCV Water could recover one acre-foot of water for every two acre-feet SCV Water delivered to CCWA. SCV Water delivered 1,500 AF to the program in 2016 and recovered 750 AF in 2019, fully executing the exchange.

In 2019, SCV Water entered into three separate unbalanced exchange agreements to enhance the management of its water supplies. First, SCV Water executed a Two-for-One Water Exchange Program with RRBWSD whereby SCV Water could recover one acre-foot of water for every two acre-feet SCV Water delivered to RRBWSD (less losses). SCV Water delivered 11,000 AF to the program in 2019 and recovered 5,500 AF in 2020, fully executing the exchange.

In 2019, SCV Water also executed a Two-for-One Water Exchange Program with Antelope Valley-East Kern Water Agency (AVEK), whereby SCV Water could recover one acre-foot of water for every two acre-feet SCV Water delivered to AVEK. SCV Water delivered 7,500 AF to the program in 2019 and has 3,750 AF of recoverable water. In 2020, 1,406 AF of Water was withdrawn from this exchange program leaving a balance of 2,344 AF. Recovery of the balance is limited to years where the SWP allocation is at least 30%. The term for this agreement is for ten years.

In 2019, SCV Water also executed a Two-for-One Water Exchange Program with UWCD, whereby SCV Water could recover one acre-foot of water for every two acre-feet SCV Water delivered to UWCD. SCV Water delivered 1,000 AF to the program in 2019 and has 500 AF of recoverable water. Recovery of the balance is limited to years where the SWP allocation is at least 30%. The term for this agreement is for ten years.

3.5 Groundwater Banking Programs

With the development of conjunctive use and groundwater banking, the water supply reliability for SCV Water has improved significantly. Conjunctive use is the coordinated operation of multiple water supplies to achieve improved supply reliability. Most conjunctive use concepts are based on storing surface supplies in groundwater basins in times of surplus for withdrawal and use during dry periods and drought when surface water supplies would likely be reduced.

Groundwater banking programs involve storing available SWP surface water supplies during wet years in groundwater basins in, for example, the San Joaquin Valley. Water would be stored either directly by surface spreading or injection, or indirectly by supplying surface water to farmers for their use in lieu of their intended groundwater pumping. During water shortages, the stored water could be pumped out and conveyed through the California Aqueduct to SCV Water as the banking partner or used by the farmers in exchange for their surface water allocations, which would be delivered to SCV Water as the banking partner through the California Aqueduct.

SCV Water is a partner in two existing groundwater banking programs, the Semitropic Banking Program and RRBWSD Banking Program, respectively. Newhall Land is also a partner in the Semitropic Banking Program, described below. In addition, SCV Water has updated its plan to enhance its overall supply reliability, including the need for additional banking programs.

3.5.1 Semitropic Banking Program

Semitropic Water Storage District (Semitropic) provides SWP Water to farmers for irrigation. Semitropic is located in the San Joaquin Valley in the northern part of Kern County immediately east of the California Aqueduct. Using its available groundwater storage capacity (approximately 1.65 million AF), Semitropic has developed a groundwater banking program, which takes available SWP supplies in wet years and returns the water in dry years. As part of this dry-year return, Semitropic can either leave its SWP Water in the Aqueduct for delivery to a banking partner and increase its groundwater production for its farmers, or Semitropic can pump groundwater that can be pumped into a Semitropic canal and, through reverse pumping plants, be delivered to the California Aqueduct. Semitropic's original banking program currently has six long-term first priority banking partners: the Metropolitan Water District of Southern California (Metropolitan), Santa Clara Valley Water District, Alameda County Water District, Alameda County Flood Control and Water Conservation District Zone 7, Newhall Land and Farming, and San Diego County Water Authority. The total amount of storage capacity under contract in the original banking program is 1 million AF, with approximately 700,000 AF currently in storage. Under its original program, Semitropic can pump back a maximum of 90,000 AFY of water into the California Aqueduct.

Semitropic has recently expanded its groundwater banking program to incorporate its Stored Water Recovery Unit (SWRU). This supplemental program includes an additional storage capacity of 650,000 AF and an expansion of pumpback recovery capacity by 200,000 AFY. That pumpback capacity includes well connections and conveyance facility improvements to increase the existing Semitropic pumpback capacity to the California Aqueduct by an additional 50,000 AFY, and the future development of a new well field with approximately 65 wells along with new collection and transmission facilities to convey an additional 150,000 AFY to the California Aqueduct. Participants in the SWRU include Poso Creek Water Company, San Diego County Water Authority, City of Tracy, Homer LLC, Harris Farms, Shows Family Farms, Lazy Dog Orchard, and SCV Water.

In 2002, SCV Water entered into a temporary storage agreement with Semitropic and stored an available portion of its Table A supply (24,000 AF) in an account in Semitropic's program. In 2004, 32,522 AF of SCV Water's available 2003 Table A supply was stored in a second temporary Semitropic account. In accordance with the terms of SCV Water's storage agreements with Semitropic, 90 percent of the banked amount, or a total of 50,870 AF, was recoverable through 2013 to meet SCV Water demands when needed. SCV Water executed an amendment for a ten-year extension of each banking agreement with Semitropic in April 2010. After storage withdrawals in 2009, 2010, and 2014 (and with 5,000 AF given to Newhall Land in consideration for SCV Water's use of Newhall Land's first priority extraction capacity), the storage balance available to SCV Water was 35,970 AF.

In 2015 SCV Water entered into an agreement with Semitropic to participate in the SWRU. Under this agreement, the two short-term accounts containing 35,970 AF were transferred into this new program. Under the SWRU agreement, SCV Water can store and recover additional Water within a 15,000 AF storage account. SCV Water increased storage in the SWRU by 4,806 AF in 2017, and 4,502 AF in 2019, and recovered 5,000 AF in 2020, leaving the total storage available at 40,278 AF. The term of the Semitropic Banking Program extends through 2035 with the option of two 10-year renewals. SCV Water may withdraw up to 5,000 AFY from its account.

Current operational planning includes use of the water stored in Semitropic for dry-year supply. Accordingly, it is reflected in the available supplies delineated in this section and in the Annual Reports prepared for SCV Water. It is also reflected as contributing only to dry-year supply reliability in Section 7, through 2045.

3.5.2 Rosedale-Rio Bravo Banking Program

Also located in Kern County, immediately adjacent to the Kern Water Bank, RRBWSD has developed a Water Banking and Exchange Program. SCV Water has entered into a long-term agreement with RRBWSD with a total storage capacity of 100,000 AF. Between 2005 and 2012 SCV Water delivered sufficient water from the SWP and other supplies to fill its 100,000 AF account. SCV Water began storing water in this program in 2005 and stored water in 2005, 2006, 2007, 2010, 2011, and 2012. In 2012, the maximum storage capacity of 100,000 AF was reached. Withdrawals from the water bank occurred in 2014, 2015 and 2020. Storage into the water bank occurred in 2016 leaving storage at 98,800 AF currently available for withdrawal.

SCV Water's existing firm withdrawal capacity in this program is 10,000 AFY. To enhance dry-year recovery capacity, in 2015 SCV Water in cooperation with RRBWSD and Irvine Ranch Water District initiated construction of additional facilities that were completed in 2019. These facilities became available in 2020 and increased the firm extraction capacity for SCV Water to 10,000 AFY. In addition, SCV Water has the right under the contract to develop four additional wells which would bring the firm recovery capacity to 20,000 AFY. This additional capacity is anticipated to be available by 2030. In addition to existing firm recovery capacity, in moderately dry years Rosedale is required to use other available recovery capacity to meet its recovery obligations under the banking agreement, up to 20,000 AFY. This occurred in 2021 when RRBWSD was able to recover a total of 20,000 AF of SCV Water's banked supply.

This project is a water management program to improve the reliability of SCV Water's existing dry-year supplies. It is not an annual supply that could support growth. Accordingly, it is reflected in the available supplies delineated in this section and it is also reflected as contributing only to dry-year supply reliability.

3.5.3 Semitropic Banking Program – Newhall Land

As mentioned above, one of Semitropic's long-term groundwater banking partners is Newhall Land (now owned by Five Point). In its agreement with Semitropic, Newhall Land has available to it a pump-back capacity of 4,950 AFY and a total storage capacity of 55,000 AF. At the end of 2020, Newhall Land had a storage balance of approximately 38,000 AF. This storage volume is primarily the result of Newhall Land storing its annual allotment of Nickel Water in the program as well as 5,000 AF of exchange water provided by SCV Water.

Newhall Land entered into this groundwater banking program in anticipation of the development of Newhall Ranch. It provides a supply that is committed by Newhall Land under the Newhall Ranch Specific Plan to make up shortfalls in water supply for Newhall Ranch should such shortfall be shown to exist. Under its agreement with Semitropic, Newhall Land may transfer its rights to this program to SCV Water (as the successor to CLWA). In this WSA and in the 2020 UWMP, it is assumed for planning purposes construction of the Newhall Ranch Specific Plan will be completed by 2035 and that Newhall Land's rights in this banking program will be transferred to SCV Water at that time. Based on previous cooperation between CLWA and Newhall Land in 2009 and 2014, when Newhall Land effectively made its withdrawal capacity available to CLWA, it is likely that this practice would continue and SCV Water could access additional water from its Semitropic account using Newhall Land's firm extraction capacity. However, as no such contract to accomplish this is currently in place a conservative assumption has been made in the 2020 UWMP and this WSA that supplies associated with this source will not be available prior to 2035 when SCV Water is presumed to control this program.

3.5.4 Other Opportunities

In addition to those dry year water supplies identified in the 2020 UWMP, SCV Water has identified two additional groundwater banking programs. While not a part of the resource mix currently incorporated into the water supply reliability tables in the 2020 UWMP or this WSA, these projects represent projects that SCV Water could consider providing redundancy or substitute for some portion of the UWMP's programs if those were not brought online.

The first is the High Desert Water Bank being developed by the Antelope Valley East Kern Water Agency. The project overlies an adjudicated groundwater basin in the Antelope Valley. The Metropolitan Water District of Southern California has contracted with AVEK to develop the first phase of the project's four phases. The first phase will store up to 200,000 AFY with 70,000 AFY of recovery capacity. AVEK is currently working with SCV Water and other SWP Contractors including Santa Clara Valley Water District, and Palmdale Water District to define the second phase. The second phase may incorporate a direct connection to the West Branch of the California Aqueduct to facilitate return deliveries. The location of this water bank is desirable as it is located south of the San Andreas Fault. The second phase could provide SCV Water with up to 80,000 AF of storage with recovery capacity of up to 20,000 AFY.

The second is the Aquaterra Water Bank being developed by the McMullin Groundwater Sustainability Agency. This water bank in Fresno County adjacent to Delta Mendota Pool, is projected to store up to 800,000 AF and have an extraction capacity of 146,000 AFY. Water would be available to SWP Contractors and Central Valley Project Contractors through an exchange with the Central Valley Project participating Contractors. The McMullin GSA intends to initiate environmental review for this project in 2022. SCV Water could potentially participate in this project at levels similar to those contemplated for the AVEK High Desert Water Bank.

3.6 Planned Water Supply Projects and Programs

SCV Water prepared the Water Resources Reconnaissance Study (Study) (Carollo, 2015). The Study discusses the potential for acquiring additional water supplies. The Study evaluated a series of supply measures in the hopes that an additional 10,000 AFY of supply could be made available to the service area. The study identified two local measures that might enable SCV Water to get at least part way to that goal: (1) a groundwater recharge project using recycled water and (2) an imported water injection project during wet years to augment Saugus formation groundwater storage. Both projects were evaluated at the conceptual level, but significantly more investigation would need to be completed before either was implemented.

While the recycled groundwater recharge measure is not currently being pursued, as detention and dilution challenges were analyzed by Trussell Technologies Inc in its USCR Watershed Recharge Feasibility Study, 2017. SCV Water continues investigating the potential to spread imported water directly into the Alluvial Aquifer at several sites. Promising infiltration tests have been conducted on SCV Water owned property adjacent to Castaic Creek. Additional siting is being conducted along the easterly portions of the Santa Clara River. Further, the potential exists to cooperate with the City of Santa Clarita to use future storm water detention facilities. One such site is located near along the Santa Clara River near the intersection of Whites Canyon Road and Via Princessa.

3.6.1 Sites Reservoir

Sites Reservoir is a proposed new 1,500,000 acre-feet off-stream storage reservoir in northern California near Maxwell. Sacramento River flows will be diverted during excess flow periods and stored in the off-stream reservoir and released for use in the drier periods. Sites Reservoir is expected to provide water supply, environmental, flood, and recreational benefits. The proponents of Sites Reservoir include 23 entities including several individual SWP PWAs including SCV Water. Sites Reservoir is expected to provide approximately 240,000 AFY (Sites Reservoir Value Planning Report, 2020, Table 8-1) of additional deliveries on average to participating agencies under existing conditions. SCV Water's current participation is 3% of that total. Further, SCV Water would operate its share of project storage so as to maximize delivery during dry and critically dry years and the project is projected to provide between 9,800 and 7,100 AFY depending on final project configuration and level of Federal participation by the United States Bureau of Reclamation (USBR). Sites Reservoir is currently undergoing environmental planning and permitting. Full operations of the Sites Reservoir are estimated to start by 2029 following environmental planning, permitting, and construction. Sites was conditionally awarded $816 million from the California Water Commission for ecosystem, recreation, and flood control benefits under Proposition 1. Reclamation may also invest in Sites

under the Water Infrastructure Improvements for the Nation (WIIN) Act and recently transmitted a final Federal Feasibility Report to Congress for the project.

DWR estimates of SWP supply reliability in its 2019 DCR are based on existing facilities, and do not include the proposed Sites Reservoir. SCV Water along with other SWP public water agencies and north of Delta participants, however, are members of the Sites Reservoir Committee and are sharing costs, to advance environmental, permitting, and other planning activities. The Sites Reservoir staff has performed modeling of potential water supply from this project. While not identified as a project in the reliability tables provided in this WSA, the project is analyzed as part of the SCV Water's Updated Water Reliability Report and could serve as an alternative if other future water supply programs are not feasible. The Capital Improvement section of SCV Water's current FY 2021-22 FY2022-23 Capital Budget provides for continued participation in the planning of Sites Reservoir. At the end of the planning period the project is anticipated to complete CEQA and NEPA documentation, have acquired water rights and key permits including incidental take permits. The project is scheduled to become operational in 2030.

3.7 Recycled Water

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

As discussed below, SCV Water's source of supply for current and planned recycled water consists of flows coming from the Valencia Water Reclamation Plant and the future Newhall Ranch Water Reclamation plant as well as the Vista Canyon Ranch Water Factory (Vista Canyon WRP). SCV Water recently extended the term of its recycled water purchase agreement with the Santa Clarita Valley Sanitation District (SCVSD) and is currently negotiating a recycled water purchase agreement with the City of Santa Clarita for supplies from the Vista Canyon WRP. An additional recycled water purchase agreement with the Newhall Ranch Sanitation District is anticipated when it becomes operational. Collectively these sources are anticipated to make 8,961 AFY available to SCV Water. That supply includes 450 AFY to existing users identified under SCVSD's approved State Water Resources Control Board petition. Currently planned additional supplies would be developed under the SCV Water's New Drop Program, which is based on using wastewater flows from new customers rather than treated wastewater that has historically been discharged into the Santa Clara River. The New Drop Program would not require a requested change to the SCVSD's existing petition. This is particularly important because there are potential regulatory challenges to using additional recycled water that would reduce flows in the Santa Clara River. This is discussed in more detail below.

Recycled water is dependent on potential user demands, availability of supplies, and the economics and feasibility of serving those users. The Draft Update of the Recycled Water Master Plan identified over 20,000 AFY of existing and future landscape demands that could potentially be irrigated using recycled water. However, due to the potential need for instream flows and feasibility considerations including costs, SCV Water plans call for a recycled water distribution system that would be sufficient to meet demands of 9,749 AFY. This includes SCV

Water's Phase 1 project, which is currently serving 450 AF of demand, along with its Phase 2 projects and certain non-potable irrigation systems to be constructed by a developer for a specific project described in more detail below.

As discussed below, additional opportunities to further expand recycled water use will be evaluated as part of SCV Water's Water Resilience Initiative, however, these have not been incorporated into the prospective water supplies accounted for in Section 3.

3.7.1 Recycled Water Master Planning Efforts

It is anticipated that water demands will continue to increase as a result of a growing population. Accordingly, SCV Water is planning to secure additional reliable sources of water to help meet projected water demands. SCV Water recognizes that recycled water is an important and reliable source of additional water that should be pursued as an integral part of the SCV Water's water supply portfolio. Recycled water enhances reliability in that it provides an additional source of supply and allows for more efficient utilization of potable groundwater and imported water supplies. Draft Recycled Water Master Plans for the SCV Water service area were completed in 1993 and 2002. These master plans considered various factors affecting recycled water sources, supplies, users and demands so that SCV Water could develop a cost-effective recycled water system within its service area. In 2007, SCV Water completed CEQA analysis of the 2002 Recycled Water Master Plan (RWMP). This analysis consisted of a Programmatic EIR covering the various phases for a recycled water system as outlined in the RWMP. The Programmatic EIR was certified by the, then, CLWA Board in March 2007.

An update to the RWMP was initiated in 2016 (Kennedy/Jenks 2016) based on recent developments affecting recycled water sources, supplies, uses, and demands. The update was not completed but it provides important guidance on feasible projects in the short term. One reason the study was not finalized was in part due to ongoing litigation related to recycled water supplies between the Affordable Clean Water Alliance and SCVSD, which is SCV Water's main supplier of recycled water. Further, SCV Water anticipates undertaking a water resiliency planning process that would in part explore the interconnection of future groundwater operations, recycled water usage, and environmental uses of water in the USCR Watershed. It is anticipated that this effort would inform future environmental evaluations and permitting for future projects and programs. Overall, recycled water uses included in this WSA and the 2020 UWMP update include uses prioritized in the Kennedy/Jenks 2016 report and available supplies from the SCV Water New Drop program.

Table 3-9 provides a list of entities that participate in the implementation of the RWMP and RWMP Update. In accordance with Water Code section 10633, the preparation of the 2020 UWMP was also coordinated with these entities.

TABLE 3-9 PARTICIPATING ENTITIES[a]

Participating Entities	Role in Plan Development
SCV Water	Retail and Wholesale water provider
Los Angeles County Waterworks District No. 36	Retail water purveyor
Santa Clarita Valley Sanitation District	Recycled Water supplier
Berry Petroleum	Potential recycled water supplier
City of Santa Clarita[b]	Potential recycled water supplier

Notes:
(a) The Newhall Ranch Water Reclamation Plant would serve the Newhall Ranch Specific Plan and will be owned and operated by the Newhall Ranch Sanitation District.
(b) The City of Santa Clarita will eventually operate the Vista Canyon Water Reclamation Plant.

SCV Water has constructed Phase 1 of the 2002 RWMP (Kennedy Jenks 2002), which delivers on average approximately 450 AFY. Although the original SCVSD contract and applicable permits anticipate the use of 1,600 AFY for this initial phase project, demands for recycled water have not developed at all the specific places of use identified in the SCVSD's SWRCB Water Code Section 1211 petition. Deliveries of recycled water began in 2003 for irrigation water supply and currently serve a golf course, a shopping center, and roadway median strips. Use of the remaining volumes at new locations would require submission and approval of a revised petition, triggering a similar State Water Resources Control Board petition process to the new petition described below.

Phase 2 is planned to expand recycled water use within Santa Clarita Valley and consists of four projects currently in various stages of design and/or construction. All available recycled water from the SCV Water's New Drop Program in the peak summer months is anticipated to be used to meet the demands of these Phase 2 expansions currently in design and construction, including planned developments by Five Point that are referred to as the Westside communities.

3.7.2 Existing Wastewater Treatment Facilities

SCVSD owns and operates two Water Reclamation Plants (WRPs), the Saugus WRP and the Valencia WRP, within the SCV Water service area. The water is treated to disinfected tertiary levels and, with the exception of water used in Phase I of the RWMP, is discharged to the Santa Clara River. The Newhall Ranch and Vista Canyon developments will have their own dedicated tertiary treatment WRPs, and non-potable recycled water from these sources, when available, is anticipated to be incorporated directly into the recycled water system.

The Valencia WRP, completed in 1967, is located on The Old Road near Magic Mountain Amusement Park. The Valencia WRP has a current treatment capacity of 21.6 million gallons per day (MGD), equivalent to 24,190 AFY, developed over time in stages. The average annual production is 15,500 AFY of tertiary recycled water. Use of recycled water from the Valencia WRP for irrigation use is permitted under Los Angeles Regional Water Quality Control Board (LARWQCB) Order Nos. 87-48 and 97-072.

The Saugus WRP, completed in 1962, is located southeast of the intersection of Bouquet Canyon Road and Soledad Canyon Road. The Saugus WRP has a current treatment capacity of 6.5 MGD (7,280 AFY). No future expansions are possible at the plant due to space limitations at the site. In 2020 the Saugus WRP produced 5,150 AFY of tertiary recycled water. Use of recycled water from this facility is permitted under LARWQCB Order Nos. 87-49 and 97-072.

The Saugus and Valencia WRPs operated independently of each other until 1980, at which time the two plants were linked by a bypass interceptor. The interceptor was installed to transfer a portion of flows received at the Saugus WRP to the Valencia WRP. Together, the Valencia and Saugus WRPs have a design capacity of 28.1 MGD (31,470 AFY) and produce 20,450 AFY of treated effluent on average. The primary sources of wastewater to the Saugus and Valencia WRPs are domestic. Both plants are tertiary treatment facilities and produce high quality effluent. Historically, the effluent from the two WRPs has been discharged to the Santa Clara River. The Saugus WRP effluent outfall is located at Bouquet Canyon Road. Effluent from the Valencia WRP is discharged to the Santa Clara River at a point approximately 2,000 feet downstream (west) of The Old Road Bridge.

SCVSD is currently constructing advanced treatment facilities (AWT) to desalinate tertiary recycled water with a capacity of approximately 6,000 AFY to comply with the Regional Water Quality Control Board, Los Angeles Region Chloride Total Maximum Daily Load (TMDL). The facilities are sized to treat enough disinfected tertiary recycled water to blend down the chloride levels for discharge to the Santa Clara River at the design capacity of the combined Saugus and Valencia WRPs at chloride levels during a drought. Since design capacities will not be reached for a decade or more and chloride levels on average are much lower during average precipitation years, the AWT will have excess capacity that could be utilized to produce desalinated water for reuse purposes for sale to SCV Water. Desalinated recycled water could be used to improve water quality or for indirect potable reuse in the future but only with the construction of additional treatment.

3.7.3 Wastewater Treatment Facility Improvements and Expansions

A third reclamation plant, the Vista Canyon Water Factory (Vista Canyon WRP), has been constructed as a part of the Vista Canyon Project. The plant is located near Highway 14, just south of the Santa Clara River and will be operated by the City of Santa Clarita. The plant will have an ultimate capacity of 440 AFY (Kennedy Jenks, 2015). The Vista Canyon Development is anticipated to use 137 AFY of the recycled water supply and the remaining excess flow would be available for reuse as part of Vista Canyon Recycled Water Main Extension (Phase 2B) of the RWMP currently under construction.

It is intended that the Vista Canyon WRP would not discharge recycled water into the Santa Clara River. Excess recycled water production from the Vista Canyon WRP would be sent to the Valencia WRP.

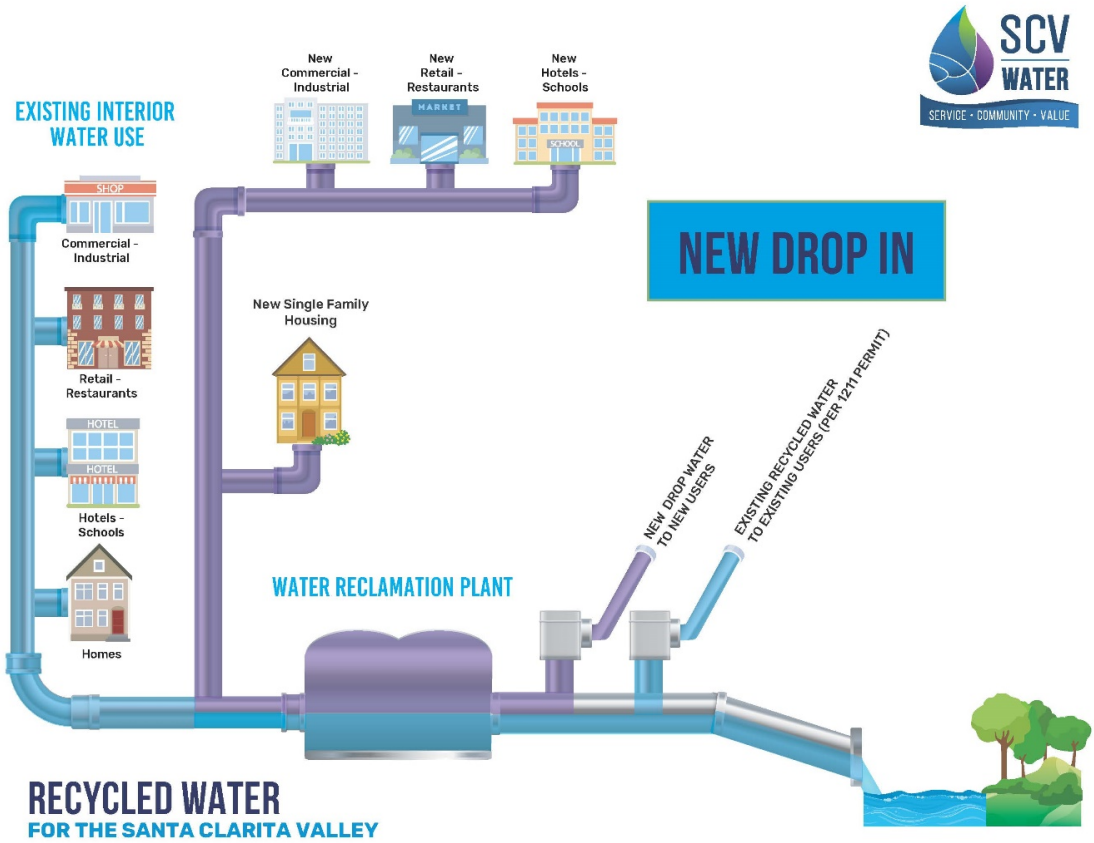
A fourth Santa Clarita Valley (Valley) reclamation plant, the Newhall Ranch WRP, is proposed as part of the Newhall Ranch project. This proposed facility would be located near the western edge of the development project along the south side of State Route 126. The Newhall Ranch WRP would serve the Newhall Ranch Specific Plan and will be owned and operated by the Newhall Ranch Sanitation District. Prior to Newhall Ranch WRP being available, Newhall Ranch Specific Plan generated wastewater would be temporarily treated at the Valencia WRP, based on the need to build up an adequate, steady flow of wastewater before constructing the initial

increment of capacity at Newhall Ranch WRP. The Valencia WRP has sufficient capacity to tertiary-treat wastewater from the Newhall Ranch Specific Plan during this interim period, consistent with the Interconnection Agreement approved by SCVSD in 2002 and the Joint Sewerage Services Agreement entered between SCVSD and NRSD in 2017. The Newhall Ranch WRP currently has a permitted capacity of 2.0 MGD (approximately 2,200 AFY) but is anticipated to produce 4,200 AFY at ultimate buildout. Recycled water from the Valencia WRP would be used to meet the remainder of the non-potable demands there, to the extent available in accordance with the Interconnection Agreement. If for any reason, however, recycled water supplies from the Valencia WRP and/or other local WRPs are not available in the amounts anticipated to meet the projected recycled water demands for that development, other sources of supply available to SCV Water as provided in the 2020 UWMP would be utilized to serve non-potable demands until such time as recycled water supplies may become available.

3.7.4 New Drop Program

As a means of developing additional recycled water supplies, without increasing the diversion of recycled water flows discharged to the Santa Clara River, SCV Water has developed the New Drop Program to utilize and account for “new” recycled water flows. These additional recycled water supplies would be derived from wastewater flows generated from new residential and commercial development. The New Drop Program accounts for the increase in wastewater flows associated with new development and separates these projected wastewater flows from existing flows discharged to the Santa Clara River. As new development occurs, potential additional recycled water supplies would be quantified through calculations and measurements. The New Drop Program is illustrated in Figure 3-1 below.

FIGURE 3-1 NEW DROP PROGRAM PROCESS



The use of recycled water under the New Drop Program does not constitute a reduction to a surface stream, specifically a reduction in flow in the Santa Clara River. As a result, a Section 1211 wastewater change petition is not required to implement the recycled water program. However, in order to utilize these recycled water supplies in accordance with SWRCB requirements, SCV Water has been working to obtain formal approvals. A Notice of Applicability under the General Order No. WQ 2016-0068-DDW, Water Reclamation Requirements for Recycled Water Use, was issued in April 2020 for SCV Water's use of recycled water from the Valencia WRP for non-irrigation uses as part of the New Drop Program. Upon review of the Title 22 Report and related project documentation, the LARWQCB and the SWRCB determined that the New Drop Program satisfies the general and specific conditions of the General Order and does not require a change of use permit under Water Code section 1211. SCV Water is also in the process of requesting expanded use of the New Drop Program recycled water from the Valencia WRP for irrigation uses, currently allowed under Order No. 97-072. An addendum to the original Title 22 Engineering Report was submitted in December 2020 for Phase 2D. The final revised Engineering report is scheduled to be submitted during the first half of 2022.

3.7.5 Instream Flow Requirements

In general, the use of recycled water from the WRPs is limited and can be affected by various state water laws, codes, and regulatory and court decisions, which are summarized in the RWMP Update. The production, discharge, distribution, and use of recycled water are subject to federal, state, and local regulations; the primary objectives of which are to protect public health. Appendix B of the RWMP summarizes the regulatory requirements and their administration, with an emphasis on regulations relating to the distribution and use of recycled water in California. Use of recycled water from the Valencia and Saugus WRPs is permitted under Los Angeles RWQCB Order Nos. 87-48 and 87-49, respectively and re-adopted by Order No. 97-072. Copies of these recycled water permits, along with SCVSD Ordinances and Requirements for Recycled Water Users in Santa Clarita Valley and Los Angeles County Department of Public Health (CDPH) guidelines and inspection requirements, are provided in the Santa Clarita Valley Rules and Regulations Handbook (Kennedy Jenks 2016b).

SCV Water has a contract with the SCVSD to use recycled water from the Valencia WRP, which was recently extended through 2026. The contract permits SCV Water to receive 1,600 AFY, corresponding to the amount of recycled water permitted for reuse by the SWRCB. However, as noted above that permit limited uses to specific approved sites and because demand at some of those sites has not materialized, current use is limited to only about 450 AFY.

The New Drop Program will generate additional supplies and those supplies will be available to multiple new use sites when and as they are connected to the expanding recycled water system.

At this time, SCVSD is not seeking an amendment to its SWRCB petition to increase the amount of recycled water it may deliver that has historically been discharged into the Santa Clara River. In the future, if SCV Water develops feasible projects to use recycled water in amounts greater than the New Drop Program supplies, it is anticipated that SCV Water and SCVSD would cooperate in obtaining any necessary permits from the SWRCB. Obtaining an approved petition will require compliance with CEQA. However, as indicated above and described in more detail below, SCVSD's previous evaluations of potential withdrawals of discharge from the Santa Clara River to use for recycled water have been the subject of litigation.

In October 2013, the SCVSD Board certified an EIR (2013 EIR) that included two components: (1) the Chloride Compliance Project to remove chloride from wastewater to meet the Chloride TMDL and (2) a Recycled Water Project to make treated wastewater available for reuse. The Chloride Compliance Project consists of 3 main elements that include ultraviolet disinfection at the Saugus and Valencia WRPs, AWT at Valencia WRP, and brine management and disposal. The Recycled Water Project was designed to support municipal reuse of recycled water and was solely focused on proposed future reductions in discharges of recycled water to the Santa Clara River.[11]

[11] No recycled water infrastructure, such as treatment, pump stations or pipelines, were included in the scope of the Recycled Water Project.

The 2013 EIR was subsequently challenged by the Affordable Clean Water Alliance (ACWA) on the grounds that the document failed to comply with CEQA. The LA Superior Court (the Court) did not find any deficiencies in the environmental analysis related to the Chloride Compliance Project; however, the Court found two aspects of the 2013 EIR did not fully comply with CEQA. First, the Court found that the 2013 EIR lacked substantial evidence to support the conclusion of no significant impacts on populations of the unarmored threespine stickleback fish (UTS) with respect to the reduced discharge to the Santa Clara River associated with the Recycled Water Project; and second, the 2013 EIR lacked a clear brine management alternative because of the "abandonment" of the deep well injection brine management method approved in the 2013 EIR, making the Chloride Compliance Project incomplete.

In an effort to move forward with the Chloride Compliance Project, SCVSD separated the Chloride Compliance Project from the Recycled Water Project and, in 2017, certified a Recirculated EIR evaluating the Chloride Compliance Project separate from the Recycled Water Project.

SCVSD proceeded with the Recycled Water Project on a separate, but parallel path. SCVSD retained a consultant and engaged in consultations with CDFW. SCVSD released a Notice of Preparation (NOP) in August 2016. In response to the NOP, CDFW wrote a letter indicating that they could not conclude that the project would not result in take of UTS and recommended that SCVSD do additional studies and consider applying for an Incidental Take Permit under the California Endangered Species Act prior to implementing the project. Further, in summer 2018, CDFW requested additional review to analyze potential impacts to groundwater and surface water levels because of the proposed reduction in discharge from the Valencia WRP. At the time, a comprehensive model needed to evaluate surface water and groundwater level impacts did not exist. Given that the SWRCB defers to CDFW in matters related to habitat when considering petitions for reduction in discharges and the positions expressed by CDFW, SCVSD determined that obtaining a 1211 petition from the SWRCB for a reduction in discharge would be very difficult.

By resolution dated February 2019 SCVSD stated it had no current intent to proceed with an EIR related to the support of additional recycled water development by reducing existing discharge to the Santa Clara River. The decision by SCVSD to remove the recycled water component and approve the modified chloride compliance project has been challenged in separate lawsuits filed in Los Angeles Superior Court from 2017-2019 and the case is ongoing.

SCV Water would undertake thorough and careful evaluation of effects on the Santa Clara River and would consult with California Department of Fish and Wildlife (CDFW) before proposing any project to reduce existing discharges and supply additional recycled water within the SCV service area.

3.7.6 Other Potential Sources of Recycled Water

Oilfield produced water is a by-product of oil production generated when oil is extracted from the oil reservoir. It is generally of poor quality and unsuitable for potable, industrial, or irrigation use without treatment. Because of the poor water quality, reinjection has often been the most cost-effective disposal option. Treatment processes can produce potable quality water; yet, because of the poor initial water quality and the organic constituents, it is often more appropriate for treated oilfield produced water to be used for irrigation or industrial purposes to offset potable water demand. The economics of oil production are market-driven and are different from those

of drinking water supplies. As oil prices rise or drop, oilfield production is increased or decreased as dictated by economics. Also, oilfields are eventually depleted of supply and abandoned. Therefore, while oilfield produced water should be considered as long-term, it is not a completely firm supply and is not permanent.

Berry Petroleum has expressed interest in the past in treating oilfield produced water from the Placerita Oilfield for sale to SCV Water for non-potable uses. Studies of the potential reuse of treated oilfield produced water from the Placerita Oilfield have indicated that approximately 44,000 barrels per day (1.8 MGD or 2,016 AFY) of treated oilfield produced water may be available. Pilot studies performed at the Placerita Oilfield have indicated that, even with reverse osmosis (RO) treatment, some organic compounds such as naphthalene, 2-butanone and ethylbenzene can be detected in the RO effluent. For irrigation reuse, the produced water would need to be cooled and treated to remove hardness, silica, total dissolved solids (TDS), boron, ammonia, and total organic carbon (TOC).

Due to water reliability and water quality issues, the use of oilfield produced water for a source of recycled water was not considered in the 2016 Salt and Nutrient Management Plan (SNMP) or in the RWMP Update and was not included as a supply opportunity in the 2020 UWMP.

3.7.7 Recycled Water Supply and Demand

Recycled water has the potential to play a critical role in meeting a portion of future water demands in the Valley, as the population grows. SCV Water is in various stages of planning and constructing its Phase 2 projects. SCV Water has included Phase 2 projects in its capital program. Phase 2B and 2D are currently under construction Further, Phase 2C is currently under design. Additionally, Five Point's Westside development projects are proceeding with construction of the Mission Village project currently underway. A summary of demands anticipated from these activities are shown in Table 3-10.

TABLE 3-10 EXISTING AND PROJECTED RECYCLED WATER DEMAND

Phase/Project	Demand (AFY)	Timeframe for Coming Online	Source of Recycled Water	Location of Use/Water Service Area
Phase 1	450	Existing	Valencia WRP	VWD
Phase 2A	560	2029	Valencia WRP	NCWD, VWD
Phase 2B	300	2021-2023	Vista Canyon WRP	SCWD
Phase 2C	759	2021-2023	Valencia WRP	NCWD, VWD
Phase 2C – Golf Course[(a)]	600	2023	Valencia WRP	Valencia Golf Course
Phase 2D	221	2021-2023	Valencia WRP	VWD
Five Point[(b)]	5,174-6,505	2021-2043	Newhall Ranch/ Valencia WRP	Newhall Ranch/Five Point
Total	**8,064-9,395**	2050	As shown above	As shown above
Total w/ CC	**8,368-9,749[(c)]**	2050		

Notes:
(a) Raw water conversion to recycled water (not an existing potable offset).
(b) Range reflects estimated demand using MEWLO and observed over watering of 25.6% in recently developed irrigation systems.
(c) Assumes 3.77% demand increase due to climate change.

As previously discussed, aside from the existing 450 AFY of recycled water supply, planned recycled water supplies from the Valencia, Newhall Ranch, and Vista Canyon WRPs would come from the New Drop Program. Importantly, as indicated above, water from these New Drop Program sources would not be required to maintain environmental discharges to the Santa Clara River. As a result, it would be available to meet a considerable portion of the total projected long-term recycled water demands.

Total projected recycled water use projections through 2050 are summarized in Table 3-11. As annual demands discussed above exceed supplies, recycled water usage is based on available supplies. In later years, it is projected that seasonal storage may be needed to store recycled water during the winter months to help meet peak summer demands. Additionally, potable make-up water will be needed to help meet summer peaking demands in the non-potable irrigation system.

TABLE 3-11 PROJECTED RECYCLED WATER USE

	2025	2030	2035	2040	2045	2050
Existing Recycled Water Use	450	450	450	450	450	450
New Recycled Water Use	1,849	3,696	5,091	6,498	7,499	8,511
Total Projected Recycled Water Use[(a)]	**2,299**	**4,146**	**5,541**	**6,948**	**7,949**	**8,961**
Total Potential Recycled Water Demand[(b)]	**4,559**	**6,514**	**8,441**	**9,191**	**9,469**	**9,749**

Notes:
(a) Total projected water use is equal to total projected recycled water supply as total potential recycled water demand exceeds total projected supply.
(b) Difference in recycled water supply and total potential recycled water demand will be made up by potable water supplies, i.e., make-up water.

In accordance with the UWMP Act, the 2020 UWMP describes and quantifies the potential uses of recycled water in the Valley based on the substantial wastewater flows and recycled water generated by the local WRPs. However, as noted above, if recycled water supplies from the local WRPs are not available in the amounts identified in Table 3-11 to meet potential uses because of regulatory or other constraints, other sources of supply available to SCV Water as provided in the 2020 UWMP would be utilized to meet non-potable demands until such time as recycled water supplies may become available.

3.7.8 Recycled Water Demand

Currently, an average of 450 AFY of recycled water is served to landscape irrigation customers, including The Oaks Club golf course (formerly known as the Tournament Players Club Golf Course). Potential recycled water users have been identified through several sources including:

- 1993 Recycled Water Master Plan
- Water consumption records for SCV Water and LACWWD 36
- Land use maps
- General Plans and Specific Plans for the City of Santa Clarita and County of Los Angeles
- Discussions with City, County, SCV Water, LACWWD 36 and land developer staff
- On-site surveys of the SCV Water service area

- 2002 Recycled Water Master Plan
- 2016 Recycled Water Master Plan Update (in development)

To be considered as a potential recycled water user, the user has to be located within SCV Water's service area and have a potential non-potable water demand of at least 50,000 gallons per day. At this time no specific or Valley-wide ordinance(s) or other enactments are proposed that would require the installation of dual distribution systems for recycled water, or that would require the use of recycled water for recirculating uses. A total existing demand of approximately 12,000 AFY (based on current non-potable uses from irrigation meters) and a future demand of 8,511 AFY (based on planned developments), totaling approximately 21,000 AFY. The majority of recycled water uses are projected to be landscape irrigation.

As noted above, Phase 1 of the RWMP has been constructed and begins with a 4,000-gpm pump station at the Valencia WRP that connects to a 1.5 MG reservoir in the Westridge area with 15,600 linear feet of 24- and 20-inch pipeline. It serves landscape customers along The Old Road and The Oaks Club at Valencia.

Four projects planned to expand recycled water use within Santa Clarita Valley, which are collectively known as Phase 2.

Phase 2A, 2C and 2D would use recycled water from the Valencia WRP and Phase 2B would use recycled water produced at the Vista Canyon WRP, which will treat flows from the planned Vista Canyon Development. Phase 2A would serve Central Park and customers along the path from the Valencia WRP to the park. Phase 2B would serve the proposed Vista Canyon Development and nearby irrigation customers. Phase 2C would serve Valencia Country Club, Vista Valencia Golf Course, College of the Canyons, California Institute of the Arts, Hart High School, and Newhall Elementary School. Phase 2D would serve West Ranch High School, Ranch Pico Junior High School, Oak Hills Elementary School, and customers along the way.

Anticipated annual demands and completion dates for Phase 2 components are listed below:

- Phase 2A: 560 AFY in 2029

- Phases 2B, 2C, 2D: 1880 AFY between 2021 and 2023 (1,200 AFY would consist of raw water conversion to non-potable at the Valencia golf course by 2023). Phase 2D and 2B are under construction.

In addition, the FivePoint project is anticipated to result in 5,174 AFY of demand between 2021 and 2043. These Phase 2 and FivePoint anticipated demands take into account demand adjustment factors over the planning period.

Future recycled water use expansion beyond Phase 2 was explored as part of the RWMP Update and could potentially include extensions of the Phase 2 alignments to utilize any additional available recycled water resulting from a decrease in discharges from the Valencia WRP. However, as discussed above there are no current plans to pursue reduction of discharges from the Valencia WRP to the Santa Clara River. Current plans call for reliance on the SCV Water's New Drop Program. Consistent with the New Drop Program there is currently no plan to use recycled water from the Saugus WRP since the majority of the effluent is committed to meeting discharge requirements in the Santa Clara River.

The RWMP Update also included a high-level assessment of opportunities for potable reuse within the Santa Clarita Valley via groundwater recharge, surface water augmentation and direct potable reuse and the development of seasonal storage (Woodard and Curran 2021). In general, due to the seasonal variability of recycled water demand, SCV Water has an excess of recycled water supply during the winter months. Excess recycled water flows are currently discharged to the Santa Clara River. These excess flows could be better utilized by constructing seasonal storage facilities which can store recycled water during winter months when the demands are low and feed the system with the stored supply in the summer months when demands exceed the operational supply. These opportunities would be evaluated further in future UWMP updates.

- **Groundwater recharge ("indirect potable reuse") via surface spreading** at an off-stream location near the Santa Clara River could provide for recharge of excess available recycled water in the winter and off-peak irrigation months. A more detailed feasibility study would be required to confirm the volume of recycled water that could be recharged and recovered based on current regulations, source water quality, operational and cost considerations.

- **Surface Water augmentation** at Castaic Lake would require full advanced treatment of the recycled water from SCVSD, brine disposal and significant conveyance requirements at a very high cost. It is also unknown at this time whether a surface water augmentation project would be able to meet applicable regulatory criteria and how much water could be augmented.

- **Direct potable reuse (DPR)**, though not currently permitted in California, would involve the purposeful introduction of highly purified recycled water into a drinking water supply, immediately upstream of a drinking Water treatment plant or directly into the potable water supply distribution system downstream of a water treatment plant. A DPR concept could potentially utilize recycled water not already allocated or planned for non-potable reuse or determined necessary for instream use and would require full advanced treatment of the recycled water from SCVSD, brine disposal and only minimal conveyance requirements. SCV Water intends to track direct potable reuse developments in California and revisit the feasibility of DPR in the future.

3.7.9 Recycled Water Comparison

The 2015 UWMP projected a total recycled water demand of 1,015 AFY by the year 2020. Actual data shows 468 AF was served in 2020 which reflects the existing golf course and landscape demands. 2020 demand is lower than originally predicted because the recycled water distribution system expansion did not occur as anticipated. Table 3-12 provides a comparison of the projected versus the actual 2020 demand. Based on current estimates, recycled water demand over the next five years is anticipated to increase 10-fold as shown in Table 3-12.

TABLE 3-12 RECYCLED WATER USES - PROJECTION COMPARED WITH ACTUAL USE (AFY)

User Type	2015 Projection for 2020	2020 Actual Use
Landscape	622	99
Golf Course Landscape	393	375
Total	**1,015**	**468**

3.7.10 Methods to Encourage Recycled Water Use

Currently, to the extent feasible SCV Water is offering recycled water as available at a lower rate to encourage the use of recycled water and to help offset some of the conversion costs. SCV Water is considering pricing options to encourage participation in the recycled water program. In addition to pricing incentives SCV Water is committed to a Valley-wide messaging regarding recycled water benefits and costs. At its March 2, 2021, Board Meeting, SCV Water authorized the General Manager to implement a Purple PREP (Planning Readiness and Effectuating Program) Pilot to facilitate conversion of the Phase 2B and 2D customer irrigation systems to recycled water. Under the program customers can choose either direct installation of required retrofit materials or receive a financial incentive up to the actual cost of the retrofit. Other incentives may include financial assistance to offset the costs to convert (or retrofit) potable water systems or the development of a Valley-wide recycled water ordinance, which would require the use of recycled water if available, rather than relying solely on pricing incentives and voluntary connections.

It is important to note that SCV Water's New Drop Program is a critical component for optimizing recycled water use across the service area. As described above, this program allows SCV Water to develop additional recycled water supplies from wastewater flows generated from new residential and commercial development, without increasing the diversion of recycled water flows discharged to the Santa Clara River.

3.7.11 Optimization Plan for Recycled Water

Currently, the amount of recycled water available from the WRPs is not adequate to meet the total demands of the completed recycled water system, which relates to both infrastructure and regulatory factors. Notably, however, as potable water demands increase in the Valley over time, wastewater flows will increase and the amount of recycled water production to meet future system demands would also increase. Therefore, SCV Water anticipates that construction of the recycled water system will be phased to utilize the increases in WRP production. A detailed discussion of the recommended phasing plan was provided in the RWMP Update.

Phasing implementation of the recycled water system is recommended for the following reasons:

- A number of the potential recycled water users are future users that do not yet need recycled water.
- The current amount of recycled water available from the local WRPs is not yet adequate to meet the total demands of all the existing *and* planned future identified recycled water users.
- Capital funding requirements would be spread over the current planning period through 2050.

The implementation phases are prioritized based on the status of the potential recycled water users (existing or future), the anticipated construction schedule of future users and the proximity of the users to the non-potable water source (e.g., Valencia WRP, Vista Canyon WRP and Newhall Ranch WRP).

Phase 2A, 2B, 2C and 2D are planned for construction over the next 10 years and would increase recycled water deliveries by approximately 2,440 AFY. These projects are being prioritized to take advantage of available funding for recycled water projects under Proposition 1 and to align with the construction schedule for the Vista Canyon Development.

The Newhall Ranch/Five Point project represents the next major increase in recycled water use and is anticipated to be constructed over the next 20 to 25 Years. These facilities will be paid for by the developer.

As these uses come are on-line, recycled water demand may exceed supplies particularly during the summer months, thus the distribution to future users would be based on the following considerations:

- Service area boundaries,
- Ease or willingness of customers to connect to recycled water,
- Capital and operational costs,
- Funding availability,
- Community impacts and development requirements,
- Supply reliability and system flexibility considerations, and
- Availability of recycled water supplies due to regulatory or other legal constraints.

3.7.12 Additional Considerations Relating to the Use of Recycled Water

Additional information relating to recycled water concerning the SCVSD Chloride Compliance Plan, and the groundwater basin's Salt and Nutrient Management Plan are in the 2020 UWMP.

3.7.13 Capital Outlay Program

Financing the delivery of water supplies for SCV Water's customers, including this project, are set forth in SCV Water's Biennial Budget for FY 2021/22 and FY 2022/23. Water operations and new projects are paid from various funds as described below:

- General Fund – Fund used to account for and report all financial resources not accounted for and reported in another fund
- Capital Project Fund – Capital projects that are financed
- State Water Contract Fund – Funds received from ad valorem property taxes for payment of DWR fixed and variable costs
- Facility Capacity/Connection Fees – Funds that are collected from development or developers

The Biennial Budget describes anticipated revenues from various sources such as water sales, taxes, and fees along with anticipated expenditures associated with these funds including those to pay for existing and new sources of water supply.

Further, the budget contains a Capital improvement section (pg. 131) that identifies near term capital expenditures and their funding sources. SCV Water plans to invest $84 million in FY 21/22 and $86 million in FY 22/23. (pg. 133). These include projects described in this section such as installation of treatment facilities for Perchlorate and PFAS impacted wells, construction of new Saugus Formation wells, and construction of recycled water facilities.

The capital budget also contains expenditures for planning efforts for new projects such as additional extraction capacity from new banking programs and Sites Reservoir planning costs. A summary of expenditures and revenues are shown on the Tables on page 136 and 137 of the budget, with individual project summaries on the following pages. Some of the future water projects will be the subject of future budgets to be adopted by the SCV Waters Board of Directors.

Section 4: Supply Reliability Planning and Accounting for Uncertainties Associated with Groundwater Contamination, and other Factors

Planning for water supplies in California inherently involves the management of risks and uncertainties. Changes in public policy, regulatory requirements, and advancement of scientific knowledge can all affect future water supplies. This section addresses some of these risks and uncertainties that SCV Water is managing. Specifically, this section addresses risk and uncertainties associated with water quality, specifically restoration of existing wells and proposed wells given ongoing groundwater contamination, how climate change may impact various sources of supplies and demand for water, and how ongoing development of new water use efficiency may impact water supplies and demands. Finally, this section discusses how analysis undertaken by SCV Water in its Water Supply Reliability Plan Report, supplements the analysis performed in the 2020 UWMP and demonstrates how SCV Water can manage risk should the path to implementing certain future water supplies are blocked.

A key factor to meeting future demands is restoring existing groundwater supplies that are currently contaminated with Perchlorate, PFAS, and VOCs. This section provides a detailed discussion based primarily on Section 6 of the 2020 UWMP, regarding water quality and steps necessary to recover these supplies as well as access additional groundwater supplies from the Saugus Formation. The discussion in this report, however, contains certain updates regarding the schedules relating to recovery of existing well capacity impacted by contaminates. Further, anticipated climate change is projected to impact nearly all of SCV Water's water supplies. While Sections 1.7 of the 2020 UWMP provides a summary of potential effects of climate change on California and the Santa Clarita Valley, this WSA provides additional discussions on how climate change information, based largely on State provided information, was incorporated into the water demands and water supplies analyzed in the 2020 UWMP and this WSA. This information was incorporated into SCV Water's 2021 Water Supply Reliability Plan Update that analyzed not only the proposed UWMP water resource mix, but alternative scenarios to achieve water supply reliability.

Additionally, the State is in the process of implementing two policy bills enacted by the California Legislature, Assembly Bill 1668 (AB1668, Friedman) and Senate Bill 606 (SB606, Hertzberg) that will provide new water efficiency standards that will eventually lead to enforceable urban water use objectives. Although these standards have not yet been adopted, implications to recycled water availability and urban water demand are discussed below.

4.1 Water Quality

The quality of any natural water is dynamic in nature. This is true for both the imported and local groundwater of the Basin. During periods of intense rainfall or snowmelt, routes of surface water movement may change resulting variable quantities of constituents being mobilized. 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 potentially dissolve different materials from those strata, change concentrations due to oxidation or reduction reactions or precipitate constituents due to oversaturation. Water depth is a function of recharge from local rainfall and from adjacent basins due to subsurface inflow and

withdrawal from groundwater pumping. Water quality is not a static feature of surface water and groundwater, and these dynamic variables must be recognized.

Water quality regulations also change. This is the result of the discovery of new contaminants, updated 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. Most water suppliers in California are subject to drinking water standards set by the United States Environmental Protection Agency (USEPA) and the SWRCB DDW, formerly the DPH. Additionally, each year prior to July 1st, a Consumer Confidence Report or Water Quality Report (WQR) is made available to all Valley residents who receive water from SCV Water. That report includes detailed information about the results of quality testing of the groundwater and treated SWP Water supplied during the preceding year (2020 WQR). Water quality is also 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 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.

This section provides a general description of the water quality of the supplies within the Valley, aquifer protection and a discussion of potential water quality impacts on the reliability of these supplies.

4.2 Water Quality Constituents of Interest

SCV Water is committed to providing its customers with high quality water that meets all federal and state primary drinking water standards. Some contaminants are naturally occurring minerals and radioactive material. In some cases, the presence of animals or human activity can contribute to the constituents in the source waters. The following sections address constituents reported in the 2020 WQR and the 2019 Santa Clarita Valley Water Report (July 2020) that may impact water quality.

4.2.1 Perchlorate

Perchlorate, a chemical used in making rocket and ammunitions propellants as well as flares and fireworks, has been a water quality concern in the Santa Clarita Valley since 1997 when it was originally detected in four wells operated by SCV Water in the eastern part of the Saugus Formation, near the former Whittaker-Bermite facility. In late 2002, the contaminant was detected in a fifth well, this one located in the Alluvial Aquifer (Stadium Well) but also located near the former Whittaker-Bermite site, and which was immediately taken out of service. Of those wells, two (Well 157 and Stadium Well) were sealed and replaced by new wells (201 and Valley Center), and two others (Saugus 1 and 2) were returned to service with treatment by 2011. Well N-11 was taken out of service and remains out of service.

Perchlorate was detected again in early 2005 in a second Alluvial well (Well Q2) near the former Whittaker-Bermite site, and in 2006 in very low concentrations (below the detection limit for reporting) in a fifth Saugus well (Well N13) near one of the originally impacted wells.

In response to the detection of perchlorate at alluvial Well Q2, it was removed from active service, and the preparation of an analysis and report assessing the impact of, and response to, the perchlorate contamination of that well was commissioned. A capture zone analysis utilizing the numerical groundwater flow model was conducted to assess the potential risk of perchlorate migration to Well Q2 and other nearby alluvial wells. This analysis determined that there was a low risk of perchlorate migration to Well Q2. The response for Well Q2 was to obtain permitting for installation of wellhead treatment, followed by the installation of treatment facilities, and returning the well to water supply service in October 2005. After nearly two years of operation with wellhead treatment, including regular monitoring specified by the DPH, all of which resulted in no detection of perchlorate in Well Q2, it was requested that DPH allow treatment to be discontinued. DPH approved that request in August 2007, and treatment was subsequently discontinued. In 2019, perchlorate was detected again in Well Q2. In response, a treatment system for Well Q2 was completed in early 2021, and the well is expected to be back online by summer 2022. Additional details on DDW permitting and associated operational timeline for Well 201 are provided in Section 4.7.2.

Well N-13 has remained in service with regular sampling per DDW requirements. Perchlorate concentrations in Well N13 (and Well N12) are currently below the detection limit for reporting (DLR). In 2007, the DPH (currently the DDW) established a maximum contaminant level (MCL) for perchlorate of 6 micrograms per liter (µg/L). However, in 2021 DDW lowered the MCL for perchlorate to 2 ug/L and subsequently is in the process of lowering the MCL to 1 ug/L by 2024. Additional details on DDW permitting and associated operational timeline for Well 205 are provided in Section 4.7.2. It is currently assumed that, if required due to changes in future regulations, a centralized treatment system will be installed for Wells N12 and N13 at the Well N12 location.

For Wells Saugus 1 and Saugus 2, DDW has imposed a requirement that perchlorate levels be below the Detection Level for Reporting (DLR) of 2 µg/L. These wells are in active service utilizing approved perchlorate treatment and will be treated for VOC's at the Saugus Perchlorate Treatment Facility by 2024.

In August 2010, perchlorate was detected in a sixth Saugus Formation well (Well 201) and was removed from service. Confirmation sampling in the months that followed confirmed the detection of perchlorate at concentrations that ranged from 5.7 to 12 µg/L. A perchlorate treatment system is currently installed for Well V-201 and SCV Water recently determined it will also install treatment for VOCs at Well 201. SCV Water is working with DDW to finalize a permit for operation of that treatment systems for both perchlorate and VOCs. Based on the current schedule, the well may come back online by 2024.

Following the detection of perchlorate in Well 201 in 2010, pumping from a nearby Saugus Formation well (Well 205) was minimized to reduce potential perchlorate migration. In April 2012, Well 205 was voluntarily taken out of service entirely when perchlorate was detected in low concentrations below the DLR (<4.0 µg/L). As of the date of this report, planning and CEQA activities for Well 205 treatments are in progress. This planning includes provisions for treatment of VOCs should testing determine those constituents are present in concentration sufficient to warrant treatment. The completion of a treatment system for Well 205 is anticipated

to occur by early 2024. To date, perchlorate has been detected in a total of nine wells, seven located in the Saugus Formation and two in the Alluvium. Table 4-1 summarizes the current remediation status of all wells where perchlorate has been detected.

Long-term efforts toward the remediation of perchlorate contamination since first detected in 1997 continue to this day. The objective of the perchlorate restoration and containment plan has been to stop the migration of the contaminant plume and restore lost well capacity through pump and treat methods and replacement wells. The following discussion is provided to illustrate the work that has occurred over the last 20 years to reactivate the impacted Saugus 1 and Saugus 2 groundwater supply wells, and that has been expanded to include Wells 201 and 205. SCV Water's Saugus Perchlorate Treatment Facility has been online since 2011, treating Wells Saugus 1 and Saugus 2.

A second Perchlorate Treatment Facility came online in 2017 at Well 201. Until the facility is permitted, treated Water from Well 201 is blended with other SCV Water sources to meet sulfate discharge standards then discharged to the Santa Clara River, under a National Pollutant Discharge Elimination System (NPDES) discharge permit, where it recharges the alluvial aquifer. In 2021 the facility was taken off-line while maintenance was performed. The well and perchlorate treatment facility is anticipated to be placed back into service once the availability of blend water is assessed for 2022, and discharges to the Santa Clara River would then be resumed until DDW approval is acquired for both perchlorate and VOCs. The well is anticipated to be returned to service by early 2024.

The groundwater model that was developed for use in analyzing the operating yield and sustainability of groundwater in the Basin was also used to analyze the capture and control of perchlorate contamination in the originally impacted Saugus wells. As part of the evaluation of the containment system's effectiveness, the Basin groundwater model was updated and recalibrated using actual pumping data (see LSCE & GSI, 2009). The updated model was also utilized in 2014 and 2015 to evaluate restoration and containment options and select the preferred approach to contain the migration of perchlorate downgradient of the Whittaker-Bermite site and restore Wells 201 and 205 to service (GSI and LSCE, 2014).

In addition to the offsite containment and restoration activities, significant work has continued at the Whittaker-Bermite facility to advance a Saugus Aquifer Containment and Extraction Program. To date the following efforts have been made. A Work Plan, Saugus Aquifer Pilot Remediation Well Network, OU7 was approved on December 31, 2008; and subsequently, implementation of the Work Plan started. A multi-layer groundwater flow model was developed to simulate various groundwater pumping scenarios for capture of impacted groundwater in the Saugus Aquifer beneath the site and the surrounding areas. The optimum number and locations of extraction wells were determined based on the modeling scenarios, and the extraction wells and performance monitoring wells were installed.

Construction of the Saugus Aquifer Treatment Plant (SATP) was completed and operation of the pump and treatment system started in August 2017. The SATP includes liquid granular activated carbon (LGAC) for removal of VOCs and a fluidized bed reactor (FBR) for biological treatment of perchlorate in extracted groundwater. The treated water is discharged to the Santa Clara River, in full compliance with provisions of the NPDES permit issued by the Los Angeles RWQCB. Treated water discharged to river percolates through the riverbed and recharges the alluvial aquifer beneath the riverbed.

Approximately 446,741,200 gallons of water have been treated and discharged since start-up.

TABLE 4-1 STATUS OF IMPACTED WELLS

Year Perchlorate Detected	Well	Groundwater Aquifer	Status
1997	Saugus 1	Saugus	DPH (now DDW) approved well return to service in January 2011; well in active service utilizing approved perchlorate treatment.
1997	Saugus 2	Saugus	DPH (now DDW) approved wells return to service in January 2011; well in active service utilizing approved perchlorate treatment.
1997	Well 157	Saugus	Sealed and capacity replaced by new well.
1997	Well N11	Saugus	Out of service.
2002	Stadium Well	Alluvium	Sealed and capacity replaced by new well.
2005	Well Q2	Alluvium	Due to perchlorate detection again in 2019, a treatment system was completed in early 2021 and the well is expected to be back online by summer 2021.
2006	Well N13	Saugus	Regular DDW monitoring, concentrations currently below DLR; well remains in service.
2010	Well 201	Saugus	A perchlorate treatment system was installed in 2017 and treated water discharged to Santa Clara River beginning in 2018. Design for VOC treatment facility underway. The treated groundwater from the well may be used for supply by the end of 2024.
2012	Well 205	Saugus	Voluntarily out of service. Planning for treatment at Well 205 in progress with estimated well restoration by 2024.
2022	N-Well	Alluvium	Due to perchlorate detection in 2022, the existing PFAS treatment facility will require an amendment to the Operation Permit. No physical changes to the treatment facility will be required; well remains in service.

Saugus 1 and Saugus 2

In 2002 SCV Water and the U.S. Army Corps of Engineers (ACOE) signed a cost-sharing agreement for a feasibility study of the area. Under federal and state law, the owners of the Whittaker-Bermite property have the responsibility for the groundwater cleanup. SCV Water and the Department of Toxic Substances Control (DTSC) signed an oversight agreement in 2003 (amended in 2012) regarding studies of treatment technologies for removing perchlorate from water supplies, and also worked with DDW to obtain the necessary permits for these treatment processes. Treatment method pilot studies were conducted during 2003, and in 2004 SCV

Water and the purveyors selected ion exchange as the preferred treatment method for removing perchlorate.

Although that agreement expired in January 2005 the parties, under DTSC oversight, jointly developed a plan to "pump and treat" contaminated water from two of the purveyors' impacted wells to stop migration of the contaminant plume and to partially restore the municipal well capacity that had been impacted by perchlorate. The containment plan specified that wells Saugus 1 and Saugus 2 operate at an initial continuous pumping rate of 1,100 gpm (1,772 AFY) at each well, for a combined total of 2,200 gpm (3,544 AFY) from the two wells. The annual pumping volume of 1,772 AFY per well assumes that pumping will occur continuously, except for occasional maintenance purposes.

A final settlement to fund, remediate and treat the contaminated water was completed and executed by the parties in April 2007. Construction of the treatment facility and pipelines began in November 2007 and treatment of the water began in 2010. Water from Wells Saugus 1 and Saugus 2 was initially treated and discharged into the Santa Clara River. DDW issued an amendment to the Operating Permit in December 2010, and the wells were placed back in water supply service in January 2011. Since then, SCV Water has included this water as part of its supply and has been delivering this water to purveyors.

Wells 201 and 205

While a recommendation plan was submitted to restore Well 201 to service that utilized funding from the Whittaker Corporation and its insurer for installing wellhead treatment for contaminated water from Well 201, it has subsequently been determined that treatment for VOCs at well 201 is necessary. SCV Water has initiated design of this additional treatment at Well 201 as well as initiating design for perchlorate treatment and VOC treatment at Well 205. During the time Wells 201 and 205 have been removed from service, the temporary loss of capacity was made up for from the remaining, non-impacted Saugus production facilities and imported water supplies. Restoration of Well 201, operation of Well 205, and new Saugus well construction to replace lost capacity and to expand production capacity from the Saugus Formation are planned to achieve target Saugus Formation capacity through single and multiple dry years as discussed in Section 3.3.

Returning the impacted Saugus well (Well 201) to municipal water supply service after installing treatment requires DDW approval before the water can be considered potable and safe for delivery to customers. The permit requirements are contained in Process Memo 97-005 for direct domestic use of impaired water sources.

Before issuing a permit to a water utility for use of an impaired source as part of the utility's overall water supply permit, DDW requires that studies and engineering work be performed to demonstrate that pumping the well and treating the water will be protective of public health for users of the water. The Process Memo 97-005 requires that DDW review the water utility's plan, establish appropriate permit conditions for the wells and treatment system, and provide overall approval of returning the impacted wells to service for potable use.

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

assessment was completed and initially submitted to DDW for approval in 2015. The assessment includes the following:

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

A perchlorate treatment system is currently installed for Well 201 and planning for VOC treatment has been initiated. The well is expected to be back online for domestic use by early 2024. Well 205 is also subjected to Process Memo 97-005 and planning for treatment at Well 205 is in progress with an estimated well restoration date by 2024, as shown in Table 4-1. Additional details on DDW permitting and associated operational timeline for Wells 201 and 205 are provided in Section 4.7.

Ultimately, restoration plans and the DDW requirements are intended to ensure that the water introduced to the potable water distribution system has no detectable concentration of perchlorate and all water currently discharged from the potable water distribution system complies with all applicable drinking water standards.

4.2.2 Per- and Polyfluoroalkyl Substances (PFAS)

Per- and polyfluoroalkyl substances (PFAS) are a group of man-made chemicals that have been utilized in a wide array of industrial processes, including among others, production of stain- and water-resistant fabrics, cookware, food packaging, and fire-fighting foams. Among the nearly 5,000 types of PFAS, the two long-chained PFAS, perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA) have been produced in the largest amounts. While the use of PFAS has been reduced since the early 2000s, PFOS and PFOA are persistent in the environment and resistant to typical environmental degradation processes which has led to their accumulation and widespread contamination of natural resources, including groundwater supplies.

Recently, the United States Environmental Protection Agency (USEPA) implemented a new lifetime health advisory level of 70 parts per trillion (or 70 nanogram per liter [ng/L]) for the combined concentrations of PFOA and PFOS in drinking water. In August 2019, DDW set a notification level (NL) of 5.1 and 6.5 ng/L for PFOA and PFOS, respectively. Subsequently, in February 2020, the DDW set a response level (RL) of 10 ng/L for PFOA and 40 ng/L for PFOS, based on a running annual average (RAA). RL is the concentration at which DDW recommends that a well is taken out of service, pending treatment. If a chemical concentration is greater than its NL (but below the RL) in drinking water that is provided to consumers, DDW recommends that the utility inform its customers and consumers about the presence of the chemical, and about health concerns associated with exposure to it. Potential regulatory limits for several short chain PFAS compounds are currently undecided.

On February 22, 2021, USEPA published a notice in the federal register that the agency is in the process of developing a MCL for PFAS under the federal Safe Drinking Water Act. At this time, it is unclear whether the federal MCL will match the health advisory level of 70 parts per trillion, or if it will be a lower level, similar to the RL adopted DDW. SCV will monitor EPA's regulatory decisions and comply with all applicable requirements. Groundwater delivered by

SCV to ratepayers will need to be treated to ensure it meets Safe Drinking Water Act standards, if the groundwater contains PFAS at levels that exceed the MCL

In accordance with an Order issued by DDW in March 2019, SCV Water was required to sample 15 wells for four consecutive quarters for PFAS. Initial quarterly samples were collected in May 2019 and one well (Valley Center), exceeded the EPA RL of 70 ng/L for combined levels of PFOA and PFOS and the well was immediately taken out of service. In addition, 10 of the initial 15 wells sampled exceeded one or both NLs for PFOS and PFOA. Public notification was provided to the SCV Water Board of Directors, the Santa Clarita City Council and Los Angeles County Board of Supervisors. At this time, SCV Water decided to voluntarily sample all wells quarterly for PFAS. PFOA and/or PFOS levels higher than NLs and RLs were observed in over 60% of the wells. Subsequent public notifications were provided to SCV Water customers, and one well that was found to exceed the RL was immediately taken out of service. In response to the revised RL from February 2020, SCV Water proactively shutdown numerous wells that were anticipated to exceed the RAA for either PFOA or PFOS.

The preparation of a Groundwater Treatment Implementation Plan was initiated in 2020 with the purpose of evaluating the feasibility and costs of PFAS and perchlorate treatment options (Kennedy Jenks 2021). A total of 28 existing SCV Water wells were identified to be impacted by PFAS, being wells showing representative values of PFOA and PFOS above 80% of the DDW RLs. Based on preliminary results of the alternatives analysis, ion exchange was identified as the preferred treatment option. According to the plan, out of the 28 wells requiring treatment, five wells would have wellhead treatment system and groundwater from the remaining wells would be treated at eight centralized treatment locations. To date, one centralized treatment system was completed for the three N-wells (N, N7 and N8). Restoration of the remaining wells is estimated to occur between 2022 and 2030 as described further in Section 3 and the Santa Clarita Valley Water Agency, Groundwater Treatment Implementation Plan Technical Memorandum (Kennedy Jenks 2021).

4.2.3 Metals and Salts

Metals and salts are tested in wells at least every three years and in Castaic Lake water every month. Concentrations of arsenic at levels less than the drinking water standard of 0.01 milligrams per liter that occur naturally from geologic materials are found in Castaic Lake and in a few wells. Inorganic compounds such as salts and metals can be naturally occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming. Arsenic levels in the Santa Clarita Valley have regularly been below the MCL (10 ug/L) and oftentimes below the DLR (2 ug/L), as was the case during 2019 monitoring (LSCE, 2020).

Nitrate in drinking water at concentrations above 45 mg/L is a health risk for infants less than six months of age due to the possibility of methemoglobinemia. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. Principal sources of nitrogen to a watershed typically include discharges from water reclamation plants, septic systems, and recharge from agricultural activities. Nitrates are tested at least annually, and the drinking water meets federal and state MCL standards (2020 WQR).

A TMDL for chloride in the Upper Santa Clara River (Reaches 5 and 6) was adopted by the Los Angeles RWQCB and became effective on May 5, 2005. The Basin Plan Amendment for the chloride TMDL in the Upper Santa Clara River was unanimously adopted by the Los Angeles RWQCB on December 11, 2008. The TMDL identifies the Valencia and Saugus WRPs as the

largest sources of chloride to the Upper Santa Clara River and established waste load allocations of 100 mg/L for the Saugus and Valencia WRPs. In 2014, the Los Angeles RWQCB adopted the most recent version of the USCR Chloride TMDL, Resolution R4-2014-010, which incorporated special study findings and assigned waste load allocations of less than 150 mg/L as a 3-month rolling average at the Saugus, and less than 100 mg/L as a 3-month rolling average for the calculated "combined effluents" of the Saugus and Valencia WRPs.
In response to the adopted chloride TMDL, the SCVSD developed a chloride compliance plan that includes source control, construction of UV disinfection facilities at the Saugus and Valencia WRPs, and construction of the AWTF at the Valencia WRP. The AWTF will help meet the chloride TMDL and is anticipated to be completed by 2022.

4.2.4 Disinfection By-Products

SCV Water uses ozone and chloramines to disinfect its water supply. Disinfection By-Products (DBPs), which include Trihalomethanes (THMs) and Haloacetic Acids (HAA5), are generated by the interaction between naturally occurring organic matter and disinfectants such as chlorine and ozone. THMs and HAA5 are measured at several points throughout the distribution system. Each location is averaged once per quarter and reported as a running annual average.

Ozone is a very powerful disinfectant that not only kills organisms that no other disinfectant can, but also destroys organic chemicals that cause unpleasant tastes and odors. However, ozone can also interact with bromide, a naturally occurring salt, to produce bromate. Bromate is measured weekly in the surface water treatment plant and compliance is based on a running annual average.

4.2.5 Total Trihalomethanes

Total Trihalomethanes (TTHMs) are byproducts created when chlorine is used as a means for disinfection. The Stage 2 Disinfectants and Disinfection Byproducts Rule, implemented by EPA in 2005, requires water systems to apply an MCL of 80 ug/L for TTHM at each compliance monitoring location (instead of as a system-wide average as in previous rules). SCV Water implements a combination of chlorination (using calcium hypochlorite) and chloramination across its system and maintains TTHM levels below the MCL, as documented in the 2020 WQR.

4.2.6 Microbiological

Microbial contaminants, such as viruses and bacteria, can be naturally occurring or result from urban stormwater runoff, sewage treatment plants, septic systems, agricultural livestock operations and wildlife. Water is tested throughout the systems weekly for Total Coliform bacteria and testing for *Escherichia coli* (*E. coli*) occurs when coliform testing is positive. No *E. coli* was detected in any drinking waters in 2019. The MCL for total coliforms is 5 percent of all monthly tests showing positives for larger systems. Bacteriological tests met federal and state requirements. Additional microbiological tests for the water-borne parasites *Cryptosporidium parvum* and *Giardia lamblia* were performed on Castaic Lake water, and none were detected.

4.2.7 Radiological Tests

Radioactive compounds can be found in both ground and surface waters and can be naturally occurring or be the result of oil and gas production and mining activities. Testing is conducted for two types of radioactivity: alpha and beta. If none is detected at concentrations above five picoCuries per liter no further testing is required. If it is detected, the water must be checked for uranium and radium. Although naturally occurring radioactivity can be detected, existing monitoring data indicate that alpha and beta levels are below the federal and state MCL standards.

4.2.8 Organic Compounds

Organic chemical contaminants, including synthetic and volatile organic chemicals, are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff and septic systems. Organic compounds also include pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff and residential uses. Water is tested for two types of organic compounds, volatile organic compounds (VOCs) and non-volatile synthetic organic compounds (SOCs). These organic compounds are synthetic chemicals produced from industrial and agricultural uses. Castaic Lake water is checked annually for VOCs and SOCs.

Although VOCs tend to escape from surface water through volatilization (evaporation) into the air, once dissolved in groundwater they are more persistent. Local wells are tested at least annually for VOCs and periodically for SOCs. Saugus 1, Saugus 2 and 201 wells are tested up to weekly for VOCs. VOCs have been measured in trace levels in some of the SCV Water wells. Trichloroethylene (TCE) represents the major VOC constituent detected in these wells. Tetrachloroethylene (PCE) has also been detected in a few samples. However, the measured levels of these constituents in these wells are well below their respective MCLs.

SCV Water's Water Supply Permit for Wells Saugus 1 and 2 sets an operational goal of no VOCs above the DLR (0.5 ug/L) in its distribution system and SCV Water. Over the last 5 years, the operational goal has been achieved in more than 95% of the samples collected. When there are detections, they are well below the MCL and just slightly above the DLR. SCV Water performed a VOC source identification study in July 2015 which concluded that the likely source was the Whittaker-Bermite site. SCV Water is currently working with DTSC to develop additional monitoring requirements for both sites. Supplemental VOC treatment of Saugus 1 and 2 wells is currently in design.

During startup of the Well 201 perchlorate treatment facility, TCE was detected slightly above the DLR. Detections of TCE in Well 201 have ranged from a high of 1.3 ug/L to <DLR. Average detections are slightly above the DLR at around 0.6 ug/L. SCV Water has determined it will supplement the perchlorate treatment facility at Well 201 with a GAC based treatment facility. This additional treatment component is currently under design. In order to bring Well 201 back into potable production, SCV Water will be subject to Process Memo 97-005 requirements. SCV Water anticipates construction and permitting to be completed by 2024 Recognizing the potential for similar challenges at Well 205, initial design incorporates the potential need for treatment of VOCs and the need to meet Process 97-005 requirements. Well 205 is anticipated to become available in 2024

In order to address contamination at the Whittaker-Bermite site, a remedial action plan (RAP) and associated CEQA document were approved by DTSC on December 2, 2014. The RAP

presents an evaluation of identified remedial alternatives for containment and cleanup of impacted groundwater at the Whittaker-Bermite site. In accordance with the RAP, a Saugus Aquifer Treatment Plant was constructed and began operation in August 2017. The treatment plant includes a fluidized bed reactor (FBR) system which provides biological treatment of perchlorate and liquid granular activated carbon which is used to remove VOCs in groundwater. Approximately 446,741,200 gallons of water have been treated since start-up.

4.3 Imported Water Quality

SCV Water provides SWP and other imported water to the Valley. The source of SWP water is rain and snow of the Sierra Nevada, Cascade, and Coastal Mountain ranges. This water travels to the Delta through a series of rivers and various SWP structures. From there it is pumped into a series of canals and reservoirs, which provide water to urban and agricultural users throughout the San Francisco Bay Area and central and southern California. The most southern reservoir on the West Branch of the SWP California Aqueduct is Castaic Lake. SCV Water receives water from Castaic Lake and distributes it to its customers following treatment.

SCV Water operates two water treatment plants, the Earl Schmidt Filtration Plant located near Castaic Lake and the Rio Vista Water Treatment Plant located in Saugus. SCV Water produces water that meets drinking water standards set by the U.S. EPA and DDW. SWP Water has different aesthetic characteristics than groundwater, with lower dissolved mineral concentrations (total dissolved solids) of approximately 250 to 400 mg/L, and lower hardness (as calcium carbonate) of about 105 to 135 mg/L. Historically, the chloride content of SWP Water varies widely from over 100 mg/L to below 40 mg/L, depending on Delta conditions. In addition, changes in SWP operations, as described below, can also result in water quality variations.

Historically, the SWP delivered only surface water from the Sacramento-San Joaquin River Delta. However, SCV Water along with other SWP contractors have integrated water supply programs also include “water banking” programs where SWP Water is stored or exchanged during wet years and withdrawn in dry years. Withdrawn water can either be delivered by exchange with SWP supplies allocated to others, or by pumping it into the SWP system. During dry periods, a greater portion of water in the SWP includes banked water supplies. The banked water has met all water quality standards established by DWR under its pump-in policy for the SWP. Source water from SCV Water’s Semitropic Bank can require treatment for 123 TCP and arsenic prior to introduction into the Aqueduct depending on the mix of wells used for recovery. To date Semitropic has successfully treated its source water through blending methods and meets DWR pump-in policy. Supplies from SCV Water’s Rosedale Bank have also met DWR pump-in criteria. In general, pumped-in water serves to reduce the chloride concentration in SWP Water. The SWP water chemistry may fluctuate and is influenced by its passage through the Delta, where large amounts of organic material are present and where mixing with salt water from the San Francisco Bay, which contributes bromide and chlorides, may occur. Chloride levels from the Delta elevate chloride locally resulting in concern for local agriculture that grows chloride sensitive crops. Additionally, bromide and TOC may react with disinfectants such as ozone, chlorine, or DBPs. All constituents met the federal and state MCL levels as reported in the 2020 WQR.

4.4 Surface Water Quality

SCV Water does not deliver and treat water from the Santa Clara River as a source of supply; however, this supply is a source of recharge to the underlying groundwater basin.

The Los Angeles RWQCB Basin Plan (Basin Plan, 1994) provides water quality objectives for surface water in the USCR. These objectives were established to protect the various beneficial uses for that particular water body or reach. The water bodies of the USCR Watershed, which include streams, natural lakes, and reservoirs, span a wide variety of existing, potential and/or intermittent beneficial uses. The following is a list of the beneficial uses identified in the USCR:

- Municipal and Domestic Supply
- Industrial Service Supply
- Industrial Process Supply
- Agricultural Supply
- Groundwater Recharge
- Freshwater Replenishment
- Hydropower Generation
- Water Contact and Non-contact Water Recreation
- Warm and Cold Freshwater Habitat
- Wildlife Habitat
- Rare, Threatened, and Endangered Species
- Spawning, Reproduction, and/or Early Development

All of the surface water bodies in the USCR Watershed support the designated beneficial uses (either existing or intermittent) of municipal and domestic supply, agricultural supply, groundwater recharge, water contact recreation, non-contact water recreation, wildlife habitat, and warm freshwater habitat. In addition, many water bodies (such as Bouquet, San Francisquito, and Soledad Canyons) support the designated beneficial uses (either existing or intermittent) of rare, threatened, or endangered species; wetland habitat; and/or spawning, reproduction, and/or early development.

Regional reservoirs that support hydropower generation include Elderberry Forebay, Castaic Lake, Dry Canyon Reservoir, Bouquet Reservoir, and Pyramid Lake. Local surface waters are not a direct source of drinking water supply in the Region, but they are a continual source of recharge to groundwater which is used to meet municipal water demands.

Based on the 2014 and 2016 California Integrated Report and related Clean Water Act Section 303(d) list, there are a number of impairments identified for Reaches 5, 6 and 7 of the Santa Clara River, and for Lake Hughes, Lake Elizabeth, and Munz Lake, all of which are within the Upper Santa Clara River Watershed.

The Santa Clara River currently has two approved TMDLs due to non-attainment of water quality objectives, one pertaining to chloride (see Section 4) and another pertaining to bacteria. Another TMDL is in place for three lakes within the Region that are impaired with trash. Other pollutants impacting local surface waters include nutrients, metals, pesticides, and others.

Surface water quality is monitored in numerous locations throughout the Valley. Continuous sampling records are taken at two gaging stations at the Old Highway 99 Bridge and at the Los Angeles-Ventura County Line (“Blue Cut”).

4.5 Groundwater Quality

The groundwater basin has two sources of groundwater, the Alluvial Aquifer whose quality is primarily influenced by recharge from rainfall and stream flow, and the Saugus Formation, which is a much thicker aquifer and recharged primarily by a combination of rainfall and deep percolation from the partially overlying Alluvium. A larger part of the Valley's groundwater supply is from the Alluvial Aquifer, between 30,000 to 40,000 AFY; and a smaller portion of the Valley's water supply is drawn from the Saugus Formation, with a target production level between 7,500 and 15,000 AFY in normal water years.

Local groundwater does not have microbial water quality problems. Parasites, bacteria, and viruses are filtered out as the water percolates through the soil, sand, and rock on its way through the vadose zone to the water table (the top of the aquifer). Even so, disinfectants (hypochlorite) are added to local groundwater when it is pumped by wells to protect public health. Local groundwater has very little TOC and generally has very low concentrations of bromide, minimizing potential for DPB formation. Taste and odor problems from algae are not an issue with groundwater.

The mineral content of local groundwater is very different from SWP water. The groundwater is very "hard," and it has high concentrations of calcium and magnesium (approximately 250 to 600 mg/L total hardness as $CaCO_3$). Groundwater may also contain higher concentrations of nitrates and sulfates when compared to SWP water. However, all groundwater meets drinking water standards.

4.5.1 Water Quality - Alluvium

Groundwater quality is a key factor in assessing the Alluvial Aquifer as a municipal and agricultural water supply. Groundwater quality details and long-term conditions, examined by integration of individual records from several wells completed in the same aquifer materials and in close proximity to each other, have been discussed previously in the annual Water Reports and in the 2020 UWMP. Historical groundwater quality as represented by TDS (which is a measure of the amount of dissolved minerals and salts in water expressed in mg/L) from representative wells in the Valley have been reviewed relative to DDW Secondary Maximum Contaminant Levels (SMCL) (Recommended, Upper and Short-term Levels). While concentrations of TDS generally respond to wet periods by exhibiting a downward trend, followed by an increasing trend during a dry period, the historical TDS data does not exhibit a long-term increasing trend and, therefore, no long-term decline in Alluvial groundwater quality. In general, groundwater quality exhibits a "gradient" from east to west, with lowest dissolved mineral content to the east, increasing in a westerly direction; and periodic fluctuations in some parts of the basin, where groundwater quality has inversely varied with recharge from precipitation and stream flow. Those variations are typically characterized by increased mineral concentrations through dry periods of lower stream flow and lower groundwater recharge, followed by lower mineral concentrations through wetter periods of higher stream flow and higher groundwater recharge.

Overall, water quality analyses demonstrate that, with the exception of occasional variances above the SMCL for TDS, groundwater of the Alluvium meets acceptable drinking water standards. The presence of long-term consistent water quality patterns, although intermittently affected by wet and dry cycles, supports the conclusion that the Alluvial aquifer is a viable ongoing water supply source in terms of groundwater quality.

The most notable groundwater quality issue in the Alluvium is PFAS contamination, described in Section 4.2.2.

4.5.2 Water Quality - Saugus Formation

As discussed above for the Alluvium, groundwater quality is a key factor in also assessing the Saugus Formation as a municipal and agricultural water supply. Long-term Saugus groundwater quality data is not sufficiently extensive to permit any sort of basin-wide analysis or assessment of pumping-related impacts on quality. However, integration of individual records from several wells has been used to examine general water quality trends. Based on those records, water quality in the Saugus Formation has not historically exhibited the precipitation-related fluctuations seen in the Alluvium. Based on available data over the last fifty years, groundwater quality in the Saugus has exhibited a slight overall increase in dissolved mineral content. Between 2000 and 2005, several wells within the Saugus Formation exhibited an increase in TDS concentrations, similar to the short-term changes in the Alluvium, possibly as a result of recharge to the Saugus Formation from the Alluvium. Between 2006 and 2010, these concentrations steadily declined, followed by an increasing trend through 2016 and decreasing trend through 2019, except for Well N12 which remained stable.

TDS concentrations in the Saugus Formation remain within the range of historic concentrations and below the (aesthetic) MCL upper level. Groundwater quality within the Saugus will continue to be monitored to ensure that degradation which could present concern relative to the long-term viability of the Saugus as an agricultural or municipal water supply does not occur.

The most notable groundwater quality issues in the Saugus Formation are perchlorate and VOC contamination.

4.6 Water Quality Impacts on Reliability

Three factors affecting the availability of groundwater are sufficient source capacity (wells and pumps), sustainability of the groundwater resource to meet pumping demand on a renewable basis and protection of groundwater sources (wells) from known contamination, or provisions for treatment in the event of contamination. The resolution of contamination for aquifer protection is addressed below.

Among the main constituents of concern with potential to impact groundwater availability are perchlorate, VOCs and PFAS. Based on the low levels of detection and blending practices with imported water supplies, VOCs are not anticipated to impact groundwater supply availability or reliability. Additionally, TCE detected at the Well 201 perchlorate treatment facility will be addressed as part of the Process Memo 97-005 DDW drinking Water permitting process. New standards for PFAS and subsequent testing results have indicated groundwater impacts in the Alluvial Aquifer from this constituent group and resulted in SCV Water's decision to shut down several wells in the recent past.

Perchlorate has been a water quality concern in the Valley since 1997 and long-term efforts are ongoing for the containment and remediation of perchlorate contamination. Currently, efforts are focused on stopping the migration of the contaminant plume and restoring the lost well capacity through pump and treat methods. SCV Water has sealed and replaced the capacity of some perchlorate impacted wells with new wells, and it has treated some of the wells and brought them back online. Some impacted wells are subjected to impaired water (97-005) compliance

requirements, while others are currently in operation with a DDW approved monitoring program. Additionally, other perchlorate-impacted wells are currently offline awaiting installation (or permit) of treatment process. As noted above, two perchlorate treatment facilities have come online since 2011 and a third system was completed in early 2021.

Recognizing the existing water quality issues that affect the local groundwater, from perchlorate and VOCs, and more recently PFAS, SCV Water has developed a groundwater treatment and implementation plan (Kennedy Jenks 2021) to improve the reliability of its local groundwater supplies and ensure suitable water quality for meeting its customer potable demands. It is understood that groundwater treatment and implementation must be developed consistent with SCV Water's GSP, such that any relevant information pertaining to the adequacy, availability, and sustainability of supplies be consistent with the GSP and GSP implementation Plan.

Overall, the plans being developed for groundwater operation will allow SCV Water to meet near term and long-term demand within the SCV Water service area. The loss of capacity of wells impacted by water quality issues and removed from service in the near term will be met by near-term excess capacity in non-impacted wells, other water sources including imported water supplies, and/or through the installation of replacement well(s), if necessary, until remediation alternatives, including wellhead treatment, and DDW approval is obtained for restoration of the impacted supply. Therefore, no anticipated change in reliability or supply due to water quality is anticipated based on the present data, as is shown in Table 4-2.

TABLE 4-2 CURRENT AND PROJECTED WATER SUPPLY CHANGES DUE TO WATER QUALITY (PERCENTAGE CHANGE)

Water source	2020	2025	2030	2035	2040	2045	2050
Groundwater							
Alluvial[(a)]	63%	25%	0%	0%	0%	0%	0%
Saugus[(b)]	25%	0%	0%	0%	0%	0%	0%
Imported Water	0%	0%	0%	0%	0%	0%	0%
Recycled Water	0%	0%	0%	0%	0%	0%	0%
Banking Programs	0%	0%	0%	0%	0%	0%	0%

Notes:

(a) Based on 24,170 AFY and 25,660 AFY being available to SCV Water in 2020 and 2025 respectively and calculated for normal years. Net reduction in Alluvial pumping is 15,270 and 6,420 in 2020 and 2025, respectively. Full Alluvial well capacity is restored by 2030 per groundwater treatment and implementation plan (Kennedy Jenks 2021). As discussed, this interim reduction in supply does not result in an overall supply shortfall.

(b) Based on forgone pumping capacity of 5,950 for well 201 and 205 per Table 4-8C (provided in the 2020 UWMP and at total pumping capacity of 23,930 AFY (14,980 existing capacity + 5,950 of recovered capacity). As discussed, this interim reduction in supply does not result in an overall supply shortfall.

4.7 Review of Pending Water Quality Permitting for Saugus Wells

Based on the anticipated process for water quality permitting and current status, this section provides information supporting the proposed timeline for operation of existing Saugus wells 201, 205, and future additional Saugus wells (Saugus 3 and 4, Saugus 5 and 6, and Saugus 7 and 8) following DDW water quality permitting requirements as summarized in Table 4-3.

TABLE 4-3 ANTICIPATED SCHEDULE FOR PERMITTING AND OPERATION OF SAUGUS WELLS

Well	Well Status	Treatment Status	DDW Permit Requirements	DDW Permit Status	Anticipated Schedule
201	Existing and operating (discharge to surface water)	Perchlorate treatment since 2017	97-005 Process Memo	- Pending revised 97-005 documentation sections (most information from previous submittal is applicable) and DDW sequential review - Pending water supply permit amendment application and public hearing - Pending revised CEQA	- 2021: CEQA - December 2021: Treatment design completed - Q12022: draft 97-005 documentation sections 1-5 and sequential DDW review/approval - 3Q2022 – 4Q2023: System construction - 3Q-4Q2023: Startup testing and submittal of testing data to DDW - 1Q2024: DDW review and approval of 97-005 draft documentation and ancillary documents - 2Q2024: Water supply permit application - 3Q2024: Public Hearing - 4Q2024: Water supply permit application Amended Water Supply Permit and Operation (as applicable)

Well	Well Status	Treatment Status	DDW Permit Requirements	DDW Permit Status	Anticipated Schedule
205	Existing and not operating	Preliminary design complete	97-005 Process Memo	- Pending draft 97-005 documentation sections (most information from Well 201 documentation is applicable) and DDW sequential review - Pending water supply permit amendment application and public hearing - Pending CEQA	- 2022: CEQA - 2022: Treatment design - 2023: draft 97-005 documentation sections 1-5 and sequential DDW review/approval - 1Q2023 – 1Q2024: System construction - 1Q-4-Q2024: Startup testing and submittal of testing data to DDW - 1Q2024-2Q2024: DDW review and approval of 97-005 draft documentation and ancillary documents - 1Q2024-Q22024: Water supply permit application - 3Q2024: Public Hearing - 4Q2024: Water supply permit application Amended Water Supply Permit and Operation (as applicable)
Saugus 3 and 4	Designed and drilling pending DDW permit	Not applicable, it is anticipated that technical documents to address some elements of 97-005 process memo may be required by DDW because of proximity of abandoned oilfield but	Drinking Water Source Assessment Plan	- Preliminary Drinking Water Source Assessment Plan complete - Pending submittal and DDW review of Drinking Water Source Assessment Plan - CEQA completed and approved in 2005	- 4Q2021-2Q2022: Draft Drinking Water Source Assessment Plan and DDW review and drilling approval - Q12022-Q2022 CEQA - 3Q2022 – 3Q2024: Well installation and testing - 2025: Amended Water Supply Permit

Well	Well Status	Treatment Status	DDW Permit Requirements	DDW Permit Status	Anticipated Schedule
		treatment will not be required			
Saugus 5 and 6	Locations identified and secured	Anticipated not applicable	Drinking Water Source Assessment Plan	- Pending draft Drinking Water Source Assessment Plan and DDW review (anticipated that wells are not subject to Process Memo 97-005) - Pending CEQA	- 2022-2023: Draft Drinking Water Source Assessment Plan, and DDW review and drilling approval - 2023: CEQA - 2024: Wells installation and testing - 2025-2027: Amended Water Supply Permit
Saugus 7 and 8	Locations TBD	Anticipated not applicable	Drinking Water Source Assessment Plan	- Pending draft Drinking Water Source Assessment Plan and DDW review (anticipated that wells are not subject to Process Memo 97-005) - Pending CEQA	- 2021-2023: Location identifications - 2024 Draft Drinking Water Source Assessment Plan and DDW review and drilling approval - 2024: CEQA - 2025-2026: Wells installation and testing - 2027-2030: Amended Water Supply Permit
N-Well	Existing and Operating	Treated for PFAS since 2020	Operating Permit Amendment	- Processing Amendment to Operating Permit to include perchlorate treatment at the existing PFAS Treatment Facility	- 2022: Operating Permit Amended

4.7.1 Process Memo 97-005 Requirements

Operation of Saugus wells 201 and 205 for drinking water supply will require an amended Water Supply Permit subjected to Process Memo 97-005 for direct domestic use of extremely impaired sources. Based on the revised Process Memo 97-005-R2020 issued by DDW in September 2020, the following studies and documents are required prior to DDW issuance of the water supply permit:

- Process Memo 97-005 documentation, including the following elements:
  - Drinking Water Source Assessment and Contaminant Assessment
  - Full Characterization of Raw Water Quality
  - Drinking Water Source Protection
  - Effective Treatment and Monitoring
  - Evaluation of Human Health Risks Associated with the Failure of the Proposed Treatment
  - Operations Maintenance and Monitoring Plan
- CEQA documentation
- Water supply permit application
- Treatment facility compliance/startup testing plan
- Startup testing data and documentation
- Public hearing

The process outlined by DDW in the revised Process Memo 97-005-R2020 is as follows:

- The water purveyor prepares and submits draft Process Memo 97-005 documentation sections to DDW
- DDW review and provide written approval of the draft Process Memo 97-005 documentation sections sequentially
- The water purveyor completes startup testing of the treatment facility and submits testing data for DDW review and approval
- The Process Memo 97-005 documentation is deemed complete by DDW, including written approval of each section
- The water purveyor applies for an amended Water Supply Permit
- The Process Memo 97-005 documentation and ancillary documents are provided for public review
- DDW and the water purveyor hold a public hearing
- DDW determine whether to issue the amended Water Supply Permit for the extremely impaired source

The anticipated schedule for operation of the Saugus wells has been determined based on the requirements and process outlined above and the current status.

4.7.2 Existing and Future Saugus Wells

4.7.2.1 Saugus Well 201

SCV Water had completed the draft Process Memo 97-005 documentation for Saugus well 201, including collection and documentation of operational data since the system started operating with discharge to surface water in 2017, however a review of submitted information in light of SCV Water's decision to incorporate VOC treatment is underway. While CEQA has been

completed for the original project, supplemental documentation may need to be provided to DDW for the additional VOC treatment for the well. Well 201 is anticipated to return to service in 2024.

4.7.2.2 Saugus Well 205

Well 205 is located in the vicinity of Well 201, and evaluation of the anticipated capture zone under different operating conditions has been completed (GSI and LSCE 2014). Because of the close proximity of Well 205 to Well 201 and the similarity of the anticipated wellhead treatment, it can be assumed that significant portions of the draft Process Memo 97-005 documentation for Well 201 will be applicable to Well 205, including:

- Drinking Water Source Assessment and Contaminant Assessment
- Drinking Water Source Protection
- Effective Treatment and Monitoring
- Operations Maintenance and Monitoring Plan

The preliminary design for the treatment system is complete and the final design is anticipated to be completed by the end of 2022. Following completion of the final design, it is anticipated that SCV Water will prepare the draft Process Memo 97-005 documentation in 2023 in close collaboration with DDW, including sequential review of draft sections and requirement of written approval. Treatment system construction and testing is anticipated in 2023-2024, and completion of Process Memo 97-005 documentation, DDW review, and public hearing is anticipated in 2024.

4.7.2.3 Saugus Wells 3 and 4

Sites for Saugus wells 3 and 4 have been identified and secured. The sites are located within approximately 2,500 feet of abandoned oilfield wells. SCV Water has been in communication with DDW about these well locations. Based on these communications and the descriptions of “extremely impaired source” in the revised Process Memo 97-005-R2020, it is not anticipated that Saugus wells 3 and 4 will be subject to Process Memo 97-005. SCV Water has provided the following information to DDW to confirm this assumption:

- Description of the local hydrogeology and drinking water well design information
- Drinking Water Source Assessment Plan
- Water quality data from monitoring wells located within the anticipated capture area

Drilling approval has been given by DDW, well installation and testing are anticipated in late 2022-early 2024 with permits in late 2024. Wells are anticipated to return to service in 2025.

4.7.2.4 Saugus Wells 5 and 6

Sites for Saugus wells 5 and 6 have been identified and secured in the Castaic Junction area. Based on the descriptions of “extremely impaired source” in the revised Process Memo 97-005-R2020, it is not anticipated that Saugus wells 5 and 6 will be subject to Process Memo 97-005. Similar to Saugus wells 3 and 4, it is anticipated that SCV Water will provide the following information to DDW prior to well installation:

- Description of the local hydrogeology and drinking water well design information
- Drinking Water Source Assessment Plan
- Water quality data from monitoring wells located within the anticipated capture area

Following review and drilling approval by DDW, well installation and testing are anticipated in 2027.

4.7.2.5 Saugus Wells 7 and 8

Sites for Saugus wells 7 and 8 have not been identified. Therefore, the schedule for operation of those wells for drinking water supply is anticipated for 2030.

4.7.2.6 N-Well

SCV Water is in the process of having the Operation Permit for the existing PFAS Treatment Facility for the N-Well amended by DDW to include monitoring and language to include perchlorate treatment. The current ion exchange treatment for PFAS treats for perchlorate as well and only minor operational changes are needed. There will be no changes to the Facility.

4.8 Potential Effects of Climate Change

A topic of increasing importance for water planners and managers is climate change and the potential impacts it could have on California's future water supplies. With a range of potential scenarios and impacts, climate change increases uncertainty of future demand conditions and local and imported water supply conditions thereby posing additional water management challenges.

California is described as one of the most "climate-challenged" regions in North America, in the Fourth Climate Change Assessment (Climate Assessment)(https://nca2018.globalchange.gov/), completed in 2018 in coordination with the CEC, CNRA and State Office of Planning and Research. This Climate Assessment includes updated climate projections and supports findings that the State will experience greater impacts from climate change in the future, including shifting hydrology. Among the technical reports prepared for the Climate Assessment is a report on the *Mean and Extreme Climate Change Impacts on the State Water Project* (Wang et al., 2018).

Primary climate change impacts projected by global climate models to impact the State and Santa Clarita Valley region include warming air temperatures and changes in precipitation patterns, with more frequent and intense heavy precipitation events on the one hand and more frequent and more severe droughts on the other hand, among other impacts. While studies related to the region are conclusive regarding the anticipated increase in extreme events, there is disagreement whether average precipitation changes will be towards wetter or drier conditions. Impacts outside the Santa Clarita Valley, but nevertheless of high importance include rising sea levels and declining snowpack. These conditions impact the availability and reliability of both local and imported water supplies.

Recent findings indicate that higher temperatures will lead to dryer conditions, and an increased occurrence of dry years and multiple dry years resulting in more frequent and more intense droughts. Drought risks are anticipated to be some of the greatest vulnerabilities to water supplies and demands, resulting in among other things reductions in groundwater recharge, reduced runoff, and surface water flows, and reduced local and imported water supply reliability. Additionally, warmer temperatures and changes in precipitation patterns are anticipated to result in increasing water needs as discussed in the following reports:

- Upper Santa Clara River Integrated Regional Water Management Plan
- City of Santa Clarita Climate Action Plan
- Los Angeles Countywide Sustainability Plan
- State Water Project Delivery Capability Report
- California's Fourth Climate Change Assessment
- SCV-GSA Groundwater Sustainability Plan

Climate Change was incorporated into the 2020 UWMP and reflected in this WSA. To accomplish this, an estimate of how 2050 climate is likely to differ compared to baseline normal climate. These estimates are obtained from the climate change scenarios and supporting data that DWR has made available for assessing groundwater basin sustainability to support implementation of the Sustainable Groundwater Management Act (SGMA). This is the same information that GSI Water Solutions used in preparing the GSP. (GSI Water Solutions, Inc. (2020) and the development of a Numerical Groundwater Flow Model for the Santa Clara River Valley East Groundwater Subbasin. These estimates were selected to remain consistent with climate change scenarios used for evaluating supply impacts as recommended by the DWR UWMP Guidebook. Climate change conditions for SWP supplies were incorporated consistent with DWR's 2019 SWP Delivery Capability Report.

Section 2 of the 2020 UWMP present demands used in this WSA. A more detailed discussion regarding demand development including climate change can be found in UWMP's Appendix F: Population and Demand Technical Memorandum (Maddaus) with the climate change methodology presented in Appendix F of the Maddaus report.

The approach uses the Department of Water Resources (2018a) Guidance for Climate Change Data Use During Groundwater Sustainability Plan Development. In the resource, DWR provides downscaled, gridded information about expected percentage changes in reference ETo and precipitation for two different time horizons (i.e., year 2030 and 2070). Each grid is roughly 6 kilometers by 6 kilometers in area, allowing for a granular assessment of local conditions. These change factors are derived as the average of 20 climate model predictions for each horizon year. These 20 climate models were selected by DWR's Climate Change Technical Advisory Group in 2015 as best representing California.

The gridded change factors are provided as a climatological time series by month and year between 1915 and 2011. It is meant to capture how historical weather during the 1915-2011 period in a grid would have been different under expected climate conditions in 2030 and 2070. This format allows groundwater modelers to simulate water budgets under alternative scenarios, such as actual historical weather, or historical weather modified by the change factors to reflect expected 2030 or 2070 weather conditions.

This simulation approach preserves historical inter-annual weather variability, allowing for an apples-to-apples comparison across the simulation of alternative scenarios. To capture expected future weather conditions in the Santa Clarita Valley, change factors for reference ETo and precipitation were downloaded for the two grids that cover the SCV Water service area and averaged.

Figure 4-1 shows monthly factors by which reference ETo is expected to be relatively higher in both the year 2030 and year 2070. Figure 4-2 shows the same for precipitation. Change factors are multipliers; thus, a factor of 1.0 would mean no change.

FIGURE 4-1
MONTHLY DISTRIBUTION OF ETo COMPARED TO BASE LINE

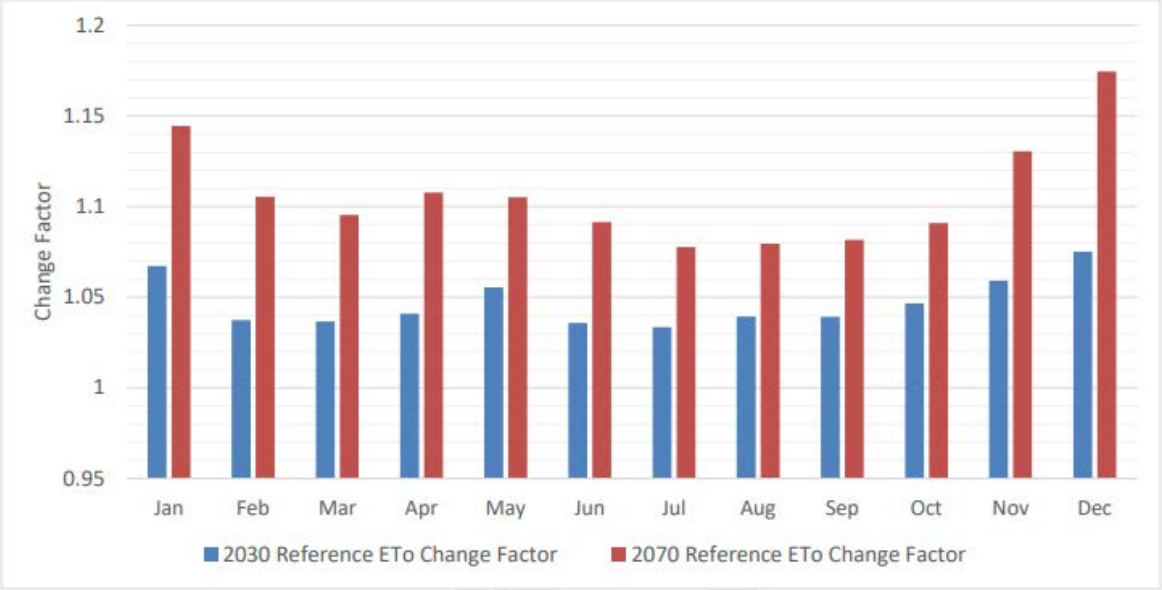
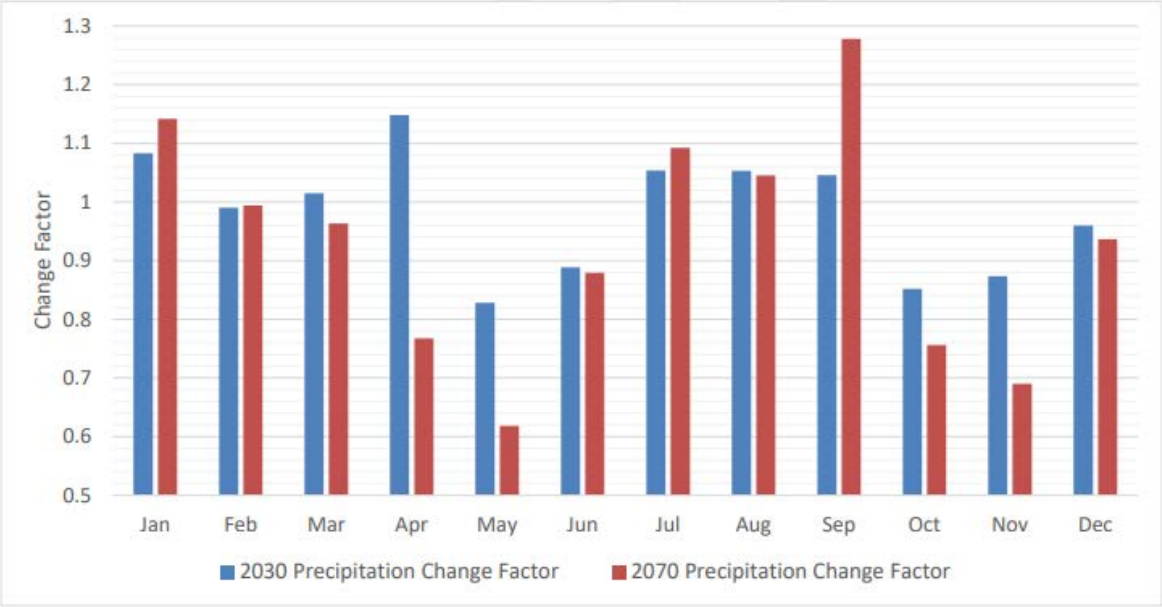


FIGURE 4-2
MONTHLY DISTRIBUTION OF PRECIPITATION COMPARED TO BASELINE



These climate change factors suggest that the monthly reference ETo in the Santa Clarita Valley is expected to be higher by approximately 5% in 2030, and 10% in 2070. Although by 2070, winter months would have experienced sharper warming than other months. With respect to precipitation, climate change is not expected to have much effect on the primary rainy months in the Santa Clarita Valley (December-March).

Overall, climate change is expected to have a more material impact on reference ETo than precipitation. To develop a climate change scenario that represents the land-use analysis' endpoint of 2050 the change factors for 2030 and 2070 were averaged since the midpoint of this period coincided with 2050.

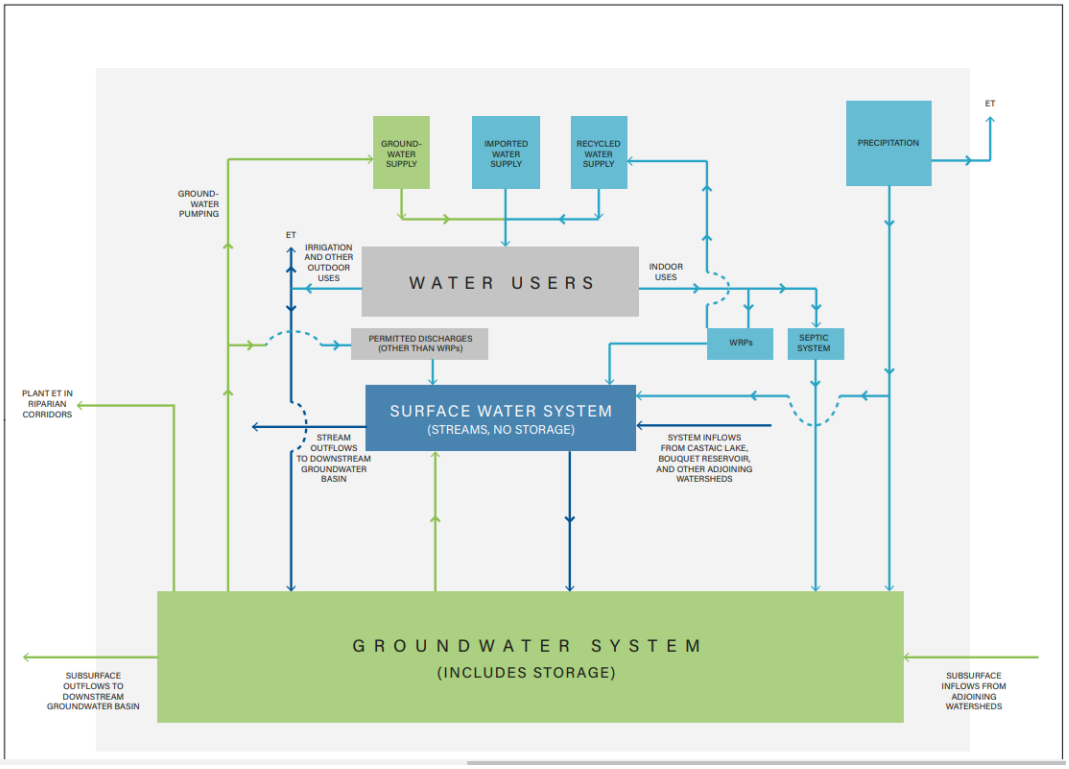
This exercise yielded 12 monthly change factors each for reference ETo and precipitation. The econometric demand model was constructed at a monthly time step and used reference ETo and precipitation to model the impact of weather. These change factors were fed into the demand study's econometric model to forecast what demand would have been in demand study's base period of 2018 and 2019. The difference worked out to a projected increase of 3.77% on total production. This is lower than the increase in ETo as this increase is only applied to outdoor water use not to interior water use.

This climate change increase in demand is expected to arrive gradually over time, essentially starting with a 0% impact in 2020 rising to 3.77% in 2050. Between these two bracketing years (2020 and 2050) the impact of climate change is layered linearly on to the baseline demand forecast.

Both Groundwater and State Water Project water are impacted by climate change and these impacts are described below.

Groundwater

As described in Section 6 of the GSP, it incorporates several water balance analyses with three climate conditions, existing conditions, 2030 conditions, and 2070 conditions. These analyses incorporate the changes in ETo and precipitation that are identified above. Section 6 and Appendix I of the GSP documents how various components of water balance analyses interact with changes in ETo and precipitation. As demonstrated in the following diagram these interconnections are relatively complex.



Changes in precipitation impact both surface and groundwater systems. Changes in ETo impact water needed by water users for irrigation as well as water used by Riparian Corridors. At the same time increases in imported supplies have the potential to increase flows to reclamation plants and discharges into surface water and the transfer of surface water to groundwater. The GSP utilized a numeric groundwater flow model (MODFLOW-USG) to account for these interactions and determine if the basin was being operated in a manner that resulted in the chronic lowering of groundwater levels or groundwater storage.

The projected water budgets, in Figures 6.1-9 through 6.1-11 in the GSP, show that the cumulative change curve for groundwater storage may shift slightly downward with climate change, the onset of slightly reduced precipitation and greater ET in the Basin. However, chronic declines in groundwater levels are not projected to occur over long periods, which indicates that SCV Water's operating plan for the Basin is unlikely to cause an overdraft condition in the local groundwater system (i.e., it is unlikely to exceed the basin yield) in the future under the assumed climatic conditions.

State Water Project Supplies

To determine water supplies available from the SWP, SCV Water relies on computer modeling performed by DWR and reported in the DCR. The 2019 DCR was the basis for SWP supplies reported in the 2020 UWMP. While the Draft 2021 DCR became available on December 31, 2021, it does not contain updated information on future SWP water supply availability. In absence of updated information use of the 2019 data continues to represent the most appropriate estimate future SWP availability.

To evaluate SWP supply availability under future conditions, the 2019 DCR included a model study representing hydrologic and sea level rise conditions in the year 2040. The future condition study used all of the same model assumptions as the study under existing conditions, but reflected changes expected to occur from climate change, specifically, projected temperature and precipitation changes centered around 2035 (2020 to 2049) under a higher emissions assumption and more conservative (45 cm) sea level rise. For the long-term planning purposes of this WSA and the 2020 UWMP, the long-term average allocations reported for the future conditions study from 2019 DCR is the most appropriate estimate of future SWP water supply availability.

The following text from the 2019 DCR Appendix B: Future Condition with Climate Change and 45 cm Sea Level Rise Scenario, provides a more thorough explanation on development of the 2040 modeling conditions.

The DCR 2019 Future Conditions scenario uses the same climate change hydrology inputs of the Incidental Take Permit (ITP)1climate change studies. ITP climate change scenario was developed centered around 2035 (2020-2049). This is the best available climate change input hydrology to be used for DCR planning horizon (year 2040). DWR (2020) explains how the climate change projections conditions were developed:

> "The climate projections were derived from the ensemble of 20 Coupled Model Intercomparison Project 5 (CMIP5) global climate projections selected by the California Department of Water Resources (DWR) Climate Change Technical Advisory Group (CCTAG) as the most appropriate projections for California water resources evaluation and planning (DWR CCTAG, 2015). The 20 climate projections, selected by CCTAG, were generated from 10 global climate models run with two emission scenarios, one optimistic (Representative Concentration Pathway [RCP] 4.5) and one pessimistic (RCP 8.5), identified by the Intergovernmental Panel on Climate Change (IPCC) for the Fifth Assessment Report (AR5) (2014)."

Two Sea Level Rise (SLR) projections were evaluated before establishing the final Future Conditions SLR. Below, we explain how the final Future Conditions SLR was selected between the 1 foot (ft) and 1.5 ft SLR projections. The Ocean Protection Council released the latest Sea-Level Rise Guidance in 2018 (OPC 2018). Table B-1 (OPC 2018) presents the three levels of risk aversion: low, medium-high, and extreme. The DCR 2019 scenarios included SLR projections in between: medium (1ft SLR) and near-high risk (45 centimeter or 1.5 ft SLR) which are summarized in Table B-2. The high emissions, 2040 row (Table B-1) was selected because of the 20-year "project lifespan" of DCR Future Conditions scenarios and due to the Incidental Take Permit's March 31, 2040, expiration date. The 1.0 ft SLR has a 1-in-20 chance or 5% exceedance probability while the 45 cm (1.476 ft) SLR has less than 0.5% exceedance probability (Table B-2).

Table B-1. Projected SLR (ft) for San Francisco (OPC 2018)

		Probabilistic Projections (in feet) (based on Kopp et al. 2014)			
		MEDIAN	LIKELY RANGE	1-IN-20 CHANCE	1-IN-200 CHANCE
		50% probability sea-level rise meets or exceeds...	*66% probability sea-level rise is between...*	*5% probability sea-level rise meets or exceeds...*	*0.5% probability sea-level rise meets or exceeds...*
			Low Risk Aversion		Medium - High Risk Aversion
High emissions	2030	0.4	0.3 - 0.5	0.6	0.8
	2040	0.6	0.5 - 0.8	1.0	1.3

Table B-2. DCR 2019 Preliminary Future Conditions (1 ft and 1.5 ft SLR projections for High Emissions, 2040)

Aversion projection (High emissions, 2040)	SLR (ft) projection
Low risk	0.8
Medium risk **(DCR 19 1 ft SLR)**	1.0
Medium-high risk	1.3
High risk **(DCR 19 1.5 ft SLR)**	1.476
Extreme risk	1.8

Between the 1 ft and 1.5 ft SLR, the 1.5 ft SLR Future Conditions scenario was chosen after feedback from management and some State Water Project Contractors.

The Appendix further provides annual water allocation for the period from 1922 through 2003. The model results in the 2019 DCR reflect a reduction in average SWP water supplies for 2020 conditions of 58% to future conditions average reliability of 52%. As discussed in Section 3.2.7 supply values between 2020 and 2040 are interpolated between these values and supplies beyond 2040 are assumed to be the same as 2040. Further the climate adjusted annual water allocation information for 2040 was used in SCV Water's 2020 Updated Water Reliability Report.

4.9 Pending Water Use Efficiency

Recognizing the water supply challenges that California faces moving forward, in 2018, two policy bills were enacted by the California Legislature, Assembly Bill 1668 (AB1668, Friedman) and Senate Bill 606 (SB606, Hertzberg). Provisions of this legislation provide for the setting of long-term water efficient standards for 1) indoor residential use, 2) outdoor residential use,3) outdoor irrigation used from dedicated irrigation meters and equivalent for large commercial, industrial, and institutional (CII-DIM) use, 4) water loss, 5) certain variances and incentives for potable reuse. Further, water users will be required to establish urban water use objectives no later than January 1, 2024, incorporating these standards.

Regarding indoor residential water use, DWR is tasked in coordination with the SWRCB to conduct studies and prepare a report to the legislature with recommendations to potentially

revise existing standards. This report, “Results of the Indoor Residential Water Use Study,” pursuant to Water Code Section 10609, has been submitted to the Legislature. It recommends the current standards be adjusted as indicated in the following Table 4-4.

TABLE 4-4 RECOMMENDED INDOOR WATER USES STANDARDS

Year	Current Standard (GCPD)	Recommended Standard (GCPD)
2020	55	55
2025	52.5	47
2030	50	42

As interior water use is the source of future recycled water, this has implications regarding availability of this water source. As previously discussed in Section 3, SCV Water intends to develop recycled water supplies from new development. As detailed in the Maddaus Water Demand Study, it was assumed interior water use of 50 gcpd. The recommended standard represents a 16% reduction in the availability of new recycled water supplies or from 8,511 to 7,149 AFY. When added to the existing 450 AFY this totals 7,599 AFY, a potential reduction of 912 AFY or about 1% of total water demand.

On the other hand, provisions of the legislation concerning irrigation water use efficiency will likely offset this potential reduction in supply. Under the legislation, DWR is to conduct studies and make recommendations to the SWRCB regarding outdoor water use and variances and incentives and the SWRCB shall adopt standards by June 30, 2022. The legislation specifically calls for outdoor water use standards to incorporate the principles of the MWELO (Model Water Efficient Landscape Ordinance). This will have implications for both existing and future water users.

Regarding future water users, the 2020 UWMP based future outdoor water use on MWELO plus an overwatering factor. As noted in Appendix F of the 2020 UWMP, exterior water demands for future development are based on 2015 MWELO plus 25.6% overwatering factor. This increase in exterior water use was based on a technical study that compared actual irrigation demand from properties developed after 2015 MWELO took effect. (2020 UWMP Appendix F – Population and Demand Technical Memorandum, Maddaus, April 2021 Appendix F – (Residential and Non-Residential outdoor Water Use Study pg. 11). Overall water demand attributed to new users is approximately 30 TAF and 60% of which is for outdoor water. Thus, assuming SCV Water adopts measures and or regulations that require future customers to meet MWELO requirements, water demands would be reduced by approximately 3,800 AFY. This more than offsets the reduction in supply of 1,362 AFY.

Determining the application of the MWELO principles relating to existing customers outdoor water use will be more complex. This involves producing credible data to determine landscape area while accounting for the age of existing installations and its inherent limits of design efficiency, along with a number of other factors. A draft report has been released to the stakeholders for comments but at this time DWR has not produced its report on outdoor water efficiency standards. SCV Staff following this process anticipate application of expected standards will likely require further reductions in outdoor water use.

Thus, while changes in efficient water use requirements may result in the shifting of the resource mix used to achieve water reliability standards it does not appear that such changes

would result in a less reliable water supply portfolio. Refinement of water use efficiency standards and the implied reductions in demand will be forth coming, however, until a more thorough analysis can be conducted, it is reasonable and likely conservative to use the assumptions in the 2020 UWMP for conservation and recycled water.

4.10 Water Supply Reliability Modeling

SCV Water's strategy for achieving water supply reliability has involved the development of a diverse water supply portfolio that can accommodate the variability of wet and dry-periods endemic to California's climate. The variability in SWP supplies has the largest effect on overall supply reliability. In any given year, SWP supplies may be reduced due to dry weather conditions or regulatory factors. During such an occurrence, the remaining water demands in the SCV Water service area would be met by SCV Water's diverse alternate water supplies. The alternate supplies that would make up for any reductions in SWP supplies include a combination of supplies, such as return water from SCV Water's water storage accounts in the Semitropic Groundwater Storage Bank and the Rosedale-Rio Bravo Water Banking and Exchange Program, deliveries from SCV Water's flexible storage account in Castaic Lake Reservoir, local groundwater pumping from the Saugus Formation, short-term water exchanges, and participation in DWR's dry-year water purchase programs, among other sources. The diversity of such alternative supplies adds to the reliability because factors that may impact one supply source, such as drought, may not directly impact other sources, such as banked water.

The available water supplies and demands for SCV Water's service area were analyzed in the 2020 UWMP to assess the region's ability to satisfy demands during the following variable periods: (1) an average water year; (2) a single-dry year; and (3) multiple-dry years. The 2020 UWMP summary tables demonstrate that existing and planned supplies are available and sufficient to meet existing and projected demand under all such conditions for the projected planning period through 2050. The analysis also accounts for the water needed to serve the Project because SCV Water included the Project demand in SCV Water's current and projected water deliveries data provided as part of the adopted 2020 UWMP. Furthermore, the 2020 UWMP concludes that SCV Water's current and proposed groundwater supplies from the Alluvial Aquifer and the Saugus Formation are sustainable, and that current and future pumping levels, when combined with non-purveyor pumping, for average year, single-dry year, and multiple-dry years, remain within the basin yield.[12]

In addition to the above-mentioned UWMP reliability assessment, SCV Water periodically updates its Water Supply Reliability Plan (Plan) to identify current and future storage capacity and emergency storage needs and options for managing its water supplies. The 2019 Water Supply Reliability Plan Update (Geosyntec 2021) is the most current Plan.

This Plan evaluates six supply scenarios driven by varying assumptions regarding projected local supply availability and reliability, with each supply scenario evaluated against two demand sets (projected demands with and without active conservation).

The Plan uses an analytic spreadsheet model developed for SCV Water by MBK Engineers and updated by Geosyntec Consultants in 2021 to assess the reliability of SCV Water's water supplies. The model performs annual water operations for the SCV Water service area over a specified study period (2021 through 2060), using projected increases in demands to reflect the

[12] 2020 UWMP, p. 7-2.

uncertainty in the hydrology over this period, using supplies that would be available under multiple hydrologic sequences. For each hydrologic sequence, the model steps through each year of the study period, comparing annual supplies to demands and operating SCV Water storage programs as needed, adding to storage in years when supplies exceed demand, and withdrawing from storage when demand exceeds supplies. Results from the multiple hydrologic sequences are then compiled and summarized to provide a statistical assessment of the reliability of SCV Water's supplies and storage programs to meet its projected demands over the study period.

In addition to the hydrologic reliability of the Santa Clarita Valley's overall water supply, the Plan also discusses the physical reliability of the water delivery system in place to deliver its groundwater, imported water, and recycled water supplies. Deliveries of these supplies are dependent on an extensive network of SWP facilities used to pump, store, and convey SWP and other imported supplies, and SCV Water and purveyor facilities to treat, pump, and distribute supplies. Supply delivery can be interrupted or constrained in a number of ways, and the Plan includes an assessment of the ability to meet demands during an extended 12-month outage.

For this Plan update, the study period analyzed is 2021 through 2060 (which is 10 years after the assumed development buildout in the SCV Water's service area assumed in the 2020 Urban Water Management Plan (UWMP)). The analysis starts with a Base Scenario and evaluates five additional scenarios, with and without active conservation. This analysis builds on information contained in the 2019 DWR DCR as it incorporates 2040 climate change conditions discussed above in this Section and uses the same hydrologic sequence from the CALSIM 2 model. A further description of the model and the scenarios are contained in Section 7.45 of the 2020 UWMP and the 2019 Plan.

The reliability analysis conducted in the Plan is more rigorous and conservative than that contained in the 2020 UWMP and in Section 5.1. The Plan models the operation of SCV Water's supply portfolio through the full 82-year historical hydrologic period and incorporates projected storage balances when determining the quantity of water available from a banking program to meet water demands during dry periods. Further, while UWMP Section 5.2 incorporated a gradual decline in SWP reliability between 2020 and 2040 due to climate change, the Plan's modeling is based on SWP hydrology adjusted to reflect 2040 climate change, being applied to all years in the study period.

These scenarios represent 12 different views of future supply situations. Each supply scenario is evaluated in the Plan to determine the reliability of that scenario in meeting projected demands in SCV Water's service area. The reliability for all future scenarios (1 through 5) is greater than 95 percent.

The Plan analyzed various scenarios, which analyses can be used to answer several questions including:

1. How long current facilities could be relied upon to achieve reliability?

2. If the mix of existing and proposed facilities in the UWMP achieved reliability through 2050?

3. If certain future facilities were not constructed, (specifically some or all of the new Saugus Formation wells were either not constructed or otherwise unavailable) would alternative programs that SCV Water is investigating be able to achieve reliability?

A summary of the scenarios studied are shown in Table 4-5.

TABLE 4-5 VARIOUS SCV WATER SUPPLY SCENARIOS

	Base	1	2	3	4	5
Alluvial Pumping	✓	✓	✓	✓	✓	✓
Existing Saugus	✓	✓	✓	✓	✓	✓
SWP and BVRRB	✓	✓	✓	✓	✓	✓
Existing Banking Programs	✓	✓	✓	✓	✓	✓
Saugus Wells 3 and 4		✓	✓	✓		
Saugus Wells 5 - 8		✓				
New Rosedale Bank Capacity		✓	✓	✓	✓	
Sites Reservoir				✓	✓	✓
AVEK High Desert Bank			✓		✓	✓
McMullin GSA Aquaterra Bank						✓

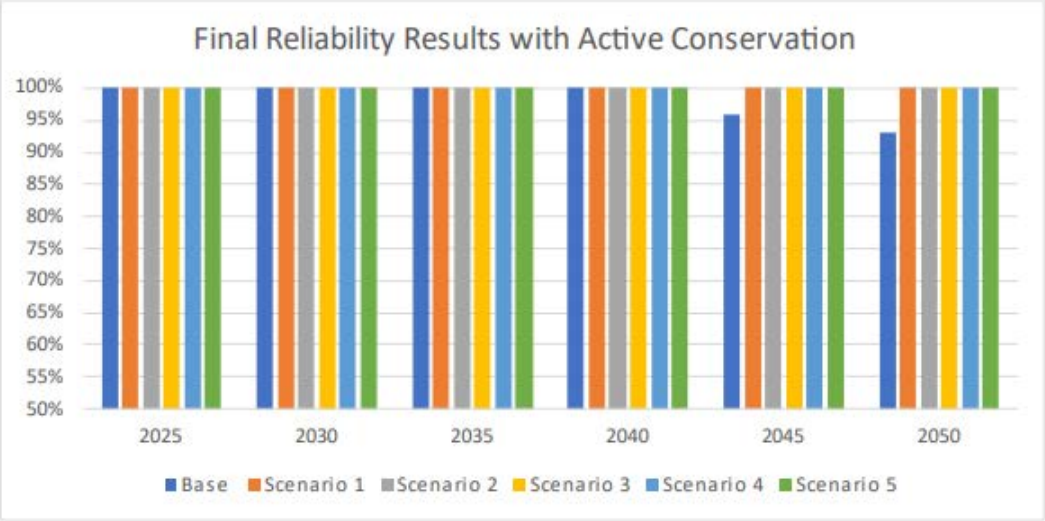
The Base represents those elements of the SCV Water's portfolio that currently exist. This includes existing and restored groundwater supplies. As the analysis moves through the study period restoration of well capacity temporarily taken out for water quality concerns takes place consistent with Table 4-6B, Table 4-6C, Table 4-8B, and Table 4-8C in the 2020 UWMP. Imported supplies include SWP supplies based on 2040 climate conditions pursuant to DWR's CALSIM modeling for the 2019 Delivery Capability Report, the firm Buena Vista Rosedale Transfer, and if necessary, in dry years, SWP Flexible Storage, Nickel Water (after 2035), Yuba Accord water. The Base case also includes the existing banking programs, specifically existing Rosedale Banking supplies at the existing 10,000 AFY of recovery, SCV Water Semitropic and access to the Newhall Land and Farming withdrawal capacity (after 2035), that are drawn on during years when the other previously mentioned supplies are insufficient to meet demands.

Scenario 1 adds Saugus Formation wells 3-8 and 10,000 AFY of additional extraction capacity from the Rosedale Banking Program as provided for in the 2020 UWMP.

Scenarios 2-5 were designed to analyze if in the event of the removal of some or all future Saugus Formation Wells (and in one case the expansion of the Rosedale Bank) could reliability be achieved through other programs that SCV Water is considering participating in, specifically Sites Reservoir, AVEK's High Desert Bank and the McMullin's Aquaterra Water Bank.

Figure 4-3 summarizes the modeling results.

FIGURE 4-3 FINAL RELIABILITY RESULTS WITH ACTIVE CONSERVATION



With respect to the first question above, the analysis shows that current supplies (including recovered groundwater capacity) along with active conservation will be sufficient through at least 2040.

Regarding the second question, to achieve reliability in subsequent years, additional investments in those programs and facilities identified in the UWMP (Scenarios 1) would be sufficient to achieve reliability through 2050.

As to the third question, Scenarios 2-5 demonstrate that alternative programs to those contained in the UWMP could offer different paths to achieve reliability or if implemented in addition to the UWMP could provide additional supplies in excess of demand.

Conclusions

As discussed above, the analysis contained in the Plan represents a more robust and conservative analysis than that contained in the 2020 UWMP. Nevertheless, the conclusions related to the ability of SWC Water to reliably meet water demands are consistent. If SCW Water continues to implement active water conservation measures, conjunctively use its imported water, groundwater, and water banking facilities, and invests in future water supply facilities as identified in the 2020 UWMP it will reliably meet water demands in its service area through 2050. The ability to implement other alternative water supply programs identified in the Plan's analysis bolsters this conclusion as alternatives exist should some of the future water supplies identified in the 2020 UWMP become unattainable.

4.11 Water Conservation and Water Shortage Contingency Planning

Water supplies may be interrupted or reduced due to a number of factors, such as a drought which limits supplies, an earthquake which damages water delivery or storage facilities, a regional power outage, or a toxic spill that affects water quality. The 2020 UWMP describes in detail how SCV Water is responding to such water supply outages, reductions, and other emergencies so that customer needs are met adequately, promptly, and equitably. With the completion of the 2020 UWMP, SCV Water also completed a comprehensive Water Shortage Contingency Plan that outlines the states of action SCV Water will take depending on the severity of a particular shortage for each supply source available to SCV Water. In addition, prohibitions, penalties, and financial impacts of shortages have been developed by SCV Water and are summarized in both the 2020 UWMP and 2020 Water Shortage Contingency Plan.

In preparing this WSA, SCV Water considered the urban water shortage contingency planning analysis set forth in the 2020 UWMP and 2020 Water Shortage Contingency Plan in determining the sufficiency of water supplies for the proposed Project, in addition to all existing and planned future uses in SCV Water's service area within the Santa Clarita Valley. These documents also explain how SCV Water's reliability planning provisions of these adopted documents assist SCV Water in responding to drought conditions, including the severe drought conditions that currently exist.

Section 5: Water Supply Assessment

Consistent with the provisions of SB 610, neither this WSA nor its approval shall be construed to create a right or entitlement to water service or any specific level of water service, and shall not impose, expand, or limit any duty concerning the obligation of SCV Water to provide certain service to its existing customers or to any future potential customers.

The WSA does not constitute a will-serve, plan of service, or agreement to provide water service to the Project, and does not entitle the Project, Project Applicant, or any other person or entity to any right, priority or allocation in any supply, capacity, or facility. To receive water service, the Project will be subject to an agreement with SCV Water, together with any and all applicable fees, charges, plans and specifications, conditions, and any and all other applicable SCV Water requirements in place and as amended from time to time. Nor does anything in this WSA prevent or otherwise interfere with SCV Water's discretionary authority to declare a water shortage emergency in accordance with the Water Code.

SCV Water is implementing plans that include projects and programs to help ensure that the existing and planned water users within the Santa Clarita Valley have an adequate supply.

The analyses presented in the following tables verify the availability of water supply for the Mountainview Apartments Project, in addition to all existing and planned future uses in the SCV Water service area over a 30-year horizon (exceeding the requirements of SB 610's 20-year planning horizon) in average/normal years, a single dry-year, and in multiple-dry years.

Furthermore, while not required by SB 610, as a conservative measure, this WSA demonstrates that sufficient water supplies will be available to meet the projected water demands associated with the proposed Project during normal, single-dry, and multiple-dry years over a 30-year horizon, in addition to existing and planned future uses (including agricultural, manufacturing, and industrial uses) throughout the entire Santa Clarita Valley.

5.1 Water System Operations and Reliability Planning

As discussed herein, SCV Water has implemented a number of projects that are part of an overall program to provide the facilities needed to ensure reliable imported and local water supplies during dry years. The program involves water conservation, surface and groundwater storage, water transfers and exchanges, water recycling, additional short-term pumping from the Saugus Formation, and increasing SCV Water's imported supply. This overall strategy is designed to meet increasing water demands while assuring a reasonable degree of supply reliability. Part of the overall water supply strategy is to provide a blend of groundwater and imported water to area residents to ensure consistent quality and reliability of service. The actual blend of imported water and groundwater in any given year and location in the Santa Clarita Valley is an operational decision and varies over time due to source availability and operational capacity SCV Water's facilities. The goal is to conjunctively use available water resources so that the overall reliability of water supply is maximized while utilizing local groundwater at a sustainable rate.

The available water supplies and demands for SCV Water's service area were analyzed in the 2020 UWMP to assess the region's ability to satisfy demands during the following variable

periods: (1) an average water year; (2) single-dry year; and (3) multiple-dry years, which included an assessment of a five-year dry period. The supply and demand comparison tables 5-2,5-3 and 5-4 (shown in Sections 5.1.1 to 5.1.4 below) utilize demonstrate that existing and planned supplies are available to meet existing and projected demand under all such conditions for the projected planning period through 2050. These tables are consistent with the 7-2, 7-3 and 7-4 in the UWMP with the exception that Table 5.2 reflects updated SWP Table A Amounts consistent with the DWR's 2021 Draft DCR and Planned Future and Recovered Groundwater supplies reflect the adjusted planning, construction and planning schedules as discussed in Section 3.3.2.3 Available Groundwater Supplies.

While many of the Santa Clarita Valley's available supply sources have some variability, the variability in SWP supplies has the largest effect on overall supply reliability. In any given year, SWP supplies may be reduced due to dry weather conditions, regulatory restrictions, or other factors. As discussed above, during such an occurrence, the remaining water demands in the SCV Water's service area are planned to be met by a combination of alternate supplies such as return water from SCV Water's accounts in the Semitropic Groundwater Storage Program and the Rosedale–Rio Bravo Water Banking and Exchange Program, deliveries from SCV Water's flexible storage account in Castaic Lake Reservoir, local groundwater pumping, short-term water exchanges, and participation in DWR's dry-year water purchase programs.

As stated in the 2020 UWMP, water supply reliability for SCV Water has improved significantly with the development of conjunctive use and groundwater banking. Conjunctive use is the coordinated operation of multiple water supplies to achieve improved supply reliability. During dry periods, or when imported water supply availability is reduced, banked water can be recovered from groundwater storage to replace, or firm up, the imported water supply deliveries. SCV Water has been conjunctively utilizing local groundwater and imported water since SWP water was imported to the Santa Clarita Valley beginning in 1980. SWP and other imported water supplies have supplemented the overall supply of the Santa Clarita Valley, which previously depended solely on local groundwater supplies.

Drought periods may affect available water supplies in any single year and even for a duration that spans multiple consecutive years. 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, SCV Water has emphasized developing a water supply portfolio that is diverse, especially in dry years. Diversity of supply is considered a key element of reliability planning, giving SCV Water the ability to draw on multiple sources of supply to ensure reliable service during dry years, as well as during average wet years.[13]

Provided below is a summary of historical water supplies used by SCV Water along with updated water supply projections presented in the 2020 UWMP that also address certain information required under SB 610 for the proposed Castaic Mountainview Apartments Project.

[13] 2020 Santa Clarita Valley Water Report (June 2021).

TABLE 5-1
SCV WATER HISTORICAL SOURCES OF SUPPLY (AFY)

SOURCE	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021 (preliminary)
Alluvial	26,186	25,593	21,431	24,683	19,333	15,244	9,424	14,030	9,049	7,571	14067
Saugus	7,438	8,133	8,348	9,929	10,560	11,085	6,979	8,839	8,498	9,761	11478
TOTAL GROUNDWATER	**33,624**	**33,726**	**29,779**	**34,612**	**29,893**	**26,329**	**16,403**	**22,869**	**17,547**	**17,332**	**25,545**
Recycled Water	373	428	400	474	450	507	501	352	458	468	480
SWP %	80%	65%	35%	5%	20%	60%	85%	35%	75%	20%	5%
SWP Deliveries to SCV Water Service Area(a)	**20,445**	**36,153**	**33,126**	**13,097**	**15,196**	**31,888**	**47,912**	**36,835**	**41,111**	**14,871**	**10,934**
Table A	10,713	24,657	4,692	451	11,075	29,647	32,422	12,411	37,503	11,551	1,081
Carryover	9,332	11,496	28,434	7,743	4,121	2,241	15,490	24,424	3,608	3,036	6,523
Article 21	400	0	0	0	0	0	0	0	0	0	
Turnback Pool Water	0	0	0	0	0	0	0	0	0	0	
Yuba	0	0	0	445	0	0	0	0	0	284	1,170
Other DWR coordinated transfers	0	0	0	34	0	0	0	0	0	0	194
Flex Storage Withdrawals	0	0	0	4,424	0	0	0	0	0	0	1,966
SWP Deliveries to Out of Service Area Storage/Exchange(b)	**21,608**	**10,000**	**0**	**0**	**4,339**	**1,500**	**5,425**		**24,502**	**0**	**5,628**
RRBWSD Banking	1,006	6,031	0	0	0	0	0	0	0	0	
Semitropic WSD Banking	0	0	0	0	0	0	5,340	0	5,002	0	
Rosedale Exchange Program	15,602	3,969	0	0	0	0	0	0	11,000	0	
WKWD Exchange Program	5,000	0	0	0	0	0	0	0	0	0	
CCWA Exchange Program	0	0	0	0	0	1,500	0	0	0	0	
AVEK Exchange Program	0	0	0	0	0	0	0	0	7,500	0	
UWCD Exchange Program	0	0	0	0	0	0	0	0	1,000	0	
Flex Storage Refill	0	0	0	0	4,339		85	0	0	0	1,966
Back up San Luis Storage	0	0	0	0	0	0	0	0	0	0	3,662
Withdrawals from Out-of-Service Area Storage/Exchange (b)	0	0	0	9,774	2,998	0	0	0	750	22,957	21,323
RRBWSD Banking	0	0	0	2,824	2,998	0	0	0	0	1,600	16,323
Semitropic WSD Banking	0	0	0	0	0	0	0	0	0	5,000	5,000
Rosedale Exchange Program	0	0	0	0	0	0	0	0	0	14,451	
WKWD Exchange Program	0	0	0	2,000	0	0	0	0	0	500	
CCWD Exchange Program	0	0	0	0	0	0	0	0	750	0	
NLF Semitropic Banking	0	0	0	4,950	0	0	0	0	0	0	
AVEK Exchange Program	0	0	0	0	0	0	0	0	0	1,406	
UWCD Exchange Program	0	0	0	0	0	0	0	0	0	0	

Other Imported Deliveries to SCV Water Service Area(c)(d)	11,000	0	0	11,000	10,995	0	0	0	0	11000	9,685
Other Imported Deliveries to Out-of-Service Area Storage/Exchange(d) or Water Sale	2,188	19,569	28,629	0	0	11,000	11,370	5,062	10,282	0	1,315
Total Imported Supplies to SCV Water Service Area	**31,445**	**36,153**	**33,126**	**33,871**	**29,189**	**31,888**	**47,912**	**42,835**	**42,961**	**48,828**	**41,942**
Total Local and Imported Supplies Utilized in SCV Water Service Area	**65,442**	**70,307**	**63,305**	**68,957**	**59,532**	**58,724**	**64,816**	**66,056**	**60,966**	**66,628**	**67,967**
End of the year carryover supply (left over table A and carryover noted in text)	**41,651**	**48,809**	**21,482**	**18,048**	**21,899**	**51,571**	**42,788**	**39,211**	**9,013**	**13,466**	**13,633**

Sources: DWR Bulletin 132, Management of the California State Water Project; and DWR delivery files.

Notes:

(a) Includes deliveries of Table A supplies, carryover water, Article 21 water, Turnback Pool water, local supply (from West Branch reservoirs), Yuba Accord water and water purchased through DWR.

(b) Out-of-service area storage includes flexible storage refill in Castaic Lake, the SCV Water Semitropic Banking Program, NLF Semitropic Banking Program and the Rosedale-Rio Bravo Banking Program. Exchanges include programs with the Rosedale-Rio Bravo, West Kern Water District, Central Coast Water Agency, Antelope Valley East Kern, and United Water Conservation District.

(c) Deliveries from Buena Vista.

(d) Includes BVRRB water sales and deliveries to Devils Den service area. Also includes BVRRB deliveries to banking programs and exchanges, or San Luis backup storage.

5.1.1 Historical Operation of Santa Clarita Valley Water System

A review of the period from 2011 through 2021 is provided in Table 5.1. This table illustrates the previous discussion in this section. Add text with specific examples to support previous points in Section 5.1.

2011 was characterized as a wet year resulting in a high SWP Table A allocation of 80%. With wet conditions and surplus Table A water, SCV Water executed two 2:1 exchange programs totaling 20,602 AF and delivered 1,006 AF of water to be stored in the RRBWSD banking program in order to utilize as much water as possible for future years. Excess Table A and carryover supplies not utilized totaled 41,651 AF to be available as carryover in 2012.

2012 was characterized by an increase in water use attributed to unseasonably high temperatures and below normal rainfall in early 2012 resulting in a longer irrigation season. The water year ended up with average precipitation which resulted in a SWP Table A allocation of 65%. SCV Water started the year with 41,651 AF of Article 56 Carryover supply, of which 30,155 AF was reclassified due to reservoir levels filling up. With surplus water, SCV Water sold 16,500 AF of BVRRB water (annual supply plus banked supply) to West Kern County Agriculture Water Districts, banked 6,301 AF into RRBWSD banking program and further exchanged 3,969 AF in the RRBWSD 2:1 exchange program. SCV Water used 11,496 AF of carryover and ended the year with 2013 carryover supplies totaling 48,809 AF.

2013 was characterized with unseasonably high temperatures and below normal rainfall resulting in a lower SWP Table A allocation of 35%. The SCV Water service area grew rapidly in 2013 with 5% increased demands and 750 new service connections added. Imported carryover and Table A water were utilized to meet imported demands. 28,000 AF of supplies were sold to other agencies to bring in revenue and reduce loss of excess supplies. Even with previous years carryover water being reclassified due to wet hydrology, SCV Water was able to reserve 21,482 AF unused Table A into carryover for the start of 2014 in preparation of continued or worsening drought conditions.

2014 was characterized by extremely dry conditions locally and statewide resulting in a historically low SWP Table A allocation of 5%. To meet dry year imported demands SCV Water utilized 7,743 AF of carryover supplies, recovered 9,774 AF from banking and exchange programs, withdrew 4,424 AF from Castaic Flexible Storage, and received 445 AF from Yuba County Accord Water. In addition, state mandated conservation program regulations helped drive water demands down reserving 18,048 AF of unused carryover and Table A supplies for 2015 if drought conditions persisted.

2015 was characterized by a fourth year of drought with record high temperatures, record low precipitation and record low snowpack. 2015 was recorded as one of the driest and warmest winters since 1950 resulting in a SWP Table A allocation of 20%. In 2015 SCV Water entered into an agreement with Semitropic to participate in the Stored Water Recovery Unit (SWRU) as an additional source of dry-year water supply. SCV Water utilized Table A supply, carryover supply, BVRRB supply and recovered 2,998 AF from the RRB water banking program to meet imported demands. 4,339 AF of unused Table A supply were backfilled to the flexible storage account utilized in 2014. 2015 total unused carryover and Table A supplies available for 2016 totaled 21,892 AF.

2016 was characterized by average precipitation in northern California, an improvement to the previous four years of drought with enough precipitation to offset some of the large deficits in water storage reservoirs resulting in a SWP Table A allocation of 60%. SCV Water saw demands increase in 2016 from the easing of SWRCB emergency water conservation measures shifting from mandatory to voluntary. Imported demands were met with minimal carryover and Table A supplies. SCV Water exchanged 1,500 AF of Table A water and stored 5060 AF of BVRRB water into the Rosedale banking program. The remaining BVRRB supply was stored in San Luis reservoir and added to 2017 carryover supplies which totaled 51,571 AF at the end of the year.

2017 was characterized by the second largest statewide runoff and the end of the state's 5-year drought. 2017 snow water equivalent came in at 163% of April 1st average resulting in a large SWP Table A allocation of 85%. Of the 51,571 AF of carryover storage available in 2017, 15,490 AF was delivered to SCV Water service area and the rest was reclassified due to the wet hydrology. With surplus Table A SCV Water backfilled the remaining 85 AF to the Castaic flexible storage account and maximized deliveries to banking programs totaling 5,340 AF (storage space only available in Semitropic SWRU, RRBWSD program full). With plenty of Table A and carryover supplies, SCV Water sold BVRRB water supply to Kern County Westside Districts. Remaining Table A supplies totaled 42,788 in carryover for 2018.

2018 was characterized by dry conditions returning statewide with nearly all the state experiencing below-average precipitation and SCV Water receiving less than half its average annual precipitation. This resulted in a lower then average SWP Table A allocation of 35%. Imported demands were met with carryover and Table A supplies, with the remaining supplies being carried over into 2019 totaling 39,211 AF.

2019 was characterized by above average precipitation locally and statewide resulting in somewhat lower demands and an above average SWP Table A allocation of 75%. SCV Water started the year with 39,221 AF of Article 56 Carryover supply which 3,608 AF was delivered, and the remaining 35,603 AF was lost as a result of wet hydrology. The high allocation allowed for SCV Water to reduce local pumping of groundwater to maintain sustainable groundwater resources in dry-year and increase imported Table A deliveries to the service area. In addition, SCV Water executed three different 2:1 water exchanges with other State Water Contractors totaling 19,500 AF and delivered 5,000 AF to Semitropic SWRU banking reserves. Remaining unused Table A water was categorized as 2020 carryover supply totaling 9,013 AF.

2020 was characterized by below average precipitation locally and statewide resulting in higher water demands and a low SWP Table A allocation of 20%. SCV Water also faced an increased demand for imported water supplies due to significant loss of local groundwater wells impacted by updated regulations related to PFAS (Per and Polyfluoroalkyl Substances). Increased imported demands were met utilizing banking, exchanges, and transfer programs. The completion of the Drought Replacement Wells in 2019 at the Rosedale-Rio Bravo Water Banking Program (RRBWBP) increased recovery capacity from 3,000 AFY in 2014 and SCV Water was able to recover 16,501 AF from the RRB Banking and Exchange programs. An additional 5,000 AF was recovered from the Semitropic SWRU and 1,906 AF from exchange programs. SCV Water utilized 3,036 AF of 2020 carryover supplies, conserving unused carryover and Table A supplies for 2021 carryover which totaled 13,466 AF.

2021 was characterized as an extreme water year in terms of precipitation and temperature and ended up as California's second driest year on record based on statewide runoff resulting in a

second lowest SWP Table A allocation of 5%. Santa Clarita experienced its driest water year on record only receiving 3.38 inches of precipitation all year. SCV Water continued to be impacted by loss of local groundwater wells related to PFAS, but successfully completed combined treatment facilities for three major alluvial wells which came online in 2021 adding critically needed water to local supplies to meet demands. In addition to maximizing groundwater production, SCV Water recovered about 25,000 AF of water from imported banking programs, 1,364 AF from dry year transfer programs, and utilized 1,966 AF from the Castaic flexible storage account to meet imported demands. In preparation of continued drought conditions, only 6,523 AF of carryover supplies were used, the Castaic flexible storage account was refilled, and excess banking, transfer water and Table A supplies not needed to meet demands were reserved as carryover for 2022, totaling 13,633 AF.

5.1.2 Average/Normal Year Supplies and Demand Comparison

Table 5-2 summarizes the supplies available to meet demands over the 30-year planning period during an average/normal year. As presented in the table, the water supply is broken down into existing and planned water supply sources, including wholesale (imported) water, local supplies, and banking programs. The demands shown include reductions from projected passive conservation savings, and both with and without active conservation savings. Future demands include that of the Castaic Mountainview Apartments Project.

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TABLE 5-2
PROJECTED AVERAGE/NORMAL YEAR SUPPLIES AND DEMANDS (AF)

	2025	2030	2035	2040	2045	2050
Existing Supplies						
Existing Groundwater[a]						
Alluvial Aquifer	8,900	8,180	7,300	7,300	7,300	7,300
Saugus Formation	14,440	7,110	7,110	7,110	7,110	7,110
Total Groundwater	**23,340**	**15,290**	**14,410**	**14,410**	**14,410**	**14,410**
Recycled Water[b]						
Total Recycled	**450**	**450**	**450**	**450**	**450**	**450**
Imported Water						
State Water Project[c]	52,360	51,410	50,460	49,500	49,500	49,500
Flexible Storage Accounts[d]						
Buena Vista-Rosedale	11,000	11,000	11,000	11,000	11,000	11,000
Nickel Water - Newhall Land[e]	-	-	1,607	1,607	1,607	1,607
Yuba Accord Water[f]	1,000	-	-	-	-	-
Total Imported	**64,360**	**62,410**	**63,067**	**62,107**	**62,107**	**62,107**
Existing Banking and Exchange Programs[g]						
Rosedale Rio-Bravo Bank[g]	-	-	-	-	-	-
Semitropic Bank[g]	-	-	-	-	-	-
Semitropic – Newhall Land Bank[g]	-	-	-	-	-	-
Antelope Valley West Kern Water Agency Exchange[g]	-	-	-	-	-	-
United Water Conservation District Exchange[g]	-	-	-	-	-	-
Total Bank/Exchange	**0**	**0**	**0**	**0**	**0**	**0**

Total Existing Supplies	**88,150**	**78,150**	**77,927**	**76,967**	**76,967**	**76,967**
Planned Supplies						
Future and Recovered Groundwater[h]						
Alluvial Aquifer[i]	10,340	19,870	23,490	23,490	23,490	23,490
Saugus Formation[j]	3,010	2,790	2,790	2,790	2,790	2,790
Total Groundwater	**13,350**	**22,660**	**26,280**	**26,280**	**26,280**	**26,280**
Recycled Water[k]						
Total Recycled	1,849	3,696	5,091	6,498	7,499	8,511
Planned Banking Programs						
Rosedale Rio-Bravo Bank[h][l]	-	-	-	-	-	-
Total Banking	**0**	**0**	**0**	**0**	**0**	**0**
Total Planned Supplies	**15,199**	**26,356**	**31,371**	**32,778**	**33,779**	**34,791**
Total Supplies (Existing and Planned) [m]	**103,349**	**104,506**	**109,298**	**109,745**	**110,746**	**111,758**
Demands[n]						
Demands with passive conservation[m]	**82,100**	**89,300**	**97,600**	**104,300**	**109,600**	**115,100**
Demands with passive and active conservation[m]	**76,400**	**81,700**	**88,700**	**93,600**	**97,500**	**101,000**

Notes:

(a) Existing groundwater supplies represent the quantity of groundwater available to be pumped with existing wells. Declines from 2025 pumping levels reflect transfer of normal year pumping from existing wells to future and recovered wells.

(b) Existing Recycled Water is based on current average annual use.

(c) SWP supplies are based on average deliveries from DWR's 2019 DCR and 2021 draft DCR (56% - 52% at buildout due to climate change).

(d) Supplies not needed in average years.

(e) Existing Newhall Land supply committed under approved Newhall Ranch Specific Plan. Water is available from 2021 - 2034 to meet supply shortfalls associated with the Newhall Ranch Specific Plan. Assumed to be transferred to SCV Water once Newhall Ranch development is completed around 2035.

(f) Supply available for purchase every year, however, shown is amount available in dry periods, after delivery losses. This supply would typically be used only during dry years and is available through 2025.

(g) Supplies not needed in average years.

(h) Future and Recovered groundwater supplies include recovered impacted wells and new groundwater well capacity that may be required by SCV Water's production objectives in the Alluvial Aquifer and the Saugus Formation. When combined with existing SCV Water and non-SCV Water groundwater supplies, total groundwater production remains within the sustainable ranges identified in Tables 4-10 and 4-11 and is within the groundwater basin yields per the 2020 SCV-GSA Water Budget Development Tech Memo (GSI 2020) and the updated Basin Yield Analysis(LSC & GSI 2009).

(i) Future Category includes all wells restored from PFAS and Perchlorate water quality issues, and other future alluvial wells including those associated with development under the Newhall Ranch Specific Plan. Schedule for recovered well capacity based on Groundwater Treatment Implementation Plan Technical Memorandum, Kennedy Jenks 2021 Appendix M. 2025 adjustments based on January 2022 engineering project schedule updates.

(j) Future and Recovered Saugus wells include perchlorate-impacted Well 205, two replacement wells (Saugus 3 & 4), and up to four new wells (Saugus 5-8) planned to provide additional dry-year supply. New dry-year wells would not typically be operated during average/normal years.

(k) Planned recycled water is the total projected recycled water use from Table 5-3 less existing use. Projections reflect demands that can be cost-effectively served with projected supplies. Refer to Section 5 for additional details on recycled water demands and supplies.

(l) Firm withdrawal capacity under existing Rosedale Rio-Bravo Banking Program to be expanded by 10,000 AFY by 2030 (for a combined total of 20,000 AFY).

(m) For completeness, LAWWD36 sales are included in demands and supplies. Breakdown of LACWWD 36 and SCV Water Demands are shown in Table 2-10. Further, LACWWD 36's Saugus groundwater supplies shown in TABLE 4-8A.

(n) Total demands with passive and active conservation from Table 2-10.

5.1.3 Single Dry-Year Supplies and Demand

The water supplies and demands for the water suppliers over the 30-year planning period were analyzed in the event that a single-dry year occurs, based on the worst single dry year on record. Table 5-3 summarizes the existing and planned supplies available to meet demands during a single-dry year. The demands shown include reductions from projected passive conservation savings, and both with and without active conservation savings. The demand during dry years was assumed to increase by 6 percent. Future demands include that of the Castaic Mountainview Apartments Project.

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TABLE 5-3 PROJECTED SINGLE-DRY YEAR SUPPLIES AND DEMANDS (AF)

	2025	2030	2035	2040	2045	2050
Existing Supplies						
Existing Groundwater[a]						
Alluvial Aquifer	7,300	6,330	5,590	5,590	5,590	5,590
Saugus Formation	17,880	17,880	17,880	17,880	17,880	17,880
Total Groundwater	**25,180**	**24,210**	**23,470**	**23,470**	**23,470**	**23,470**
Recycled Water[b]						
Total Recycled	**450**	**450**	**450**	**450**	**450**	**450**
Imported Water						
State Water Project[c]	4,760	4,760	4,760	4,760	4,760	4,760
Flexible Storage Accounts[d]	6,060	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
Nickel Water - Newhall Land[e]	-	-	1,607	1,607	1,607	1,607
Yuba Accord Water[f]	1,000	-	-	-	-	-
Total Imported	**22,820**	**20,440**	**22,047**	**22,047**	**22,047**	**22,047**
Existing Banking and Exchange Programs						
Rosedale Rio-Bravo Bank[g]	10,000	10,000	10,000	10,000	10,000	10,000
Semitropic Bank[h]	5,000	5,000	5,000	5,000	5,000	5,000
Semitropic – Newhall Land Bank[h][i]	-	-	4,950	4,950	4,950	4,950
Antelope Valley East Kern Water Agency Exchange[j]	-	-	-	-	-	-
United Water Conservation District Exchange[j]	-	-	-	-	-	-
Total Bank/Exchange	**15,000**	**15,000**	**19,950**	**19,950**	**19,950**	**19,950**
Total Existing Supplies[p]	**63,450**	**60,100**	**65,917**	**65,917**	**65,917**	**65,917**

Planned Supplies							
Future and Recovered Groundwater[j]							
Alluvial Aquifer[k]	9,030	17,020	20,500	20,500	20,500	20,500
Saugus Formation[l]	9,090	15,920	15,920	15,920	15,920	15,920
Total Groundwater	**18,120**	**32,940**	**36,420**	**36,420**	**36,420**	**36,420**
Recycled Water[m]							
Total Recycled	1,849	3,696	5,091	6,498	7,499	8,511
Planned Banking Programs							
Rosedale Rio-Bravo Bank[n]	-	10,000	10,000	10,000	10,000	10,000
Total Banking	**0**	**10,000**	**10,000**	**10,000**	**10,000**	**10,000**
Total Planned Supplies	**19,969**	**46,636**	**51,511**	**52,918**	**53,919**	**54,931**
Total Supplies (Existing and Planned)[p]	**83,419**	**106,736**	**117,428**	**118,835**	**119,836**	**120,848**
Demands[o][p][q]							
Demands with passive conservation	**87,000**	**94,700**	**103,500**	**110,600**	**116,200**	**122,000**
Demands with passive and active conservation	**81,000**	**86,600**	**94,000**	**99,200**	**103,400**	**107,100**

Notes:

(a) Existing groundwater supplies represent the quantity of groundwater available to be pumped with existing wells. Dry-year production represents anticipated maximum dry year production. Declines from 2025 pumping levels reflect transfer of normal year pumping from existing wells to future and recovered wells.

(b) Existing recycled water is based on current average annual use.

(c) SWP supplies are based on driest SWP delivery on record, 5% in 2014. Deliveries from DWR's 2019 DCR state single dry year are (7% -11%).

(d) Includes both SCV Water and Ventura County entities flexible storage accounts. Extended term of agreement with Ventura County entities expires after 2025.

(e) Existing Newhall Land supply committed under approved Newhall Ranch Specific Plan. Water is available from 2021 - 2034 to meet supply shortfalls associated with the Newhall Ranch Specific Plan. Assumed to be transferred to SCV Water once Newhall Ranch development is completed around 2035.

(f) Supply shown is amount available in dry periods, after delivery losses. This supply would typically be used only during dry years and is available through 2025.

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

(h) Existing Newhall Land supply. Assumed to be transferred to SCV Water during Newhall Ranch development by 2035.

(i) Supplies shown are totals recoverable under the exchange and would typically be recovered only during dry years with SWP allocation greater than 30%.

(j) Future and Recovered groundwater supplies include recovered impacted wells and new groundwater well capacity that may be required by SCV Water's production objectives in the Alluvial Aquifer and the Saugus Formation. When combined with existing SCV Water and non-SCV Water groundwater supplies, total groundwater production remains within the sustainable ranges identified in Tables 4-10 and 4-11 and is within the groundwater basin yields per the 2020 SCV-GSA Water Budget Development Tech Memo (GSI 2020) and the updated Basin Yield Analysis (LSC & GSI 2009).

(k) Future and Recovered Alluvial groundwater include PFAS, and perchlorate impacted alluvial wells, one replacement well (S 9), and future wells, including those for Newhall Ranch Specific Plan. Schedule for recovered well capacity based on Groundwater Treatment Implementation Plan Technical Memorandum, Kennedy Jenks 2021 Appendix M. 2025 adjustments based on January 2022 engineering project schedule updates).
(l) Future and Recovered Saugus wells include perchlorate impacted Well 205, two replacement wells (Saugus 3 & 4), and up to four new wells (Saugus 5-8) planned to provide additional dry-year supply. New dry-year wells would not typically be operated during average/normal years.
(m) Planned recycled water is the total projected recycled water use less existing use. Projections reflect demands that can be cost-effectively served with projected supplies. Refer to Section 3 for additional details on recycled water demands and supplies.
(n) Firm withdrawal capacity under existing Rosedale Rio-Bravo Banking Program to be expanded by 10,000 AFY by 2030 (for a combined total of 20,000 AFY).
(o) Demands assume a 6% increase above normal demand during dry years.
(p) For completeness, LAWWD36 sales are included in demands and supplies. Breakdown of LACWWD 36 and SCV Water Demands are shown in Table 2-2. Further, LACWWD36's Saugus groundwater supplies are shown in Table 3-4B.
(q) Future demands include that of the Castaic Mountainview Apartments Project.

5.1.4 Multiple Dry-Year Supplies and Demand

The water supplies and demands over the 30-year planning period were analyzed in the event that a five-year dry period occurs, similar to the drought that occurred during the years 1988-1992. Table 5-4 summarizes the existing and planned supplies available to meet demands during a five-year dry period. Supply volumes shown represent averages for the consecutive five-year period, assuming each 5-year interval (2025, 2030, etc.) is the midpoint of the five-year period. The demands shown include reductions from projected passive conservation savings, and both with and without active conservation savings. As in the single-dry year scenario, demand during dry years was assumed to increase by 6 percent. Future demands include that of the Castaic Mountainview Apartments Project.

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TABLE 5-4 PROJECTED FIVE-YEAR DRY YEAR SUPPLIES AND DEMANDS (AF)

Supplies Available	2025	2030	2035	2040	2045	2050
Existing Supplies						
Existing Groundwater[a]						
Alluvial Aquifer	7,300	6,720	5,890	5,590	5,590	5,590
Saugus Formation	17,880	17,610	17,610	17,610	17,610	17,610
Total Groundwater	**25,180**	**24,330**	**23,500**	**23,200**	**23,200**	**23,200**
Recycled Water[b]						
Total Recycled	**450**	**450**	**450**	**450**	**450**	**450**
Imported Water						
State Water Project[c]	24,040	24,090	24,130	24,180	24,180	24,180
Flexible Storage Accounts[d]	4,980	4,680	4,680	4,680	4,680	4,560
Buena Vista-Rosedale	11,000	11,000	11,000	11,000	11,000	11,000
Nickel Water - Newhall Land[e]	-	-	964	1,607	1,607	1,607
Yuba Accord[f]	600	-	-	-	-	-
Total Imported	**40,620**	**39,770**	**40,774**	**41,467**	**41,467**	**41,347**
Banking and Exchange Programs						
Rosedale Rio-Bravo Bank[g]	10,000	10,000	10,000	10,000	10,000	10,000
Semitropic Bank[h]	5,000	5,000	5,000	5,000	4,929	1,859
Semitropic - Newhall Land Bank[i]	-	-	2,970	4,950	4,950	4,950
AVEK Exchange[j]	450	450	-	-	-	-
UWCD Exchange[j]	100	100	-	-	-	-
Total Bank/Exchange	**15,550**	**15,550**	**17,970**	**19,950**	**19,879**	**16,809**
Total Existing Supplies[q]	**81,800**	**80,100**	**82,694**	**85,067**	**84,996**	**81,806**

Planned Supplies						
Future and Recovered Groundwater[k]						
Alluvial Aquifer[l]	11,930	16,310	19,800	20,500	20,500	20,500
Saugus Formation[m]	5,750	8,020	8,020	8,020	8,020	8,020
Total Groundwater	**17,680**	**24,330**	**27,820**	**28,520**	**28,520**	**28,520**
Recycled Water[n]						
Total Recycled	**1,823**	**3,603**	**5,045**	**6,498**	**7,499**	**8,389**
Planned Banking Programs						
Rosedale Rio-Bravo Bank[o]	-	6,000	10,000	10,000	10,000	10,000
Total Banking	**0**	**6,000**	**10,000**	**10,000**	**10,000**	**10,000**
Total Planned Supplies	**19,503**	**33,933**	**42,865**	**45,018**	**46,019**	**46,909**
Total Existing and Planned Supplies	**101,303**	**114,033**	**125,559**	**130,085**	**131,015**	**128,715**
Demands[r]						
Demands with Passive Conservation[p][q]	**83,570**	**91,380**	**99,670**	**106,660**	**112,100**	**117,010**
Demands with Passive and Active Conservation[p][q]	**77,830**	**83,620**	**90,570**	**95,780**	**99,670**	**102,870**

Notes:

(a) Existing groundwater supplies represent the quantity of groundwater available to be pumped with existing wells. Dry-year production represents anticipated maximum dry year production. Declines from 2025 pumping levels reflect transfer of normal year pumping from existing wells to future and recovered wells.

(b) Existing recycled water is based on current average annual use.

(c) SWP supplies based on 1988-1992 hydrology from 2019 DCR interpolated from 2020-2040 from current to proposed future SWP supplies.

(d) Includes both SCV Water and Ventura County entities flexible storage accounts through 2025 and only SCV Water portion beyond 2025.

(e) Existing Newhall Land supply committed under approved Newhall Ranch Specific Plan. Water is available from 2021 -2034 to meet supply shortfalls associated with the Newhall Ranch Specific Plan. Assumed to be transferred to SCV Water once Newhall Ranch development is completed around 2035.

(f) 1,000 AFY assumed to be available during dry and critically dry years. Lower quantity in table reflects averaging of supply over the five-year period. This supply is only available through 2025.

(g) SCV Water has an existing firm withdrawal capacity of 10,000 AFY and a storage capacity of 100,000 AF. There is currently 98,800 AF of recoverable Water in storage.

(h) SCV Water has a maximum firm withdrawal capacity of 5,000 AFY and a storage capacity of 15,000 AF. Additionally, SCV Water has 40,270 AF of recoverable Water stored which may be recovered using this withdrawal capacity.

(i) Existing Newhall Land supply. Assumed to be transferred to SCV Water during Newhall Ranch development by 2035.

(j) Exchange recovery was assumed to occur one year during the five-year dry period, for an average annual supply of one-fifth of the total recoverable water available (total recoverable is 2,250 AF from Antelope Valley East Kern Water Agency (AVEK) and 500 AF from United Water Conservation District exchange programs).

(k) Future and Recovered groundwater supplies include recovered impacted wells and new groundwater well capacity that may be required by SCV Water's production objectives in the Alluvial Aquifer and the Saugus Formation. When combined with existing SCV Water and non-SCV Water groundwater

supplies, total groundwater production remains within the sustainable ranges identified in Tables 4-9 and 4-10 and is within the groundwater basin yields per the 2020 SCV-GSA Draft Water Budget Development Tech Memo (GSI 2020) and the updated Basin Yield Analysis (LSC & GSI 2009).

(l) Future Category includes all wells restored from PFAS and Perchlorate water quality issues, and other future alluvial wells including those associated with development under the Newhall Ranch Specific Plan. Schedule for recovered well capacity based on Groundwater Treatment Implementation Plan Technical Memorandum, Kennedy Jenks 2021 Appendix M.

(m) This includes Saugus perchlorate impacted Well 205, two replacement wells (Saugus 3 & 4), and up to four new wells (Saugus 5-8) planned to provide additional dry-year supply. New dry-year wells would not typically be operated during average/normal years.

(n) Planned recycled water is the total projected recycled water use from Table 3-10 less existing use. Projections reflect demands that can be cost-effectively served with projected supplies. Refer to Section 3 for additional details on recycled water demands and supplies.

(o) Firm withdrawal capacity under existing Rosedale Rio-Bravo Banking Program to be expanded by 10,000 AFY by 2030 (for a combined total of 20,000 AFY).

(p) Demands are weather adjusted for dry 1988-1992 hydrology.

(q) For completeness, LAWWD36 sales are included in demands and supplies. Breakdown of LACWWD 36 and SCV Water Demands are shown in Table 2-2. Further, LACWWD 36's Saugus groundwater supplies are shown in Table 3-4B.

(r) Future demands include that of the Castaic Mountainview Apartments Project

5.2 Additional Water Supply Reliability Analysis

As discussed in Section 4.10, SCV Water has undertaken additional analysis of its water supply reliability beyond the Normal, Single Dry-Year and Multiple Dry-Year analysis provided for the 2020 UWMP, and this Water Supply Assessment. This was done with the 2021 update to its Water Supply Reliability Plan (Plan). The Plan uses an analytic spreadsheet model that incorporates the anticipated increase in demand due to growth and climate change (through 2050) and models the variability of hydrology both locally and from imported sources. For each hydrologic sequence, the model steps through each year of the study period, comparing annual supplies to demands and operating SCV Water storage programs as needed, adding to storage in years when supplies exceed demand, and withdrawing from storage when demand exceeds supplies. Results from the multiple hydrologic sequences are then compiled and summarized to provide a statistical assessment of the reliability of SCV Water's supplies and storage programs to meet its projected demands over the study period.

The reliability analysis conducted in the Plan is more rigorous and conservative than that contained in the 2020 UWMP and in Section 5.1 of this WSA. The Plan models the operation of SCV Water's supply portfolio through the full 82-year historical hydrologic period and incorporates projected storage balances when determining the quantity of water available from a banking program to meet water demands during dry periods. Further, while UWMP Section 5.2 incorporated a gradual decline in SWP reliability between 2020 and 2040 due to climate change, the Plan's modeling is based on SWP hydrology adjusted to reflect 2040 climate change, being applied to all years in the study period.

The Plan analyzed various scenarios analyses, which analysis can be used to answer several questions including:

4. How long current facilities could be relied upon to achieve reliability?

5. If the mix of existing and proposed facilities in the UWMP achieved reliability through 2050?

6. If certain future facilities were not constructed, (specifically some or all of the new Saugus Formation wells were either not constructed or otherwise unavailable) would alternative programs that SCV Water is investigating be able to achieve reliability?

With respect to the first question identified above, the analysis shows that current supplies (including recovered groundwater capacity) along with active conservation will be sufficient until 2040.

Regarding the second question, to achieve reliability in subsequent years, additional investments in those programs and facilities identified in the UWMP (Scenarios 1) would be sufficient to achieve reliability through 2050.

As to the third question, Scenarios 2-5 demonstrate that alternative programs to those contained in the UWMP could offer different paths to achieve reliability or if implemented in addition to the UWMP could provide additional supplies in excess of demand.

Supply Reliability

As discussed above, the analysis contained in the Plan represents a more robust and conservative analysis than that contained in Section 5.1. Nevertheless, the conclusions related to the ability of SWC Water to reliably meet water demands (including the Castaic Mountain view Apartments Project) are consistent. If SCW water continues to implement active water conservation measures, conjunctively use its imported water, groundwater, and water banking facilities, and invests in future water supply facilities as identified in the 2020 UWMP it will reliably meet water demands in its service area through 2050. The ability to implement other alternative water supply programs identified in the Plan's analysis demonstrates a robustness to this conclusion as alternatives exist should some of the future water supplies identified in the 2020 UWMP become unattainable.

5.3 Conclusion

As set forth in this WSA, SCV Water has evaluated the long-term water needs (water demand) within its service area and has compared these needs against existing and planned water supplies. Demand projections are based on applicable population projections and county and city land use plans, and account for conservation as well as climate change impacts and other relevant factors. This WSA concludes that the total projected water supplies available to the SCV Water service area over the 30-year projection during normal, single-dry, and multiple-dry year (5-year drought) periods are sufficient to meet the projected demands associated with the proposed Castaic Mountainview Apartments Project, in addition to existing and other planned future uses, including agricultural and industrial uses, throughout the Valley, provided that SCV Water continues to utilize available SWP Table A Amounts, and continues to incorporate conjunctive use (coordinated use of surface water and groundwater), water conservation, water transfers, recycled water, and water banking as part of the total water supply portfolio and management approach to long-term water supply planning and strategy.

Section 6: References Used or Relied Upon in Preparing this WSA

This WSA used or relied on information contained in the documents listed below. Documents may be available online at the links provided or by contacting the SCV Water - Water Resources Department at (661) 297-1600. The documents are part of SCV Water's record for the preparation of this WSA.

California Department of Water Resources, December 2021. 2021 Draft State Water Project Delivery Capability Report, available at: https://water.ca.gov/Library/Modeling-and-Analysis/Central-Valley-models-and-tools/CalSim-3/DCR2021.

California Department of Water Resources, July 2020. 2019 State Water Project Delivery Capability Report, available at: https://water.ca.gov/Library/Modeling-and-Analysis/Central-Valley-models-and-tools/CalSim-II/DCR2019.

California Department of Water Resources. 2018. Delta Flood Emergency Plan.

California Department of Water Resources. 2018a. Guidance for Climate Change Data Use During Groundwater Sustainability Plan Development, available at: https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Groundwater-Management/Sustainable-Groundwater-Management/Best-Management-Practices-and-Guidance-Documents/Files/Climate-Change-Guidance_Final_ay_19.pdf.

California Department of Water Resources. November 2011. "Climate Change Handbook for Regional Water Planning", available at: https://www.epa.gov/sites/default/files/2021-03/documents/climate_change_handbook_regional_water_planning.pdf

California Department of Water Resources, 2016. Bulletin 118 – Update 2016, available at: https://cawaterlibrary.net/wp-content/uploads/2017/05/Bulletin_118_Interim_Update_2016.pdf

California Department of Water Resources and the Army Corps of Engineers, 2019. Delta Emergency Integration Plan.

California Department of Water Resources Climate Change Technical Advisory Group (CCTAG). 2015. Producing Scientific and Strategic Guidance for California's Department of Water Resources, available at: https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/All-Programs/Climate-Change-Program/Climate-Program-Activities/Files/Reports/Perspectives-Guidance-Climate-Change-Analysis.pdf

California Division of Drinking Water, November 1997. Policy Memo 97-005: Policy Guidance for Direct Domestic Use of Extremely Impaired Sources, available at: https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/docs/process_memo_97-005-r2020_v7.pdf

California Ocean Protection Council. 2018. Sea-Level Rise Guidance, available at: https://opc.ca.gov/webmaster/ftp/pdf/agenda_items/20180314/Item3_Exhibit-A_OPC_SLR_Guidance-rd3.pdf

California Office of Emergency Services (Cal OES). 2018. Northern California Catastrophic Flood Response Plan, available at: https://www.caloes.ca.gov/cal-oes-divisions/planning-preparedness/catastrophic-planning

California State Water Resources Control Board, March 2000. Revised Water Right Decision 1641, available at: https://www.waterboards.ca.gov/waterrights/board_decisions/adopted_orders/decisions/d1600_d1649/wrd1641_1999dec29.pdf

Carollo Engineers, June 2015. Santa Clarita Valley Water Agency Water Resources Reconnaissance Study, available at: http://yourscvwater.com/water-supply-assessments

CH2M Hill, 2004a. Regional Ground water Flow Model for the Santa Clarita Valley, Model Development and Calibration. April, http://yourscvwater.com/water-supply-assessments

CH2M Hill, 2004 b. Analysis of Perchlorate Containment in Ground water Near the Whittaker-Bermite Property, Santa Clarita, California, Prepared in support of the 97-005 Permit Application, December, available at: http://yourscvwater.com/water-supply-assessments

CH2M Hill, 2005a. Technical Memorandum, Calibration Update of the Regional Ground Water Flow Model for the Santa Clarita Valley, Santa Clarita, California, August, available at: http://yourscvwater.com/water-supply-assessments

CH2M Hill and Luhdorff & Scalmanini, Consulting Engineers, 2005. Analysis of Ground Water Basin Yield, Upper Santa Clara River Groundwater Basin, East Subbasin, Los Angeles County, California, prepared for Upper Basin Water Purveyors, August, available at: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=11086

Geoscience. 2014. Salt and Nutrient Management Plan for the Upper Santa Clara River Groundwater Basin Volumes 1 and 2, available at: http://yourscvwater.com/water-supply-assessments

Geosyntec Water Supply Reliability Plan, 2021, available at: http://yourscvwater.com/water-supply-assessments

GSI Water Solutions (GSI), Inc. 2022. Santa Clara River Valley East Groundwater Sustainability Plan. Available at: https://scvgsa.org/wp-content/uploads/2021/12/SCV-GSP-Sections-Combined-20211217.pdf

GSI Water Solutions (GSI), Inc. 2020a. Water Budget Development for the Santa Clara River Valley East Groundwater Subbasin, Draft Technical Memorandum, available at: https://yourscvwater.com/wp-content/uploads/2021/04/SCV-GSA-Draft-Tech-Memo-%E2%80%93-Water-Budget-Development.pdf

GSI Water Solutions, Inc. 2020. Development of a Numerical Groundwater Flow Model for the Santa Clara River Valley East Groundwater Subbasin, available at: https://scvgsa.org/wp-content/uploads/2020/11/01_DRAFT-Mdl-Dev-Rpt-Clean-Text-2020-09-22.pdf

GSI & LSCE. 2014. Draft Report: Perchlorate Containment Plan for Well V201 and Saugus Formation Groundwater in the Santa Clarita Valley (Task 3 of the Well V201 Restoration Program), available at: http://yourscvwater.com/water-supply-assessments

Kennedy/Jenks Consultants. 2021. Santa Clarita Valley Water Agency Groundwater Treatment Implementation Plan. April, available at: https://yourscvwater.com/wp-content/uploads/2021/04/App-C-Final-SCVWA_Groundwater-treatment_Imp-Plan-Rpt4-19-2021.pdf

Kennedy/Jenks Consultants. 2021. Santa Clarita Valley 2020 Urban Water Management Plan. July, available at: https://yourscvwater.com/uwmp/

Kennedy/Jenks Consultants. 2002. Recycled Water Master Plan Update, available at: http://yourscvwater.com/water-supply-assessments

Kennedy/Jenks Consultants. 2016a. Recycled Water Master Plan Update, available at: https://yourscvwater.com/wp-content/uploads/2021/04/CLWA_RWMP_Final_Sept2016_submit.pdf

Kennedy/Jenks Consultants. 2016b. Santa Clarita Valley Recycled Water Rules and Regulations Handbook. Adopted by the SCV Water Board of Directors on 10 February 2016, available at: https://yourscvwater.com/wp-content/uploads/2018/01/SCV_RW_RulesRegs_Handbook_FINAL_Feb2016-2.pdf

Kennedy/Jenks Consultants. 2015. Final Preliminary Design Report for the Recycled Water System Phase 2B, available at: http://yourscvwater.com/water-supply-assessments

Kennedy/Jenks Consultants. 2014 and 2018 Update. Integrated Regional Water Management Plan for the Upper Santa Clara River Region, available at: https://dpw.lacounty.gov/wmd/scr/docs/The%202014%20Update%20of%20the%20IRWMP/1.%20USCR%20IRWMP%20Final%20February%202014.pdf and https://dpw.lacounty.gov/wmd/scr/docs/2018%20Draft%20Amendments%20to%20USCR%202014%20IRWM%20Plan.PDF

Los Angeles Regional Water Quality Control Board (LARWQCB). 1994. Water Quality Control Plan: Los Angeles Region Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties, 2020 version available at:

https://www.waterboards.ca.gov/losangeles/water_issues/programs/basin_plan/basin_plan_documentation.html

Luhdorff & Scalmanini, Consulting Engineers, 2021. 2020 Santa Clarita Valley Water Report, available at: https://yourscvwater.com/wp-content/uploads/2021/09/2020-Santa-Clarita-Valley-Water-Report.pdf

Luhdorff & Scalmanini, Consulting Engineers, 2020. 2019 Santa Clarita Valley Water Report, available at: https://yourscvwater.com/wp-content/uploads/2020/08/2019-Santa-Clarita-Valley-Water-Report.pdf

Luhdorff & Scalmanini and GSI Water Solutions. August 2009. Analysis of Ground Water Supplies and Ground water Basin Yield, Upper Santa Clara River Ground Water Basin, East Subbasin, available at: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=21469

Luhdorff and Scalmanini, 2005. Consulting Engineers, Impact and Response to Perchlorate Contamination, Valencia Water Company Well Q2, prepared for Valencia Water Company, available at: http://yourscvwater.com/water-supply-assessments

Luhdorff & Scalmanini, Consulting Engineers, December 2003. Ground Water Management Plan for the Santa Clara Valley Ground Water Basin, East Subbasin, available at: https://yourscvwater.com/wp-content/uploads/2020/05/CLWA-Groundwater-Management-Plan-December-2003.pdf

M&N. 2007. Levee Repair, Channel Barrier and Transfer Facility Concept Analyses to Support Emergency Preparedness Planning.

Maddaus Water Management (MWM), Inc. 2021. Draft 2021 SCV Demand Study: Land-Use-Based Demand Forecast Analysis. April, available at: http://yourscvwater.com/water-supply-assessments

Maddaus Water Management (MWM), Inc. 2016. SCV Demand Study Update: Land-Use Based Demand Forecast, Final Technical Memorandum No.2. March, available at: http://yourscvwater.com/water-supply-assessments

Maddaus Water Management (MWM), Inc. 2015. SCV Family of Water Supplies Water Use Efficiency Strategic Plan. June, available at: http://yourscvwater.com/water-supply-assessments

Pacific West. 2021. Letter to Santa Clarita Valley Water Agency re: PWHS W.O. # 1030-001 Mountainview Apartments, available at: http://yourscvwater.com/water-supply-assessments

Pacific West. 2021. CUP No. 201400061 – Mountainview Apartments, Castaic, CA. Dwelling Unit and Bathroom Count Analysis Table, available at: http://yourscvwater.com/water-supply-assessments

Richard C. Slade & Associates, LLC,2001 Update Report, Hydrogeologic Conditions in the Alluvial and Saugus Formation Aquifer Systems, prepared for Santa Clarita Valley Water Purveyors, July 2002, available at: http://yourscvwater.com/water-supply-assessments

Sanitation Districts of Los Angeles County, 2013. Santa Clarita Valley Sanitation District Chloride Compliance Facilities Plan and Environmental Impact Report. October, available at: https://www.lacsd.org/services/wastewater-programs-permits/santa-clarita-chloride-compliance/final-recirculated-scvsd-chloride-compliance-eir-separation-of-recycled-water-project/-folder-90

Santa Clarita Valley Water Agency (SCVWA). 2021. Water Supply Reliability Plan Update, prepared by Geosyntec, available at: https://yourscvwater.com/wp-content/uploads/2021/04/SCV-Water-Reliability-Plan-update_2021-Master_DRAFT-1.pdf.

Santa Clarita Valley Water Agency (SCVWA). 2021. 2020 Urban Water Management Plan for Santa Clarita Valley Water Agency. June. Prepared by Kennedy Jenks Consultants, available at: https://yourscvwater.com/uwmp/

Santa Clarita Valley Water Agency (SCVWA). 2021. Final Water Shortage Contingency Plan. June, available at: https://yourscvwater.com/wp-content/uploads/2021/07/2020-SCV-Water_Water-Shortage-Contingency-Plan_Final.pdf

Santa Clarita Valley Water Agency (SCVWA), July 2015. Castaic Lake Water Agency 2015 Strategic Plan, 2017 Addendum, available at: http://yourscvwater.com/water-supply-assessments

Sites Program Management Team. 2020. Sites Reservoir Value Planning Report, available at: https://3hm5en24txyp2e4cxyxaklbs-wpengine.netdna-ssl.com/wp-content/uploads/2020/04/INT-REP-Value-Planning-Appraisal-Report-FinalV2Compressed.pdf.

Slade, R. C. Hydrogeologic Assessment of the Saugus Formation in the Santa Clara Valley of Los Angeles County, California, Vols. I and II, prepared for Castaic Lake Water Agency,1988, available at: http://yourscvwater.com/water-supply-assessments

Slade, R. C. Hydrogeologic Investigation of Perennial Yield and Artificial Recharge Potential of the Alluvial Sediments in the Santa Clarita River Valley of Los Angeles County, California, Vols. I and II, prepared for Upper Santa Clara Water Committee, 1986.

Wang, Jianzhong, Hongbing Yin, Erik Reyes, Tara Smith, Francis Chung (California Department of Water Resources). 2018. Mean and Extreme Climate Change Impacts on the State Water Project. California's Fourth Climate Change Assessment. Publication number: CCCA4-EXT-2018-004, available at: https://www.energy.ca.gov/sites/default/files/2019-12/Water_CCCA4-EXT-2018-004_ada.pdf

Woodard and Curran, 2021. Recycled Water Seasonal Storage Study Technical Memo, January 14, 2021, available at: http://yourscvwater.com/water-supply-assessments

Santa Clarita Valley Water Agency State Water Contract with the Department of Water Resources (DWR), available at: http://yourscvwater.com/water-supply-assessments

Santa Clarita Valley Water Agency 2014, Agreement in Principle with the Department of Water Resources for extension of contracts, September 12, 2014, available at: http://yourscvwater.com/water-supply-assessments

Department of Water Resources Contract Extension Amendment, February 2019, available at: https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/State-Water-Project/Management/Water-Supply-Contract-Extension/Files/Santa-Clarita-Valley-Water-Agency-WSC-Extension-Amendment-022619_a_y19.pdf

Santa Clarita Valley Water Agency 2015, Agreement with Ventura County for use of their Flexible Storage Account, available at: http://yourscvwater.com/water-supply-assessments

Department of Water Resources Coordinated Operations Agreement with the Bureau of Reclamation, 1986, available at: https://cawaterlibrary.net/wp-content/uploads/2017/09/agreementbetween00wash_bw.pdf

Department of Water Resources Addendum to the Coordinated Operations Agreement with the Bureau of Reclamation, December 2018, available at: https://www.usbr.gov/mp/nepa/includes/documentShow.php?Doc_ID=36503

Santa Clarita Valley Water Agency Transfer Agreement with Buena Vista Water Storage District and Rosedale Rio Bravo Water Storage District, available at: http://yourscvwater.com/water-supply-assessments

Santa Clarita Valley Water Agency 2018, Yuba Accord Agreement, available at: http://yourscvwater.com/water-supply-assessments

Santa Clarita Valley Water Agency Two-for-One Water Exchange Program with Antelope Valley-East Kern Water Agency (AVEK), 2019, available at: http://yourscvwater.com/water-supply-assessments

Santa Clarita Valley Water Agency Two-for-One Water Exchange Program with United Water Conservation District, 2019, available at: http://yourscvwater.com/water-supply-assessments

Santa Clarita Valley Water Agency Agreement with Semitropic Water Storage District for participation in the Storage Water Recovery Unit (SWRU), 2015, available at: http://yourscvwater.com/water-supply-assessments

Santa Clarita Valley Water Agency Water Banking and Exchange Program Agreement with Rosedale Rio Bravo Water Storage District, 2005-2015, available at: http://yourscvwater.com/water-supply-assessments

Santa Clarita Valley Water Agency contract with the Santa Clarita Valley Sanitation District, available at: http://yourscvwater.com/water-supply-assessments

Santa Clarita Valley Water Agency, Biennial Budget for FY 2021/22, and FY 2022/23, available at: http://yourscvwater.com/water-supply-assessments

Newhall Land and Farming Agreement with Semitropic WSD for Water Banking Exchange Program 2001, available at: http://yourscvwater.com/water-supply-assessments

Newhall Land and Farming Company 2022, Nickel Water Agreement, available at: http://yourscvwater.com/water-supply-assessments

APPENDIX A ENGINEERING SITE PLAN

SHEET NO.	DESIGNED:	RD
3	DRAWN:	CY
	CHECKED:	HH
	SUPERVISED:	RD
	PROJ. ENGINEER:	HH
	DATE:	7-15-17
	SCALE:	1"= 60'
OF 5 SHEETS	JOB NUMBER:	942-006

HASSAN HARIRCHI
R.C.E. No. 60606
DATE

PROJECT NO. R2014-01512-(5)
CUP NO. 201400061
OTP NO. 201400025
ZC NO. 201400007

S R C WEST, I N C.
LAND PLANNING • ENGINEERING • SURVEYING
25322 RYE CANYON ROAD, SUITE 201, SANTA CLARITA, CA. 91355
Phone : (661) 257-6570, Fax : (661) 257-6577

SRC WEST
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No.	REVISION DESCRIPTION	BY	DATE
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SITE PLAN

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ITEM NO.
6.3

BOARD MEMORANDUM

DATE: March 10, 2022

TO: Board of Directors

FROM: Dirk Marks
Director of Water Resources

SUBJECT: Adopt a Resolution Approving the SB 610 Water Supply Assessment for the Lyons Canyon Development

---

SUMMARY

The County of Los Angeles, Department of Regional Planning, acting as lead agency in the preparation of an Environmental Impact Report (EIR) for the Lyons Canyon Development (County Project No. 2021-001195), has requested that the Santa Clarita Valley Water Agency (SCVWA) provide an SB 610 Water Supply Assessment (WSA) for the project. For Board consideration, staff prepared a Draft WSA for the project that concludes, consistent with the 2020 Urban Water Management Plan (UWMP), that current and future water supplies are sufficient to meet demands for the project.

BACKGROUND AND DISCUSSION

SB 610 requires that a Water Supply Assessment (WSA) be prepared for all development projects of 500 or more dwelling units, or that have a commercial footprint of more than 500,000 square feet. It also requires that the "entity serving domestic water supplies whose service area includes the project site" shall prepare the WSA and that "the governing body of each public water system…shall approve the assessment…at a regular or special meeting." The most recently adopted UWMP, along with other planning and analysis documents, should serve as the basis of the WSA. SB 610 also requires that "If, as a result of its assessment, the public water system concludes that its water supplies are, or will be, insufficient, the public water system shall provide to the City or County its plans for acquiring additional water supplies, setting forth the measures that are being undertaken to acquire and develop those water supplies. When exercising its statutory powers, a district's governing board of necessity has considerable discretion to decide what is in the best interest of the population it serves.

SCVWA staff contracted with Kennedy Jenks to prepare the Draft WSA for the Lyons Canyon Development. The Draft WSA is included as Exhibit 1 to the attached resolution. The WSA is largely based on the 2020 UWMP with some noted updates to reflect the (1) revised timing for recovery of capacity from certain wells from perchlorate and PFAS contamination and (2) reduced near term average SWP reliability from 58% to 56% as indicated in the recently released SWP Delivery Capability Report. Additionally, the Draft WSA also contains a more in-depth discussion on how climate change and other uncertainties are addressed. Overall, the Draft WSA evaluated the long-term water needs (water demand) within the SCVWA service area and has compared these needs against existing and future water supplies. Demand projections are based on applicable population projections and County and City land use plans,

and account for conservation as well as climate change impacts and other relevant factors. Results indicate that the total projected water supplies available to the SCVWA service area through 2050 during normal, single-dry, and multiple-dry year (5-year drought) periods are sufficient to meet the total projected water demands throughout the Valley including that of the proposed Lyons Canyon Development demand (approximately 234 acre-feet per year); provided that SCVWA continues to utilize available SWP Table A Amounts, and will continue to incorporate conjunctive use (coordinated use of surface water and groundwater), water conservation, water transfers, recycled water, and water banking as part of the total water supply portfolio and management approach to long-term water supply planning and strategy.

The Draft WSA concludes adequate water availability to serve the project is based on a review of numerous water supply planning documents, including the 2020 Urban Water Management Plan, the 2019 California Department of Water Resources Draft State Water Project Delivery Reliability Report and the 2021 SCV Water Reliability Plan Update. All these sources were used to determine current and future supply and were compared with the anticipated water demand including those for the proposed project.

On March 9, 2022, the Water Resources and Watershed Committee considered staff's recommendation to adopt a resolution approving the SB 610 Water Supply Assessment for the Castaic Mountainview Apartment Project.

FINANCIAL CONSIDERATIONS

None.

RECOMMENDATIONS

The Water Resources and Watershed Committee recommends that the Board of Directors adopt the attached resolution approving the Water Supply Assessment for the Lyons Canyon Development and direct staff to forward the WSA to the County of Los Angeles Department of Regional Planning.

RGV

Attachment

M65

RESOLUTION NO. _____

RESOLUTION OF THE BOARD OF DIRECTORS OF THE SANTA CLARITA VALLEY WATER AGENCY ADOPTING THE SB 610 WATER SUPPLY ASSESSMENT FOR THE LYONS CANYON DEVELOPMENT (COUNTY PROJECT NO. 2021-001195)

WHEREAS, the Santa Clarita Valley Water Agency (SCVWA) provides retail water service to portions of the City of Santa Clarita and to unincorporated portions of Los Angeles County in the Santa Clarita Valley; and

WHEREAS, the SCVWA is a "public water system" as defined by California Government Code section 66473.7(a)(3) and California Water Code section 10912 and may receive requests from time to time to prepare a Water Supply Assessment pursuant to Water Code section 10910 et seq. (commonly referred to as SB 610) and/or a Water Supply Verification pursuant to Government Code section 66473.7 (commonly referred to as SB 221); and

WHEREAS, the SCVWA received a request from the Department of Regional Planning of the County of Los Angeles for SCVWA to prepare a Water Supply Assessment for the County's "Project No. 2021-001195 for Tentative Tract Map No. 83301", otherwise referred to as the Lyons Canyon Development (the Project), where the County is the lead agency for the Project under the California Environmental Quality Act (CEQA) and the County is responsible for all land use decisions related to the Project; and

WHEREAS, the Project is within SCVWA's service area, and therefore SCVWA is the public water system to provide water service to the Project; and

WHEREAS, pursuant to the County's request for SCVWA to prepare a Water Supply Assessment for the Project, SCVWA has prepared a Water Supply Assessment for the Project in accordance with the requirements of Water Code section 10910 et seq.

NOW THEREFORE, BE IT RESOLVED that, the Board of Directors of SCVWA, as the governing body of the Santa Clarita Valley Water Agency, (1) has determined that all of the foregoing Recitals are true and correct and are incorporated herein and made an operative part of this Resolution; (2) has reviewed the Water Supply Assessment for the Project; (3) has determined, exercising its independent judgment, that a "sufficient water supply" is available for the Project based on the requirements of Water Code section 10910 et seq., the information and analyses contained in the Water Supply Assessment, the documentation contained in the administrative record in support of the Water Supply Assessment, and other relevant records on file with SCVWA; and (4) hereby approves the Water Supply Assessment for the Project, a copy of which is attached hereto as Exhibit 1 and incorporated herein by reference.

RESOLVED FURTHER that, the Agency's General Manager or his designee is authorized and directed to forward a copy of the approved Water Supply Assessment to the County of Los Angeles in response to the County's request, and to take any and all actions necessary in furtherance of the matters authorized or contemplated by the foregoing Resolution.

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EXHIBIT 1

Kennedy/Jenks Consultants

2775 N Ventura Rd, Suite 202
Oxnard, CA 93036
805-973-5700

Water Supply Assessment

The Trails at Lyons Canyon

March 17, 2022

Prepared for

Santa Clarita Valley
Water Agency
27234 Bouquet Canyon Road
Santa Clarita, CA 91350

K/J Project No. 2144219

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List of Acronyms

AF	Acre-Feet
AFY	Acre-Feet Per Year
AIP	Agreement in Principle
AVEK	Antelope Valley East-Kern Water Agency
Bay-Delta	San Francisco Bay/Sacramento-San Joaquin Delta Estuary

BO	Biological Opinion
BVWSD	Buena Vista Water Storage District
Cal OES	California Office of Emergency Services
CASGEM	California Statewide Groundwater Elevation Monitoring
CCR	California Code of Regulations
CCWA	Central Coast Water Authority
CEC	California Energy Commission
CESA	California Endangered Species Act
CEQA	California Environmental Quality Act
CEPA	California Environmental Protection Agency
CDFW	California Department of Fish and Wildlife
cfs	Cubic Feet Per Second
CII	Commercial, Industrial, Institutional
CLWA	Castaic Lake Water Agency
CNRA	California National Resources Agency
COA	Coordinated Operation Agreement
CORPS	Corps of Engineers
CVP	Central Valley Project
BPD	Disinfection By-Products
DCP	Delta Conveyance Project
DCP	Delivery Capability Report
DDW	Division of Drinking Water
DFW	Department of Fish and Wildlife
DLR	Detection Level for Reporting
DPH	California Department of Public Health
DPR	Direct Potable Reuse
DSS	Decision Support System
DTSC	Department of Toxic Substances Control
DWR	Department of Water Resources
FBR	Fluidized Bed Reactor
FWS	Fish and Wildlife Service
GSA	Groundwater Sustainability Agency
GSP	Groundwater Sustainability Plan
GWMP	Groundwater Management Plan
HET	High Efficiency Toilets

HEU	High Efficiency Urinals
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
ESA	Endangered Species Act
FBR	fluidized bed reactor
GIS	Geographic Information System
HAA5	Haloacetic Acids
KCWA	Kern County Water Agency
IRWMP	Integrated Regional Water Management Plan
LACWWD 36	Los Angeles County Water Works District 36
LARWQCB	Los Angeles Regional Water Quality Control Board
MAF	Million Acre-Feet
MGD	Million Gallons per Day
MGL	Micrograms per Liter
MOU	Memorandum of Understanding
NCWD	Newhall County Water District
NEPA	National Environmental Policy Act
Ng/L	nanograms per liter
NL	Notification Level
NLF	Newhall Land and Farming
NMFS	National Marine Fisheries Service
NPDES	National Pollutant Discharge Elimination System
NOP	Notice of Preparation
NWD	Newhall Water Division
OAL	Office of Administrative Law
OVOV	One Valley One Vision
PFAS	Per- and Polyfluoroalkyl Substances
PFOA	Perfluorooctonic acid
PFOS	Perflurooctane sulfonate
PWAs	Public Water Agencies
RL	Response Level
RRBWSD	Rosedale Rio-Bravo Water Storage District
RWMP	Recycled Water Management Plan
SATP	Saugus Aquifer Treatment Plant
SB	Senate Bill

SCWD	Santa Clarity Water Division
SCVSD	Santa Clarita Valley Sanitation District
SCV Water	Santa Clarita Valley Water Agency
Semitropic	Semitropic Water Storage District
SGMA	Sustainable Groundwater Management Act
SLDMWA	San Luis & Delta Mendota Water Authority
SNMP	Salt and Nutrient Management Plan
SOC	Synthetic organic compounds
SWRCB	State Water Resources Control Board
SWP	State Water Project
SWRU	Stored Water Recovery Unit
THMS	Trihalomethanes
TTHMs	Total Trihalomethanes
TMDL	Total Maximum Daily Load
TOC	Total Organic Carbon
USCR	Upper Santa Clara River
VOC	Volatile Organic Compound
WMT	Water Management Tools
WQOs	Water Quality Objectives
WSA	Water Supply Assessment
WUESP	Water Use Efficiency Strategic Plan
ug/L	micrograms per liter
UIF	Unimpaired Flow
UWCD	United Water Conservation District
USEPA	United State Environmental Protection Agency
USBR	United States Bureau of Reclamation
UWMP	Urban Water Management Plan
UV	Ultra-Violet
WKWD	West Kern Water District
WQR	Water Quality Report
WRP	Water Reclamation Plant
VWC	Valencia Water Company
VWD	Valencia Water Division

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Section 1: Introduction

1.1 Background

This Water Supply Assessment (WSA) has been prepared by the Santa Clarita Valley Water Agency (SCV Water) for The Trails at Lyons Canyon Project (Project), a residential and recreational community located between The Old Road and Sagecrest Circle in the unincorporated community of Stevenson Ranch, in the Santa Clarita Valley in Los Angeles County, California. The WSA is prepared pursuant to the requirements of California Water Code Sections 10910, et seq., commonly known as Senate Bill 610 (SB 610; Costa; Chap. 643, Stats. 2001) and has been further amended from time to time.

SB 610 amended state law, effective January 1, 2002, to improve the link between information on water supply availability and certain land use decisions made by cities and counties. SB 610 requires that the water purveyor of a public water system prepare a water supply assessment to be included in the environmental documentation of certain proposed projects.

Once a city or county determines that a project, as defined by California Water Code section 10912, is subject to the California Environmental Quality Act, Public Resources Code section 21000, et seq. (CEQA), SB 610 requires the city or county to identify a public water system that may supply water for the project, and request that the public water system prepare a water supply assessment.[1]

A "public water system" is defined by the Water Code to mean "a system for the provision of piped water to the public for human consumption that has 3,000 or more service connections." SCV Water serves piped water to the public (i.e., residents of the Santa Clarita Valley) within its current service area, and the area includes about 73,542 service connections in the City of Santa Clarita and in the unincorporated Los Angeles County communities. As a result, SCV Water is the "public water system" for the purposes of this WSA.

As noted above, a WSA is required for any "project" as defined by Water Code Section 10912 that is subject to CEQA. In this case, the Project proposes, among other things, a residential development of more than 500 dwelling units, and therefore a WSA is required.[2] SCV Water is the retail purveyor for the Project site, and thus SCV Water is required to prepare a WSA for the Project, pursuant to a request by CEQA lead agency the County of Los Angeles.[3]

1.2 Purpose

The general purpose of a WSA is to evaluate the following question:

> *Whether the public water system's total projected water supplies available during normal, single-dry, and multiple-dry water years during a 20-year projection will meet the*

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1 California Water Code §§ 10910(b), 10910(c)(1).

2 Water Code § 10912(a)(1). This section also includes other types of development that are defined as a "project" by this section of the code.

3 Water Code § 10910(b).

projected water demand of the Project, in addition to the public water system's existing and planned future uses, including agricultural and manufacturing uses.[4]

If, as a result of its WSA, the public water system concludes that its water supplies are or will be insufficient, the public water system must provide to the applicable land use authority its plans for acquiring additional water supplies, setting forth the measures being undertaken to acquire and develop those supplies.[5] The WSA must include, among other information, an identification of any existing water supply entitlements, water rights, or water service contracts relevant to the identified water supply for the project, and water received in prior years by the public water system pursuant to those entitlements, rights, or contracts.[6]

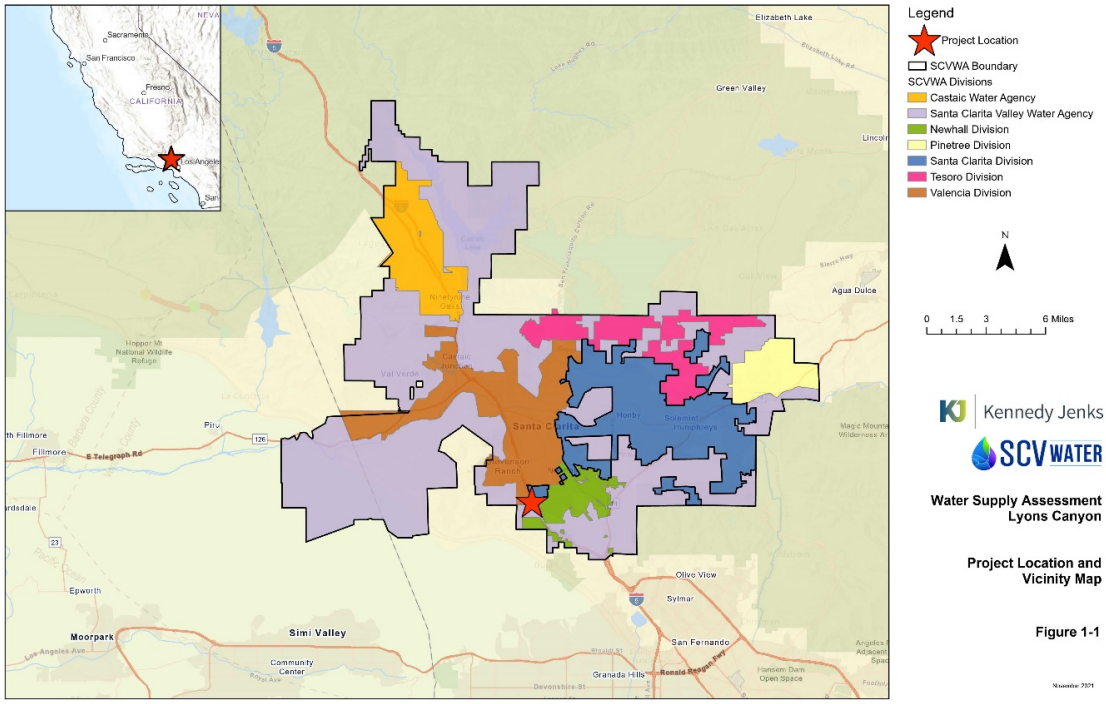
The WSA is required to be included in any environmental document prepared for the project pursuant to CEQA.[7] In this case, the County of Los Angeles is the lead agency under CEQA, and it has determined that an Environmental Impact Report (EIR) is required for the Project; thus, this WSA will be included as part of the Lyon Canyon Draft EIR. This WSA evaluates water supplies that are or will be available during normal, single-dry, and multiple-dry water years during a 30-year projection to meet existing demands, expected demands of the Project, and reasonably foreseeable planned future water demands served by SCV Water.

1.3 Project Description

The Trails at Lyons Canyon Project (Vesting Tentative Tract Map No. 083301) is located near the southwest corner of Sagecrest Circle and The Old Road, in the unincorporated territory of the County of Los Angeles, California as shown in Figure 1-1. The Trails at Lyons Canyon Project is located on 233 acres and will be developed in six planning areas. The Project consists of up to 517 dwelling units in 2-3 story detached condominiums, Forty-three (43) 3-story affordable senior apartments, a community recreation area, drainage basins, and a site for a future fire station. A detailed Project Site Plan is included in Appendix A.

4 Water Code § 10910(c).
5 Water Code § 10911(a).
6 Water Code § 10910(d).
7 Water Code § 10911(b).

FIGURE 1-1 PROJECT LOCATION MAP



1.4 Santa Clarita Valley Water Agency

SCV Water is located in the northwestern portion of Los Angeles County. SCV Water is the regional water wholesaler and retailer for the Santa Clarita Valley. The Project site is located within SCV Water's service area and therefore, SCV Water is the water supplier for the Project.

SCV Water's service area includes nearly the entire city of Santa Clarita and unincorporated portions of Los Angeles County. SCV Water's current service area includes a mix of residential and commercial, and light industrial land uses, mostly comprised of single-family homes, apartments, condominiums, and several local shopping centers and neighborhood commercial developments. SCV Water serves approximately 73,542 service connections. SCV Water generally meets potable water demands using a mix of local groundwater, banked groundwater supplies, imported State Water Project (SWP) water and other imported supplies. Recycled water is delivered to some customers for non-potable uses, such as landscape irrigation.

The1-12round1-121-121-12ter basin in the Santa Clarita Valley is un-adjudicated, meaning that SCV Water does not have specific adjudicated, or defined, water rights or specific limitations that dictate its water supply. However, in practice, SCV Water assesses available groundwater supplies pursuant to appropriative groundwater rights in the basin and in accordance with a groundwater operating plan developed by SCV Water and other retail water purveyors in the Santa Clarita Valley and complemented by analyses based on a numerical groundwater flow model of the basin. SCV Water is also a member of the Santa Clarita Valley Groundwater

Sustainability Agency (SCV-GSA) for the Santa Clara River East Subbasin. In preparing the basin's Groundwater Sustainability Plan (GSP), it conducted additional numeric modeling that further refined the groundwater operating plan for the basin as further discussed in Section 3.3.2.1.

1.4.1 Water Management Within SCV Water

SCV Water was formed on January 1, 2018, when the Castaic Lake Water Agency (CLWA), which included Santa Clarita Water Division (SCWD) and Newhall County Water District (NCWD), merged to become a single agency pursuant to state legislation (SB 634, Chapter 833 2017). Later in January 2018, Valencia Water Company (VWC) was dissolved, and its assets were transferred to SCV Water. The SCV Water service area is shown on Figure 1-1. The formation of SCV Water occurred through a collaborative process. Until the merger, CLWA served as the regional wholesaler to the Santa Clarita Valley, encompassing a service area of 195 square miles in Los Angeles and Ventura Counties. SCV Water now serves the same service area and is made up of three water divisions with separate but interconnected distribution systems: NWD, SCWD, and VWD. Those divisions cover nearly the entire City of Santa Clarita and unincorporated portions of Los Angeles County. In addition, SCV Water serves as a wholesale water provider to LACWWD 36 whose service area includes the Hasley Canyon and the Val Verde communities in the Los Angeles County unincorporated area. LACWWD 36, which is in the SCV Water service area, relies primarily on its own groundwater. SCV Water provides imported water as a supplemental supply.

1.5 2020 Urban Water Management Plan

Pursuant to SB 610 requirements, if the projected water demand associated with the proposed project was accounted for in the most recently adopted Urban Water Management Plan (UWMP),[8] then relevant information from that document may be incorporated into the WSA. The 2020 UWMP was adopted by the SCV Water Board of Directors in June 2021 and filed with DWR.[9] It is noted that since the 2020 UWMP was submitted to DWR in 2021, additional information has become available which staff incorporated into this WSA. These updates primarily reflect revised SWP reliability data, that became available from the December 31, 2021 Draft SWP Delivery Capability Report (DCR) (see Section 3.2.7 SWP Water Supply Estimate).as well as updated planning, construction and permitting schedule for several groundwater well recovery projects (see Section 3.3.2.3 Available Groundwater Supplies) The 2020 UWMP information was therefore updated to provide the SCV Water Board with the most current information when it considers adoption of this WSA.

The 2020 UWMP is a planning document covering the SCV Water service area. The 2020 UWMP encouraged extensive public participation that included information dissemination; public workshops, meetings, and hearings; plan adoption; and plan submittal to DWR. The 2020 UWMP includes the following ten major sections:

Section 1: Introduction
Section 2: Water Use

[8] California Urban Water Management Planning Act (UWMP Act), Water Code § 10610, et seq.
[9] The 2020 UWMP, Section 1.

Section 3: SBX7-7 Baseline, Targets, and 2020 Compliance
Section 4: Water Resources
Section 5: Recycled Water
Section 6: Water Quality
Section 7: Reliability Planning
Section 8: Demand Management Measures
Section 9: Catastrophic Interruptions in Water Service
Section 10: References

Consistent with the UWMP Act, the 2020 UWMP accomplishes water supply planning over the required 20-year period in five-year increments. While not required, SCV Water exceeded the requirements of the UWMP Act by including a span of 30 years in the 2020 UWMP, extending out to 2050. The 2020 UWMP identifies and quantifies adequate water supplies for existing and future demands, in normal/average, single-dry, and multiple-dry years, and describes implementation of conservation and efficient use of urban water supplies.

The Project's total projected water demand was accounted for in the 2020 UWMP because the timing of the Project places it within the time frame for calculating "planned future uses" within the 2020 UWMP. Also, in order to estimate demand out to 2050 (assumed year of designated land use-buildout), population and water use projections were made based upon existing land uses and planned land use development compiled for the service area, including the City of Santa Clarita and County of Los Angeles land use plans, also known as the One Valley One Vision general plan (OVOV). The Project is located in the unincorporated area of the County covered by the OVOV. It is SCV Water's understanding that this development is contained in and consistent with the OVOV plan. As the UWMP is based on the housing and commercial development projected in the OVOV plan, the project's water demand has already been incorporated into the existing UWMP demand projections. This information is incorporated by reference in this WSA and can be found on SCV Water's website at https://yourscvwater.com/uwmp/. Demands for the Project are included in Section 2.3 of this WSA.

1.6 SCV Water Policies and Regulatory Approvals/Permits

SCV Water Policies. The Project will be subject to all SCV Water policies that govern development and connection to the SCV Water public water system. As with other projects within its service area, the Project applicant is responsible for making appropriate financial and contractual arrangements with SCV Water to assure the necessary improvements are made to the water supply infrastructure to serve the Project site.

Other Regulatory Approvals/Permits. SCV Water is regulated by the State Water Resources Control Board – Division of Drinking Water (DDW) and must meet rigorous water quality standards. In addition, the Project is located in unincorporated Los Angeles County, therefore LA County will evaluate the Project, conduct extensive environmental oversight, and review, and independently determine the sufficiency of the water supplies to serve the Project site. (Water Code § 10911(b)-(c).) In doing so, the County will determine if the Project will be provided with an acceptable level of water supply based on the criteria set forth in the County's General Plan, because the Project is located within the Santa Clarita Valley, and because it includes a subdivision map application. In making this determination, the County may use water-related

data set forth in documents such as the 2020 UWMP and other information provided by SCV Water.

1.7 Information Used or Relied Upon in Preparing this WSA

This WSA used or relied on information contained in the documents listed below. Documents may be available online or by contacting the SCV Water – Water Resources Department at (661) 297-1600. The documents are part of SCV Water's record for the preparation of this WSA.

- California Department of Water Resources, 2021 Draft State Water Project Delivery Capability Report
- California Department of Water Resources 2019 State Water Project Delivery Capability Report
- California Department of Water Resources. 2018. Delta Flood Emergency Plan.
- California Department of Water Resources. 2018a. Guidance for Climate Change Data Use During Groundwater Sustainability Plan Development
- California Department of Water Resources. November 2011. "Climate Change Handbook for Regional Water Planning"
- California Department of Water Resources, 2016. Bulletin 118 – Update 2016
- California Department of Water Resources and the Army Corps of Engineers, 2019. Delta Emergency Integration Plan.
- California Department of Water Resources Climate Change Technical Advisory Group (CCTAG). 2015. Producing Scientific and Strategic Guidance for California's Department of Water Resources
- California Division of Drinking Water, November 1997. Policy Memo 97-005: Policy Guidance for Direct Domestic Use of Extremely Impaired Sources
- California Ocean Protection Council. 2018. Sea-Level Rise Guidance
- California Office of Emergency Services (Cal OES). 2018. Northern California Catastrophic Flood Response Plan
- California State Water Resources Control Board, 2000. Revised Water Right Decision 1641
- Carollo Engineers, June 2015. Santa Clarita Valley Water Agency Water Resources Reconnaissance Study
- CH2M Hill, 2004a. Regional Ground water Flow Model for the Santa Clarita Valley, Model Development and Calibration
- CH2M Hill, 2004 b. Analysis of Perchlorate Containment in Ground water Near the Whittaker-Bermite Property, Santa Clarita, California, Prepared in support of the 97-005 Permit Application
- CH2M Hill, 2005a. Technical Memorandum, Calibration Update of the Regional Ground Water Flow Model for the Santa Clarita Valley, Santa Clarita, California
- CH2M Hill and Luhdorff & Scalmanini, Consulting Engineers, 2005. Analysis of Ground Water Basin Yield, Upper Santa Clara River Groundwater Basin, East Subbasin, Los Angeles County, California, prepared for Upper Basin Water Purveyors
- Geoscience. 2014. Salt and Nutrient Management Plan for the Upper Santa Clara River Groundwater Basin Volumes 1 and 2
- Geosyntec Water Supply Reliability Plan, 2021

- GSI Water Solutions (GSI), Inc. 2022. Santa Clara River Valley East Groundwater Sustainability Plan
- GSI Water Solutions (GSI), Inc. 2020a. Water Budget Development for the Santa Clara River Valley East Groundwater Subbasin, Draft Technical Memorandum
- GSI Water Solutions, Inc. 2020. Development of a Numerical Groundwater Flow Model for the Santa Clara River Valley East Groundwater Subbasin
- GSI & LSCE. 2014. Draft Report: Perchlorate Containment Plan for Well V201 and Saugus Formation Groundwater in the Santa Clarita Valley (Task 3 of the Well V201 Restoration Program)
- Kennedy/Jenks Consultants. 2021. Santa Clarita Valley Water Agency Groundwater Treatment Implementation Plan
- Kennedy/Jenks Consultants. 2021. Santa Clarita Valley 2020 Urban Water Management Plan
- Kennedy/Jenks Consultants. 2002. Recycled Water Master Plan Update
- Kennedy/Jenks Consultants. 2016a. Recycled Water Master Plan Update
- Kennedy/Jenks Consultants. 2016b. Santa Clarita Valley Recycled Water Rules and Regulations Handbook
- Kennedy/Jenks Consultants. 2015. Final Preliminary Design Report for the Recycled Water System Phase 2B
- Kennedy/Jenks Consultants. 2014 and 2018 Update. Integrated Regional Water Management Plan for the Upper Santa Clara River Region
- Los Angeles Regional Water Quality Control Board (LARWQCB). 1994. Water Quality Control Plan: Los Angeles Region Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties, 2020 version
- Luhdorff & Scalmanini, Consulting Engineers, 2021. 2020 Santa Clarita Valley Water Report
- Luhdorff & Scalmanini, Consulting Engineers, 2020. 2019 Santa Clarita Valley Water Report
- Luhdorff & Scalmanini and GSI Water Solutions. August 2009. Analysis of Ground Water Supplies and Ground water Basin Yield, Upper Santa Clara River Ground Water Basin, East Subbasin
- Luhdorff and Scalmanini, 2005. Consulting Engineers, Impact and Response to Perchlorate Contamination, Valencia Water Company Well Q2, prepared for Valencia Water Company
- Luhdorff & Scalmanini, Consulting Engineers, December 2003. Ground Water Management Plan for the Santa Clara Valley Ground Water Basin, East Subbasin
- M&N. 2007. Levee Repair, Channel Barrier and Transfer Facility Concept Analyses to Support Emergency Preparedness Planning
- Maddaus Water Management (MWM), Inc. 2021. Draft 2021 SCV Demand Study: Land-Use-Based Demand Forecast Analysis
- Maddaus Water Management (MWM), Inc. 2016. SCV Demand Study Update: Land-Use Based Demand Forecast, Final Technical Memorandum No.2
- Maddaus Water Management (MWM), Inc. 2015. SCV Family of Water Supplies Water Use Efficiency Strategic Plan
- Richard C. Slade & Associates, LLC,2001 Update Report, Hydrogeologic Conditions in the Alluvial and Saugus Formation Aquifer Systems, prepared for Santa Clarita Valley Water Purveyors, July 2002

- Sanitation Districts of Los Angeles County, 2013. Santa Clarita Valley Sanitation District Chloride Compliance Facilities Plan and Environmental Impact Report
- Santa Clarita Valley Water Agency (SCVWA). 2021. Water Supply Reliability Plan Update, prepared by Geosyntec
- Santa Clarita Valley Water Agency (SCVWA). 2021. 2020 Urban Water Management Plan for Santa Clarita Valley Water Agency
- Santa Clarita Valley Water Agency (SCVWA). 2021. Final Water Shortage Contingency Plan
- Santa Clarita Valley Water Agency (SCVWA), July 2015. Castaic Lake Water Agency 2015 Strategic Plan, 2017 Addendum
- Sites Program Management Team. 2020. Sites Reservoir Value Planning Report
- Slade, R. C. Hydrogeologic Assessment of the Saugus Formation in the Santa Clara Valley of Los Angeles County, California, Vols. I and II, prepared for Castaic Lake Water Agency,1988
- Slade, R. C. Hydrogeologic Investigation of Perennial Yield and Artificial Recharge Potential of the Alluvial Sediments in the Santa Clarita River Valley of Los Angeles County, California, Vols. I and II, prepared for Upper Santa Clara Water Committee, 1986
- Wang, Jianzhong, Hongbing Yin, Erik Reyes, Tara Smith, Francis Chung (California Department of Water Resources). 2018. Mean and Extreme Climate Change Impacts on the State Water Project. California's Fourth Climate Change Assessment. Publication number: CCCA4-EXT-2018-004
- Woodard and Curran, 2021. Recycled Water Seasonal Storage Study Technical Memo, January 14, 2021
- Santa Clarita Valley Water Agency State Water Contract with the Department of Water Resources (DWR)
- Santa Clarita Valley Water Agency 2014, Agreement in Principle with the Department of Water Resources for extension of contracts, September 12, 2014
- Department of Water Resources Contract Extension Amendment, February 2019
- Santa Clarita Valley Water Agency 2015, Agreement with Ventura County for use of their Flexible Storage Account
- Department of Water Resources Coordinated Operations Agreement with the Bureau of Reclamation, 1986
- Department of Water Resources Addendum to the Coordinated Operations Agreement with the Bureau of Reclamation, December 2018
- Santa Clarita Valley Water Agency Transfer Agreement with Buena Vista Water Storage District and Rosedale Rio Bravo Water Storage District
- Santa Clarita Valley Water Agency 2018, Yuba Accord Agreement
- Santa Clarita Valley Water Agency Two-for-One Water Exchange Program with Antelope Valley-East Kern Water Agency (AVEK), 2019
- Santa Clarita Valley Water Agency Two-for-One Water Exchange Program with United Water Conservation District, 2019
- Santa Clarita Valley Water Agency Agreement with Semitropic Water Storage District for participation in the Storage Water Recovery Unit (SWRU), 2015
- Santa Clarita Valley Water Agency Water Banking and Exchange Program Agreement with Rosedale Rio Bravo Water Storage District, 2005-2015

- Santa Clarita Valley Water Agency contract with the Santa Clarita Valley Sanitation District
- Santa Clarita Valley Water Agency, Biennial Budget for FY 2021/22, and FY 2022/23

Section 2: Historical and Projected Water Demands

This section describes historical and projected water use in the SCV Water service area and the methodology used to project future demands within SCV Water service area. In order to estimate demand out to 2050 (assumed year of designated land use-buildout), population and water use projections were made based upon existing land uses and planned land use development compiled for the service area, including the City of Santa Clarita and County of Los Angeles land use plans, also known as the One Valley One Vision general plan (OVOV). The Lyon Canyon project is located in the unincorporated area of the county covered by the OVOV. It is SCV Water's understanding that this development is contained in and consistent with the OVOV plan. As the UWMP is based on the housing and commercial development projected in the OVOV plan, the project's water demand has already been incorporated into the existing UWMP demand projections. In addition, weather and water conservation effects on water usage were considered for this WSA consistent with the approach of the 2020 UWMP.

2.1 Existing and Projected SCV Water Demands

As part of the 2020 UWMP update, 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 were made to accurately project water use over the next 30 years. The demand projections include econometric modeling and plumbing code changes and assume that water conservation programs will continue to be implemented. Climate change impacts on demands were assessed and incorporated in the demand projections. These projections were based on the 2021 Maddaus Technical Memorandum, which serves as the land-use demand forecast for SCV Water and its service area. The historical potable water demands for SCV Water's service area are shown in Table 2-1 and graphically in Figure 2-1. The current water use in SCV Water's service area (2020) is shown in Table 2-2.

TABLE 2-1 HISTORICAL WATER USE IN THE SCV WATER SERVICE AREA (AF)[(a)]

Year	SCV Water	LACWWD 36[(b)]	Total
1995	45,196	477	45,673
1996	49,614	533	50,147
1997	53,388	785	54,173
1998	48,280	578	48,858
1999	56,596	654	57,250
2000	60,188	800	60,988
2001	59,784	907	60,691
2002	67,156	1,069	68,225
2003	66,272	1,175	67,447
2004	71,062	1,234	72,296
2005	69,568	1,200	70,768
2006	72,837	1,289	74,126
2007	76,086	1,406	77,492
2008	74,546	1,354	75,900
2009	68,731	1,243	69,974

Year	SCV Water	LACWWD 36[(b)]	Total
2010	62,925	1,141	64,066
2011	63,633	1,172	64,805
2012	68,447	1,265	69,712
2013	72,164	1,296	73,460
2014	66,936	1,242	68,178
2015	53,515	976	54,491
2016	56,916	1,050	57,966
2017	62,461	1,094	63,555
2018	64,011	1,209	65,220
2019	59,098	979	60,077
2020	64,734	1,262	65,996

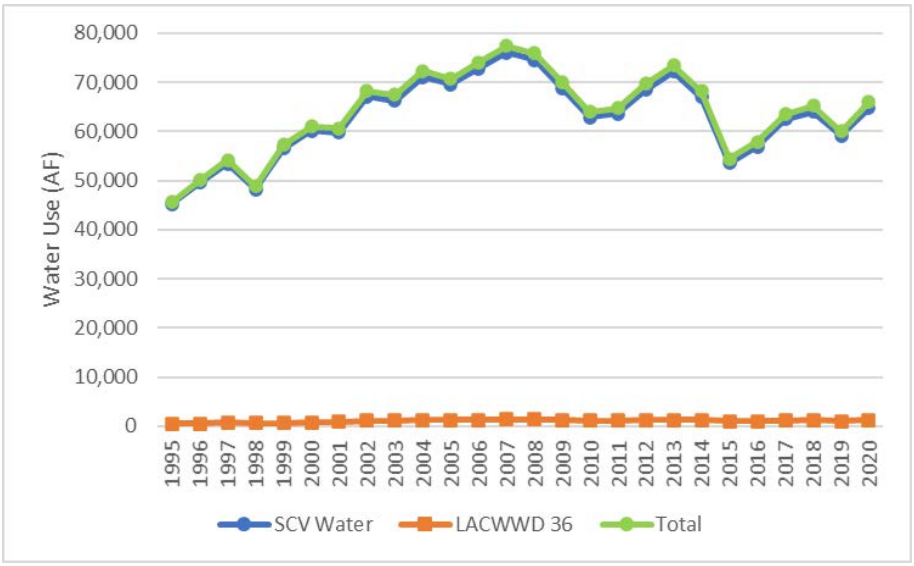
Source: 2019 Santa Clarita Valley Water Report (July 2020) and 2020 data provided by SCV Water and LACWWD 36.

Notes:

(a) Total potable and non-potable water use.

(b) LACWWD 36 is included for purposes of providing regional completeness; however, it is not required to prepare an UWMP.

FIGURE 2-1 HISTORICAL WATER USE IN THE SCV WATER SERVICE AREA (AF)[(a)]



(a) Source: 2019 Santa Clarita Valley Water Report (July 2020) and 2020 data provided by SCV Water and LACWWD 36.
Note: Water use shown here includes potable and non-potable (recycled water) use. Recycled water makes up less than 1 percent of total use.

TABLE 2-2
SUMMARY OF WATER SUPPLIES USED IN 2020 (AF)

	2020[(a)]
Existing Groundwater	
Alluvial Aquifer	7,571
Saugus Formation	9,761
Total Groundwater[(b)]	**17,332**
Recycled Water	
Total Recycled	**468**
Imported Water	
State Water Project	14,587
Buena Vista-Rosedale	11,000
Yuba Accord Water	284
Total Imported	**25,871**
Existing Banking and Exchange Programs	
Rosedale Rio-Bravo Bank	1,600
Semitropic Bank	5,000
Rosedale Rio-Bravo Exchange	14,451
Antelope Valley East Kern Water Agency Exchange	1,406
West Kern Exchange	500
Total Bank/Exchange	**22,957**
Total Supplies	**66,630**

Notes:
(a) Actual 2020 supplies utilized.
(b) Reflects temporary greater pumping of Saugus Formation to mitigate for lost Alluvial Aquifer pumping pending installation of PFAS treatment described in Tables 3-4A, 3-4B, 3-4C, 3-5A, 3-5B and 3-5C. Additional details on water quality impacts to groundwater supply availability is provided in Section 3.3.

2.2 Projected Water Use

The demand projections for the SCV Water service area have been estimated through 2050. For the UWMP, a land use-based approach was used (which incorporates information from a population-based approach) because such an approach can further reflect assumptions regarding how future development is planned. It can also demonstrate how water usage patterns have evolved from what they were in the past as the Santa Clarita Valley approaches buildout.

2.2.1 Potable Water Use Projections

Potable water use projections are based on a combination of SCV Water and LACWWD 36 demands. For SCV Water's three retail water divisions, the potable demand forecast was determined from land-use-based estimates from 2020 through 2050 (buildout). The land use-based estimates were determined in a land use analysis that compiled data from planned

development contracts and the OVOV General Plan. In general, the land use analysis leveraged the following information:

- Estimated dwelling units provided by City of Santa Clarita and Los Angeles County Planning Department,
- Land use-based GIS map shape files from City of Santa Clarita and Los Angeles County planners for determining the appropriate number of dwelling units and non-residential building area,
- Queries from GIS maps to determine dwelling units were multiplied by persons per household from the U.S. Census appropriate to each retailer's service area,
- Monthly billing data by customer category (single-family, multi-family, non-residential, etc.),
- Climate and economic adjustment factors for normalizing demands, and
- Future demand factors.

The LACWWD 36 potable demand projections relied on a population-based approach using OVOV-based population estimates. Based on these estimates for SCV Water and LACWWD 36, potable demand projections were developed using a Least Cost Planning Decision Support System Model (DSS Model), which incorporates econometric-based adjustments to better develop an accurate forecast through the year 2050. The DSS Model accounts for existing and future potable water consumption by water customers and estimated passive and active water conservation savings. Demand adjustments include accounting for climate change, drought rebound, weather normalization, work-at-home trends, and overwatering/irrigation equipment efficiency degradation.

In addition, recent legislation provides that, where available, demand projections "shall" display and account for the water savings estimated to result from adopted codes, standards, ordinances, or transportation and land use plans identified by the urban water supplier, as applicable to the service area. If such information is reported, the assessment will provide citations of the various codes, standards, ordinances, or transportation and land use plans utilized in making the projections. The UWMP must indicate the extent that the demand projections consider savings from codes, standards, ordinances, or transportation and land use plans (referred to as savings from passive conservation).

The demand forecast conducted for the UWMP accounts for savings from passive conservation and active conservation. Passive conservation savings focus on plumbing code change impacts on indoor fixtures and include the following laws, codes, and regulations:

- National Plumbing Code (also known as the Energy Policy Act) – Passed in 1992, has long required more efficient plumbing fixtures to be for sale throughout the United States.

- Assembly Bill (AB) 715 – California Plumbing Code includes the new California Code of Regulations (CCR) Title 20 Appliance Efficiency Standards requiring High Efficiency Toilets and High Efficiency Urinals to be exclusively sold in the state by January 1, 2014.

- SB 407 and SB 837 – SB 407 addresses plumbing fixture retrofits on resale or remodel, requiring single family residential property owners of pre-1994 buildings or dwelling units to replace existing plumbing fixtures with water conserving fixtures by 2017 and multi-family and commercial property owners of pre-1994 buildings to replace fixtures by 2019. It also requires all owners to upgrade existing buildings upon any remodel initiated after January 1, 2014, and authorizes the enactment of local ordinances for greater water savings. SB 837 (enacted in 2011) requires that sellers of real estate property disclose on their Real Estate Transfer Disclosure Statement whether their property complies with these requirements. Both laws are intended to accelerate the replacement of older, low efficiency plumbing fixtures, and ensure that only high efficiency fixtures are installed in new residential and commercial buildings.

- 2019 CALGreen and 2015 California Code of Regulations Title 20 Appliance Efficiency Regulations – Fixture characteristics in the DSS Model are tracked in new accounts, which are subject to the requirements of the 2019 California Green Building Code and 2015 California Code of Regulations Title 20 Appliance Efficiency Regulations adopted by the California Energy Commission (CEC) on September 1, 2015. The CEC 2015 appliance efficiency standards apply to the following new appliances, if they are sold in California: showerheads, lavatory faucets, kitchen faucets, metering faucets, replacement aerators, wash fountains, tub spout diverters, public lavatory faucets, commercial pre-rinse spray valves, urinals, and toilets. The DSS Model accounts for plumbing code savings due to the effects these standards have on showerheads, faucet aerators, urinals, toilets, and clothes washers.

- AB 1881 – State Model Water Efficient Landscape Ordinance adopted by the City of Santa Clarita effective January 1, 2010; improves efficiency in water use in new and existing urban irrigated landscapes.

The conservation savings analysis includes SCV Water's current active water conservation measures and also passive water savings such as indoor plumbing code measures as follows:

- Fixture Retrofit on Resale or Water Account Change*
- New Development Submetering*
- Landscape & Irrigation Codes*
- Water Waste Implementation
- AMI
- Real Water Loss Reduction
- Education
- Water Smart Workshop Credit
- Landscape Transformation Incentives
- Smart Controller Rebates
- Irrigation Incentives
- Irrigation Check-Ups
- Pool Cover Rebates
- Residential Check-Ups
- Hot Water on Demand Rebate
- CII Check-Ups
- CII HET and HEU Rebates
- High Efficiency Fixture Giveaway
- Schools Retrofits

This active conservation methodology is an update from SCV Water's 2016 Water Use Efficiency Strategic Plan (WUESP) and the 2015 UWMP analysis.

Table 2-3 provides a summary of the projected total water use for the SCV Water service area in a normal/average water year. Table 2-4 provides projected demands in a single-dry year and Table 2-5 provides demands in a multiple-dry year.

Additional details of the demand projections analysis are provided in the 2021 Maddaus Technical Memorandum (Maddaus 2021).

TABLE 2-3 SCV WATER PROJECTED NORMAL/AVERAGE YEAR DEMANDS (AFY)[(a)(b)]

Year	2025	2030	2035	2040	2045	2050
Total Water Use	76,400	81,700	88,700	93,600	97,500	101,000

Source: Maddaus Water Management (MWM), Inc. 2021. Draft 2021 SCV Demand Study: Land-Use-Based Demand Forecast Analysis. April. Table 5 Estimated total demand with active conservation and plumbing code savings. Demands include climate change and recycled water.

[a] LACWWD 36 is included for purposes of providing regional completeness; however, it is not required to prepare an UWMP.

[b] Demands include the Lyon Canyon Project.

TABLE 2-4 SCV WATER PROJECTED SINGLE-DRY YEAR DEMANDS (AFY) [(a)(b)(c)]

Year	2025	2030	2035	2040	2045	2050
Total Water Use	81,000	86,600	94,000	99,200	103,400	107,100

Source: WSA5-3. Demands include savings from plumbing code and standards, and active conservation. Demands account for estimated increase from climate change.

[a] LACWWD 36 is included for purposes of providing regional completeness; however, it is not required to prepare an UWMP.

[b] Demands include the Lyon Canyon Project

[c] Demands assume a 6% increase above normal demand during dry years.

TABLE 2-5 SCV WATER PROJECTED MULTIPLE-DRY YEAR DEMANDS (AFY) [(a)(b)(c)]

Year	2025	2030	2035	2040	2045	2050
Total Water Use	77,830	83,620	90,570	95,780	99,670	102,870

Source: WSA Table 5-4.

[a] LACWWD 36 is included for purposes of providing regional completeness; however, it is not required to prepare an UWMP.

[b] Demands include the Lyon Canyon Project.

[c] Demands are weather adjusted for dry 1988-1992 hydrology.

2.3 The Trails at Lyon Canyon Demands

Using SCV Water's water demand factors from the 2021 Maddaus Technical Memorandum, the total estimated water demand for the Project at build-out is approximately 234 acre-feet per year (AFY) in an average/normal year. Water demand for the Project at build-out may increase by

approximately six percent in a single dry year to a total of 248 AFY and approximately two percent in multiple dry years to a total of 239 AFY, consistent with projections from SCV Water's 2020 UWMP. The total estimated water demand for the Project at build-out is summarized in Table 2-6 below.

TABLE 2-6 WATER DEMAND ESTIMATES - THE TRAILS AT LYONS CANYON

Projected Normal/Average Year Demands

Unit	# of units	Unit Type	Demand (AFY)
Multi-Family Condominium	517	Dwelling Unit	102.51
MF Condo Landscape	31.9	Acres	100.17
Misc Landscaped Areas	2	Acres	6.28
Senior Apartment	36	Dwelling Unit	3.77
Fire Station	60.1	TSF	13.94
Recreation Center	29.6	TSF	6.86
Total Average Year Demands (AFY)			**234**
Projected Single Dry Year Demands (AFY)			**248**
Projected Multiple Dry Year Demands (AFY)			**239**

Section 3: Existing and Projected Water Supplies

Water Code Section 10910(b) requires a WSA to identify any existing water supply entitlements, water rights, or water service contracts relevant to the identified water supply for the Project and describe the quantities of water received in prior years by the public water system. The identification of existing water supply entitlements, water rights, or water service contracts held by the public water system must be demonstrated by providing information related to the following:

1. Written contracts or other proof of entitlement to an identified water supply;
2. Copies of a capital outlay program for financing the delivery of a water supply that has been adopted by the public water system;
3. Federal, state, and local permits for construction of necessary infrastructure associated with delivering the water supply; and
4. Any necessary regulatory approvals that are required in order to be able to convey or deliver the water supply.

In accordance with SB 610 (Water Code Section 10910(d)), Section 2 of the 2020 UWMP (June 2020) and the 2019 Santa Clarita Valley Water Report summarize the total quantity of water used by SCV Water to meet water demand since importation of SWP water began in 1980. Also, Section 1.7, above, contains a list of documents with information related to the identification of the existing water supply entitlements, water rights, or water service contracts relevant to meet the Project's water demand, in addition to the existing and projected water supplies reported in the 2020 UWMP and the most recent 2019 and 2020 Santa Clarita Valley Water Reports.

SCV Water has existing water entitlements, rights, and contracts to meet demand as needed over a 25-year horizon and beyond and has committed sufficient capital resources and planned investments in various water programs and facilities to serve all its existing and planned customers. As discussed herein, SCV Water also has identified an operational strategy combined with a prudent and flexible management approach to ensure water supply reliability.

SCV Water's existing supplies include imported water, local groundwater, recycled water, and water from existing groundwater banking programs. Planned supplies include new groundwater production as well as additional banking programs. The mix of supplies can vary significantly depending on local and statewide hydrology, access to groundwater, and other factors. For example, in 2019, a wet year, imported water supplies made up 58%, groundwater 41%, and recycled water less than 1%. In 2020 dry hydrology and perchlorate and PFAS in local groundwater resulted in groundwater production making up approximately 26% of SCV Water's total supplies, imported water making up 39%, recycled water making up less than 1% of supplies, and existing banking and exchange programs making up approximately 34% of total supplies. A further description of the variability of the mix of supplies is included in Section 5.1 of this WSA.

3.1 Imported Water Supplies

SCV Water's imported water supplies consist primarily of SWP supplies, which were first delivered to SCV Water (CLWA at the time) in 1980. From the SWP, SCV Water also has access to water from Flexible Storage Accounts in Castaic Lake, which are planned for dry-year use, but are not strictly limited as such. In addition to its SWP supplies, SCV Water has an imported supply from the Buena Vista Water Storage District (BVWSD) and Rosedale Rio-Bravo Water Storage District (RRBWSD) in Kern County, which was first delivered to SCV Water (CLWA at the time) in 2007. Additionally, Newhall Land and Farming Company (Newhall Land or NLF) (now also referred to as Five Point) has a water transfer supply from a source in Kern County, referred to as Nickel Water that for planning purposes is anticipated to be available beginning in 2035.

3.2 State Water Project Supplies

3.2.1 SWP Facilities

The SWP is the largest state-built, multi-purpose water project in the country. It was authorized by the California State Legislature in 1959, with the construction of most initial facilities completed by 1973. Today, the SWP includes 28 dams and reservoirs, 26 pumping and generating plants and approximately 660 miles of aqueducts. The primary water source for the SWP is the Feather River, a tributary of the Sacramento River. Storage released from Oroville Dam on the Feather River flows down natural river channels to the Sacramento-San Joaquin River Delta (Delta). While some SWP supplies are pumped from the northern Delta into the North Bay Aqueduct, the vast majority of SWP supplies are pumped from the southern Delta into the 444-mile-long California Aqueduct. The California Aqueduct conveys water along the west side of the San Joaquin Valley to Edmonston Pumping Plant, where water is pumped over the Tehachapi Mountains and the aqueduct then divides into the East and West Branches. SCV Water takes delivery of its SWP water at Castaic Lake, a terminal reservoir of the West Branch. From Castaic Lake, SCV Water delivers its SWP supplies to its customers through an extensive transmission pipeline system.

3.2.2 SWP Water Supply Contract Amendments

SWP Contract and Extension

The Department of Water Resources (DWR) provides water supply from the SWP to 29 SWP Contractors (Contractors) in exchange for Contractor payment of all costs associated with providing that supply. DWR and each of the Contractors entered into substantially uniform long-term water supply contracts (Contracts) in the 1960s with 75-year terms. The first Contract terminates in 2035, and most of the remaining Contracts terminate within three years after that. SCV Water is one of the 29 Contractors that have an SWP Contract with DWR.

The majority of the capital costs associated with the development and maintenance of the SWP is financed using revenue bonds. These bonds have historically been sold with 30-year terms. It has become more challenging in recent years to affordably finance capital expenditures for the SWP because bonds used to finance these expenditures are limited to terms that only extend to the year 2035, fewer than 15 years from now. To ensure continued affordability of debt service to Contractors, it was necessary to extend the termination date of the Contracts to allow DWR to continue to sell bonds with 30-year terms.

Public negotiations to extend the Contracts took place between DWR and the Contractors during 2013 and 2014. An Agreement in Principle (AIP) was reached and was the subject of analysis under the requirements of the CEQA (Notice of Preparation dated September 12, 2014). On December 11, 2018, the DWR Director approved the Water Supply Contract Extension Project. In accordance with CEQA, DWR also filed its Notice of Determination for the project with the Governor's Office of Planning and Research. In addition, DWR filed an action in Sacramento County Superior Court to validate the Contract Extension Amendments (https://Water.ca.gov/Programs/State-Water-Project/Management/Water-Supply-Contract-Extension). After CEQA was completed and contract language was finalized, DWR and 22 contractors have executed the Extension Amendment, including SCV Water, which executed the amendment in February 2019. The Extension Amendment extends the contracts through 2085 or the period ending with the latest maturity date of any bond issued to finance the construction costs of Project facilities, whichever is longer. The Extension Amendment will improve the project's overall financial integrity and management. The Extension Amendment is the subject of a validation action and two CEQA lawsuits.

Water Management Tools Contract Amendment

In a December 2017 Notice to Contractors, DWR indicated its desire to supplement and clarify existing SWP Contract's water transfer and exchange provisions to provide improved water management among public water agencies (PWAs). The purpose was to seek greater flexibility to manage the system in order to address changes in hydrology and further constraints placed on DWR's operation of the SWP. To this end, PWAs and DWR conducted public negotiations in 2017 with the purpose of improving these water management tools (WMT). Importantly, the transfers and exchanges provided for in a WMT Contract amendment are limited to those transfers and exchanges between PWAs with SWP Contracts.

In June 2018, PWAs and DWR agreed upon an Agreement in Principle (AIP), which included specific principles to accomplish this goal. These principles included a process for transparency for transfers and exchanges, new flexibility for single and multi-year non-permanent water transfers, allowing PWAs to set terms of compensation for transfers and exchanges, and providing for the limited transfer of carryover and Article 21 water.

In October 2018, a Draft Environmental Impact Report (DEIR) was circulated based on the agreed upon AIP principles for a WMT Contract amendments. At that time, the AIP included cost allocation for the California WaterFix project (WaterFix). In early 2019, Governor Newsom decided not to move forward with WaterFix, and DWR rescinded its approvals for WaterFix. After this shift, the PWAs and DWR held a public negotiation session and agreed to remove the WaterFix cost allocation sections from the AIP, but to keep all the water management provisions in the AIP. The AIP for water management provisions was finalized on May 20, 2019. In February 2020, DWR amended and recirculated the Partially Recirculated DEIR for the SWP Supply Contract Amendments for Water Management and in August 2020, DWR certified the Final EIR. The EIR is being challenged in court. The WMT Amendment became effective for those PWAs who executed the amendment on February 28, 2021. The transfer and exchange tools are available during litigation and will remain in effect unless there is a final court order that prohibits their continuation.

Delta Conveyance Project Agreement in Principle

On March 29, 2021, as part of a public negotiation that began in 2019, DWR and PWAs agreed upon an Agreement in Principle for a Contract amendment on a Delta Conveyance Project

(DCP). The objective of the DCP AIP is to develop an agreement to equitably allocate costs and benefits among SWP PWAs of a potential Delta Conveyance Facility that preserves operational flexibility. A decision by each participating PWA for approving a contract amendment with DWR would not occur until after the environmental review for the DCP is completed. That decision would likely occur in 2023, at the earliest.

3.2.3 SWP Water Supplies

Each SWP contractor's SWP Contract contains a "Table A," which lists the maximum amount of contract water supply, or "Table A Water," an agency may request each year throughout the life of the contract. The Table A Amounts in each contractor's SWP Contract ramped up over time, based on projections at the time the contracts were signed and future increases in population and water demand, until they reached a maximum Table A Amount. Most contractor's Table A Amounts reached their maximum levels in the early to mid-1990s. Table A Amounts are used in determining each contractor's proportionate share, or "allocation," of the total SWP Water supply DWR determines to be available each year.

The total planned annual delivery capability of the SWP and the sum of all contractors' maximum Table A Amounts was originally 4.23 million acre-feet (MAF). The initial SWP storage facilities were designed to meet contractors' water demands in the early years of the SWP, with the construction of additional storage facilities planned as demands increased. However, essentially no additional SWP storage facilities have been constructed since the early 1970s. SWP conveyance facilities were generally designed and have been constructed to deliver maximum Table A amounts to all contractors. After the permanent retirement of some Table A amount by two agricultural contractors in 1996, the maximum Table A Amounts of all SWP contractors now totals about 4.17 MAF. Currently, SCV Water's annual Table A Amount is 95,200 AF,[10]

The primary supply of SWP water made available under the SWP Contracts is allocated Table A supply.

In addition to Table A supplies, the SWP Contracts provide for additional types of water that may periodically be available, including "Article 21" water and water made available through transfers from other SWP Contractors pursuant to the WMT amendment described above (amended Article 56). Article 21 water (which refers to the SWP Contract provision defining this supply) is water that may be made available by DWR when excess flows are available in the Delta (i.e., when Delta outflow requirements have been met, SWP storage south of the Delta is full and conveyance capacity is available beyond that being used for SWP operations and delivery of allocated and scheduled Table A supplies). Article 21 water is made available on an unscheduled and interruptible basis and is typically available only in average to wet years, generally only for a limited time in the late winter.

The availability of Article 21 water and water from transfers with other SWP Contractors can fluctuate significantly. When available, these supplies provide additional water that SCV Water may be able to use, either directly to meet demands or for later use after storage in its groundwater banking programs. Because of the fluctuations in availability of Article 21 water

[10] SCV Water's original SWP Contract with DWR was amended in 1966 for a maximum annual Table A Amount of 41,500 AF. In 1991, SCV Water (CLWA at the time) purchased 12,700 AF of annual Table A Amount from a Kern County Water district, and in 1999 purchased an additional 41,000 AF of annual Table A Amount from another Kern County Water district, for a current total annual Table A Amount of 95,200 AF.

and water from transfers, supplies of these types of SWP water are not included in this WSA. However, to the extent SCV Water is able to make use of these supplies when available, SCV Water may be able to improve the reliability of its SWP supplies beyond the values used throughout the 2020 UWMP and this WSA.

While not specifically provided for in the SWP Contracts, DWR or the State Water Contractors have in dry years facilitated Dry Year Water Purchase Programs for contractors needing additional supplies. Through these programs, water is purchased from willing sellers in areas that have available supplies and is then sold to contractors willing to purchase those supplies. The availability of these supplies is annually variable and therefore they are not included in this WSA. However, SCV Water's access to these supplies when they are available would enable it to improve the reliability of its dry-year supplies beyond the values used throughout this WSA.

Flexible Storage Account

As part of its SWP Contract with DWR, SCV Water has access to a portion of the storage capacity of Castaic Lake. This Flexible Storage Account allows SCV Water to utilize up to 4,684 AF of the storage in Castaic Lake for SCV Water. Any of this amount that SCV Water withdraws must be returned to storage by SCV Water within five years of its withdrawal. SCV Water manages this storage by keeping the account full in normal and wet years and then delivering that stored amount (or a portion of it) during dry periods. The account is refilled during the next year that 3-5round3-53-5e SWP supplies are available to SCV Water to do so. In 2005 and again in 2015, SCV Water negotiated with Ventura County SWP contractor agencies to obtain the use of their Flexible Storage Account. This allows SCV Water access to another 1,376 AF of storage in Castaic Lake. With the extension to the term of the agreement, SCV Water access to this additional storage is available on a year-to-year basis through 2025. While it is expected that SCV Water and Ventura County will extend the existing flexible storage agreement beyond the 2025 term, it is not assumed to be available beyond 2025 in the 2020 UWMP or this WSA.

Water Management Provisions

The SWP Contract includes a number of provisions that give each contractor flexibility in managing the supplies that are available to it in a given year. For example, a contractor may take delivery of its allocated SWP supplies for direct use or storage within its service area, store that water outside its service area for later withdrawal and use within its service area, carry over a portion of that supply for storage on an as-available-basis in SWP reservoirs for delivery in following years (commonly referred to as "carryover"), exchange a portion of that supply with others for return in a future year, or transfer water with other PWAs pursuant to the newly approved WMT amendment. The SWP Contract also provides for DWR to deliver non-SWP water supplies for contractors through SWP conveyance facilities.

SCV Water takes advantage of these water management provisions in wetter years by storing excess SWP allocated water supply, either in groundwater banking programs or as carryover, or by exchanging supplies with another contractor or water agency. Then in drier years, SCV Water withdraws its previously stored supplies or recovers water from its exchange partner(s). Water stored in groundwater banking programs has the benefit of remaining available until needed, and the water SCV Water currently has in storage is assumed to be available as described in the 2020 UWMP and incorporated herein. At current demand levels, SCV Water also regularly stores a portion of any excess supply as carryover in SWP reservoirs, which can provide it with additional supply for use in following years. Carryover is a no-added-cost storage

option, is an easily and quickly accessible supply, and is a valuable benefit if the next year is dry. However, SCV Water carryover water may be lost when SWP reservoirs fill, which can occur in wetter years. Although the carryover water is considered in the 2021-2025 water drought assessment, because of the variability in how frequently SWP reservoir space would be available to store SCV Water's carryover, it is not specifically included in other supply projections of the 2020 UWMP or this WSA.

3.2.4 Factors Affecting SWP Table A Supplies

While Table A identifies the maximum annual amount of Table A Water a SWP contractor may request, the amount of SWP water actually available and allocated to SWP contractors each year is dependent on a number of factors and 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.

Availability of SWP Source Water

SWP supplies originate in northern California, primarily from the Feather River Watershed. The availability of these supplies is dependent on the amount of precipitation in the Watershed, the amount of that precipitation that runs off into the Feather River, water use by others in the Watershed, and the amount of water in storage in the SWP's Lake Oroville at the beginning of the year. Variability in the location, timing, amount, and form (rain or snow) of precipitation, as well as how wet or dry the previous year was, produces variability from year to year in the amount of water that flows into Lake Oroville. However, Lake Oroville acts to regulate some of that variability, storing high inflows in wetter years that can be used to supplement supplies in dry years with lower inflows.

In DWR's 2019 State Water Project Delivery Capability Report (2019 DCR), climate change adds another factor in estimating the future availability of SWP source water. Current projections indicate that global warming may change precipitation patterns in California from the patterns that have occurred historically. While different climate change models show differing effects, potential changes are anticipated to include more precipitation falling in the form of rain rather than snow and earlier snowmelt, which would result in more runoff occurring in the winter and early spring rather than spread out over the winter and spring, creating challenges in capturing this runoff for later use in the SWP delivery system.

Ability to Convey SWP Source Water

As discussed previously, water released from Lake Oroville flows down natural river channels into the Delta. The Delta is a network of channels and reclaimed islands at the confluence of the Sacramento and San Joaquin rivers. The SWP and the federal CVP use Delta channels to convey water to the southern Delta for diversion, making the Delta a focal point for water distribution throughout the state.

A number of issues affecting the Delta can impact the ability to divert water supplies from the Delta, including water quality, fishery protection and levee system integrity. Water quality in the Delta can be adversely affected by both SWP and CVP diversions, which primarily affect

salinity, as well as by urban discharge and agricultural runoff that flows into the Delta, which can increase concentrations of constituents such as mercury, organic carbon, selenium, pesticides, toxic pollutants and reduce dissolved oxygen. The Delta also provides a unique estuarine habitat for many resident and migratory fish species, some of which are listed as threatened or endangered. The decline in some fish populations is likely the result of a number of factors, including water diversions, habitat destruction, degraded water quality, and the introduction of non-native species. Delta islands are protected from flooding by an extensive levee system. Levee failure and subsequent island flooding can lead to increased salinity requiring the temporary shutdown of SWP pumps. In addition, climate change analyses also project that salinity issues will increase with seal level rise, requiring extra Delta outflow to dilute more brackish Delta water to meet environmental standards.

In order to address some of these issues, SWP and CVP operations in the Delta are limited by a number of regulatory and operational constraints. These constraints are primarily incorporated into the SWRCB Water Rights Decision 1641 (D-1641), which establishes Delta water quality standards and outflow requirements with which the SWP and CVP must comply. In addition, SWP and CVP operations are further constrained by requirements included in Biological Opinions (Bos) for the protection of threatened and endangered fish species in the Delta issued by the FWS in December 2008 and the NMFS in June 2009, and most recently in 2019 by the FWS as described in Section 4.2. The requirements in the Bos are based on real-time physical and biological phenomena (such as turbidity, water temperature, and location of fish), which results in uncertainty in estimating potential impacts on supply of the additional constraints imposed by the Bos.

Demand for SWP Water

The reliability of SWP supplies is affected by the total amount of water requested and used by SWP contractors, since an increase in total requests increases the competition for limited SWP supplies. As previously mentioned, contractor Table A Amounts in the SWP Contracts ramped up over time, based on projected increases in population and water demand at the time the contracts were signed. Urban SWP contractors' requests for SWP water were low in the early years of the SWP, but have increased steadily over time, although more slowly than the initial ramp-up in their Table A Amounts, which reached a maximum for most contractors in the early to mid-1990s. Since that time, urban contractors' requests for SWP water have continued to increase until recent years when nearly all SWP contractors are requesting their maximum Table A Amounts.

Consistent with other urban SWP contractors, SWP deliveries to SCV Water have increased as its requests for SWP water have increased. Historical total SWP deliveries to SCV Water are shown in Section 3. The table shows deliveries to the SCV Water service area for supply to the purveyors, as well as delivery of SCV Water supplies to storage programs outside the service area and to exchange partners. SCV Water demand projections provided to DWR are typically conservative in order to maximize water deliveries available to SCV Water in any given year for both deliveries and to current and future storage programs.

3.2.5 Biological Opinion

In late 2019, the FWS and NMFS issued new Biological Opinions (Bos) for the Long-Term Operation of the CVP and SWP. Consultation on the Bos began in 2016 to update the prior 2008 and 2009 BO and provide Federal Endangered Species Act (ESA) compliance for the

CVP and SWP. Additionally, in early 2020, the California Department of Fish and Wildlife (DFW) issued DWR an Incidental Take Permit for the Long-Term Operation of the SWP pursuant to the California Endangered Species Act (CESA) with regards to state-protected longfin smelt and state- and federally protected delta smelt, winter-run Chinook and spring-run Chinook. Previously, DFW had issued the SWP an Incidental Take Permit for the state-listed longfin smelt and Consistency Determinations with the 2008 and 2009 Biological Opinions for the state and federally listed species, not a separate permit. Some of the operational restrictions in the 2019 Biological Opinions differ from those in the 2020 Incidental Take Permit. Specifically, even though the projects' operations are coordinated, the SWP is subject to additional operational constraints that reduce SWP supplies and create operational conflicts. Both the 2019 Bos and the 2020 Incidental Take Permit are subject to multiple court challenges that are ongoing.

Biological Opinion Litigation. Two cases were filed challenging the Bos under the ESA, Administrative Procedure Act, and National Environmental Policy Act (NEPA). The first case, *Pacific Coast Federation of Fisherman's Association, et al. v.* Ross (Case No. 1:20-CV-00431-DAD-SAB (*"PCFFA v. Ross*"), was brought by six environmental organizations. The second case, *California Natural Resources Agency, et al. v. Ross* (Case No. 1:20) ("*CNRA v. Ross"*), was brought by the California Natural Resources Agency (CNRA), the California Environmental Protection Agency, and the California Attorney General. The State's case includes a cause of action under CESA alleging that the federal CVP must comply with CESA. The cases were coordinated and transferred to the Eastern District. State and federal water contractors have intervened as defendants in both cases. On October 1, 2021, the federal agencies announced re-initiation of consultation on the Bos. The court is currently considering motions by the Federal defendants, State plaintiffs, and environmental plaintiffs to impose an interim operations plan for the first year of reinitiated consultation.

CESA Incidental Take Permit Litigation. Eight cases, listed below, have been filed in state court by public agencies, environmental organizations, and a Native American tribe challenging DWR's approval of the Long-Term Operations of the SWP and associated environmental review. Most of the cases also challenge CDFW's issuance of an Incidental Take Permit for the SWP.

- *North Coast Rivers Alliance, et al. v. Department of Water Resources, et al.*, County of San Francisco Superior Court Case No. CPF-20-517078, filed April 28, 2020;

- *State Water Contractors, et al. v. California Department of Water Resources, et al.*, County of Fresno Superior Court Case No. 20CECG01302, electronically filed April 28, 2020;

- *Tehama-Colusa Canal Authority, et al. v. California Department of Water Resources, et al.*, County of Fresno Superior Court Case No. 20CECG01303, electronically filed April 28, 2020;

- *The Metropolitan Water District of Southern California, et al. v. California Department of Water Resources, et al.*, County of Fresno Superior Court Case No. 20CECG01347, electronically filed April 28, 2020;

- *Sierra Club, et al. v. California Department of Water Resources*, County of San Francisco Superior Court Case No. CPF-20-517120, filed April 29, 2020;

- *Central Delta Water Agency, et al. v. California Department of Fish and Wildlife, et al.*, County of Sacramento Superior Court Case No. 34-2020-80003368, filed May 6, 2020;

- *San Bernardino Valley Municipal Water District v. California Department of Water Resources, et al.*, County of Fresno Superior Court Case No. 20CECG01556, filed May 28, 2020;

- *San Francisco Baykeeper, et al. v. California Department of Water Resources, et al.*, County of Alameda Superior Court Case No. RG20063682, filed June 5, 2020.

The challenges are raised on several legal grounds, including CESA, California Environmental Quality Act, the Delta Reform Act, Public Trust Doctrine, area of origin statutes, breach of contract, and breach of covenant of good faith and fair dealing. All eight cases have been coordinated in Sacramento County Superior Court.

Litigation over the 2019 Bos and 2020 Incidental Take Permit will likely take several years. The projects began operating in accordance with the new requirements in 2020. Throughout implementation, any party may seek preliminary injunctive relief during the litigation, such as that described above. It is likely that the 2019 Bos and 2020 Incidental Take Permit, or some form of interim operations, will govern operations until final judicial determinations on the merits are made or the reinitiated consultation results in a new Biological Opinion and amended Incidental Take Permit. Thus, it is unlikely that SWP water supply would increase beyond that resulting from the limitations in the 2019 Bos and 2020 Incidental Take Permit during this timeframe.

3.2.6 SWP Table A Supply Assessment

DWR prepares a biennial report to assist SWP contractors and local planners in assessing the availability of supplies from the SWP. DWR issued its most recent update, the 2019 DCR, in August 2020. In this update, DWR provides SWP supply estimates for SWP Contractors to use in their planning efforts, including for use in their 2020 UWMPs. The 2019 DCR includes DWR's estimates of SWP water supply availability under both existing (2020) and future conditions (2040).

DWR's estimates of SWP deliveries are based on a computer model that simulates monthly operations of the SWP and Central Valley Project systems. Key inputs to the model include the facilities included in the system, hydrologic inflows to the system, regulatory and operational constraints on system operations, and contractor demands for SWP water. In conducting its model studies, DWR must make assumptions regarding each of these key inputs.

In the 2019 DCR for its model study under existing conditions, DWR assumed: existing facilities, hydrologic inflows to the model based on 82 years of historical inflows (1922 through 2003), current regulatory and operational constraints including 2018 Coordinated Operation Agreement Amendment, 2019 Bos and 2020 Incidental Take Permit, and contractor demands at maximum Table A Amounts. The long-term average allocation reported in the 2019 DCR for the existing conditions study provides an appropriate estimate of the SWP water supply availability under current conditions.

To evaluate SWP supply availability under future conditions, the 2019 DCR included a model study representing hydrologic and sea level rise conditions in the year 2040. The future condition study used all the same model assumptions as the study under existing conditions, but reflected changes expected to occur from climate change, specifically, projected temperature and precipitation changes centered around 2035 (2020 to 2049) and a 45 cm sea level rise. For the long-term planning purposes of this WSA and the 2020 UWMP, the long-term average allocations reported for the future conditions study from 2019 DCR is the most appropriate estimate of future SWP water supply availability.

3.2.7 SWP Water Supply Estimates

In the 2019 DCR, DWR estimates that for all Contractors combined, the SWP can deliver on a long-term average basis a total Table A supply of 58 percent of total maximum Table A Amounts under existing conditions and 52 percent under future conditions.

DWR's 2019 DCR indicates that the modeled single dry year SWP water supply allocation is 7% under the existing conditions. However, historically the lowest SWP allocations were at 5% in 2014 and initial allocations in 2021. Due to extraordinarily dry conditions in 2013 and 2014, the initial 2014 SWP allocation was a historically low 5% of Table A Amounts, was later reduced to 0% in January 2014, and was later raised back to 5%, the lowest ever final total SWP water supply allocation. In 2021, the initial allocation was 0%, the lowest ever on record and later increased to 5%. Similarly, the initial allocation for 2022 was set at 0% with DWR prioritizing deliveries to Human Health and Safety where alternative supplies were not available. Significant precipitation occurred in October and December of 2021. In January 2022, DWR raised its initial allocation to 15%.

Each year by October 1, SWP contractors submit their requests for SWP supplies for the following calendar year. By December 1, DWR estimates the available water supply for the following year and sets an initial supply allocation based on the total of all contractors' requests, current reservoir storage, forecasted hydrology through the next year, and target reservoir storage for the end of the next year. The most difficult of these factors to evaluate is the forecasted hydrology. In setting water supply allocations, DWR uses a conservative 90% hydrologic forecast, where nine out of ten years will be wetter and one out of ten years drier than assumed. DWR re-evaluates its estimate of available supplies throughout the runoff season of winter and early spring, using updated reservoir storage and hydrologic forecasts, and revises SWP supply allocations as warranted. Since most of California's annual precipitation falls in the winter and early spring, by the end of spring the supply available for the year is much more certain, and in most years DWR issues its final SWP allocation by this time. While most of the water supply is certain by this time, runoff in the late fall remains somewhat variable as the next year's runoff season begins. A drier than forecasted fall can result in not meeting end-of-year reservoir storage targets, which means less water available in storage for the following year.

Water year 2013 was a year with two hydrologic extremes. October through December 2012 was one of the wettest fall periods on record but was followed by the driest consecutive 12 months on record. The supply allocation for 2013 was a 35% allocation. However, the 2013 hydrology ended up being even drier than DWR's conservative hydrologic forecast, so the SWP began 2014 with reservoir storage lower than targeted levels and less stored water available for 2014 supplies. Compounding this low storage situation, 2014 also was a critically dry year, with runoff for water year 2014 the fourth driest on record.

The exceedingly dry sequence from the beginning of January 2013 through the end of 2014 was one of the driest two-year periods in the historical record. The dry-year sequence in 2020 through 2021 also represents an extreme hydrologic event in terms of temperature and precipitation. Water Year 2020 was California's fifth driest year on record based on statewide runoff, followed by Water Year 2021 which was the second driest year and warmest year on record. The warmer temperatures in 2014 and 2021 resulted in an increased climatic water deficit. This historical data has shown that California's climate is transitioning to a much warmer setting where historical relationships among temperature, precipitation and runoff are changing, and these conditions may become more frequent. As noted above, the circumstances that led to the low 2014 and 2021 SWP water supply allocation were unusual, and likely have a low probability of frequent occurrence in the future. Thus, the assumption for SWP contractors such as SCV Water is that a 5% allocation in 2014 and 2021 represents the "worst-case" scenario.

The 2020 UWMP reflected information from DWR's 2019 DCR. The report was based on DWR's CALSIM 2 model that utilizes a repeat of the historic hydrologic period of 1922 through 2003. DWR's analysis of existing (2020) conditions was used to estimate SWP supplies between 2020 and 2040 and its analysis of future (2040) conditions is used to estimate 2040-2050 SWP supplies. SWP supplies for the five-year increments between 2020 and 2040 are interpolated between these values. SWP supplies for years beyond 2040 are assumed to be the same as for 2040.

On December 31, 2021, DWR released its Draft 2021 DCR. This draft report is based on DWR's new CALSIM 3 model that extends the hydrologic period through 2015 thus incorporating the historic dry years of 2014 and 2015 but does not include the wet years in 2017 and 2019. This report reduces the 2020 average yield from 58% to 56%. The Draft 2021 DCR does not contain an analysis for 2040 conditions as it was not contained in the 2019 DCR. Thus, the SWP reliability shown in Table 3-1 reflects reduced reliability of 56% in 2020 and other year's supplies are interpolated between 2020 and 2040 values.

The Draft 2021 DCR also reduced the single year delivery capability in 2020 to 5%. As the 2020 UWMP was already using that value for its Single Years SWP supply, that value was not changed in the single year dry period. This is reflected in Table 3-1.

The Draft 2021 DCR did not provide Table A allocations for each individual year that would enable a re-analysis of the five-year multiple dry year period. The report does contain a summary of six-year drought that indicate an average allocation of 25% of Table A amounts. That is the same average value that was used in the 2020 UWMP. Thus, for purposes of this WSA, Table 3-1 reflects the same five-year multiple dry year analysis.

TABLE 3-1 SWP TABLE A SUPPLY RELIABILITY (AF)[a][b]

Wholesaler (Supply Source)	2020	2025	2030	2035	2040-2050
Average Water Year[l]					
SWP Table A Supply	53,312	52,360	51,408	50,456	49,504
% of Table A Amount[d]	56%	55%	54%	53%	52%
Single-Dry Year					
SWP Table A Supply[l]	6,664	7,616	8,568	9,520	10,472
% of Table A Amount[l]	7%	8%	9%	10%	11%
SWP Table A Supply[f]	4,760	4,760	4,760	4,760	4,760
% of Table A Amount[f]	5%	5%	5%	5%	5%
Multiple-Dry Year[h]					
SWP Table A Supply[g]	23,800	23,800	23,800	23,800	23,800
% of Table A Amount[d]	25%	25%	25%	25%	25%

Notes:
(a) Supplies to SCV Water are based on DWR analyses presented in its 2021 draft DCR and 2019 DCR, assuming existing SWP facilities and current regulatory and operational constraints (except as indicated in Note f).
(b) Table A supplies include supplies allocated in one year that are carried over for delivery the following year.
(c) Based on average deliveries over a repeat of the study's historic hydrologic period of 1922 through 2003 for 2019 DCR, and 1922 through 2015 for the 2021 draft DCR.
(d) Supply as a percentage of SCV Water's Table A Amount of 95,200 AF.
(e) Based on a repeat of the worst case historic single dry year of 1977 (from 2019 DCR)
(f) Based on the worst-case actual allocation of 2014.
(g) Supplies shown are annual averages over five consecutive dry years, based on a repeat of the historic five-year dry period of 1988-1992.

3.2.8 Coordinated Operations Agreement

The Coordinated Operation Agreement (COA) was originally signed in 1986 and defines how the state and federal water projects share the available water supply and the obligations including senior water right demands, water quality and environmental flow requirements imposed by regulatory agencies. The agreement calls for periodic review to determine whether updates are needed in light of changed conditions. After completing a joint review process, DWR and the Bureau of Reclamation agreed to an addendum to the COA in December 2018, to reflect water quality regulations, biological opinions and hydrology updated since the agreement was signed.

The COA Addendum includes changes to the percentages for sharing responsibilities for in basin uses, sharing available export capacity, and the review process. The 1986 Agreement required CVP to meet 75% of the in basin uses and the SWP to meet 25%. The COA Addendum now distinguishes responsibility based on water year type and CVP responsibilities range from 80% in wet years to 60% in critical years. SWP responsibility ranges from 20% in wet years to 40% in critical years. Additionally, the COA Addendum changed sharing export capacity. Previously, export capacity was shared 50% to CVP and 50% to SWP. The COA addendum changed this formula to be 65% CVP and 35% SWP during balanced conditions and 60% CVP and 40 % SWP during excess conditions. Overall, based on modeling, these changes result in an approximately 115,000 AFY on average reduction in SWP supplies.

Finally, the 2018 COA Addendum updated the review process to require review of the COA Agreement and Addendum every 5 years. Litigation regarding the COA addendum environmental review is ongoing. The litigation is unlikely to change the negotiated COA addendum and implementation has already begun.

3.2.9 Delta Conveyance Project

Consistent with Executive Order N-10-19, in early 2019, the state announced a new single tunnel project, which proposed a set of new diversion intakes along Sacramento River in the north Delta for the SWP. In 2019, DWR initiated planning and environmental review for a single tunnel DCP to protect the reliability of SWP supplies from the effects of climate change and seismic events, among other risks. DWR's current schedule for the DCP environmental planning and permitting extends through the end of 2024. DCP will potentially be operational in 2040 following extensive planning, permitting and construction.

DWR estimates of SWP supply reliability in its 2019 DCR are based on existing facilities, and so do not include the proposed conveyance facilities that are part of the DCP. Since the 2020 UWMP uses DWR's 2019 DCR to estimate SWP supplies at 2040, any changes in SWP supply reliability that would result from the proposed DCP are not included in the UWMP. If the DCP is implemented, SWP reliability would improve, but to be conservative, that analysis is not incorporated in this WSA.

3.2.10 Emergency Freshwater Pathway Description (Sacramento-San Joaquin Delta)

It has been estimated by DWR that in the event of a major earthquake in or near the Delta, water supplies could be interrupted for up to three years, posing a significant and unacceptable risk to the California business economy. A post-event strategy would provide necessary water supply protections to avert this catastrophe. Such a plan has been coordinated through DWR, Corps of Engineers (Corps), Reclamation, California Office of Emergency Services (Cal OES), the Metropolitan Water District of Southern California, and the State Water Contractors.

DWR Delta Flood Emergency Management Plan: The Delta Flood Emergency Management Plan (DWR, 2018) provides strategies for response to Delta levee failures, up to and including earthquake-induced multiple island failures during dry conditions when the volume of flooded islands and saltwater intrusion are large, resulting in curtailment of export operations. Under these severe conditions, the plan includes a strategy to establish an emergency freshwater pathway from the central Delta along Middle River and Victoria Canal to the export pumps in the south Delta. The plan includes the prepositioning of emergency construction materials at existing and new stockpile and warehouse sites in the Delta, and development of tactical modeling tools (DWR Emergency Response Tool) to predict levee repair logistics, timelines of levee repair and suitable water quality to restore exports. The Delta Flood Emergency Management Plan has been extensively coordinated with state, federal and local emergency response agencies. DWR, in conjunction with local agencies, the Corps and Cal OES, conduct tabletop and field exercises to test and revise the plan under real time conditions.

DWR and the Corps provide vital Delta region response to flood and earthquake emergencies, complementary to Cal OES operations. These agencies perform under a unified command structure and response and recovery framework. The Northern California Catastrophic Flood Response Plan (Cal OES, 2018) incorporates the DWR Delta Flood Emergency Management

Plan. The Delta Emergency Operations Integration Plan (DWR and USACE, 2019) integrates personnel and resources during emergency operations.

Pathway Implementation Timeline: The Delta Flood Emergency Management Plan has found that using pre-positioned stockpiles of rock, sheet pile and other materials, multiple earthquake-generated levee breaches and levee slumping along the freshwater pathway can be repaired in less than six months. A supplemental report (Levee Repair, Channel Barrier, and Transfer Facility Concept Analyses to Support Emergency Preparedness Planning, M&N, August 2007) evaluated among other options, the placement of sheet pile to close levee breaches, as a redundant method if availability of rock is limited by possible competing uses. The stockpiling of sheet pile is vital should more extreme emergencies warrant parallel and multiple repair techniques for deep levee breaches. Stockpiles of sheet pile and rock to repair deep breaches and an array of levee slumping restoration materials are stored at DWR and Corps stockpile sites and warehouses in the Delta.

Emergency Stockpile Sites and Materials: DWR has acquired lands at Rio Vista and Stockton as major emergency stockpile sites, which are located and designed for rapid response to levee emergencies. The sites provide large loading facilities, open storage areas and new and existing warehousing for emergency flood fight materials, which augment existing warehousing facilities throughout the Delta. The Corps maintains large warehousing facilities in the Delta to store materials for levee freeboard restoration, which can be augmented upon request of other stockpiles in the United States. Pre-positioned rock and sheet pile are used for closure of deep levee breaches. Warehoused materials for rapid restoration of slumped levees include muscle (k-rail) walls, super sacks, caged rock containers, sandbags, stakes, and plastic tarp. Stockpiles will be augmented as materials are used.

Emergency Response Drills: Earthquake-initiated multiple island failures will mobilize DWR and Corps resources to perform Delta region flood fight activities within an overall Cal OES framework. In these events, DWR and the Corps integrate personnel and resources to execute flood fight plans through the Delta Emergency Operations Integration Plan (DWR and USACE, 2019). DWR, the Corps and local agencies perform emergency exercises focusing on communication readiness and the testing of mobile apps for information collection and dissemination. The exercises train personnel and test the readiness of emergency preparedness and response capabilities under unified command and provide information to help to revise and improve plans.

Levee Improvements and Prioritization: The DWR Delta Levees Subventions and Special Projects Programs have prioritized, funded, and implemented levee improvements along the emergency freshwater pathway and other water supply corridors in the central and south Delta. These efforts are complementary to the Delta Flood Emergency Management Plan, which along with pre-positioned emergency flood fight materials, ensures reasonable seismic performance of levees and timely pathway restoration after a severe earthquake. These programs have been successful in implementing a coordinated strategy of emergency preparedness to the benefit of SWP and CVP export systems.

Significant improvements to the central and south Delta levees systems along Old and Middle Rivers began in 2010 and are continuing to the present time. This complements substantially improved levees at Mandeville and McDonald Islands and portions of Victoria and Union Islands. Levee improvements along the Middle River emergency freshwater pathway and Old River consist of crest raising, crest widening, landside slope fill and toe berms, which improve seismic stability, reduce levee slumping, and create a more robust flood-fighting platform. Urban

agencies, including Metropolitan, Contra Costa Water District, East Bay Municipal Utility District, and others have participated in levee improvement projects along or near the Old and Middle River corridors.

3.2.11 Sisk Dam Raise and San Luis Reservoir Expansion

Reclamation and San Luis & Delta Mendota Water Authority (SLDMWA) are proposing to raise Sisk Dam and increase storage capacity in San Luis Reservoir. The proposed 10-foot dam raise is in addition to the ongoing 12-foot raise of Sisk Dam to improve dam safety and would expand San Luis Reservoir storage by 130 thousand AF. The final supplemental EIS/EIR, released on December 18, 2020, estimated that the SWP exports could potentially reduce by about 23 thousand AFY on average under the preferred alternative. This project is currently undergoing design, environmental planning, and permitting. Construction is estimated to complete by 2030, following environmental planning and permitting.

DWR estimates of SWP supply reliability in its 2019 DCR are based on existing facilities, and do not include this project.

3.2.12 SWP Seismic Improvements

DWR's recent SWP seismic resiliency efforts have focused heavily on SWP Dam Safety. The most prominent is the joint Reclamation/DWR corrective action study of Sisk Dam which will result in a massive seismic stability alteration project and is expected to begin construction in 2021. Several analyses have been conducted on SWP dam outlet towers/access bridges which has resulted in seismic upgrades (some completed/some on-going). Castaic Reservoir outlet towers were determined to be vulnerable to a major earthquake. DWR is currently undertaking retrofits to the access bridge to the Castaic outlet tower. That work is scheduled to be completed in 2022. Updated dam seismic safety evaluations are being performed on the Oroville Dam embankment and the radial gate control structure on the flood control spillway.

Seismic retrofits have also been completed on 23 SWP bridges located in four Field Divisions with additional retrofits in various development stages. DWR has also updated the earthquake notification procedures and has replaced and expanded instrumentation for the SWP's seismic network.

3.2.13 Water Quality Control Plan/Voluntary Agreement

The State Water Board is responsible for adopting and updating the Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary (Bay-Delta Plan), which establishes water quality control objectives and flow requirements needed to provide reasonable protection of beneficial uses in the Watershed. The State Water Board has been engaged for many years in updating the Bay Delta Plan.

The Bay-Delta Plan is being updated through phases. Phase 1 is updating the Bay-Delta Plan objectives for the San Joaquin River and its major tributaries and the southern Delta salinity objectives. Phase 2 is updating the objectives for the Sacramento River and Delta and their major tributaries. (Plan amendments). On December 12, 2018, through State Water Board Resolution No. 2018-0059, the State Water Board adopted the Phase 1 Plan amendments and Final Substitute Environmental Document (SED) establishing the Lower San Joaquin River flow objectives and revised southern Delta salinity objectives. On February 25, 2019, the Office of Administrative Law approved the Plan amendments. The 2020 UWMP requires an adaptive

range of 30-50 percent of the unimpaired flow to be maintained from February through June in the Stanislaus, Tuolumne, and Merced Rivers, with a starting point of 40 percent of the unimpaired flow. During this same time period, the flows at Vernalis on the San Joaquin River, as provided by the unimpaired flow objective, are required to be no lower than a base flow of 1,000 cubic feet per second (cfs), with an adaptive range between 800 and 1,200 cfs, inclusive. The Phase 1 plan amendments are the subject of litigation.

The State Water Board is also considering Phase 2 Plan amendments focused on the Sacramento River and its tributaries, Delta eastside tributaries (including the Calaveras, Cosumnes, and Mokelumne rivers), Delta outflows, and interior Delta flows. Staff is recommending an adaptive range of 45-65 percent Unimpaired Flow (UIF) objective with a starting point of 55 percent. Once the State Water Board adopts Phase 2 Plan amendments, the Board will need to conduct hearings to determine, consistent with water rights, water users' responsibilities for meeting the objectives in both Phase 1 and 2. At this time, the potential impacts to the SWP are unknown, but this objective would have a large impact on water users in the Phase 2 planning area.

The State and several water users began working on an alternative to the Bay-Delta Plan update in 2018, known as the Voluntary Agreement process. The Voluntary Agreement process offers an alternative to the State Water Board staff's flow only approach. A Voluntary Agreement, if agreed to by the State Water Board, would be a substitute for the UIF approach and would become the Program of Implementation for the Plan amendments. Implementing the Voluntary Agreement would not require a water rights hearing because the parties are agreeing to take the actions. The Voluntary Agreement approach would provide flow, and funding for flows, habitat actions, and a robust science program. The Voluntary Agreement approach could provide an opportunity to combine flow and habitat actions to protect public trust resources, while providing certainty for water users. If successful, it provides a pathway to avoid years of hearings and litigation.

3.2.14 Delta Reliance

Approximately half of SCV Water's water supply comes from the Delta. The 2020 UWMP Guidebook describes how urban water suppliers that anticipate participating in or receiving water from a "covered action" related to the Delta should provide information in their 2020 UWMPs to demonstrate consistency with *Delta Plan Policy WR P1, Reduce Reliance on the Delta Through Improved Regional Water Self-Reliance* (Reduced Reliance Policy). SCV Water completed such documentation which is included in Appendix K of the 2020 UWMP.

3.2.15 Other Imported Supplies

The following supplies are available to SCV Water through agreements that have been executed since 2005. These supplies are now part of the imported supplies available to the service area.

3.2.15.1 Buena Vista-Rosedale Rio Bravo

SCV Water has executed a long-term transfer agreement for 11,000 AFY with BVWSD and RRBWSD. These two districts, both located in Kern County, joined together to develop a program that provides both a firm water supply and a water banking component. Both districts are member agencies of the Kern County Water Agency (KCWA), a SWP contractor, and both districts have contracts with KCWA for SWP Table A Amounts. The supply is based on existing long-standing Kern River water rights held by BVWSD and is delivered by exchange of the two districts' SWP Table A supplies or directly to the California Aqueduct via the Cross Valley Canal. This water supply is firm; that is, the total amount of 11,000 AFY is available in all water year types based on the Kern River Water right. SCV Water began taking delivery of this supply in 2007.

SCV Water has entered into agreements that reserved 3,378 AF of the Buena Vista-Rosedale Rio Bravo water for potential annexations into its service area. 389 AF is reserved for the second phase of the Tesoro Del Valle development. This development is scheduled to be completed by the end of 2025. 489 AF has been reserved for the Tapia Ranch development with development estimated to be completed in the late 2020s. 2,500 AF is reserved for the planned Legacy Village development. This development is assumed to occur after 2030 but before 2035. During the periods before demands for these developments occur, or if these developments occur but do not use all the amounts reserved for them in any year or years, the remaining supply would be available to the entire SCV Water service area.

3.2.15.2 Nickel Water – Newhall Land

Newhall Land has acquired a water supply from Kern County sources known as the Nickel water. This source of supply totals 1,607 AFY. As provided in its water purchase agreement, the Nickel water provides a firm source of supply and is available in all hydrologic water year types. This source of supply was acquired in anticipation of the development of the Newhall Ranch Specific Plan Development. Newhall Land currently stores its annual supply of Nickel water in its Semitropic Water Storage District Water Banking Program. Upon completion of the Newhall Ranch Specific Plan, Newhall Land will transfer its rights to this supply to SCV Water. In the 2020 UWMP, it is assumed for planning purposes that Newhall Ranch will be developed and that this water supply will be transferred to SCV Water in 2035 (i.e., the assumed completion of the Newhall Ranch Specific Plan), thereafter becoming available as an annual supply to SCV Water. Prior to any permanent transfer to SCV Water, Newhall Land may make this supply available to SCV Water for purchase. However, because there is no history of such purchases, the 2020 UWMP, and this WSA, does not assume this Nickel water will be generally available to meet SCV Water demands until 2035. Further, SCV Water is not aware of any agreement that Newhall Land has entered into to sell this water to other public water systems prior to the transfer of the Nickel water to SCV Water.

SCV Water and NLF will monitor the use and storage of Nickel water. SCV Water is required to undertake this effort to manage its overall supply portfolio, to meet SCV Water's obligations under applicable state law, and by request of the County of Los Angeles in the Specific Plan EIR. Based on current estimates, the Nickel water and the stored water in the Semitropic bank provide adequate reserves for potential future needs within the Specific Plan area. Under the Specific Plan EIR, NLF is to transfer Nickel water from its Semitropic Water Bank to make up a shortfall.

3.2.15.3 Yuba Accord Water

In 2008, SCV Water entered into the Yuba Accord Agreement, which allows for the purchase of water from the Yuba County Water Agency through DWR to 21 SWP contractors (including SCV Water) and the San Luis and Delta-Mendota Water Authority. Yuba Accord water comes from north of the Delta, and the water purchased under this agreement is subject to losses associated with transporting it through the Delta. These losses can vary from year to year, depending on Delta conditions at the time the water is transported. Under the agreement, an estimated average of up to 1,000 AFY of non-SWP supply (after losses) is available to SCV Water in dry years, through 2025. In 2021, with a SWP allocation of 5% of Table A Amount, a supply of 1,640 AF north of the Delta is available to SCV Water (based on September 27, 2021, estimate). Under certain hydrologic conditions, additional water may be available to SCV Water from this program. SCV Water received 284 AF from this source in 2020.

3.3 Groundwater

This section presents information about groundwater supplies, including a summary of the previously adopted groundwater management plan (GWMP) along with the recently adopted GSP.

3.3.1 Santa Clara River Groundwater Basin – East Subbasin

The sole source of local groundwater for urban water supply in the Valley is the groundwater Basin identified in the DWR Bulletin 118 (DWR 2016) as the Santa Clara River Valley Groundwater Basin, East Subbasin (Basin) (Basin No. 4-4.07). The un-adjudicated Basin is comprised of two aquifer systems, the Alluvium and the Saugus Formation. The Alluvium generally underlies the Santa Clara River and adjacent areas, including its several tributaries, to maximum depths of about 200 feet; and the Saugus Formation underlies practically the entire Upper Santa Clara River (USCR) area, to depths of at least 2,000 feet. There are also some scattered outcrops of Terrace deposits in the Basin that likely contain limited amounts of groundwater. However, since these deposits are located in limited areas situated at elevations above the regional water table and are also of limited thickness, they are of no practical significance as aquifers for municipal water supply; consequently, they have not been developed for any significant water supply in the Basin and are not included as part of the existing or planned groundwater supplies described in this WSA. The Basin is defined in Bulletin 118 as being bordered on the north by the Piru Mountains, on the west by impervious rocks of the Modelo and Saugus Formations and a constriction in the alluvium, on the south by the Santa Susana Mountains, and on the south and east by the San Gabriel Mountains (DWR 2016). The extent of the basin generally coincides with the outer extent of the Alluvium and Saugus Formation.

The Santa Clara river Valley Groundwater Basin, East Subbasin has been identified by DWR as a high priority basin, not subject to critical conditions of overdraft, thereby requiring preparation of a GSP, described below.

3.3.2 Groundwater Management Planning

As part of legislation authorizing SCV Water to provide retail water service to individual municipal customers, Assembly Bill (AB) 134 (2001) included a requirement that SCV Water prepare a GWMP (provided as Appendix I of the 2020 UWMP) in accordance with the provisions of Water Code Section 10753, which was originally enacted by AB 3030. This

legislation has since been superseded by the passage of SGMA in 2014 and the submittal of a GSP to DWR by the SCV-GSA in January 2022. The GSP is available at https://scvgsa.org/wp-content/uploads/2021/12/SCV-GSP-Sections-Combined-20211217.pdf. The GSP was in large part built on the GWMP with the groundwater basin operating within the yields identified in the GWMP. A summary of GWMP and the GSP are provided below.

3.3.2.1 Groundwater Sustainability Plan

The Santa Clarita Valley Groundwater Sustainability Agency (SCV-GSA) operates under a Joint Powers Agreement, which was executed by member Agencies in 2018. The SCV-GSA has adopted the State-required GSP for the East Subbasin of the Santa Clara River Valley Groundwater Basin. The plan represents a significant multi-year undertaking concluding with its adoption and submittal to DWR in January 2022. Development of the GSP reflected a significant stakeholder engagement effort with the involvement of a Stakeholder Advisory Committee to reflect the views from private well owners, members at large, environmental interests, and the business community. This Stakeholder Advisory Committee met regularly to review technical memoranda and provided advisement to the GSA on materials and assistance with several public workshops.

The final Board- adopted GSP is consistent with the current groundwater operating plan as described in the GWMP (AB 3030 plan), and its 2009 update, described below. The GSP, however refined the technical analysis as it utilized a new groundwater flow model (an unstructured grid version of ModFlow called ModFlow USG) that models the groundwater operating plan. These refinements include updates such as redistribution of pumping and current Basin conditions. The plan also developed minimum thresholds as a basis to determine that the groundwater basin is being managed in a sustainable manner. The SCV-GSA will conduct required annual monitoring and reports for the GSP.

3.3.2.2 Groundwater Management Plan

The general contents of the GWMP were outlined in 2002, and a detailed plan was adopted in 2003 to satisfy the requirements of AB 134. The plan both complements and formalized a number of existing water supply and water resource planning and management activities in SCV Water's service area, which effectively encompass the East Subbasin of the Santa Clara River Valley Groundwater Basin. Notably, the GWMP also includes a basin-wide monitoring program, the results of which provide input to annual reporting on water supplies and water resources in the Basin, as well as input to assessment of Basin yield for water supply as described herein. Groundwater level data from the existing groundwater monitoring program is reported to DWR as part of SBX7-6 implementation CASGEM. SCV Water serves as the monitoring entity for CASGEM for the basin. Available groundwater level data for the CASGEM program is submitted twice a year. SCV Water will continue to provide groundwater level data consistent with the CASGEM program.

The GWMP contains four management objectives, or goals, for the Basin 3-19round3-19ng (3-19round3-19 of an integrated surface water, groundwater and recycled water supply to meet existing and projected demands for municipal, agricultural and other water uses; (2) assessment of groundwater basin conditions to determine a range of operational yield values that use local groundwater conjunctively with supplemental SWP supplies and recycled water to avoid groundwater overdraft; (3) preservation of groundwater quality, including active characterization and resolution of any groundwater contamination problems, and (4) preservation of interrelated surface water resources, which includes managing groundwater to not adversely impact surface and groundwater discharges or quality to downstream basin(s).

Prior to preparation and adoption of the GWMP, a local MOU process among the former CLWA, the CLWA retail water purveyors and UWCD in neighboring Ventura County, downstream of the East Subbasin of the Santa Clara River Valley, produced the beginning of local groundwater management. This is now embodied in the GWMP prepared and implemented in 2001. The MOU was a collaborative and integrated approach to several aspects of water resource management included in the GWMP. As a result of the MOU, the cooperating agencies integrated their respective database management efforts and continued to monitor and report on the status of Basin conditions, as well as on geologic and hydrologic aspects of their respective parts of the overall stream-aquifer system. Following adoption of the GWMP, the water suppliers developed and utilized a numerical groundwater flow model for analysis of groundwater basin yield and for analysis of extraction and containment of groundwater contamination. The results of those basin yield and contamination analyses, updated in 2009 by Luhdorff and Scalmanini Consulting Engineers and GSI Water Solutions, Inc. (LSCE & GSI, 2009), are bases for the amounts and allocations of groundwater supplies in the 2020 UWMP.

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

- Monitoring of groundwater levels, quality, production, and subsidence
- Monitoring and management of surface water flows and quality
- Determination of Basin yield and avoidance of overdraft
- Development of regular and dry-year emergency water supply
- Continuation of conjunctive use operations
- Long-term salinity management
- Integration of recycled water
- Identification and mitigation of soil and groundwater contamination, including involvement with other local agencies in investigation, cleanup, and closure
- Development and continuation of local, state, and federal agency relationships
- Groundwater management reports
- Continuation of public education and water conservation programs
- Identification and management of recharge areas and wellhead protection areas
- Identification of well construction, abandonment, and destruction policies
- Provisions to update the groundwater management plan

Work on a number of the GWMP elements had been ongoing for some time prior to the formal adoption of the GWMP and expanded work on implementation of the GWMP will continue on an ongoing basis through the administration of the GSP. The GSP evaluates the operating plan going forward and these analyses of the groundwater basin are reflected in the 2020 UWMP and this WSA. Notable in the implementation of the GWMP has been the annual preparation of a Santa Clarita Valley Water Report (Annual Report) that summarizes (1) water requirements, (2) all three sources of water supply (groundwater, imported surface water and recycled water, all as part of the GWMP's overall management objectives), and (3) projected water supply availability to meet the following year's projected water requirements. Besides for addressing GWMP requirements, the Annual Report is also prepared in response to a request by the Los Angeles County Board of Supervisors and the MOU between the water purveyors in the Basin and UWCD. SGMA also requires preparation of an annual report on basin conditions. The first report being due in April of 2022 will address much of the same information but framed in the context of the GSP Sustainability Criteria discussed below.

3.3.2.3 Available Groundwater Supplies

The groundwater component of overall water supply in the Valley derives from a groundwater operating plan developed and analyzed to meet water requirements (municipal, agricultural, small domestic) while maintaining the Basin in a sustainable condition, specifically no long-term depletion of groundwater or interrelated surface water. The operating plan also addresses groundwater contamination issues in the Basin, all consistent with the GWMP described above. The groundwater operating plan and the GSP are based on the concept that pumping can vary from year to year to allow increased groundwater use in dry periods and increased recharge during wet periods to collectively assure that the groundwater Basin is adequately replenished through various wet/dry cycles. As ultimately formalized in the GWMP and described in the Basin Yield Report (LSCE and GSI, 2009), and in the GSP, the operating yield concept has been quantified as ranges of annual pumping volumes to capture year-to-year pumping fluctuations in response to both hydrologic conditions and customer demand.

Ongoing work through implementation of the GWMP has produced three detailed technical reports in addition to the annual Water Reports (the most recent of which, for 2020, was the twenty-third annual report). The first detailed technical report (CH2M Hill, April 2004) documents the construction and calibration of the groundwater flow model for the Valley. The second report (CH2M Hill and LSCE, August 2005) presents the initial modeling analysis of the purveyors' original groundwater operating plan. The most recent report, an updated analysis of the Basin (LSCE & GSI, 2009) presents the modeling analysis of the current groundwater operating plan, including restoration of two Saugus Formation wells for municipal supply after treatment and also presents a range of potential impacts deriving from climate change considerations. All those results are reflected in this WSA. The primary conclusion of the technical analysis is that the groundwater operating plan will not cause detrimental short- or long-term effects to the groundwater and surface water resources in the Valley and is therefore sustainable. The analysis of sustainability for groundwater and interrelated surface water is described in detail in "Analysis of Groundwater Supplies and Groundwater Basin Yield, USCR Groundwater Basin, East Subbasin" (Basin Yield Analysis) prepared August 2009 (LSCE & GSI, 2009).

Additional technical work performed for the SCV-GSA in preparation of its GSP confirmed previous conclusions that the basin plan was sustainable. Utilizing the new MODFLOW-USG model, additional analysis of the basin plan operating plan was performed for the Water Budget Development for the Santa Clara River Valley East Groundwater Subbasin report, GSI Water Solutions Inc, October 2021. The analysis was based on the existing operating plan, modified spatial pumping distribution, incorporated updated climate change data, and made other refinements. The analysis concluded that chronic lowering of groundwater levels and groundwater storage would not occur under the operating plan and therefore operation was within the safe yield of the Basin.

The updated groundwater operating plan (LSCE & GSI, 2009), as well as operations anticipated under the GSP are summarized in Table 3-2, is as follows:

- **Alluvium:** Pumping from the Alluvial Aquifer in a given year is governed by local hydrologic conditions in the eastern Santa Clara River Watershed. Pumping for municipal, agricultural, and private purposes ranges between 30,000 and 40,000 AFY during normal and above-normal rainfall years. However, due to hydrogeologic constraints in the eastern part of the Basin along with distribution of groundwater pumping, pumping is reduced to between 30,000 and 35,000 AFY during locally dry

years. These amounts result in an ability to operate supply wells in the Basin in a feasible and sustainable manner.

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

TABLE 3-2 GROUNDWATER OPERATING PLAN FOR THE SANTA CLARITA VALLEY

	Groundwater Production (AF)			
Aquifer	**Normal Years**	**Dry Year 1**	**Dry Year 2**	**Dry Years 3-5**
Alluvium	30,000 to 40,000	30,000 to 35,000	30,000 to 35,000	30,000 to 35,000
Saugus Formation	7,500 to 15,000	15,000 to 25,000	21,000 to 25,000	21,000 to 35,000
Total	**37,500 to 55,000**	**45,000 to 60,000**	**51,000 to 60,000**	**51,000 to 70,000**

Within the groundwater operating plan, three factors affect the availability of groundwater supplies: sufficient source capacity (wells and pumps), sustainability of the groundwater resource to meet pumping demand on a renewable basis ,and protection of groundwater sources (wells) from known contamination, or provisions for treatment in the event of contamination. These factors are discussed below.

Protection of groundwater sources and provisions for treatment in the event of contamination is briefly discussed below and discussed further in Section 4.

Perchlorate has been a water quality concern since 1997 when first detected in SCV Water's service area. Several Saugus Formation and Alluvial wells were initially removed from service. Treatment facilities for two wells, Saugus 1 and Saugus 2, have been installed and are currently operational. A treatment facility has been installed for the V201 well and awaits final permitting. Treatment system design has been initiated for Well 205. Additionally, two new wells, Saugus 3 and 4 have been designed and await permitting from DDW prior to drilling. Additional details on DDW permitting and associated timeline for Saugus wells are provided in Section 4.

Recently, USEPA provided a health advisory of lifetime exposure to PFOA and PFOS of 70 parts per trillion (or 70 nanogram per liter (ng/l)) for polyfluoroalkyl substances (PFAS). The health advisory is non-enforceable and non-regulatory and is intended to provide technical information to local and state agencies. In August of 2019, DDW set notification level (NL) and response levels for various PFAS constituents. SCV Water wells were tested and as of February 2020, over 60% of Alluvium wells exceeded the NL or RL resulting in 18 wells being taken out of service. Treatment for three of these wells (N-Wells) has been installed and the

wells are now operational. Construction is also currently underway at the Valley Center Wells with a scheduled completion in 2022. Design is underway for treatment of two additional wells, Honby and Santa Clara, scheduled to be back online by 2023. Preliminary design for an additional 6 wells is under way and they are anticipated to be back online between 2024 and 2025. The remaining wells are anticipated to have treatment installed by 2030.

During this interim period of operation, pumping from non-impacted alluvium wells and Saugus Formation wells will be increased to partially mitigate for lost production capacity. The pumping distribution for alluvium wells and Saugus wells is shown in Table 3-4A and Table 3-4B respectively and summarized in Table 3-4 below. The originally anticipated schedule for installation of treatment for alluvium wells and Saugus Formation wells is contained in Appendix E of the 2020 UWMP. Updated Detailed Water Supply Tables are provided in Tables 3-4B, 3-4C, 3-5B and 3-5C (these tables updated planning and construction and permitting schedules and have been prepared in consultation with SCV Water's Engineering and Operations divisions.). For example, the online date for Saugus Formation Well 201 was changed from 2022 to 2024 to reflect inclusion of VOC treatment facilities. Similarly, the Santa Clara and Honby alluvial wells, originally scheduled to be online in 2023, are now scheduled to be available in 2024 to reflect scheduling experience gained from the previously treatment facilities constructed at the N wells. These tables reflect a likely operation moving forward but will be adjusted to reflect operational conditions that may develop.

Recent historical groundwater pumping by SCV Water and other groundwater users is summarized in Table 3-3. The quantity of groundwater used can significantly vary year to year based on a number of factors. For example, in 2016 continued dry conditions in northern California resulted in an allocation of only 20% of SCV Water's Table A amount and SCV Water relied more heavily on groundwater. In contrast 2017 and 2019 were wet years in the watersheds that provide SWP supplies, and higher SWP allocations allowed SCV Water to reduce groundwater extraction allowing the basin to recover storage. 2020 groundwater production was significantly curtailed due to newly implemented PFAS regulatory actions.

Planned future groundwater pumping in normal years, by the retail water purveyors as well as by other groundwater users, is summarized in Table 3-4. Existing and planned groundwater pumping by SCV Water as well as by other groundwater users, for normal, single-dry and multiple-dry year periods, are summarized in Section 4 and in Table 3-6 through Table 3-8 below.

TABLE 3-3 RECENT HISTORICAL GROUNDWATER PRODUCTION (AF)[(a)]

Santa Clara River Valley East Subbasin	2016	2017	2018	2019	2020
SCWD	6,892	3,900	5,383	5,948	5,311
Alluvium	3,485	907	2,465	2,762	2,517
Saugus Formation[(b)]	3,407	2,993	2,918	3,186	2,794
LACWWD 36	1,047	1,093	1,204	972	1,257
Alluvium	0	0	0	0	0
Saugus Formation	1,047	1,093	1,204	972	1,257
NCWD/NWD	4,468	2,303	2,608	3,708	4,591
Alluvium	626	780	728	1,044	1,322
Saugus Formation	3,842	1,523	1,880	2,664	3,269
VWC/VWD	13,922	9,107	13,674	6,919	6,173
Alluvium	11,133	7,737	10,837	5,243	3,732
Saugus Formation	2,789	1,370	2,837	1,676	2,441

Santa Clara River Valley East Subbasin	2016	2017	2018	2019	2020
Total Purveyor	**26,329**	**16,403**	**22,869**	**17,547**	**17,332**
Alluvium	**15,244**	**9,424**	**14,030**	**9,049**	**7,571**
Saugus Formation	**11,085**	**6,979**	**8,839**	**8,498**	**9,761**
Agricultural and Other[(d)(c)]	14,359	13,438	13,071	12,510	12,300
Alluvium	13,605	12,554	12,437	11,967	9,190
Saugus Formation	754	884	843	1067	1060
Total Basin	**40,688**	**29,841**	**36,149**	**30,581**	**27,582**
Alluvium	**28,849**	**21,978**	**26,467**	**21,016**	**16,761**
Saugus Formation	**11,839**	**7,863**	**9,682**	**9,565**	**10,821**
Groundwater Fraction of Total Municipal Water Supply	**56%**	**39%**	**46%**	**42%**	**36%**

Notes:

(a) From 2019 Santa Clarita Valley Water Report (July 2020) and recorded amounts for 2020.

(b) Represents pumping from Saugus 1 and Saugus 2 wells.

(c) Includes agricultural and other small private well pumping.

(d) 2020 Agricultural and Other alluvial production includes Pitches Detention Center = 1,282 AF, Sand Canyon Country Club 116 AF, Small Pumpers = 500 AF and 2020 Newhall Land and Farming pumping = 7,292 AF for a total of 9,190 AF. Saugus includes private irrigation pumping from Valencia Country Club and Vista Valencia Golf Course 612 AF Saugus and Whittaker Bermite Treatment = 448 AF, for a total of 1,060 AF.

TABLE 3-4 PROJECTED GROUNDWATER PRODUCTION (NORMAL YEAR) (AF)

	Groundwater Pumping (AF)					
Basin Name	**2025**	**2030**	**2035**	**2040**	**2045**	**2050**
Santa Clara River Valley East Subbasin						
Purveyor						
Alluvium[(a)]	19,240	28,050	30,790	30,790	30,790	30,790
Saugus Formation[(b)]	17,450	9,900	9,900	9,900	9,900	9,900
Total Purveyor	**36,690**	**37,950**	**40,690**	**40,690**	**40,690**	**40,690**
Non-Purveyor (Agricultural and Other)						
Alluvium[(d)]	11,540	9,150	6,410	6,410	6,410	6,410
Saugus Formation	1,200	1,200	1,200	1,200	1,200	1,200
Total Agricultural and Other	**12,740**	**10,350**	**7,610**	**7,610**	**7,610**	**7,610**
Basin						
Alluvium	30,780	37,200	37,200	37,200	37,200	37,200
Saugus Formation	18,650	11,100	11,100	11,100	11,100	11,100
Total Basin	**49,430**	**48,300**	**48,300**	**48,300**	**48,300**	**48,300**

Notes:

(a) Includes existing, future (associated with the assumed development under the Newhall Ranch Specific Plan) and recovered pumping capacity after PFAS and Perchlorate treatment.

(b) Saugus Normal Year pumping in 2025 is higher than normal to mitigate for lost alluvial pumping capacity due to impacted PFAS wells.

(c) Non purveyor pumping includes Five Point (Newhall Ranch Agriculture), Pitches Detention Center, and Small Private Domestic pumping and irrigation at Sand Canyon Country Club, private irrigation pumping from Valencia Country Club and Vista Valencia Golf Course, as well as projected Whittaker-Bermite pumping for perchlorate treatment.

(d) Reflects reduction of up to 7,038 AF associated with the assumed development under the Newhall Ranch Specific Plan.

As reflected in Table 3-4, the groundwater operating plan recognizes ongoing pumping for the two major uses of groundwater in the Basin, municipal and agricultural (including private pumpers) water supply. Consistent with the groundwater operating plan, projected groundwater pumping includes an ongoing conversion of pumping, coincident with planned land-use changes, from agricultural to municipal water supply. This is shown in Table 3-4, with projected pumping by agricultural and other users decreasing as purveyor pumping increases in such a manner that overall pumping remains within the basin operating plan. The reduction in pumping for agricultural supply is primarily due to the development of Newhall Ranch (expected buildout date of 2034) and is expected to shift to an increase in pumping by SCV Water. The groundwater operating plan and projected pumping also includes other small private domestic and related pumping. As shown in Table 3-4, total projected groundwater pumping by all users within each aquifer is within the ranges for normal year pumping identified in the groundwater operating plan (Table 3-2). SCV Water recognizes that these estimates of projected groundwater use are subject to adjustment based on various factors and conditions occurring from time to time. These estimates are provided for the planning purposes of this report and the UWMP, and do not constitute an allocation of groundwater from the local groundwater basins.

3.3.2.4 Alluvium

Based on a combination of historical operating experience and groundwater modeling analyses (2005 and 2009 groundwater operation plan updates), the Alluvial Aquifer can supply groundwater on a long-term sustainable basis in the overall range of 30,000 to 40,000 AFY, with a probable reduction in dry years to a range of 30,000 to 35,000 AFY. Both of those ranges include 13,000 to 6,400 AFY (as reflected in Table 3-6 and Table 3-7) of Alluvial pumping for agricultural and other non-municipal water uses. The dry year reduction is a result of practical constraints in the eastern part of the Basin, where lowered groundwater levels in dry periods have the effect of reducing pumping capacities in that shallower portion of the aquifer. The GSP will also consider potential impacts on Groundwater Dependent Ecosystems throughout the basin and available analysis supports a determination that historic pumping patterns and future pumping patterns consistent with the Groundwater Basin Operating Plan were protective of these systems. In addition, in general, increased water conservation practices are expected to reduce both indoor and outdoor irrigation demands. Less outdoor irrigation water use creates less return flow to the basin and less indoor water use creates less recycled water both for use within SCV Water and for return to the Santa Clara River. SCV Water will monitor these effects to ensure that pumping by SCV Water does not impact groundwater supply for other uses, including groundwater dependent ecology. Additionally, it is anticipated that the SCV-GSA will monitor groundwater conditions and implement management actions if Sustainable Management Criteria, or Groundwater Dependent Ecosystem triggers are reached so as to protect resources and ensure sustainable operation of the basin.

One notable change in the future geographic patterns of production compared to historical distributions concerns the historic distribution of agricultural pumping compared to future distribution among SCV Water wells. Under the Newhall Ranch Specific Plan, NLF is to dedicate up to 7,038 AFY by fallowing lands and reducing agricultural pumping on its lands. Under the Specific Plan, SCV Water would then have the ability to pump water to serve the new development. The project will be constructed in stages over a number of years depending on market conditions. Likewise, SCV Water pumping would increase over time in such a manner that the overall pumping remains within the basin operating plan. The Specific Plan

development is projecting to implement water conservation practices which will reduce both indoor and outdoor irrigation demands. This reduces the overall water demand of the development. Consistent with the above, SCV Water will monitor the transfer of water from NLF to ensure it does not impact other uses

If the 7,038 AFY dedicated by NLF is not sufficient to support the Specific Plan Development, NLF (or its successor in interest), will transfer additional water to SCV Water from the Nickel Water and/or the Semitropic Water Bank to backstop demands. In anticipation of this development, VWC, a PUC regulated private utility then owned by NLF, installed four wells. However, to manage future potential reductions in groundwater levels in the vicinity of these new wells, particularly during drought conditions, the GSP Water Budget Analysis indicated it would be desirable to install several wells located near the confluence of Castaic Creek and the Santa Clara River near the existing “C” wells that are currently used for agricultural production for Newhall Land’s operations in Los Angeles County.

Adequacy of Supply

Three factors affecting the availability of groundwater are (1) sufficient source infrastructure 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 from potential sources of contamination.

For source infrastructure, existing and planned wells and pumps, SCV Water has a combined pumping capacity from active Alluvial wells of approximately 51,000 gallons per minute (gpm), which translates into a current full-time Alluvial source pumping capacity of approximately 83,000 AFY. The higher individual and cumulative pumping capacities are primarily for operational reasons (i.e., to meet daily and other fluctuations from average day to maximum day and peak hour system demands). Further, to achieve these levels of production, SCV Water must complete treatment facilities for PFAS compliance. The timing for returning PFAS and Perchlorate impacted wells is shown in the 2020 UWMP and incorporated herein. Alluvial pumping capacity from all the active and future municipal supply wells is summarized in Table 3-4C.

In terms of adequate source capacity to provide flexible and adaptive management in the sustainable use of groundwater resources, the current and projected availability of Alluvial groundwater source capacity of municipal wells is approximately 83,000 AFY. This source capacity is more than sufficient to meet the 21,400 AFY in 2025 and increases to 30,800 in 2035 (Table 3-4). The higher individual and cumulative pumping capacities are primarily for operational reasons (i.e., to meet daily and other fluctuations from average day to maximum day and peak hour system demands). As illustrated on Table 3-4C, the balance of all Alluvial pumping 37,200 AFY, including non-SCV Water pumping, remains within the operating plan range of 30,000 to 40,000 AFY.

TABLE 3-4A ACTIVE MUNICIPAL GROUNDWATER SOURCE CAPACITY — ALLUVIAL AQUIFER WELLS[a]

Well	Permitted Capacity (gpm)	Max. Annual Capacity (AF)	GSP Water Budget Analysis[b] Normal Year (AF)	GSP Water Budget Analysis[b] Dry Year (AF)
Existing Wells[c]				
Castaic 1	640	1,030	430	420
Castaic 2	500	810	220	220
Castaic 4	330	530	-	-
Castaic 6	600	970	-	-
Castaic 7	2,000	3,230	580	730
Pinetree 3	550	890	310	-
Pinetree 4	500	810	-	-
Guida	1,000	1,610	560	560
Lost Canyon 2[d]	800	1,290	410	250
Lost Canyon 2A[d]	1,000	1,610	420	160
N. Oaks West	750	1,210	-	-
Sand Canyon	1,200	1,940	730	310
Well E-15[d]	1,400	2,260	725	620
Well W9	800	1,290	1,010	700
Well W11	1,000	1,610	1,180	1,000
Well E-17[d]	1,200	1,940	725	620
Existing Subtotal	*14,270*	*23,030*	*7,300*	*5,590*
Future[e] and Recovered Wells				
Pinetree 1[f]	300	480	190	0
Pinetree 5[f]	500	810	200	0
Clark[f]	550	890	380	270
Honby[f]	950	1,530	760	110
Mitchell 5B[f]	1,000	1,610	200	60
N. Oaks Central[f]	1,200	1,940	500	340
N. Oaks East[f]	950	1,530	500	220
Santa Clara[f]	1,500	2,420	770	250
Sierra[f]	1,000	1,610	400	60
Valley Center[f]	1,200	1,940	1,000	610
Well D[f]	1,050	1,690	1,210	920
Well N[f]	1,250	2,020	630	1,060
Well N7[f]	2,500	4,040	1,470	1,680
Well N8[f]	2,500	4,040	1,430	1,680
Well Q2[g][f]	1,200	1,940	770	850
Well S6[f]	2,000	3,230	640	2,080

Well	Permitted Capacity (gpm)	Max. Annual Capacity (AF)	GSP Water Budget Analysis[b] Normal Year (AF)	Dry Year (AF)
Well S7[f]	2,000	3,230	620	780
Well S8[f]	2,000	3,230	610	760
Well T7[f]	1,200	1,940	880	360
Well U4[f]	1,000	1,610	940	570
Well U6[f]	1,250	2,020	1,050	660
Well W10[f]	1,500	2,420	1,700	1,490
Well E-14[h]	1,200	1,940	725	610
Well E-16[h]	1,200	1,940	725	610
Well G-45[h]	1,200	1,940	1,670	1,430
Well C-11[h]	2,000	3,230	1,600	1,360
Well C-12[h]	2,000	3,230	1,600	1,360
S9 (Mitchell 5A Replacement)[h]	1,000	1,610	320	320
Future Subtotal	*37,200*	*60,060*	*23,490*	*20,500*
Total	**51,470**	**83,090**	**30,790**	**26,090**

Notes:

(a) The quantities of groundwater extracted by existing or future and recovered well capacity will vary depending on operating conditions. However, overall pumping remains within the groundwater basin yields per the GSP (GSI 2022) and the updated Basin Yield Analysis (LSC & GSI 2009).

(b) Production for Normal and Dry years represented in this table represent the period after all impacted wells (PFAS and Perchlorate impacts) are recovered. Dry-year production represents anticipated maximum dry year production. Schedule for recovered well capacity based on Groundwater Treatment Implementation Plan Technical Memorandum, Kennedy Jenks 2021 in Appendix M of the 2020 UWMP.

(c) Existing Category include all wells currently online and in use.

(d) E Wells and Lost Canyon have not come below the RL so are not impacted wells but are anticipated to be connected into central treatment systems.

(e) Future Category includes all wells restored from PFAS and Perchlorate water quality issues, and other future alluvial wells including those associated with development under the Newhall Ranch Specific Plan.

(f) PFAS impacted well.

(g) Perchlorate impacted well.

(h) Future wells.

TABLE 3-4B
ACTIVE MUNICIPAL GROUNDWATER SOURCE CAPACITY -
EXISTING, FUTURE AND RECOVERED ALLUVIAL AQUIFER WELLS[a]
NORMAL YEAR DETAIL (2021-2030)

Well	Permitted Capacity (gpm)	Max. Annual Capacity (AF)	Normal Year (AF)[b]									
			2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Existing Wells[c]												
Castaic 1	640	1,030	430	430	430	430	430	430	430	430	430	430
Castaic 2	500	810	220	220	220	220	220	220	220	220	220	220
Castaic 4	330	530	-	-	-	-	-	-	-	-	-	-
Castaic 6	600	970	-	-	-	-	-	-	-	-	-	-
Castaic 7	2,000	3,230	580	580	580	580	580	580	580	580	580	580
Pinetree 3	550	890	310	310	310	310	310	310	310	310	310	310
Pinetree 4	500	810	-	-	-	-	-	-	-	-	-	-
Guida	1,000	1,610	560	560	560	560	560	560	560	560	560	560
Lost Canyon 2[d]	800	1,290	410	410	410	410	410	410	410	410	410	410
Lost Canyon 2A[d]	1,000	1,610	420	420	420	420	420	420	420	420	420	420
N. Oaks West	750	1,210	-	-	-	-	-	-	-	-	-	-
Sand Canyon	1,200	1,940	730	730	730	730	730	730	730	730	730	730
Well E-15[d]	1,400	2,260	1,680	1,680	1,680	1,680	1,680	1,680	1,680	1,680	1,600	1,600
Well W9	800	1,290	1,030	1,030	1,030	1,030	1,030	1,030	1,030	1,030	1,010	1,010
Well W11	1,000	1,610	1,240	1,240	1,240	1,240	1,240	1,240	1,180	1,180	1,180	1,180
Well E-17[d]	1,200	1,940	1,290	1,290	1,290	1,290	1,290	1,290	1,290	1,290	730	730

Existing Subtotal	*14,270*	*23,030*	*8,900*	*8,900*	*8,900*	*8,900*	*8,900*	*8,900*	*8,840*	*8,840*	*8,180*	*8,180*
Future[e] and Recovered Wells												
Pinetree 1[f]	300	480	-	-	-	-	-	-	-	-	-	190
Pinetree 5[f]	500	810	-	-	-	-	-	-	-	-	-	200
Clark[f]	550	890	-	-	-	-	-	-	-	-	-	380
Honby[f]	950	1,530	-	-	-	760	760	760	760	760	760	760
Mitchell 5B[f]	1,000	1,610	-	-	-	-	-	-	-	-	-	200
N. Oaks Central[f]	1,200	1,940	-	-	-	-	-	-	-	-	-	500
N. Oaks East[f]	950	1,530	-	-	-	-	-	-	-	-	-	500
Santa Clara[f]	1,500	2,420	-	-	-	1,010	1,010	1,010	1,010	1,010	1,010	1,010
Sierra[f]	1,000	1,610	-	-	-	-	-	-	-	-	-	400
Valley Center[f]	1,200	1,940	-	1,190	1,190	1,030	1,030	1,030	1,030	1,030	1,030	1,030
Well D[f]	1,050	1,690	-	-	-	-	-	-	-	1,210	1,210	1,210
Well N[f]	1,250	2,020	980	870	870	870	630	630	630	630	630	630
Well N7[f]	2,500	4,040	2,600	2,180	2,180	2,180	1,470	1,470	1,470	1,470	1,470	1,470
Well N8[f]	2,500	4,040	2,600	2,180	2,180	2,810	1,430	1,430	1,430	1,430	1,430	1,430
Well Q2[g][f]	1,200	1,940	-	940	940	940	770	770	770	770	770	770
Well S6[f]	2,000	3,230	-	-	-	-	-	640	640	640	640	640
Well S7[f]	2,000	3,230	-	-	-	-	-	620	620	620	620	620
Well S8[f]	2,000	3,230	-	-	-	-	-	610	610	610	610	610
Well T7[f]	1,200	1,940	-	-	-	-	750	750	750	750	750	750
Well U4[f]	1,000	1,610	-	-	-	-	700	700	700	700	700	700
Well U6[f]	1,250	2,020	-	-	-	-	800	800	800	800	800	840
Well W10[f]	1,500	2,420	-	-	-	-	-	-	1,650	1,650	1,650	1,650
Well E-14[h]	1,200	1,940	-	-	-		740	740	740	740	740	740

Well E-16[(h)]	1,200	1,940	-	-	-		250	650	650	650	650	650
Well G-45[(h)]	1,200	1,940	-	-	-	-	-	-	-	-	1,670	1,670
Well C-11[(h)]	2,000	3,230	-	-	-	-	-	-	-	-	-	-
Well C-12[(h)]	2,000	3,230	-	-	-	-	-	-	-	-	-	-
S9 (Mitchell 5A Replacement)[(h)]	1,000	1,610	-	-	-	-	-	320	320	320	320	320
Future Subtotal	*37,200*	*60,060*	*6,180*	*7,360*	*7,360*	*9,600*	*10,340*	*12,930*	*14,580*	*15,790*	*17,460*	*19,870*
Total	**51,470**	**83,090**	**15,080**	**16,260**	**16,260**	**18,500**	**19,240**	**21,830**	**23,420**	**24,630**	**25,640**	**28,050**

Notes:
(a) The quantities of groundwater extracted by existing or future and recovered well capacity will vary depending on operating conditions. However, overall pumping remains within the groundwater basin yields per the 2020 SCV-GSA Water Budget Development Tech Memo (GSI 2020) and the updated Basin Yield Analysis (LSC & GSI 2009).
(b) Schedule for recovered well capacity based on Groundwater Treatment Implementation Plan Technical Memorandum, Kennedy Jenks 2021 in Appendix M of the 2020 UWMP. 2023 through 2025 adjustments based on January 2022 engineering project schedule updates.
(c) Existing Category include all wells currently online and in use.
(d) E Wells and Lost Canyon have been below the RL so are not impacted wells but are anticipated to be connected into central treatment systems.
(e) Future Category includes all wells restored from PFAS and Perchlorate water quality issues, and other future alluvial wells including those associated with development under the Newhall Ranch Specific Plan.
(f) PFAS impacted well.
(g) Perchlorate impacted well.
(h) Future wells.

TABLE 3-4 C
ACTIVE MUNICIPAL GROUNDWATER SOURCE CAPACITY
EXISTING, FUTURE AND RECOVERED ALLUVIAL AQUIFER WELLS[a]
DRY YEAR DETAIL (2021-2030)

Well	Permitted Capacity (gpm)	Max. Annual Capacity (AF)	Dry Year (AF)[b]									
			2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Existing Wells[c]												
Castaic 1	640	1,030	420	420	420	420	420	420	420	420	420	420
Castaic 2	500	810	220	220	220	220	220	220	220	220	220	220
Castaic 4	330	530	-	-	-	-	-	-	-	-	-	-
Castaic 6	600	970	-	-	-	-	-	-	-	-	-	-
Castaic 7	2,000	3,230	730	730	730	730	730	730	730	730	730	730
Pinetree 3	550	890	0	0	0	0	0	0	0	0	0	0
Pinetree 4	500	810	-	-	-	-	-	-	-	-	-	-
Guida	1,000	1,610	560	560	560	560	560	560	560	560	560	560
Lost Canyon 2[d]	800	1,290	250	250	250	250	250	250	250	250	250	250
Lost Canyon 2A[d]	1,000	1,610	160	160	160	160	160	160	160	160	160	160
N. Oaks West	750	1,210	-	-	-	-	-	-	-	-	-	-
Sand Canyon	1,200	1,940	310	310	310	310	310	310	310	310	310	310
Well E-15[d]	1,400	2,260	1,440	1,440	1,440	1,440	1,440	1,440	1,440	1,440	1,440	1,360
Well W9	800	1,290	940	940	940	940	940	940	940	940	940	700
Well W11	1,000	1,610	1,210	1,210	1,210	1,210	1,210	1,210	1,210	1,210	1,210	1,000
Well E-17[d]	1,200	1,940	1,060	1,060	1,060	1,060	1,060	1,060	1,060	1,060	1,060	620
Existing Subtotal	*14,270*	23,030	7,300	7,300	7,300	7,300	7,300	7,300	7,300	7,300	7,300	6,330

Future[e] and Recovered Wells												
Pinetree 1[f]	300	480	-	-	-	-	-	-	-	-	-	0
Pinetree 5[f]	500	810	-	-	-	-	-	-	-	-	-	0
Clark[f]	550	890	-	-	-	-	-	-	-	-	-	270
Honby[f]	950	1,530	-	-	-	110	110	110	110	110	110	110
Mitchell 5B[f]	1,000	1,610	-	-	-	-	-	-	-	-	-	60
N. Oaks Central[f]	1,200	1,940	-	-	-	-	-	-	-	-	-	340
N. Oaks East[f]	950	1,530	-	-	-	-	-	-	-	-	-	220
Santa Clara[f]	1,500	2,420	-	-	-	250	250	250	250	250	250	250
Sierra[f]	1,000	1,610	-	-	-	-	-	-	-	-	-	60
Valley Center[f]	1,200	1,940	-	800	800	800	610	610	610	610	610	610
Well D[f]	1,050	1,690	-	-	-	-	-	-	-	920	920	920
Well N[f]	1,250	2,020	1,060	1,060	1,060	1,060	1,060	1,060	1,060	1,060	1,060	1,060
Well N7[f]	2,500	4,040	2,310	2,310	2,310	2,310	1,680	1,680	1,680	1,680	1,680	1,680
Well N8[f]	2,500	4,040	2,310	2,310	2,310	2,310	1,680	1,680	1,680	1,680	1,680	1,680
Well Q2[g][f]	1,200	1,940	-	1,110	1,110	1,110	850	850	850	850	850	850
Well S6[f]	2,000	3,230	-	-	-	-	-	2,080	2,080	2,080	2,080	2,080
Well S7[f]	2,000	3,230	-	-	-	-	-	780	780	780	780	780
Well S8[f]	2,000	3,230	-	-	-	-	-	760	760	760	760	760
Well T7[f]	1,200	1,940	-	-	-	-	360	360	360	360	360	360
Well U4[f]	1,000	1,610	-	-	-	-	570	570	570	570	570	570
Well U6[f]	1,250	2,020	-	-	-	-	660	660	660	660	660	660
Well W10[f]	1,500	2,420	-	-	-	-	-	-	1,030	1,030	1,030	1,490
Well E-14[h]	1,200	1,940	-	-	-		620	620	620	620	620	620
Well E-16[h]	1,200	1,940	-	-	-		580	580	580	580	580	580

Well G-45[(h)]	1,200	1,940	-	-	-	-					650	690
Well C-11[(h)]	2,000	3,230	-	-	-	-	-	-	-	-	-	-
Well C-12[(h)]	2,000	3,230	-	-	-	-	-	-	-	-	-	-
S9 (Mitchell 5A Replacement)[(h)]	1,000	1,610	-	-	-	-	-	320	320	320	320	320
Future Subtotal	*37,200*	*60,060*	*5,680*	*7,590*	*7,590*	*7,950*	*9,030*	*12,970*	*14,000*	*14,920*	*15,570*	*17,020*
Total	**51,470**	**83,090**	**12,980**	**14,890**	**14,890**	**15,250**	**16,330**	**20,270**	**21,300**	**22,220**	**22,870**	**23,350**

Notes:

(a) The quantities of groundwater extracted by existing or future and recovered well capacity will vary depending on operating conditions. However, overall pumping remains within the groundwater basin yields per the 2020 SCV-GSA Water Budget Development Tech Memo (GSI 2020) and the updated Basin Yield Analysis (LSC & GSI 2009).

(b) Dry-year production represents anticipated maximum dry year production. Schedule for recovered well capacity based on Groundwater Treatment Implementation Plan Technical Memorandum, Kennedy Jenks 2021 in Appendix M of the 2020 UWMP. 2023 through 2025 adjustments based on January 2022 engineering project schedule updates.

(c) Existing Category include all wells currently online and in use.

(d) E Wells and Lost Canyon have not come below the RL so are not impacted wells but are anticipated to be connected into central treatment systems.

(e) Future Category includes all wells restored from PFAS and Perchlorate water quality issues, and other future alluvial wells including those associated with development under the Newhall Ranch Specific Plan.

(f) PFAS impacted well.

(g) Perchlorate impacted well.

(h) Future wells.

Sustainability

Until 2003, the long-term renewability of Alluvial groundwater was empirically determined from approximately 60 years of pumping and groundwater level records. Generally, those long-term observations included stability in groundwater levels and storage, with some dry-period fluctuations in the eastern part of the Basin. During this period, the total Alluvial pumpage ranged from a low of about 20,000 AFY to as high as about 43,000 AFY. Those empirical observations have since been complemented by the development and application of a numerical groundwater flow model, which has been used to simulate aquifer response to the planned operating ranges and distribution of pumping. The numerical groundwater flow model has also been used to analyze the control of perchlorate contaminant migration. The model was used to evaluate the likelihood of perchlorate migration to the then VWC wells, in particular Well Q2 and the wells in the VWC Pardee wellfield. The assessment of perchlorate migration also evaluated the sustainability and reliability of water supplies from the Alluvial aquifer. This analysis (LSCE, 2005) concluded that there was sufficient production capacity in the Alluvium to meet water demands in the case of VWC Well Q2 and/or the Pardee well field being temporarily taken out of service due to perchlorate impacts.

To examine the yield of the Alluvium, or more specifically the sustainability of the Alluvium on a renewable basis, the original groundwater flow model was used to examine the long-term projected response of the aquifer to pumping for municipal and agricultural uses in the 30,000 to 40,000 AFY range under average/normal and wet conditions, and in the 30,000 to 35,000 AFY range under locally dry conditions, documented in the 2005 basin yield analysis (2005 Basin Yield Analysis), prepared by CH2M Hill & LSCE, 2005. To examine the response of the entire aquifer system, the original model also incorporated pumping from the Saugus Formation in accordance with the normal (7,500 to 15,000 AFY) and dry year (15,000 to 35,000 AFY) operating plan for that aquifer. The model was run over a synthetic 78-year hydrologic period, which was selected from actual historical precipitation to examine a number of hydrologic conditions expected to affect both groundwater pumping and groundwater recharge and including projected impacts from climate change.

Simulated Alluvial Aquifer response to the range of hydrologic conditions and pumping stresses was essentially a long-term repeat of the historical conditions that have resulted from similar pumping over the last several decades. The resultant response included (1) generally constant groundwater levels in the middle to western portion of the Alluvium, and fluctuating groundwater levels in the eastern portion as a function of wet and dry hydrologic conditions, (2) variations in recharge that directly correlate with wet and dry hydrologic conditions and (3) no long-term decline in groundwater levels or storage. Consequently, the Alluvial Aquifer was considered in the 2005 UWMP to be a sustainable water supply source to meet the Alluvial portion of the operating plan for the groundwater Basin.

In 2008, partly in preparation for the 2010 UWMP and partly in response to concerns about events expected to impact the future reliability of supplemental water supply from the SWP, an updated analysis was undertaken to assess groundwater development potential and possible augmentation of the groundwater operating plan. In addition to extending the model's calibration, the updated analysis simulated the historical record of climate and incorporated SWP deliveries for those climatic conditions for an 86-year period from 1922 through 2007, in place of the original model's synthetic 78-year hydrologic period that had been developed prior

to the availability of combined climate and SWP deliveries since 1922. While the overall operating plan ranges in the updated basin yield analysis did not change from the original operating plan, prevailing land-use conditions and the specific distributions of pumping were found to produce the same kinds of resultant Alluvial groundwater conditions as concluded to be sustainable in 2005 – (1) no long-term declines in Alluvial groundwater levels and storage; (2) multi-year periods of locally declining, or locally increasing, groundwater levels in response to cycles of below-normal and above-normal precipitation and (3) short-term impacts on pumping capacities in eastern parts of the basin due to declining groundwater levels during dry periods, mitigable by short-term redistribution of pumping to wells located in the central and western portions of the Basin (reflected in pumping volumes included in this WSA and the 2020 UWMP) and by conformance with the dry-period reduction in Alluvial pumping in the operating plan (Table 3-2). Based on the results of the updated basin yield analysis (LSCE & GSI, 2009), the operating plan is considered to reflect ongoing sustainable groundwater supply rates. In the Alluvium, sustainability was found via explicit simulation of pumping in wet/normal years near the upper end of the operating plan range. In dry years, sustainability was found via explicit simulation of pumping throughout the dry-year operating plan range, with the additional consideration that some redistribution of municipal pumping (reflected in this WSA and the 2020 UWMP and experienced in the dry years of 2014 and 2015) be implemented to achieve pumping rates near the dry-period range.

The SCV-GSA's work on Basin sustainability for the GSP has advanced the technical understanding of basin conditions since the 2009 basin yield analysis and confirms the previous conclusion. A new groundwater flow model using the U.S Geological Survey software MODFLOW-USG was developed calibrated and peer reviewed. The MODFLOW-USG model improves the spatial resolution and employs more sophisticated methods of representing stream/aquifer interactions among other advancements over the previous model. A more thorough discussion is documented in Development of a Numerical Groundwater Flow Model for the Santa Clara River Valley East Groundwater Subbasin GSI September 22, 2020. Additionally, the GSP Water Budget Analysis reflect updated climate change assumptions provided by DWR. New GSP technical reports defining the extent and nature of groundwater dependent ecosystems informed potential future adjustments of pumping distributions throughout the Alluvial Aquifer and Saugus Formation when considering sustainability criteria including potential impacts on groundwater dependent ecosystems. Accordingly, the 2020 UWMP reflects adjusted pumping distributions that are reflected in this WSA's Table 3-4C.

On January 3, 2022, the GSP was adopted which reflects updated technical resources and analysis, and a robust public involvement and review process. The plan can be accessed at. *https://scvgsa.org/wp-content/uploads/2021/12/SCV-GSP-Sections-Combined-20211217.pdf*.

The plan reached the following conclusions relating to sustainability:

1. Chronic Lowering of Groundwater Levels – Alluvium and Saugus Formation pumping consistent with the basin operating plan does not result in chronic lowering of groundwater levels.

2. Reduction of Groundwater Storage – Alluvium and Saugus Formation pumping consistent with the basin operating plan does not result in the long-term groundwater storage depletion.

3. Degraded Water Quality – Implementation of treatment for known contaminants support continued Alluvium and Saugus Formation groundwater use consistent with the operating plan.

4. Land Subsidence – An evaluation of the available information indicates there is no evidence of land subsidence occurring. The GSP does identify additional data collection needs to ensure land subsidence remains a non-issue while achieving the basin operation plan. The GSP incorporates active monitoring stations.

5. Depletion of Interconnected Surface Water/Groundwater Dependent Ecosystems – Existing riparian habitat along the Santa Clara River is considered by resource agencies as having very high value. The extent and quality of the habitat can vary significantly from year to year in response to very wet or dry conditions and demonstrates considerable resiliency. Certain aquatic habitat is critical for known protected species such as the Three Spined Unarmored Stickle Back. The GSP incorporates a process that avoids groundwater pumping related permanent loss of riparian habitat or the temporary loss of critical aquatic habitat. Active monitoring of groundwater levels will occur and when trigger levels (set at or above historical groundwater levels) are reached, an assessment of the cause would be conducted. If impacts are related to pumping, then responsive measures and/or projects would be implemented. These could include a reduction of groundwater pumping.

6. Seawater Intrusion – The significant distance of the Alluvial Aquifer and Saugus Formation from the ocean, as well as differences in elevation, do not allow for seawater intrusion into the upper basin.

Considering the results of the 2009 basin yield analysis and the results of the updated groundwater analysis performed by the SCV-GSA for its GSP which included the pumping distributions consistent with those shown in Table 3-4C, the basin can be sustainably operated without chronic lowering of groundwater levels or groundwater storage.

3.3.2.5 Saugus Formation

Based on historical operating experience and recent (2005 and 2009) groundwater modeling analysis, the Saugus Formation can supply water on a long-term sustainable basis in a normal range of 7,500 to 15,000 AFY. Intermittent increases to 25,000 to 35,000 AF in dry years have not been historically experienced operationally, however, investigations of the Saugus Formation, historical groundwater level monitoring data, and numerical modeling indicate that the Saugus Formation can be pumped sustainably at these higher rates in dry years, followed by reductions in pumping in wet to normal years. The dry-year increases, based on modeled projections, demonstrate that the 25,000 to 35,000 AFY is a small amount of the large groundwater storage in the Saugus Formation and these amounts can be pumped over a relatively short (dry) period. This would be followed by recharge (replenishment) of that storage during a subsequent normal-to-wet period when the Saugus pumping would be reduced to 7,500 to 15,000 AFY.

Adequacy of Supply

For municipal water supply with existing wells, SCV Water has a combined pumping capacity from active Saugus wells of nearly 16,200 gpm, which translates into a full-time Saugus

Formation source capacity of about 26,120 AFY. Additionally, LACWWD 36 completed a Saugus Formation Well with a pumping capacity estimated at 2,000 gpm and an annual capacity of 3,220 AFY. Saugus Formation pumping capacity from all the existing active municipal supply wells is summarized in Table 3-5A, as well as restored, replacement, and planned new supply wells. The active wells include two Saugus Formation wells contaminated by perchlorate (Saugus 1 and 2), which were returned to service in 2010 with treatment facilities for use of the treated water for municipal supply under permit from the California Department of Public Health (DPH). The permit is now with DDW. The active wells also include the most recent replacement well, Well 207, in a non-impacted part of the basin. Also included in Table 3-5A is Well 201, which was impacted by the detection of perchlorate and removed from service in 2010. The well has been equipped with treatment facilities for perchlorate and was awaiting final DDW approval), however, a second treatment train is being designed for treatment of VOCs. Well 201 is anticipated to provide a total of 2,000 gpm of pumping capacity and is anticipated to return to service sometime in 2024. Similarly, Well 205, was taken out of service for perchlorate. Treatment for this facility is under early stages of design and it is anticipated to return to service in 2024 as shown in Table 3-6.

To achieve full dry year production of 33,800 AFY six additional Saugus wells are planned. Two of these wells, Saugus 3 and 4, located behind Magic Mountain, have been designed and rebid after consultation with DDW on the criteria for obtaining an operating permit as related to issues surrounding the proximity of abandoned oil wells. It is estimated that these wells should be available in 2025. The next wells anticipated to be available are Saugus 5 and 6, located in the Castaic Junction area. Sites have been secured for these wells and they are anticipated to be available in 2027. To accommodate the shifting of pumping patterns associated with treatment being added at Well 201 and Well 205 the GSP Water Budget Analysis concluded that two additional dry-year wells would be required to meet the Saugus Formation pumping objectives. These final two wells, Saugus 7 and Saugus 8, do not have specific sites. The GSP Water Budget Analysis assumed these wells would be located near the South Fork of the Santa Clara River in the vicinity of the existing well 12 and 13. These wells are anticipated to become available in 2030. Additional details on DDW permitting and associated timeline for Saugus wells are provided in Section 4.7.

In terms of adequacy and availability, the combined active (existing) Saugus groundwater source capacity of municipal wells of about 29,340 AFY is more than sufficient to meet the planned use of Saugus groundwater in normal years of 7,500 to 15,000 AFY. This existing active capacity is also more than sufficient to meet near term dry year water demands, in combination with other sources. In order to supplement long term dry-year supplies, additional Saugus Formation wells are planned to be operational within the next ten years.

With the restored capacity of Wells 201 and 205 and the additional planned new Saugus Formation wells, the total dry year combined capacity will increase to about 54,680 AFY. As shown in Table 3-5C, this combined capacity is more than sufficient to meet the multiple dry year municipal production target of 33,880 AFY.

TABLE 3-5A MUNICIPAL GROUNDWATER SOURCE CAPACITY- EXISTING, FUTURE, AND RECOVERED SAUGUS FORMATION WELLS[a]

Well		Permitted Capacity (gpm)	Max. Annual Capacity (AF)	GSP Water Budget Analysis[b] Normal Year (AF)	GSP Water Budget Analysis[b] Dry Year (AF)
Existing Wells[l]					
LACWWD36[d]					
	Palmer	2,000	3,220	500	1,250
SCV Water					
	12[i]	2,500	4,030	530	2,280
	13	2,500	4,030	540	2,280
	160	2,000	3,230	0	680
	206	2,500	4,030	180	2,830
	207	2,500	4,030	140	2,860
	Saugus 1	1,100	1,770	1,450	1,450
	Saugus 2	1,100	1,770	1,350	1,350
SCV Water Subtotal		*14,200*	*22,890*	*4,190*	*13,730*
Existing Purveyor Subtotal		*16,200*	*26,110*	*4,690*	*14,980*
Future[f] and Recovered Wells					
	201[l]	2,000	3,230	2,420	2,900
	205[g]	2,700	4,360	2,610	2,920
	Saugus 3[h]	2,500	4,030	30	2,620
	Saugus 4[h]	2,500	4,030	30	2,620
	Saugus 5[h]	2,000	3,230	30	1,940
	Saugus 6[h]	2,000	3,230	30	1,940
	Saugus 7[h]	2,000	3,230	30	1,940
	Saugus 8[h]	2,000	3,230	30	1,940
Future Subtotal		*17,700*	*28,570*	*5,210*	*15,920*
Total Purveyors		**33,900**	**54,680**	**9,900**	**33,800**

Notes:

(a) The quantities of groundwater extracted by existing or future and recovered well capacity will vary depending on operating conditions. However, overall pumping remains within the groundwater basin yields per the GSP (GSI 2022) and the updated Basin Yield Analysis (LSC & GSI 2009).

(b) Production for Normal and Dry years represented in this table represent the period after all impacted wells (PFAS and Perchlorate impacts) are recovered. See Tables 3-5B and 3-5C for anticipated production from 2021-2030. Dry-year production represents anticipated maximum dry year production. Schedule for recovered well capacity based on Groundwater Treatment Implementation Plan Technical Memorandum, Kennedy Jenks 2021 in Appendix M of the 2020 UWMP.
(c) Existing Category include all wells currently online and in use.
(d) LAWWD36 anticipated production for normal and dry years.
(e) Well 201 is awaiting VOC treatment and DDW permitting, returning to service in 2024.
(f) Future Category includes two wells restored from Perchlorate and VOC water quality issues, and other future Saugus wells.
(g) Well 205 is impacted by Perchlorate and is expected to return to service in 2024.
(h) Future wells, Saugus 3 & 4, are planned replacement wells, Saugus 5-8 are new Dry Year wells. The new dry-year wells would not typically be operated during average/normal years.
(i) Permitted at 2,500 gpm but capacity was reduced to 2,000 gpm during last rehab.

TABLE 3-5 B
MUNICIPAL GROUNDWATER SOURCE CAPACITY
EXISTING, FUTURE AND RECOVERED SAUGUS FORMATION WELLS[a]
NORMAL YEAR DETAIL (2021-2030)

Well	Permitted Capacity (gpm)	Max. Annual Capacity (AF)	Normal Year (AF) [b]									
			2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Existing Wells [l]												
LACWWD36[(d)]												
Palmer	2,000	3,220	500	500	500	500	500	500	500	500	500	500
SCV Water												
12[(i)]	2,500	4,030	2,220	2,220	2,220	2,220	2,220	530	530	530	530	530
13	2,500	4,030	2,280	2,280	2,280	2,280	2,280	540	540	540	540	540
160	2,000	3,230	-	-	-	-	-	-	-	-	-	-
201[l]	2,000	3,230	-	-	-	2,580	2,580	2,480	2,420	2,420	2,420	2,420
206	2,500	4,030	2,830	2,830	2,830	2,020	2,020	200	200	200	200	180
207	2,500	4,030	2,860	2,860	2,860	2,040	2,040	180	180	180	180	140
Saugus 1	1,100	1,770	1,450	1,450	1,450	1,450	1,450	1,450	1,450	1,450	1,450	1,450
Saugus 2	1,100	1,770	1,350	1,350	1,350	1,350	1,350	1,350	1,350	1,350	1,350	1,350
SCV Water Subtotal	*16,200*	*26,120*	*12,990*	*12,990*	*12,990*	*13,940*	*13,940*	*6,730*	*6,670*	*6,670*	*6,670*	*6,610*
Existing Purveyor Subtotal	*18,200*	*29,340*	*13,490*	*13,490*	*13,490*	*14,440*	*14,440*	*7,230*	*7,170*	*7,170*	*7,170*	*7,110*
Future[(f)] and Recovered Wells												
205[(g)]	2,700	4,360	-	-	-	3,010	2,610	2,610	2,610	2,610	2,610	2,610
Saugus 3[(h)]	2,500	4,030					200	30	30	30	30	30
Saugus 4[(h)]	2,500	4,030					200	30	30	30	30	30

5[h]	Saugus	2,000	3,230							30	30	30	30
6[h]	Saugus	2,000	3,230							30	30	30	30
7[h]	Saugus	2,000	3,230										30
8[h]	Saugus	2,000	3,230										30
Future Subtotal		*15,700*	*25,340*	*0*	*0*	*0*	*3,010*	*3,010*	*2,670*	*2,730*	*2,730*	*2,730*	*2,790*
Total Purveyors [j]		**33,900**	**54,680**	**13,490**	**13,490**	**13,490**	**17,450**	**17,450**	**9,900**	**9,900**	**9,900**	**9,900**	**9,900**

Notes:

(a) The quantities of groundwater extracted by existing or future and recovered well capacity will vary depending on operating conditions. However, overall pumping remains within the groundwater basin yields per the 2020 SCV-GSA Water Budget Development Tech Memo (GSI 2020) and the updated Basin Yield Analysis (LSC & GSI 2009).

(b) Schedule for recovered well capacity based on Groundwater Treatment Implementation Plan Technical Memorandum, Kennedy Jenks 2021 in Appendix M of the 2020 UWMP. 2022 and 2023 updates based on permitting and treatment project schedule changes.

(c) Existing Category include all wells currently online and in use.

(d) LAWWD36 anticipated production for normal and dry years.

(e) Well 201 could have been put online through 97-005 permitting process, however treatment plans were altered and Well 201 is now awaiting supplemental VOC treatment and DDW permitting. Anticipate return to service in 2024.

(f) Future Category includes one well restored from Perchlorate water quality issues, and other future Saugus wells.

(g) Well 205 is impacted by Perchlorate and is expected to return to service in 2024.

(h) Future wells, Saugus 3 & 4, are planned replacement wells, Saugus 5-8 are new Dry Year wells. The new dry-year wells would not typically be operated during average/normal years.

(i) Permitted at 2,500 gpm but capacity was reduced to 2,000 gpm during last rehab.

TABLE 3-5 C
MUNICIPAL GROUNDWATER SOURCE CAPACITY
EXISTING, FUTURE AND RECOVERED SAUGUS FORMATION WELLS[a]
DRY YEAR DETAIL (2021-2030)

Well	Permitted Capacity (gpm)	Max. Annual Capacity (AF)	Dry Year (AF)[b] 2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Existing Wells €												
LACWWD36[d]												
Palmer	2,000	3,220	1,250	1,250	1,250	1,250	1,250	1,250	1,250	1,250	1,250	1,250
SCV Water												
12[i]	2,500	4,030	2,280	2,280	2,280	2,280	2,280	2,280	2,280	2,280	2,280	2,280
13	2,500	4,030	2,280	2,280	2,280	2,280	2,280	2,280	2,280	2,280	2,280	2,280
160	2,000	3,230	680	680	680	680	680	680	680	680	680	680
201€	2,000	3,230	-	-	-	2,900	2,900	2,900	2,900	2,900	2,900	2,900
206	2,500	4,030	2,830	2,830	2,830	2,830	2,830	2,830	2,830	2,830	2,830	2,830
207	2,500	4,030	2,860	2,860	2,860	2,860	2,860	2,860	2,860	2,860	2,860	2,860
Saugus 1	1,100	1,770	1,450	1,450	1,450	1,450	1,450	1,450	1,450	1,450	1,450	1,450
Saugus 2	1,100	1,770	1,350	1,350	1,350	1,350	1,350	1,350	1,350	1,350	1,350	1,350
SCV Water Subtotal	*16,200*	*26,120*	*13,730*	*13,730*	*13,730*	*16,630*	*16,630*	*16,630*	*16,630*	*16,630*	*16,630*	*16,630*
Existing Purveyor Subtotal	*18,200*	*29,340*	*14,980*	*14,980*	*14,980*	*17,880*	*17,880*	*17,880*	*17,880*	*17,880*	*17,880*	*17,880*
Future[f] and Recovered Wells												
205[g]	2,700	4,360	-	-	-	3,050	3,050	3,050	3,050	3,050	3,050	2,920
Saugus 3[h]	2,500	4,030					3,020	3,020	2,620	2,620	2,620	2,620
Saugus 4[h]	2,500	4,030					3,020	3,020	2,620	2,620	2,620	2,620

5[h]	Saugus	2,000	3,230							2,420	2,420	2,420	1,940
6[h]	Saugus	2,000	3,230							2,420	2,420	2,420	1,940
7[h]	Saugus	2,000	3,230										1,940
8[h]	Saugus	2,000	3,230										1,940
Future Subtotal		*15,700*	*25,340*	*0*	*0*	*0*	*3,050*	*9,090*	*9,090*	*13,130*	*13,130*	*13,130*	*15,920*
Total Purveyors		**33,900**	**54,680**	**14,980**	**14,980**	**14,980**	**20,930**	**26,970**	**26,970**	**31,010**	**31,010**	**31,010**	**33,800**

Notes:

(a) The quantities of groundwater extracted by existing or future and recovered well capacity will vary depending on operating conditions. However, overall pumping remains within the groundwater basin yields per the 2020 SCV-GSA Water Budget Development Tech Memo (GSI 2020) and the updated Basin Yield Analysis (LSC & GSI 2009).

(b) Dry-year production represents anticipated maximum dry year production. Schedule for recovered well capacity based on Groundwater Treatment Implementation Plan Technical Memorandum, Kennedy Jenks 2021 in Appendix M of the 2020 UWMP. 2022 and 2023 updates based on permitting and treatment project schedule changes.

(c) Existing Category include all wells currently online and in use.

(d) LAWWD36 anticipated production for normal and dry years.

(e) Well 201 could have been put online through 97-005 permitting process, however treatment plans were altered and Well 201 is now awaiting supplemental VOC treatment and DDW permitting. Anticipate return to service in 2024.

(f) Future Category includes one well restored from Perchlorate water quality issues, and other future Saugus wells.

(g) Well 205 is impacted by Perchlorate and is expected to return to service in 2024.

(h) Future wells, Saugus 3 & 4, are planned replacement wells, Saugus 5-8 are new Dry Year wells. The new dry-year wells would not typically be operated during average/normal years.

(i) Permitted at 2,500 gpm but capacity was reduced to 2,000 gpm during last rehab.

Sustainability

Until 2003, the long-term sustainability of Saugus Formation groundwater was empirically estimated from limited historical experience. Historically (and continuing to the present), pumping from the Saugus Formation has been fairly low in most years, with one four-year period of increased pumping up to about 15,000 AFY that had short-term water level impacts but produced no long-term depletion of the substantial groundwater storage in the Saugus Formation. Those empirical observations have now been complemented by the development and application of the numerical groundwater flow model. The numerical groundwater flow model has also been used to analyze the control of perchlorate contaminant migration on two separate occasions under selected pumping conditions. The first occasion resulted in the implementation of a plan to restore, with treatment, pumping capacity that was formerly inactivated due to perchlorate contamination detected in the Saugus 1 and Saugus 2 wells in the Basin. The second occasion utilized the numerical groundwater flow model to evaluate preferred plans to control the migration of perchlorate in the vicinity of Well 201. As discussed in Section 3, those restoration efforts have been undertaken and the restoration of that pumping is reflected in the Saugus Formation operating plan (Table 3-2) and pumping distribution (Table 3-5A).

To examine the yield of the Saugus Formation, or its sustainability on a renewable basis, the original groundwater flow model was used to examine long-term projected response to pumping from both the Alluvium and the Saugus Formation over the synthetic 78-year period of hydrologic conditions that incorporated alternating wet and dry periods as have historically occurred (CH2M Hill and LSCE, 2005). The model was based upon field investigations and historical data collected from numerous sources including annual reports prepared by LSCE and investigations of Saugus Formation and Alluvial aquifers by CH2M Hill and Richard C. Slade and Associates among others (CH2M Hill, 2004a, 2004b, 2005a; CH2M Hill & LSCE 2005; LSCE 2005; Slade & Associates 1986, 1988, 2002). The pumping simulated in the model was in accordance with the then-current operating plan for the Basin. For the Saugus Formation, simulated pumping included the then-planned restoration of historic pumping from the wells impacted by perchlorate at that time (Saugus 1 and Saugus 2).

The originally simulated Saugus Formation response to the ranges of operating plan pumping under assumed recurrent historical hydrologic conditions was consistent with actual experience under smaller pumping rates: (1) short-term declines in groundwater levels and storage near pumped wells during dry-period pumping, (2) 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 Formation recharge and pumping up to about 15,000 AFY, complemented by modeled projections of aquifer response that showed long-term utility of the Saugus Formation at 7,500 to 15,000 AFY in normal years and rapid recovery from higher pumping rates during intermittent dry periods, was the basis for concluding that the Saugus Formation could be considered a sustainable water supply source to meet the Saugus Formation portion of the operating plan for the groundwater Basin.

As discussed under Sustainability of the Alluvium above, an updated basin yield analysis was undertaken in 2008 to assess groundwater development potential and possible augmentation of the groundwater operating plan. After extended and updated model calibration and

incorporation of extended historical records, the overall operating plan (Table 3-2) and specific distribution of Saugus Formation pumping were found to produce the same kinds of resultant Saugus Formation groundwater conditions as concluded to be sustainable in 2005 – (1) long-term stability of groundwater levels, with no sustained declines; (2) groundwater levels slightly below historic Saugus Formation levels, in response to greater long-term utilization of the Saugus and (3) maintenance of sufficiently high Saugus Formation groundwater levels to ensure achievement of planned individual pumping capacities (Table 3-5). Thus, the operating plan for the Saugus Formation, with fairly low pumping in wet/normal years and increased pumping through dry periods, is concluded to reflect sustainable groundwater supply rates.

The SCV-GSA's work on basin sustainability for the GSP has advanced the technical understanding of basin conditions since the 2009 basin yield analysis and confirms the previous conclusion. A new groundwater flow model using the U.S Geological Survey software MODFLOW-USG was developed calibrated and peer reviewed. The MODFLOW-USG model improves the spatial resolution and employs more sophisticated methods of representing stream/aquifer interactions among other advancements over the previous model. A more thorough discussion is documented in Development of a Numerical Groundwater Flow Model for the Santa Clara River Valley East Groundwater Subbasin (GSI 2020). Additionally, the GSP Water Budget Analysis reflects updated climate change assumptions provided by DWR. New GSP technical reports defining the extent and nature of groundwater dependent ecosystems informed potential future adjustments of pumping distributions throughout the Alluvial Aquifer and Saugus Formation when considering likely sustainability criteria and potential impacts on groundwater dependent ecosystems. Accordingly, the 2020 UWMP reflects adjusted pumping distributions that are reflected in this WSA's Table 3-5A.

On January 3, 2022, the SCV GSP adopted the GSP which reflected updated technical resources and analysis, and a robust public involvement and review process. The plan can be accessed at https://scvgsa.org/wp-content/uploads/2022/02/Santa-Clara-River-Valley-East-Groundwater-Subbasin-GSP.pdf

The plan reached the following conclusions relating to sustainability:

1. Chronic Lowering of Groundwater Levels – Alluvium and Saugus Formation pumping consistent with the basin operating plan does not result in chronic lowering of groundwater levels.

2. Reduction of Groundwater Storage - Alluvium and Saugus Formation pumping consistent with the basin operating plan does not result in the long-term groundwater storage depletion.

3. Degraded Water Quality – Implementation of treatment for known contaminants support continued Alluvium and Saugus Formation pumping consistent with the operating plan.

4. Land Subsidence – An evaluation of the available information indicates there is now evidence of land subsidence occurring. The GSP does identify additional data

collection needs to ensure land subsidence remains a non-issue while achieving the basin operating plan. The GSP incorporates active monitoring stations.

5. Depletion of Interconnected Surface Water/Groundwater Dependent Ecosystems – Existing riparian habitat along the Santa Clara River is considered by resource agencies as having very high value. The extent and quality of the habitat can vary significantly from year to year in response to very wet or dry conditions and demonstrates considerable resiliency. Certain aquatic habitat is critical for known protected species such as the Three Spined Unarmored Stickle Back. The GSP incorporates a process that avoids groundwater pumping related to permanent loss of riparian habitat or the temporary loss of critical aquatic habitat. Active monitoring of groundwater levels will occur and when trigger levels (set at or above historical groundwater levels) are reached, an assessment of the cause would be conducted. If impacts are related to pumping, then responsive measures and/or projects would be implemented. These could include a reduction of groundwater pumping

6. Sea Water Intrusion – The proximity of the Alluvial Aquifer and Saugus Formation to the ocean as well as differences in elevation, do not allow for seawater intrusion into the upper basin.

The results of the 2009 basin yield analysis and the results of the updated groundwater analysis performed by the SCV-GSA for the GSP, which included pumping distributions consistent with those shown in Table 3-5A, show that the basin can be sustainably operated without chronic lowering of groundwater levels or groundwater storage.

Thus, the operating plan for the Saugus Formation, with fairly low pumping in wet/normal years and increased pumping through dry periods, is concluded to reflect sustainable groundwater supply rates.

3.3.3 Existing and Planned Groundwater Pumping

3.3.3.1 Impacted Well Capacity

As discussed in Section 6, USEPA recently implemented a new lifetime health advisory level of 70 parts per trillion (or 70 nanogram per liter (ng/l)) for polyfluoroalkyl substances (PFAS). In August of 2019, DDW set notification level (NL) and response levels for various PFAS constituents. SCV Water wells were tested and as of February 2020, over 60% of Alluvium wells exceeded the NL or RL resulting in 18 wells being taken out of service. Treatment for three of these wells (N-Wells) has been installed and is now operational. Design is underway for treatment of two additional wells, Honby and Santa Clara, that are scheduled to be returning to service by 2023. Preliminary design for an additional 6 wells is under way and these are anticipated to be returning to service between 2024 and 2025. The remaining wells are anticipated to have treatment installed by 2030. A feasibility assessment and schedule for completion of these wells are shown in the April 2021 Technical Memorandum, Groundwater Treatment Implementation Plan (Kennedy Jenks 2021). The Capital Improvement Section of SCV Water's FY 2021/222 and FY2022/23 Biennial Budget provides near term funding treatment for PFAS impacted alluvial wells.

As discussed in Section 6.2.1 of the 2020 UWMP and incorporated herein, certain wells in the Basin were impacted by perchlorate contamination and thus represented a temporary loss of well capacity within SCV Water's service area. Six wells were initially taken out of service upon the detection of perchlorate including four Saugus wells and two Alluvial wells. All have either been (1) abandoned and replaced, (2) returned to service with the addition of treatment facilities that allow the wells to be used for municipal Water supply as part of the overall water supply systems permitted by DDW, or (3) will be replaced under an existing perchlorate litigation settlement agreement (see Section 4). The restored wells (two Saugus wells and one Alluvial well), one Saugus well which is currently being restored, and the replacement wells (one Saugus and one Alluvial well), which collectively restore much of the temporarily lost well capacity, are now included as parts of the municipal groundwater source capacities. Additional wells will be drilled to fully restore the impacted well capacity, thus restoring the operational flexibility that existed prior to perchlorate contamination being discovered.

In August 2010, Well 201, located downgradient from the Whittaker-Bermite site and downgradient from the initially impacted Saugus 1 and Saugus 2 wells and well 157 had detections of perchlorate and was removed from service. Treatment facilities were constructed, are operational, and are now awaiting final DDW approval to be returned to potable drinking water service, similar to the Saugus 1 and Saugus 2 wells. Well 201 is anticipated to provide a total of 2,000 gpm of pumping capacity (for a dry-year production capacity of 2,900 AFY) and is shown in Table 3-5A. Similarly, Well 205, was taken out of service for perchlorate. Treatment for this facility is under early stages of design and it is anticipated to return to service in 2024 as shown in Tables 3-5B and 3-5C. Additional details on DDW permitting and associated timeline for Saugus wells 201 and 205 are provided in Section 4.7.

To achieve full dry-year production of 33,800 AFY six additional Saugus wells are planned. Two of these wells Saugus 3 and 4, located west of Magic Mountain, have been designed and are being rebid. As indicated above, this delay was related to issues surrounding the proximity to abandoned oil wells and discussion with DDW resulted in an approach that should facilitate DDW issuing an operating permit. It is estimated that these wells should be available in 2025. The next wells anticipated to be available are Saugus 5 and 6, located in the Castaic Junction area. Sites for these wells have been secured and the wells are anticipated to be available in 2027. The final two wells, Saugus 7 and 8, do not have specific sites. The GSP Water Budget Analysis (GSI 2020a) assumed these wells would be located near the South Fork of the Santa Clara River in the vicinity of the existing well 12 and 13. These wells are anticipated to become available in 2030. Additional details on DDW permitting and associated timeline for Saugus wells are provided in Section 4.7.

3.3.3.2 Alluvium

In terms of adequacy and availability, the current Alluvial Aquifer groundwater pumping capacity is constrained, however the current reductions in supply are being met by other sources of supply such as imported SWP water or banked water supplies. The schedule for recovery of this supply is shown in Table 3-4B for normal years and Table 3-4C for dry years. When well capacity is recovered in 2030 and other future wells are in service in 2035 the combined Alluvial Aquifer groundwater source municipal well capacity of approximately 83,090 AFY will be sufficient to meet anticipated demands. The higher cumulative pumping capacities are for

operational reasons (i.e., to meet daily and other fluctuations from average day to maximum day and peak hour system demands).

Table 3-4B and 3-4C include future and recovered Alluvial Aquifer supplies. These planned supplies do not increase the total quantity of water being withdrawn from the Alluvial Aquifer but represent anticipated or potential shifts in pumping involving different or new wells.

For example, as shown on Table 3-4, planned Alluvial Aquifer supplies assume a reduction of Newhall Land agricultural uses and a corresponding increase in SCV Water Alluvial water use for the Newhall Ranch Specific Plan area. Total purveyor and non-purveyor supplies remain consistent with the operating plan shown on Table 3-2. Based on existing information the conclusion of the analysis is that total Alluvial Aquifer pumping is sustainable. However, should droughts extend for periods longer than those shown in the historical record potential exists for future curtailments.

3.3.3.3 Saugus Formation

In terms of adequacy and availability, the combined active Saugus groundwater source municipal well capacity of 26,120 AFY (29,340 including LACWD36 well) is more than sufficient to meet the planned use of Saugus groundwater in normal years of 7,500 to 15,000 AFY (Table 3-5A). Near term dry-year supplies will be augmented once Well 205 is restored to service by 2024 utilizing treatment technologies currently being used in the Santa Clarita Valley. In order to accommodate the longer-term demands, current GSP Water Budget Analysis indicates six additional wells will be required. Two of these wells have been designed and await permitting, sites for two additional wells have been secured and the final two wells need to be sited. These additional Saugus wells would provide for meeting the planned maximum purveyor use of 33,800 AFY of Saugus groundwater during a multiple-dry year period. That amount combined with non-purveyor pumping of 1,200 AFY is at the maximum of 35,000 AFY consistent with operating plan shown on Table 3-2. The conclusion of the analysis is that the Saugus operating plan is sustainable. However, associated with the implementation of the GSP, the potential exists for some future curtailment of pumping during extreme long-term drought events over the upcoming twenty years. Table 3-6, Table 3-7, and Table 3-8 include planned Saugus Formation supplies.

3.3.3.4 Summary

Overall, the total municipal supply in the 2020 UWMP, incorporated herein, includes a groundwater component that is, in turn, part of the overall groundwater supply of the Santa Clarita Valley. As such, the municipal groundwater supply 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 3-2) that has been analyzed for sustainability.

TABLE 3-6 AVERAGE/NORMAL YEAR EXISTING AND PLANNED GROUNDWATER USAGE (AF)[(a)]

Alluvium Supplies	2025	2030	2035	2040	2045	2050
Purveyors Existing	8,900	8,180	7,300	7,300	7,300	7,300
Purveyors Future and Recovered[(b)]	10,340	19,870	23,490	23,490	23,490	23,490

Purveyors Total	*19,240*	*28,050*	*30,790*	*30,790*	*30,790*	*30,790*
Non-Purveyors (Agricultural & Other)[(c)]	11,540	9,150	6,410	6,410	6,410	6,410
Total Alluvium Production	**30,780**	**37,200**	**37,200**	**37,200**	**37,200**	**37,200**
Alluvial Operating Plan Range for Average/Normal Year (30,000-40,000)						

Saugus Formation Supplies	**2025**	**2030**	**2035**	**2040**	**2045**	**2050**
Purveyors Existing	14,440	7,110	7,110	7,110	7,110	7,110
Purveyors Future and Recovered[(d)]	3,010	2,790	2,790	2,790	2,790	2,790
Purveyors Total	*17,450*	*9,900*	*9,900*	*9,900*	*9,900*	*9,900*
Non purveyors[(e)]	1,200	1,200	1,200	1,200	1,200	1,200
Total Saugus[(f)]	**18,650**	**11,100**	**11,100**	**11,100**	**11,100**	**11,100**
Saugus Operating Plan Range for Average/Normal Year (7,500-15,000)						

Notes:

(a) The quantities of groundwater extracted by existing or future and recovered well capacity will vary depending on operating conditions. However, overall pumping remains within the groundwater basin yields per the 2020 SCV-GSA Water Budget Development Tech Memo (GSI 2020) and the updated Basin Yield Analysis (LSC & GSI 2009).

(b) These values account for recovery of alluvial PFAS and Perchlorate impacted wells along with additional pumping to supply Newhall Ranch Specific Plan.

(c) Alluvial non purveyor pumping includes Five Point (Newhall Ranch Agriculture), Pitches Detention Center, and Small Private Domestic pumping and irrigation at Sand Canyon Country Club. Decline in pumping rates incorporate reduced pumping by Five Point of 7,038 AFY for Newhall Ranch Specific Plan.

(d) This includes Saugus Perchlorate impacted wells 201 and 205, two replacement wells (Saugus 3 & 4), and up to four new wells (Saugus 5-8) planned to provide additional dry-year supply. The new dry-year wells would not typically be operated during average/normal years.

(e) This includes private irrigation pumping from Valencia Country Club and Vista Valencia Golf Course, as well as projected Whittaker-Bermite pumping for perchlorate treatment, assumed constant.

(f) Higher total Saugus Production from 2021 to 2026 reflect temporary increase in purveyor production to mitigate for lost Alluvial pumping capacity due to PFAS impacted wells.

TABLE 3-7 SINGLE-DRY YEAR EXISTING AND PLANNED GROUNDWATER USAGE (AF) [(a)]

Alluvium Supplies	**2025**	**2030**	**2035**	**2040**	**2045**	**2050**
Purveyors Existing	7,300	6,330	5,590	5,590	5,590	5,590
Purveyors Future and Recovered[(b)]	9,030	17,020	20,500	20,500	20,500	20,500
Purveyors Total	*16,330*	*23,350*	*26,090*	*26,090*	*26,090*	*26,090*
Non-Purveyors (Agricultural & Other)[(c)]	11,540	9,150	6,410	6,410	6,410	6,410
Total Alluvium Production	**27,870**	**32,500**	**32,500**	**32,500**	**32,500**	**32,500**
Alluvial Operating Plan Range for Single Dry Year (30,000-35,000)						

Saugus Formation Supplies	**2025**	**2030**	**2035**	**2040**	**2045**	**2050**
Purveyors Existing	17,880	17,880	17,880	17,880	17,880	17,880
Purveyors Future and Recovered[(d)]	9,090	15,920	15,920	15,920	15,920	15,920
Purveyors Total	*26,970*	*33,800*	*33,800*	*33,800*	*33,800*	*33,800*
Non purveyors[(e)]	1,200	1,200	1,200	1,200	1,200	1,200
Total Saugus	**28,170**	**35,000**	**35,000**	**35,000**	**35,000**	**35,000**
Saugus Operating Plan Range for Single Dry Year (21,000-35,000)						

Notes:

(a) The quantities of groundwater extracted by existing or future and recovered well capacity will vary depending on operating conditions. However, overall pumping remains within the groundwater basin yields per the 2020 SCV-GSA Water Budget Development Tech Memo (GSI 2020) and the updated Basin Yield Analysis (LSC & GSI 2009).

(b) These values account for recovery of alluvial PFAS and Perchlorate impacted wells along with additional pumping to supply Newhall Ranch Specific Plan.

(c) Alluvial non purveyor pumping includes Five Point (Newhall Ranch Agriculture), Pitches Detention Center, and Small Private Domestic pumping and irrigation at Sand Canyon Country Club. Decline in pumping rates incorporate reduced pumping by Five Point of 7,038 AFY for Newhall Ranch Specific Plan.

(d) This includes Saugus Perchlorate impacted well 205, two replacement wells (Saugus 3 & 4), and up to four new wells (Saugus 5-8) planned to provide additional dry-year supply. The new dry-year wells would not typically be operated during average/normal years.

(e) This includes private irrigation pumping from Valencia Country Club and Vista Valencia Golf Course, as well as projected Whittaker-Bermite pumping for perchlorate treatment, assumed constant.

TABLE 3-8 MULTIPLE DRY YEAR (5-YEAR) EXISTING AND PLANNED GROUNDWATER USAGE (AF) [a]

Alluvium Supplies	**2025**	**2030**	**2035**	**2040**	**2045**	**2050**
Purveyors Existing	7,300	6,330	5,890	5,590	5,590	5,590
Purveyors Future and Recovered[b]	11,930	16,310	19,900	20,500	20,500	20,500
Purveyors Total	19,230	22,640	25,790	26,090	26,090	26,090
Non-Purveyors (Agricultural & Other)[c]	11,490	9,190	6,710	6,410	6,410	6,410
Total Alluvium Production	**30,720**	**31,830**	**32,500**	**32,500**	**32,500**	**32,500**
Alluvial Operating Plan Range for Single Dry Year (30,000-35,000)						

Saugus Formation Supplies	**2025**	**2030**	**2035**	**2040**	**2045**	**2050**
Purveyors Existing	17,880	17,610	17,610	17,610	17,610	17,610
Purveyors Future and Recovered[d]	5,750	8,020	8,020	8,020	8,020	8,020
Purveyors Total	23,630	25,630	25,630	25,630	25,630	25,630
Non purveyors[e]	1,200	1,200	1,200	1,200	1,200	1,200
Total Saugus	**24,830**	**26,830**	**26,830**	**26,830**	**26,830**	**26,830**
Saugus Operating Plan Range for Single Dry Year (21,000-35,000)						

Notes:

(a) The quantities of groundwater extracted by existing or future and recovered well capacity will vary depending on operating conditions. However, overall pumping remains within the groundwater basin yields per the 2020 SCV-GSA Water Budget Development Tech Memo (GSI 2020) and the updated Basin Yield Analysis (LSC & GSI 2009).

(b) These values account for recovery of alluvial PFAS and Perchlorate impacted wells along with additional pumping to supply Newhall Ranch Specific Plan.

(c) Alluvial non purveyor pumping includes Five Point (Newhall Ranch Agriculture), Pitches Detention Center, and Small Private Domestic pumping and irrigation at Sand Canyon Country Club. Decline in pumping rates incorporate reduced pumping by Five Point of 7,038 AFY for Newhall Ranch Specific Plan.

(d) This includes Saugus Perchlorate impacted well 205, two replacement wells (Saugus 3 & 4), and up to four new wells (Saugus 5-8) planned to provide additional dry-year supply. The new dry-year wells would not typically be operated during average/normal years.

(e) This includes private irrigation pumping from Valencia Country Club and Vista Valencia Golf Course, as well as projected Whittaker-Bermite pumping for perchlorate treatment, assumed constant.

3.4 Transfers and Exchanges

An opportunity available to SCV Water to increase water supplies is to participate in voluntary Water transfer programs. Since the drought of 1987-1992, the concept of water transfer has evolved into a viable supplemental source to improve supply reliability. The initial concept for water transfers was codified into law in 1986 when the California Legislature adopted the “Katz” Law (California Water Code, Sections 1810-1814) and the Costa-Isenberg Water Transfer Law of 1986 (California Water Code, Sections 470, 475, 480-483). These laws help define parameters for water transfers and set up a variety of approaches through which water or water rights can be transferred among individuals or agencies.

Up to 27 million AF of water are delivered for agricultural use every year. Over half of this water use is in the Central Valley, and much of it is delivered by, or adjacent to, SWP and CVP conveyance facilities. This proximity to existing water conveyance facilities could allow for the voluntary transfer of water to many urban areas, including SCV Water, via the SWP. Such water transfers can involve water sales, conjunctive use and groundwater substitution and water sharing. They usually occur as a form of spot, option, or core transfers agreements. The costs of a water transfer would vary depending on the type, term, and location of the transfer.

One of the most important aspects of any resource planning process is flexibility. A flexible strategy minimizes unnecessary or redundant investments (or stranded costs). The voluntary transfer of water between willing sellers and buyers can be an effective means of achieving flexibility. However, not all water transfers have the same effectiveness in meeting resource needs. Through the resource planning process and ultimate implementation, several different types of Water transfers could be undertaken.

3.4.1 Core Transfers

Core transfers are agreements to purchase a defined quantity of water every year. These transfers have the benefit of more certainty in costs and supply, but in some years can be surplus to imported water (available in most years) that is already paid for.

3.4.2 Spot Market Transfers

Spot market transfers involve water purchased only during a time of need (usually a drought). Payments for these transfers occur only when water is actually requested and delivered, but there is usually greater uncertainty in terms of costs and availability of supply. Examples of such transfers were the Drought Water Banks of 1991, 1992 and 1994 and DWR Dry Year Water Purchase Programs in 2001 through 2004 and 2008 along with transfers between willing sellers and buyers during the current drought period. In 2021, the Dry Year Water Purchase Program provided approximately 200 AF. An additional risk of spot market transfers is that the purchases may be subject to institutional limits or restricted access (e.g., requiring the purchasing agency to institute rationing before it is eligible to participate in the program).

3.4.3 Option Contracts

Option contracts are agreements that specify the amount of water needed and the frequency or probability that the supply will be called upon (an option). Typically, a relatively low up-front option payment is required and, if the option is actually called upon, a subsequent payment would be made for the amount called. These transfers have the best characteristics of both core and spot transfers. With option contracts, the potential for redundant supply is minimized, as are the risks associated with cost and supply availability.

SCV Water has entered into one such transfer, for Yuba Accord water, as discussed previously. SCV Water and a number of other entities entered into the Yuba Accord Agreement, which allows for the purchase of water from the Yuba County Water Agency through DWR. Under the agreement, an estimated average of up to 1,000 AFY of Water (after losses) is available to SCV Water in dry years, through 2025. Under certain hydrologic conditions, additional water may be available to SCV Water under this program. In 2014, 2020, and 2021, SCV Water received approximately 1,900 AF from this source (see Table 5-1).

3.4.4 Future Market Transfers

The most viable types of water transfers are core and option transfers and, as such, are a part of SCV Water's long-term strategy.

3.4.5 Water Exchanges

In addition to water transfers, short-term water exchanges may also serve as a means to enhance water reliability.

In 2011 SCV Water entered into two unbalanced exchange agreements to enhance the management of its water supplies. SCV Water executed a Two-for-One Water Exchange Program with RRBWSD, whereby SCV Water can recover one acre-foot of water for each two acre-feet SCV Water delivered to RRBWSD (less losses). SCV Water delivered 15,602 AF to the program in 2011, delivered another 3,969 AF in 2012 and, after program losses, had about 9,500 AF of recoverable water. The term for this agreement was ten years. In 2020, 9,500 AF of water was withdrawn from this exchange account, completing the execution of this agreement.

SCV Water also entered into a Two-for-One Water Exchange Program with the West Kern Water District (WKWD) in Kern County and SCV Water delivered 5,000 AF in 2011, resulting in a recoverable total of 2,500 AF. The term of the agreement was ten years. In 2014, 2,000 AF of water was withdrawn from this exchange program leaving a balance of 500 AF. In 2020, the remaining balance of 500 AF of water was withdrawn, completing the execution of this agreement.

In 2014, SCV Water entered into an unbalanced exchange agreement to enhance the management of its water supplies. SCV Water executed a Two-for-One Water Exchange Program with the NLF, whereby SCV Water could recover one acre-foot of water for every two acre-feet SCV Water delivered to NLF's Semitropic Water Storage District Banking Program. SCV Water transferred 10,000 AF of water to the program in 2014 and recovered 4,950 AF in

2014, fully executing the exchange. Additional details on the Semitropic Banking Program are provided below.

In 2016, SCV Water entered into an unbalanced exchange agreement to enhance the management of its water supplies. SCV Water executed a Two-for-One Water Exchange Program with the Central Coast Water Agency (CCWA) on behalf of the Santa Barbara County Flood Control and Water Conservation District (Santa Barbara), whereby SCV Water could recover one acre-foot of water for every two acre-feet SCV Water delivered to CCWA. SCV Water delivered 1,500 AF to the program in 2016 and recovered 750 AF in 2019, fully executing the exchange.

In 2019, SCV Water entered into three separate unbalanced exchange agreements to enhance the management of its water supplies. First, SCV Water executed a Two-for-One Water Exchange Program with RRBWSD whereby SCV Water could recover one acre-foot of water for every two acre-feet SCV Water delivered to RRBWSD (less losses). SCV Water delivered 11,000 AF to the program in 2019 and recovered 5,500 AF in 2020, fully executing the exchange.

In 2019, SCV Water also executed a Two-for-One Water Exchange Program with Antelope Valley-East Kern Water Agency (AVEK), whereby SCV Water could recover one acre-foot of water for every two acre-feet SCV Water delivered to AVEK. SCV Water delivered 7,500 AF to the program in 2019 and has 3,750 AF of recoverable water. In 2020, 1,406 AF of Water was withdrawn from this exchange program leaving a balance of 2,344 AF. The term for this agreement is for ten years.

In 2019, SCV Water also executed a Two-for-One Water Exchange Program with UWCD, whereby SCV Water could recover one acre-foot of water for every two acre-feet SCV Water delivered to UWCD. SCV Water delivered 1,000 AF to the program in 2019 and has 500 AF of recoverable water. The term for this agreement is for ten years.

3.5 Groundwater Banking Programs

With the development of conjunctive use and groundwater banking, the water supply reliability for SCV Water has improved significantly. Conjunctive use is the coordinated operation of multiple water supplies to achieve improved supply reliability. Most conjunctive use concepts are based on storing surface supplies in groundwater basins in times of surplus for withdrawal and use during dry periods and drought when surface water supplies would likely be reduced.

Groundwater banking programs involve storing available SWP surface water supplies during wet years in groundwater basins in, for example, the San Joaquin Valley. Water would be stored either directly by surface spreading or injection, or indirectly by supplying surface water to farmers for their use in lieu of their intended groundwater pumping. During water shortages, the stored water could be pumped out and conveyed through the California Aqueduct to SCV Water as the banking partner or used by the farmers in exchange for their surface water allocations, which would be delivered to SCV Water as the banking partner through the California Aqueduct.

SCV Water is a partner in two existing groundwater banking programs, the Semitropic Banking Program and RRBWSD Banking Program, respectively. Newhall Land is also a partner in the

Semitropic Banking Program, described below. In addition, SCV Water has updated its plan to enhance its overall supply reliability, including the need for additional banking programs.

3.5.1 Semitropic Banking Program

Semitropic Water Storage District (Semitropic) provides SWP Water to farmers for irrigation. Semitropic is located in the San Joaquin Valley in the northern part of Kern County immediately east of the California Aqueduct. Using its available groundwater storage capacity (approximately 1.65 million AF), Semitropic has developed a groundwater banking program, that takes available SWP supplies in wet years and returns the water in dry years. As part of this dry-year return, Semitropic can either leave its SWP Water in the Aqueduct for delivery to a banking partner and increase its groundwater production for its farmers, or Semitropic can pump groundwater that can be pumped into a Semitropic canal and, through reverse pumping plants, be delivered to the California Aqueduct. Semitropic's original banking program currently has six long-term first priority banking partners: the Metropolitan Water District of Southern California (Metropolitan), Santa Clara Valley Water District, Alameda County Water District, Alameda County Flood Control and Water Conservation District Zone 7, Newhall Land and Farming, and San Diego County Water Authority. The total amount of storage capacity under contract in the original banking program is 1 million AF, with approximately 700,000 AF currently in storage. Under its original program, Semitropic can pump back a maximum of 90,000 AFY of water into the California Aqueduct.

Semitropic has recently expanded its groundwater banking program to incorporate its Stored Water Recovery Unit (SWRU). This supplemental program includes an additional storage capacity of 650,000 AF and an expansion of pumpback recovery capacity by 200,000 AFY. That pumpback capacity includes well connections and conveyance facility improvements to increase the existing Semitropic pumpback capacity to the California Aqueduct by an additional 50,000 AFY, and the future development of a new well field with approximately 65 wells along with new collection and transmission facilities to convey an additional 150,000 AFY to the California Aqueduct. Participants in the SWRU include Poso Creek Water Company, San Diego County Water Authority, City of Tracy, Homer LLC, Harris Farms, Shows Family Farms, Lazy Dog Orchard, and SCV Water.

In 2002, SCV Water entered into a temporary storage agreement with Semitropic and stored an available portion of its Table A supply (24,000 AF) in an account in Semitropic's program. In 2004, 32,522 AF of SCV Water's available 2003 Table A supply was stored in a second temporary Semitropic account. In accordance with the terms of SCV Water's storage agreements with Semitropic, 90 percent of the banked amount, or a total of 50,870 AF, was recoverable through 2013 to meet SCV Water demands when needed. SCV Water executed an amendment for a ten-year extension of each banking agreement with Semitropic in April 2010. After storage withdrawals in 2009, 2010, and 2014 (and with 5,000 AF given to Newhall Land in consideration for SCV Water's use of Newhall Land's first priority extraction capacity), the storage balance available to SCV Water was 35,970 AF.

In 2015 SCV Water entered into an agreement with Semitropic to participate in the SWRU. Under this agreement, the two short-term accounts containing 35,970 AF were transferred into this new program. Under the SWRU agreement, SCV Water can store and recover additional Water within a 15,000 AF storage account. SCV Water increased storage in the SWRU by

4,806 AF in 2017, and 4,502 AF in 2019, and recovered 5,000 AF in 2020, leaving the total storage available at 40,278 AF. The term of the Semitropic Banking Program extends through 2035 with the option of two 10-year renewals. SCV Water may withdraw up to 5,000 AFY from its account.

Current operational planning includes use of the water stored in Semitropic for dry-year supply. Accordingly, it is reflected in the available supplies delineated in this section and in the Annual Reports prepared for SCV Water. It is also reflected as contributing only to dry-year supply reliability in Section 7, through 2045.

3.5.2 Rosedale-Rio Bravo Banking Program

Also located in Kern County, immediately adjacent to the Kern Water Bank, RRBWSD has developed a Water Banking and Exchange Program. SCV Water has entered into a long-term agreement with RRBWSD with a total storage capacity of 100,000 AF. Between 2005 and 2012 SCV Water delivered sufficient water from the SWP and other supplies to fill its 100,000 AF account. SCV Water began storing water in this program in 2005 and stored water in 2005, 2006, 2007, 2010, 2011, and 2012. In 2012, the maximum storage capacity of 100,000 AF was reached. Withdrawals from the water bank occurred in 2014, 2015 and 2020. Storage into the water bank occurred in 2016 leaving storage at 98,800 AF currently available for withdrawal.

SCV Water's existing firm withdrawal capacity in this program is 10,000 AFY. To enhance dry-year recovery capacity, in 2015 SCV Water in cooperation with RRBWSD and Irvine Ranch Water District initiated construction of additional facilities that were completed in 2019. These facilities became available in 2020 and increased the firm extraction capacity for SCV Water to 10,000 AFY. In addition, SCV Water has the right under the contract to develop four additional wells which would bring the firm recovery capacity to 20,000 AFY. This additional capacity is anticipated to be available by 2030. In addition to existing firm recovery capacity, in moderately dry years Rosedale is required to use other available recovery capacity to meet its recovery obligations under the banking agreement, up to 20,000 AFY. This occurred in 2021 when RRBWSD was able to recover a total of 20,000 AF of SCV Water's banked supply.

This project is a water management program to improve the reliability of SCV Water's existing dry-year supplies. It is not an annual supply that could support growth. Accordingly, it is reflected in the available supplies delineated in this section and it is also reflected as contributing only to dry-year supply reliability.

3.5.3 Semitropic Banking Program – Newhall Land

As mentioned above, one of Semitropic's long-term groundwater banking partners is Newhall Land (now owned by Five Point). In its agreement with Semitropic, Newhall Land has available to it a pump-back capacity of 4,950 AFY and a total storage capacity of 55,000 AF. At the end of 2020, Newhall Land had a storage balance of approximately 38,000 AF. This storage volume is primarily the result of Newhall Land storing its annual allotment of Nickel Water in the program as well as 5,000 AF of exchange water provided by SCV Water.

Newhall Land entered into this groundwater banking program in anticipation of the development of Newhall Ranch. It provides a supply that is committed by Newhall Land under the Newhall

Ranch Specific Plan to make up shortfalls in water supply for Newhall Ranch should such shortfall be shown to exist. Under its agreement with Semitropic, Newhall Land may transfer its rights to this program to SCV Water (as the successor to CLWA). In this WSA and in the 2020 UWMP, it is assumed for planning purposes construction of the Newhall Ranch Specific Plan will be completed by 2035 and that Newhall Land's rights in this banking program will be transferred to SCV Water at that time. Based on previous cooperation between CLWA and Newhall Land in 2009 and 2014, when Newhall Land effectively made its withdrawal capacity available to CLWA, it is likely that this practice would continue and SCV Water could access additional water from its Semitropic account using Newhall Land's firm extraction capacity. However, as no such contract to accomplish this is currently in place a conservative assumption has been made in the 2020 UWMP and this WSA that supplies associated with this source will not be available prior to 2035 when SCV Water is presumed to control this program.

3.5.4 Other Opportunities

In addition to those dry year water supplies identified in the 2020 UWMP, SCV Water has identified two additional groundwater banking programs. While not a part of the resource mix currently incorporated into the water supply reliability tables in the 2020 UWMP or this WSA, these projects represent projects that SCV Water could consider providing redundancy or substitute for some portion of the UWMP's programs if those were not brought online.

The first is the High Desert Water Bank being developed by the Antelope Valley East Kern Water Agency. The project overlies an adjudicated groundwater basin in the Antelope Valley. The Metropolitan Water District of Southern California has contracted with AVEK to develop the first phase of the project's four phases. The first phase will store up to 200,000 AFY with 70,000 AFY of recovery capacity. AVEK is currently working with SCV Water and other SWP Contractors including Santa Clara Valley Water District, and Palmdale Water District to defining the second phase. The second phase may incorporate a direct connection to the West Branch of the California Aqueduct to facilitate return deliveries. The location of this water bank is desirable as it is located south of the San Andreas Fault. The second phase could provide SCV Water with up to 80,000 AF of storage with recovery capacity of up to 20,000 AFY.

The second is the Aquaterra Water Bank being developed by the McMullin Groundwater Sustainability Agency. This water bank in Fresno County adjacent to Delta Mendota Pool, is projected to store up to 800,000 AF and have an extraction capacity of 146,000 AFY. Water would be available to SWP Contractors and Central Valley Project Contractors through an exchange with the Central Valley Project participating Contractors. The McMullin GSA intends to initiate environmental review for this project in 2022. SCV Water could potentially participate in this project at levels similar to those contemplated for the AVEK High Desert Water Bank.

3.6 Planned Water Supply Projects and Programs

SCV Water prepared the Water Resources Reconnaissance Study (Study) (Carollo, 2015). The Study discusses the potential for acquiring additional water supplies. The Study evaluated a series of supply measures in the hopes that an additional 10,000 AFY of supply could be made available to the service area. The study identified two local measures that might enable SCV Water to get at least part way to that goal: (1) a groundwater recharge project using recycled

water and (2) an imported water injection project during wet years to augment Saugus formation groundwater storage. Both projects were evaluated at the conceptual level, but significantly more investigation would need to be completed before either was implemented.

While the recycled groundwater recharge measure is not currently being pursued, as detention and dilution challenges were analyzed by Trussell Technologies Inc in its USCR Watershed Recharge Feasibility Study, 2017. SCV Water continues investigating the potential to spread imported water directly into the Alluvial Aquifer at several sites. Promising infiltration tests have been conducted on SCV Water owned property adjacent to Castaic Creek. Additional siting is being conducted along the easterly portions of the Santa Clara River. Further, the potential exists to cooperate with the City of Santa Clarita to use future storm water detention facilities. One such site is located near along the Santa Clara River near the intersection of Whites Canyon Road and Via Princessa.

3.6.1 Sites Reservoir

Sites Reservoir is a proposed new 1,500,000 acre-feet off-stream storage reservoir in northern California near Maxwell. Sacramento River flows will be diverted during excess flow periods and stored in the off-stream reservoir and released for use in the drier periods. Sites Reservoir is expected to provide water supply, environmental, flood, and recreational benefits. The proponents of Sites Reservoir include 23 entities including several individual SWP PWAs including SCV Water. Sites Reservoir is expected to provide approximately 240,000 AFY (Sites Reservoir Value Planning Report, 2020, Table 8-1) of additional deliveries on average to participating agencies under existing conditions. SCV Water's current participation is 3% of that total. Further, SCV Water would operate its share of project storage so as to maximize delivery during dry and critically dry years and the project is projected to provide between 9,800 and 7,100 AFY depending on final project configuration and level of Federal participation by the United States Bureau of Reclamation (USBR). Sites Reservoir is currently undergoing environmental planning and permitting. Full operations of the Sites Reservoir are estimated to start by 2029 following environmental planning, permitting, and construction. Sites was conditionally awarded $816 million from the California Water Commission for ecosystem, recreation, and flood control benefits under Proposition 1. Reclamation may also invest in Sites under the Water Infrastructure Improvements for the Nation (WIIN) Act and recently transmitted a final Federal Feasibility Report to Congress for the project.

DWR estimates of SWP supply reliability in its 2019 DCR are based on existing facilities, and do not include the proposed Sites Reservoir. SCV Water along with other SWP public water agencies and north of Delta participants, however, are members of the Sites Reservoir Committee and are sharing costs, to advance environmental, permitting, and other planning activities. The Sites Reservoir staff has performed modeling of potential water supply from this project. While not identified as a project in the reliability tables provided in this WSA, the project is analyzed as part of the SCV Water's Updated Water Reliability Report and could serve as an alternative if other future water supply programs are not feasible. The Capital Improvement section of SCV Water's current FY 2021-22 FY2022-23 Capital Budget provides for continued participation in the planning of Sites Reservoir. At the end of the planning period the project is anticipated to complete CEQA and NEPA documentation, have acquired water rights and key permits including incidental take permits. The project is scheduled to become operational in 2030.

3.7 Recycled Water

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

As discussed below, SCV Water's source of supply for current and planned recycled water consists of flows coming from the Valencia Water Reclamation Plant and the future Newhall Ranch Water Reclamation plant as well as the Vista Canyon Ranch Water Factory (Vista Canyon WRP). SCV Water recently extended the term of its recycled water purchase agreement with the Santa Clarita Valley Sanitation District (SCVSD) and is currently negotiating a recycled water purchase agreement with the City of Santa Clarita for supplies from the Vista Canyon WRP. An additional recycled water purchase agreement with the Newhall Ranch Sanitation District is anticipated when it becomes operational. Collectively these sources are anticipated to make 8,961 AFY available to SCV Water. That supply includes 450 AFY to existing users identified under SCVSD's approved State Water Resources Control Board petition. Currently planned additional supplies would be developed under the SCV Water's New Drop Program, which is based on using wastewater flows from new customers rather than treated wastewater that has historically been discharged into the Santa Clara River. The New Drop Program would not require a requested change to the SCVSD's existing petition. This is particularly important because there are potential regulatory challenges to using additional recycled water that would reduce flows in the Santa Clara River. This is discussed in more detail below.

Recycled water is dependent on potential user demands, availability of supplies, and the economics and feasibility of serving those users. The Draft Update of the Recycled Water Master Plan identified over 20,000 AFY of existing and future landscape demands that could potentially be irrigated using recycled water. However, due to the potential need for instream flows and feasibility considerations including costs, SCV Water plans call for a recycled water distribution system that would be sufficient to meet demands of 9,749 AFY. This includes SCV Water's Phase 1 project, that is currently serving 450 AF of demand, along with its Phase 2 projects and certain non-potable irrigation systems to be constructed by a developer for a specific project described in more detail below.

As discussed below, additional opportunities to further expand recycled water use will be evaluated as part of SCV Water's Water Resilience Initiative, however, these have not been incorporated into the prospective water supplies accounted for in Section 3.

3.7.1 Recycled Water Master Planning Efforts

It is anticipated that water demands will continue to increase as a result of a growing population. Accordingly, SCV Water is planning to secure additional reliable sources of water to help meet projected water demands. SCV Water recognizes that recycled water is an important and reliable source of additional water that should be pursued as an integral part of the SCV Water's water supply portfolio. Recycled water enhances reliability in that it provides an additional source of supply and allows for more efficient utilization of potable groundwater and imported water supplies. Draft Recycled Water Master Plans for the SCV Water service area were

completed in 1993 and 2002. These master plans considered various factors affecting recycled water sources, supplies, users and demands so that SCV Water could develop a cost-effective recycled water system within its service area. In 2007, SCV Water completed CEQA analysis of the 2002 Recycled Water Master Plan (RWMP). This analysis consisted of a Programmatic EIR covering the various phases for a recycled water system as outlined in the RWMP. The Programmatic EIR was certified by the, then, CLWA Board in March 2007.

An update to the RWMP was initiated in 2016 (Kennedy/Jenks 2016) based on recent developments affecting recycled water sources, supplies, uses, and demands. The update was not completed but it provides important guidance on feasible projects in the short term. One reason the study was not finalized was in part due to ongoing litigation related to recycled water supplies between the Affordable Clean Water Alliance and SCVSD, which is SCV Water's main supplier of recycled water. Further, SCV Water anticipates undertaking a water resiliency planning process that would in part explore the interconnection of future groundwater operations, recycled water usage, and environmental uses of water in the USCR Watershed. It is anticipated that this effort would inform future environmental evaluations and permitting for future projects and programs. Overall, recycled water uses included in this WSA and the 2020 UWMP update include uses prioritized in the Kennedy/Jenks 2016 report and available supplies from the SCV Water New Drop program.

Table 3-9 provides a list of entities that participate in the implementation of the RWMP and RWMP Update. In accordance with Water Code section 10633, the preparation of the 2020 UWMP was also coordinated with these entities.

TABLE 3-9 PARTICIPATING ENTITIES[(a)]

Participating Entities	Role in Plan Development
SCV Water	Retail and Wholesale water provider
Los Angeles County Waterworks District No. 36	Retail water purveyor
Santa Clarita Valley Sanitation District	Recycled Water supplier
Berry Petroleum	Potential recycled water supplier
City of Santa Clarita[(b)]	Potential recycled water supplier

Notes:
(a) The Newhall Ranch Water Reclamation Plant would serve the Newhall Ranch Specific Plan and will be owned and operated by the Newhall Ranch Sanitation District.
(b) The City of Santa Clarita will eventually operate the Vista Canyon Water Reclamation Plant.

SCV Water has constructed Phase 1 of the 2002 RWMP (Kennedy Jenks 2002), which delivers on average approximately 450 AFY. Although the original SCVSD contract and applicable permits anticipate the use of 1,600 AFY for this initial phase project, demands for recycled water have not developed at all the specific places of use identified in the SCVSD's SWRCB Water Code Section 1211 petition. Deliveries of recycled water began in 2003 for irrigation water supply and currently serve a golf course, a shopping center, and roadway median strips. Use of the remaining volumes at new locations would require submission and approval of a revised petition, triggering a similar State Water Resources Control Board petition process to the new petition described below.

Phase 2 is planned to expand recycled water use within Santa Clarita Valley and consists of four projects currently in various stages of design and/or construction. All available recycled water from the SCV Water's New Drop Program in the peak summer months is anticipated to be used to meet the demands of these Phase 2 expansions currently in design and construction, including planned developments by Five Point that are referred to as the Westside communities.

3.7.2 Existing Wastewater Treatment Facilities

SCVSD owns and operates two Water Reclamation Plants (WRPs), the Saugus WRP and the Valencia WRP, within the SCV Water service area. The water is treated to disinfected tertiary levels and, with the exception of water used in Phase I of the RWMP, is discharged to the Santa Clara River. The Newhall Ranch and Vista Canyon developments will have their own dedicated tertiary treatment WRPs, and non-potable recycled water from these sources, when available, is anticipated to be incorporated directly into the recycled water system.

The Valencia WRP, completed in 1967, is located on The Old Road near Magic Mountain Amusement Park. The Valencia WRP has a current treatment capacity of 21.6 million gallons per day (MGD), equivalent to 24,190 AFY, developed over time in stages. The average annual production is 15,500 AFY of tertiary recycled water. Use of recycled water from the Valencia WRP for irrigation uses is permitted under Los Angeles Regional Water Quality Control Board (LARWQCB) Order Nos. 87-48 and 97-072.

The Saugus WRP, completed in 1962, is located southeast of the intersection of Bouquet Canyon Road and Soledad Canyon Road. The Saugus WRP has a current treatment capacity of 6.5 MGD (7,280 AFY). No future expansions are possible at the plant due to space limitations at the site. In 2020 the Saugus WRP produced 5,150 AFY of tertiary recycled water. Use of recycled water from this facility is permitted under LARWQCB Order Nos. 87-49 and 97-072.

The Saugus and Valencia WRPs operated independently of each other until 1980, at which time the two plants were linked by a bypass interceptor. The interceptor was installed to transfer a portion of flows received at the Saugus WRP to the Valencia WRP. Together, the Valencia and Saugus WRPs have a design capacity of 28.1 MGD (31,470 AFY) and produce 20,450 AFY of treated effluent on average. The primary sources of wastewater to the Saugus and Valencia WRPs are domestic. Both plants are tertiary treatment facilities and produce high quality effluent. Historically, the effluent from the two WRPs has been discharged to the Santa Clara River. The Saugus WRP effluent outfall is located at Bouquet Canyon Road. Effluent from the Valencia WRP is discharged to the Santa Clara River at a point approximately 2,000 feet downstream (west) of The Old Road Bridge.

SCVSD is currently constructing advanced treatment facilities (AWT) to desalinate tertiary recycled water with a capacity of approximately 6,000 AFY to comply with the Regional Water Quality Control Board, Los Angeles Region Chloride Total Maximum Daily Load (TMDL). The facilities are sized to treat enough disinfected tertiary recycled water to blend down the chloride levels for discharge to the Santa Clara River at the design capacity of the combined Saugus and Valencia WRPs at chloride levels during a drought. Since design capacities will not be reached for a decade or more and chloride levels on average are much lower during average precipitation years, the AWT will have excess capacity that could be utilized to produce desalinated water for reuse purposes for sale to SCV Water. Desalinated recycled water could be used to improve water quality or for indirect potable reuse in the future but only with the construction of additional treatment.

3.7.3 Wastewater Treatment Facility Improvements and Expansions

A third reclamation plant, the Vista Canyon Water Factory (Vista Canyon WRP), has been constructed as a part of the Vista Canyon Project. The plant is located near Highway 14, just south of the Santa Clara River and will be operated by the City of Santa Clarita. The plant will have an ultimate capacity of 440 AFY (Kennedy Jenks, 2015). The Vista Canyon Development is anticipated to use 137 AFY of the recycled water supply and the remaining excess flow would be available for reuse as part of Vista Canyon Recycled Water Main Extension (Phase 2B) of the RWMP currently under construction.

It is intended that the Vista Canyon WRP would not discharge recycled water into the Santa Clara River. Excess recycled water production from the Vista Canyon WRP would be sent to the Valencia WRP.

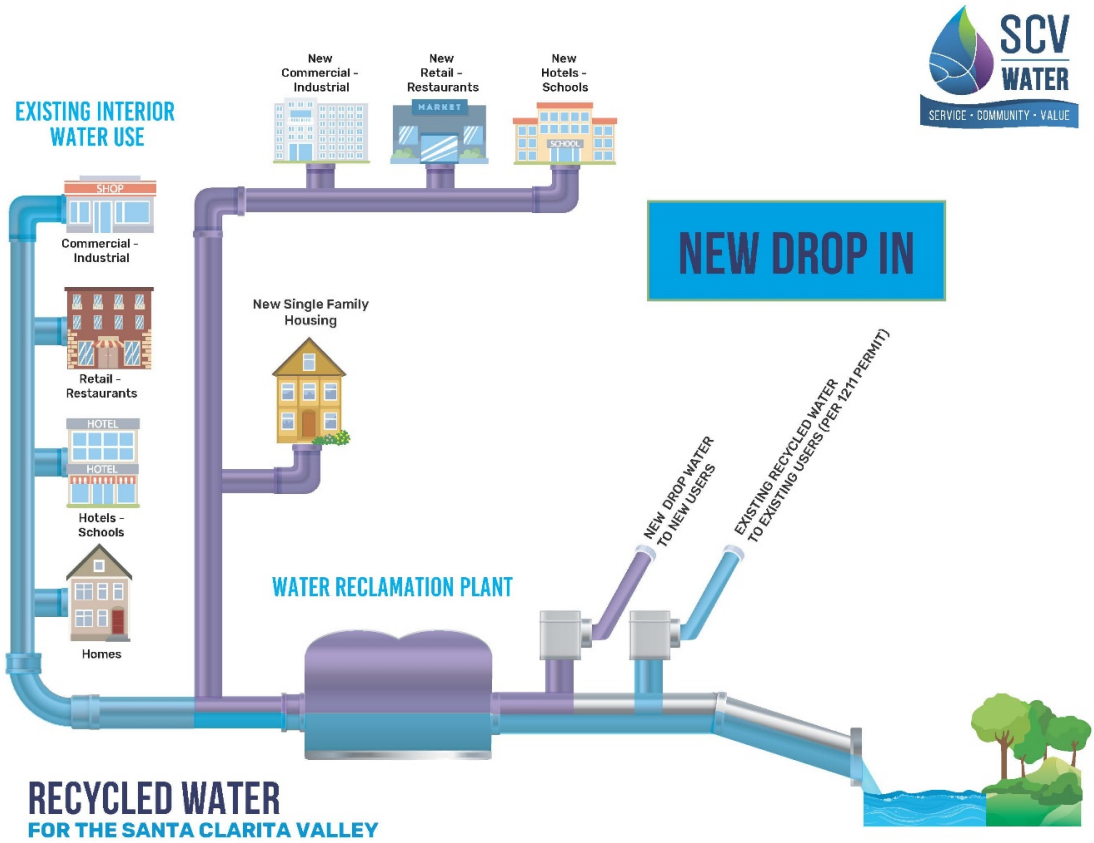
A fourth Santa Clarita Valley (Valley) reclamation plant, the Newhall Ranch WRP, is proposed as part of the Newhall Ranch project. This proposed facility would be located near the western edge of the development project along the south side of State Route 126. The Newhall Ranch WRP would serve the Newhall Ranch Specific Plan and will be owned and operated by the Newhall Ranch Sanitation District. Prior to Newhall Ranch WRP being available, Newhall Ranch Specific Plan generated wastewater would be temporarily treated at the Valencia WRP, based on the need to build up an adequate, steady flow of wastewater before constructing the initial

increment of capacity at Newhall Ranch WRP. The Valencia WRP has sufficient capacity to tertiary-treat wastewater from the Newhall Ranch Specific Plan during this interim period, consistent with the Interconnection Agreement approved by SCVSD in 2002 and the Joint Sewerage Services Agreement entered between SCVSD and NRSD in 2017. The Newhall Ranch WRP currently has a permitted capacity of 2.0 MGD (approximately 2,200 AFY) but is anticipated to produce 4,200 AFY at ultimate buildout. Recycled water from the Valencia WRP would be used to meet the remainder of the non-potable demands there, to the extent available in accordance with the Interconnection Agreement. If for any reason, however, recycled water supplies from the Valencia WRP and/or other local WRPs are not available in the amounts anticipated to meet the projected recycled water demands for that development, other sources of supply available to SCV Water as provided in the 2020 UWMP would be utilized to serve non-potable demands until such time as recycled water supplies may become available.

3.7.4 New Drop Program

As a means of developing additional recycled water supplies, without increasing the diversion of recycled water flows discharged to the Santa Clara River, SCV Water has developed the New Drop Program to utilize and account for “new” recycled water flows. These additional recycled water supplies would be derived from wastewater flows generated from new residential and commercial development. The New Drop Program accounts for the increase in wastewater flows associated with new development and separates these projected wastewater flows from existing flows discharged to the Santa Clara River. As new development occurs, potential additional recycled water supplies would be quantified through calculations and measurements. The New Drop Program is illustrated in Figure 3-1 below.

FIGURE 3-1 NEW DROP PROGRAM PROCESS



The use of recycled water under the New Drop Program does not constitute a reduction to a surface stream, specifically a reduction in flow in the Santa Clara River. As a result, a Section 1211 wastewater change petition is not required to implement the recycled water program. However, in order to utilize these recycled water supplies in accordance with SWRCB requirements, SCV Water has been working to obtain formal approvals. A Notice of Applicability under the General Order No. WQ 2016-0068-DDW, Water Reclamation Requirements for Recycled Water Use, was issued in April 2020 for SCV Water's use of recycled water from the Valencia WRP for non-irrigation uses as part of the New Drop Program. Upon review of the Title 22 Report and related project documentation, the LARWQCB and the SWRCB determined that the New Drop Program satisfies the general and specific conditions of the General Order and does not require a change of use permit under Water Code section 1211. SCV Water is also in the process of requesting expanded use of the New Drop Program recycled water from the Valencia WRP for irrigation uses, currently allowed under Order No. 97-072. An addendum to the original Title 22 Engineering Report was submitted in December 2020 for Phase 2D. The final revised Engineering Report is scheduled to be submitted during the first half of 2022

3.7.5 Instream Flow Requirements

In general, the use of recycled water from the WRPs is limited and can be affected by various state water laws, codes, and regulatory and court decisions, which are summarized in the RWMP Update. The production, discharge, distribution, and use of recycled water are subject to federal, state, and local regulations; the primary objectives of which are to protect public health. Appendix B of the RWMP summarizes the regulatory requirements and their administration, with an emphasis on regulations relating to the distribution and use of recycled water in California. Use of recycled water from the Valencia and Saugus WRPs is permitted under Los Angeles RWQCB Order Nos. 87-48 and 87-49, respectively and re-adopted by Order No. 97-072. Copies of these recycled water permits, along with SCVSD Ordinances and Requirements for Recycled Water Users in Santa Clarita Valley and Los Angeles County Department of Public Health (CDPH) guidelines and inspection requirements, are provided in the Santa Clarita Valley Rules and Regulations Handbook (Kennedy Jenks 2016b).

SCV Water has a contract with the SCVSD to use recycled water from the Valencia WRP, which was recently extended through 2026. The contract permits SCV Water to receive 1,600 AFY, corresponding to the amount of recycled water permitted for reuse by the SWRCB. However, as noted above that permit limited uses to specific approved sites and because demand at some of those sites has not materialized, current use is limited to only about 450 AFY.

The New Drop Program will generate additional supplies and those supplies will be available to multiple new use sites when and as they are connected to the expanding recycled water system.

At this time, SCVSD is not seeking an amendment to its SWRCB petition to increase the amount of recycled water it may deliver that has historically been discharged into the Santa Clara River. In the future, if SCV Water develops feasible projects to use recycled water in amounts greater than the New Drop Program supplies, it is anticipated that SCV Water and SCVSD would cooperate in obtaining any necessary permits from the SWRCB. Obtaining an approved petition will require compliance with CEQA. However, as indicated above and described in more detail below, SCVSD's previous evaluations of potential withdrawals of discharge from the Santa Clara River to use for recycled water have been the subject of litigation.

In October 2013, the SCVSD Board certified an EIR (2013 EIR) that included two components: (1) the Chloride Compliance Project to remove chloride from wastewater to meet the Chloride TMDL and (2) a Recycled Water Project to make treated wastewater available for reuse. The Chloride Compliance Project consists of 3 main elements that include ultraviolet disinfection at the Saugus and Valencia WRPs, AWT at Valencia WRP, and brine management and disposal. The Recycled Water Project was designed to support municipal reuse of recycled water and was solely focused on proposed future reductions in discharges of recycled water to the Santa Clara River.[11]

[11] No recycled water infrastructure, such as treatment, pump stations or pipelines, were included in the scope of the Recycled Water Project.

The 2013 EIR was subsequently challenged by the Affordable Clean Water Alliance (ACWA) on the grounds that the document failed to comply with CEQA. The LA Superior Court (the Court) did not find any deficiencies in the environmental analysis related to the Chloride Compliance Project; however, the Court found two aspects of the 2013 EIR did not fully comply with CEQA. First, the Court found that the 2013 EIR lacked substantial evidence to support the conclusion of no significant impacts on populations of the unarmored threespine stickleback fish (UTS) with respect to the reduced discharge to the Santa Clara River associated with the Recycled Water Project; and second, the 2013 EIR lacked a clear brine management alternative because of the "abandonment" of the deep well injection brine management method approved in the 2013 EIR, making the Chloride Compliance Project incomplete.

In an effort to move forward with the Chloride Compliance Project, SCVSD separated the Chloride Compliance Project from the Recycled Water Project and, in 2017, certified a Recirculated EIR evaluating the Chloride Compliance Project separate from the Recycled Water Project.

SCVSD proceeded with the Recycled Water Project on a separate, but parallel path. SCVSD retained a consultant and engaged in consultations with CDFW. SCVSD released a Notice of Preparation (NOP) in August 2016. In response to the NOP, CDFW wrote a letter indicating that they could not conclude that the project would not result in take of UTS and recommended that SCVSD do additional studies and consider applying for an Incidental Take Permit under the California Endangered Species Act prior to implementing the project. Further, in summer 2018, CDFW requested additional review to analyze potential impacts to groundwater and surface water levels because of the proposed reduction in discharge from the Valencia WRP. At the time, a comprehensive model needed to evaluate surface water and groundwater level impacts did not exist. Given that the SWRCB defers to CDFW in matters related to habitat when considering petitions for reduction in discharges and the positions expressed by CDFW, SCVSD determined that obtaining a 1211 petition from the SWRCB for a reduction in discharge would be very difficult.

By resolution dated February 2019 SCVSD stated it had no current intent to proceed with an EIR related to the support of additional recycled water development by reducing existing discharge to the Santa Clara River. The decision by SCVSD to remove the recycled water component and approve the modified chloride compliance project has been challenged in separate lawsuits filed in Los Angeles Superior Court from 2017-2019 and the case is ongoing.

SCV Water would undertake thorough and careful evaluation of effects on the Santa Clara River and would consult with California Department of Fish and Wildlife (CDFW) before proposing any project to reduce existing discharges and supply additional recycled water within the SCV service area.

3.7.6 Other Potential Sources of Recycled Water

Oilfield produced water is a by-product of oil production generated when oil is extracted from the oil reservoir. It is generally of poor quality and unsuitable for potable, industrial, or irrigation use without treatment. Because of the poor water quality, reinjection has often been the most cost-effective disposal option. Treatment processes can produce potable quality water; yet, because of the poor initial water quality and the organic constituents, it is often more appropriate for treated oilfield produced water to be used for irrigation or industrial purposes to offset potable water demand. The economics of oil production are market-driven and are different from those

of drinking water supplies. As oil prices rise or drop, oilfield production is increased or decreased as dictated by economics. Also, oilfields are eventually depleted of supply and abandoned. Therefore, while oilfield produced water should be considered as long-term, it is not a completely firm supply and is not permanent.

Berry Petroleum has expressed interest in the past in treating oilfield produced water from the Placerita Oilfield for sale to SCV Water for non-potable uses. Studies of the potential reuse of treated oilfield produced water from the Placerita Oilfield have indicated that approximately 44,000 barrels per day (1.8 MGD or 2,016 AFY) of treated oilfield produced water may be available. Pilot studies performed at the Placerita Oilfield have indicated that, even with reverse osmosis (RO) treatment, some organic compounds such as naphthalene, 2-butanone and ethylbenzene can be detected in the RO effluent. For irrigation reuse, the produced water would need to be cooled and treated to remove hardness, silica, total dissolved solids (TDS), boron, ammonia, and total organic carbon (TOC).

Due to water reliability and water quality issues, the use of oilfield produced water for a source of recycled water was not considered in the 2016 Salt and Nutrient Management Plan (SNMP) or in the RWMP Update and was not included as a supply opportunity in the 2020 UWMP.

3.7.7 Recycled Water Supply and Demand

Recycled water has the potential to play a critical role in meeting a portion of future water demands in the Valley, as the population grows. SCV Water is in various stages of planning and constructing its Phase 2 projects. SCV Water has included Phase 2 projects in its capital program. Phase 2B and 2D is currently under construction. Further, Phase 2C is currently under design. Additionally, Five Point's Westside development projects are proceeding with construction of the Mission Village project currently underway. A summary of demands anticipated from these activities are shown in Table 3-10.

TABLE 3-10 EXISTING AND PROJECTED RECYCLED WATER DEMAND

Phase/Project	Demand (AFY)	Timeframe for Coming Online	Source of Recycled Water	Location of Use/Water Service Area
Phase 1	450	Existing	Valencia WRP	VWD
Phase 2A	560	2029	Valencia WRP	NCWD, VWD
Phase 2B	300	2021-2023	Vista Canyon WRP	SCWD
Phase 2C	759	2021-2023	Valencia WRP	NCWD, VWD
Phase 2C – Golf Course[(a)]	600	2023	Valencia WRP	Valencia Golf Course
Phase 2D	221	2021-2023	Valencia WRP	VWD
Five Point[(b)]	5,174-6,505	2021-2043	Newhall Ranch/ Valencia WRP	Newhall Ranch/Five Point
Total	**8,064-9,395**	2050	As shown above	As shown above
Total w/ CC	**8,368-9,749[(c)]**	2050		

Notes:
(a) Raw water conversion to recycled water (not an existing potable offset).
(b) Range reflects estimated demand using MEWLO and observed over watering of 25.6% in recently developed irrigation systems.
(c) Assumes 3.77% demand increase due to climate change.

As previously discussed, aside from the existing 450 AFY of recycled water supply, planned recycled water supplies from the Valencia, Newhall Ranch, and Vista Canyon WRPs would come from the New Drop Program. Importantly, as indicated above, water from these New Drop Program sources would not be required to maintain environmental discharges to the Santa Clara River. As a result, it would be available to meet a considerable portion of the total projected long-term recycled water demands.

Total projected recycled water use projections through 2050 are summarized in Table 3-11. As annual demands discussed above exceed supplies, recycled water usage is based on available supplies. In the later years, it is projected that seasonal storage may be needed to store recycled water during the winter months to help meet peak summer demands. Additionally, potable make-up water will be needed to help meet summer peaking demands in the non-potable irrigation system.

TABLE 3-11 PROJECTED RECYCLED WATER USE

	2025	2030	2035	2040	2045	2050
Existing Recycled Water Use	450	450	450	450	450	450
New Recycled Water Use	1,849	3,696	5,091	6,498	7,499	8,511
Total Projected Recycled Water Use[(a)]	**2,299**	**4,146**	**5,541**	**6,948**	**7,949**	**8,961**
Total Potential Recycled Water Demand[(b)]	**4,559**	**6,514**	**8,441**	**9,191**	**9,469**	**9,749**

Notes:
(a) Total projected water use is equal to total projected recycled water supply as total potential recycled water demand exceeds total projected supply.
(b) Difference in recycled water supply and total potential recycled water demand will be made up by potable water supplies, i.e., make-up water.

In accordance with the UWMP Act, the 2020 UWMP describes and quantifies the potential uses of recycled water in the Valley based on the substantial wastewater flows and recycled water generated by the local WRPs. However, as noted above, if recycled water supplies from the local WRPs are not available in the amounts identified in Table 3-11 to meet potential uses because of regulatory or other constraints, other sources of supply available to SCV Water as provided in the 2020 UWMP would be utilized to meet non-potable demands until such time as recycled water supplies may become available.

3.7.8 Recycled Water Demand

Currently, an average of 450 AFY of recycled water is served to landscape irrigation customers, including The Oaks Club golf course (formerly known as the Tournament Players Club Golf Course). Potential recycled water users have been identified through several sources including:

- 1993 Recycled Water Master Plan
- Water consumption records for SCV Water and LACWWD 36
- Land use maps
- General Plans and Specific Plans for the City of Santa Clarita and County of Los Angeles
- Discussions with City, County, SCV Water, LACWWD 36 and land developer staff
- On-site surveys of the SCV Water service area

- 2002 Recycled Water Master Plan
- 2016 Recycled Water Master Plan Update (in development)

To be considered as a potential recycled water user, the user has to be located within SCV Water's service area and have a potential non-potable water demand of at least 50,000 gallons per day. At this time no specific or Valley-wide ordinance(s) or other enactments are proposed that would require the installation of dual distribution systems for recycled water, or that would require the use of recycled water for recirculating uses. A total existing demand of approximately 12,000 AFY (based on current non-potable uses from irrigation meters) and a future demand of 8,511 AFY (based on planned developments), totaling approximately 21,000 AFY. The majority of recycled water uses are projected to be landscape irrigation.

As noted above, Phase 1 of the RWMP has been constructed and begins with a 4,000-gpm pump station at the Valencia WRP that connects to a 1.5 MG reservoir in the Westridge area with 15,600 linear feet of 24- and 20-inch pipeline. It serves landscape customers along The Old Road and The Oaks Club at Valencia.

Four projects planned to expand recycled water use within Santa Clarita Valley, which are collectively known as Phase 2.

Phase 2A, 2C and 2D would use recycled water from the Valencia WRP and Phase 2B would use recycled water produced at the Vista Canyon WRP, which will treat flows from the planned Vista Canyon Development. Phase 2A would serve Central Park and customers along the path from the Valencia WRP to the park. Phase 2B would serve the proposed Vista Canyon Development and nearby irrigation customers. Phase 2C would serve Valencia Country Club, Vista Valencia Golf Course, College of the Canyons, California Institute of the Arts, Hart High School, and Newhall Elementary School. Phase 2D would serve West Ranch High School, Ranch Pico Junior High School, Oak Hills Elementary School, and customers along the way.

Anticipated annual demands and completion dates for Phase 2 components are listed below:

- Phase 2A: 560 AFY in 2029

- Phases 2B, 2C, 2D: 1880 AFY between 2021 and 2023 (1,200 AFY would consist of raw water conversion to non-potable at the Valencia golf course by 2023). Phase 2D and 2B are under construction.

In addition, the FivePoint project is anticipated to result in 5,174 AFY of demand between 2021 and 2043. These Phase 2 and FivePoint anticipated demands take into account demand adjustment factors over the planning period.

Future recycled water use expansion beyond Phase 2 was explored as part of the RWMP Update and could potentially include extensions of the Phase 2 alignments to utilize any additional available recycled water resulting from a decrease in discharges from the Valencia WRP. However, as discussed above there are no current plans to pursue reduction of discharges from the Valencia WRP to the Santa Clara River. Current plans call for reliance on the SCV Water's New Drop Program. Consistent with the New Drop Program there is currently no plan to use recycled water from the Saugus WRP since the majority of the effluent is committed to meeting discharge requirements in the Santa Clara River.

The RWMP Update also included a high-level assessment of opportunities for potable reuse within the Santa Clarita Valley via groundwater recharge, surface water augmentation and direct potable reuse and the development of seasonal storage (Woodard and Curran 2021). In general, due to the seasonal variability of recycled water demand, SCV Water has an excess of recycled water supply during the winter months. Excess recycled water flows are currently discharged to the Santa Clara River. These excess flows could be better utilized by constructing seasonal storage facilities which can store recycled water during winter months when the demands are low and feed the system with the stored supply in the summer months when demands exceed the operational supply. These opportunities would be evaluated further in future UWMP updates.

- **Groundwater recharge ("indirect potable reuse") via surface spreading** at an off-stream location near the Santa Clara River could provide for recharge of excess available recycled water in the winter and off-peak irrigation months. A more detailed feasibility study would be required to confirm the volume of recycled water that could be recharged and recovered based on current regulations, source water quality, operational and cost considerations.

- **Surface Water augmentation** at Castaic Lake would require full advanced treatment of the recycled water from SCVSD, brine disposal and significant conveyance requirements at a very high cost. It is also unknown at this time whether a surface water augmentation project would be able to meet applicable regulatory criteria and how much water could be augmented.

- **Direct potable reuse (DPR)**, though not currently permitted in California, would involve the purposeful introduction of highly purified recycled water into a drinking water supply, immediately upstream of a drinking Water treatment plant or directly into the potable water supply distribution system downstream of a water treatment plant. A DPR concept could potentially utilize recycled water not already allocated or planned for non-potable reuse or determined necessary for instream use and would require full advanced treatment of the recycled water from SCVSD, brine disposal and only minimal conveyance requirements. SCV Water intends to track direct potable reuse developments in California and revisit the feasibility of DPR in the future.

3.7.9 Recycled Water Comparison

The 2015 UWMP projected a total recycled water demand of 1,015 AFY by the year 2020. Actual data shows 468 AF was served in 2020 which reflects the existing golf course and landscape demands. 2020 demand is lower than originally predicted because the recycled water distribution system expansion did not occur as anticipated. Table 3-12 provides a comparison of the projected versus the actual 2020 demand. Based on current estimates, recycled water demand over the next five years is anticipated to increase 10-fold as shown in Table 3-12.

TABLE 3-12 RECYCLED WATER USES - PROJECTION COMPARED WITH ACTUAL USE (AFY)

User Type	2015 Projection for 2020	2020 Actual Use
Landscape	622	99
Golf Course Landscape	393	375
Total	**1,015**	**468**

3.7.10 Methods to Encourage Recycled Water Use

Currently, to the extent feasible SCV Water is offering recycled water as available at a lower rate to encourage the use of recycled water and to help offset some of the conversion costs. SCV Water is considering pricing options to encourage participation in the recycled water program. In addition to pricing incentives SCV Water is committed to a Valley-wide messaging regarding recycled water benefits and costs. At its March 2, 2021, Board Meeting, SCV Water authorized the General Manager to implement a Purple PREP (Planning Readiness and Effectuating Program) Pilot to facilitate conversion of the Phase 2B and 2D customer irrigation systems to recycled water. Under the program customers can choose either direct installation of required retrofit materials or receive a financial incentive up to the actual cost of the retrofit. Other incentives may include financial assistance to offset the costs to convert (or retrofit) potable water systems or the development of a Valley-wide recycled water ordinance, which would require the use of recycled water if available, rather than relying solely on pricing incentives and voluntary connections.

It is important to note that SCV Water's New Drop Program is a critical component for optimizing recycled water use across the service area. As described above, this program allows SCV Water to develop additional recycled water supplies from wastewater flows generated from new residential and commercial development, without increasing the diversion of recycled water flows discharged to the Santa Clara River.

3.7.11 Optimization Plan for Recycled Water

Currently, the amount of recycled water available from the WRPs is not adequate to meet the total demands of the completed recycled water system, which relates to both infrastructure and regulatory factors. Notably, however, as potable water demands increase in the Valley over time, wastewater flows will increase and the amount of recycled water production to meet future system demands would also increase. Therefore, SCV Water anticipates that construction of the recycled water system will be phased to utilize the increases in WRP production. A detailed discussion of the recommended phasing plan was provided in the RWMP Update.

Phasing implementation of the recycled water system is recommended for the following reasons:

- A number of the potential recycled water users are future users that do not yet need recycled water.
- The current amount of recycled water available from the local WRPs is not yet adequate to meet the total demands of all the existing *and* planned future identified recycled water users.
- Capital funding requirements would be spread over current planning period through 2050.

The implementation phases are prioritized based on the status of the potential recycled water users (existing or future), the anticipated construction schedule of future users and the proximity of the users to the non-potable water source (e.g., Valencia WRP, Vista Canyon WRP and Newhall Ranch WRP).

Phase 2A, 2B, 2C and 2D are planned for construction over the next 10 years and would increase recycled water deliveries by approximately 2,440 AFY. These projects are being prioritized to take advantage of available funding for recycled water projects under Proposition 1 and to align with the construction schedule for the Vista Canyon Development.

The Newhall Ranch/Five Point project represents the next major increase in recycled water use and is anticipated to be constructed over the next 20 to 25 Years. These facilities will be paid for by the developer.

As these uses come are on-line, recycled water demand may exceed supplies particularly during the summer months, thus the distribution to future users would be based on the following considerations:

- Service area boundaries,
- Ease or willingness of customers to connect to recycled water,
- Capital and operational costs,
- Funding availability,
- Community impacts and development requirements,
- Supply reliability and system flexibility considerations, and
- Availability of recycled water supplies due to regulatory or other legal constraints.

3.7.12 Additional Considerations Relating to the Use of Recycled Water

Additional information relating to recycled water concerning the SCVSD Chloride Compliance Plan, and the groundwater basin's Salt and Nutrient Management Plan are in the 2020 UWMP.

3.7.13 Capital Outlay Program

Financing the delivery of water supplies for SCV Water's customers, including this project, are set forth in SCV Water's Biennial Budget for FY 2021/22 and FY 2022/23. Water operations and new projects are paid from various funds as described below:

- General Fund – Fund used to account for and report all financial resources not accounted for and reported in another fund
- Capital Project Fund – Capital projects that are financed
- State Water Contract Fund – Funds received from ad valorem property taxes for payment of DWR fixed and variable costs
- Facility Capacity/Connection Fees – Funds that are collected from development or developers

The Biennial Budget describes anticipated revenues from various sources such as water sales, taxes, and fees along with anticipated expenditures associated with these funds including those to pay for existing and new sources of water supply.

Further, the budget contains a Capital improvement section (pg. 131) that identifies near term capital expenditures and their funding sources. SCV Water plans to invest $84 million in FY 21/22 and $86 million in FY 22/23. (pg. 133). These include projects described in this section such as installation of treatment facilities for Perchlorate and PFAS impacted wells, construction of new Saugus Formation wells, and construction of recycled water facilities.

The capital budget also contains expenditures for planning efforts for new projects such as additional extraction capacity from new banking programs and Sites Reservoir planning costs. A summary of expenditures and revenues are shown on the Tables on page 136 and 137 of the budget, with individual project summaries on the following pages. Some of the future water projects will be the subject of future budgets to be adopted by the SCV Waters Board of Directors.

Section 4: Supply Reliability Planning and Accounting for Uncertainties Associated with Groundwater Contamination, and other Factors

Planning for water supplies in California inherently involves the management of risks and uncertainties. Changes in public policy, regulatory requirements, and advancement of scientific knowledge can all affect future water supplies. This section addresses some of these risks and uncertainties that the SCV Water is managing. Specifically, this section addresses risk and uncertainties associated with water quality, specifically restoration of existing wells and proposed wells given ongoing groundwater contamination, how climate change may impact various sources of supplies and demand for water, and how ongoing development of new water use efficiency may impact water supplies and demands. Finally, this section discusses how analysis undertaken by SCV Water in its Water Supply Reliability Plan Report, supplements the analysis performed in the 2020 UWMP and demonstrates how SCV Water can manage risk should the path to implementing certain future water supplies are blocked.

A key factor to meeting future demands is restoring existing groundwater supplies that are currently contaminated with Perchlorate, PFAS, and VOCs. This section provides a detailed discussion based primarily on Section 6 of the 2020 UWMP, regarding water quality and steps necessary to recover these supplies as well as access additional groundwater supplies from the Saugus Formation. The discussion in this report, however, contains certain updates regarding the schedules relating to recovery of existing well capacity impacted by contaminates. Further, anticipated climate change is projected to impact nearly all of SCV Water's water supplies. While Sections 1.7 of the 2020 UWMP provides a summary of potential effects of climate change on California and the Santa Clarita Valley, this WSA provides additional discussions on how climate change information, based largely on State provided information, was incorporated into the water demands and water supplies analyzed in the 2020 UWMP and this WSA. This information was incorporated into SCV Water's 2021 Water Supply Reliability Plan Update that analyzed not only the proposed UWMP water resource mix, but alternative scenarios to achieve water supply reliability.

Additionally, the State is in the process of implementing two policy bills enacted by the California Legislature, Assembly Bill 1668 (AB1668, Friedman) and Senate Bill 606 (SB606, Hertzberg) that will provide new water efficiency standards that will eventually lead to enforceable urban water use objectives. Although these standards have not yet been adopted, implication to recycled water availability and urban water demand are discussed below.

4.1 Water Quality

The quality of any natural water is dynamic in nature. This is true for both the imported and local groundwater of the Basin. During periods of intense rainfall or snowmelt, routes of surface water movement may change resulting variable quantities of constituents being mobilized. 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 potentially dissolve different materials from those strata, change concentrations due to oxidation or reduction reactions or precipitate constituents due to oversaturation. Water depth is a function of recharge from local rainfall and from adjacent basins due to subsurface inflow and

withdrawal from groundwater pumping. Water quality is not a static feature of surface water and groundwater, and these dynamic variables must be recognized.

Water quality regulations also change. This is the result of the discovery of new contaminants, updated 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. Most water suppliers in California are subject to drinking water standards set by the United States Environmental Protection Agency (USEPA) and the SWRCB DDW, formerly the DPH. Additionally, each year prior to July 1st, a Consumer Confidence Report or Water Quality Report (WQR) is made available to all Valley residents who receive water from SCV Water. That report includes detailed information about the results of quality testing of the groundwater and treated SWP Water supplied during the preceding year (2020 WQR). Water quality is also 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 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.

This section provides a general description of the water quality of the supplies within the Valley, aquifer protection and a discussion of potential water quality impacts on the reliability of these supplies.

4.2 Water Quality Constituents of Interest

SCV Water is committed to providing its customers with high quality water that meets all federal and state primary drinking water standards. Some contaminants are naturally occurring minerals and radioactive material. In some cases, the presence of animals or human activity can contribute to the constituents in the source waters. The following sections address constituents reported in the 2020 WQR and the 2019 Santa Clarita Valley Water Report (July 2020) that may impact water quality.

4.2.1 Perchlorate

Perchlorate, a chemical used in making rocket and ammunitions propellants as well as flares and fireworks, has been a water quality concern in the Santa Clarita Valley since 1997 when it was originally detected in four wells operated by SCV Water in the eastern part of the Saugus Formation, near the former Whittaker-Bermite facility. In late 2002, the contaminant was detected in a fifth well, this one located in the Alluvial Aquifer (Stadium Well) but also located near the former Whittaker-Bermite site, and which was immediately taken out of service. Of those wells, two (Well 157 and Stadium Well) were sealed and replaced by new wells (201 and Valley Center), and two others (Saugus 1 and 2) were returned to service with treatment by 2011. Well N-11 was taken out of service and remains out of service.

Perchlorate was detected again in early 2005 in a second Alluvial well (Well Q2) near the former Whittaker-Bermite site, and in 2006 in very low concentrations (below the detection limit for reporting) in a fifth Saugus well (Well N13) near one of the originally impacted wells.

In response to the detection of perchlorate at alluvial Well Q2, it was removed from active service, and the preparation of an analysis and report assessing the impact of, and response to, the perchlorate contamination of that well was commissioned. A capture zone analysis utilizing the numerical groundwater flow model was conducted to assess the potential risk of perchlorate migration to Well Q2 and other nearby alluvial wells. This analysis determined that there was a low risk of perchlorate migration to Well Q2. The response for Well Q2 was to obtain permitting for installation of wellhead treatment, followed by the installation of treatment facilities, and returning the well to water supply service in October 2005. After nearly two years of operation with wellhead treatment, including regular monitoring specified by the DPH, all of which resulted in no detection of perchlorate in Well Q2, it was requested that DPH allow treatment to be discontinued. DPH approved that request in August 2007, and treatment was subsequently discontinued. In 2019, perchlorate was detected again in Well Q2. In response, a treatment system for Well Q2 was completed in early 2021, and the well is expected to be back online by summer 2022. Additional details on DDW permitting and associated operational timeline for Well 201 are provided in Section 4.7.2.

Well N-13 has remained in service with regular sampling per DDW requirements. Perchlorate concentrations in Well N13 (and Well N12) are currently below the detection limit for reporting (DLR). In 2007, the DPH (currently the DDW) established a maximum contaminant level (MCL) for perchlorate of 6 micrograms per liter (µg/L). However, in 2021 DDW lowered the MCL for perchlorate to 2 ug/L and subsequently is in the process of lowering the MCL to 1 ug/L by 2024. Additional details on DDW permitting and associated operational timeline for Well 205 are provided in Section 4.7.2. It is currently assumed that, if required due to changes in future regulations, a centralized treatment system will be installed for Wells N12 and N13 at the Well N12 location.

For Wells Saugus 1 and Saugus 2, DDW has imposed a requirement that perchlorate levels be below the Detection Level for Reporting (DLR) of 2 µg/L. These wells are in active service utilizing approved perchlorate treatment and will be treated for VOC's at the Saugus Perchlorate Treatment Facility by 2024.

In August 2010, perchlorate was detected in a sixth Saugus Formation well (Well 201) and was removed from service. Confirmation sampling in the months that followed confirmed the detection of perchlorate at concentrations that ranged from 5.7 to 12 µg/L. A perchlorate treatment system is currently installed for Well V-201 and SCV Water recently determined it will also install treatment for VOCs at Well 201. SCV Water is working with DDW to finalize a permit for operation of that treatment systems for both perchlorate and VOCs. Based on the current schedule, the well may come back online by 2024.

Following the detection of perchlorate in Well 201 in 2010, pumping from a nearby Saugus Formation well (Well 205) was minimized to reduce potential perchlorate migration. In April 2012, Well 205 was voluntarily taken out of service entirely when perchlorate was detected in low concentrations below the DLR (<4.0 µg/L). As of the date of this report, planning and CEQA activities for Well 205 treatments are in progress. This planning includes provisions for treatment of VOCs should testing determine those constituents are present in concentration sufficient to warrant treatment. The completion of a treatment system for Well 205 is anticipated

to occur by early 2024. To date, perchlorate has been detected in a total of nine wells, seven located in the Saugus Formation and two in the Alluvium. Table 4-1 summarizes the current remediation status of all wells where perchlorate has been detected.

Long-term efforts toward the remediation of perchlorate contamination since first detected in 1997 continues to this day. The objective of the perchlorate restoration and containment plan has been to stop the migration of the contaminant plume and restore lost well capacity through pump and treat methods and replacement wells. The following discussion is provided to illustrate the work that has occurred over the last 20 years to reactivate the impacted Saugus 1 and Saugus 2 groundwater supply wells, and that has been expanded to include Wells 201 and 205. SCV Water's Saugus Perchlorate Treatment Facility has been online since 2011, treating Wells Saugus 1 and Saugus 2.

A second Perchlorate Treatment Facility came online in 2017 at the Well 201. Until the facility is permitted, treated Water from Well 201 is blended with other SCV Water sources to meet sulfate discharge standards then discharged to the Santa Clara River, under a National Pollutant Discharge Elimination System (NPDES) discharge permit, where it recharges the alluvial aquifer. In 2021 the facility was taken off-line while maintenance was performed. The well and perchlorate treatment facility is anticipated to be placed back into service once the availability of blend water is assessed for 2022, and discharges to the Santa Clara River would then be resumed until DDW approval is acquired for both perchlorate and VOCs. The well is anticipated to be returned to service by early 2024.

The groundwater model that was developed for use in analyzing the operating yield and sustainability of groundwater in the Basin was also used to analyze the capture and control of perchlorate contamination in the originally impacted Saugus wells. As part of the evaluation of the containment system's effectiveness, the Basin groundwater model was updated and recalibrated using actual pumping data (see LSCE & GSI, 2009). The updated model was also utilized in 2014 and 2015 to evaluate restoration and containment options and select the preferred approach to contain the migration of perchlorate downgradient of the Whittaker-Bermite site and restore Wells 201 and 205 to service (GSI and LSCE, 2014).

In addition to the offsite containment and restoration activities, significant work has continued at the Whittaker-Bermite facility to advance a Saugus Aquifer Containment and Extraction Program. To date the following efforts have been made. A Work Plan, Saugus Aquifer Pilot Remediation Well Network, OU7 was approved on December 31, 2008; and subsequently, implementation of the Work Plan started. A multi-layer groundwater flow model was developed to simulate various groundwater pumping scenarios for capture of impacted groundwater in the Saugus Aquifer beneath the site and the surrounding areas. The optimum number and locations of extraction wells were determined based on the modeling scenarios, and the extraction wells and performance monitoring wells were installed.

Construction of the Saugus Aquifer Treatment Plant (SATP) was completed and operation of the pump and treatment system started in August 2017. The SATP includes liquid granular activated carbon (LGAC) for removal of VOCs and a fluidized bed reactor (FBR) for biological treatment of perchlorate in extracted groundwater. The treated water is discharged to the Santa Clara River, under full compliance with provisions of the NPDES permit issued by the Los Angeles RWQCB. Treated water discharged to river percolates through the riverbed and recharges the alluvial aquifer beneath the riverbed.

Approximately 446,741,200 gallons of water have been treated and discharged since start-up.

TABLE 4-1 STATUS OF IMPACTED WELLS

Year Perchlorate Detected	Well	Groundwater Aquifer	Status
1997	Saugus 1	Saugus	DPH (now DDW) approved well return to service in January 2011; well in active service utilizing approved perchlorate treatment.
1997	Saugus 2	Saugus	DPH (now DDW) approved wells return to service in January 2011; well in active service utilizing approved perchlorate treatment.
1997	Well 157	Saugus	Sealed and capacity replaced by new well.
1997	Well N11	Saugus	Out of service.
2002	Stadium Well	Alluvium	Sealed and capacity replaced by new well.
2005	Well Q2	Alluvium	Due to perchlorate detection again in 2019, a treatment system was completed in early 2021 and the well is expected to be back online by summer 2021.
2006	Well N13	Saugus	Regular DDW monitoring, concentrations currently below DLR; well remains in service.
2010	Well 201	Saugus	A perchlorate treatment system was installed in 2017 and treated water discharged to Santa Clara River beginning in 2018. Design for VOC treatment facility underway. The treated groundwater from the well may be used for supply by the end of 2024.
2012	Well 205	Saugus	Voluntarily out of service. Planning for treatment at Well 205 in progress with estimated well restoration by 2024.
2022	N-Well	Alluvium	Due to perchlorate detection in 2022, the existing PFAS treatment facility will require an amendment to the Operation Permit. No physical changes to the treatment facility will be required; well remains in service.

Saugus 1 and Saugus 2

In 2002 SCV Water and the U.S. Army Corps of Engineers (ACOE) signed a cost-sharing agreement for a feasibility study of the area. Under federal and state law, the owners of the Whittaker-Bermite property have the responsibility for the groundwater cleanup. SCV Water and the Department of Toxic Substances Control (DTSC) signed an oversight agreement in 2003 (amended in 2012) regarding studies of treatment technologies for removing perchlorate from water supplies, and also worked with DDW to obtain the necessary permits for these treatment processes. Treatment method pilot studies were conducted during 2003, and in 2004 SCV

Water and the purveyors selected ion exchange as the preferred treatment method for removing perchlorate.

Although that agreement expired in January 2005 the parties, under DTSC oversight, jointly developed a plan to "pump and treat" contaminated water from two of the purveyors' impacted wells to stop migration of the contaminant plume and to partially restore the municipal well capacity that had been impacted by perchlorate. The containment plan specified that wells Saugus 1 and Saugus 2 operate at an initial continuous pumping rate of 1,100 gpm (1,772 AFY) at each well, for a combined total of 2,200 gpm (3,544 AFY) from the two wells. The annual pumping volume of 1,772 AFY per well assumes that pumping will occur continuously, except for occasional maintenance purposes.

A final settlement to fund, remediate and treat the contaminated water was completed and executed by the parties in April 2007. Construction of the treatment facility and pipelines began in November 2007 and treatment of the water began in 2010. Water from Wells Saugus 1 and Saugus 2 was initially treated and discharged into the Santa Clara River. DDW issued an amendment to the Operating Permit in December 2010, and the wells were placed back in water supply service in January 2011. Since then, SCV Water has included this water as part of its supply and has been delivering this water to purveyors.

Wells 201 and 205

While a recommendation plan was submitted to restore Well 201 to service that utilized funding from the Whittaker Corporation and its insurer for installing wellhead treatment for contaminated water from Well 201, it has subsequently been determined that treatment for VOCs at well 201 is necessary. SCV Water has initiated design of this additional treatment at Well 201 as well as initiating design for perchlorate treatment and VOC treatment at Well 205. During the time Wells 201 and 205 have been removed from service, the temporary loss of capacity was made up for from the remaining, non-impacted Saugus production facilities and imported water supplies. Restoration of Well 201, operation of Well 205, and new Saugus well construction to replace lost capacity and to expand production capacity from the Saugus Formation are planned to achieve target Saugus Formation capacity through single and multiple dry years as discussed in Section 3.3.

Returning the impacted Saugus well (Well 201) to municipal water supply service after installing treatment requires DDW approval before the water can be considered potable and safe for delivery to customers. The permit requirements are contained in Process Memo 97-005 for direct domestic use of impaired water sources.

Before issuing a permit to a water utility for use of an impaired source as part of the utility's overall water supply permit, DDW requires that studies and engineering work be performed to demonstrate that pumping the well and treating the water will be protective of public health for users of the water. The Process Memo 97-005 requires that DDW review the water utility's plan, establish appropriate permit conditions for the wells and treatment system, and provide overall approval of returning the impacted wells to service for potable use.

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

assessment was completed and initially submitted to DDW for approval in 2015. The assessment includes the following:

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

A perchlorate treatment system is currently installed for Well 201 and planning for VOC treatment has been initiated. The well is expected to be back online for domestic use by early 2024. Well 205 is also subjected to Process Memo 97-005 and planning for treatment at Well 205 is in progress with an estimated well restoration date by 2024, as shown in Table 4-1. Additional details on DDW permitting and associated operational timeline for Wells 201 and 205 are provided in Section 4.7.

Ultimately, restoration plans and the DDW requirements are intended to ensure that the water introduced to the potable water distribution system has no detectable concentration of perchlorate and all water currently discharged from the potable water distribution system complies with all applicable drinking water standards.

4.2.2 Per- and Polyfluoroalkyl Substances (PFAS)

Per- and polyfluoroalkyl substances (PFAS) are a group of man-made chemicals that have been utilized in a wide array of industrial processes, including among others, production of stain- and water-resistant fabrics, cookware, food packaging, and fire-fighting foams. Among the nearly 5,000 types of PFAS, the two long-chained PFAS, perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA) have been produced in the largest amounts. While the use of PFAS has been reduced since the early 2000s, PFOS and PFOA are persistent in the environment and resistant to typical environmental degradation processes which has led to their accumulation and widespread contamination of natural resources, including groundwater supplies.

Recently, the United States Environmental Protection Agency (USEPA) implemented a new lifetime health advisory level of 70 parts per trillion (or 70 nanogram per liter [ng/L]) for the combined concentrations of PFOA and PFOS in drinking water. In August 2019, DDW set a notification level (NL) of 5.1 and 6.5 ng/L for PFOA and PFOS, respectively. Subsequently, in February 2020, the DDW set a response level (RL) of 10 ng/L for PFOA and 40 ng/L for PFOS, based on a running annual average (RAA). RL is the concentration at which DDW recommends that a well is taken out of service, pending treatment. If a chemical concentration is greater than its NL (but below the RL) in drinking water that is provided to consumers, DDW recommends that the utility inform its customers and consumers about the presence of the chemical, and about health concerns associated with exposure to it. Potential regulatory limits for several short chain PFAS compounds are currently undecided.

On February 22, 2021, USEPA published notice in the federal register that the agency is in the process of developing a MCL for PFAS under the federal Safe Drinking Water Act. At this time, it is unclear whether the federal MCL will match the health advisory level of 70 parts per trillion, or if it will be a lower level, similar to the RL adopted DDW. SCV will monitor EPA's regulatory decisions and comply with all applicable requirements. Groundwater delivered by SCV to

ratepayers will need to be treated to ensure it meets Safe Drinking Water Act standards, if the groundwater contains PFAS at levels that exceed the MCL

In accordance with an Order issued by DDW in March 2019, SCV Water was required to sample 15 wells for four consecutive quarters for PFAS. Initial quarterly samples were collected in May 2019 and one well (Valley Center), exceeded the EPA RL of 70 ng/L for combined levels of PFOA and PFOS and the well was immediately taken out of service. In addition, 10 of the initial 15 wells sampled exceeded one or both NLs for PFOS and PFOA. Public notification was provided to the SCV Water Board of Directors, the Santa Clarita City Council and Los Angeles County Board of Supervisors. At this time, SCV Water decided to voluntarily sample all wells quarterly for PFAS. PFOA and/or PFOS levels higher than NLs and RLs were observed in over 60% of the wells. Subsequent public notifications were provided to SCV Water customers, and one well that was found to exceed the RL was immediately taken out of service. In response to the revised RL from February 2020, SCV Water proactively shutdown numerous wells that were anticipated to exceed the RAA for either PFOA or PFOS.

The preparation of a Groundwater Treatment Implementation Plan was initiated in 2020 with the purpose to evaluate the feasibility and costs of PFAS and perchlorate treatment options (Kennedy Jenks 2021). A total of 28 existing SCV Water wells were identified to be impacted by PFAS, being wells showing representative values of PFOA and PFOS above 80% of the DDW RLs. Based on preliminary results of the alternatives analysis, ion exchange was identified as the preferred treatment option. According to the plan, out of the 28 wells requiring treatment, five wells would have wellhead treatment system and groundwater from the remaining wells would be treated at eight centralized treatment locations. To date, one centralized treatment system was completed for the three N-wells (N, N7 and N8). Restoration of the remaining wells is estimated to occur between 2022 and 2030 as describe further in Section 3 and the Santa Clarita Valley Water Agency, Groundwater Treatment Implementation Plan Technical Memorandum (Kennedy Jenks 2021).

4.2.3 Metals and Salts

Metals and salts are tested in wells at least every three years and in Castaic Lake water every month. Concentrations of arsenic at levels less than the drinking water standard of 0.01 milligrams per liter that occur naturally from geologic materials are found in Castaic Lake and in a few wells. Inorganic compounds such as salts and metals can be naturally occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming. Arsenic levels in the Santa Clarita Valley have regularly been below the MCL (10 ug/L) and oftentimes below the DLR (2 ug/L), as was the case during 2019 monitoring (LSCE, 2020).

Nitrate in drinking water at concentrations above 45 mg/L is a health risk for infants less than six months of age due to the possibility of methemoglobinemia. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. Principal sources of nitrogen to a watershed typically include discharges from water reclamation plants, septic systems, and recharge from agricultural activities. Nitrates are tested at least annually, and the drinking water meets federal and state MCL standards (2020 WQR).

A TMDL for chloride in the Upper Santa Clara River (Reaches 5 and 6) was adopted by the Los Angeles RWQCB and became effective on May 5, 2005. The Basin Plan Amendment for the chloride TMDL in the Upper Santa Clara River was unanimously adopted by the Los Angeles RWQCB on December 11, 2008. The TMDL identifies the Valencia and Saugus WRPs as the

largest sources of chloride to the Upper Santa Clara River and established waste load allocations of 100 mg/L for the Saugus and Valencia WRPs. In 2014, the Los Angeles RWQCB adopted the most recent version of the USCR Chloride TMDL, Resolution R4-2014-010, which incorporated special study findings and assigned waste load allocations of less than 150 mg/L as a 3-month rolling average at the Saugus, and less than 100 mg/L as a 3-month rolling average for the calculated "combined effluents" of the Saugus and Valencia WRPs.
In response to the adopted chloride TMDL, the SCVSD developed a chloride compliance plan that includes source control, construction of UV disinfection facilities at the Saugus and Valencia WRPs, and construction of the AWTF at the Valencia WRP. The AWTF will help meet the chloride TMDL and is anticipated to be completed by 2022.

4.2.4 Disinfection By-Products

SCV Water uses ozone and chloramines to disinfect its water supply. Disinfection By-Products (DBPs), which include Trihalomethanes (THMs) and Haloacetic Acids (HAA5), are generated by the interaction between naturally occurring organic matter and disinfectants such as chlorine and ozone. THMs and HAA5 are measured at several points throughout the distribution system. Each location is averaged once per quarter and reported as a running annual average.

Ozone is a very powerful disinfectant that not only kills organisms that no other disinfectant can, but also destroys organic chemicals that cause unpleasant tastes and odors. However, ozone can also interact with bromide, a naturally occurring salt, to produce bromate. Bromate is measured weekly in the surface water treatment plant and compliance is based on a running annual average.

4.2.5 Total Trihalomethanes

Total Trihalomethanes (TTHMs) are byproducts created when chlorine is used as a means for disinfection. The Stage 2 Disinfectants and Disinfection Byproducts Rule, implemented by EPA in 2005, requires water systems to apply an MCL of 80 ug/L for TTHM at each compliance monitoring location (instead of as a system-wide average as in previous rules). SCV Water implements a combination of chlorination (using calcium hypochlorite) and chloramination across its system and maintains TTHM levels below the MCL, as documented in the 2020 WQR.

4.2.6 Microbiological

Microbial contaminants, such as viruses and bacteria, can be naturally occurring or result from urban storm Water runoff, sewage treatment plants, septic systems, agricultural livestock operations and wildlife. Water is tested throughout the systems weekly for Total Coliform bacteria and testing for *Escherichia coli* (*E. coli*) occurs when coliform testing is positive. No *E. coli* was detected in any drinking waters in 2019. The MCL for total coliforms is 5 percent of all monthly tests showing positives for larger systems. Bacteriological tests met federal and state requirements. Additional microbiological tests for the water-borne parasites *Cryptosporidium parvum* and *Giardia lamblia* were performed on Castaic Lake water, and none were detected.

4.2.7 Radiological Tests

Radioactive compounds can be found in both ground and surface waters and can be naturally occurring or be the result of oil and gas production and mining activities. Testing is conducted for two types of radioactivity: alpha and beta. If none is detected at concentrations above five picoCuries per liter no further testing is required. If it is detected, the water must be checked for uranium and radium. Although naturally occurring radioactivity can be detected, existing monitoring data indicate that alpha and beta levels are below the federal and state MCL standards.

4.2.8 Organic Compounds

Organic chemical contaminants, including synthetic and volatile organic chemicals, are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff and septic systems. Organic compounds also include pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff and residential uses. Water is tested for two types of organic compounds, volatile organic compounds (VOCs) and non-volatile synthetic organic compounds (SOCs). These organic compounds are synthetic chemicals produced from industrial and agricultural uses. Castaic Lake water is checked annually for VOCs and SOCs.

Although VOCs tend to escape from surface water through volatilization (evaporation) into the air, once dissolved in groundwater they are more persistent. Local wells are tested at least annually for VOCs and periodically for SOCs. Saugus 1, Saugus 2 and 201 wells are tested up to weekly for VOCs. VOCs have been measured in trace levels in some of the SCV Water wells. Trichloroethylene (TCE) represents the major VOC constituent detected in these wells. Tetrachloroethylene (PCE) has also been detected in a few samples. However, the measured levels of these constituents in these wells are well below their respective MCLs.

SCV Water's Water Supply Permit for Wells Saugus 1 and 2 sets an operational goal of no VOCs above the DLR (0.5 ug/L) in its distribution system and SCV Water. Over the last 5 years, the operational goal has been achieved in more than 95% of the samples collected. When there are detections, they are well below the MCL and just slightly above the DLR. SCV Water performed a VOC source identification study in July 2015 which concluded that the likely source was the Whittaker-Bermite site. SCV Water is currently working with DTSC to develop additional monitoring requirements for both sites. Supplemental VOC treatment of Saugus 1 and 2 wells is currently in design.

During startup of the Well 201 perchlorate treatment facility, TCE was detected slightly above the DLR. Detections of TCE in Well 201 have ranged from a high of 1.3 ug/L to <DLR. Average detections are slightly above the DLR at around 0.6 ug/L. SCV Water has determined it will supplement the perchlorate treatment facility at Well 201 with a GAC based treatment facility. This additional treatment component is currently under design. In order to bring Well 201 back into potable production, SCV Water will be subject to Process Memo 97-005 requirements. SCV Water anticipates construction and permitting to be completed by 2024 Recognizing the potential for similar challenges at Well 205, initial design incorporates the potential need for treatment of VOCs and the need to meet Process 97-005 requirements. Well 205 is anticipated to become available in 2024

In order to address contamination at the Whittaker-Bermite site, a remedial action plan (RAP) and associated CEQA document were approved by DTSC on December 2, 2014. The RAP

presents an evaluation of identified remedial alternatives for containment and cleanup of impacted groundwater at the Whittaker-Bermite site. In accordance with the RAP, a Saugus Aquifer Treatment Plant was constructed and began operation in August 2017. The treatment plant includes a fluidized bed reactor (FBR) system which provides biological treatment of perchlorate and liquid granular activated carbon which is used to remove VOCs in groundwater. Approximately 446,741,200 gallons of water have been treated since start-up.

4.3 Imported Water Quality

SCV Water provides SWP and other imported water to the Valley. The source of SWP water is rain and snow of the Sierra Nevada, Cascade, and Coastal Mountain ranges. This water travels to the Delta through a series of rivers and various SWP structures. From there it is pumped into a series of canals and reservoirs, which provide water to urban and agricultural users throughout the San Francisco Bay Area and central and southern California. The most southern reservoir on the West Branch of the SWP California Aqueduct is Castaic Lake. SCV Water receives water from Castaic Lake and distributes it to its customers following treatment.

SCV Water operates two water treatment plants, the Earl Schmidt Filtration Plant located near Castaic Lake and the Rio Vista Water Treatment Plant located in Saugus. SCV Water produces water that meets drinking water standards set by the U.S. EPA and DDW. SWP Water has different aesthetic characteristics than groundwater, with lower dissolved mineral concentrations (total dissolved solids) of approximately 250 to 400 mg/L, and lower hardness (as calcium carbonate) of about 105 to 135 mg/L. Historically, the chloride content of SWP Water varies widely from over 100 mg/L to below 40 mg/L, depending on Delta conditions. In addition, changes in SWP operations, as described below, can also result in water quality variations.

Historically, the SWP delivered only surface water from the Sacramento-San Joaquin River Delta. However, SCV Water along with other SWP contractors have integrated water supply programs also include “water banking” programs where SWP Water is stored or exchanged during wet years and withdrawn in dry years. Withdrawn water can either be delivered by exchange with SWP supplies allocated to others, or by pumping it into the SWP system. During dry periods, a greater portion of water in the SWP includes banked water supplies. The banked water has met all water quality standards established by DWR under its pump-in policy for the SWP. Source water from SCV Water’s Semitropic Bank can require treatment for 123 TCP and arsenic prior to introduction into the Aqueduct depending on the mix of wells used for recovery. To date Semitropic has successfully treated its source water through blending methods and meets DWR pump-in policy. Supplies from SCV Water’s Rosedale Bank have also met DWR pump-in criteria. In general, the pumped-in water serves to reduce the chloride concentration in SWP Water. The SWP water chemistry may fluctuate and is influenced by its passage through the Delta, where large amounts of organic material are present and where mixing with salt water from the San Francisco Bay, which contributes bromide and chlorides, may occur. Chloride levels from the Delta elevate chloride locally resulting in concern for local agriculture that grows chloride sensitive crops. Additionally, bromide and TOC may react with disinfectants such as ozone, chlorine, or DBPs. All constituents met the federal and state MCL levels as reported in the 2020 WQR.

4.4 Surface Water Quality

SCV Water does not deliver and treat water from the Santa Clara River as a source of supply; however, this supply is a source of recharge to the underlying groundwater basin.

The Los Angeles RWQCB Basin Plan (Basin Plan, 1994) provides water quality objectives for surface water in the USCR. These objectives were established to protect the various beneficial uses for that particular water body or reach. The water bodies of the USCR Watershed, which include streams, natural lakes, and reservoirs, span a wide variety of existing, potential and/or intermittent beneficial uses. The following is a list of the beneficial uses identified in the USCR:

- Municipal and Domestic Supply
- Industrial Service Supply
- Industrial Process Supply
- Agricultural Supply
- Groundwater Recharge
- Freshwater Replenishment
- Hydropower Generation
- Water Contact and Non-contact Water Recreation
- Warm and Cold Freshwater Habitat
- Wildlife Habitat
- Rare, Threatened, and Endangered Species
- Spawning, Reproduction, and/or Early Development

All of the surface water bodies in the USCR Watershed support the designated beneficial uses (either existing or intermittent) of municipal and domestic supply, agricultural supply, groundwater recharge, water contact recreation, non-contact water recreation, wildlife habitat, and warm freshwater habitat. In addition, many water bodies (such as Bouquet, San Francisquito, and Soledad Canyons) support the designated beneficial uses (either existing or intermittent) of rare, threatened, or endangered species; wetland habitat; and/or spawning, reproduction, and/or early development.

Regional reservoirs that support hydropower generation include Elderberry Forebay, Castaic Lake, Dry Canyon Reservoir, Bouquet Reservoir, and Pyramid Lake. Local surface waters are not a direct source of drinking water supply in the Region, but they are a continual source of recharge to groundwater which is used to meet municipal water demands.

Based on the 2014 and 2016 California Integrated Report and related Clean Water Act Section 303(d) list, there are a number of impairments identified for Reaches 5, 6 and 7 of the Santa Clara River, and for Lake Hughes, Lake Elizabeth, and Munz Lake, all of which are within the Upper Santa Clara River Watershed.

The Santa Clara River currently has two approved TMDLs due to non-attainment of water quality objectives, one pertaining to chloride (see Section 4) and another pertaining to bacteria. Another TMDL is in place for three lakes within the Region that are impaired with trash. Other pollutants impacting local surface waters include nutrients, metals, pesticides, and others.

Surface water quality is monitored in numerous locations throughout the Valley. Continuous sampling records are taken at two gaging stations at the Old Highway 99 Bridge and at the Los Angeles-Ventura County Line (“Blue Cut”).

4.5 Groundwater Quality

The groundwater basin has two sources of groundwater, the Alluvial Aquifer whose quality is primarily influenced by recharge from rainfall and stream flow, and the Saugus Formation, which is a much thicker aquifer and recharged primarily by a combination of rainfall and deep percolation from the partially overlying Alluvium. A larger part of the Valley's groundwater supply is from the Alluvial Aquifer, between 30,000 to 40,000 AFY; and a smaller portion of the Valley's water supply is drawn from the Saugus Formation, with a target production level between 7,500 and 15,000 AFY in normal water years.

Local groundwater does not have microbial water quality problems. Parasites, bacteria, and viruses are filtered out as the water percolates through the soil, sand, and rock on its way through the vadose zone to the water table (the top of the aquifer). Even so, disinfectants (hypochlorite) are added to local groundwater when it is pumped by wells to protect public health. Local groundwater has very little TOC and generally has very low concentrations of bromide, minimizing potential for DPB formation. Taste and odor problems from algae are not an issue with groundwater.

The mineral content of local groundwater is very different from SWP water. The groundwater is very "hard," and it has high concentrations of calcium and magnesium (approximately 250 to 600 mg/L total hardness as $CaCO_3$). Groundwater may also contain higher concentrations of nitrates and sulfates when compared to SWP water. However, all groundwater meets drinking water standards.

4.5.1 Water Quality - Alluvium

Groundwater quality is a key factor in assessing the Alluvial Aquifer as a municipal and agricultural water supply. Groundwater quality details and long-term conditions, examined by integration of individual records from several wells completed in the same aquifer materials and in close proximity to each other, have been discussed previously in the annual Water Reports and in the 2020 UWMP. Historical groundwater quality as represented by TDS (which is a measure of the amount of dissolved minerals and salts in water expressed in mg/L) from representative wells in the Valley have been reviewed relative to DDW Secondary Maximum Contaminant Levels (SMCL) (Recommended, Upper and Short-term Levels). While concentrations of TDS generally respond to wet periods by exhibiting a downward trend, followed by an increasing trend during a dry period, the historical TDS data does not exhibit a long-term increasing trend and, therefore, no long-term decline in Alluvial groundwater quality. In general, groundwater quality exhibits a "gradient" from east to west, with lowest dissolved mineral content to the east, increasing in a westerly direction; and periodic fluctuations in some parts of the basin, where groundwater quality has inversely varied with recharge from precipitation and stream flow. Those variations are typically characterized by increased mineral concentrations through dry periods of lower stream flow and lower groundwater recharge, followed by lower mineral concentrations through wetter periods of higher stream flow and higher groundwater recharge.

Overall, water quality analyses demonstrate that, with the exception of occasional variances above the SMCL for TDS, groundwater of the Alluvium meets acceptable drinking water standards. The presence of long-term consistent water quality patterns, although intermittently affected by wet and dry cycles, supports the conclusion that the Alluvial aquifer is a viable ongoing water supply source in terms of groundwater quality.

The most notable groundwater quality issue in the Alluvium is PFAS contamination, described in Section 4.2.2.

4.5.2 Water Quality - Saugus Formation

As discussed above for the Alluvium, groundwater quality is a key factor in also assessing the Saugus Formation as a municipal and agricultural water supply. Long-term Saugus groundwater quality data is not sufficiently extensive to permit any sort of basin-wide analysis or assessment of pumping-related impacts on quality. However, integration of individual records from several wells has been used to examine general water quality trends. Based on those records, water quality in the Saugus Formation has not historically exhibited the precipitation-related fluctuations seen in the Alluvium. Based on available data over the last fifty years, groundwater quality in the Saugus has exhibited a slight overall increase in dissolved mineral content. Between 2000 and 2005, several wells within the Saugus Formation exhibited an increase in TDS concentrations, similar to the short-term changes in the Alluvium, possibly as a result of recharge to the Saugus Formation from the Alluvium. Between 2006 and 2010, these concentrations steadily declined, followed by an increasing trend through 2016 and decreasing trend through 2019, except for Well N12 which remained stable.

TDS concentrations in the Saugus Formation remain within the range of historic concentrations and below the (aesthetic) MCL upper level. Groundwater quality within the Saugus will continue to be monitored to ensure that degradation which could present concern relative to the long-term viability of the Saugus as an agricultural or municipal water supply does not occur.

The most notable groundwater quality issues in the Saugus Formation are perchlorate and VOC contamination.

4.6 Water Quality Impacts on Reliability

Three factors affecting the availability of groundwater are sufficient source capacity (wells and pumps), sustainability of the groundwater resource to meet pumping demand on a renewable basis and protection of groundwater sources (wells) from known contamination, or provisions for treatment in the event of contamination. The resolution of contamination for aquifer protection is addressed below.

Among the main constituents of concern with potential to impact groundwater availability are perchlorate, VOCs and PFAS. Based on the low levels of detection and blending practices with imported water supplies, VOCs are not anticipated to impact groundwater supply availability or reliability. Additionally, TCE detected at the Well 201 perchlorate treatment facility will be addressed as part of the Process Memo 97-005 DDW drinking Water permitting process. New standards for PFAS and subsequent testing results have indicated groundwater impacts in the Alluvial Aquifer from this constituent group and resulted in SCV Water's decision to shut down several wells in the recent past.

Perchlorate has been a water quality concern in the Valley since 1997 and long-term efforts are ongoing for the containment and remediation of perchlorate contamination. Currently, efforts are focused on stopping the migration of the contaminant plume and restoring the lost well capacity through pump and treat methods. SCV Water has sealed and replaced the capacity of some perchlorate impacted wells with new wells, and it has treated some of the wells and brought them back online. Some impacted wells are subjected to impaired water (97-005) compliance

requirements, while others are currently in operation with a DDW approved monitoring program. Additionally, other perchlorate-impacted wells are currently offline awaiting installation (or permit) of treatment process. As noted above, two perchlorate treatment facilities have come online since 2011 and a third system was completed in early 2021.

Recognizing the existing water quality issues that affect the local groundwater, from perchlorate and VOCs, and more recently PFAS, SCV Water has developed a groundwater treatment and implementation plan (Kennedy Jenks 2021) to improve the reliability of its local groundwater supplies and ensure suitable water quality for meeting its customer potable demands. It is understood that groundwater treatment and implementation must be developed consistent with SCV Water's GSP, such that any relevant information pertaining to the adequacy, availability, and sustainability of supplies be consistent with the GSP and GSP implementation Plan.

Overall, the plans being developed for groundwater operation will allow SCV Water to meet near term and long-term demand within the SCV Water service area. The loss of capacity of wells impacted by water quality issues and removed from service in the near term will be met by near-term excess capacity in non-impacted wells, other water sources including imported water supplies, and/or through the installation of replacement well(s), if necessary, until remediation alternatives, including wellhead treatment, and DDW approval is obtained for restoration of the impacted supply. Therefore, no anticipated change in reliability or supply due to water quality is anticipated based on the present data, as is shown in Table 4-2.

TABLE 4-2 CURRENT AND PROJECTED WATER SUPPLY CHANGES DUE TO WATER QUALITY (PERCENTAGE CHANGE)

Water source	2020	2025	2030	2035	2040	2045	2050
Groundwater							
Alluvial[(a)]	63%	25%	0%	0%	0%	0%	0%
Saugus[(b)]	25%	0%	0%	0%	0%	0%	0%
Imported Water	0%	0%	0%	0%	0%	0%	0%
Recycled Water	0%	0%	0%	0%	0%	0%	0%
Banking Programs	0%	0%	0%	0%	0%	0%	0%

Notes:

(a) Based on 24,170 AFY and 25,660 AFY being available to SCV Water in 2020 and 2025 respectively and calculated for normal years. Net reduction in Alluvial pumping is 15,270 and 6,420 in 2020 and 2025, respectively. Full Alluvial well capacity is restored by 2030 per groundwater treatment and implementation plan (Kennedy Jenks 2021). As discussed, this interim reduction in supply does not result in an overall supply shortfall.

(b) Based on forgone pumping capacity of 5,950 for well 201 and 205 per Table 4-8C (provided in the 2020 UWMP and at total pumping capacity of 23,930 AFY (14,980 existing capacity + 5,950 of recovered capacity). As discussed, this interim reduction in supply does not result in an overall supply shortfall.

4.7 Review of Pending Water Quality Permitting for Saugus Wells

Based on the anticipated process for water quality permitting and current status, this section provides information supporting the proposed timeline for operation of existing Saugus wells 201, 205, and future additional Saugus wells (Saugus 3 and 4, Saugus 5 and 6, and Saugus 7 and 8) following DDW water quality permitting requirements as summarized in Table 4-3.

TABLE 4-3 ANTICIPATED SCHEDULE FOR PERMITTING AND OPERATION OF SAUGUS WELLS

Well	Well Status	Treatment Status	DDW Permit Requirements	DDW Permit Status	Anticipated Schedule
201	Existing and operating (discharge to surface water)	Perchlorate treatment since 2017	97-005 Process Memo	- Pending revised 97-005 documentation sections (most information from previous submittal is applicable) and DDW sequential review - Pending water supply permit amendment application and public hearing - Pending revised CEQA	- 2021: CEQA - December 2021: Treatment design completed - Q12022: draft 97-005 documentation sections 1-5 and sequential DDW review/approval - 3Q2022 – 4Q2023: System construction - 3Q-4Q2023: Startup testing and submittal of testing data to DDW - 1Q2024: DDW review and approval of 97-005 draft documentation and ancillary documents - 2Q2024: Water supply permit application - 3Q2024: Public Hearing - 4Q2024: Water supply permit application Amended Water Supply Permit and Operation (as applicable)

Well	Well Status	Treatment Status	DDW Permit Requirements	DDW Permit Status	Anticipated Schedule
205	Existing and not operating	Preliminary design complete	97-005 Process Memo	- Pending draft 97-005 documentation sections (most information from Well 201 documentation is applicable) and DDW sequential review - Pending water supply permit amendment application and public hearing - Pending CEQA	- 2022: CEQA - 2022: Treatment design - 2023: draft 97-005 documentation sections 1-5 and sequential DDW review/approval - 1Q2023 – 1Q2024: System construction - 1Q-4-Q2024: Startup testing and submittal of testing data to DDW - 1Q2024-2Q2024: DDW review and approval of 97-005 draft documentation and ancillary documents - 1Q2024-Q22024: Water supply permit application - 3Q2024: Public Hearing - 4Q2024: Water supply permit application Amended Water Supply Permit and Operation (as applicable)
Saugus 3 and 4	Designed and drilling pending DDW permit	Not applicable, it is anticipated that technical documents to address some elements of 97-005 process memo may be required by DDW because of proximity of abandoned oilfield but	Drinking Water Source Assessment Plan	- Preliminary Drinking Water Source Assessment Plan complete - Pending submittal and DDW review of Drinking Water Source Assessment Plan - CEQA MND completed and approved in 2005	- 4Q2021-2Q2022: Draft Drinking Water Source Assessment Plan and DDW review and drilling approval - Q12022-Q2022 CEQA - 3Q2022 – 3Q2024: Well installation and testing - 2025: Amended Water Supply Permit

Well	Well Status	Treatment Status	DDW Permit Requirements	DDW Permit Status	Anticipated Schedule
		treatment will not be required			
Saugus 5 and 6	Locations identified and secured	Anticipated not applicable	Drinking Water Source Assessment Plan	- Pending draft Drinking Water Source Assessment Plan and DDW review (anticipated that wells are not subject to Process Memo 97-005) - Pending CEQA	- 2022-2023: Draft Drinking Water Source Assessment Plan, and DDW review and drilling approval - 2023: CEQA - 2024: Wells installation and testing - 2025-2027: Amended Water Supply Permit
Saugus 7 and 8	Locations TBD	Anticipated not applicable	Drinking Water Source Assessment Plan	- Pending draft Drinking Water Source Assessment Plan and DDW review (anticipated that wells are not subject to Process Memo 97-005) - Pending CEQA	- 2021-2023: Location identifications - 2024 Draft Drinking Water Source Assessment Plan and DDW review and drilling approval - 2024: CEQA - 2025-2026: Wells installation and testing - 2027-2030: Amended Water Supply Permit
N-Well	Existing and Operating	Treated for PFAS since 2020	Operating Permit Amendment	- Processing Amendment to Operating Permit to include perchlorate treatment at the existing PFAS Treatment Facility	- 2022: Operating Permit Amended

4.7.1 Process Memo 97-005 Requirements

Operation of Saugus wells 201 and 205 for drinking water supply will require an amended Water Supply Permit subjected to Process Memo 97-005 for direct domestic use of extremely impaired sources. Based on the revised Process Memo 97-005-R2020 issued by DDW in September 2020, the following studies and documents are required prior to DDW issuance of the water supply permit:

- Process Memo 97-005 documentation, including the following elements:
  - Drinking Water Source Assessment and Contaminant Assessment
  - Full Characterization of Raw Water Quality
  - Drinking Water Source Protection
  - Effective Treatment and Monitoring
  - Evaluation of Human Health Risks Associated with the Failure of the Proposed Treatment
  - Operations Maintenance and Monitoring Plan
- CEQA documentation
- Water supply permit application
- Treatment facility compliance/startup testing plan
- Startup testing data and documentation
- Public hearing

The process outlined by DDW in the revised Process Memo 97-005-R2020 is as follows:

- The water purveyor prepares and submits draft Process Memo 97-005 documentation sections to DDW
- DDW review and provide written approval of the draft Process Memo 97-005 documentation sections sequentially
- The water purveyor completes startup testing of the treatment facility and submit testing data for DDW review and approval
- The Process Memo 97-005 documentation is deemed complete by DDW, including written approval of each section
- The water purveyor submits an application for an amended Water Supply Permit
- The Process Memo 97-005 documentation and ancillary documents are provided for public review
- DDW and the water purveyor hold a public hearing
- DDW determine whether to issue the amended Water Supply Permit for the extremely impaired source

The anticipated schedule for operation of the Saugus wells has been determined based on the requirements and process outlined above and the current status.

4.7.2 Existing and Future Saugus Wells

4.7.2.1 Saugus Well 201

SCV Water had completed the draft Process Memo 97-005 documentation for Saugus well 201, including collection and documentation of operational data since the system started operating with discharge to surface water in 2017, however a review of submitted information in light of SCV Water's decision to incorporate VOC treatment is underway. While CEQA has been

completed for the original project, supplemental documentation may need to be provided to DDW for the additional VOC treatment for the well. Well 201 is anticipated to return to service in 2024.

4.7.2.2 Saugus Well 205

Well 205 is located in the vicinity of Well 201, and evaluation of the anticipated capture zone under different operating conditions has been completed (GSI and LSCE 2014). Because of the close proximity of Well 205 to Well 201 and the similarity of the anticipated wellhead treatment, it can be assumed that significant portions of the draft Process Memo 97-005 documentation for Well 201 will be applicable to Well 205, including:

- Drinking Water Source Assessment and Contaminant Assessment
- Drinking Water Source Protection
- Effective Treatment and Monitoring
- Operations Maintenance and Monitoring Plan

The preliminary design for the treatment system is complete and the final design is anticipated to be completed by the end of 2022. Following completion of the final design, it is anticipated that SCV Water will prepare the draft Process Memo 97-005 documentation in 2023 in close collaboration with DDW, including sequential review of draft sections and requirement of written approval. Treatment system construction and testing is anticipated in 2023-2024, and completion of Process Memo 97-005 documentation, DDW review, and public hearing is anticipated in 2024.

4.7.2.3 Saugus Wells 3 and 4

Sites for Saugus wells 3 and 4 have been identified and secured. The sites are located within approximately 2,500 feet of abandoned oilfield wells. SCV Water has been in communication with DDW about these well locations. Based on these communications and the descriptions of “extremely impaired source” in the revised Process Memo 97-005-R2020, it is not anticipated that Saugus wells 3 and 4 will be subject to Process Memo 97-005. SCV Water has provided the following information to DDW to confirm this assumption:

- Description of the local hydrogeology and drinking water well design information
- Drinking Water Source Assessment Plan
- Water quality data from monitoring wells located within the anticipated capture area

Drilling approval has been given by DDW, well installation and testing are anticipated in late 2022-early 2024 with permits in late 2024. Wells are anticipated to return to service in 2025.

4.7.2.4 Saugus Wells 5 and 6

Sites for Saugus wells 5 and 6 have been identified and secured in the Castaic Junction area. Based on the descriptions of “extremely impaired source” in the revised Process Memo 97-005-R2020, it is not anticipated that Saugus wells 5 and 6 will be subject to Process Memo 97-005. Similar to Saugus wells 3 and 4, it is anticipated that SCV Water will provide the following information to DDW prior to well installation:

- Description of the local hydrogeology and drinking water well design information
- Drinking Water Source Assessment Plan
- Water quality data from monitoring wells located within the anticipated capture area

Following review and drilling approval by DDW, well installation and testing are anticipated in 2027.

4.7.2.5 Saugus Wells 7 and 8

Sites for Saugus wells 7 and 8 have not been identified. Therefore, the schedule for operation of those wells for drinking water supply is anticipated for 2030.

4.7.2.6 N-Well

SCV Water is in the process of having the Operation Permit for the existing PFAS Treatment Facility for the N-Well amended by DDW to include monitoring and language to include perchlorate treatment. The current ion exchange treatment for PFAS treats for perchlorate as well and only minor operational changes are needed. There will be no changes to the Facility.

4.8 Potential Effects of Climate Change

A topic of increasing importance for water planners and managers is climate change and the potential impacts it could have on California's future water supplies. With a range of potential scenarios and impacts, climate change increases uncertainty of future demand conditions and local and imported water supply conditions thereby posing additional water management challenges.

California is described as one of the most "climate-challenged" regions in North America, in the Fourth Climate Change Assessment (Climate Assessment)(https://nca2018.globalchange.gov/), completed in 2018 in coordination with the CEC, CNRA and State Office of Planning and Research. This Climate Assessment includes updated climate projections and supports findings that the State will experience greater impacts from climate change in the future, including shifting hydrology. Among the technical reports prepared for the Climate Assessment is a report on the *Mean and Extreme Climate Change Impacts on the State Water Project* (Wang et al., 2018).

Primary climate change impacts projected by global climate models to impact the State and Santa Clarita Valley region include warming air temperatures and changes in precipitation patterns, with more frequent and intense heavy precipitation events on the one hand and more frequent and more severe droughts on the other hand, among other impacts. While studies related to the region are conclusive regarding the anticipated increase in extreme events, there is disagreement whether average precipitation changes will be towards wetter or drier conditions. Impacts outside the Santa Clarita Valley, but nevertheless of high importance include rising sea levels and declining snowpack. These conditions impact the availability and reliability of both local and imported water supplies.

Recent findings indicate that higher temperatures will lead to dryer conditions, and an increased occurrence of dry years and multiple dry years resulting in more frequent and more intense droughts. Drought risks are anticipated to be some of the greatest vulnerabilities to water supplies and demands, resulting in among other things reductions in groundwater recharge, reduced runoff and surface water flows, and reduced local and imported water supply reliability. Additionally, warmer temperatures and changes in precipitation patterns are anticipated to result in increasing water needs as discussed in the following reports:

- Upper Santa Clara River Integrated Regional Water Management Plan
- City of Santa Clarita Climate Action Plan
- Los Angeles Countywide Sustainability Plan
- State Water Project Delivery Capability Report
- California's Fourth Climate Change Assessment
- SCV-GSA Groundwater Sustainability Plan

Climate Change was incorporated into the 2020 UWMP and reflected in this WSA. To accomplish this, an estimate of how 2050 climate is likely to differ compared to baseline normal climate. These estimates are obtained from the climate change scenarios and supporting data that DWR has made available for assessing groundwater basin sustainability to support implementation of the Sustainable Groundwater Management Act (SGMA). This is the same information that GSI Water Solutions used in preparing the GSP. (GSI Water Solutions, Inc. (2020) and the development of a Numerical Groundwater Flow Model for the Santa Clara River Valley East Groundwater Subbasin. These estimates were selected to remain consistent with climate change scenarios used for evaluating supply impacts as recommended by the DWR UWMP Guidebook. Climate change conditions for SWP supplies were incorporated consistent with DWR's 2019 SWP Delivery Capability Report.

Section 2 of the 2020 UWMP present demands used in this WSA. A more detailed discussion regarding demand development including climate change can be found in UWMP's Appendix F: Population and Demand Technical Memorandum (Maddaus) with the climate change methodology presented in Appendix F of the Maddaus report. The approach uses the Department of Water Resources (2018a) Guidance for Climate Change Data Use During Groundwater Sustainability Plan Development. In the resource, DWR provides downscaled, gridded information about expected percentage changes in reference ETo and precipitation for two different time horizons (i.e., year 2030 and 2070). Each grid is roughly 6 kilometers by 6 kilometers in area, allowing for a granular assessment of local conditions. These change factors are derived as the average of 20 climate model predictions for each horizon year. These 20 climate models were selected by DWR's Climate Change Technical Advisory Group in 2015 as best representing California.

The gridded change factors are provided as a climatological time series by month and year between 1915 and 2011. It is meant to capture how historical weather during the 1915-2011 period in a grid would have been different under expected climate conditions in 2030 and 2070. This format allows groundwater modelers to simulate water budgets under alternative scenarios, such as actual historical weather, or historical weather modified by the change factors to reflect expected 2030 or 2070 weather conditions.

This simulation approach preserves historical inter-annual weather variability, allowing for an apples-to-apples comparison across the simulation of alternative scenarios. To capture expected future weather conditions in the Santa Clarita Valley, change factors for reference ETo and precipitation were downloaded for the two grids that cover the SCV Water service area and averaged.

Figure 4-1 shows monthly factors by which reference ETo is expected to be relatively higher in both year 2030 and year 2070. Figure 4-2 shows the same for precipitation. Change factors are multipliers; thus, a factor of 1.0 would mean no change.

FIGURE 4-1
MONTHLY DISTRIBUTION OF ETo COMPARED TO BASE LINE

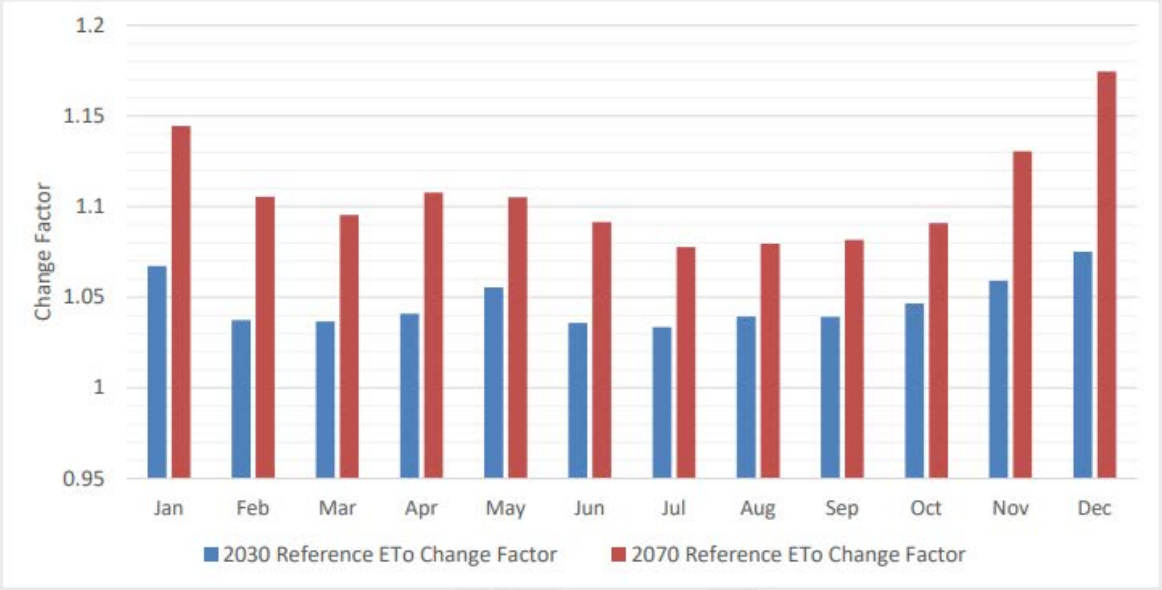
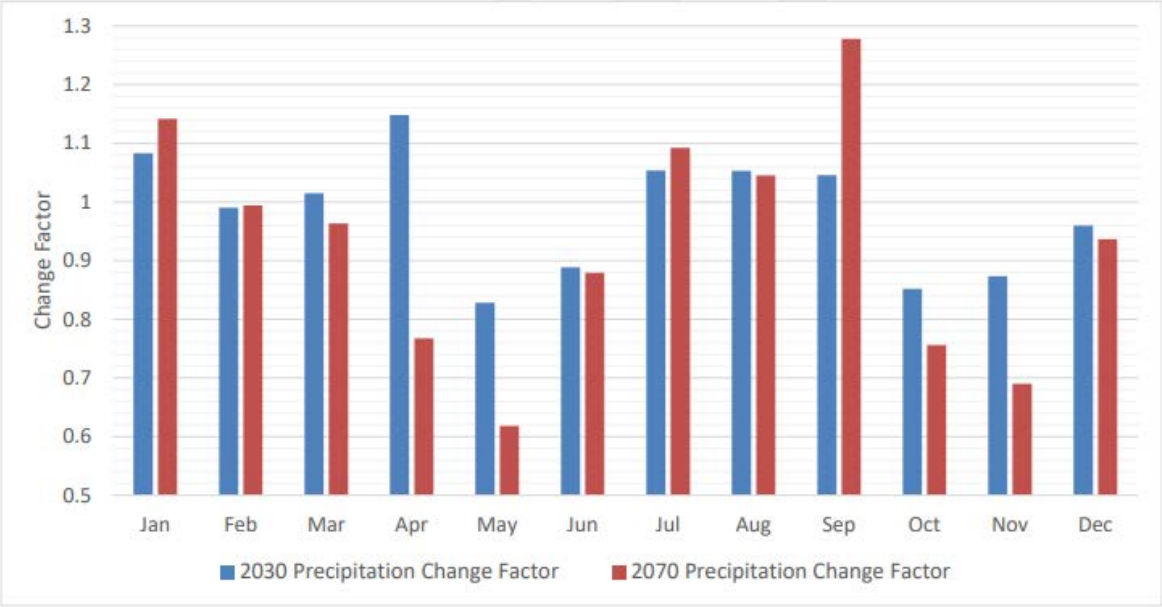


FIGURE 4-2
MONTHLY DISTRIBUTION OF PRECIPITATION COMPARED TO BASELINE



These climate change factors suggest that the monthly reference ETo in the Santa Clarita Valley is expected to be higher by approximately 5% in 2030, and 10% in 2070. Although by 2070, winter months would have experienced sharper warming that other month. With respect to precipitation, climate change is not expected to have much effect on the primary rainy months in the Santa Clarita Valley (December-March).

Overall, climate change is expected to have a more material impact on reference ETo than precipitation. To develop a climate change scenario that represents the land-use analysis' endpoint of 2050 the change factors for 2030 and 2070 were averaged since the midpoint of this period coincided with 2050.

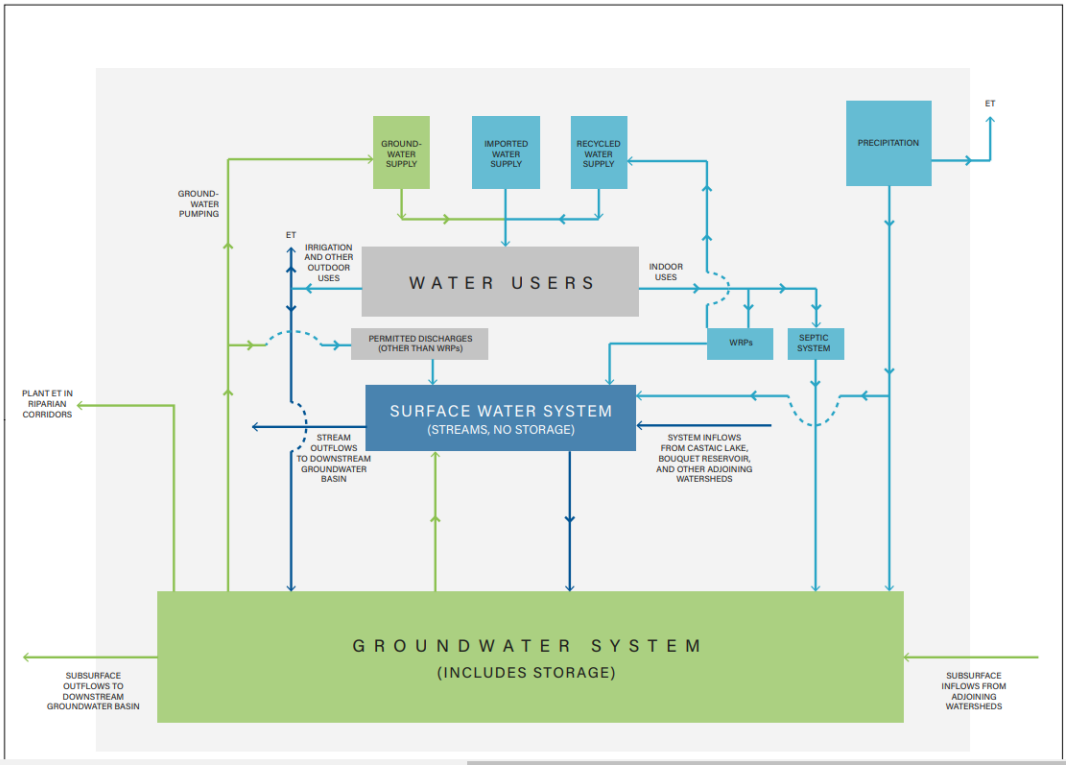
This exercise yielded 12 monthly change factors each for reference ETo and precipitation. The econometric demand model was constructed at a monthly time step and used reference ETo and precipitation to model the impact of weather. These change factors were fed into the demand study's econometric model to forecast what demand would have been in demand study's base period of 2018 and 2019. The difference worked out to a projected increase of 3.77% on total production. This is lower than the increase in ETo as this increase is only applied to outdoor water use not to interior water use.

This climate change increase in demand is expected to arrive gradually over time, essentially starting with a 0% impact in 2020 rising to 3.77% in 2050. Between these two bracketing years (2020 and 2050) the impact of climate change is layered linearly on to the baseline demand forecast.

Both Groundwater and State Water Project water are impacted by climate change and these impacts are described below.

Groundwater

As described in Section 6 of the GSP, it incorporates several water balance analyses with three climate conditions, existing conditions, 2030 conditions, and 2070 conditions. These analyses incorporate the changes in ETo and precipitation that are identified above. Section 6 and Appendix I of the GSP documents how various components of water balance analyses interact with changes in ETo and precipitation. As demonstrated in the following diagram these interconnections are relatively complex.



Changes in precipitation impact both surface and groundwater systems. Changes in ETo impact water needed by water users for irrigation as well as water used by Riparian Corridors. At the same time increases in imported supplies have the potential to increase flows to reclamation plants and discharges into surface water and the transfer of surface water to groundwater. The GSP utilized a numeric groundwater flow model (MODFLOW-USG) to account for these interactions and determine if the basin was being operated in a manner that resulted in the chronic lowering of groundwater levels or groundwater storage.

The projected water budgets, in Figures 6.1-9 through 6.1-11 in the GSP, show that the cumulative change curve for groundwater storage may shift slightly downward with climate change, the onset of slightly reduced precipitation and greater ET in the Basin. However, chronic declines in groundwater levels are not projected to occur over long periods, which indicates that SCV Water's operating plan for the Basin is unlikely to cause an overdraft condition in the local groundwater system (i.e., it is unlikely to exceed the basin yield) in the future under the assumed climatic conditions.

State Water Project Supplies

To determine water supplies available from the SWP, SCV Water relies on computer modeling performed by DWR and reported in the DCR. The 2019 DCR was the basis for SWP supplies reported in the 2020 UWMP. While the Draft 2021 DCR became available on December 31, 2021, it does not contain updated information on future SWP water supply availability. In absence of updated information use of the 2019 data continues to represent the most appropriate estimate future SWP availability.

To evaluate SWP supply availability under future conditions, the 2019 DCR included a model study representing hydrologic and sea level rise conditions in the year 2040. The future condition study used all of the same model assumptions as the study under existing conditions, but reflected changes expected to occur from climate change, specifically, projected temperature and precipitation changes centered around 2035 (2020 to 2049) under a higher emissions assumption and more conservative (45 cm) sea level rise. For the long-term planning purposes of this WSA and the 2020 UWMP, the long-term average allocations reported for the future conditions study from 2019 DCR is the most appropriate estimate of future SWP water supply availability.

The following text from the 2019 DCR Appendix B: Future Condition with Climate Change and 45 cm Sea Level Rise Scenario, provides a more thorough explanation on development of the 2040 modeling conditions.

The DCR 2019 Future Conditions scenario uses the same climate change hydrology inputs of the Incidental Take Permit (ITP)1climate change studies. ITP climate change scenario was developed centered around 2035 (2020-2049). This is best available climate change input hydrology to be used for DCR planning horizon (year 2040). DWR (2020) explains how the climate change projections conditions were developed:

> "The climate projections were derived from the ensemble of 20 Coupled Model Intercomparison Project 5 (CMIP5) global climate projections selected by the California Department of Water Resources (DWR) Climate Change Technical Advisory Group (CCTAG) as the most appropriate projections for California water resources evaluation and planning (DWR CCTAG, 2015). The 20 climate projections, selected by CCTAG, were generated from 10 global climate models run with two emission scenarios, one optimistic (Representative Concentration Pathway [RCP] 4.5) and one pessimistic (RCP 8.5), identified by the Intergovernmental Panel on Climate Change (IPCC) for the Fifth Assessment Report (AR5) (2014)."

Two Sea Level Rise (SLR) projections were evaluated before establishing the final Future Conditions SLR. Below, we explain how the final Future Conditions SLR was selected between the 1 foot (ft) and 1.5 ft SLR projections. The Ocean Protection Council released the latest Sea-Level Rise Guidance in 2018 (OPC 2018). Table B-1 (OPC 2018) presents the three levels of risk aversion: low, medium-high, and extreme. The DCR 2019 scenarios included SLR projections in between: medium (1ft SLR) and near-high risk (45 centimeter or 1.5 ft SLR) which are summarized in Table B-2. The high emissions, 2040 row (Table B-1) was selected because of the 20-year "project lifespan" of DCR Future Conditions scenarios and due to the Incidental Take Permit's March 31, 2040, expiration date. The 1.0 ft SLR has a 1-in-20 chance or 5% exceedance probability while the 45 cm (1.476 ft) SLR has less than 0.5% exceedance probability (Table B-2).

Table B-1. Projected SLR (ft) for San Francisco (OPC 2018)

		Probabilistic Projections (in feet) (based on Kopp et al. 2014)			
		MEDIAN	LIKELY RANGE	1-IN-20 CHANCE	1-IN-200 CHANCE
		50% probability sea-level rise meets or exceeds...	*66% probability sea-level rise is between...*	*5% probability sea-level rise meets or exceeds...*	*0.5% probability sea-level rise meets or exceeds...*
			Low Risk Aversion		Medium - High Risk Aversion
High emissions	2030	0.4	0.3 - 0.5	0.6	0.8
	2040	0.6	0.5 - 0.8	1.0	1.3

Table B-2. DCR 2019 Preliminary Future Conditions (1 ft and 1.5 ft SLR projections for High Emissions, 2040)

Aversion projection (High emissions, 2040)	SLR (ft) projection
Low risk	0.8
Medium risk **(DCR 19 1 ft SLR)**	1.0
Medium-high risk	1.3
High risk **(DCR 19 1.5 ft SLR)**	1.476
Extreme risk	1.8

Between the 1 ft and 1.5 ft SLR, the 1.5 ft SLR Future Conditions scenario was chosen after feedback from management and some State Water Project Contractors.

The Appendix further provides annual water allocation for the period from 1922 through 2003. The model results in the 2019 DCR reflect a reduction in average SWP water supplies for 2020 conditions of 58% to future conditions average reliability of 52%. As discussed in Section 3.2.7 supply values between 2020 and 2040 are interpolated between these values and supplies beyond 2040 are assumed to be the same as 2040. Further the climate adjusted annual water allocation information for 2040 were used in SCV Water's 2020 Updated Water Reliability Report.

4.9 Pending Water Use Efficiency

Recognizing the water supply challenges that California faces moving forward, in 2018, two policy bills were enacted by the California Legislature, Assembly Bill 1668 (AB1668, Friedman) and Senate Bill 606 (SB606, Hertzberg). Provisions of this legislation provide for the setting of long-term water efficient standards for 1) indoor residential use, 2) outdoor residential use,3) outdoor irrigation used from dedicated irrigation meters and equivalent for large commercial, industrial, and institutional (CII-DIM) use, 4) water loss, 5) certain variances and incentives for potable reuse. Further, water users will be required to establish urban water use objectives no later than January 1, 2024, incorporating these standards.

Regarding indoor residential water use, DWR is tasked in coordination with the SWRCB to conduct studies and prepare a report to the legislature with recommendations to potentially

revise existing standards. This report, “Results of the Indoor Residential Water Use Study,” pursuant to Water Code Section 10609, has been submitted to the Legislature. It recommends the current standards be adjusted as indicated in the following Table 4-4.

TABLE 4-4 RECOMMENDED INDOOR WATER USES STANDARDS

Year	Current Standard (GCPD)	Recommended Standard (GCPD)
2020	55	55
2025	52.5	47
2030	50	42

As interior water use is the source of future recycled water, this has implications regarding availability of this water source. As previously discussed in Section 3, SCV Water intends to develop recycled water supplies from new development. As detailed in the Maddaus Water Demand Study, it was assumed interior water use of 50 gcpd. The recommended standard represents a 16% reduction in the availability of new recycled water supplies or from 8,511 to 7,149 AFY. When added to the existing 450 AFY this totals 7,599 AFY, a potential reduction of 912 AFY or about 1% of total water demand.

On the other hand, provisions of the legislation concerning irrigation water use efficiency will likely offset this potential reduction in supply. Under the legislation, DWR is to conduct studies and make recommendations to the SWRCB regarding outdoor water use and variances and incentives and the SWRCB shall adopt standards by June 30, 2022. The legislation specifically calls for outdoor water use standards to incorporate the principles of the MWELO (Model Water Efficient Landscape Ordinance). This will have implications for both existing and future water users.

Regarding future water users, the 2020 UWMP based future outdoor water use on MWELO plus an overwatering factor. As noted in Appendix F of the 2020 UWMP, exterior water demands for future development are based on 2015 MWELO plus 25.6% overwatering factor. This increase in exterior water use was based on a technical study that compared actual irrigation demand from properties developed after 2015 MWELO took effect. (2020 UWMP Appendix F – Population and Demand Technical Memorandum, Maddaus, April 2021 Appendix F – (Residential and Non-Residential outdoor Water Use Study pg. 11). Overall water demand attributed to new users is approximately 30 TAF and 60% of which is for outdoor water. Thus, assuming SCV Water adopts measures and or regulations that require future customers to meet MWELO requirements, water demands would be reduced by approximately 3,800 AFY. This more than offsets the reduction is supply of 1,362 AFY.

Determining the application of the MWELO principals relating to existing customers outdoor water use will be more complex. This involves producing credible data to determine landscape area while accounting for the age of existing installations and its inherent limits of design efficiency, along with a number of other factors. A draft report has been released to the stakeholders for comments but at this time DWR has not produced its report on outdoor water efficiency standards. SCV Staff following this process anticipate application of expected standards will likely require further reductions in outdoor water use.

Thus, while changes in efficient water use requirements may result in the shifting of the resource mix used to achieve water reliability standards it does not appear that such changes

would result in a less reliable water supply portfolio. Refinement of water use efficiency standards and the implied reductions in demand will be forth coming, however, until a more thorough analysis can be conducted, it is reasonable and likely conservative to use the assumptions in the 2020 UWMP for conservation and recycled water.

4.10 Water Supply Reliability Modeling

SCV Water's strategy for achieving water supply reliability has involved development of a diverse water supply portfolio that can accommodate the variability of wet and dry-periods endemic to California's climate. The variability in SWP supplies has the largest effect on overall supply reliability. In any given year, SWP supplies may be reduced due to dry weather conditions or regulatory factors. During such an occurrence, the remaining water demands in the SCV Water service area would be met by SCV Water's diverse alternate water supplies. The alternate supplies that would make up for any reductions in SWP supplies include a combination of supplies, such as return water from SCV Water's water storage accounts in the Semitropic Groundwater Storage Bank and the Rosedale-Rio Bravo Water Banking and Exchange Program, deliveries from SCV Water's flexible storage account in Castaic Lake Reservoir, local groundwater pumping from the Saugus Formation, short-term water exchanges, and participation in DWR's dry-year water purchase programs, among other sources. The diversity of such alternative supplies adds to the reliability because factors that may impact one supply source, such as drought, may not directly impact other sources, such as banked water.

The available water supplies and demands for SCV Water's service area were analyzed in the 2020 UWMP to assess the region's ability to satisfy demands during the following variable periods: (1) an average water year; (2) a single-dry year; and (3) multiple-dry years. The 2020 UWMP summary tables demonstrate that existing and planned supplies are available and sufficient to meet existing and projected demand under all such conditions for the projected planning period through 2050. The analysis also accounts for the water needed to serve the Project because SCV Water included the Project demand in SCV Water's current and projected water deliveries data provided as part of the adopted 2020 UWMP. Furthermore, the 2020 UWMP concludes that SCV Water's current and proposed groundwater supplies from the Alluvial Aquifer and the Saugus Formation are sustainable, and that current and future pumping levels, when combined with non-purveyor pumping, for average year, single-dry year, and multiple-dry years, remain within the basin yield.[12]

In addition to the above-mentioned UWMP reliability assessment, SCV Water periodically updates its Water Supply Reliability Plan (Plan) to identify current and future storage capacity and emergency storage needs and options for managing its water supplies. The 2019 Water Supply Reliability Plan Update (Geosyntec 2021) is the most current Plan.

This Plan evaluates six supply scenarios driven by varying assumptions regarding projected local supply availability and reliability, with each supply scenario evaluated against two demand sets (projected demands with and without active conservation).

The Plan uses an analytic spreadsheet model developed for SCV Water by MBK Engineers and updated by Geosyntec Consultants in 2021 to assess the reliability of SCV Water's water supplies. The model performs annual water operations for the SCV Water service area over a specified study period (2021 through 2060), using projected increases in demands to reflect the

[12] 2020 UWMP, p. 7-2.

uncertainty in the hydrology over this period, using supplies that would be available under multiple hydrologic sequences. For each hydrologic sequence, the model steps through each year of the study period, comparing annual supplies to demands and operating SCV Water storage programs as needed, adding to storage in years when supplies exceed demand, and withdrawing from storage when demand exceeds supplies. Results from the multiple hydrologic sequences are then compiled and summarized to provide a statistical assessment of the reliability of SCV Water's supplies and storage programs to meet its projected demands over the study period.

In addition to the hydrologic reliability of the Santa Clarita Valley's overall water supply, the Plan also discusses the physical reliability of the water delivery system in place to deliver its groundwater, imported water, and recycled water supplies. Deliveries of these supplies are dependent on an extensive network of SWP facilities used to pump, store, and convey SWP and other imported supplies, and SCV Water and purveyor facilities to treat, pump, and distribute supplies. Supply delivery can be interrupted or constrained in a number of ways, and the Plan includes an assessment of the ability to meet demands during an extended 12-month outage.

For this Plan update, the study period analyzed is 2021 through 2060 (which is 10 years after the assumed development buildout in the SCV Water's service area assumed in the 2020 Urban Water Management Plan (UWMP)). The analysis starts with a Base Scenario and evaluates five additional scenarios, with and without active conservation. This analysis builds on information contained in the 2019 DWR DCR as it incorporates 2040 climate change conditions discussed above in this Section and uses the same hydrologic sequence from the CALSIM 2 model. A further description of the model and the scenarios are contained in Section 7.45 of the 2020 UWMP and the 2019 Plan.

The reliability analysis conducted in the Plan is more rigorous and conservative than that contained in the 2020 UWMP and in Section 5.1. The Plan models the operation of SCV Water's supply portfolio through the full 82-year historical hydrologic period and incorporates projected storage balances when determining the quantity of water available from a banking program to meet water demands during dry periods. Further, while UWMP Section 5.2 incorporated a gradual decline in SWP reliability between 2020 and 2040 due to climate change, the Plan's modeling is based on SWP hydrology adjusted to reflect 2040 climate change, being applied to all years in the study period.

These scenarios represent 12 different views of future supply situations. Each supply scenario is evaluated in the Plan to determine the reliability of that scenario in meeting projected demands in SCV Water's service area. The reliability for all future scenarios (1 through 5) is greater than 95 percent.

The Plan analyzed various scenarios, which analyses can be used to answer several questions including:

1. How long current facilities could be relied upon to achieve reliability?

2. If the mix of existing and proposed facilities in the UWMP achieved reliability through 2050?

3. If certain future facilities were not constructed, (specifically some or all of the new Saugus Formation wells were either not constructed or otherwise unavailable) would alternative programs that SCV Water is investigating be able to achieve reliability?

A summary of the scenarios studied are shown in Table 4-5.

TABLE 4-5 VARIOUS SCV WATER SUPPLY SCENARIOS

	Base	1	2	3	4	5
Alluvial Pumping	✓	✓	✓	✓	✓	✓
Existing Saugus	✓	✓	✓	✓	✓	✓
SWP and BVRRB	✓	✓	✓	✓	✓	✓
Existing Banking Programs	✓	✓	✓	✓	✓	✓
Saugus Wells 3 and 4		✓	✓	✓		
Saugus Wells 5 - 8		✓				
New Rosedale Bank Capacity		✓	✓	✓	✓	
Sites Reservoir				✓	✓	✓
AVEK High Desert Bank			✓		✓	✓
McMullin GSA Aquaterra Bank						✓

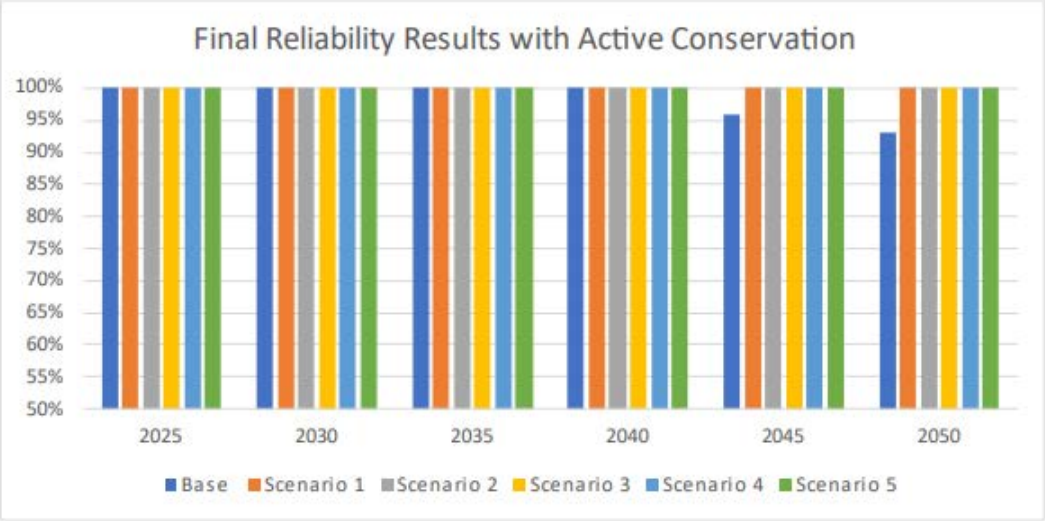
The Base represents those elements of the SCV Water's portfolio that currently exist. This includes existing and restored groundwater supplies. As the analysis moves through the study period restoration of well capacity temporarily taken out for water quality concerns takes place consistent with Table 4-6B, Table 4-6C, Table 4-8B, and Table 4-8C in the 2020 UWMP. Imported supplies include SWP supplies based on 2040 climate conditions pursuant to DWR's CALSIM modeling for the 2019 Delivery Capability Report, the firm Buena Vista Rosedale Transfer, and if necessary, in dry years, SWP Flexible Storage, Nickel Water (after 2035), Yuba Accord water. The Base case also includes the existing banking programs, specifically existing Rosedale Banking supplies at the existing 10,000 AFY of recovery, SCV Water Semitropic and access to the Newhall Land and Farming withdrawal capacity (after 2035), that are drawn on during years when the other previously mentioned supplies are insufficient to meet demands.

Scenario 1 adds Saugus Formation wells 3-8 and 10,000 AFY of additional extraction capacity from the Rosedale Banking Program as provided for in the 2020 UWMP.

Scenarios 2-5 were designed to analyze if in the event of the removal of some or all future Saugus Formation Wells (and in one case the expansion of the Rosedale Bank) could reliability be achieved through other programs that SCV Water is considering participating in, specifically Sites Reservoir, AVEK's High Desert Bank and the McMullin's Aquaterra Water Bank.

Figure 4-3 summarizes the modeling results.

FIGURE 4-3 FINAL RELIABILITY RESULTS WITH ACTIVE CONSERVATION



With respect to the first question above, the analysis shows that current supplies (including recovered groundwater capacity) along with active conservation will be sufficient through at least 2040.

Regarding the second question, to achieve reliability in subsequent years, additional investments in those programs and facilities identified in the UWMP (Scenarios 1) would be sufficient to achieve reliability through 2050.

As to the third question, Scenarios 2-5 demonstrate that alternative programs to those contained in the UWMP could offer different paths to achieve reliability or if implemented in addition to the UWMP could provide additional supplies in excess of demand.

Conclusions

As discussed above, the analysis contained in the Plan represents a more robust and conservative analysis than that contained in the 2020 UWMP. Nevertheless, the conclusions related to the ability of SWC Water to reliably meet water demands are consistent. If SCW Water continues to implement active water conservation measures, conjunctively use its imported water, groundwater and water banking facilities, and invests in future water supply facilities as identified in the 2020 UWMP it will reliably meet water demands in its service area through 2050. The ability to implement other alternative water supply programs identified in the Plan's analysis bolsters this conclusion as alternatives exist should some of the future water supplies identified in the 2020 UWMP become unattainable.

4.11 Water Conservation and Water Shortage Contingency Planning

Water supplies may be interrupted or reduced due to a number of factors, such as a drought which limits supplies, an earthquake which damages water delivery or storage facilities, a regional power outage, or a toxic spill that affects water quality. The 2020 UWMP describes in detail how SCV Water is responding to such water supply outages, reductions, and other emergencies so that customer needs are met adequately, promptly, and equitably. With the completion of the 2020 UWMP, SCV Water also completed a comprehensive Water Shortage Contingency Plan that outlines the states of action SCV Water will take depending on the severity of a particular shortage for each supply source available to SCV Water. In addition, prohibitions, penalties, and financial impacts of shortages have been developed by SCV Water and are summarized in both the 2020 UWMP and 2020 Water Shortage Contingency Plan.

In preparing this WSA, SCV Water considered the urban water shortage contingency planning analysis set forth in the 2020 UWMP and 2020 Water Shortage Contingency Plan in determining the sufficiency of water supplies for the proposed Project, in addition to all existing and planned future uses in SCV Water's service area within the Santa Clarita Valley. These documents also explain how SCV Water's reliability planning provisions of these adopted documents assist SCV Water in responding to drought conditions, including the severe drought conditions that currently exist.

Section 5: Water Supply Assessment

Consistent with the provisions of SB 610, neither this WSA nor its approval shall be construed to create a right or entitlement to water service or any specific level of water service, and shall not impose, expand, or limit any duty concerning the obligation of SCV Water to provide certain service to its existing customers or to any future potential customers.

The WSA does not constitute a will-serve, plan of service, or agreement to provide water service to the Project, and does not entitle the Project, Project Applicant, or any other person or entity to any right, priority or allocation in any supply, capacity, or facility. To receive water service, the Project will be subject to an agreement with SCV Water, together with any and all applicable fees, charges, plans and specifications, conditions, and any and all other applicable SCV Water requirements in place and as amended from time to time. Nor does anything in this WSA prevent or otherwise interfere with SCV Water's discretionary authority to declare a water shortage emergency in accordance with the Water Code.

SCV Water is implementing plans that include projects and programs to help ensure that the existing and planned water users within the Santa Clarita Valley have an adequate supply.

The analyses presented in the following tables verify the availability of water supply for the Lyon Canyon Project, in addition to all existing and planned future uses in the SCV Water service area over a 30-year horizon (exceeding the requirements of SB 610's 20-year planning horizon) in average/normal years, a single dry-year, and in multiple-dry years.

Furthermore, while not required by SB 610, as a conservative measure, this WSA demonstrates that sufficient water supplies will be available to meet the projected water demands associated with the proposed Project during normal, single-dry, and multiple-dry years over a 30-year horizon, in addition to existing and planned future uses (including agricultural, manufacturing, and industrial uses) throughout the entire Santa Clarita Valley.

5.1 Water System Operations and Reliability Planning

As discussed herein, SCV Water has implemented a number of projects that are part of an overall program to provide the facilities needed to ensure reliable imported and local water supplies during dry years. The program involves water conservation, surface and groundwater storage, water transfers and exchanges, water recycling, additional short-term pumping from the Saugus Formation, and increasing SCV Water's imported supply. This overall strategy is designed to meet increasing water demands while assuring a reasonable degree of supply reliability. Part of the overall water supply strategy is to provide a blend of groundwater and imported water to area residents to ensure consistent quality and reliability of service. The actual blend of imported water and groundwater in any given year and location in the Santa Clarita Valley is an operational decision and varies over time due to source availability and operational capacity SCV Water's facilities. The goal is to conjunctively use available water resources so that the overall reliability of water supply is maximized while utilizing local groundwater at a sustainable rate.

The available water supplies and demands for SCV Water's service area were analyzed in the 2020 UWMP to assess the region's ability to satisfy demands during the following variable

periods: (1) an average water year; (2) single-dry year; and (3) multiple-dry years, which included an assessment of a five-year dry period. The supply and demand comparison tables 5-2,5-3 and 5-4 (shown in Sections 5.1.1 to 5.1.4 below) utilize demonstrate that existing and planned supplies are available to meet existing and projected demand under all such conditions for the projected planning period through 2050. These tables are consistent with the 7-2, 7-3 and 7-4 in the UWMP with the exception that Table 5.2 reflects updated SWP Table A Amounts consistent with the DWR's 2021 Draft DCR and Planned Future and Recovered Groundwater supplies reflect the adjusted planning, construction and planning schedules as discussed in Section 3.3.2.3 Available Groundwater Supplies.

While many of the Santa Clarita Valley's available supply sources have some variability, the variability in SWP supplies has the largest effect on overall supply reliability. In any given year, SWP supplies may be reduced due to dry weather conditions, regulatory restrictions, or other factors. As discussed above, during such an occurrence, the remaining water demands in the SCV Water's service area are planned to be met by a combination of alternate supplies such as return water from SCV Water's accounts in the Semitropic Groundwater Storage Program and the Rosedale–Rio Bravo Water Banking and Exchange Program, deliveries from SCV Water's flexible storage account in Castaic Lake Reservoir, local groundwater pumping, short-term water exchanges, and participation in DWR's dry-year water purchase programs.

As stated in the 2020 UWMP, water supply reliability for SCV Water has improved significantly with the development of conjunctive use and groundwater banking. Conjunctive use is the coordinated operation of multiple water supplies to achieve improved supply reliability. During dry periods, or when imported water supply availability is reduced, banked water can be recovered from groundwater storage to replace, or firm up, the imported water supply deliveries. SCV Water has been conjunctively utilizing local groundwater and imported water since SWP water was imported to the Santa Clarita Valley beginning in 1980. SWP and other imported water supplies have supplemented the overall supply of the Santa Clarita Valley, which previously depended solely on local groundwater supplies.

Drought periods may affect available water supplies in any single year and even for a duration that spans multiple consecutive years. 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, SCV Water has emphasized developing a water supply portfolio that is diverse, especially in dry years. Diversity of supply is considered a key element of reliability planning, giving SCV Water the ability to draw on multiple sources of supply to ensure reliable service during dry years, as well as during average wet years.[13]

Provided below is a summary of historical water supplies used by SCV Water along with updated water supply projections presented in the 2020 UWMP that also address certain information required under SB 610 for the proposed Lyon Canyon Project.

[13] 2020 Santa Clarita Valley Water Report (June 2021).

TABLE 5-1
SCV WATER HISTORICAL SOURCES OF SUPPLY (AFY)

SOURCE	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021 (preliminary)
Alluvial	26,186	25,593	21,431	24,683	19,333	15,244	9,424	14,030	9,049	7,571	14067
Saugus	7,438	8,133	8,348	9,929	10,560	11,085	6,979	8,839	8,498	9,761	11478
TOTAL GROUNDWATER	**33,624**	**33,726**	**29,779**	**34,612**	**29,893**	**26,329**	**16,403**	**22,869**	**17,547**	**17,332**	**25,545**
Recycled Water	373	428	400	474	450	507	501	352	458	468	480
SWP %	80%	65%	35%	5%	20%	60%	85%	35%	75%	20%	5%
SWP Deliveries to SCV Water Service Area(a)	**20,445**	**36,153**	**33,126**	**13,097**	**15,196**	**31,888**	**47,912**	**36,835**	**41,111**	**14,871**	**10,934**
Table A	10,713	24,657	4,692	451	11,075	29,647	32,422	12,411	37,503	11,551	1,081
Carryover	9,332	11,496	28,434	7,743	4,121	2,241	15,490	24,424	3,608	3,036	6,523
Article 21	400	0	0	0	0	0	0	0	0	0	
Turnback Pool Water	0	0	0	0	0	0	0	0	0	0	
Yuba	0	0	0	445	0	0	0	0	0	284	1,170
Other DWR coordinated transfers	0	0	0	34	0	0	0	0	0	0	194
Flex Storage Withdrawals	0	0	0	4,424	0	0	0	0	0	0	1,966
SWP Deliveries to Out of Service Area Storage/Exchange(b)	**21,608**	**10,000**	**0**	**0**	**4,339**	**1,500**	**5,425**		**24,502**	**0**	**5,628**
RRBWSD Banking	1,006	6,031	0	0	0	0	0	0	0	0	
Semitropic WSD Banking	0	0	0	0	0	0	5,340	0	5,002	0	
Rosedale Exchange Program	15,602	3,969	0	0	0	0	0	0	11,000	0	
WKWD Exchange Program	5,000	0	0	0	0	0	0	0	0	0	
CCWA Exchange Program	0	0	0	0	0	1,500	0	0	0	0	
AVEK Exchange Program	0	0	0	0	0	0	0	0	7,500	0	
UWCD Exchange Program	0	0	0	0	0	0	0	0	1,000	0	
Flex Storage Refill	0	0	0	0	4,339		85	0	0	0	1,966
Back up San Luis Storage	0	0	0	0	0	0	0	0	0	0	3,662
Withdrawals from Out-of-Service Area Storage/Exchange (b)	0	0	0	9,774	2,998	0	0	0	750	22,957	21,323
RRBWSD Banking	0	0	0	2,824	2,998	0	0	0	0	1,600	16,323
Semitropic WSD Banking	0	0	0	0	0	0	0	0	0	5,000	5,000
Rosedale Exchange Program	0	0	0	0	0	0	0	0	0	14,451	
WKWD Exchange Program	0	0	0	2,000	0	0	0	0	0	500	
CCWD Exchange Program	0	0	0	0	0	0	0	0	750	0	
NLF Semitropic Banking	0	0	0	4,950	0	0	0	0	0	0	
AVEK Exchange Program	0	0	0	0	0	0	0	0	0	1,406	
UWCD Exchange Program	0	0	0	0	0	0	0	0	0	0	

Other Imported Deliveries to SCV Water Service Area(c)(d)	11,000	0	0	11,000	10,995	0	0	0	0	11,000	9,685
Other Imported Deliveries to Out-of-Service Area Storage/Exchange(d) or Water Sale	2,188	19,569	28,629	0	0	11,000	11,370	5,062	10,282	0	1,315
Total Imported Supplies to SCV Water Service Area	**31,445**	**36,153**	**33,126**	**33,871**	**29,189**	**31,888**	**47,912**	**42,835**	**42,961**	**48,828**	**41,942**
Total Local and Imported Supplies Utilized in SCV Water Service Area	**65,442**	**70,307**	**63,305**	**68,957**	**59,532**	**58,724**	**64,816**	**66,056**	**60,966**	**66,628**	**67,967**
End of the year carryover supply (left over table A and carryover noted in text)	**41,651**	**48,809**	**21,482**	**18,048**	**21,899**	**51,571**	**42,788**	**39,211**	**9,013**	**13,466**	**13,633**

Sources: DWR Bulletin 132, Management of the California State Water Project; and DWR delivery files.

Notes:

(a) Includes deliveries of Table A supplies, carryover water, Article 21 water, Turnback Pool water, local supply (from West Branch reservoirs), Yuba Accord water and water purchased through DWR.

(b) Out-of-service area storage includes flexible storage refill in Castaic Lake, the SCV Water Semitropic Banking Program, NLF Semitropic Banking Program and the Rosedale-Rio Bravo Banking Program. Exchanges include programs with the Rosedale-Rio Bravo, West Kern Water District, Central Coast Water Agency, Antelope Valley East Kern, and United Water Conservation District.

(c) Deliveries from Buena Vista.

(d) Includes BVRRB water sales and deliveries to Devils Den service area. Also includes BVRRB deliveries to banking programs and exchanges, or San Luis backup storage.

5.1.1 Historical Operation of Santa Clarita Valley Water System

A review of the period from 2011 through 2021 is provided in Table 5.1. This table illustrates the previous discussion in this section. Add text with specific examples to support previous points in Section 5.1.

2011 was characterized as a wet year resulting in a high SWP Table A allocation of 80%. With wet conditions and surplus Table A water, SCV Water executed two 2:1 exchange programs totaling 20,602 AF and delivered 1,006 AF of water to be stored in the RRBWSD banking program in order to utilize as much water as possible for future years. Excess Table A and carryover supplies not utilized totaled 41,651 AF to be available as carryover in 2012.

2012 was characterized by an increase in water use attributed to unseasonably high temperatures and below normal rainfall in early 2012 resulting in a longer irrigation season. The water year ended up with average precipitation which resulted in a SWP Table A allocation of 65%. SCV Water started the year with 41,651 AF of Article 56 Carryover supply, of which 30,155 AF was reclassified due to reservoir levels filling up. With surplus water, SCV Water sold 16,500 AF of BVRRB water (annual supply plus banked supply) to West Kern County Agriculture Water Districts, banked 6,301 AF into RRBWSD banking program and further exchanged 3,969 AF in the RRBWSD 2:1 exchange program. SCV Water used 11,496 AF of carryover and ended the year with 2013 carryover supplies totaling 48,809 AF.

2013 was characterized with unseasonably high temperatures and below normal rainfall resulting in a lower SWP Table A allocation of 35%. The SCV Water service area grew rapidly in 2013 with 5% increased demands and 750 new service connections added. Imported carryover and Table A water were utilized to meet imported demands. 28,000 AF of supplies were sold to other agencies to bring in revenue and reduce loss of excess supplies. Even with previous years carryover water being reclassified due to wet hydrology, SCV Water was able to reserve 21,482 AF unused Table A into carryover for the start of 2014 in preparation of continued or worsening drought conditions.

2014 was characterized by extremely dry conditions locally and statewide resulting in a historically low SWP Table A allocation of 5%. To meet dry year imported demands SCV Water utilized 7,743 AF of carryover supplies, recovered 9,774 AF from banking and exchange programs, withdrew 4,424 AF from Castaic Flexible Storage, and received 445 AF from Yuba County Accord Water. In addition, state mandated conservation program regulations helped drive water demands down reserving 18,048 AF of unused carryover and Table A supplies for 2015 if drought conditions persisted.

2015 was characterized by a fourth year of drought with record high temperatures, record low precipitation and record low snowpack. 2015 was recorded as one of the driest and warmest winters since 1950 resulting in a SWP Table A allocation of 20%. In 2015 SCV Water entered into an agreement with Semitropic to participate in the Stored Water Recovery Unit (SWRU) as an additional source of dry-year water supply. SCV Water utilized Table A supply, carryover supply, BVRRB supply and recovered 2,998 AF from the RRB water banking program to meet imported demands. 4,339 AF of unused Table A supply were backfilled to the flexible storage account utilized in 2014. 2015 total unused carryover and Table A supplies available for 2016 totaled 21,892 AF.

2016 was characterized by average precipitation in northern California, an improvement to the previous four years of drought with enough precipitation to offset some of the large deficits in water storage reservoirs resulting in a SWP Table A allocation of 60%. SCV Water saw demands increase in 2016 from the easing of SWRCB emergency water conservation measures shifting from mandatory to voluntary. Imported demands were met with minimal carryover and Table A supplies. SCV Water exchanged 1,500 AF of Table A water and stored 5060 AF of BVRRB water into the Rosedale banking program. The remaining BVRRB supply was stored in San Luis reservoir and added to 2017 carryover supplies which totaled 51,571 AF at the end of the year.

2017 was characterized by the second largest statewide runoff and the end of the state's 5-year drought. 2017 snow water equivalent came in at 163% of April 1st average resulting in a large SWP Table A allocation of 85%. Of the 51,571 AF of carryover storage available in 2017, 15,490 AF was delivered to SCV Water service area and the rest was reclassified due to the wet hydrology. With surplus Table A SCV Water backfilled the remaining 85 AF to the Castaic flexible storage account and maximized deliveries to banking programs totaling 5,340 AF (storage space only available in Semitropic SWRU, RRBWSD program full). With plenty of Table A and carryover supplies, SCV Water sold BVRRB water supply to Kern County Westside Districts. Remaining Table A supplies totaled 42,788 in carryover for 2018.

2018 was characterized by dry conditions returning statewide with nearly all the state experiencing below-average precipitation and SCV Water receiving less than half its average annual precipitation. This resulted in a lower then average SWP Table A allocation of 35%. Imported demands were met with carryover and Table A supplies, with the remaining supplies being carried over into 2019 totaling 39,211 AF.

2019 was characterized by above average precipitation locally and statewide resulting in somewhat lower demands and an above average SWP Table A allocation of 75%. SCV Water started the year with 39,221 AF of Article 56 Carryover supply which 3,608 AF was delivered, and the remaining 35,603 AF was lost as a result of wet hydrology. The high allocation allowed for SCV Water to reduce local pumping of groundwater to maintain sustainable groundwater resources in dry-year and increase imported Table A deliveries to the service area. In addition, SCV Water executed three different 2:1 water exchanges with other State Water Contractors totaling 19,500 AF and delivered 5,000 AF to Semitropic SWRU banking reserves. Remaining unused Table A water was categorized as 2020 carryover supply totaling 9,013 AF.

2020 was characterized by below average precipitation locally and statewide resulting in higher water demands and a low SWP Table A allocation of 20%. SCV Water also faced an increased demand for imported water supplies due to significant loss of local groundwater wells impacted by updated regulations related to PFAS (Per and Polyfluoroalkyl Substances). Increased imported demands were met utilizing banking, exchanges, and transfer programs. The completion of the Drought Replacement Wells in 2019 at the Rosedale-Rio Bravo Water Banking Program (RRBWBP) increased recovery capacity from 3,000 AFY in 2014 and SCV Water was able to recover 16,501 AF from the RRB Banking and Exchange programs. An additional 5,000 AF was recovered from the Semitropic SWRU and 1,906 AF from exchange programs. SCV Water utilized 3,036 AF of 2020 carryover supplies, conserving unused carryover and Table A supplies for 2021 carryover which totaled 13,466 AF.

2021 was characterized as an extreme water year in terms of precipitation and temperature and ended up as California's second driest year on record based on statewide runoff resulting in a

second lowest SWP Table A allocation of 5%. Santa Clarita experienced its driest water year on record only receiving 3.38 inches of precipitation all year. SCV Water continued to be impacted by loss of local groundwater wells related to PFAS, but successfully completed combined treatment facilities for three major alluvial wells which came online in 2021 adding critically needed water to local supplies to meet demands. In addition to maximizing groundwater production, SCV Water recovered about 25,000 AF of water from imported banking programs, 1,364 AF from dry year transfer programs, and utilized 1,966 AF from the Castaic flexible storage account to meet imported demands. In preparation of continued drought conditions, only 6,523 AF of carryover supplies were used, the Castaic flexible storage account was refilled, and excess banking, transfer water and Table A supplies not needed to meet demands were reserved as carryover for 2022, totaling 13,633 AF.

5.1.2 Average/Normal Year Supplies and Demand Comparison

Table 5-2 summarizes the supplies available to meet demands over the 30-year planning period during an average/normal year. As presented in the table, the water supply is broken down into existing and planned water supply sources, including wholesale (imported) water, local supplies, and banking programs. The demands shown include reductions from projected passive conservation savings, and both with and without active conservation savings. Future demands include that of the Lyon Canyon Project.

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TABLE 5-2
PROJECTED AVERAGE/NORMAL YEAR SUPPLIES AND DEMANDS (AF)

	2025	2030	2035	2040	2045	2050
Existing Supplies						
Existing Groundwater[a]						
Alluvial Aquifer	8,900	8,180	7,300	7,300	7,300	7,300
Saugus Formation	14,440	7,110	7,110	7,110	7,110	7,110
Total Groundwater	**23,340**	**15,290**	**14,410**	**14,410**	**14,410**	**14,410**
Recycled Water[b]						
Total Recycled	**450**	**450**	**450**	**450**	**450**	**450**
Imported Water						
State Water Project[c]	52,360	51,410	50,460	49,500	49,500	49,500
Flexible Storage Accounts[d]						
Buena Vista-Rosedale	11,000	11,000	11,000	11,000	11,000	11,000
Nickel Water - Newhall Land[e]	-	-	1,607	1,607	1,607	1,607
Yuba Accord Water[f]	1,000	-	-	-	-	-
Total Imported	**64,360**	**62,410**	**63,067**	**62,107**	**62,107**	**62,107**
Existing Banking and Exchange Programs[g]						
Rosedale Rio-Bravo Bank[g]	-	-	-	-	-	-
Semitropic Bank[g]	-	-	-	-	-	-
Semitropic – Newhall Land Bank[g]	-	-	-	-	-	-
Antelope Valley West Kern Water Agency Exchange[g]	-	-	-	-	-	-
United Water Conservation District Exchange[g]	-	-	-	-	-	-
Total Bank/Exchange	**0**	**0**	**0**	**0**	**0**	**0**

Total Existing Supplies	**88,150**	**78,150**	**77,927**	**76,967**	**76,967**	**76,967**
Planned Supplies						
Future and Recovered Groundwater[h]						
Alluvial Aquifer[i]	10,340	19,870	23,490	23,490	23,490	23,490
Saugus Formation[j]	3,010	2,790	2,790	2,790	2,790	2,790
Total Groundwater	**13,350**	**22,660**	**26,280**	**26,280**	**26,280**	**26,280**
Recycled Water[k]						
Total Recycled	1,849	3,696	5,091	6,498	7,499	8,511
Planned Banking Programs						
Rosedale Rio-Bravo Bank[h][l]	-	-	-	-	-	-
Total Banking	**0**	**0**	**0**	**0**	**0**	**0**
Total Planned Supplies	**15,199**	**26,356**	**31,371**	**32,778**	**33,779**	**34,791**
Total Supplies (Existing and Planned) [m]	**103,349**	**104,506**	**109,298**	**109,745**	**110,746**	**111,758**
Demands[n]						
Demands with passive conservation[m]	**82,100**	**89,300**	**97,600**	**104,300**	**109,600**	**115,100**
Demands with passive and active conservation[m]	**76,400**	**81,700**	**88,700**	**93,600**	**97,500**	**101,000**

Notes:

(a) Existing groundwater supplies represent the quantity of groundwater available to be pumped with existing wells. Declines from 2025 pumping levels reflect transfer of normal year pumping from existing wells to future and recovered wells.

(b) Existing Recycled Water is based on current average annual use.

(c) SWP supplies are based on average deliveries from DWR's 2019 DCR and 2021 draft DCR (56% - 52% at buildout due to climate change).

(d) Supplies not needed in average years.

(e) Existing Newhall Land supply committed under approved Newhall Ranch Specific Plan. Water is available from 2021 - 2034 to meet supply shortfalls associated with the Newhall Ranch Specific Plan. Assumed to be transferred to SCV Water once Newhall Ranch development is completed around 2035.

(f) Supply available for purchase every year, however, shown is amount available in dry periods, after delivery losses. This supply would typically be used only during dry years and is available through 2025.

(g) Supplies not needed in average years.

(h) Future and Recovered groundwater supplies include recovered impacted wells and new groundwater well capacity that may be required by SCV Water's production objectives in the Alluvial Aquifer and the Saugus Formation. When combined with existing SCV Water and non-SCV Water groundwater supplies, total groundwater production remains within the sustainable ranges identified in Tables 4-10 and 4-11 and is within the groundwater basin yields per the 2020 SCV-GSA Water Budget Development Tech Memo (GSI 2020) and the updated Basin Yield Analysis(LSC & GSI 2009).

(i) Future Category includes all wells restored from PFAS and Perchlorate water quality issues, and other future alluvial wells including those associated with development under the Newhall Ranch Specific Plan. Schedule for recovered well capacity based on Groundwater Treatment Implementation Plan Technical Memorandum, Kennedy Jenks 2021 Appendix M. 2025 adjustments based on January 2022 engineering project schedule updates.

(j) Future and Recovered Saugus wells include perchlorate-impacted Well 205, two replacement wells (Saugus 3 & 4), and up to four new wells (Saugus 5-8) planned to provide additional dry-year supply. New dry-year wells would not typically be operated during average/normal years.

(k) Planned recycled water is the total projected recycled water use from Table 5-3 less existing use. Projections reflect demands that can be cost-effectively served with projected supplies. Refer to Section 5 for additional details on recycled water demands and supplies.

(l) Firm withdrawal capacity under existing Rosedale Rio-Bravo Banking Program to be expanded by 10,000 AFY by 2030 (for a combined total of 20,000 AFY).

(m) For completeness, LAWWD36 sales are included in demands and supplies. Breakdown of LACWWD 36 and SCV Water Demands are shown in Table 2-10. Further, LACWWD 36's Saugus groundwater supplies shown in TABLE 4-8A.

(n) Total demands with passive and active conservation from Table 2-10.

5.1.3 Single Dry-Year Supplies and Demand

The water supplies and demands for the water suppliers over the 30-year planning period were analyzed in the event that a single-dry year occurs, based on the worst single dry year on record. Table 5-3 summarizes the existing and planned supplies available to meet demands during a single-dry year. The demands shown include reductions from projected passive conservation savings, and both with and without active conservation savings. The demand during dry years was assumed to increase by 6 percent. Future demands include that of the Lyon Canyon Project.

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TABLE 5-3 PROJECTED SINGLE-DRY YEAR SUPPLIES AND DEMANDS (AF)

	2025	2030	2035	2040	2045	2050
Existing Supplies						
Existing Groundwater[a]						
Alluvial Aquifer	7,300	6,330	5,590	5,590	5,590	5,590
Saugus Formation	17,880	17,880	17,880	17,880	17,880	17,880
Total Groundwater	**25,180**	**24,210**	**23,470**	**23,470**	**23,470**	**23,470**
Recycled Water[b]						
Total Recycled	**450**	**450**	**450**	**450**	**450**	**450**
Imported Water						
State Water Project[c]	4,760	4,760	4,760	4,760	4,760	4,760
Flexible Storage Accounts[d]	6,060	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
Nickel Water - Newhall Land[e]	-	-	1,607	1,607	1,607	1,607
Yuba Accord Water[f]	1,000	-	-	-	-	-
Total Imported	**22,820**	**20,440**	**22,047**	**22,047**	**22,047**	**22,047**
Existing Banking and Exchange Programs						
Rosedale Rio-Bravo Bank[g]	10,000	10,000	10,000	10,000	10,000	10,000
Semitropic Bank[h]	5,000	5,000	5,000	5,000	5,000	5,000
Semitropic – Newhall Land Bank[h][i]	-	-	4,950	4,950	4,950	4,950
Antelope Valley East Kern Water Agency Exchange[j]	-	-	-	-	-	-
United Water Conservation District Exchange[j]	-	-	-	-	-	-
Total Bank/Exchange	**15,000**	**15,000**	**19,950**	**19,950**	**19,950**	**19,950**
Total Existing Supplies[p]	**63,450**	**60,100**	**65,917**	**65,917**	**65,917**	**65,917**

Planned Supplies							
Future and Recovered Groundwater[j]							
Alluvial Aquifer[k]	9,030	17,020	20,500	20,500	20,500	20,500
Saugus Formation[l]	9,090	15,920	15,920	15,920	15,920	15,920
Total Groundwater	**18,120**	**32,940**	**36,420**	**36,420**	**36,420**	**36,420**
Recycled Water[m]							
Total Recycled	1,849	3,696	5,091	6,498	7,499	8,511
Planned Banking Programs							
Rosedale Rio-Bravo Bank[n]	-	10,000	10,000	10,000	10,000	10,000
Total Banking	**0**	**10,000**	**10,000**	**10,000**	**10,000**	**10,000**
Total Planned Supplies	**19,969**	**46,636**	**51,511**	**52,918**	**53,919**	**54,931**
Total Supplies (Existing and Planned)[p]	**83,419**	**106,736**	**117,428**	**118,835**	**119,836**	**120,848**
Demands[o][p][q]							
Demands with passive conservation	**87,000**	**94,700**	**103,500**	**110,600**	**116,200**	**122,000**
Demands with passive and active conservation	**81,000**	**86,600**	**94,000**	**99,200**	**103,400**	**107,100**

Notes:

(a) Existing groundwater supplies represent the quantity of groundwater available to be pumped with existing wells. Dry-year production represents anticipated maximum dry year production. Declines from 2025 pumping levels reflect transfer of normal year pumping from existing wells to future and recovered wells.

(b) Existing recycled water is based on current average annual use.

(c) SWP supplies are based on driest SWP delivery on record, 5% in 2014. Deliveries from DWR's 2019 DCR state single dry year are (7% -11%).

(d) Includes both SCV Water and Ventura County entities flexible storage accounts. Extended term of agreement with Ventura County entities expires after 2025.

(e) Existing Newhall Land supply committed under approved Newhall Ranch Specific Plan. Water is available from 2021 - 2034 to meet supply shortfalls associated with the Newhall Ranch Specific Plan. Assumed to be transferred to SCV Water once Newhall Ranch development is completed around 2035.

(f) Supply shown is amount available in dry periods, after delivery losses. This supply would typically be used only during dry years and is available through 2025.

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

(h) Existing Newhall Land supply. Assumed to be transferred to SCV Water during Newhall Ranch development by 2035.

(i) Supplies shown are totals recoverable under the exchange and would typically be recovered only during dry years with SWP allocation greater than 30%.

(j) Future and Recovered groundwater supplies include recovered impacted wells and new groundwater well capacity that may be required by SCV Water's production objectives in the Alluvial Aquifer and the Saugus Formation. When combined with existing SCV Water and non-SCV Water groundwater supplies, total groundwater production remains within the sustainable ranges identified in Tables 4-10 and 4-11 and is within the groundwater basin yields per the 2020 SCV-GSA Water Budget Development Tech Memo (GSI 2020) and the updated Basin Yield Analysis (LSC & GSI 2009).

(k) Future and Recovered Alluvial groundwater include PFAS and perchlorate impacted alluvial wells, one replacement well (S 9), and future wells, including those for Newhall Ranch Specific Plan. Schedule for recovered well capacity based on Groundwater Treatment Implementation Plan Technical Memorandum, Kennedy Jenks 2021 Appendix M. 2025 adjustments based on January 2022 engineering project schedule updates).
(l) Future and Recovered Saugus wells include perchlorate impacted Well 205, two replacement wells (Saugus 3 & 4), and up to four new wells (Saugus 5-8) planned to provide additional dry-year supply. New dry-year wells would not typically be operated during average/normal years.
(m) Planned recycled water is the total projected recycled water use less existing use. Projections reflect demands that can be cost-effectively served with projected supplies. Refer to Section 3 for additional details on recycled water demands and supplies.
(n) Firm withdrawal capacity under existing Rosedale Rio-Bravo Banking Program to be expanded by 10,000 AFY by 2030 (for a combined total of 20,000 AFY).
(o) Demands assume a 6% increase above normal demand during dry years.
(p) For completeness, LAWWD36 sales are included in demands and supplies. Breakdown of LACWWD 36 and SCV Water Demands are shown in Table 2-2. Further, LACWWD36's Saugus groundwater supplies are shown in Table 3-4B.
(q) Future demands include that of the Lyon Canyon Project.

5.1.4 Multiple Dry-Year Supplies and Demand

The water supplies and demands over the 30-year planning period were analyzed in the event that a five-year dry period occurs, similar to the drought that occurred during the years 1988-1992. Table 5-4 summarizes the existing and planned supplies available to meet demands during a five-year dry period. Supply volumes shown represent averages for the consecutive five-year period, assuming each 5-year interval (2025, 2030, etc.) is the midpoint of the five-year period. The demands shown include reductions from projected passive conservation savings, and both with and without active conservation savings. As in the single-dry year scenario, demand during dry years was assumed to increase by 6 percent. Future demands include that of the Lyon Canyon Project.

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TABLE 5-4 PROJECTED FIVE-YEAR DRY YEAR SUPPLIES AND DEMANDS (AF)

Supplies Available	2025	2030	2035	2040	2045	2050
Existing Supplies						
Existing Groundwater[a]						
Alluvial Aquifer	7,300	6,720	5,890	5,590	5,590	5,590
Saugus Formation	17,880	17,610	17,610	17,610	17,610	17,610
Total Groundwater	**25,180**	**24,330**	**23,500**	**23,200**	**23,200**	**23,200**
Recycled Water[b]						
Total Recycled	**450**	**450**	**450**	**450**	**450**	**450**
Imported Water						
State Water Project[c]	24,040	24,090	24,130	24,180	24,180	24,180
Flexible Storage Accounts[d]	4,980	4,680	4,680	4,680	4,680	4,560
Buena Vista-Rosedale	11,000	11,000	11,000	11,000	11,000	11,000
Nickel Water - Newhall Land[e]	-	-	964	1,607	1,607	1,607
Yuba Accord[f]	600	-	-	-	-	-
Total Imported	**40,620**	**39,770**	**40,774**	**41,467**	**41,467**	**41,347**
Banking and Exchange Programs						
Rosedale Rio-Bravo Bank[g]	10,000	10,000	10,000	10,000	10,000	10,000
Semitropic Bank[h]	5,000	5,000	5,000	5,000	4,929	1,859
Semitropic - Newhall Land Bank[i]	-	-	2,970	4,950	4,950	4,950
AVEK Exchange[j]	450	450	-	-	-	-
UWCD Exchange[j]	100	100	-	-	-	-
Total Bank/Exchange	**15,550**	**15,550**	**17,970**	**19,950**	**19,879**	**16,809**
Total Existing Supplies[q]	**81,800**	**80,100**	**82,694**	**85,067**	**84,996**	**81,806**

Planned Supplies						
Future and Recovered Groundwater[k]						
Alluvial Aquifer[l]	11,930	16,310	19,800	20,500	20,500	20,500
Saugus Formation[m]	5,750	8,020	8,020	8,020	8,020	8,020
Total Groundwater	**17,680**	**24,330**	**27,820**	**28,520**	**28,520**	**28,520**
Recycled Water[n]						
Total Recycled	**1,823**	**3,603**	**5,045**	**6,498**	**7,499**	**8,389**
Planned Banking Programs						
Rosedale Rio-Bravo Bank[o]	-	6,000	10,000	10,000	10,000	10,000
Total Banking	**0**	**6,000**	**10,000**	**10,000**	**10,000**	**10,000**
Total Planned Supplies	**19,503**	**33,933**	**42,865**	**45,018**	**46,019**	**46,909**
Total Existing and Planned Supplies	**101,303**	**114,033**	**125,559**	**130,085**	**131,015**	**128,715**
Demands[r]						
Demands with Passive Conservation[p][q]	**83,570**	**91,380**	**99,670**	**106,660**	**112,100**	**117,010**
Demands with Passive and Active Conservation[p][q]	**77,830**	**83,620**	**90,570**	**95,780**	**99,670**	**102,870**

Notes:

(a) Existing groundwater supplies represent the quantity of groundwater available to be pumped with existing wells. Dry-year production represents anticipated maximum dry year production. Declines from 2025 pumping levels reflect transfer of normal year pumping from existing wells to future and recovered wells.

(b) Existing recycled water is based on current average annual use.

(c) SWP supplies based on 1988-1992 hydrology from 2019 DCR interpolated from 2020-2040 from current to proposed future SWP supplies.

(d) Includes both SCV Water and Ventura County entities flexible storage accounts through 2025 and only SCV Water portion beyond 2025.

(e) Existing Newhall Land supply committed under approved Newhall Ranch Specific Plan. Water is available from 2021 -2034 to meet supply shortfalls associated with the Newhall Ranch Specific Plan. Assumed to be transferred to SCV Water once Newhall Ranch development is completed around 2035.

(f) 1,000 AFY assumed to be available during dry and critically dry years. Lower quantity in table reflects averaging of supply over the five-year period. This supply is only available through 2025.

(g) SCV Water has an existing firm withdrawal capacity of 10,000 AFY and a storage capacity of 100,000 AF. There is currently 98,800 AF of recoverable Water in storage.

(h) SCV Water has a maximum firm withdrawal capacity of 5,000 AFY and a storage capacity of 15,000 AF. Additionally, SCV Water has 40,270 AF of recoverable Water stored which may be recovered using this withdrawal capacity.

(i) Existing Newhall Land supply. Assumed to be transferred to SCV Water during Newhall Ranch development by 2035.

(j) Exchange recovery was assumed to occur one year during the five-year dry period, for an average annual supply of one-fifth of the total recoverable water available (total recoverable is 2,250 AF from Antelope Valley East Kern Water Agency (AVEK) and 500 AF from United Water Conservation District exchange programs).

(k) Future and Recovered groundwater supplies include recovered impacted wells and new groundwater well capacity that may be required by SCV Water's production objectives in the Alluvial Aquifer and the Saugus Formation. When combined with existing SCV Water and non-SCV Water groundwater

supplies, total groundwater production remains within the sustainable ranges identified in Tables 4-9 and 4-10 and is within the groundwater basin yields per the 2020 SCV-GSA Draft Water Budget Development Tech Memo (GSI 2020) and the updated Basin Yield Analysis (LSC & GSI 2009).

(l) Future Category includes all wells restored from PFAS and Perchlorate water quality issues, and other future alluvial wells including those associated with development under the Newhall Ranch Specific Plan. Schedule for recovered well capacity based on Groundwater Treatment Implementation Plan Technical Memorandum, Kennedy Jenks 2021 Appendix M.

(m) This includes Saugus perchlorate impacted Well 205, two replacement wells (Saugus 3 & 4), and up to four new wells (Saugus 5-8) planned to provide additional dry-year supply. New dry-year wells would not typically be operated during average/normal years.

(n) Planned recycled water is the total projected recycled water use from Table 3-10 less existing use. Projections reflect demands that can be cost-effectively served with projected supplies. Refer to Section 3 for additional details on recycled water demands and supplies.

(o) Firm withdrawal capacity under existing Rosedale Rio-Bravo Banking Program to be expanded by 10,000 AFY by 2030 (for a combined total of 20,000 AFY).

(p) Demands are weather adjusted for dry 1988-1992 hydrology.

(q) For completeness, LAWWD36 sales are included in demands and supplies. Breakdown of LACWWD 36 and SCV Water Demands are shown in Table 2-2. Further, LACWWD 36's Saugus groundwater supplies are shown in Table 3-4B.

(r) Future demands include that of the Lyon Canyon Project

5.2 Additional Water Supply Reliability Analysis

As discussed in Section 4.10, SCV Water has undertaken additional analysis of its water supply reliability beyond the Normal, Single Dry-Year and Multiple Dry-Year analysis provided for the 2020 UWMP, and this Water Supply Assessment. This was done with the 2021 update to its Water Supply Reliability Plan (Plan). The Plan uses an analytic spreadsheet model that incorporates the anticipated increase in demand due to growth and climate change (through 2050) and models the variability of hydrology both locally and from imported sources. For each hydrologic sequence, the model steps through each year of the study period, comparing annual supplies to demands and operating SCV Water storage programs as needed, adding to storage in years when supplies exceed demand, and withdrawing from storage when demand exceeds supplies. Results from the multiple hydrologic sequences are then compiled and summarized to provide a statistical assessment of the reliability of SCV Water's supplies and storage programs to meet its projected demands over the study period.

The reliability analysis conducted in the Plan is more rigorous and conservative than that contained in the 2020 UWMP and in Section 5.1 of this WSA. The Plan models the operation of SCV Water's supply portfolio through the full 82-year historical hydrologic period and incorporates projected storage balances when determining the quantity of water available from a banking program to meet water demands during dry periods. Further, while UWMP Section 5.2 incorporated a gradual decline in SWP reliability between 2020 and 2040 due to climate change, the Plan's modeling is based on SWP hydrology adjusted to reflect 2040 climate change, being applied to all years in the study period.

The Plan analyzed various scenarios analyses, which analysis can be used to answer several questions including:

4. How long current facilities could be relied upon to achieve reliability?

5. If the mix of existing and proposed facilities in the UWMP achieved reliability through 2050?

6. If certain future facilities were not constructed, (specifically some or all of new Saugus Formation wells were either not constructed or otherwise unavailable) would alternative programs that SCV Water is investigating be able to achieve reliability?

With respect to the first question identified above, the analysis shows that current supplies (including recovered groundwater capacity) along with active conservation will be sufficient until 2040.

Regarding the second question, to achieve reliability in subsequent years, additional investments in those programs and facilities identified in the UWMP (Scenarios 1) would be sufficient to achieve reliability through 2050.

As to the third question, Scenarios 2-5 demonstrate that alternative programs to those contained in the UWMP could offer different paths achieve reliability or if implemented in addition to the UWMP could provide additional supplies in excess of demand.

Supply Reliability

As discussed above, the analysis contained in the Plan represents a more robust and conservative analysis than that contained in Section 5.1. Nevertheless, the conclusions related to the ability of SWC Water to reliably meet water demands (including the Lyon Canyon Project) are consistent. If SCW water continues to implement active water conservation measures, conjunctively use its imported water, groundwater, and water banking facilities and invests in future water supply facilities as identified in the 2020 UWMP it will reliably meet water demands in its service area through 2050. The ability to implement other alternative water supply programs identified in the Plan's analysis demonstrates a robustness to this conclusion as alternatives exist should some of the future water supplies identified in the 2020 UWMP become unattainable.

5.3 Conclusion

As set forth in this WSA, SCV Water has evaluated the long-term water needs (water demand) within its service area and has compared these needs against existing and planned water supplies. Demand projections are based on applicable population projections and county and city land use plans, and account for conservation as well as climate change impacts and other relevant factors. This WSA concludes that the total projected water supplies available to the SCV Water service area over the 30-year projection during normal, single-dry, and multiple-dry year (5-year drought) periods are sufficient to meet the projected demands associated with the proposed Lyon Canyon Project, in addition to existing and other planned future uses, including agricultural and industrial uses, throughout the Valley, provided that SCV Water continues to utilize available SWP Table A Amounts, and continues to incorporate conjunctive use (coordinated use of surface water and groundwater), water conservation, water transfers, recycled water, and water banking as part of the total water supply portfolio and management approach to long-term water supply planning and strategy.

Section 6: References Used or Relied Upon in Preparing this WSA

This WSA used or relied on information contained in the documents listed below. Documents may be available online at the links provided or by contacting the SCV Water - Water Resources Department at (661) 297-1600. The documents are part of SCV Water's record for the preparation of this WSA.

California Department of Water Resources, December 2021. 2021 Draft State Water Project Delivery Capability Report, available at: https://water.ca.gov/Library/Modeling-and-Analysis/Central-Valley-models-and-tools/CalSim-3/DCR2021.

California Department of Water Resources, July 2020. 2019 State Water Project Delivery Capability Report, available at: https://water.ca.gov/Library/Modeling-and-Analysis/Central-Valley-models-and-tools/CalSim-II/DCR2019.

California Department of Water Resources. 2018. Delta Flood Emergency Plan.

California Department of Water Resources. 2018a. Guidance for Climate Change Data Use During Groundwater Sustainability Plan Development, available at: https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Groundwater-Management/Sustainable-Groundwater-Management/Best-Management-Practices-and-Guidance-Documents/Files/Climate-Change-Guidance_Final_ay_19.pdf.

California Department of Water Resources. November 2011. "Climate Change Handbook for Regional Water Planning," available at: https://www.epa.gov/sites/default/files/2021-03/documents/climate_change_handbook_regional_water_planning.pdf

California Department of Water Resources, 2016. Bulletin 118 – Update 2016, available at: https://cawaterlibrary.net/wp-content/uploads/2017/05/Bulletin_118_Interim_Update_2016.pdf

California Department of Water Resources and the Army Corps of Engineers, 2019. Delta Emergency Integration Plan.

California Department of Water Resources Climate Change Technical Advisory Group (CCTAG). 2015. Producing Scientific and Strategic Guidance for California's Department of Water Resources, available at: https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/All-Programs/Climate-Change-Program/Climate-Program-Activities/Files/Reports/Perspectives-Guidance-Climate-Change-Analysis.pdf

California Division of Drinking Water, November 1997. Policy Memo 97-005: Policy Guidance for Direct Domestic Use of Extremely Impaired Sources, available at: https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/docs/process_memo_97-005-r2020_v7.pdf

California Ocean Protection Council. 2018. Sea-Level Rise Guidance, available at: https://opc.ca.gov/webmaster/ftp/pdf/agenda_items/20180314/Item3_Exhibit-A_OPC_SLR_Guidance-rd3.pdf

California Office of Emergency Services (Cal OES). 2018. Northern California Catastrophic Flood Response Plan, available at: https://www.caloes.ca.gov/cal-oes-divisions/planning-preparedness/catastrophic-planning

California State Water Resources Control Board, March 2000. Revised Water Right Decision 1641, available at: https://www.waterboards.ca.gov/waterrights/board_decisions/adopted_orders/decisions/d1600_d1649/wrd1641_1999dec29.pdf

Carollo Engineers, June 2015. Santa Clarita Valley Water Agency Water Resources Reconnaissance Study, available at: http://yourscvwater.com/water-supply-assessments

CH2M Hill, 2004a. Regional Ground water Flow Model for the Santa Clarita Valley, Model Development and Calibration. April, http://yourscvwater.com/water-supply-assessments

CH2M Hill, 2004 b. Analysis of Perchlorate Containment in Ground water Near the Whittaker-Bermite Property, Santa Clarita, California, Prepared in support of the 97-005 Permit Application, December, available at: http://yourscvwater.com/water-supply-assessments

CH2M Hill, 2005a. Technical Memorandum, Calibration Update of the Regional Ground Water Flow Model for the Santa Clarita Valley, Santa Clarita, California, August, available at: http://yourscvwater.com/water-supply-assessments

CH2M Hill and Luhdorff & Scalmanini, Consulting Engineers, 2005. Analysis of Ground Water Basin Yield, Upper Santa Clara River Groundwater Basin, East Subbasin, Los Angeles County, California, prepared for Upper Basin Water Purveyors, August, available at: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=11086

Geoscience. 2014. Salt and Nutrient Management Plan for the Upper Santa Clara River Groundwater Basin Volumes 1 and 2, available at: http://yourscvwater.com/water-supply-assessments

Geosyntec Water Supply Reliability Plan, 2021, available at: http://yourscvwater.com/water-supply-assessments

GSI Water Solutions (GSI), Inc. 2022. Santa Clara River Valley East Groundwater Sustainability Plan. Available at: https://scvgsa.org/wp-content/uploads/2021/12/SCV-GSP-Sections-Combined-20211217.pdf

GSI Water Solutions (GSI), Inc. 2020a. Water Budget Development for the Santa Clara River Valley East Groundwater Subbasin, Draft Technical Memorandum, available at: https://yourscvwater.com/wp-content/uploads/2021/04/SCV-GSA-Draft-Tech-Memo-%E2%80%93-Water-Budget-Development.pdf

GSI Water Solutions, Inc. 2020. Development of a Numerical Groundwater Flow Model for the Santa Clara River Valley East Groundwater Subbasin, available at: https://scvgsa.org/wp-content/uploads/2020/11/01_DRAFT-Mdl-Dev-Rpt-Clean-Text-2020-09-22.pdf

GSI & LSCE. 2014. Draft Report: Perchlorate Containment Plan for Well V201 and Saugus Formation Groundwater in the Santa Clarita Valley (Task 3 of the Well V201 Restoration Program), available at: http://yourscvwater.com/water-supply-assessments

Kennedy/Jenks Consultants. 2021. Santa Clarita Valley Water Agency Groundwater Treatment Implementation Plan. April, available at: https://yourscvwater.com/wp-content/uploads/2021/04/App-C-Final-SCVWA_Groundwater-treatment_Imp-Plan-Rpt4-19-2021.pdf

Kennedy/Jenks Consultants. 2021. Santa Clarita Valley 2020 Urban Water Management Plan. July, available at: https://yourscvwater.com/uwmp/

Kennedy/Jenks Consultants. 2002. Recycled Water Master Plan Update, available at: http://yourscvwater.com/water-supply-assessments

Kennedy/Jenks Consultants. 2016a. Recycled Water Master Plan Update, available at: https://yourscvwater.com/wp-content/uploads/2021/04/CLWA_RWMP_Final_Sept2016_submit.pdf

Kennedy/Jenks Consultants. 2016b. Santa Clarita Valley Recycled Water Rules and Regulations Handbook. Adopted by the SCV Water Board of Directors on 10 February 2016, available at: https://yourscvwater.com/wp-content/uploads/2018/01/SCV_RW_RulesRegs_Handbook_FINAL_Feb2016-2.pdf

Kennedy/Jenks Consultants. 2015. Final Preliminary Design Report for the Recycled Water System Phase 2B, available at: http://yourscvwater.com/water-supply-assessments

Kennedy/Jenks Consultants. 2014 and 2018 Update. Integrated Regional Water Management Plan for the Upper Santa Clara River Region, available at: https://dpw.lacounty.gov/wmd/scr/docs/The%202014%20Update%20of%20the%20IRWMP/1.%20USCR%20IRWMP%20Final%20February%202014.pdf and https://dpw.lacounty.gov/wmd/scr/docs/2018%20Draft%20Amendments%20to%20USCR%202014%20IRWM%20Plan.PDF

Los Angeles Regional Water Quality Control Board (LARWQCB). 1994. Water Quality Control Plan: Los Angeles Region Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties, 2020 version available at:

https://www.waterboards.ca.gov/losangeles/water_issues/programs/basin_plan/basin_plan_documentation.html

Luhdorff & Scalmanini, Consulting Engineers, 2021. 2020 Santa Clarita Valley Water Report, available at: https://yourscvwater.com/wp-content/uploads/2021/09/2020-Santa-Clarita-Valley-Water-Report.pdf

Luhdorff & Scalmanini, Consulting Engineers, 2020. 2019 Santa Clarita Valley Water Report, available at: https://yourscvwater.com/wp-content/uploads/2020/08/2019-Santa-Clarita-Valley-Water-Report.pdf

Luhdorff & Scalmanini and GSI Water Solutions. August 2009. Analysis of Ground Water Supplies and Ground water Basin Yield, Upper Santa Clara River Ground Water Basin, East Subbasin, available at: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=21469

Luhdorff and Scalmanini, 2005. Consulting Engineers, Impact and Response to Perchlorate Contamination, Valencia Water Company Well Q2, prepared for Valencia Water Company, available at: http://yourscvwater.com/water-supply-assessments

Luhdorff & Scalmanini, Consulting Engineers, December 2003. Ground Water Management Plan for the Santa Clara Valley Ground Water Basin, East Subbasin, available at: https://yourscvwater.com/wp-content/uploads/2020/05/CLWA-Groundwater-Management-Plan-December-2003.pdf

M&N. 2007. Levee Repair, Channel Barrier and Transfer Facility Concept Analyses to Support Emergency Preparedness Planning.

Maddaus Water Management (MWM), Inc. 2021. Draft 2021 SCV Demand Study: Land-Use-Based Demand Forecast Analysis. April, available at: http://yourscvwater.com/water-supply-assessments

Maddaus Water Management (MWM), Inc. 2016. SCV Demand Study Update: Land-Use Based Demand Forecast, Final Technical Memorandum No.2. March, available at: http://yourscvwater.com/water-supply-assessments

Maddaus Water Management (MWM), Inc. 2015. SCV Family of Water Supplies Water Use Efficiency Strategic Plan. June, available at: http://yourscvwater.com/water-supply-assessments

Richard C. Slade & Associates, LLC,2001 Update Report, Hydrogeologic Conditions in the Alluvial and Saugus Formation Aquifer Systems, prepared for Santa Clarita Valley Water Purveyors, July 2002, available at: http://yourscvwater.com/water-supply-assessments

Sanitation Districts of Los Angeles County, 2013. Santa Clarita Valley Sanitation District Chloride Compliance Facilities Plan and Environmental Impact Report. October, available at: https://www.lacsd.org/services/wastewater-programs-permits/santa-clarita-

chloride-compliance/final-recirculated-scvsd-chloride-compliance-eir-separation-of-recycled-water-project/-folder-90

Santa Clarita Valley Water Agency (SCVWA). 2021. Water Supply Reliability Plan Update, prepared by Geosyntec, available at: https://yourscvwater.com/wp-content/uploads/2021/04/SCV-Water-Reliability-Plan-update_2021-Master_DRAFT-1.pdf.

Santa Clarita Valley Water Agency (SCVWA). 2021. 2020 Urban Water Management Plan for Santa Clarita Valley Water Agency. June. Prepared by Kennedy Jenks Consultants, available at: https://yourscvwater.com/uwmp/

Santa Clarita Valley Water Agency (SCVWA). 2021. Final Water Shortage Contingency Plan. June, available at: https://yourscvwater.com/wp-content/uploads/2021/07/2020-SCV-Water_Water-Shortage-Contingency-Plan_Final.pdf

Santa Clarita Valley Water Agency (SCVWA), July 2015. Castaic Lake Water Agency 2015 Strategic Plan, 2017 Addendum, available at: http://yourscvwater.com/water-supply-assessments

Sites Program Management Team. 2020. Sites Reservoir Value Planning Report, available at: https://3hm5en24txyp2e4cxyxaklbs-wpengine.netdna-ssl.com/wp-content/uploads/2020/04/INT-REP-Value-Planning-Appraisal-Report-FinalV2Compressed.pdf.

Slade, R. C. Hydrogeologic Assessment of the Saugus Formation in the Santa Clara Valley of Los Angeles County, California, Vols. I and II, prepared for Castaic Lake Water Agency,1988, available at: http://yourscvwater.com/water-supply-assessments

Slade, R. C. Hydrogeologic Investigation of Perennial Yield and Artificial Recharge Potential of the Alluvial Sediments in the Santa Clarita River Valley of Los Angeles County, California, Vols. I and II, prepared for Upper Santa Clara Water Committee, 1986.

Wang, Jianzhong, Hongbing Yin, Erik Reyes, Tara Smith, Francis Chung (California Department of Water Resources). 2018. Mean and Extreme Climate Change Impacts on the State Water Project. California's Fourth Climate Change Assessment. Publication number: CCCA4-EXT-2018-004, available at: https://www.energy.ca.gov/sites/default/files/2019-12/Water_CCCA4-EXT-2018-004_ada.pdf

Woodard and Curran, 2021. Recycled Water Seasonal Storage Study Technical Memo, January 14, 2021, available at: http://yourscvwater.com/water-supply-assessments

Santa Clarita Valley Water Agency State Water Contract with the Department of Water Resources (DWR), available at: http://yourscvwater.com/water-supply-assessments

Santa Clarita Valley Water Agency 2014, Agreement in Principle with the Department of Water Resources for extension of contracts, September 12, 2014, available at: http://yourscvwater.com/water-supply-assessments

Department of Water Resources Contract Extension Amendment, February 2019, available at: https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/State-Water-Project/Management/Water-Supply-Contract-Extension/Files/Santa-Clarita-Valley-Water-Agency-WSC-Extension-Amendment-022619_a_y19.pdf

Santa Clarita Valley Water Agency 2015, Agreement with Ventura County for use of their Flexible Storage Account, available at: http://yourscvwater.com/water-supply-assessments

Department of Water Resources Coordinated Operations Agreement with the Bureau of Reclamation, 1986, available at: https://cawaterlibrary.net/wp-content/uploads/2017/09/agreementbetween00wash_bw.pdf

Department of Water Resources Addendum to the Coordinated Operations Agreement with the Bureau of Reclamation, December 2018, available at: https://www.usbr.gov/mp/nepa/includes/documentShow.php?Doc_ID=36503

Santa Clarita Valley Water Agency Transfer Agreement with Buena Vista Water Storage District and Rosedale Rio Bravo Water Storage District, available at: http://yourscvwater.com/water-supply-assessments

Santa Clarita Valley Water Agency 2018, Yuba Accord Agreement, available at: http://yourscvwater.com/water-supply-assessments

Santa Clarita Valley Water Agency Two-for-One Water Exchange Program with Antelope Valley-East Kern Water Agency (AVEK), 2019, available at: http://yourscvwater.com/water-supply-assessments

Santa Clarita Valley Water Agency Two-for-One Water Exchange Program with United Water Conservation District, 2019, available at: http://yourscvwater.com/water-supply-assessments

Santa Clarita Valley Water Agency Agreement with Semitropic Water Storage District for participation in the Storage Water Recovery Unit (SWRU), 2015, available at: http://yourscvwater.com/water-supply-assessments

Santa Clarita Valley Water Agency Water Banking and Exchange Program Agreement with Rosedale Rio Bravo Water Storage District, 2005-2015, available at: http://yourscvwater.com/water-supply-assessments

Santa Clarita Valley Water Agency contract with the Santa Clarita Valley Sanitation District, available at: http://yourscvwater.com/water-supply-assessments

Santa Clarita Valley Water Agency, Biennial Budget for FY 2021/22, and FY 2022/23, available at: http://yourscvwater.com/water-supply-assessments

Newhall Land and Farming Agreement with Semitropic WSD for Water Banking Exchange Program 2001, available at: http://yourscvwater.com/water-supply-assessments

Newhall Land and Farming Company 2022, Nickel Water Agreement, available at: http://yourscvwater.com/water-supply-assessments

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APPENDIX A ENGINEERING SITE PLAN

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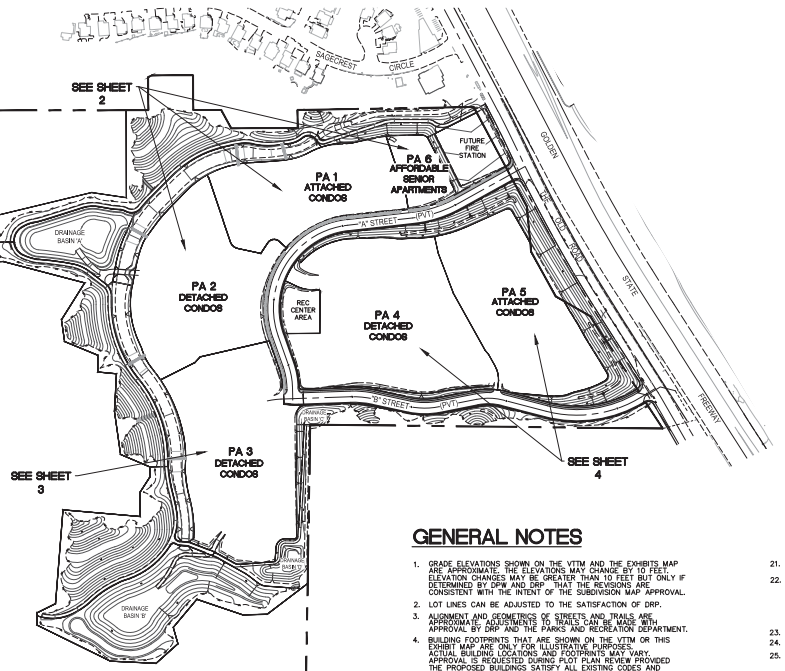
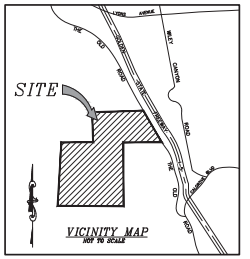




GENERAL NOTES

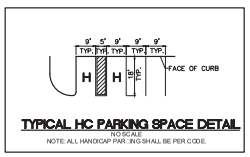
1. GRADE ELEVATIONS SHOWN ON THE VTTM AND THE EXHIBITS MAP ARE APPROXIMATE. THE ELEVATIONS MAY CHANGE BY 10 FEET. ELEVATION CHANGES MAY BE GREATER THAN 10 FEET BUT ONLY IF DETERMINED BY DPW AND DRP THAT THE REVISIONS ARE CONSISTENT WITH THE INTENT OF THE SUBDIVISION MAP APPROVAL.
2. LOT LINES CAN BE ADJUSTED TO THE SATISFACTION OF DRP.
3. ALIGNMENT AND GEOMETRICS OF STREETS AND TRAILS ARE APPROXIMATE. ADJUSTMENTS TO TRAILS CAN BE MADE WITH APPROVAL BY DRP AND THE PARKS AND RECREATION DEPARTMENT.
4. BUILDING FOOTPRINTS THAT ARE SHOWN ON THE VTTM OR THIS EXHIBIT MAP ARE ONLY FOR ILLUSTRATIVE PURPOSES. ACTUAL BUILDING LOCATIONS AND FOOTPRINTS MAY VARY. APPROVAL IS REQUESTED DURING PLOT PLAN REVIEW PROVIDED THE PROPOSED BUILDINGS SATISFY ALL EXISTING CODES AND ORDINANCES. THIS MINOR CHANGE DOES NOT, HOWEVER, INCLUDE:
   A. A CHANGE IN PROPOSED LAND USE.
   B. A CHANGE OF MORE THAN 10 FEET IN BUILDING HEIGHT.
5. THE RECORDATION OF A "LARGE LOT" PARCEL MAP WHERE ALL PARCELS ARE LARGER THAN 20 ACRES SHALL NOT REQUIRE THE OBLIGATION OF CONSTRUCTING IMPROVEMENTS OR INFRASTRUCTURE AS MAY BE OTHERWISE REQUIRED FOR THE SUBDIVISION, EXCEPT AS MAY BE REQUIRED BY CHAPTER 21.32 OF THE SUBDIVISION CODE.
6. THE RECORDATION OF A "LARGE LOT" PARCEL MAP SHALL NOT REQUIRE THE OBLIGATION OF FEES, DEDICATIONS (E.G. RIGHTS-OF-WAY OR PARKS), EXACTIONS, OR INFRASTRUCTURE AS MAY BE OTHERWISE REQUIRED FOR THE SUBDIVISION, EXCEPT AS MAY BE REQUIRED BY CHAPTER 21.32 OF THE SUBDIVISION CODE.
7. THE RECORDATION OF A "LARGE LOT" PARCEL MAP SHALL BE CONSIDERED THE FILING OF THE FIRST UNIT FOR THE PURPOSE OF TIME EXTENSIONS PURSUANT TO THE SUBDIVISION MAP ACT.
8. PERMISSION IS REQUESTED FOR UNIT PHASING.
9. PERMISSION IS REQUESTED TO COMBINE LOTS.
10. PERMISSION IS REQUESTED TO RECORD ADDITIONAL OPEN SPACE LOTS.
11. PERMISSION IS REQUESTED TO RECORD ADDITIONAL UTILITY LOTS AND PROVIDE MAINTENANCE EASEMENTS TO THE SATISFACTION OF THE DPW AND DRP.
12. PERMISSION IS REQUESTED TO RECORD ADDITIONAL RESIDENTIAL LOTS AS LONG AS NO ADDITIONAL RESIDENTIAL UNITS ARE CREATED.
13. PERMISSION IS REQUESTED TO RECORD JOINT ACCESS EASEMENTS (20' WIDE) AS LOTS.
14. PERMISSION IS REQUESTED TO MASS GRADE.
15. PROPOSED STREET GRADING IS APPROXIMATE ONLY AND SUBJECT TO ADJUSTMENTS PENDING DETERMINATION OF FINAL DEVELOPMENT LAYOUT AND PLANS.
16. LOCATION OF TRAILS TO BE FINALIZED PRIOR TO FINAL MAP APPROVAL.
17. PERMISSION IS REQUESTED TO PROVIDE RIGHT OF WAY RETURN RADII OF 13 FT. AT ALL LOCAL STREET INTERSECTIONS AND 27 FT. WHERE ALL PLANNED HIGHWAYS INTERSECT OR WHERE ONE OF THE ROADS SERVES A COMMERCIAL OR INDUSTRIAL DEVELOPMENT.
18. MODIFIED STREET CROSS-SECTIONS AS SHOWN ON VESTING TENTATIVE TRACT MAP ARE REQUESTED; HOWEVER, PERMISSION IS SOUGHT TO CONSTRUCT STANDARD AND ALTERNATE STREET CROSS-SECTIONS AT THE DISCRETION OF THE SUBDIVIDER.
19. ALL DIMENSIONS SHOWN ARE APPROXIMATE.
20. TOPO COMPILED FROM DATA FLOWN 09/01/20.
21. ADDITIONAL RIGHT OF WAY MAY BE DEDICATED AS REQUIRED TO THE SATISFACTION OF PUBLIC WORKS.
22. RELATED ENTITLEMENTS:
   - TENTATIVE MAP NO. 083301
   - CONDITIONAL USE PERMINT NO. XXXX
   - OAK TREE PERMIT NO. XXXX
   - ZONE CHANGE NO. XXXX
23. PRIVATE DRIVES DESIGNED PER THE COUNTY PRIVATE DRIVE MANUAL.
24. SHARED AND RECIPROCAL PARKING SHOWN PER REQUESTED PARKING PERMIT.
25. WITHIN RESIDENTIAL PLANNING AREAS 1-6 FLEXIBILITY IN FUTURE DESIGN IS PERMITTED, INCLUDING BUT NOT LIMITED TO: CHANGING APARTMENTS TO CONDOMINIUMS AND CONDOMINIUMS TO APARTMENTS CHANGING FROM ATTACHED TO DETACHED UNITS AND DETACHED TO ATTACHED UNITS, CHANGES TO BUILDING TYPES AND LOCATION, LOT CONFIGURATIONS AND RELOCATION OF DRIVEWAYS, DRIVE ENTRIES, DRIVEWAY ALIGNMENT AND OPEN SPACE AND LANDSCAPE AREA LOCATIONS AFFECTED AS A RESULT OF DESIGN CHANGES, PROVIDED THE CHANGES DO NOT EXCEED THE APPROVED TOTAL RESIDENTIAL UNIT COUNT, AND DOES NOT RESULT IN A REDUCTION OF TOTAL OPEN SPACE. CHANGES SHALL BE DEPICTED ON A REVISED EXHIBIT MAP.
26. GRADING MAY BE DONE IN SUB-PHASES OVER TIME BUT SUCH GRADING WILL STILL BE BALANCED WITHIN THE GRADING LIMITS IDENTIFIED ON THE TENTATIVE TRACT MAP. ALL GRADING OF SLOPES WILL BE PERFORMED AS ENGINEERED GRADING. THE LIMIT OF A GRADING SUB-PHASE WILL BE ESTABLISHED TO ACHIEVE A BALANCED EARTHWORK FOR THAT SUB-PHASE AND MAY EXTEND BEYOND THE LIMITS OF A PARTICULAR FINAL UNIT MAP BOUNDARY IN ORDER TO ACHIEVE A PHASED OF GRADING BALANCED. AN INTERIM HYDROLOGY REPORT WILL BE PROVIDED TO SUPPORT THE PHASED GRADING. DRAINAGE AND EROSION CONTROL FACILITIES WILL BE PROVIDED TO THE SATISFACTION OF DPW.
27. PERMISSION REQUESTED TO VACATE EXCESS RIGHT OF WAY ON THE OLD ROAD.
28. LOT EASEMENTS INTENDED TO BE GRANTED TO A CONSERVATION ENTITY IN WHICH THE EASEMENT IS GRANTED SUBSEQUENT TO VTTM OR FINAL MAP APPROVAL MAY BE ACCEPTED TO THE SATISFACTION OF DPW AND DRP WITHOUT AN AMENDED OR REVISED MAP.
29. ALL SANITARY SEWER EASEMENTS SHALL BE LOCATED WITHIN PUBLIC RIGHT OF WAY OR A MINIMUM 10' WIDE SANITARY SEWER EASEMENT.

PROJECT SUMMARY

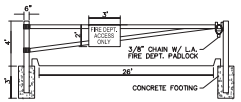
GROSS AREA	233 ACRES
TOTAL LOTS	23
TOTAL RESIDENTIAL D.U.	517 DU
EXISTING ZONING	A-2-1, C-3, C-3-DP
PROPOSED ZONING	1.13 ac A-2-1 TO ADD TO C-3-DP
EXISTING GENERAL PLAN LAND USE	H2 - RESIDENTIAL 2

LOT SUMMARY

PLANNING AREA	LOT NO.	PRODUCT	GROSS ACREAGE	NO. OF BUILDINGS	UNITS	DENSITY
PA 1	LOT 1	3-STORY ATTACHED CONDOS	5.52	16	112	20.3 DU/AC
PA 2	LOT 2	3-STORY DETACHED CONDOS	7.28	101	101	13.9 DU/AC
PA 3	LOT 3	2-STORY DETACHED CONDOS	8.64	83	83	9.6 DU/AC
PA 4	LOT 4	2-STORY DETACHED CONDOS	9.78	84	84	8.6 DU/AC
PA 5	LOT 5	2-STORY ATTACHED CONDOS	6.75	17	102	15.1 DU/AC
PA 6	LOT 6	AFFORDABLE SENIOR APARTMENTS	1.24	1	35	28.2 DU/AC
	LOT 7	REC.CENTER	0.70	1	0	
	LOT 8	FUTURE FIRE STATION	1.36	1	0	
	LOT 9	PRIVATE STREET	2.43	0	0	
	LOT 10	PRIVATE STREET	2.09	0	0	
	LOT 11	FLOOD CONTROL	2.00	0	0	
	LOT 12	FLOOD CONTROL	1.86	0	0	
	LOT 13	FLOOD CONTROL	2.17	0	0	
	LOT 14	FLOOD CONTROL	5.22	0	0	
	LOT 15	HOA OPEN SPACE	1.35	0	0	
	LOT 16	HOA OPEN SPACE	1.09	0	0	
	LOT 17	HOA OPEN SPACE	2.19	0	0	
	LOT 18	HOA OPEN SPACE	1.47	0	0	
	LOT 19	HOA OPEN SPACE	3.95	0	0	
	LOT 20	HOA OPEN SPACE	3.48	0	0	
	LOT 21	HOA OPEN SPACE	6.46	0	0	
	LOT 22	NATURAL OPEN SPACE	5.04	0	0	
	LOT 23	NATURAL OPEN SPACE	151.10	0	0	



TYPICAL HC PARKING SPACE DETAIL
NO SCALE
NOTE: ALL HANDICAP PAR. ING SHALL BE PER CODE.



EMERGENCY ACCESS GATE DETAIL
NO SCALE

GRAPHIC SCALE
0 100 200 400
(IN FEET)
1 inch = 200 ft.

SHEET INDEX

ALLIANCE LAND PLANNING & ENGINEERING INC.
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FAX: (760) 431-9860
CIVIL ENGINEERING • LAND PLANNING • HILLSIDE DESIGN • SURVEYING
CRAIG A. WHITTAKER R.C.E. NO. 51929 DATE 3/31/21
REGISTERED PROFESSIONAL ENGINEER CRAIG A. WHITTAKER NO. 51929 EXP. 6-30-22 CIVIL STATE OF CALIFORNIA

OWNER/APPLICANT:

NUWI LYONS CANYON, LLC
2001 WILSHIRE BOULEVARD, SUITE 401
SANTA MONICA, CA 90403
TEL: (310) 864-2427

NO.	DATE	REVISIONS	BY	APPR

MAJOR LAND DIVISION
VESTING TENTATIVE TRACT MAP NO. 083301
THE TRAILS AT LYONS CANYON
EXHIBIT MAP
LOCATED IN THE UNINCORPORATED TERRITORY OF THE COUNTY OF LOS ANGELES

DATE: MARCH 10, 2021
SHEET 1 OF 4

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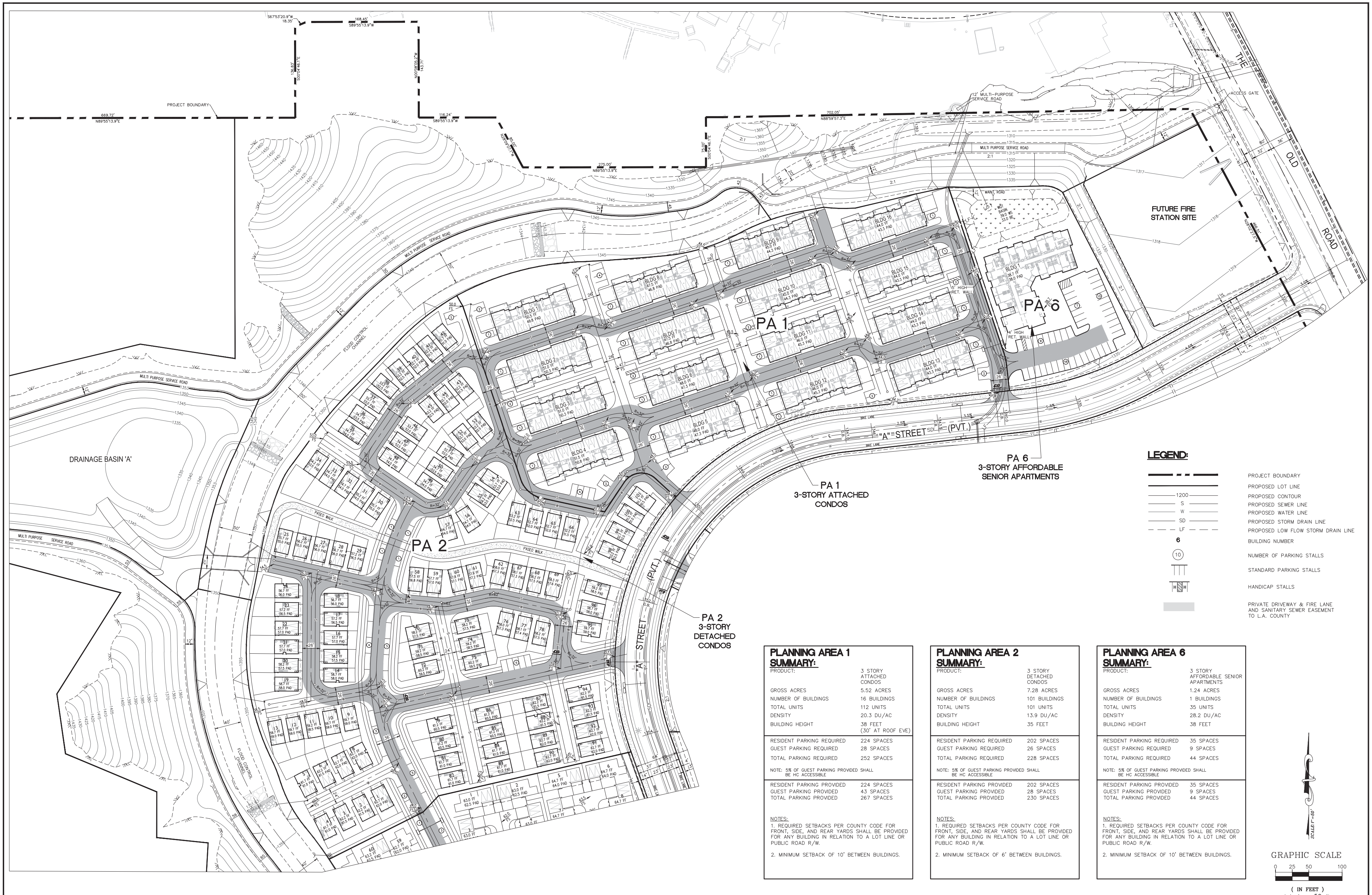

PLANNING AREA 1 SUMMARY:

PRODUCT:	3 STORY ATTACHED CONDOS
GROSS ACRES	5.52 ACRES
NUMBER OF BUILDINGS	16 BUILDINGS
TOTAL UNITS	112 UNITS
DENSITY	20.3 DU/AC
BUILDING HEIGHT	38 FEET (30' AT ROOF EVE)
RESIDENT PARKING REQUIRED	224 SPACES
GUEST PARKING REQUIRED	28 SPACES
TOTAL PARKING REQUIRED	252 SPACES
NOTE: 5% OF GUEST PARKING PROVIDED SHALL BE HC ACCESSIBLE	
RESIDENT PARKING PROVIDED	224 SPACES
GUEST PARKING PROVIDED	43 SPACES
TOTAL PARKING PROVIDED	267 SPACES

NOTES:
1. REQUIRED SETBACKS PER COUNTY CODE FOR FRONT, SIDE, AND REAR YARDS SHALL BE PROVIDED FOR ANY BUILDING IN RELATION TO A LOT LINE OR PUBLIC ROAD R/W.
2. MINIMUM SETBACK OF 10' BETWEEN BUILDINGS.

PLANNING AREA 2 SUMMARY:

PRODUCT:	3 STORY DETACHED CONDOS
GROSS ACRES	7.28 ACRES
NUMBER OF BUILDINGS	101 BUILDINGS
TOTAL UNITS	101 UNITS
DENSITY	13.9 DU/AC
BUILDING HEIGHT	35 FEET
RESIDENT PARKING REQUIRED	202 SPACES
GUEST PARKING REQUIRED	26 SPACES
TOTAL PARKING REQUIRED	228 SPACES
NOTE: 5% OF GUEST PARKING PROVIDED SHALL BE HC ACCESSIBLE	
RESIDENT PARKING PROVIDED	202 SPACES
GUEST PARKING PROVIDED	28 SPACES
TOTAL PARKING PROVIDED	230 SPACES

NOTES:
1. REQUIRED SETBACKS PER COUNTY CODE FOR FRONT, SIDE, AND REAR YARDS SHALL BE PROVIDED FOR ANY BUILDING IN RELATION TO A LOT LINE OR PUBLIC ROAD R/W.
2. MINIMUM SETBACK OF 6' BETWEEN BUILDINGS.

PLANNING AREA 6 SUMMARY:

PRODUCT:	3 STORY AFFORDABLE SENIOR APARTMENTS
GROSS ACRES	1.24 ACRES
NUMBER OF BUILDINGS	1 BUILDINGS
TOTAL UNITS	35 UNITS
DENSITY	28.2 DU/AC
BUILDING HEIGHT	38 FEET
RESIDENT PARKING REQUIRED	35 SPACES
GUEST PARKING REQUIRED	9 SPACES
TOTAL PARKING REQUIRED	44 SPACES
NOTE: 5% OF GUEST PARKING PROVIDED SHALL BE HC ACCESSIBLE	
RESIDENT PARKING PROVIDED	35 SPACES
GUEST PARKING PROVIDED	9 SPACES
TOTAL PARKING PROVIDED	44 SPACES

NOTES:
1. REQUIRED SETBACKS PER COUNTY CODE FOR FRONT, SIDE, AND REAR YARDS SHALL BE PROVIDED FOR ANY BUILDING IN RELATION TO A LOT LINE OR PUBLIC ROAD R/W.
2. MINIMUM SETBACK OF 10' BETWEEN BUILDINGS.

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27413 TOURNEY ROAD SUITE 120 VALENCIA, CA 91355 TEL: (661) 799-2760 FAX: (760) 431-8802
CIVIL ENGINEERING • LAND PLANNING • HILLSIDE DESIGN • SURVEYING
CRAIG M. WHITTEKER R.C.E NO. 51929 3/11/21 DATE
REGISTERED PROFESSIONAL ENGINEER CRAIG M. WHITTEKER NO. 51929 EXP 6-30-22 CIVIL STATE OF CALIFORNIA

OWNER/APPLICANT:
NUWI LYONS CANYON, LLC
2001 WILSHIRE BOULEVARD, SUITE 401
SANTA MONICA, CA 90403
TEL: (310) 864-2427

NO.	DATE	REVISIONS	BY	APPR

MAJOR LAND DIVISION
VESTING TENTATIVE TRACT MAP NO. 083301
THE TRAILS AT LYONS CANYON
EXHIBIT MAP
LOCATED IN THE UNINCORPORATED TERRITORY OF THE COUNTY OF LOS ANGELES

DATE: MARCH 10, 2021
SHEET 2 OF 4

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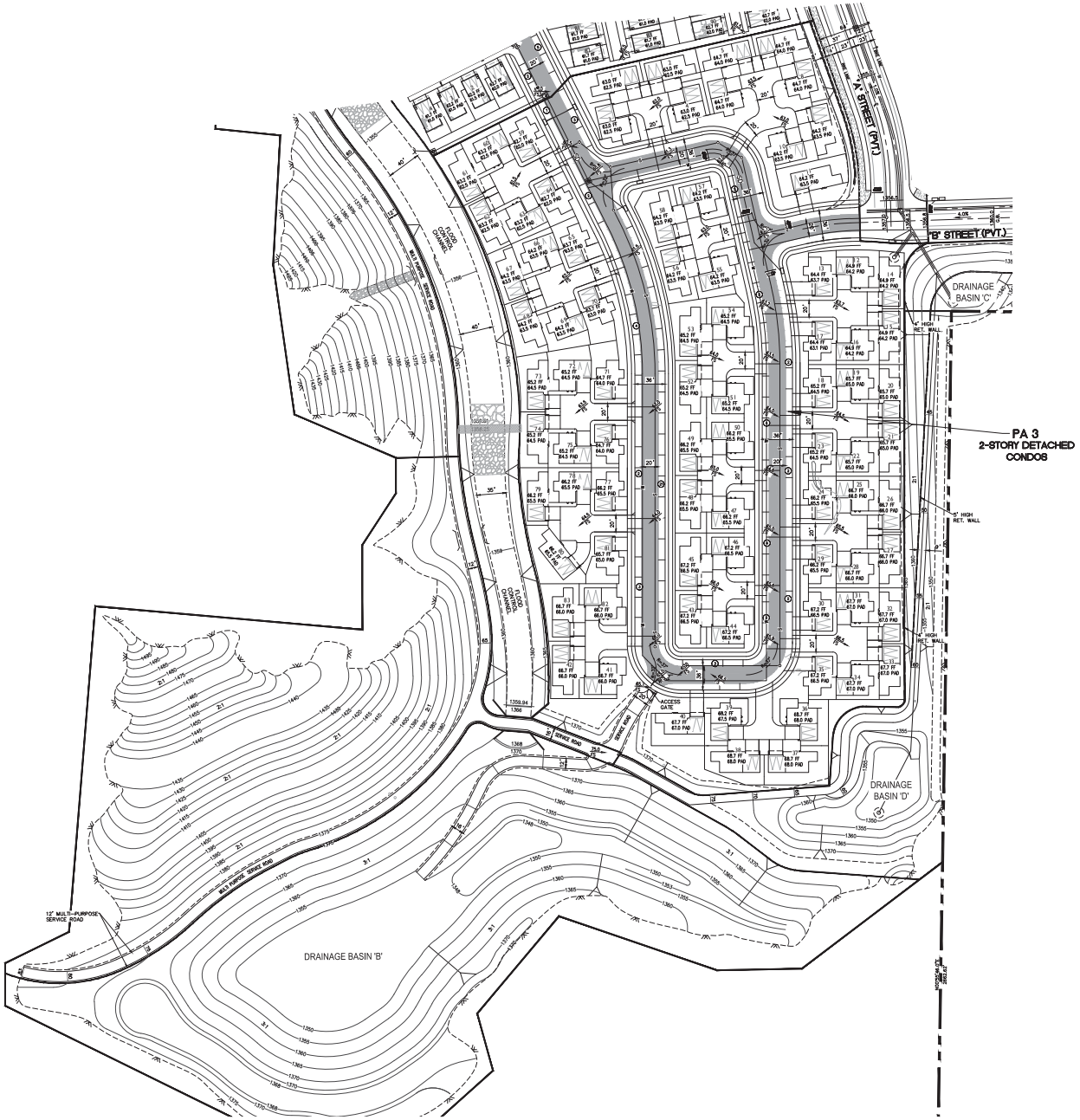

PLANNING AREA 3 SUMMARY:

PRODUCT:	2 STORY DETACHED CONDOS
GROSS ACRES	8.64 ACRES
NUMBER OF BUILDINGS	83 BUILDINGS
TOTAL UNITS	83 UNITS
DENSITY	9.6 DU/AC
BUILDING HEIGHT	26 FEET
RESIDENT PARKING REQUIRED	166 SPACES
GUEST PARKING REQUIRED	21 SPACES
TOTAL PARKING REQUIRED	187 SPACES
RESIDENT PARKING PROVIDED	166 SPACES
GUEST PARKING PROVIDED	63 SPACES
TOTAL PARKING PROVIDED	229 SPACES

NOTES:
1. REQUIRED SETBACKS PER COUNTY CODE FOR FRONT, SIDE, AND REAR YARDS SHALL BE PROVIDED FOR ANY BUILDING IN RELATION TO A LOT LINE OR PUBLIC ROAD R/W.

2. MINIMUM SETBACK OF 6' BETWEEN BUILDINGS.

LEGEND:

- PROJECT BOUNDARY
- PROPOSED LOT LINE
- 1200 PROPOSED CONTOUR
- S PROPOSED SEWER LINE
- W PROPOSED WATER LINE
- SD PROPOSED STORM DRAIN LINE
- LF PROPOSED LOW FLOW STORM DRAIN LINE
- 6 BUILDING NUMBER
- (10) NUMBER OF PARKING STALLS
- STANDARD PARKING STALLS
- HANDICAP STALLS
- PRIVATE DRIVEWAY & FIRE LANE AND SANITARY SEWER EASEMENT TO L.A. COUNTY

GRAPHIC SCALE
0 25 50 100
(IN FEET)
1 inch = 50 ft.

ALLIANCE LAND PLANNING & ENGINEERING INC.
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FAX: (760) 431-8802
CIVIL ENGINEERING • LAND PLANNING • HILLSIDE DESIGN • SURVEYING
CRAIG W. WHITTAKER R.C.E. NO. 51939 DATE 3/11/21

REGISTERED PROFESSIONAL ENGINEER CRAIG W. WHITTAKER NO. 51939 EXP. 6-30-23 CIVIL STATE OF CALIFORNIA

OWNER/APPLICANT:
NUWI LYONS CANYON, LLC
2001 WILSHIRE BOULEVARD, SUITE 401
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TEL: (310) 864-2427

NO.	DATE	REVISIONS	BY	APPR

MAJOR LAND DIVISION
VESTING TENTATIVE TRACT MAP NO. 083301
THE TRAILS AT LYONS CANYON
EXHIBIT MAP
LOCATED IN THE UNINCORPORATED TERRITORY OF THE COUNTY OF LOS ANGELES

DATE: MARCH 10, 2021
SHEET 3 OF 4

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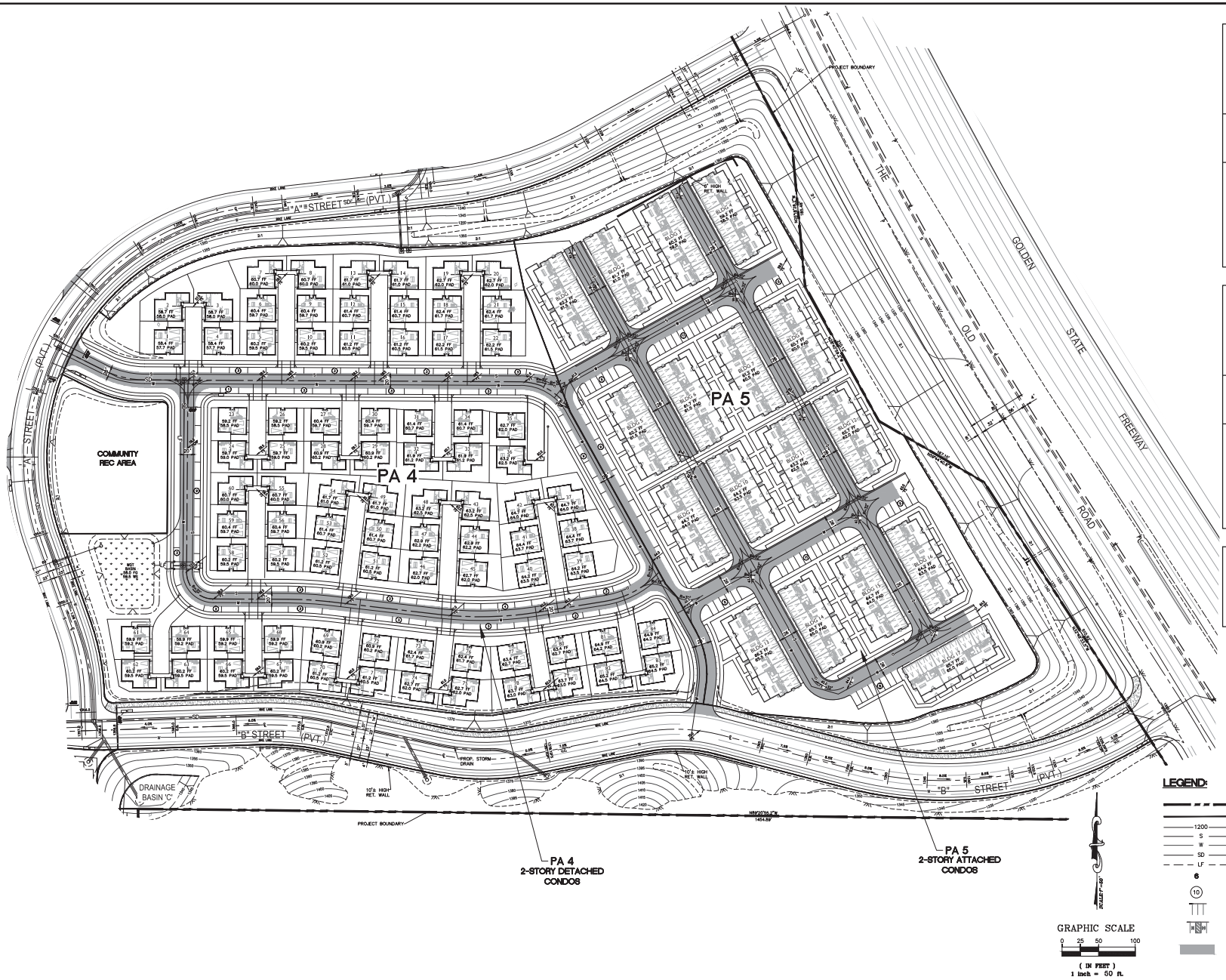

PLANNING AREA 4 SUMMARY:

PRODUCT:	2 STORY DETACHED CONDOS
GROSS ACRES	9.78 ACRES
NUMBER OF BUILDINGS	84 BUILDINGS
TOTAL UNITS	84 UNITS
DENSITY	8.6 DU/AC
BUILDING HEIGHT	28 FEET
RESIDENT PARKING REQUIRED	168 SPACES
GUEST PARKING REQUIRED	21 SPACES
TOTAL PARKING REQUIRED	189 SPACES

NOTE: 5% OF GUEST PARKING PROVIDED SHALL BE HC ACCESSIBLE

RESIDENT PARKING PROVIDED	168 SPACES
GUEST PARKING PROVIDED	70 SPACES
TOTAL PARKING PROVIDED	238 SPACES

NOTES:
1. REQUIRED SETBACKS PER COUNTY CODE FOR FRONT, SIDE, AND REAR YARDS SHALL BE PROVIDED FOR ANY BUILDING IN RELATION TO A LOT LINE OR PUBLIC ROAD R/W.

2. MINIMUM SETBACK OF 6' BETWEEN BUILDINGS.

PLANNING AREA 5 SUMMARY:

PRODUCT:	2 STORY ATTACHED CONDOS
GROSS ACRES	6.75 ACRES
NUMBER OF BUILDINGS	17 BUILDINGS
TOTAL UNITS	102 UNITS
DENSITY	15.1 DU/AC
BUILDING HEIGHT	29 FEET
RESIDENT PARKING REQUIRED	204 SPACES
GUEST PARKING REQUIRED	26 SPACES
TOTAL PARKING REQUIRED	228 SPACES

NOTE: 5% OF GUEST PARKING PROVIDED SHALL BE HC ACCESSIBLE

RESIDENT PARKING PROVIDED	204 SPACES
GUEST PARKING PROVIDED	59 SPACES
TOTAL PARKING PROVIDED	263 SPACES

NOTES:
1. REQUIRED SETBACKS PER COUNTY CODE FOR FRONT, SIDE, AND REAR YARDS SHALL BE PROVIDED FOR ANY BUILDING IN RELATION TO A LOT LINE OR PUBLIC ROAD R/W.

2. MINIMUM SETBACK OF 10' BETWEEN BUILDINGS.

REC. AREA PARKING SUMMARY

PARKING REQUIRED:
XXX S.F. BLDG X 4 STALLS/1000 S.F.

PARKING PROVIDED:
TOTAL = XX STALLS

LEGEND:

- PROJECT BOUNDARY
- PROPOSED LOT LINE
- 1200 PROPOSED CONTOUR
- S PROPOSED SEWER LINE
- W PROPOSED WATER LINE
- SD PROPOSED STORM DRAIN LINE
- LF PROPOSED LOW FLOW STORM DRAIN LINE
- 6 BUILDING NUMBER
- (10) NUMBER OF PARKING STALLS
- STANDARD PARKING STALLS
- HANDICAP STALLS
- PRIVATE DRIVEWAY & FIRE LANE AND SANITARY SEWER EASEMENT TO L.A. COUNTY

GRAPHIC SCALE
0 25 50 100
(IN FEET)
1 inch = 50 ft.

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CRAIG A. WHITTAKER R.C.E. NO. 51929 EXP. 6-30-23 3/31/21
REGISTERED PROFESSIONAL ENGINEER CRAIG A. WHITTAKER NO. 51929 EXP. 6-30-23 CIVIL STATE OF CALIFORNIA

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DATE: MARCH 10, 2021
SHEET 4 OF 4

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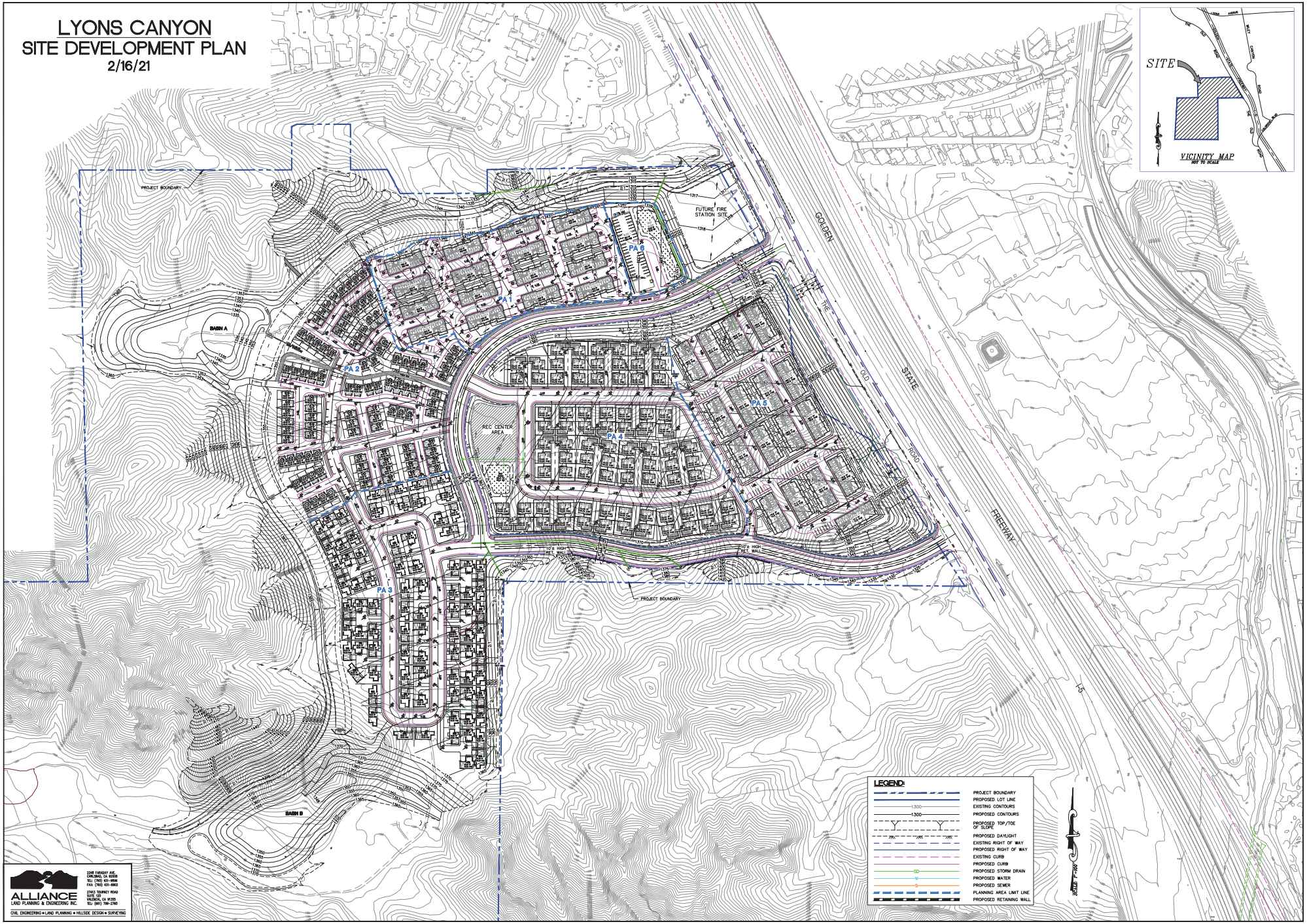
LYONS CANYON
SITE DEVELOPMENT PLAN
2/16/21



ALLIANCE
LAND PLANNING & ENGINEERING INC.
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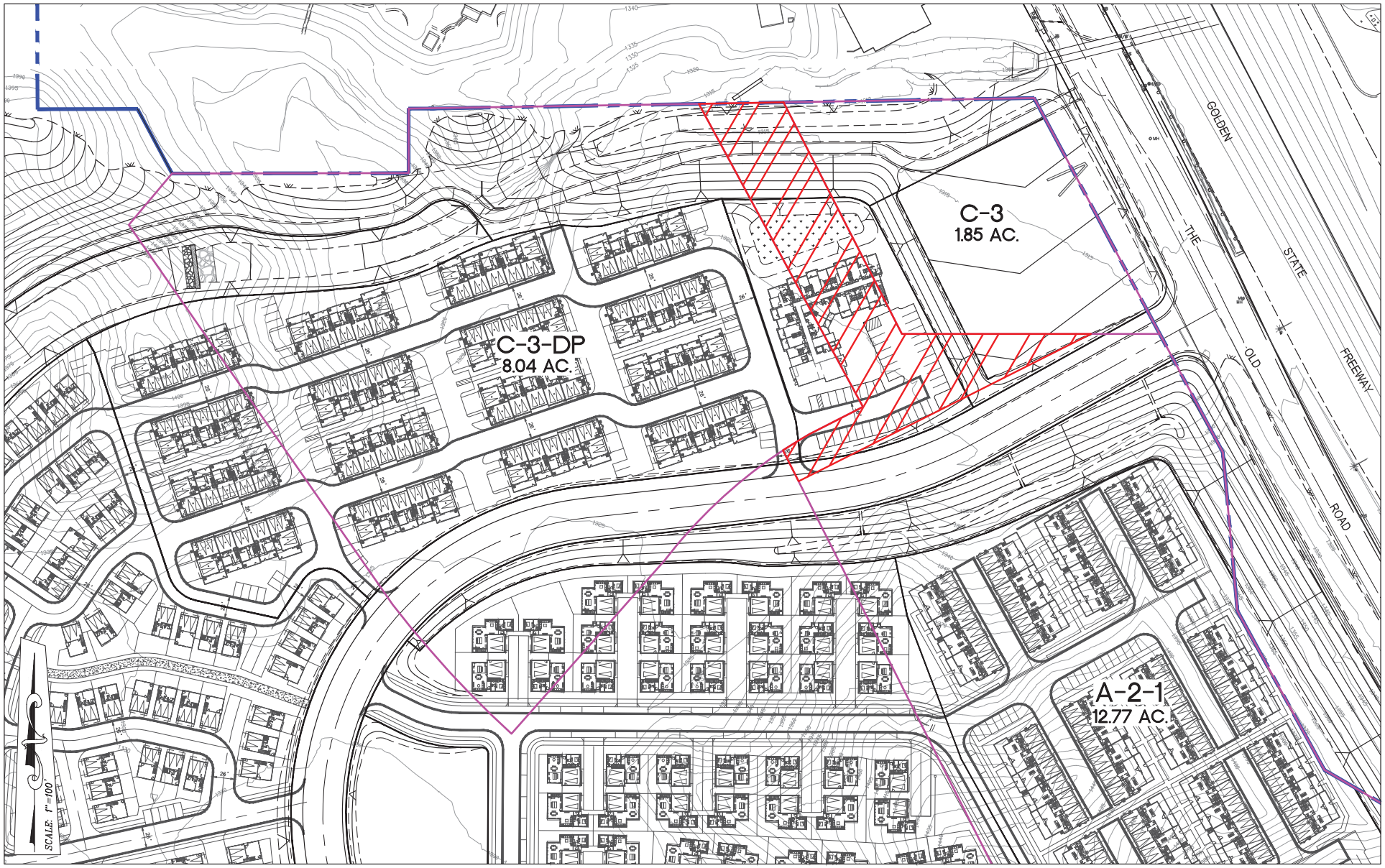
C-3
1.85 AC.
C-3-DP
8.04 AC.
A-2-1
12.77 AC.
GOLDEN
STATE
FREEWAY
OLD
ROAD
SCALE: 1"=100'

ITEM NO.
6.4

BOARD MEMORANDUM

DATE: March 28, 2022

TO: Board of Directors

FROM: Matthew G. Stone
General Manager MGS

SUBJECT: Approve a Proposed Employee Salary Adjustment for FY 2022/23

SUMMARY

It is the Agency's practice to perform salary surveys every three to five years (completed in January 2021) and administer a cost-of-living adjustment (COLA) increase every year to maintain salaries within the market.

DISCUSSION

At the March 21, 2022 Finance and Administration Committee meeting, staff presented Consumer Price Index (CPI) data for 2021 and estimated fiscal impacts for a range of COLA options, as follows.

Attachment 1 shows the recent history of Agency general wage adjustments. Attachment 2 reflects CPI data from 2017 until present, illustrating the percentage change for each month from the same month in the prior year as well as the 2021 Employer Cost Index (ECI) compiled by the U.S. Bureau of Labor Statics. Historically, the Agency has adjusted salaries based on the change in the CPI from December to December, which is then factored into the following year's budget. The CPI Index in year 2021 has fluctuated with a year-over-year change of a low 1.12% to a high of 6.94% in December 2021, with a median of 4.54%.

Agency staff had performed a budget impact analysis, calculating the impact at each .5% starting at 2% (which was included in the FY 2022/23 budget) to 7%. At 2% and 2.5% the analysis shows a budget savings.

COLA%	Total COLA Adjustment	Total Salary and Benefits	Impact to Budget
2.0%	$452,237	$29,048,181	$(118,606)
2.5%	565,297	29,161,686	(5,101)
3.0%	678,356	29,274,016	107,229
3.5%	791,415	29,385,423	218,636
4.0%	904,475	29,499,544	332,757
4.5%	1,017,534	29,611,283	444,496
5.0%	1,130,593	29,724,060	557,273
5.5%	1,243,653	29,837,123	670,336
6.0%	1,356,712	29,948,283	781,496
6.5%	1,469,772	30,061,066	894,279
7.0%	1,582,831	30,173,486	1,006,699

Since the beginning of FY 2021/22 there have been 12 employee separations (including retirements). Typically, when an employee separates, they are at the top of their pay range and are Classic CalPERS employees, and when replacement employees are hired, they will most likely start at the beginning of the pay range and as a PEPRA CalPERS employee. This is the primary reason for the budget savings at 2% and 2.5%.

Management recommends adjusting the compensation structure to compensate Agency employees based on:

- Striving to maintain Agency salaries in a competitive labor market
- Recognizing the Agency's excellent workforce

This is consistent with the Agency's Compensation Policy which states that "if fiscally prudent, it is the Agency's objective to compensate employees at the middle of the labor market as measured by the mean and/or median."

Based on these factors and the budget impacts, staff proposed a 4.5% employee salary COLA adjustment for FY 2022/23; however, an alternative metric, the ECI complied by the U.S. Bureau of Labor Statics, was also requested by a Committee member and staff provided this information for discussion. The ECI metric indicates a year-over-year change of 5.5% in December 2021.

After discussion and consideration of both metrics and budget impact information, the Committee unanimously recommended a 5.5% COLA for FY 2022/23. Direction was also given to staff to present both the CPI and ECI information in future salary adjustment discussions.

The general wage increase would be implemented with the first full pay period in July 2022. That is, all salary ranges would be increased by the approved COLA amount, except for the General Manager. Individual compensation adjustments within the salary range would be made in accordance with the appropriate personnel policies. The proposed revised Agency Pay Schedule is also attached (Attachment 3).

On March 21, 2022, the Finance and Administration Committee considered staff's recommendation to approve a proposed employee salary adjustment for FY 2022/23.

FINANCIAL CONSIDERATIONS

The FY 2022/23 conditionally approved budget showed operating salaries and benefits at $29,166,787. The recommended increase in salaries at 5.5% in FY 2022/23 would have a budget impact of approximately $670,336 for a total of $29,837,123. If approved, funds would be included in the revised SCV Water Biennial Budget for FY 2022/23.

RECOMMENDATION

The Finance and Administration Committee recommends that the Board of Directors approve a cost-of-living adjustment of a 5.5% increase for FY 2022/23 for all employees except the General Manager.

MS

Attachments

ATTACHMENT 1

RECENT COST OF LIVING ADJUSTMENT HISTORY

Effective Date	Change in CPI Dec 2020 to Dec 2021	Change in ECI Dec 2020 to Dec 2021	Effective COLA	
SCV WATER				
July 1, 2022	6.94%	5.50%		
July 1, 2021	1.46%		1.5%	
July 1, 2020	3.17%		3.0%	Proposed and Delayed - COLA approved Jan 2020
July 1, 2019	3.30%		3.0%	
July 1, 2018	3.74%		3.0%	
CLWA				
July 1, 2017	1.97%		2.0%	
July 1, 2016	2.03%		2.0%	
July 1, 2015	0.73%		0.0%	

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ATTACHMENT 2

CONSUMER PRICE INDEX AND EMPLOYMENT COST INDEX
U.S. DEPARTMENT OF LABOR
BUREAU OF LABOR STATISTICS

CONSUMER PRICE INDEX

Los Angeles-Long Beach-Anaheim
All Urban Wage Earner and Clerical Workers

MONTH	INDEX 2017	% Change from 2016	INDEX 2018	% Change from 2017	INDEX 2019	% Change from 2018	INDEX 2020	% Change from 2019	INDEX 2021	% Change from 2020
January	242.735	1.73%	251.785	3.73%	259.182	2.94%	268.127	3.45%	271.129	1.12%
February	244.254	2.51%	253.243	3.68%	259.734	2.56%	268.938	3.54%	272.816	1.44%
March	244.932	2.42%	254.451	3.89%	261.278	2.68%	266.964	2.18%	274.097	2.67%
April	245.417	2.46%	255.379	4.06%	264.469	3.56%	265.930	0.55%	277.126	4.21%
May	246.153	2.43%	256.652	4.27%	265.283	3.36%	267.007	0.65%	279.139	4.54%
June	245.900	2.24%	256.208	4.19%	264.640	3.29%	268.118	1.31%	280.687	4.69%
July	246.681	2.54%	256.632	4.03%	265.012	3.27%	270.012	1.89%	282.271	4.54%
August	247.260	2.91%	257.318	4.07%	264.687	2.86%	270.563	2.22%	282.691	4.48%
September	248.550	3.20%	258.246	3.90%	266.517	3.20%	270.257	1.40%	283.191	4.79%
October	249.234	3.02%	259.899	4.28%	269.314	3.62%	270.864	0.58%	285.973	5.58%
November	249.680	3.68%	259.064	3.76%	268.041	3.47%	270.695	0.99%	287.940	6.37%
December	249.854	3.74%	258.100	3.30%	266.274	3.17%	270.167	1.46%	288.910	6.94%

EMPLOYMENT COST INDEX

Table 13 - ECI for total compensation, and wages and salaries (not seasonally adjusted)

	12-Month Percent Changes Wages and Salaries		
	Dec-20	Sep-21	Dec-21
West - Los Angeles-Long Beach, CA	4.50%	6.50%	5.50%

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ATTACHMENT 3

SANTA CLARITA VALLEY WATER AGENCY
PROPOSED - CLASSIFICATION PLAN
EFFECTIVE JULY 2022
(first full pay period)

Position	Range	Monthly Bottom	Monthly Top
General Manager	n/a	-	25,446
Assistant General Manager	50	19,585	23,865
Chief Financial and Administrative Officer	48	17,765	21,646
Chief Operating Officer	48	17,765	21,646
Chief Engineer	47	16,921	20,615
Director of Finance and Administration	46	16,115	19,633
Director of Operations and Maintenance	46	16,115	19,633
Director of Technology Services	46	16,115	19,633
Director of Water Resources	46	16,115	19,633
Controller	43	13,920	16,962
Human Resources Manager	43	13,920	16,962
Principal Engineer	42	13,258	16,153
Principal Water Resources Planner	42	13,258	16,153
Communications Manager	40	12,024	14,648
Customer Service Manager	40	12,024	14,648
GIS Manager	40	12,024	14,648
Sustainability Manager	40	12,024	14,648
Water Distribution Manager	40	12,024	14,648
Water Quality Laboratory Manager	40	12,024	14,648
Water Treatment Manager	40	12,024	14,648
Senior Engineer	39	11,454	13,955
Senior Water Resources Planner	39	11,454	13,955
Engineer	37	10,386	12,653
Water Conservation Supervisor	37	10,386	12,653
Water Resources Planner	37	10,386	12,653
Inspector Supervisor	36	9,892	12,054
Senior Management Analyst	36	9,892	12,054
Associate Engineer	35	9,422	11,482
Associate Water Resources Planner	35	9,422	11,482
Board Secretary/Executive Assistant	35	9,422	11,482
Data Scientist	35	9,422	11,482
Electrical/Instrumentation Supervisor	35	9,422	11,482
Field Services Supervisor	35	9,422	11,482
Information Technology Supervisor	35	9,422	11,482
Senior Financial Analyst	35	9,422	11,482
Senior Water Conservation Specialist	35	9,422	11,482
Utility Supervisor	35	9,422	11,482
Water Quality Supervisor	35	9,422	11,482
Water Systems Supervisor	35	9,422	11,482
Accounting Manager	34	8,972	10,930
Senior Inspector	34	8,972	10,930
Senior Public Affairs Specialist	34	8,972	10,930
Senior Water Quality Scientist	34	8,972	10,930
Environmental Health & Safety Supervisor	33	8,547	10,414
Fleet and Warehousing Supervisor	33	8,547	10,414
Management Analyst II	33	8,547	10,414
SCADA Technician II	33	8,547	10,414
Senior Treatment Plant Operator - 80 hour shift	33	8,547	10,414
Senior Treatment Plant Operator - 84 hour shift	33	8,974	10,934
Assistant Engineer	32	8,140	9,916

SANTA CLARITA VALLEY WATER AGENCY
PROPOSED - CLASSIFICATION PLAN
EFFECTIVE JULY 2022
(first full pay period)

Position	Range	Monthly Bottom	Monthly Top
Customer Service Supervisor	32	8,140	9,916
Executive Assistant	32	8,140	9,916
Financial Analyst	32	8,140	9,916
Information Technology Specialist	32	8,140	9,916
Security Specialist	32	8,140	9,916
Water Conservation Specialist II	32	8,140	9,916
Water Quality Scientist II	32	8,140	9,916
Water Quality Specialist	32	8,140	9,916
Buildings and Grounds Supervisor	31	7,750	9,441
GIS Analyst	31	7,750	9,441
Human Resources Analyst	31	7,750	9,441
Lead Utility Worker	31	7,750	9,441
Public Affairs Specialist II	31	7,750	9,441
SCADA Technician I	31	7,750	9,441
Senior Accountant	31	7,750	9,441
Senior Electrical Technician	31	7,750	9,441
Senior Instrumentation Technician	31	7,750	9,441
Senior Water Systems Technician	31	7,750	9,441
Treatment Plant Operator II - 80 hour shift	31	7,750	9,441
Treatment Plant Operator II - 84 hour shift	31	8,137	9,914
Customer Service Supervisor	30	7,381	8,993
Management Analyst I	30	7,381	8,993
Right of Way Agent	30	7,381	8,993
Senior Engineering Technician	30	7,381	8,993
Senior Information Technology Technician	30	7,381	8,993
Water Education Supervisor*	30	7,381	8,993
GIS Technician II	29	7,030	8,568
Inspector II	29	7,030	8,568
Water Conservation Specialist I	29	7,030	8,568
Water Quality Scientist I	29	7,030	8,568
Accountant	28	6,694	8,157
Electrical/Instrumentation Technician	28	6,694	8,157
Emergency Preparedness and Safety Coordinator	28	6,694	8,157
Information Technology Technician II	28	6,694	8,157
Inspector I	28	6,694	8,157
Public Affairs Specialist I	28	6,694	8,157
Senior Field Services Worker	28	6,694	8,157
Senior Utility Worker	28	6,694	8,157
Senior Water Quality Technician	28	6,694	8,157
Treatment Plant Operator I - 80 hour shift	28	6,694	8,157
Treatment Plant Operator I - 84 hour shift	28	7,030	8,565
Water Education Instructor*	28	6,694	8,157
Water Systems Technician II	28	6,694	8,157
Engineering Technician II	27	6,377	7,771
Human Resources Specialist	27	6,377	7,771
Information Technology Technician I	27	6,377	7,771
Payroll Specialist	27	6,377	7,771
Senior Administrative Technician	27	6,377	7,771
Senior Customer Service Representative	27	6,377	7,771
Senior Facilities Maintenance Technician	27	6,377	7,771

SANTA CLARITA VALLEY WATER AGENCY
PROPOSED - CLASSIFICATION PLAN
EFFECTIVE JULY 2022
(first full pay period)

Position	Range	Monthly Bottom	Monthly Top
Event Coordinator*	26	6,075	7,403
GIS Technician I	26	6,075	7,403
Purchasing Coordinator	26	6,075	7,403
Senior Accounting Technician	26	6,075	7,403
Administrative Technician	25	5,784	7,048
Field Services Worker II	25	5,784	7,048
Limited Duration Employee - HR Tech	25	5,784	7,048
Safety Specialist II	25	5,784	7,048
Utility Worker II	25	5,784	7,048
Water Quality Technician II	25	5,784	7,048
Water Systems Technician I	25	5,784	7,048
Customer Service Representative II	24	5,509	6,710
Engineering Technician I	24	5,509	6,710
Facilities Maintenance Technician II	24	5,509	6,710
Accounting Technician II	23	5,247	6,398
Purchasing and Warehouse Technician	23	5,247	6,398
Safety Specialist I	23	5,247	6,398
Senior Office Assistant II	23	5,247	6,398
Water Quality Technician I	23	5,247	6,398
Field Services Worker I	22	4,995	6,091
Utility Worker I	22	4,995	6,091
Accounting Technician I	21	4,760	5,801
Customer Service Representative I	21	4,760	5,801
Facilities Maintenance Technician I	21	4,760	5,801
Office Assistant II	21	4,760	5,801
Office Assistant I	18	4,111	5,008

**May be classified as part-time positions and paid at the hourly rate*

Note: Rounded for ease of reading - not an additional entitlement

Directors	$239.00 per meeting, up to 10 meetings per month
Shift Differential	5% or 10% (field employees) of compensation is applied to the rate for employees who are routinely and consistently scheduled to work other than a standard "daytime" shift, e.g. graveyard shift, swing shift, shift change, rotating shift, split shift, or weekends.
On Call Pay	$176.00 per day

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SCV WATER

Proposed Salary Adjustment FY 2022/23

Board of Directors
April 5, 2022

Background

- It is the Agency's practice to perform salary surveys every three to five years (implemented in January 2021) and administer a cost-of-living adjustment (COLA) increase every year to maintain salaries within the market.

Employee Policy 9.0 – Pay Plan

- Section 9.9

  At the time that the Board of Directors considers a COLA, staff will provide the Board for its consideration information on the Los Angeles – Riverside – Orange County area Consumer Price Index (CPI) and any other requested information that will assist in the decision-making process

Annual COLA Implementations

Effective Date	Change in CPI Dec 2020 to Dec 2021	Change in ECI Dec 2020 to Dec 2021	Effective COLA	
SCV WATER				
July 1, 2022	6.94%	5.50%		
July 1, 2021	1.46%		1.5%	
July 1, 2020	3.17%		3.0%	Proposed and Delayed - COLA approved Jan 2020
July 1, 2019	3.30%		3.0%	
July 1, 2018	3.74%		3.0%	
CLWA				
July 1, 2017	1.97%		2.0%	
July 1, 2016	2.03%		2.0%	
July 1, 2015	0.73%		0.0%	

Index

- The **Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W)** is a monthly measure of the average change over time in the prices paid by urban wage earners and clerical workers for a market basket of consumer goods and services.
- The **Employment Cost Index (ECI)** is a measure of the change in the cost of labor, independent of the influence of employment shifts among occupations and industry categories. The total compensation series includes changes in wages and salaries and in employer cost for employee benefits.

CPI – Urban Wage Earners

MONTH	INDEX 2021	% Change from 2020
December 2020	270.167	
January	271.129	1.12%
February	272.816	1.44%
March	274.097	2.67%
April	277.126	4.21%
May	279.139	4.54%
June	280.687	4.69%
July	282.271	4.54%
August	282.691	4.48%
September	283.191	4.79%
October	285.973	5.58%
November	287.940	6.37%
December	288.910	6.94%

Median = 4.5%

ECI Data for Total Compensation

U.S. BUREAU OF LABOR STATISTICS

Bureau of Labor Statistics > Economic News Release > Employment Cost Index

Table 13. Compensation and wages and salaries (not seasonally adjusted): Employment Cost Index for total compensation, and wages and salaries, for private industry workers, by area

Census region and metropolitan area[1]	12-month percent changes - Total compensation[2]			Wages and salaries		
	Dec. 2020	Sep. 2021	Dec. 2021	Dec. 2020	Sep. 2021	Dec. 2021
West						
Los Angeles-Long Beach, CA CSA	3.7	5.5	4.8	4.5	6.5	5.5
Phoenix-Mesa-Scottsdale, AZ MSA	3.8	4.6	4.9	4.2	4.4	5.3
San Jose-San Francisco-Oakland, CA CSA	3.5	3.0	2.8	3.7	3.3	3.2
Seattle-Tacoma, WA CSA	3.1	5.2	6.3	4.1	2.5	3.8

Budget Impacts

COLA%	Total COLA Adjustment	Total Salary and Benefits	Impact to Budget	
2.0%	$452,237	$29,048,181	$(118,606)	*
2.5%	565,297	29,161,686	(5,101)	
3.0%	678,356	29,274,016	107,229	
3.5%	791,415	29,385,423	218,636	
4.0%	904,475	29,499,544	332,757	
4.5%	1,017,534	29,611,283	444,496	
5.0%	1,130,593	29,724,060	557,273	
5.5%	1,243,653	29,837,123	670,336	
6.0%	1,356,712	29,948,283	781,496	
6.5%	1,469,772	30,061,066	894,279	
7.0%	1,582,831	30,173,486	1,006,699	

* A 2% COLA increase was built into the FY 2022/23 conditionally approved budget. Some savings have been recognized since the adoption of the biennial budget.

Recommendation

- The Finance and Administration Committee recommends that the Board of Directors approve a cost-of-living adjustment of a 5.5% increase for FY 2022/23 for all employees except the General Manager
- Continue to look at the CPI and any other requested information that will assist in the decision-making process, including ECI for future wage adjustments

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ITEM NO.
6.5

RESOLUTION NO. _____

RESOLUTION OF THE BOARD OF DIRECTORS OF THE SANTA CLARITA VALLEY WATER AGENCY AUTHORIZING THE TIME CHANGE OF THE REGULAR SANTA CLARITA VALLEY WATER AGENCY REGULAR BOARD MEETINGS

WHEREAS, the Santa Clarita Valley Water Agency's regular Board meetings are scheduled to meet at 6:30 PM on the first and third Tuesday of every month at the Rio Vista Water Treatment Plan in the Boardroom; and

WHEREAS, the Santa Clarita Valley Water Agency Board of Directors and staff would benefit from moving the time of the regular Board meetings from 6:30 PM to 6:00 PM.

NOW, THEREFORE, BE IT RESOLVED, that the Board of Directors of the Santa Clarita Valley Water Agency does authorize changing the time of its regular Board meetings from 6:30 PM to 6:00 PM effective April 19, 2022.

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ITEM NO.
8.1

BOARD MEMORANDUM

DATE: March 4, 2022

TO: Board of Directors

FROM: Courtney Mael, P.E., Chief Engineer
Keith Abercrombie, Chief Operating Officer

SUBJECT: March 3, 2022 Engineering and Operations Committee Meeting Report

---

The Engineering and Operations Committee met at 5:30 PM on Thursday, March 3, 2022 via teleconference. In attendance were Committee Chair William Cooper and Directors Jeff Ford, Gary Martin, Piotr Orzechowski and Lynne Plambeck. Staff members present were Assistant General Manager Steve Cole; Chief Engineer Courtney Mael; Chief Operating Officer Keith Abercrombie; Director of Operations and Maintenance Mike Alvord; Engineer Robert Banuelos; Executive Assistants Elizabeth Adler and Leticia Quintero; Fleet & Warehousing Supervisor Jesus Ramirez and additional SCV Water Agency staff. Four members of the public were present on the call. A copy of the agenda is attached.

Item 1: Pledge of Allegiance – Director Orzechowski led the Committee in the Pledge of Allegiance.

Item 2: Public Comments – There was public comment.

Item 3: Fleet Regulatory Update – Jesus Ramirez presented to the Committee the upcoming fleet regulatory updates that will impact the Agency. The Committee and staff discussed in great length the proposed plan for how the Agency will address the regulations and the financial impact to the Agency.

Item 4: Recommend Approval of a Resolution for a Construction Contract to Zim Industries, Inc., a Purchase Order to Richard C. Slade & Associates LLC for Inspection and Engineering Services during Construction and a Purchase Order to Black & Veatch Corporation for Construction Management Services for the Saugus #3 and #4 Wells Construction (Replacement Wells) Project – The Committee and staff discussed the project and the circumstances surrounding the need to reissue the bid. The Committee recommended approval of the project with a full presentation at the April 5, 2022 regular Board meeting.

Item 5: Monthly Operations and Production Report – Staff and the Committee reviewed the Operations and Production Report.

Item 6: Capital Improvement Projects Construction Status Report – Staff and the Committee reviewed the Capital Improvement Projects Construction Status Report.

Item 7: Committee Planning Calendar – Staff and the Committee reviewed the FY 2021/22 Committee Planning Calendar.

Item 8: General Report on Treatment, Distribution, Operations and Maintenance Services Section Activities – Keith Abercrombie shared with the Committee the results of a recent OSHA visit and how staff addressed the violations. In addition, Keith detailed the various types of valves and a map of the pressure regulating stations within the SCV Water service area.

Item 9: General Report on Engineering Services Section Activities – Courtney Mael updated the Committee on the Agency's "Standards & Specifications" handbook that will be presented to the Committee in the near future. Courtney also shared with the Committee various projects throughout the Agency that are nearing completion and that the Agency has issued a Request for Proposal for an Agency Master Plan.

Item 10: Adjournment – The meeting adjourned at 7:18 PM.

CM/KA

Attachment

M65

Date: February 23, 2022

To: **Engineering and Operations Committee**
William Cooper, Chair
Jeff Ford
Gary Martin
Piotr Orzechowski
Lynne Plambeck

From: Courtney Mael, Chief Engineer CM
Keith Abercrombie, Chief Operating Officer KA

The **Engineering and Operations Committee** is scheduled to meet via teleconference on **Thursday, March 3, 2022** at **5:30 PM,** call-in information is listed below.

TELECONFERENCE ONLY
NO PHYSICAL LOCATION FOR MEETING

TELECONFERENCING NOTICE

Pursuant to the provisions of AB 361 this meeting is being held remotely. The SCV Water Board will continue to hold remote Board and Committee meetings due to the continuing State of Emergency for COVID-19 and state and local official's continuance to impose or recommend measures to promote social distancing. Any Director may call into the Agency Committee meeting using the **Agency's Call-In Number 1-(833)-568-8864, Webinar ID: 161 599 8243 or Zoom Webinar by clicking on the link https://scvwa.zoomgov.com/j/1615998243** without otherwise complying with the Brown Act's teleconferencing requirements.

The public may not attend the meeting in person. Any member of the public may listen to the meeting or make comments to the Committee using the call-in number or Zoom Webinar link above. Please see the notice below if you have a disability and require an accommodation in order to participate in the meeting.

If the State of Emergency for COVID-19 expires prior to this meeting and after the posting of this Agenda, this meeting will be held in person at the Santa Clarita Valley Water Agency, 27234 Bouquet Canyon Road, Santa Clarita, CA 91350 in the Board and Training Rooms.

We request that the public submit any comments in writing if practicable, which can be sent to **eadler@scvwa.org** or mailed to **Elizabeth Adler, Executive Assistant**, Santa Clarita Valley Water Agency, 26515 Summit Circle, Santa Clarita, CA 91350. All written comments received before 4:00 PM the day of the meeting will be distributed to the Committee members and posted on the Santa Clarita Valley Water Agency website prior to the start of the meeting. Anything received after 4:00 PM the day of the meeting will be made available at the meeting and will be posted on the SCV Water website the following day.

MEETING AGENDA

ITEM			PAGE
1.		**Pledge of Allegiance**	
2.		**Public Comments** – Members of the public may comment as to items within the subject matter jurisdiction of the Agency that are not on the Agenda at this time. Members of the public wishing to comment on items covered in this Agenda may do so at the time each item is considered. (Comments may, at the discretion of the Committee Chair, be limited to three minutes for each speaker.)	
3.	*	Fleet Regulatory Update	1
4.	*	Recommend Approval of a Resolution for a Construction Contract to Zim Industries, Inc., a Purchase Order to Richard C. Slade & Associates LLC for Inspection and Engineering Services during Construction and a Purchase Order to Black & Veatch Corporation for Construction Management Services for the Saugus #3 and #4 Wells Construction (Replacement Wells) Project	15
5.	*	Monthly Operations and Production Report	57
6.	*	Capital Improvement Projects Construction Status Report	163
7.	*	Committee Planning Calendar	165
8.	*	General Report on Treatment, Distribution, Operations and Maintenance Services Section Activities	169
9.		General Report on Engineering Services Section Activities	
10.		Adjournment	

* Indicates Attachment
♦ Indicates Handout

NOTICES:

Any person may make a request for a disability-related modification or accommodation needed for that person to be able to participate in the public meeting by telephoning Elizabeth Adler, Executive Assistant, at (661) 297-1600, or in writing to Santa Clarita Valley Water Agency at 26515 Summit Circle, Santa Clarita, CA 91350. Requests must specify the nature of the disability and the type of accommodation requested. A telephone number or other contact information should be included so that Agency staff may discuss appropriate arrangements. Persons requesting a disability-related accommodation should make the request with adequate time before the meeting for the Agency to provide the requested accommodation.

Pursuant to Government Code Section 54957.5, non-exempt public records that relate to open session agenda items and are distributed to a majority of the Committee less than seventy-two (72) hours prior to the meeting will be available for public inspection at the Santa Clarita Valley Water Agency, located at 27234 Bouquet Canyon Road, Santa Clarita, CA 91350, during regular business hours. When practical, these public records will also be made available on the Agency's Internet Website, accessible at http://www.yourscvwater.com.

Posted on February 24, 2022.

M65

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ITEM NO. 8.2

BOARD MEMORANDUM

DATE: March 9, 2022

TO: Board of Directors

FROM: Steve Cole
Assistant General Manager

SUBJECT: March 9, 2022 Water Resources and Watershed Committee Meeting Report

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The Water Resources and Watershed Committee met at 5:30 PM on Wednesday, March 9, 2022 via teleconference. In attendance were Committee Chair Jeff Ford, Directors B. J. Atkins, Ed Colley, William Cooper, and Jerry Gladbach. Staff members present were Administrative Technician Terri Bell, Assistant General Manager Steve Cole, Sustainability Manager Matt Dickens, Water Resources Planner Sarah Fleury, Management Analyst II Cheryl Fowler, Water Conservation Specialist I Julia Grothe, Board Secretary April Jacobs, Executive Assistant Eunie Kang, Interim Director of Water Resources Dirk Marks, Data Scientist Najwa Pitois, General Manager Matt Stone, Water Resources Planner Rick Vasilopulos, and Principal Water Resources Planner Rick Viergutz. Consultants Sal Contreras (ECG), Chris Horton (Pacific Coast Landscape Design) and members of the public were also present. A copy of the Agenda is attached.

Item 2: Public Comment – There was public comment on Item No. 3.

Item 3: Recommend Adoption of a Resolution Approving the SB 610 Water Supply Assessment for the Castaic Mountainview Apartment Project – Staff gave a presentation on the Water Supply Assessment for the Castaic Mountainview Apartment Project. The Committee clarified that SCV Water is not a land planning agency and does not approve development, rather the Agency is required to assess availability of water for current and future customers of SCV Water. The Committee requested that staff provide the Board with an overview of the Agency's legal obligation to provide water for new development. Recommended actions for this item are included in a separate report being submitted at the April 5, 2022 regular Board meeting. Staff's presentation is available at: https://yourscvwater.com/wp-content/uploads/2022/03/Item-3-WRW-030922-PowerPoint-Castaic-Mountainview-Apartment-Project.pdf

Item 4: Recommend Adoption of a Resolution Approving the SB 610 Water Supply Assessment for the Lyons Canyon Development – Staff gave an abbreviated presentation on the Water Supply Assessment for the Lyons Canyon Development. Staff provided information on the Agency's responsibility to provide water for new/future development and how those developments pay for water supply development through Facility Capacity Fees. Recommended actions for this item are included in a separate report being submitted at the April 5, 2022 regular Board meeting. Staff's presentation is available at: https://yourscvwater.com/wp-content/uploads/2022/03/Item-4-WRW-030922-PowerPoint-Lyons-Canyon-Development.pdf

Item 5: Water Resources Director's Report

5.1 Status of Water Supply and Banking Programs – Staff updated the Committee on the Status of Water Supply and Banking Programs including discussion on the 2022 precipitation status and outlook, the likelihood of a reduction in the SWP allocation and its ramifications on Agency's 2022 Operating Plan, the Agency's Dry Year Storage and Banking and Exchange Program balances. Staff's presentation is available at: https://yourscvwater.com/wp-content/uploads/2022/03/Item-5.1-WRW-030922-PowerPoint-Status-of-Water-Supply-and-Water-Banking-Programs.pdf

5.2 Status of Sustainable Groundwater Management Act Implementation – Staff provided a presentation on the Status of Sustainable Groundwater Management Act Implementation. Staff noted that the Groundwater Sustainability Plan (GSP) was submitted to the Department of Water Resources, discussed future submission of the GSP's First Annual Report, and discussed the schedule for GSP Implementation. Staff's presentation is available at: https://yourscvwater.com/wp-content/uploads/2022/03/Item-5.2-WRW-030922-PowerPoint-Status-of-SGMA-Implementation.pdf

5.3 Staff Activities – Staff discussed a recent coordination meeting regarding Bouquet Canyon Creek, including a coordinated effort between Los Angeles County and the Department of Fish and Wildlife to submit a grant application for project funding through the Wildlife Conservation Board, and stakeholder agency support for a SB 155 Statutory CEQA exemption. The Committee requested monthly updates on the Bouquet Canyon Creek restoration project. Staff also discussed progress on the Water Resiliency Initiative, noting that a comprehensive update will be provided in April 2022.

Item 6: Sustainability Manager's Report

6.1 Status of Drought Response and Performance – Staff provided a comprehensive update on the Status of Drought Response and Performance, describing state and local regulatory status, current customer participation in conservation programs, outreach related to drought, and SCV Water customers' response to voluntary drought conservation targets. The Committee discussed implementing Stage 2 of the Water Shortage Contingency Plan and resolved to revisit the discussion after completing additional customer outreach regarding the status of the drought and surveying other agencies' drought response. Staff's presentation is available at: https://yourscvwater.com/wp-content/uploads/2022/03/Item-6.1-WRW-030922-PowerPoint-Status-of-Drought-Response-and-Performance.pdf

6.2 Water Conservation Garden and Education Experience - Design Update – Staff presented a design update on the Water Conservation Garden and Education Experience. The update included a historical perspective on the Agency's Water Conservation Garden and the iterative design process, then presented the new design, including estimated costs for construction, required operations and maintenance, and project schedule. A Committee member expressed concern about the lack of public access to the site and the inclusion of bee hotels in a space used by children. Several Committee members requested that grant funds be sought. Staff's presentation is available at: https://yourscvwater.com/wp-content/uploads/2022/03/Item-6.2-WRW-030922-PowerPoint-Water-Conservation-

Garden-and-Education-Experience.pdf

Item 7: Committee Planning Calendar – The Committee considered the Planning Calendar.

Item 8: Adjournment – The meeting adjourned at 8:21 PM.

M65

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Date: March 2, 2022

To: **Water Resources and Watershed Committee**
Jeff Ford, Chair
B.J. Atkins
Edward Colley
William Cooper
E.G. "Jerry" Gladbach

From: Steve Cole, Assistant General Manager

The **Water Resources and Watershed Committee** is scheduled to meet via teleconference on **March 9, 2022** at **5:30 PM,** call-in information is listed below.

TELECONFERENCE ONLY
NO PHYSICAL LOCATION FOR MEETING

TELECONFERENCING NOTICE

Pursuant to the provisions of AB 361 this meeting is being held remotely. The SCV Water Board will continue to hold remote Board and Committee meetings due to the continuing State of Emergency for COVID-19 and state and local official's continuance to impose or recommend measures to promote social distancing. Any Director may call into the Agency Committee meeting using the **Agency's Call-In Number 1-(833)-568-8864 Webinar ID: 160 621 0488 or Zoom Webinar by clicking on the link https://scvwa.zoomgov.com/j/1606210488** without otherwise complying with the Brown Act's teleconferencing requirements.

The public may not attend the meeting in person. Any member of the public may listen to the meeting or make comments to the Committee using the call-in number or Zoom Webinar link above. Please see the notice below if you have a disability and require an accommodation in order to participate in the meeting.

If the State of Emergency for COVID-19 expires prior to this meeting and after the posting of this Agenda, this meeting will be held in person at the Santa Clarita Valley Water Agency, 27234 Bouquet Canyon Road, Santa Clarita, CA 91350 in the Board and Training Room.

We request that the public submit any comments in writing if practicable, which can be sent to cfowler@scvwa.org or mailed to Cheryl Fowler, Management Analyst II, Santa Clarita Valley Water Agency, 26501 Summit Circle, Santa Clarita, CA 91350. All written comments received before 4:00 PM the day of the meeting will be distributed to the Committee members and posted on the Santa Clarita Valley Water Agency website prior to the start of the meeting. Anything received after 4:00 PM the day of the meeting will be made available at the meeting and will be posted on the SCV Water website the following day.

MEETING AGENDA

ITEM			PAGE
1.		**PLEDGE OF ALLEGIANCE**	
2.		**PUBLIC COMMENTS** – Members of the public may comment as to items within the subject matter jurisdiction of the Agency that are not on the Agenda at this time. Members of the public wishing to comment on items covered in this Agenda may do so at the time each item is considered. (Comments may, at the discretion of the Committee Chair, be limited to three minutes for each speaker.)	
3.	*	Recommend Adoption of a Resolution Approving the SB 610 Water Supply Assessment for the Castaic Mountainview Apartment Project	5
4.	*	Recommend Adoption of a Resolution Approving the SB 610 Water Supply Assessment for the Lyons Canyon Development	171
5.		Water Resources Director's Report	
		5.1 Status of Water Supply and Water Banking Programs	
		5.2 Status of Sustainable Groundwater Management Act Implementation	
		5.3 Staff Activities	
6.		Sustainability Manager's Report	
		6.1 Status of Drought Response and Performance	
		6.2 Water Conservation Garden and Education Experience - Design Update	
7.	*	Committee Planning Calendar	337
8.		Adjournment	

* Indicates Attachment
♦ Indicates Handout

NOTICES:

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Pursuant to Government Code Section 54957.5, non-exempt public records that relate to open session agenda items and are distributed to a majority of the Committee less than seventy-two (72) hours prior to the meeting will be available for public inspection at the Santa Clarita Valley Water Agency, located at 27234 Bouquet Canyon Road, Santa Clarita, CA 91350, during regular business hours. When practical, these public records will also be made available on the Agency's Internet Website, accessible at http://www.yourscvwater.com.

Posted on March 2, 2022.

MGS

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ITEM NO. 8.3

BOARD MEMORANDUM

DATE: March 18, 2022

TO: Board of Directors

FROM: Steve Cole
Assistant General Manager

SUBJECT: March 17, 2022 Public Outreach and Legislation Committee Meeting Report

---

The Public Outreach and Legislation Committee met at 5:30 PM on Thursday, March 17, 2022 via teleconference. In attendance were Committee Chair Jerry Gladbach; Directors Kathye Armitage, B. J. Atkins, R. J. Kelly and Lynne Plambeck and; General Manager Matt Stone, Assistant General Manager Steve Cole, Communications Manager Kathie Martin, Executive Assistance Eunie Kang, Administrative Technician Terri Bell, Public Affairs Specialist II Laura Gallegos, Event Coordinator Casey Gordon; Consultant Anthony Molina from California Advocates, Consultant Geoff Bowman from Van Scoyoc Associate, Consultant Hunt Braly from Poole Shaffery, And members of the public were present. A copy of the agenda is attached.

Item 2: Public Comments – There was no public comment.

Item 3: Legislative Consultant Reports – Staff and the Committee reviewed the federal legislative report by Geoff Bowman, state legislative report by Anthony Molina and local legislative report by Hunt Braly.

Item 4: Discussion of Water Academy Program – Staff and the Committee reviewed the Water Academy program. The Committee provided recommendations to the development of a new program, including the intended purpose, audience, and structure. Staff will present updates to the Committee at a future meeting.

Item 5: Communications Manager Activities – Staff and the Committee reviewed the following information: Legislative Tracking, Grant Status Report, Sponsorship Tracking FY 2021/22 and the Public Outreach and Legislation Committee Planning Calendar FY 2021/22.

Item 6: Adjournment – The meeting adjourned at 7:05 PM.

Attachment

MGS

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Date: March 10, 2022

To: **Public Outreach and Legislation Committee**
Jerry Gladbach, Chair
Kathye Armitage
B.J. Atkins
R.J. Kelly
Lynne Plambeck

From: Steve Cole, Assistant General Manager

The **Public Outreach and Legislation Committee** is scheduled to meet via teleconference on **Thursday, March 17, 2022** at **5:30 PM,** dial information is listed below.

TELECONFERENCE ONLY
NO PHYSICAL LOCATION FOR MEETING

TELECONFERENCING NOTICE

Pursuant to the provisions of AB 361 this meeting is being held remotely. The SCV Water Board will continue to hold remote Board and Committee meetings due to the continuing State of Emergency for COVID-19 and state and local official's continuance to impose or recommend measures to promote social distancing. Any Director may call into the Agency Committee meeting using the Agency's **Call-In Number 1-833-568-8864, Webinar ID: 160 799 2446 or Zoom Webinar by clicking on the link** https://scvwa.zoomgov.com/j/1607992446 without otherwise complying with the Brown Act's teleconferencing requirements.

The public may not attend the meeting in person. Any member of the public may listen to the meeting or make comments to the Committee using the call-in number or Zoom Webinar link above. Please see the notice below if you have a disability and require an accommodation in order to participate in the meeting.

If the State of Emergency for COVID-19 expires prior to this meeting and after the posting of this Agenda, this meeting will be held in person at the Santa Clarita Valley Water Agency, 27234 Bouquet Canyon Road, Santa Clarita, CA 91350 in the Board and Training Rooms.

We request that the public submit any comments in writing if practicable, which can be sent to **ekang@scvwa.org** or mailed to **Eunie Kang, Executive Assistant**, Santa Clarita Valley Water Agency, 27234 Bouquet Canyon Santa Clarita, CA 91350. All written comments received before 4:00 PM the day of the meeting will be distributed to the Committee members and posted on the Santa Clarita Valley Water Agency website prior to the start of the meeting. Anything received after 4:00 PM the day of the meeting will be made available at the meeting and will be posted on the SCV Water website the following day.

MEETING AGENDA

* Indicates Attachment
♦ Indicates Handout

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Posted on March 10, 2022

ITEM NO.
8.4

BOARD MEMORANDUM

DATE: March 22, 2022

TO: Board of Directors

FROM: Eric Campbell
Chief Financial and Administrative Officer

SUBJECT: March 21, 2022 Finance and Administration Committee Meeting Report

---

The Finance and Administration Committee met at 6:00 PM on Monday, March 21, 2022 via teleconference. In attendance were Chair R. J. Kelly, Directors Beth Braunstein, Ed Colley, Jerry Gladbach and Gary R. Martin. Staff members on the call included Controller Amy Aguer, Accounting Technician II Kyle Arnold, Senior Engineer Shadi Bader, Administrative Technician Terri Bell, Assistant General Manager Steve Cole, Financial Analyst Darine Conner, Management Analyst II Erika Dill, Sr. Management Analyst Kim Grass, GIS Manager Jose Huerta, Chief Engineer Courtney Mael, Human Resources Manager Ari Mantis, Director of Finance and Administration Rochelle Patterson, Director of Tech Services Cris Perez, Executive Assistant Leticia Quintero, General Manager Matt Stone, Customer Service Manager Kathleen Willson, Principal Engineer Jason Yim and myself. Members of the public were present. A copy of the agenda is attached.

Item 1: Pledge of Allegiance

Item 2: Public Comment – There was no public comment.

Item 3: Review Budget Calendar – Staff and the Committee reviewed the FY 2022/23 Budget Calendar.

Item 4: Recommend Approval of a Proposed Employee Salary Adjustment for FY 2022/23 – Staff presented Consumer Price Index (CPI) data for 2021 and estimated fiscal impacts for a range of COLA options. The CPI trended higher in the second half of 2021, ending up 6.9% year-over-year in December. Based on these factors and the budget impacts, staff proposed a 4.5% employee salary COLA adjustment for FY 2022/23. An alternative metric, the Employer Cost Index (ECI) complied by the U.S. Bureau of Labor Statics, was also requested by a committee member and staff provided this information for discussion. The ECI metric indicates a year-over-year change of 5.5% in December 2021. After discussion and consideration of both metrics and budget impact information, the Committee unanimously recommended a 5.5% COLA for 2022/23. This recommendation will be presented for consideration at the April 5, 2022 regular Board meeting. Direction was given to staff to present both the CPI and ECI information in future salary adjustment discussions.

Item 5: Recommend Receiving and Filing of FY 2021/22 Second Quarter Financial Report (October – December 2021) – Staff and the Committee discussed this item and unanimously agreed that it placed on the consent calendar for the April 5, 2022 regular Board meeting.

Item 6: Recommend Receiving and Filing of December 2021 Financial Report – Staff and the Committee discussed this item and unanimously agreed that it be placed on the consent calendar for April 5, 2022 regular Board meeting.

Item 7: Committee Planning Calendar – Staff and the Committee reviewed the FY 2021/22 Committee Planning Calendar, asked for clarification of the Professional Services Contract item, and confirmed that the Ratepayer's Assistance Program will be discussed at the April 5, 2022 regular Board meeting.

Item 8: General Report on Finance and Administration Activities – Staff briefly discussed that the Finance and Administration (F&A) department is currently engaged in its annual Budget review and development cycle. It was also requested by a Committee member, and unanimously agreed upon, that future F&A Committee meetings will now begin at 5:30 PM.

Item 9: Adjournment – The meeting was adjourned at 7:22 PM.

EC/ed

Attachment

M65

Date: March 14, 2022

To: **Finance and Administration Committee**
R.J. Kelly, Chair
Beth Braunstein
Ed Colley
Jerry Gladbach
Gary R. Martin

From: Eric Campbell
Chief Financial and Administrative Officer

The **Finance and Administration Committee** is scheduled to meet via teleconference on **Monday, March 21, 2022** at **6:00 PM**; dial-in information is listed below.

TELECONFERENCE ONLY
NO PHYSICAL LOCATION FOR MEETING

TELECONFERENCING NOTICE

Pursuant to the provisions of AB 361 this meeting is being held remotely. The SCV Water Board will continue to hold remote Board and Committee meetings due to the continuing State of Emergency for COVID-19 and state and local official's continuance to impose or recommend measures to promote social distancing. Any Director may call into the Agency Committee meeting using the **Agency's Call-In Number (1-833-568-8864), Webinar ID 160 965 8755 or Zoom Webinar by clicking on the link https://scvwa.zoomgov.com/j/1609658755** without otherwise complying with the Brown Act's teleconferencing requirements.

The public may not attend the meeting in person. Any member of the public may listen to the meeting or make comments to the Committee using the call-in number or Zoom Webinar link above. Please see the notice below if you have a disability and require an accommodation in order to participate in the meeting.

If the State of Emergency for COVID-19 expires prior to this meeting and after the posting of this Agenda, this meeting will be held in person at the Santa Clarita Valley Water Agency, 27234 Bouquet Canyon Road, Santa Clarita, CA 91350 in the Board and Training Rooms.

We request that the public submit any comments in writing if practicable, which can be sent to **edill@scvwa.org** or mailed to **Erika Dill, Management Analyst II**, SCV Water, 27234 Bouquet Canyon Road, Santa Clarita, CA 91350. All written comments received before 4:00 PM the day of the meeting will be distributed to the Committee members and posted on the SCV Water website prior to the meeting. Anything received after 4:00 PM the day of the meeting will be posted on the SCV Water website the following day.

MEETING AGENDA

* Indicates attachments
♦ To be distributed

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Posted on March 15, 2022.

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ITEM NO.
8.5

BOARD MEMORANDUM

DATE: March 24, 2022

TO: Board of Directors

FROM: Steve Cole
Assistant General Manager

SUBJECT: March 24, 2022 Special Public Outreach and Legislation Committee Meeting Report

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The Public Outreach and Legislation Committee met at 2:30 PM on Thursday, March 24, 2022 via teleconference. In attendance were Committee Chair Jerry Gladbach; Directors Kathye Armitage, B. J. Atkins, R. J. Kelly and Lynne Plambeck and; General Manager Matt Stone, Assistant General Manager Steve Cole, Communications Manager Kathie Martin, Executive Assistance Eunie Kang, Administrative Technician Terri Bell; Consultant Dennis Albiani and Anthony Molina from California Advocates, Consultant Geoff Bowman from Van Scoyoc Associate, Consultant Hunt Braly from Poole Shaffery, And members of the public were present. A copy of the agenda is attached.

Item 2: Public Comments – There was no public comment.

Item 3: California Legislative Bills Workshop – Staff and California Advocates team discussed the Agency's legislative platform, the Advocacy program goals and process, and reviewed the "top 20" selected legislative bills. The Committee discussed and provided recommendations to the pending legislative bills. And legislative bills updates will be part of the regular monthly POL committee discussion item.

There was public comment on item 3.

Item 4: Adjournment – The meeting adjourned at 4:30 PM.

Attachment

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Date: March 17, 2022

To: **Public Outreach and Legislation Committee**
Jerry Gladbach, Chair
Kathye Armitage
B.J. Atkins
R.J. Kelly
Lynne Plambeck

From: Steve Cole, Assistant General Manager

A special meeting of the **Public Outreach and Legislation Committee** is scheduled to meet via teleconference on **Thursday, March 24, 2022** at **2:30 PM,** dial information is listed below.

TELECONFERENCE ONLY
NO PHYSICAL LOCATION FOR MEETING

TELECONFERENCING NOTICE

Pursuant to the provisions of AB 361 this meeting is being held remotely. The SCV Water Board will continue to hold remote Board and Committee meetings due to the continuing State of Emergency for COVID-19 and state and local official's continuance to impose or recommend measures to promote social distancing. Any Director may call into the Agency Committee meeting using the Agency's **Call-In Number 1-833-568-8864, Webinar ID: 160 231 7836 or Zoom Webinar by clicking on the link** https://scvwa.zoomgov.com/j/1602317836 without otherwise complying with the Brown Act's teleconferencing requirements.

The public may not attend the meeting in person. Any member of the public may listen to the meeting or make comments to the Committee using the call-in number or Zoom Webinar link above. Please see the notice below if you have a disability and require an accommodation in order to participate in the meeting.

If the State of Emergency for COVID-19 expires prior to this meeting and after the posting of this Agenda, this meeting will be held in person at the Santa Clarita Valley Water Agency, 27234 Bouquet Canyon Road, Santa Clarita, CA 91350 in the Board and Training Rooms.

We request that the public submit any comments in writing if practicable, which can be sent to **ekang@scvwa.org** or mailed to **Eunie Kang, Executive Assistant**, Santa Clarita Valley Water Agency, 27234 Bouquet Canyon Santa Clarita, CA 91350. All written comments received before 12:00 PM the day of the meeting will be distributed to the Committee members and posted on the Santa Clarita Valley Water Agency website prior to the start of the meeting. Anything received after 12:00 PM the day of the meeting will be made available at the meeting and will be posted on the SCV Water website the following day.

SPECIAL MEETING AGENDA

ITEM			PAGE
1.		**PLEDGE OF ALLEGIANCE**	
2.		**PUBLIC COMMENTS** – Members of the public may comment as to items within the subject matter jurisdiction of the Agency that are not on the Agenda at this time. Members of the public wishing to comment on items covered in this Agenda may do so at the time each item is considered. (Comments may, at the discretion of the Committee Chair, be limited to three minutes for each speaker.)	
3.	*	California Legislative Bill Workshop	1
4.		Adjournment	

* Indicates Attachment
♦ Indicates Handout

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Posted on March 18, 2022

ITEM NO. 9.1

BOARD MEMORANDUM

DATE: March 21, 2022

TO: Board of Directors

FROM: Courtney Mael
Chief Engineer

SUBJECT: Engineering Services Section Report

CAPITAL IMPROVEMENT PROJECTS (CIP) CONSTRUCTION

Project	Contractor	Contract Amount	Scheduled Completion	Notes
ESFP Standby Generator	NoHo Constructors, Inc.	$463,000	4/01/2022	Construction is 70% complete.
Vista Canyon Recycled Water Main Extension (Phase 2B)	Ferreira Construction Co., Inc.	$2,584,110	5/15/2022	Construction is 80% complete. Contractor is fabricating pipe hangers and plans to start constructing bridge crossing in April 2022.
Vista Canyon Recycled Water Tank (Phase 2B)	Pacific Tank and Construction, Inc.	$3,906,870	5/15/2022	Construction is 80% complete.
Commerce Center Pipeline	FivePoint/Blois Construction, Inc.	$891,139.70	5/01/2022	Construction is 99% complete.
Magic Mountain Pipeline Phase 4	FivePoint/Toro Enterprises	$3,369,716.38	6/01/2022	Construction is 92% complete.
Magic Mountain Pipeline Phase 5	FivePoint/Toro Enterprises	$3,269,978.85	6/01/2022	Construction is 90% complete.

Magic Mountain Pipeline Phase 6A	FivePoint/Toro Enterprises	$7,168,844.85	6/01/2022	Construction is 65% complete.
Magic Mountain Pipeline Phase 6B	FivePoint/ Leatherwood Construction	$4,568,687.07	6/01/2022	Construction is 85% complete.
Valley Center Well Material Purchase	Evoqua Water Technologies, LLC	$512,802	6/01/2022	Material delivery complete. Start-up services on-hold pending site construction work to be completed.
Valley Center Well Site Construction	GSE Construction Company, Inc.	$2,996,800	6/01/2022	Construction is 66% complete.
Santa Clara & Honby Wells Material Purchase	Aqueous Vets	$814,050	11/03/2022	Material submittals are in progress.
Pitchess Pipeline Modifications	LA County Metropolitan Transportation Authority	$159,000	4/01/2024	Pipeline work is scheduled to occur in February 2024.

CAPITAL IMPROVEMENT PROJECTS (CIP) PLANNING AND DESIGN

1. Castaic Conduit Bypass Pipeline – Design is 90% complete. Staff is in the process of acquiring a pipeline easement from the City of Santa Clarita and finalizing design for the Santa Clara River crossing portion of the Project.

2. ESFP Two 5 MG Tank Improvements – Final design is in progress.

3. ESFP Washwater Return and Sludge Collection System – The project is being advertised for construction bids. Eight construction bids were received on February 23, 2022. Bids will be presented at the April 5, 2022 E&O Committee meeting and the May 3, 2022 Board meeting.

4. E Wells (E-14, E-15, E-16, and E-17) PFAS Groundwater Treatment Improvements – Planning is in progress.

5. Honby Parallel Pipeline Phase 2 – The Board of Directors adopted the Addendum to the EIR on June 1, 2021. Design is in progress. Staff is securing permits from the California Department of Fish and Wildlife and the Los Angeles Regional Water Quality Control Board.

6. Magic Mountain Reservoir and Pump Station – Staff is preparing the California Environmental Quality Act (CEQA) documents. Staff is finalizing the preliminary plans for the pump station.

7. Newhall Tanks 1 and 1A Stairs and Catwalks Improvements – The CEQA Notice of Exemption form has been submitted to the County. Final design is in progress.

8. Recycled Water Central Park (Phase 2A) – The project's Mitigated Negative Declaration (MND) and Mitigation Monitoring and Reporting Program (MMRP) was adopted by the CLWA Board of Directors on December 13, 2017. Design is on-hold pending resolution of recycled water permitting and regulatory issues.

9. Recycled Water Fill Station – The CEQA Notice of Exemption form was submitted to the County. Final design is in progress.

10. Recycled Water South End (Phase 2C) – Newhall County Water District, as the CEQA Lead Agency, certified the recirculated MND on August 10, 2017. The project MND/IS was adopted by the CLWA Board of Directors on August 23, 2017. Grant application for a Proposition 1 Grant was submitted the week of December 2, 2019. The Board of Directors adopted the Addendum to the MND on June 1, 2021 and authorized additional final design services on August 3, 2021. Final design is in progress.

11. Replacement Wells (Saugus Wells 3 and 4: Site and Equipment Design) – The Board of Directors authorized final design services on August 4, 2020 and final design is in progress.

12. Replacement Wells (Saugus Wells 3 and 4: Well Construction) – The well drilling construction was advertised for construction bids and one bid was submitted. The construction award recommendation was approved at the March 3, 2022 Engineering & Operations Committee meeting. Consideration for approval by Board of Directors is scheduled for April 5, 2022, Board meeting.

13. RVWTP Diesel Underground Storage Tank (UST) Replacement – Final design is in progress.

14. Sierra Highway Bridge Expansion Water Pipelines Protection – Final design is in progress. The City of Santa Clarita plans to advertise the SCV Water Pipelines Protection work under a separate bid item for the Sierra Highway Bridge Widening Project.

15. Santa Clara and Honby Wells PFAS Groundwater Treatment Improvements Site Improvements – The site improvements are being advertised on PlanetBids for construction bids. Bid opening is on May 18, 2022.

16. Saugus Formation Dry Year Reliability Wells (Saugus Wells 5 and 6) – Staff is preparing a Planning and Feasibility Study Request for Proposal document.

17. S Wells PFAS Groundwater Treatment and Disinfection Facility – Preliminary Design and landscape concept has been completed. Environmental Consultant retained to prepare CEQA documents. Discussions with the City of Santa Clarita are ongoing related to purchase of property. RFP for public engagement distributed to consultants.

18. T7, U4, and U6 Wells PFAS Groundwater Treatment Improvements, New RVIPS Disinfection Facility, and Saugus 1 and 2 VOC Improvements – The Preliminary Design Report has been completed. Biological and Cultural Resources Assessment completed. Received Board of Director's approval to authorize final engineering contract with Hazen and Sawyer.

19. V-9 Turnout Facility – Planning is in progress.

20. Valencia Marketplace Pipeline Replacement – Final design is in progress.

21. Well 201 VOC Treatment Improvements – Final design is in progress.

22. Well 205 Perchlorate Treatment Improvements – Staff is preparing responses to questions and comments raised at the meeting with Woodlands HOA before CEQA documents are released for public comment.

DEVELOPMENT PROJECTS – DESIGN, CONSTRUCTION, AND INSPECTION

Project Developer	Development Size	Infrastructure (Estimated at Build-out)	Schedule	Status
Aidlin Hills (Tract 52796) Lennar	102 Dwelling Units	2 tanks, 1 pump station, ±7670' of potable pipelines, and 9 public fire hydrants.	TBD	Consultants are preparing an updated Water Tech Memo for the project. In-tract Water Pipeline plans in process by developer's design consultant.
Castaic High School Rasmussen	250,000 Square Feet	2 miles of pipelines, 1 tank, and 1 pump station.	Facilities were constructed to meet scheduled school opening in fall 2019.	Construction is complete and pending punch list items. Easement documents are being prepared.
College of the Canyons (COC)	New Parking Structure for Valencia Campus	Relocation of 16" water line (approximately 1,015').	Construction is complete and pipeline is in operation.	Staff are working with COC on preparing easement.
Dockweiler	93 Single Family Units	1,400' of offsite pipeline, 3,600 feet of onsite pipeline.	Construction completed meters to be set by May 2022.	Construction is complete. Closeout and NOC in process.
Landmark Village (Tract 53108) FivePoint	1444 Dwelling Units	3.5 miles of piping pressure reducing station, 2MG Zone IA Tank, and 2 Hwy 126 crossings.	TBD	Design is on hold.

Project Developer	Development Size	Infrastructure (Estimated at Build-out)	Schedule	Status
Mission Village (FivePoint)	4055 Dwelling Units	11.5 miles of new pipeline, 1 pressure reducing station (Telemark (formerly Petersen), 2 booster stations (Telemark (formerly Petersen) potable & recycled). 1 booster station upgrade (Magic Mtn.), and 3 tanks (Telemark (formerly Petersen) potable & recycled tanks and Magic Mtn. Tank No. 2 potable).	Telemark (formerly Petersen) Tanks and Booster Stations design to be complete by June 2023.	Design: To date, a total of 42 potable/recycled distribution pipeline designs have been approved for construction. Telemark (formerly Petersen) potable and recycled water tanks and booster stations are near 75% design completion. Phase 3B water distribution pipeline plan sets are under review. Construction: Retaining wall work on the Magic Mountain Tank No. 2 site is in progress. 1A, 1B, 1C, 1D, and in-tract potable water pipelines construction is completed, and recycled water pipelines construction is at 90% completion. Well 206/207 pipe relocation project in construction. Magic Mountain Booster Station Upgrade is in construction. Notices of Completion are being executed for completed construction projects.
Needham Ranch Trammell Crow Co.	2,550,000 Square Feet Industrial and Commercial	4 miles of pipelines, 1 pump station, 2 tanks, and 2 pressure reducing stations.	Phase 1 construction is substantially complete. Phase 2 contract agreement was signed May 4, 2020. Tank 3 Complete. Tank 3A completion by September 2022. Phase 2 pipeline completion by October 2022.	Phase 2 water pipelines in construction. Tank 7A in construction. Pine Street plans are approved, and DDW waiver approvals received. Temporary bypass water line is complete.

Project Developer	Development Size	Infrastructure (Estimated at Build-out)	Schedule	Status
Sand Canyon Plaza	129 Single Family Units, 451 Multi-Family Units, 140 Bed Senior Living, Commercial	1 tank, 1 pump station, 1,700' of offsite pipeline, and 8,500' of onsite pipeline.	TBD	Offsite pipeline plans are approved. 95% pump station plan review is complete. Final Design Authorization and MND & MMRP adoption was approved by Board of Directors on July 6, 2021. 30% Tank plans review complete.
Sheriff Station City of Santa Clarita	44,300 Square Feet	1 mile of pipeline.	Construction of main pipeline was completed in November 2019, with temporary bypass crossing over LADWP aqueduct. The permanent undercrossing will be scheduled for bidding pending LADWP's approval of undercrossing design.	Contract close out for the main pipeline is nearly complete, with final invoice to City in March 2022 Staff plans to discuss alternative approach with LADWP.
Spring Canyon (Tract 48086)	492 Dwelling Units	1 tank, 1 pump station, and 1 pressure reducing valve, Mammoth Lane upgrades and lift station upgrades.	Mammoth Lane upgrades must be complete prior to commencement of development.	Design plans for in-tract pipelines, tanks and pump station were approved and issued in July 2020. Staff is working with developer and consultant to address County standards for sewer lift station upgrades in order to transfer ownership to the City of Santa Clarita.

Project Developer	Development Size	Infrastructure (Estimated at Build-out)	Schedule	Status
Skyline Ranch Pardee (Tract 60922)	1220 Dwelling Units	17 miles of pipelines, 3 pump stations, and 4 tanks.	Phase 1 pipelines, pump station and tanks are online. Phase 2 pipelines, pump stations and tank are to be constructed by Spring 2023.	Staff provided comments on 60% plans for Phase 2 Deane Zone tank and pump station to our design consultant Preparation of 90% plans are in progress.
Tesoro Highlands	696 Single Family Units, 9 Multi-Family Units, 2 acres of Commercial	2 tanks, 1 pump station, 1 pressure reducing station, and 64,000' of pipeline.	Phase 1 Pipeline completion by May 2022. Tesoro 3 Tanks completion by December 2022. Phase 2 Pipeline completion by December 2022.	Phase 1 backbone pipeline construction is 80% complete. Tank 3/3A in construction. Pump station plans are 95% complete. Phase 2 Plans are approved. 90% plans for Phases 3 and 4 pipeline have been reviewed. 60% plans for Phase 5 and 6 have been reviewed. Phase 7 30% plans have been reviewed.
Vista Canyon (Tract 69164) JSB Development	1100 Dwelling Units	5 miles of potable and recycled pipelines.	Construction of Phase 1 Potable and Recycled Water Systems are complete. Construction of Phase 2 systems are complete except final tie-ins.	Developer to submit schedule to construct final tie-ins.

RIGHT OF WAY – CELL SITES

1. Bouquet Tank Site – T- Mobile has constructed fences around sector antennas. Carrier is also working on plans to install an emergency generator at this location. Agency has received deposit of $10,000 and is reviewing plans for emergency generator.

2. Catala Tank Site – DISH Wireless has identified this location as a potential new cell site. Agency has received deposit of $10,000 and is reviewing plans. AT&T has also identified this location as a potential new site. Agency is working with carrier on deposit letter. T-Mobile has identified this existing site for upgrades. Agency has received deposit of $10,000 and is reviewing plans.

3. Commerce Center Tank Site – AT&T has identified this location as a potential new cell site. Agency is working with carrier on a deposit letter.

4. Honby Tank Site – T-Mobile has identified this existing site for upgrades. Agency is working with carrier on deposit letter and review of plans.

5. Live Oaks Tank Site – AT&T has identified this location as a potential new cell site. Agency is working with carrier on a deposit letter.

6. Newhall Tank 2 Site – Agency is waiting on T-Mobile carrier plans to relocate decommissioned Sprint equipment off the tank due to T-Mobile's acquisition of Sprint. Agency is waiting on carrier plans from AT&T and Verizon to install emergency generators.

7. Princess Tank Site – Agency previously issued a breach of contract to Crown Castle (site manager) and AT&T. BB&K is working with Crown Castle legal team to resolve the issue. Verizon has identified this site for emergency generator installation. Agency is working with carrier on a deposit letter

8. Pinetree 3 Site – T-Mobile has identified this existing site for upgrades. Agency has received deposit of $10,000 and is reviewing site options.

9. Skyblue Tank Site – Verizon has requested an access easement for this site to resolve access issues. Agency is working with carrier on easement agreement.

CAPITAL IMPROVEMENT PROJECTS (CIP) MISCELLANEOUS

- Fire Flow Tests – In February 2022, staff processed 10 fire flow requests.

FACILITY CAPACITY FEES (FCFs) AND CONNECTION FEES

Month	Regional	Distribution	Total
July 2021	$220,561	$2,395	$222,956
August 2021	$910,782	$0	$910,782
September 2021	$100,195	$12,771	$112,966
October 2021	$1,944,990	$47,900	$1,992,890
November 2021	$1,004,416	$0	$1,004,416
December 2021	$357,621	$66,586	424,207
January 2022	$322,024	$25,490	$347,514
February 2022	$236,438	$17,843	$254,281
FY 2021/22 to Date	**$5,097,027**	**$172,985**	**$5,270,012**
FY 2021/22 Budget	**$5,500,000**	**$1,000,000**	**$6,500,000**

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ITEM NO.
9.2

BOARD MEMORANDUM

DATE: March 21, 2022

TO: Board of Directors

FROM: Eric Campbell
Chief Financial and Administrative Officer

SUBJECT: Finance, Administration and Information Technology Section Report

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FINANCE & ADMINISTRATION

Key Accomplishments/Activities:

The Agency adopted new wholesale water rates, effective April 1, 2022. The rates are comprised of a fixed monthly readiness-to-serve charge that is designed to recover the costs of maintaining the necessary capacity to serve Los Angeles County Water Works District 36 (District), up to the full capacity of the two turnouts that connect the District to the Agency. The proposed rates also include a variable charge that is based on the cost of the water supplied by the Agency to the District.

The Agency was awarded the Distinguished Budget Award from GFOA (Government Finance Officers Association) and the Excellence in Budgeting from CSMFO (California Society of Municipal Finance Officers) for its FY 2021/22 and FY 2022/23 Biennial Budget.

Staff continues to work with Emtec and their ClearCare group to complete much-needed reports, as well as complete final process updates and validation.

Staff attended the CSMFO 2022 Conference, which was held in San Diego, CA.

Significant Upcoming Items:

The contract with Aramark Uniform Services is expiring on February 28, 2022, and staff will be working on a Request for Proposal for the uniform rental services.

Ongoing: Staff continues to work with Engineering, Operations, and Water Resources to refine the Project Financial Management module. Steady progress is being made in bringing the Oracle modules and reports up to the appropriate levels.

Ongoing: Staff continues to review and approve Certificates of Insurance, ensuring that the insurance limits conform with the Agency's insurance requirements.

Ongoing: Staff continues to assist with training in Oracle's procurement module with applications such as requisitions, purchase orders, and contract agreements.

CUSTOMER SERVICE

Key Accomplishments/Activities:

Funds in the amount of $651,961 from the California Water and Wastewater Arrearage Program were received and posted to eligible customer accounts. In accordance with Program Guidelines, all recipients were mailed a letter identifying the source and amount of the funding applied to their accounts, remaining past due balance, additional financial assistance resources and provides thirty days to enroll in a payment plan to avoid disconnection for nonpayment of remaining past due balances.

Staff successfully registered with the California Department of Community Services and Development as a participating water system in the Low Income Household Water Assistance (LIHWAP.) This program is overseen by the Department of Health and Human Services and provides funds to assist low-income residential households and water and wastewater bills.

Staff participated in the first of several discussions with SmartWorks, enQuesta's Meter Data Management (MDM) partner. SmartWorks' existing integration with enQuesta's new online customer portal Capricorn, facilitates the collection of usage data from various meter sources and will provide customer access to real-time AMI usage data and that of AMR (Automated Meter Reading) data.

Ongoing: Direct customer outreach for aged receivables continues monthly through in-house phone collections. Customer messaging has been modified to reflect that late fees and disconnections for nonpayment are resuming March 2022, and strongly encourages customers to set up payment plans for past due balances that subject them to disconnection for nonpayment.

Ongoing: Work related to the expansion of the Santa Clarita Division's (SCWD) Advanced Metering Infrastructre (AMI) continues.

Significant Upcoming Items:

Work related to the enQuesta Conversion and Upgrade Project (enCUP) continues. Staff has wrapped-up initial functional testing and begun testing the mobile workorder solution, enQlink and the new online customer portal Capricorn, and its integration with our third party payment provider, Invoice Cloud. Next steps include further refinement of the SCWD's conversion file before the second data cut scheduled for April 5, 2022. Subsequent to that data conversion, staff will begin simulation exercises, whereby all daily, weekly and monthly activites are executed in the current and new system environments to flush out any discrepancies in reporting or configuration.

Staff is preparing for the resumption of late fees and shutoffs. The resumption of these activities is expected to significantly increase call volume and impact Operations and On-Call activities. Customer Care and Field Service are working together to ensure that adequate staffing is available to manage the increased demands.

Staff is scheldued to attend the S&S Product Advisory Committee (PAC) on March 30, 2022. The City of Anaheim is hosting the session.

Staff participated in the kickoff call for the 2022 Water Quality Report. Customer Care will be responsible for the dissemination of the Consumer Confidence Report (CCR) Notice to customers via bill insert or email.

HUMAN RESOURCES

Key Accomplishments/Activities:

Staff is currently working with an executive firm to recruit for the position of Director of Water Resources.

Staff is currently recruiting for the position of Environmental Health, Safety and Emergency Supervisor and Treatment Plant Operator.

Staff is preparing to recruit for the position of Electrical/Instrumentation Technician and Senior Instrumentation Technician.

Staff completed onboarding a Limited Duration Accounting Technician I.

Staff scheduled interviews between the Finance Organizational Study consultant and accounting/finance staff. The interviews to discuss each classification will take place the end of March 2022. The study is anticipated to take about 3-4 months to complete.

Staff completed with Lincoln account representatives the Annual Plan Review for the Agency's 457(b) retirement plan.

Staff is continuing to participate in the weekly Covid-19 Emergency Team meetings with management. Staff manages all the positive Covid-19 cases which have been trending downwards in the recent few months. In addition, staff process all of the Emergency Administration Leave (EAL) hours and policy as approved by the Board as well as the new AB 114 State Bill passed on February 16, 2022.

Staff has achieved recertification of their IPMA-HR Certified Professional (International Public Management Association-Human Resources CP) designation through December 31, 2025. The IPMA-HR is the leading public sector human resource organization in the world and represents the interests of human resource professionals at all levels, and which strives to promote excellence in HR management including timely HR industry news, jobs, policies, resources, education, and professional development opportunities.

Significant Upcoming Items:

Prepare for the Annual Perfomance Evaluation Process.

Establish an Internship Program.

TECHNOLOGY SERVICES

Key Accomplishments/Activities:

The IT team successfully serviced 110 tickets and fielded 20 hotline calls in February 2022.

The IT team has completed configuring and deploying a new multi-factor authentication system.

The GIS team has completed testing a new GIS cloud desktop environment that is now live.

The IT team has completed the installation of audio video equipment inside the Rio Vista Boardroom to support hybrid public meetings.

Significant Upcoming Items:

The IT team will begin the installation and configuration of a vulnerability scanner on the administration network.

The GIS team is working with Water Resources for the deployment of a cloud server environment.

Ongoing: IT team is moving imaging and update server from on-premise to cloud. This would streamline management of remote devices.

Ongoing: GIS will be coordinating cross-departmental drone training. The drone project will support the Agency's GIS data collection efforts.

Ongoing: The IT team is currently assisting Customer Care with the enQuesta Conversion and Upgrade Project.

Ongoing: The IT team is evaluating technology upgrades for the Emergency Operation Center (EOC) at Rockefeller.

BUILDINGS AND GROUNDS

Significant Upcoming Items:

Ongoing: Staff is working with contactor to upgrade camera and operating system on mechanical gate at the Pine location.

Ongoing: Working on project to remove and replace valves and Y-strainers at Rockefeller.

Ongoing: Start investigation process on HVAC controls system for heat actuators at Rockefeller.

EC

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ITEM NO. 9.3

BOARD MEMORANDUM

DATE: March 21, 2022

TO: Board of Directors

FROM: Keith Abercrombie
Chief Operating Officer

SUBJECT: Treatment, Distribution, Operations and Maintenance Section Report

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The Treatment, Distribution, Operations and Maintenance Section (TDOMS) provides reliable and high-quality water through rigorous preventative maintenance programs and timely response to corrective action maintenance. Routine inspections and maintenance of each facility is part of the overarching goal of TDOMS. Below is a discussion on these activities for the month of February 2022.

TREATMENT OPERATIONS AND MAINTENANCE

Monthly corrective and preventative maintenance work orders were completed at the following locations:

- Rio Vista Water Treatment Plant (RVWTP)
- Rio Vista Intake Pump Station (RVIPS)
- Earl Schmidt Filtration Plant (ESFP)
- Earl Schmidt Intake Pump Station (ESIPS)
- Saugus Perchlorate Treatment Facility (SPTF)
- Castaic and Pitchess Pipelines
- Recycled Water Pump Station
- Rio Vista Valve Vault No. 1
- Saugus Well 1
- Sand Canyon Reservoir
- Sand Canyon Pump Station (SCPS)

Preventative and Corrective Maintenance Work Order Summary

Work Orders	February 2022	FYTD 2021/22
Corrective Maintenance	32	238
Preventative Maintenance	56	523
Key Action Items Completed: - Treatment SCADA System – Upgrade Treatment Servers - Annual Plant Maintenance at Rio Vista		

Work in Progress – Treatment

- SCPS – Repair hydraulic actuators on pumps No. 5
- SCPS – Quad-annual breaker testing and maintenance
- Installing new screens on RVWTP Clarifiers
- Installing new drain valves on RVWTP clarifiers
- SPTF – Replacing aqueous ammonia tank
- SPTF – Replacing VFD at Saugus Well 2
- ESFP – Troubleshooting Failure of VFD drive

- ESFP – Installing new automatic gate to limit unauthorized access. Currently acquiring bids
- ESFP – Replacing corroded electrical conduits and installing sump pump to prevent water accumulation in pull boxes

Completed Work
- RVWTP – Raw water pipeline inspection
- RVWTP – Repaired broken water line. Work completed inhouse by Utility Department
- ESFP – Cleaned wash water return basins
- Treatment SCADA System – Upgrade Treatment Servers
- Annual Plant Maintenance at Rio Vista

FLEET AND WAREHOUSING

The goal of the Fleet and Warehousing Department is to support all other departments by providing essential services, materials, and supplies, as well as safe and reliable vehicles and equipment.

Work in Progress
- Transitioning to a new fleet management system
- Developing action plans for proposed and adopted regulations
- Exploring a partnership with College of the Canyons' Automotive Internship Program
- Partnering with a Ford dealership to launch a mobile repair service program for vehicles
- Performing annual inspections for agency generators, mobile cranes, and forklifts

Completed Work
- Performing on-going maintenance and repairs on vehicles and equipment

DISTRIBUTION OPERATIONS AND MAINTENANCE

General operational and maintenance activities include:

- Valve exercising
- Fire hydrant maintenance
- Air and vacuum valve maintenance
- Blow off maintenance
- Meter reading
- Meter change-outs
- Control valve maintenance

Work in Progress
- SC-2 Gravity – Completing above ground construction. Scheduling SC-2 suction line abandonment
- Dickason Drive Pipeline Replacement – Plans complete January 10, 2022 and given to ESS
- Smyth Drive Pipeline Replacement – Water and traffic plan completed, now working on paving plan
- Newhall Ranch Road Pipeline Replacement – ESS Job
- Vasquez Pipeline – Researching easement
- Mammoth Booster Station 3 Suction and Discharge Pipeline Replacement – Work underway

Completed Work
- Interconnection between the NWD and SCWD Systems on Old Wiley Cyn Rd
- Decoro Drive Pipeline Replacement
- West Newhall Interconnection (VWD and NWD) on Vista Ridge/Wiley Cyn
- Ridge Route Road Phase 2 Pavement Repair
- The Old Road Pavement Repair

- Sierra Highway Regulator Station
- Gary Drive Interconnection

In addition to routine operational and maintenance activities, there are a variety of other projects.

Meter Change-out Summary

NWD

Meter Size	February 2022	Quantity FYTD 2021/22
3/4"	42	240
1”	4	20
1 1/2"		2
2”		21

SCWD

Meter Size	February 2022	Quantity FYTD 2021/22
3/4"	88	466
1”	40	109
1 1/2"	2	18
2”	3	13

VWD

Meter Size	February 2022	Quantity FYTD 2021/22
3/4"	12	510
1”	3	38
1 1/2"	3	27
2”		28

Distribution System Leak Summary

NWD – Approx. 9,679 Service Connections

Leak Type	February 2022	FYTD 2021/22
Service Leaks	1	30
Main Leaks		1

SCWD – Approx. 31,218 Service Connections

Leak Type	February 2022	FYTD 2021/22
Service Leaks	11	87
Main Leaks	1	4

VWD – Approx. 29,974 Service Connections

Leak Type	February 2022	FYTD 2021/22
Service Leaks	4	47
Main Leaks	2	7

PRODUCTION OPERATIONS AND WATER SYSTEMS

In addition to the general operation and maintenance of the production facilities, there are a variety of other projects within the Production and Water Systems.

Work in Progress

- SC-12 – Facility construction and upgrades for efficiency are complete, station is online
- Carnegie Booster Station – Meter, pump and motor replacement completed, pump 19 – Replacing broken suction valve, valve is on back order
- Saugus Well 2 Rehab – Motor replacement completed, well video and casing integrity study completed in January, flushing wells for samples. Rehab options being evaluated and will be scheduled for next winter

- Fairway Water Storage Tank Coating Project – Reline interior, spot repair exterior. Associated Tank Constructors, Inc. awarded project, work commenced February 22
- Commerce Center Tanks No. 1 and No. 2 Exterior Recoat Project – Project awarded February 15th to Tony Painting, work to commence at the end of March/beginning of April

Completed Work

- Friendly Valley Tank – Fence cut by fire department during fire suppression, repair completed September 28, 2021
- Pinetree Well P1 – Returned to service September 8, 2021
- N Wells Treatment Facility (BFDF) – Air conditioning for treatment building installed in September 2021, commissioned in October 2021
- Castaic HS Tank – In service, interior tank coating repairs completed
- Sand Canyon Reservoir – Tank Road asphalt repair completed November 2021
- North Oaks Booster – Pump repair, installation completed December 2021
- Sand Canyon and Wiley Canyon Boosters – Electrical equipment replacement work completed in December, re-energized and back online in January
- Honby Tank – Tank Road asphalt repairs completed in February
- SC-2 gravity – SCE energized in October, Cla-Val, station slab completed in December. SCADA programming and fencing completed in February; completed and in operation
- Princess Booster – Electrical equipment replacement work completed, station operational in February

WATER QUALITY

Water Quality Complaints

NWD

Type of Complaint	February 2022	# of Complaints FYTD 2021/22
Hardness		1
Odor		
Taste		
Color		2
Air		1
Suspended Solids		2
Totals		**6**

SCWD

Type of Complaint	February 2022	# of Complaints FYTD 2021/22
Hardness		
Odor		2
Taste	1	2
Color		4
Air		1
Suspended Solids		3
Totals	**1**	**12**

VWD

Type of Complaint	February 2022	# of Complaints FYTD 2021/22
Hardness	1	1
Odor		
Taste		1
Color		2
Air		
Suspended Solids		1
Totals	**1**	**5**

Heterotrophic Plate Count Samples

NWD

Total # of HPCs Collected February 2022	# of HPCs Collected FYTD 2021/22
1	6

SCWD

Total # of HPCs Collected February 2022	# of HPCs Collected FYTD 2021/22
	19

VWD

Total # of HPCs Collected February 2022	# of HPCs Collected FYTD 2021/22
	8

PERCHLORATE CONTAMINATION PROGRAM MANAGEMENT

As a result of the detection of perchlorate at Well V-201, modifications are being made to the Department of Toxic Substances Control (DTSC) Remedial Action Plan (RAP) and the perchlorate project DDW 97-005 Engineering Report. A perchlorate removal facility has been constructed and resumption of Well V-201 service will occur following receipt of permit from State Water Resources Control Board (SWRCB) Division of Drinking Water (DDW).

In late December 2017, perchlorate was detected at Well V-205 just above the maximum contaminant level for drinking water of 6 ppb. A confirmation sample taken in March 2018 indicated a level of 8.1 ppb. The well was previously taken out of service in 2012. Staff is determining the course of action to pursue to return the well to service and potential cost recovery under the terms of the Settlement Agreement.

In May 2019, for the first time since 2005, perchlorate was detected in Alluvial Aquifer Well Q-2 at the maximum contaminant level of 6 µg/L. No drinking water quality standards were violated, but the well was removed immediately from service. Design has been completed. Bids to supply new treatment vessels were received on December 9, 2019 and a contract was awarded to Evoqua Water Technologies, LLC on December 12, 2019. Six bids for the site work were received on February 7, 2020 and a contract was awarded to Pacific Hydrotech Corp. on February 9, 2020. Construction at Q2 complete. The well will return to service upon permit approval by DDW.

PFAS

In May 2019, initial sampling for PFAS substances occurred and results were received. One well (Valley Center) exceeded Division of Drinking Water Interim Response Level of 70 ng/L and was shut off. Other wells exceeded the Interim Notification Levels for PFOS and PFOA. This information was presented to the SCV Water Board on June 4, 2019. PFAS sampling for the second quarter was done in August 2019 with results received in September and October 2019. In February 2020, the State Water Resources Control Board Division of Drinking Water issued new response levels; 10 parts per trillion (ppt) for perfluorooctanoic acid (PFOA) and 40 ppt for perfluorooctanesulfonic acid (PFOS.)

SCV Water has taken 20 wells out of service due to PFAS. Three (3) were returned to service in late 2020 (N, N7, N8) with the completion of the first PFAS Treatment System.

WATER QUALITY LABORATORY

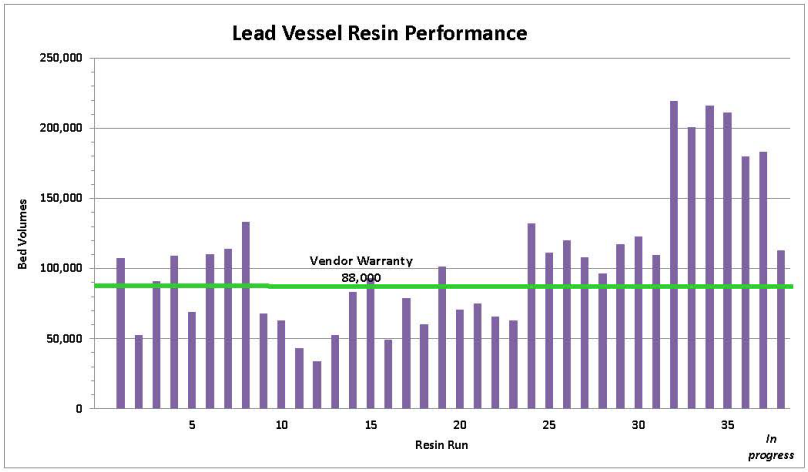
The laboratory continues to analyze compliance PFAS samples. Work is continuing on the new laboratory regulation requirements that were adopted in 2021.

Saugus Perchlorate Treatment Facility
Resin Usage Summary
Based on Time to Breakthrough

Resin Run Number	Fill Date	Breakthrough Date+	Days	Volume Treated (Million Gallons)	Volume Treated (Acre-Feet)	Bed Volumes Treated	Replacement Costs	$/BV	$/AF	Combined (Lead and Lag) MG	AF	BVs
1	5/3/10	8/25/10	115	253	776	107,310	*	*	*			
2	9/8/10	11/8/10	62	120	368	52,289	$ 105,728	$ 2.02	$ 287	373	1,144	159,599
3	12/10/10	3/26/11	107	239	735	90,841	$ 115,458	$ 1.27	$ 157	359	1,103	143,130
4	5/5/11	8/9/11	97	288	883	108,745	$ 112,255	$ 1.03	$ 127	527	1,618	199,586
5	8/17/11	10/14/11	59	180	554	68,941	$ 112,255	$ 1.63	$ 203	468	1,437	177,686
6	11/6/11	4/10/12	157	288	883	109,850	$ 112,048	$ 1.02	$ 127	468	1,437	178,790
7	4/20/12	7/16/12	88	280	860	113,905	$ 112,048	$ 0.98	$ 130	568	1,743	223,754
8	7/11/12	11/5/12	118	349	1,070	133,044	$ 112,048	$ 0.84	$ 105	629	1,930	246,949
9	11/16/12	1/10/13	56	177	544	67,744	$ 112,258	$ 1.66	$ 206	526	1,614	200,788
10	1/10/13	3/10/13	60	165	505	62,836	$ 43,567	$ 0.69	$ 86	342	1,049	130,579
11	3/19/13	5/4/13	47	112	344	42,769	$ 118,213	$ 2.76	$ 344	276	849	105,605
12	5/8/13	6/15/13	39	95	293	33,577	$ 141,989	$ 4.23	$ 485	207	637	76,346
13	6/10/13	8/20/13	72	179	551	52,099	$ 118,212	$ 2.27	$ 215	275	844	85,676
14	9/12/13	11/30/13	80	217	667	83,031	$ 118,212	$ 1.42	$ 177	397	1,218	135,130
15	11/21/13	2/9/14	81	246	755	92,790	$ 118,212	$ 1.27	$ 157	463	1,422	175,821
16	2/24/14	3/31/14	36	128	393	48,854	$ 105,494	$ 2.16	$ 269	374	1,148	141,644
17	4/28/14	8/8/14	103	205	629	78,423	$ 105,494	$ 1.35	$ 168	333	1,022	127,277
18	8/21/14	12/3/14	105	158	485	60,237	$ 105,494	$ 1.75	$ 218	363	1,114	138,660
19	12/4/14	3/16/15	103	266	816	101,458	$ 105,494	$ 1.04	$ 129	424	1,301	161,695
20	3/17/15	5/28/15	73	184	565	70,380	$ 105,494	$ 1.50	$ 187	450	1,381	171,838
21	5/29/15	8/3/15	67	195	598	74,610	$ 105,494	$ 1.41	$ 176	379	1,163	144,990
22	8/4/15	10/15/15	73	171	525	65,484	$ 105,494	$ 1.61	$ 201	366	1,123	140,094
23	10/16/15	12/8/15	54	165	506	62,988	$ 105,494	$ 1.67	$ 208	336	1,031	128,472
24	12/9/15	3/31/16	114	346	1,062	131,983	$ 105,494	$ 0.80	$ 99	511	1,568	194,971
25	4/1/16	7/7/16	98	291	893	111,167	$ 105,494	$ 0.95	$ 118	637	1,955	243,150
26	7/8/16	10/17/16	102	314	964	119,919	$ 105,494	$ 0.88	$ 109	605	1,857	231,086
27	10/21/16	1/25/17	97	283	869	107,984	$ 105,494	$ 0.98	$ 121	597	1,832	227,903
28	1/26/17	4/18/17	83	252	773	96,192	$ 105,494	$ 1.10	$ 136	535	1,642	204,176
29	4/25/17	8/5/17	103	306	939	116,938	$ 105,494	$ 0.90	$ 112	558	1,713	213,130
30	8/11/17	1/3/18	146	322	988	122,845	$ 105,494	$ 0.86	$ 107	628	1,927	239,783
31	1/16/18	6/9/18	145	289	887	109,395	$ 105,494	$ 0.96	$ 119	611	1,875	232,240
32	6/18/18	12/24/18	190	574	1,762	219,207	$ 105,494	$ 0.48	$ 60	863	2,649	328,602
33	12/13/18	6/10/19	180	525	1,611	200,536	$ 105,494	$ 0.53	$ 65	1,099	3,373	419,743
34	6/11/19	12/30/19	203	566	1,737	216,073	$ 108,162	$ 0.50	$ 62	1,091	3,348	416,609
35	12/18/19	7/8/20	204	552	1,694	211,010	$ 108,162	$ 0.51	$ 64	1,118	3,431	427,083
36	7/9/20	2/6/21	213	471	1,446	179,890	$ 128,334	$ 0.71	$ 89	1,023	3,140	390,900
37	2/16/21	8/30/21	196	477	1,464	182,727	$ 142,690	$ 0.78	$ 97	948	2,910	362,617
38	9/14/21	3/1/22	169	295	905	112,799		$ -	$ -	772	2,369	295,526
Total			**4,095**	**10,524**	**32,300**	**4,020,867**	**$ 3,938,743**	**NA**	**NA**	**20,500**	**62,918**	**7,821,626**
Average			**103**	**265**	**814**	**101,299**	**$107,874**	**$ 1.15**	**$ 142.15**	**507**	**1,557**	**193,502**

+ Breakthrough defined as Lead Vessel effluent reaching 6 µg/L
* Initial resin delivery was included in construction contract

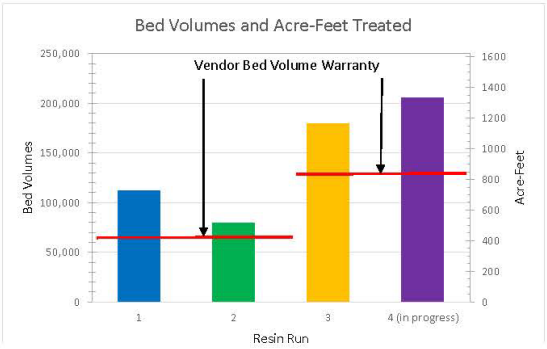
Runs 1-2 had 315 cubic feet of resin
Runs 3-11 had 350 cubic feet of resin + 180 cubic feet of anthracite
Run 12 has 434 cubic feet of resin + 180 cubic feet of anthracite
Runs 13-present had 350 cubic feet of resin + 180 cubic feet of anthracite



V-201 Perchlorate Treatment Facility
Resin Usage Summary
Based on Time to Breakthrough

Resin Run Number	Fill Date	Breakthrough Date+	Days	Volume Treated (Million Gallons)	Volume Treated (Acre-Feet)	Bed Volumes Treated	Replacement Costs	$/BV	$/AF	Combined (Lead and Lag) MG	AF	BVs
1	11/3/2017	4/19/2018	168	297	912	112,498	$188,355	$1.67	$207			
2	5/7/2018	9/17/2018	134	210	644	79,476	$105,494	$1.33	$164	507	1,556	191,973
3	9/24/2018	11/4/2019	407	474	1454	179,465	$105,494	$0.59	$73	684	2,098	258,941
4 (in progress)	11/12/2019	4/21/2021	527	544	1670	206,045	$108,162	-	-	1,018	3,124	385,510
Total			1236	1,525	4,679	577,483	$507,505			2,209	6,778	836,424
Average			309	381	1,170	144,371	$126,876	$1.20	$147.66	736	2,259	278,808

+ Breakthrough defined as Lead Vessel effluent reaching 6 ug/L
Runs 1 & 2 had 353 cubic feet of resin (PRS-2) + 180 cubic feet of anthracite
Runs 3 - present had 353 cubic feet of resin (PRS2 Plus) + 180 cubic feet of anthracite
The well was turned off at 1:30 pm April 26, 2021.



N Wells PFAS Treatment Facility
Resin Usage Summary
Based on Time to Breakthrough

Resin Run - Train	Fill Date	Breakthrough Date + *	Days	Volume Treated (Million Gallons)	Volume Treated (Acre-Feet)	Bed Volumes Treated	Replacement Costs	$/BV	$/AF
1 - A*	9/11/2020	2/1/2022	509	598	1834	145,963			
1 - B	9/10/2020	9/29/2021	385	435	1334	106,449			
1 - C*	9/14/2020	2/1/2022	506	595	1827	145,783			
2 - B*	9/29/2021	2/1/2022	126	197	603	48,115	$201,000	$4	$333
Total			**1526**	**1,824**	**5,598**	**446,309**	**$201,000**		
Average			**381.5**	**456**	**1,400**	**111,577**	**$201,000**	**$4**	**$333**

+ Breakthrough defined as Lead Vessel effluent is greater than the MRL of 2 ng/L for PFOA or PFOS

+ Resin Changeout is defined as Lead Vessel effluent reaching RL at 10 ng/L for PFOA and 40 ng/L PFOS

* Run is currently in progress

Run 1 - A has 547.3 cubic feet of resin (Evoqua PRS-2 Plus) + 50 cubic feet of anthracite (in each vessel)

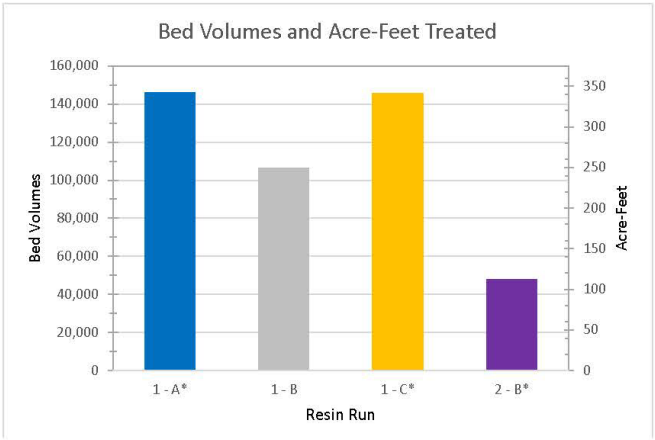
Runs 1, 2 - B and 1 - C have 546 cubic feet of resin (Purolite Purofine PFA694E) + 50 cubic feet of anthracite (in each vessel)

Warranty

Evoqua Run 1- 130,000 BV

Purolite Run 1 - 130,000 BV

Purolite Run 2 - 100,000 BV



SAFETY/EMERGENCY/RISK MANAGEMENT

A safe and healthful work environment is a critical component to the mission and values of SCV Water. Throughout the reporting month, several routine safety related training, inspections, and various other items were completed. The Safety Department continues to integrate health and safety programs for SCV Water. Some of the items completed and currently in progress are as follows:

Work in Progress

- Development of First Aid/CPR training through American Heart Association. Both online and hands on training will be conducted this fall and winter
- Implementing mass notification software to more effectively communicate with staff

Completed Work

Inspections

Monthly Inspections

- Underground storage tank (UST) designated operator
- Aboveground storage tank (AST) inspection
- Fire extinguishers
- Emergency eye-wash/shower stations
- Self-Contained Breathing Apparatus (SCBA) units
- Automated External Defibrillator (AED) units
- Quarterly inspection (Golden Triangle Warehouse)

Incident Data

- There was one recordable injury in February 2022
- There were no lost workdays in February 2022

Safety Training

- Tailgate meetings took place at each location in February 2022
- One new hire safety orientation took place in February 2022
- First Aid/CPR training took place at several locations in February 2022
- Respirator Fit Testing took place at Rockefeller location in February 2022

Safety Compliance

- Continue to meet Cal-OSHA and Los Angeles County Public Health requirements regarding COVID-19

Safety Committee

- The next Safety Committee meeting will be held on March 23, 2022

M65

ITEM NO. 9.4

BOARD MEMORANDUM

DATE: March 21, 2022

TO: Board of Directors

FROM: Steve Cole
Assistant General Manager

SUBJECT: Water Resources and Outreach Section Report

Key Accomplishments

Water Resources

- Staff participation continues in several Los Angeles County Water Planning Workshops to provide input to the County about concepts for better coordination (e.g., streamlined permitting and data sharing) and regional targets and facilitating a regional approach to water reliability and resiliency.

- The United States Environmental Protection Agency (US EPA) formally invited the Sites Project Authority to apply for a $2.2 billion low-interest loan through the Water Infrastructure Finance and Innovation Act (WIFIA). A low interest WIFIA loan would significantly reduce participant payments. The invitation was the result of work undertaken by the Sites Authority and reservoir committee in 2021. Preparation of an application package and application processing is anticipated to take two years.

- Staff participated in a February 24, 2022 multi-agency meeting regarding restoration of Bouquet Creek. Los Angeles County Public Works reported it had submitted a pre-grant application to the State and that CA Dept. Fish and Wildlife and Public Works will be cooperating in the preparation of a revised pre-grant application. Grant application criteria is anticipated to be released in March 2022. Several agencies, including SCV Water offered to write letters to the Director of Fish and Wildlife in support of the project qualifying for a SB 155 exemption. A follow-up meeting is scheduled for March 24, 2022.

- Staff completed and submitted the recycled water quarterly report for under Monitoring and Reporting Program Order No. WQ 2016-0068-DDW (CI-10081) on March 15, 2022.

Sustainability & Conservation

- Staff formally launched the updated Lawn Replacement Program. Efforts included customer engagement and education support, workflow processing and procedures, customer engagement and education efforts.

- Staff attended the monthly WaterSense/EPA Water Score User Group meeting to develop and advise on ways and means to improve the Portfolio Manager tool.

- Staff attended the California Water Efficiency Partnerships Research & Evaluation Committee meeting. Staff currently serves as Chair to the committee and was both nominated and approved to serve in this position for another year.

- Staff met with HOA representatives to promote the Purple PREP Recycled Water Conservation Program and to address specific concerns.

- Sustainability/Conservation staff coordinated and facilitated the monthly Sustainable Water Action Taskforce meeting.

- Staff participated in SCV TV's "Community Corner" and presented to the SCV Rotary Noon Club updates on the current drought and Agency efforts to support conservation.

Outreach, Legislation and Grants

- Staff supported Conservation in the re-launch of the Lawn Replacement Program.

- Our second drought-focused direct mail piece was delivered to more than 60,000 addresses in our service area.

- Staff received notification from the federal Bureau of Reclamation (BOR) that the Agency's application for funding of its Rosedale Phase 2 Wells Project received high ratings and is being considered for award of a financial assistance agreement in the amount of $1,458,987 under BOR's WaterSmart Drought Response Program: Drought Resilience Projects program. As typical with BOR funding, the final award and financial assistance agreement are dependent upon confirmation of cost estimates and other eligibility criteria.

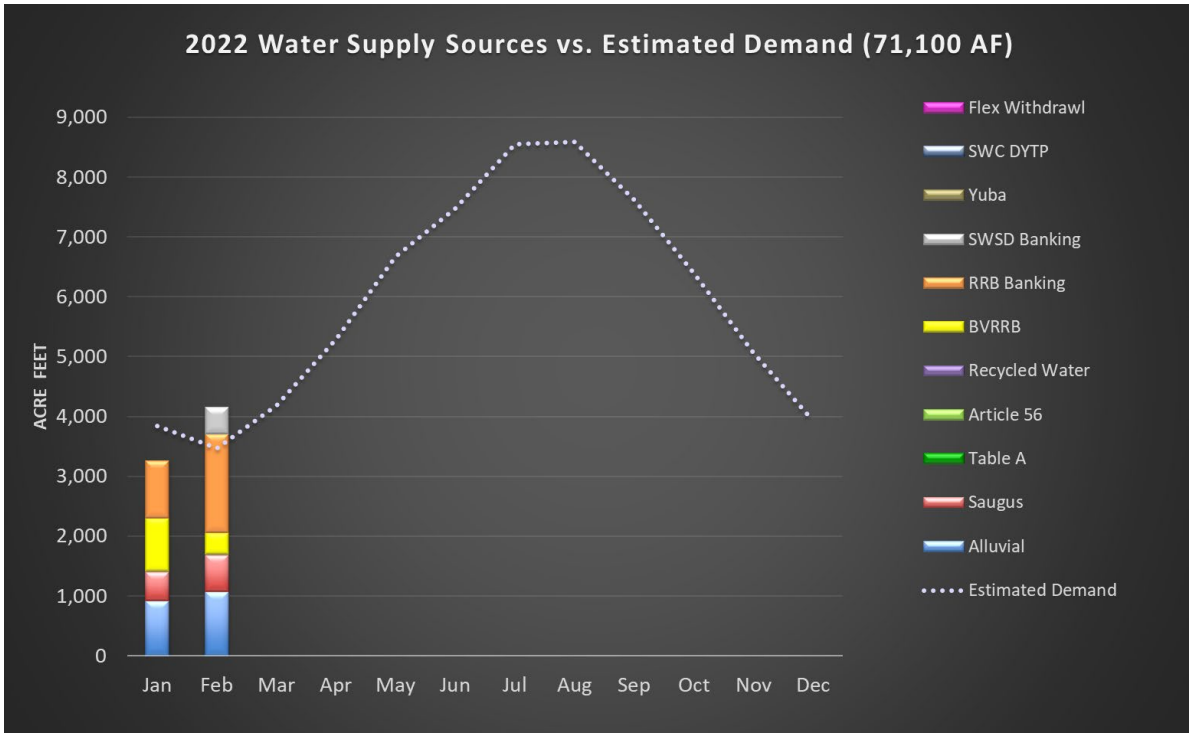
- In anticipation of BOR's acceptance of the Agency's Title XVI Feasibility Report for Recycled Water Projects Phase 2A and 2C, on March 15, 2022, staff submitted a grant application for the Recycled Water Phase 2C Project. This grant application requests approximately $6,000,000 in funding for the Recycled Water Phase 2C Project. This federal grant funding would be in addition to the DWR Proposition 1 Round 1 IRWM Grant award of $3 million.

- On March 21, 2022, the Department of Water Resources announced awards under its 2022 Urban and Multibenefit Drought Relief Program noting $1.4 Billion in requests against $175 Million in available funding. Unfortunately, the Agency's Santa Clara/Honby PFAS Groundwater Treatment Project and its Saugus Wells 3 & 4 Equipping Project were not selected for funding under Phase 2 of this program.

WATER RESOURCES

Water Demand and Supply

A summary of monthly 2022 water deliveries are shown below:

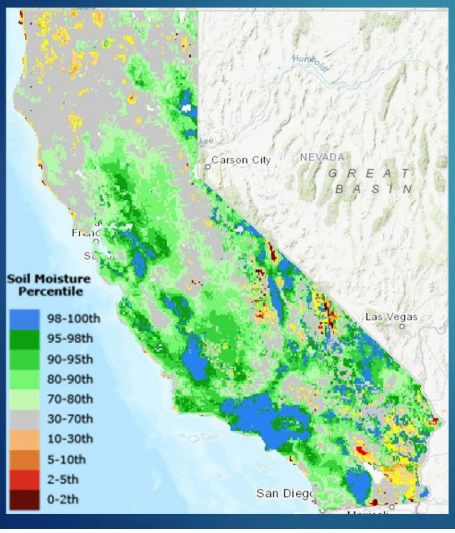


Note: To date, SCV precipitation for water year 2022 is currently below average. Record setting precipitation in December 2021 helped reduce demands and get us ahead for the year, but February was dry and hot which resulted in higher than anticipated demands. Precipitation for water year 2021 in Santa Clarita was recorded as the driest year on record. In January 2021, SCV Water began utilizing dry-year water supplies, which has continued into February and March 2022. The graph above shows monthly water supply use vs. estimated demands.

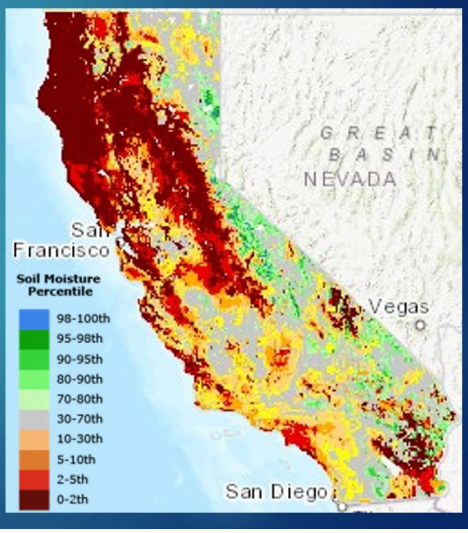
Status of Water Supplies Update – Following extremely dry conditions in January and February and the prospects of continued dry conditions in March, DWR reduced the SWP allocation from 15% to 5% for 2021. Following is a condensed version of the Status of Water Supplies and Water Banking Programs presentation which was presented to the Water Resources and Watershed Committee at its March 9, 2022 meeting prior to SWP allocation reduction. Updates were provided for the following topics; soil moisture, snowpack, SCV precipitation, a three-month CA precipitation outlook, 2022 operations update, dry year and banking/exchange supply balances.

Soil Moisture Update

January 1, 2022



March 6, 2022

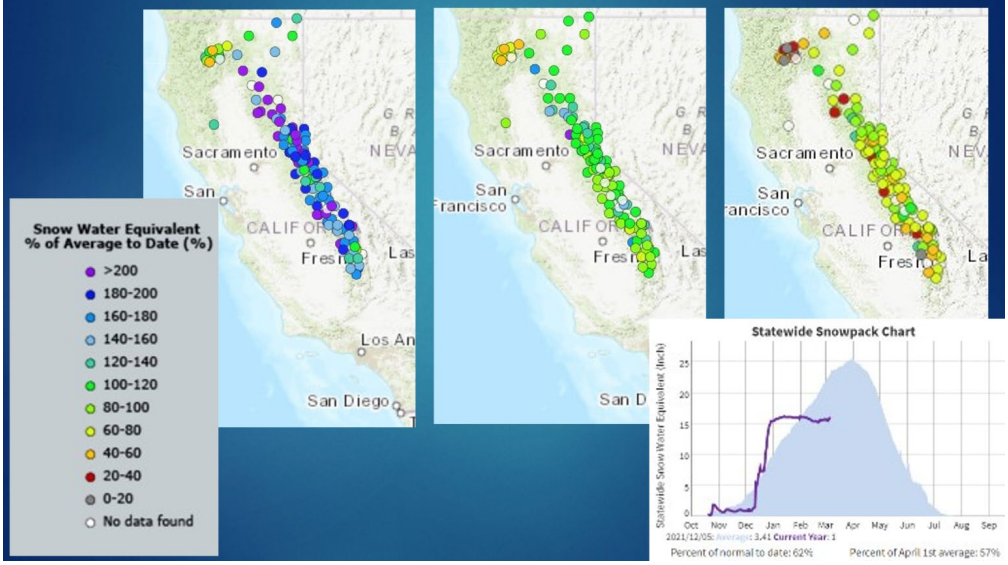


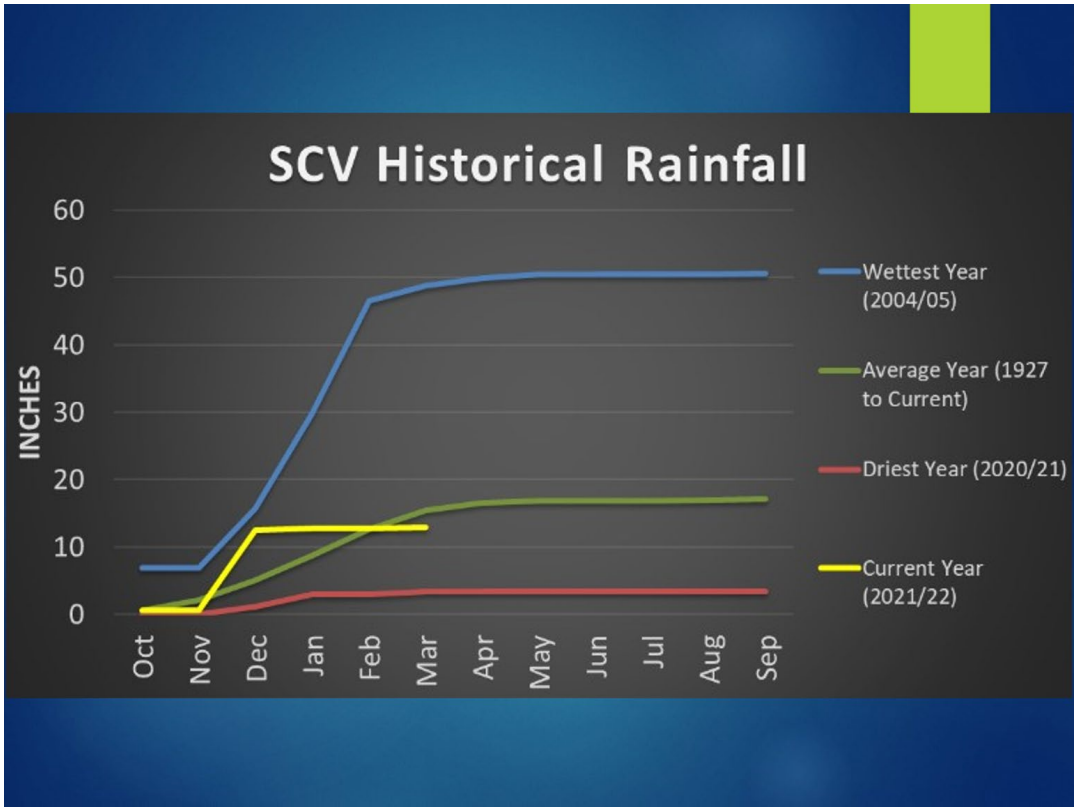
Snowpack Update

January 1, 2022

February 11, 2022

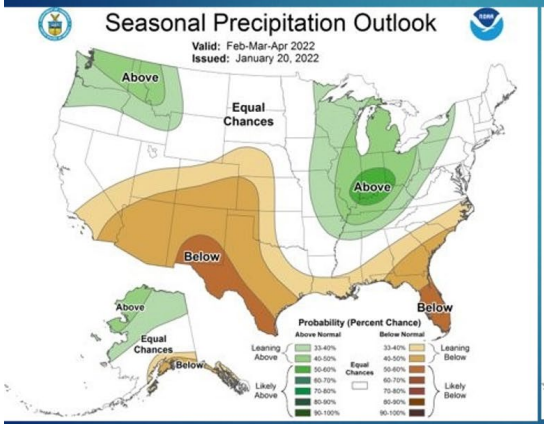
March 7, 2022



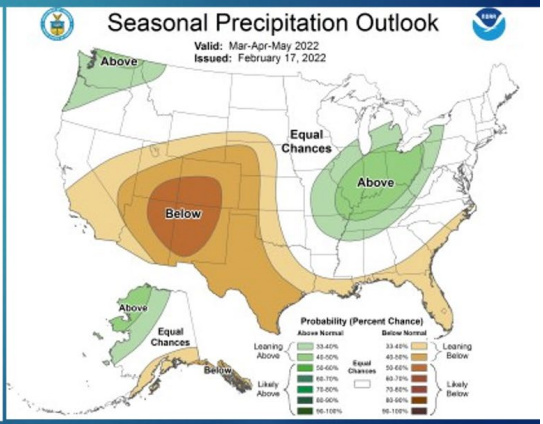


Three Month Precipitation Outlook

Feb-Mar-Apr

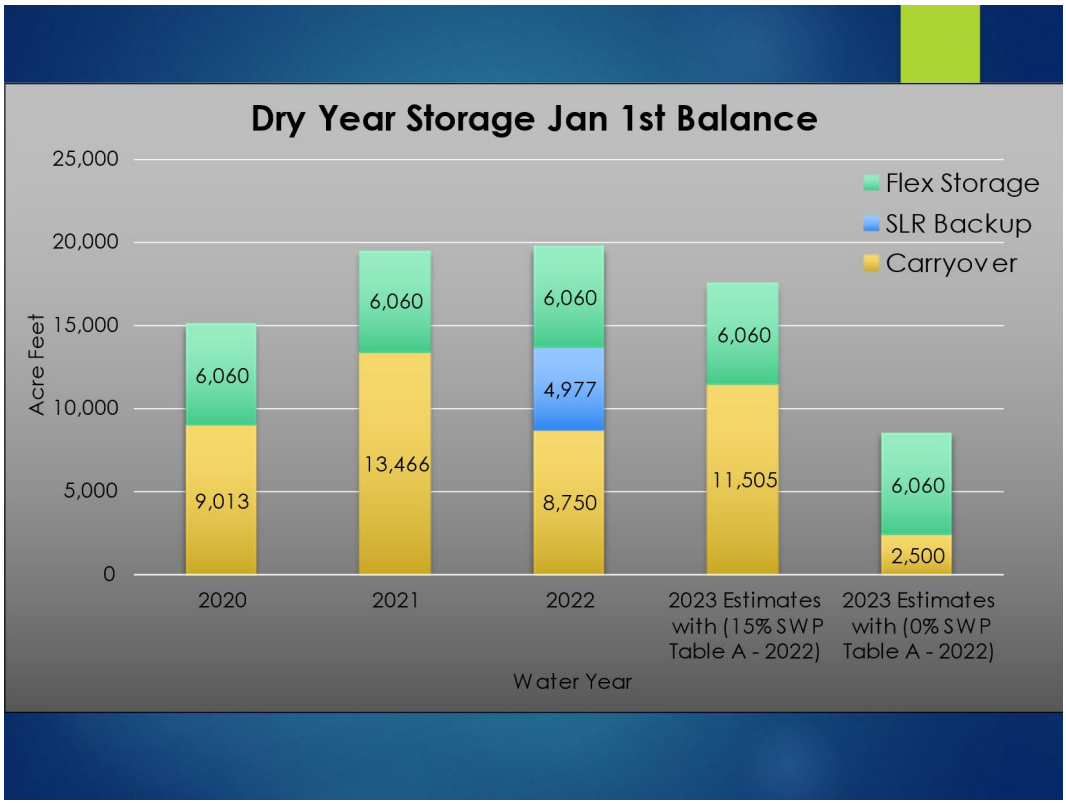


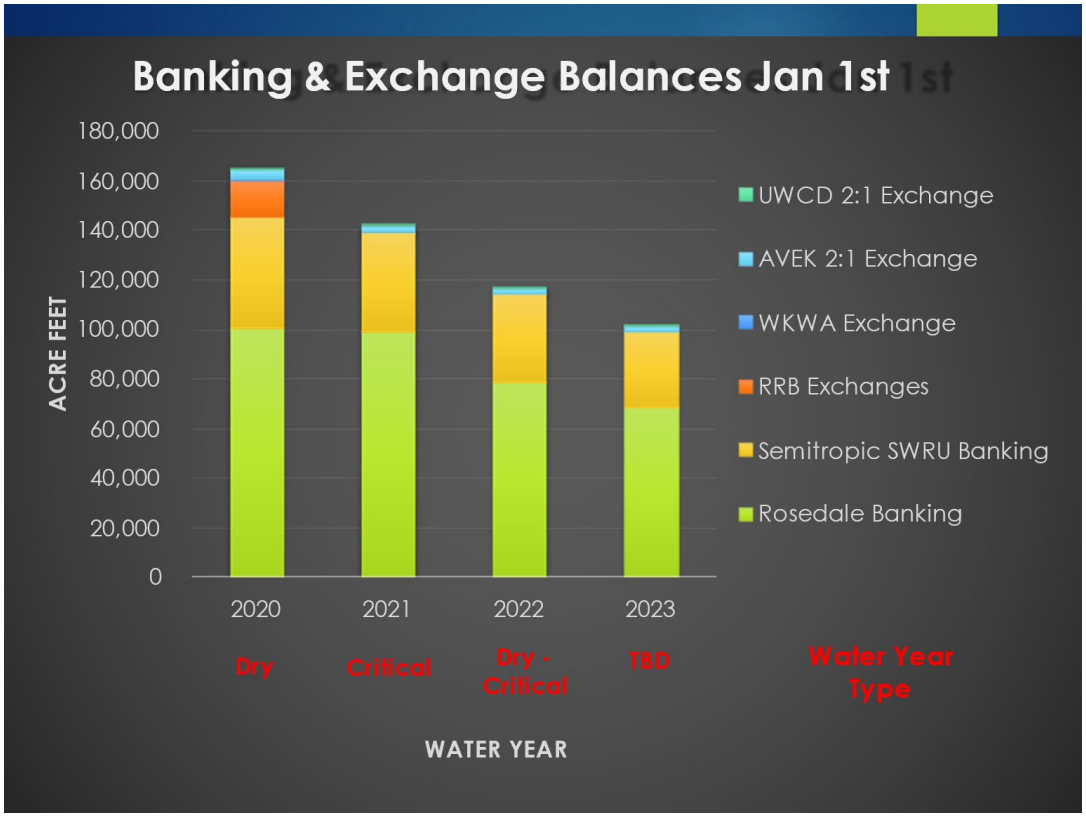
Mar-Apr-May



2022 Operating Plan

2022 Operating Plan (as of March 2022)	2022 0% SWP Allocation	2022 5% SWP Allocation	2022 10% SWP Allocation	2022 15% SWP Allocation2	2023 5% SWP Allocation
Demand	**71,100**	**71,100**	**71,100**	**71,100**	**72,500**
Groundwater	27,700	27,700	27,700	27,700	27,700
Alluvium	15,500	15,500	15,500	15,500	15,500
Saugus	12,200	12,200	12,200	12,200	12,200
Recycled Water	450	450	450	450	700
Imported Demand	***42,950***	***42,950***	***42,950***	***42,950***	***44,100***
Imported Supplies					
SWP Table A	0	4,760	9,520	14,280	4,760
BVRRB	11,000	11,000	11,000	11,000	11,000
Total Available Imported Supplies	**11,000**	**15,760**	**20,520**	**25,280**	**15,760**
Excess Imported Supplies (neg = shortfall)	*(31,950)*	*(27,190)*	*(22,430)*	*(17,670)*	*(28,340)*
Dry Year Water Supplies					
SWP Carryover Delivered (not always guaranteed)	13,500	13,500	13,500	13,500	11,830
Rosedale Banking	15,000	15,000	15,000	10,000	10,000
Semitropic Enhanced Recovery Unit (Banking)	5,000	5,000	5,000	5,000	**5,000**
Yuba Accord	1,000	1,000	1,000	1,000	1,000
Dry Year Water Purchase					
Flexible Storage (up to 6,060 AF)					6,060
Total Imported & Dry Year Supplies	**45,500**	**50,260**	**55,020**	**54,780**	**49,650**
2022 SWP Carryover into 2023 (neg = shortage)	2,550	7,310	12,070	11,830	5,550





2022 Operation Details

- The initial 2022 State Water Project allocation was set at meeting minimum Human Health and Safety requirements for contractors, calculated at 55 gallons per person per day. On January 20, 2022, the allocation was increased to 15%. On March 18, 2022 DWR reduced the allocation back to 5% with a potential for further reductions, if statewide hydrological conditions do not improve.

- 2022 demands, without mandated conservation, are estimated at 71,100 AF. Recovery from Rosedale and Semitropic banking programs will continue into 2022 until hydrologic conditions improve.

Significant Upcoming Items

- At the December 8, 2021 Water Resources and Watershed Committee meeting, staff presented two transfer/exchange programs available to SCV Water in partnership with Irvine Ranch Water District. Staff was directed to negotiate terms for both a Short-term Drought Relief transfer program, and a Long-term unbalanced exchange program. Staff anticipates these agreements will be considered by the Board in or before May 2022.

- Staff reviewed the draft Salt and Nutrient Management Plan (SNMP) Monitoring Report Update received from Luhdorff & Scalmanini Consulting Engineers (LSCE) on September 3, 2021. Upon review of the draft, additional adjustments to the numerical model were needed and additional information was requested. The revisions took longer than expected due to LSCE technical modeling personnel turnover. A draft report with reference maps and figures was received on January 11,

2022. LSCE is in the process of addressing final comments and a completed report is anticipated in March 2022.

- Staff continues to work with Woodard and Curran to refine the Online New Drop database. Reporting features, QA/QC, and dashboards will be improved as the tool is used by Water Resources and Customer Service staff. Customized reports continue to be developed to assist staff in completing quarterly reports to the Regional Board for the Agency's recycled water permit. Staff is also continuing to work with the Sanitation District to determine average wastewater flows from new development as part of an ongoing process to perfect New Drop flow estimates. Additionally, improvements continue to be made to the online database with the help of Customer Care Department feedback. Lastly, a QA/QC process is being conducted on the New Drop database to ensure that every drop is captured in the quarterly reports. This task will be completed before the end of this fiscal year.

- The Upper Santa Clara River Regional Water Management Group (USCR RWMG) and Stakeholders continue preparing for the Round 2 grant solicitation under Proposition 1. Project ideas are being collected and regular communication with Stakeholders continues. The State's draft proposal solicitation package includes certain incentives for traditionally competing funding areas to pre-negotiate award values among competing regions. The USCR IRWM historically competes for IRWM funding against two other regions, the Watersheds Coalition of Ventura County, and the Los Angeles IRWM. These three competing regions have initiated discussions to determine if a negotiated agreement on awards can be reached. Without reaching an agreement, the grant applications will be competitive consistent with past years.

- Staff is working with Kennedy Jenks on the preparation of a Water Supply Assessment for the Lyons Canyon Trail and Castaic Mountainview Apartment projects. Additionally, staff has received a request for a Water Supply Assessments for the Entrata South and Commerce Center Expansion projects and the Wiley Canyon Mixed Use Development. Staff anticipates a request from the county for a Water Supply Verification for the Tesoro Development.

- As part of the Resiliency Initiative, staff is reviewing an initial report prepared by ESA that applies the California Environmental Flow Framework to the Santa Clara River. This initial effort is largely a desktop exercise but contains recommendations regarding field work to advance this process as well as additional work to determine the need to develop additional modeling capabilities related to surface water flows.

- Staff is working to transition SCV Water's Excel based MBK Water Supply Reliability Model to the GoldSim platform, which will allow for a more dynamic reliability analysis of our near term and long-term water resource supplies. A draft version of the model is now running. A presentation to the Water Resources and Watershed Committee is anticipated in April 2022.

- As part of GSP implementation, two adjacent groundwater recharge sites have been selected on the east end of the Santa Clara River Basin for inclusion in the recharge feasibility study being conducted with the help of GSI technical consultants. Staff worked with City personnel to obtain an access agreement to conduct data collection activities for the study. The geophysical portion of the fieldwork was completed in mid-January 2022 and a summary report is expected to be finalized by the end of March 2022. The results of the geophysical study fieldwork will help inform the locations for the infiltration tests and borehole samples. To complete the infiltration and borehole fieldwork, staff is working with Woodard and Curran to complete a delineation survey and biological assessment of the site. Lastly, groundwater monitoring data from the Castaic School site monitoring well will continue to be collected by staff for the Castaic portion of the recharge study.

- Staff has initiated a data management effort to determine the feasibility of a centralized data repository for all SCV Water departments. Data collection efforts are underway to help determine the extent of information collected by the various departments, the reports that each department generates, and existing methods/tools used for data organization within the Agency. Staff met with Operations personnel and will continue to provide input for the new production tracking tools that are being developed.

- Staff continues to evaluate potential agreements with solar generation companies for projects at the Devil's Den Water District.

- Staff continues to monitor and participate in multi-agency efforts regarding restoration of Bouquet Creek.

- Staff continues to support Sites Reservoir Committee efforts to advance environmental and water rights permitting for the project. At its March 18,2022 board meeting the Reservoir Committee adopted a revised preferred project that would allow up to 25% Bureau of Reclamation participation and incorporated a revised Sacramento River diversion criteria that is believed to enhance the prospect of obtaining various operating permits. The Reservoir Committee also authorized submittal of a water rights application. The Reservoir committee also authorized participation in a pilot program to advance the concept of how an Environmental Water Manager could optimize the effectiveness of ecosystem water using Sites Reservoir as an example. This pilot project is being undertaken in cooperation with the Environmental Defense Fund and the Nature Conservancy.

- Staff will be working with the Operations and Engineering department to develop a project description for a collaborative effort with the City of Santa Clarita. The project will take place at a park that the City plans to construct near the Via Princessa Metrolink Station. The site will include subterranean infiltration basins to capture storm water flows. SCV Water would like to determine the feasibility of utilizing these planned infiltration basins to recharge water during periods when the facilities are not in use. The project description is anticipated to be completed before May 2022 and provided to the City for inclusion in the RFP they're developing. The kickoff meeting for this effort occurred on March 7, 2022 and follow-up meetings will be scheduled in the next few weeks.

LEGISLATIVE/GOVERNMENT AFFAIRS

- Agency legislative advocates have tracked more than 100 bills submitted for this legislative session. A workshop is scheduled for March 24, 2022 to provide an opportunity for deeper discussion on these bills and their potential impact to SCV Water.

Upcoming Sponsorships and Event Participation

- SCV Home & Garden Show (KHTS) – April 30-May 1, 2022
- ACWA conference – May 3-6, 2022
- Placerita Canyon Open House – May 14, 2022

OUTREACH – Social/Digital Media & Education

Staff continues to share water news, conservation tips, featured plants and job openings on our social media and e-news channels.

Outlet	Description	Notable Activity	Audience
Facebook	Social media		1,000
Instagram			1,396
Twitter			1,180
Website	yourSCVwater.com	Total users in February 2022	15,587
Water Currents	Customer e-newsletter	Open rate for February 2022 issue: 50% (average industry open rate: 21.64%)	17,254

Public Education - 2022

Activity	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	2022	2021
Education (virtual)**														
Students	647	433											1,080	7,090
Teachers	24	16											40	265
Garden Classes (virtual)	85	27											112	443

* Data not yet available

Significant Ongoing or Upcoming Items

- As drought conditions persist, drought communications continue with an increased focus on engagement, as well more messaging around saving water, conservation rebate programs and conservation performance metrics (i.e. % saved compared to 2020 target).

- Work continues on supporting the Customer Care effort that will result in all divisions on one online customer portal in June 2022.

- Alongside Water Quality, Staff kicked off the process to develop the annual Consumer Confidence Report with anticipated completion and distribution in mid-May, well ahead of the June 30, 2022 Department of Drinking Water deadline.

- In place of our annual Open House, this year staff is planning a “mini water expo” as part of the annual SCV Home and Garden Show and Emergency Expo set to take place April 30 and May 1, 2022. Staff from Customer Care, Sustainability/Conservation, Water Quality, Education and Outreach will provide information on various topics.

- Staff is planning the first All-Staff meeting in more than two years, scheduled for 7:30 a.m. on Tuesday, April 19, 2022 on the Rio Vista patio.

- The Bureau of Reclamation notified applicants under its WaterSmart Water Energy Efficiency Grant Program that awards will be announced in Spring 2022. The Agency’s 2022 AMI Project application is pending funding under this grant program.

SUSTAINABILITY & WATER CONSERVATION

Status of SCV Water Drought Response

This section includes a condensed version of the monthly drought updates presented to the Water Resources and Watershed Committee at its December 8, 2021 meeting and includes an overview of current regulatory stutus, State Water Resource Contol Board monthly conservation reports, SCV Water monthly conservation performance relative to 2020's consumption and the Governor's 15% of 2020 voluntary consevation request, and monthly and cumulative conservation trends compared to the same metrics.

Regulatory Overview

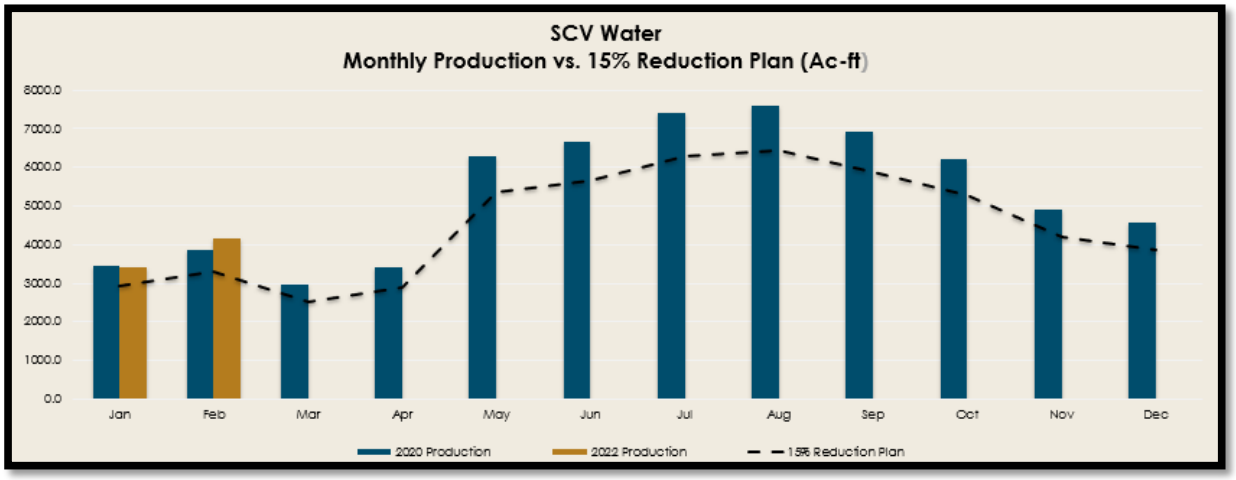
Entity/Agency	Regulatory Status	Notes
Governor Newsom	• Voluntary 15% v. 2020 Call (July 8, 2021) • Statewide Drought Emergency Declaration (October 19, 2021)	• April 1, 2021 (2 Counties) • May 10, 2021 (Extended to 41 Counties) • July 8, 2021 (Extended to 50 Counties) • October 19, 2021 (Extended to Statewide)
State Water Resources Control Board	• Monthly Conservation Performance Reporting (July 2021) • Adopted Emergency Regulations (January 4, 2022)	• Emergency regulations include water waste restrictions and provisions specific to HOA CCR implementation.
SCV Water	• Stage 1 – WSCP (11/16/2021) • Stage 1 – Water Conservation and Water Supply Shortage Ordinance (Ordinance)(11/16/2021)	• WSCP includes strategies which prioritize education and incentive to achieve up to 10% conservation. • Stage 1 of Ordinance includes water waste restrictions.

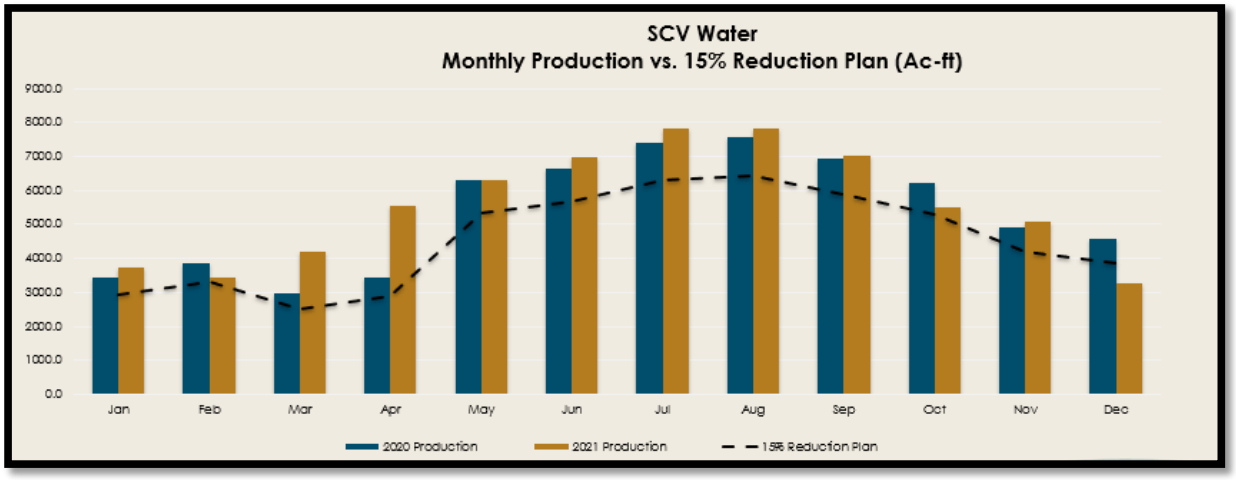
State Water Resources Control Board (Monthly Conservation Reporting)

Region	July	Aug	Sep	Oct	Nov	Dec	Jan	Cumulative
Statewide	-1.8%	-5.0%	-3.9%	-13.2%	-6.8%	-16.2%	+2.6 %	-6.4%
South Coast	-0.2%	-3.1%	-4.2%	-12.0%	+0.8%	-18.3%	+1.8 %	-5.5%
SCV Water	+5.6%	+3.1%	+1.1%	-11.3%	+3.1%	-29.0%	-1.1%	-2.9%

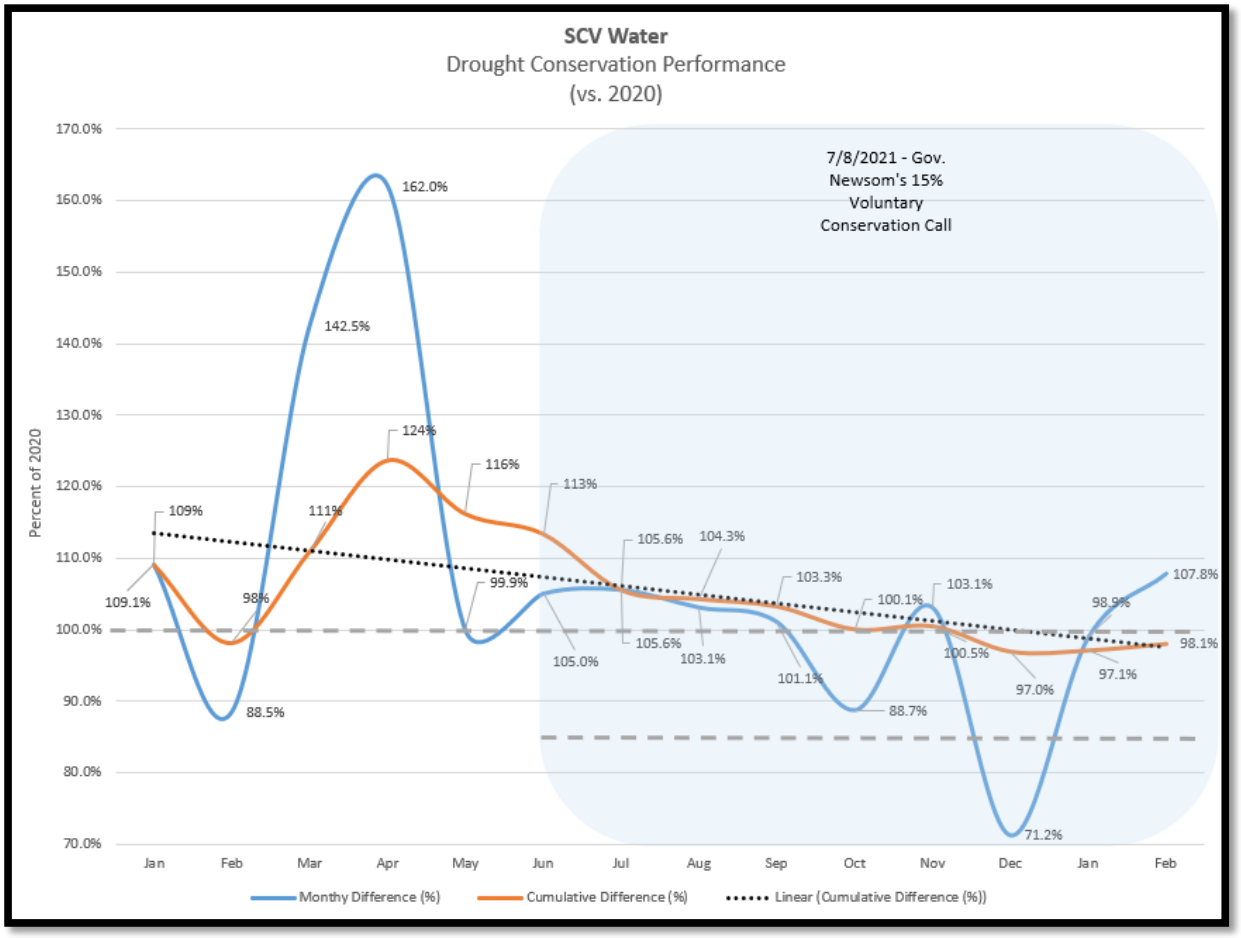
Note: The State Water Resources Control Board conservation reporting data has a one-month lag. This table includes most recent data as reported on the Board's website.

SCV Water – Monthly Conservation Performance (Current Production v. 2020 and 15% of 2020 Target)





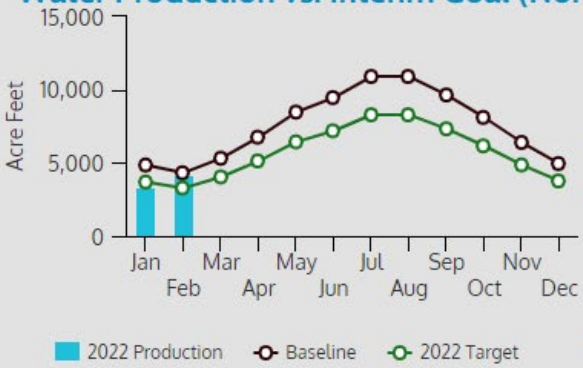
SCV Water – Monthly and Cumulative Conservation Performance Trends (In Percent)



Water Conservation

Water Resources Monthly Section Report - February 2022

Water Production vs. Interim Goal (Non-Drought)



Key Data Points (AF)

- Monthly Variance: 893.06
- YTD Variance: 600.23
- Well 201 Adj.: 0
- Economic Activity Adj.: 22.00

Conservation Program Participation (Current Month/Fiscal Year)

	Check-Ups	Workshops	Rebates	Engagement	Other
Residential	76/482	13/244	22/196	1,577/24,281	0/2

	Check-Ups	Retrofits	Rebates	Engagement
Commercial	0/196	0/953	0/5	3/15

	Check-Ups	Rebates	Engagement	Other
Landscape	0/10	0/4	0/7	0/0

Significant Upcoming Items

- Sustainability- Staff to launch Self Generation Incentive Program project including PV and Battery storage at Earl Schmidt and Batter Storage at Rio Vista Treatment Plant.
- Special Projects - Staff to meet with Phase 2C Recycled Water Customers to conduct preliminary discussions on conversion feasibility and support needs.

M65

ITEM NO.
9.5

Engineering and Operations Committee
Planning Calendar
FY 2021/22

	Item	Jul 1 Comm	Aug 3 Board	Aug 5 Comm	Aug 17 Board	Sep 2 Comm	Sep 7 Board	Oct 5 Board	Oct 7 Comm	Oct 19 Board	Nov 2 Board	Nov 4 Comm	Nov 16 Board	Dec 7 Board	Dec 9 Comm	Dec 21 Board	Jan 4 Board	Jan 6 Comm	Jan 18 Board	Feb 1 Board	Feb 3 Comm	Feb 15 Board	Mar 1 Board	Mar 3 Comm	Mar 15 Board	Apr 5 Board	Apr 7 Comm	Apr 19 Board	May 3 Board	May 12 Comm	May 17 Board	Jun 2 Comm	Jun 7 Board	Jun 21 Board	Jul 5 Board
1	Monthly Committee Planning Calendar	C		C		C			C			C			C			C			C			C			P			P		P			
2	CIP Construction Status Report	C		C		C			C			C			C			C			C			C			P			P		P			
3	Monthly Operations and Production Report	C		C		C			C			C			C			C			C			C			P			P		P			
4	Third Party Funded Agreements Quarterly Report			C								C									C									P					
5	Quarterly Safety Program Presentation			C								C																		P					
6	Annual Safety Program Update (FY 20-21)						C																												
7	Fleet Regulatory Update																							C											
8	Review Proposed FY 2022/23 Major Capital Projects																									P									
9	Cell Sites Program Presentation																													P					
10	Recommend Approval to Authorize General Manager to Execute Reimbursement Agreement with City of Santa Clarita for Eligible Portions of Golden Valley Pipeline to New Sheriff Station	C	C																																
11	Recommend Approval of a Resolution Awarding a Purchase Order for Additional Final Design Services for Phase 2C South End Recycled Water Main Extension	C	C																																
12	Recommend Approval of Decoro Drive Pavement Repair			C	C																														
13	Recommend Approval of Purchase of IX Resin for the N Wells PFAS Treatment System			C	C																														
14	Approve a Resolution Authorizing Santa Clarita Valley Water Agency to Provide Water Quality Laboratory Testing Services to the State of California Department of Water Resources		C																																
15	Recommend Approval of a Three-Year Annual Service Contract for the Liquid Chromatography Tandem Mass Spectrometer (LCMSMS)					C		C																											
16	Recommend Approval of a Resolution for a Construction Contract with NoHo Constructors for the Earl Schmidt Filtration Plant (ESFP) Standby Generator Project								C	C																									
17	Recommend Adopting a Resolution Authorizing SCV Water to Apply for Funding from the Drinking Water State Revolving Fund (DWSRF) and to Execute a Financing Agreement for Groundwater Contamination Treatment Projects with the State Water Resources Control Board								C		C																								
18	Recommend Approval of a Resolution Authorizing the General Manager to Apply for Grant Funding Under the Federal Bureau of Reclamation WaterSmart Water Energy Efficiency Grant Program (WEEG) for an Automated Metering Infrastructure Project											C	C																						
19	Recommend Approval to Purchase Approximately 5,000 AMI Compatible Meters											C	C																						
20	Recommend Adopting a Resolution Authorizing SCV Water to Execute a Financing Agreement with the State Water Resources Control Board for the Los Angeles Residential Community Pipeline Project											C		C																					
21	Recommend Approval of a Resolution Authorizing a Purchase Order to Lee & Ro, Inc. for Final Design Services for Rio Vista Water Treatment Plant (RVWTP) Underground Storage Tank (UST) Replacement Project											C		C																					
22	Recommend Approval of a Resolution Awarding a Contract for Fairway Water Storage Tank Coating Project														C	C																			
23	Recommend Adopting a Resolution Authorizing the General Manager to Apply for Grant Funding Under the 2021 Urban and Multibenefit Drought Relief Program and Execute a Grant Agreement with the Department of Water Resources for the Saugus Wells 3 & 4 (Replacement Wells) Well Equipment and Site Improvement Project														C		C																			

C = Completed Item
P = Planned Item

Engineering and Operations Committee
Planning Calendar
FY 2021/22

	Item	Jul 1 Comm	Aug 3 Board	Aug 5 Comm	Aug 17 Board	Sep 2 Comm	Sep 7 Board	Oct 5 Board	Oct 7 Comm	Oct 19 Board	Nov 2 Board	Nov 4 Comm	Nov 16 Board	Dec 7 Board	Dec 9 Comm	Dec 21 Board	Jan 4 Board	Jan 6 Comm	Jan 18 Board	Feb 1 Board	Feb 3 Comm	Feb 15 Board	Mar 1 Board	Mar 3 Comm	Mar 15 Board	Apr 5 Board	Apr 7 Comm	Apr 19 Board	May 3 Board	May 12 Comm	May 17 Board	Jun 2 Comm	Jun 7 Board	Jun 21 Board	Jul 5 Board
24	Recommend Approval of a Resolution Awarding a Materials Purchase Contract for the Santa Clara and Honby Wells PFAS Groundwater Treatment Project with Aqueous Vets														C		C																		
25	Recommend Adopting a Resolution Authorizing the General Manager to Apply for Grant Funding Under the 2021 Urban and Multibenefit Drought Relief Program and Execute a Grant Agreement with the Department of Water Resources for the Santa Clara and Honby Wells PFAS Groundwater Treatment Site Construction Project																C																		
26	Recommend Approval of a Resolution to Execute a License Agreement with UNAVCO for Geodetic Monitoring Station Site License Agreement on SCV Water Property and Designating SCV Water Authorized Representative																	C		C																
27	Recommend Approval of a Resolution Authorizing a Purchase Order to Kennedy/Jenks Consultants for Final Design Services for the Well 201 Volatile Organic Compounds Groundwater Treatment Improvements Project																	C		C																
28	Recommend Approval of Resolution Awarding Construction Contract for Commerce Center Tanks 1 and 2 Exterior Recoat																				C	C														
29	Recommend Approval of Pipeline Improvements Associated with Pinetree Booster Station #3																				C	C														
30	Recommend Approval of a Purchase Order for the Final Design of the T7, U4 and U6 PFAS Treatment System, Saugus 1 and Saugus 2 VOC Treatment System and Disinfection Facility at the Rio Vista Intake Pump Station.																				C		C													
31	Recommend Adopting a Resolution Approving Funding for the Construction of the Pitchess Pipeline Modifications during I-5 Improvements in North County Project to the Los Angeles County Metropolitan Transportation Authority																				C		C													
32	Recommend Approval of Revisions to the Board of Directors Policies and Procedures to Update the Section Regarding General Manager Authority to Accept and Convey Interests in Real and Personal Property																				C		C													
33	Recommend Approval of a Resolution for a Construction Contract to Zim Industries, Inc., a Purchase Order to Richard C. Slade & Associates LLC for Inspection and Engineering Services during Construction and a Purchase Order to Black & Veatch Corporation for Construction Management Services for the Saugus #3 and #4 Wells Construction (Replacement Wells) Project																							C		P										
34	Recommend Approval of (1) a Resolution for Construction Contract with Pacific Hydrotech Corporation; and (2) a Purchase Order to Woodard & Curran, Inc. for Construction Management and Inspection Services; and (3) a Purchase Order to Lee & Ro, Inc. for Engineering Services During Construction for the Earl Schmidt Filtration Plant																										P	P								
35	Recommend Approval of a Change Order for the Fairway Water Storage Tank Coating Project																										P		P							
36	Recommend Adopting a Resolution Authorizing the General Manager to Apply for Grant Funding Under the Bureau of Reclamation Watersmart Title XVI WIIN Act Water Reclamation and Reuse Projects for the Recycled Water Expansion Project																										P		P							
37	Recommend Approval of the Replacement of 5,000 meters as part of the AMI Meter Replacement Program																										P		P							

C = Completed Item
P = Planned Item

Engineering and Operations Committee
Planning Calendar
FY 2021/22

	Item	Jul 1 Comm	Aug 3 Board	Aug 5 Comm	Aug 17 Board	Sep 2 Comm	Sep 7 Board	Oct 5 Board	Oct 7 Comm	Oct 19 Board	Nov 2 Board	Nov 4 Comm	Nov 16 Board	Dec 7 Board	Dec 9 Comm	Dec 21 Board	Jan 4 Board	Jan 6 Comm	Jan 18 Board	Feb 1 Board	Feb 3 Comm	Feb 15 Board	Mar 1 Board	Mar 3 Comm	Mar 15 Board	Apr 5 Board	Apr 7 Comm	Apr 19 Board	May 3 Board	May 12 Comm	May 17 Board	Jun 2 Comm	Jun 7 Board	Jun 21 Board	Jul 5 Board
38	Recommend Approval of Resolution Authorizing SCV Water to Execute Water Service Agreements with the Los Angeles Residential Community and Lily of the Valley Mobile Village																													P		P			
39	Recommend Approval to Fund Contractror Change Orders in Excess of Approved 10% Contingency, for the Phase 2B Recycled Water Tanks																													P			P		
40	Local Hazard Mitigation Plan																														P				
41	Recommend Approval of Resolution Awarding Construction Contract for Pipeline to Los Angeles Residential Community																															P			P
42	Recommend Approval of Construction of a New Skyline Ranch (Deane Zone) Pump Station and Cost Sharing Agreement with Developer																															P			P
43	Recommend Approval of Construction of New Skyline Ranch 2.1 MG Tank (Deane Zone) and Cost Sharing Agreement with Developer																															P			P
44	Recommend Approval of Resolution Adopting an Addendum to the EIR and Awarding a Purchase Order for Final Design Services for Magic Mountain Pump Station																															P			P
45	Recommend Approval of Resolution Adopting an Addendum to the EIR and Awarding a Purchase Order for Final Design Services for Magic Mountain Reservoir																															P			P
46	Recommend Approval of Resolution Awarding Construction Contract and Purchase Orders for Construction Management and Inspection Services and Engineering Services During Construction for Santa Clara and Honby Wells PFAS Groundwater Treatment Improvements																															P			P
47	Recommend Approval of Construction of New Sand Canyon Plaza (Deane Zone) Pump Station and Cost Sharing Agreement with Developer																																		Moved to FY 2022/23
48	Recommend Approval of Design of Pipeline in Sierra Highway from Dockweiler to Newhall Avenue																																		Moved to FY 2022/23

C = Completed Item
P = Planned Item

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Finance and Administration Committee
Planning Calendar
FY 2021/22

	Item	July 6 Board	July 19 Comm	Aug 3 Board	Aug 16 Comm	Sept 7 Board	Sept 20 Comm	Oct 5 Board	Oct 18 Comm	Nov 2 Board	Nov 15 Comm	Dec 7 Board	Dec 13 RESCHEDULED Comm	Dec 21 Board	Jan 24 RESCHEDULED Comm	Feb 1 Board	Feb 15 Board	Feb 28 RESCHEDULED Comm	Mar 15 Board	Mar 21 Comm	April 5 Board	April 18 Comm	May 3 Board	May 16 Comm	June 7 Board	June 20 Comm	June 21 Board
1	Approve a Resolution Allowing for PFAS Financing	C																									
2	Recommend Approval of Revised Customer Service Policy	C																									
3	Recommend Approval of a Contract Amendment with Equation Technologies for Project Management Services	C																									
4	Recommend Approval of Resolutions Setting Santa Clarita Valley Water Agency Tax Rate for FY 2021/22 and Requesting Levy of Tax by Los Angeles County and Ventura County (consent)	C																									
5	Recommend Approval of Resolution Authorizing July 2021 Water Supply Contract Payment (consent)	C																									
6	Recommend Receiving and Filing of April 2021 Monthly Financial Report (consent)	C																									
7	Recommend Approval of a Resolution Revising the Appropriations Limits for FY 2020/21 and FY 2021/22		C	C																							
8	Recommend Approval of a Resolution Authorizing FY 2021/22 Water Supply Contract Payments (consent)		C	C																							
9	Recommend Receiving and Filing of May 2021 Monthly Financial Report (consent)		C	C																							
10	Discuss Financing Policy - Financial Advisor				C																						
11	Discuss Establishing a Community Facilities District (CFD) for the Spring Canyon Development				C	C																					
12	Discuss Establishing a Community Facilities District (CFD) for The Highlands at Tesoro del Valle Development				C	C																					
13	Recommend Approval of Employee Manual 40 - Flexible Workplace Program				C	C																					
14	Recommend Approval of a Resolution Adjusting Employer's Contributions for PERS Medical Insurance				C	C																					

C = Completed Item
P = Planned Item

Finance and Administration Committee
Planning Calendar
FY 2021/22

15	Review Financial Performance Metrics				P																					
16	Recommend Receiving and Filing of June 2021 Monthly Financial Report (consent)				C	C																				
17	Discuss Financing Policy - Financial Advisor						C																			
18	Recommend Approval of Additional Oracle Software Licenses with DLT Solutions, LLC						C	C																		
19	Review Financial Performance Metrics						C																			
20	Discuss Financing Policy - Financial Advisor								C																	
21	Discuss Wholesale Water Rates - Ratepayer Advocate								C																	
22	Discuss Community Facilities District (CFD) Policy								C																	
23	Technology Update								P																	
24	Discuss Financing Policy - Financial Advisor										C															
25	Recommend Approval of a Revised Purchasing Policy										C	C														
26	Technology Update										C	C														
27	Recommend Receiving and Filing of July 2021 Monthly Financial Report (consent)										C	C														
28	Recommend Approval of a Revised Community Faciliteis District (CFD) Policy											C														
29	Discuss California Water and Wastewater Arrearage Payment Program											C														
30	Recommend Receiving and Filing of SCV Water Annual Comprehensive Financial Report (ACFR) ended June 30, 2021 (consent)												C	C												
31	Recommend Approval of a Resolution Appointing Dirk S. Marks as Interim Director of Water Resources and Approving Employment Agreement												C	C												
32	Update to the Recommendation for Approval of a Resolution Revising Wholesale Water Rates												C													
33	Recommend Receiving and Filing of August 2021 Monthly Financial Report (consent)												C	C												
34	Recommend Approval of a Professional Services Agreement with Emtec Consulting Services LLC for Oracle Managed Services														C		C									

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Finance and Administration Committee
Planning Calendar
FY 2021/22

35	Discuss Ratepayer Assistance Program														P											
36	Recommend Approval of a Resolution Adopting a Revised Investment Policy - (Annually adopted via reso) (consent)														C		C									
37	Recommend Receiving and Filing of FY 2021/22 First Quarter Financial Report														C		C									
38	Approve a Resolution Revising Wholesale Water Rates															P										
39	Recommend Adoption of a Resolution Approving Volunteer Workers' Compensation Insurance																	C	C							
40	Informational Report on Examples of Ratepayer Assistance Programs																	C			P					
41	Recommend Receiving and Filing of October 2021 Monthly Financial Report (consent)																	C	C							
42	Recommend Receiving and Filing of November 2021 Monthly Financial Report (consent)																	C	C							
43	Approve a Resolution Revising Wholesale Water Rates																		C							
44	Review Budget Calendar																			C						
45	Recommend Approval of a Proposed Employee Salary Adjustment for FY 2022/23																			C	P					
46	Recommend Receiving and Filing of FY 2021/22 Second Quarter Financial Report																			C	P					
47	Recommend Receiving and Filing of December 2021 Monthly Financial Report (consent)																			C	P					
48	Recommend Approval of Revised Position Control for FY 2022/23																					P	P			
49	Recommend Approval of a Resolution Revising the FY 2021/22 and FY 2022/23 Biennial Budget																					P	P			
50	Review Annual List of Professional Services Contracts (consent)																					P	P			
51	Technology Update																					P				
52	Recommend Receiving and Filing of January 2022 Monthly Financial Report (consent)																					P	P			
53	Recommend Receiving and Filing of February 2022 Monthly Financial Report (consent)																					P	P			

C = Completed Item
P = Planned Item

Finance and Administration Committee
Planning Calendar
FY 2021/22

54	Approve a Resolution Adopting the Appropriation of All As-Yet Unappropriated Funds for FY 2021/22 (consent)																							P	P		
55	Approve a Resolution Adopting the Appropriation Limit for FY 2022/23 (consent)																							P	P		
56	Recommend Approval of Employee Manual 41 - Agency Vehicles																							P	P		
57	Recommend Receiving and Filing of FY 2021/22 Third Quarter Financial Report																							P	P		
58	Recommend Receiving and Filing of March 2022 Monthly Financial Report (consent)																							P	P		
59	Recommend Approval of Resolution Authorizing July 2022 Water Supply Contract Payment																									P	
60	Recommend Receiving and Filing of April 2022 Monthly Financial Report (consent)																									P	

C = Completed Item
P = Planned Item

PUBLIC OUTREACH AND LEGISLATION COMMITTEE
AGENDA PLANNING CALENDAR FY 2021-2022

July 15, 2021 Committee – VIRTUAL MEETING

1. Legislative Consultant Reports
2. Recommendation to Serve on the ACWA Legislative Committee
3. Equitable and Inclusive Engagement
4. Communications Manager Activities:
    - Legislative Tracking
    - Grant Status Report
    - Sponsorship Tracking FY 2021/22
    - Committee Planning Calendar FY 2021/22

August 19, 2021 Committee – VIRTUAL MEETING

1. Legislative Consultant Reports
2. Communications Manager Activities:
    - Social Media Report from Consultant Tripepi Smith
    - Legislative Tracking
    - Grant Status Report
    - Sponsorship Tracking FY 2021/22
    - Committee Planning Calendar FY 2021/22

September 16, 2021 Committee – VIRTUAL MEETING

1. Legislative Consultant Reports
2. Discussion on Community Event Participation
3. Equitable and Inclusive Engagement
4. Communications Manager Activities:
    - Legislative Tracking
    - Grant Status Report
    - Sponsorship Tracking FY 2021/22
    - Committee Planning Calendar FY 2021/22

October 21, 2021 Committee – VIRTUAL MEETING

1. Legislative Consultant Reports
2. Review of Outreach on Rent and Utility Relief Program
3. Communications Manager Activities:
    - Legislative Tracking
    - Grant Status Report
    - Sponsorship Tracking FY 2021/22
    - Committee Planning Calendar FY 2021/22

November 18, 2021 Committee – VIRTUAL MEETING

1. Legislative Consultant Reports
2. Update on Communication and Engagement Gap Analysis Efforts
3. Communications Manager Activities:
    - Social Media Report from Consultant Tripepi Smith
    - Legislative Tracking
    - Grant Status Report
    - Sponsorship Tracking FY 2021/22
    - Committee Planning Calendar FY 2021/22

December 16, 2021 Committee – VIRTUAL MEETING

1. Legislative Consultant Reports
2. Outreach Year in Review
3. Communications Manager Activities:
    - Legislative Tracking
    - Grant Status Report
    - Sponsorship Tracking FY 2021/22
    - Committee Planning Calendar FY 2021/22

January 20, 2022 Committee – VIRTUAL MEETING

1. Legislative Consultant Reports
2. Discussion of the 2022 Legislative Platform and Advocacy Process
3. Communications Manager Activities:
    - Legislative Tracking
    - Grant Status Report
    - Sponsorship Tracking FY 2021/22
    - Committee Planning Calendar FY 2021/22

February 15, 2022 Regular Board Meeting

1. Adoption of the 2022 Legislative Platform

February 17, 2022 Committee - VIRTUAL MEETING

1. Legislative Consultant Reports
2. Status Update on Communication and Engagement Gap Analysis Efforts
3. Communications Manager Activities:
    - Quarterly Report from Consultant Tripepi Smith
    - Legislative Tracking
    - Grant Status Report
    - Sponsorship Tracking FY 2021/22
    - Committee Planning Calendar FY 2021/22

March 17, 2022 Committee – VIRTUAL MEETING

1. Legislative Consultant Reports
2. Discussion of Water Academy Program
3. Communications Manager Activities:
    - Legislative Tracking
    - Grant Status Report
    - Sponsorship Tracking FY 2021/22
    - Committee Planning Calendar FY 2021/22

March 24, 2022 at 2:30 PM Special Committee – VIRTUAL MEETING

1. California Legislative Bill Workshop

April 21, 2022 Committee - HYBRID MEETING

1. Legislative Consultant Reports
2. Status Update on Communication and Engagement Gap Analysis Efforts
3. Communications Manager Activities:
    - Legislative Tracking
    - Grant Status Report
    - Sponsorship Tracking FY 2021/22
    - Committee Planning Calendar FY 2021/22

May 19, 2022 Committee

1. Legislative Consultant Reports
2. Presentation: Overview of Educational Curriculum Activities
3. Communications Manager Activities:

- Quarterly Report from Consultant Tripepi Smith
- Legislative Tracking
- Grant Status Report
- Sponsorship Tracking FY 2021/22
- Committee Planning Calendar FY 2021/22

June 16, 2022 Committee

1. Legislative Consultant Reports
2. Communications Manager Activities:
    - Legislative Tracking
    - Grant Status Report
    - Sponsorship Tracking FY 2022/23
    - Committee Planning Calendar FY 2022/23

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Santa Clarita Valley Water Agency
Water Resources & Watershed Committee and Board Calendar

FY 2021/22

	Item	Jul 6 Board	Jul 14 Comm	Aug 3 Board	Aug 11 Comm	Sep 7 Board	Sep 8 Comm	Oct 5 Board	Oct 13 Comm	Nov 2 Board	Nov 10 Comm	Nov 16 Board	Dec 7 Board	Dec 8 Comm	Jan 4 Board	Jan 12 Comm	Feb 1 Board	Feb 9 Comm	Feb 15 Board	Mar 9 Comm	Apr 5 Board	Apr 13 Comm	Apr 19 Board	Apr 26 Board	May 11 Comm	Jun 7 Board	Jun 8 Comm
1	Recommend Adoption of a Resolution Approving the SB 610 Water Supply Assessment for the Castaic Mountainview Apartment Project																			C	P						
2	Recommend Adoption of a Resolution Approving the SB 610 Water Supply Assessment for the Lyons Canyon Development																			C	P						
3	Recommend Adopting a Resolution to Enact Stage **2** of the Water Shortage Contingency Plan and Water Conservation and Water Supply Shortage Ordinance																					P		P			
4	Recommend Adopting a Resolution Authorizing Creation of a Standby Charge for the Tesoro del Val Annexation Area																					P		P			
5	Recommend Adoption of a Resolution Approving the SB 610 Water Supply Assessment for the Entrada / Valencia Commerce Center Development(s)																					P		P			
6	Update on Conservation Activities & Performance		C		C		C		C		C			C				C				P			P		P
7	Status of Drought Response and Performance				C		C				C			C		C		C		C		P			P		P
8	Authorize the General Manager to Execute a Professional Services Agreement with Environmental Science Associates in Support of the SCV Water's Water Resiliency Initiative																					P			P		
9	Status of Water Supplies													C		C		C				P					
10	Update on Water Resiliency Plan Initiative Activities																					P					
11	Review and Discussion of FY 2021/22 and FY 2022/23 Water Resources Operating Budget and Minor and Major Capital Projects Budgets																					P					
12	Recommend that the Board Authorize the General Manager to Enter Into Water Exchange Agreements with Irvine Ranch Water District													C										P			
13	Authorize the General Manager to Enter into an Agreement to Fund Planning Costs for the Proposed High Desert Groundwater Banking Program																										P
14	Status of Sites Reservoir Project, Rosedale-Rio Bravo Water Banking Program and AVEK High Desert Banking Program		C											C													
15	Status of Sustainable Groundwater Management Act Implementation				C									C						C							
16	Review of Lawn Replacement Program Evaluation				C																						
17	Status of Efforts Relating to Groundwater Spreading Pilot Program				C																						
18	Devil's Den Semi-Annual Report						C	C										C									
19	Recommend Authorizing the General Manager to Enter into a Contract with Kris Helm Consulting for Water Resources Strategic Planning Services						C	C																			
20	Recommend Approval of Modification to Lawn Replacement Program						C	C																			

Santa Clarita Valley Water Agency
Water Resources & Watershed Committee and Board Calendar

FY 2021/22

	Item	Jul 6 Board	Jul 14 Comm	Aug 3 Board	Aug 11 Comm	Sep 7 Board	Sep 8 Comm	Oct 5 Board	Oct 13 Comm	Nov 2 Board	Nov 10 Comm	Nov 16 Board	Dec 7 Board	Dec 8 Comm	Jan 4 Board	Jan 12 Comm	Feb 1 Board	Feb 9 Comm	Feb 15 Board	Mar 9 Comm	Apr 5 Board	Apr 13 Comm	Apr 19 Board	Apr 26 Board	May 11 Comm	Jun 7 Board	Jun 8 Comm
21	Status of Water Supply and Water Banking Programs						C													C							
22	CLOSED SESSION: Devil's Den Real Property Negotiation and Ongoing Litigation							C																			
23	Status of Devil's Den Solar Generation Facilities							C																			
24	Approve a Resolution Authorizing the General Manager to Apply for Grant Funding Under the Federal Bureau of Reclamation WaterSmart Drought Relief Program for the Rosedale Phase 2 Wells Project								C	C																	
25	CLOSED SESSION: Property Negotiation - Water Transfers								C																		
26	Status of Upper Santa Clara River Salt and Nutrient Management Plan								C																		
27	Update on Water Operating Plan and Water Conservation Response Actions								C																		
28	Discuss and Consider Potential Amendment to the Deposit and Funding Agreement between Santa Clarita Valley Water Agency and DACA-Castaic, LLC for Tapia Ranch										C		C														
29	CLOSED SESSION: Anticipated Litigation										C																
30	Consider Adoption of a Resolution to Enact Stage 1 of the Water Shortage Contingency Plan and Water Conservation and Water Supply Shortage Ordinance											C															
31	Authorize the General Manager to Enter into a Lease Agreement with Rolling Hills Farms for the Devil's Den Property												C														
32	Status of Integrated Regional Water Management Plan Update													C													
33	Recommend Approval of Amendment to Sites Reservoir Planning Costs Agreement															C	C										
34	Authorize the General Manager to Enter Into Agreement with TerraVerde Energy for Application Prepararation and Project Management for Self Generating Incentive Program Projects (Photovoltaic and Battery Storage) Funding															C			C								
35	Status of Sustainability and Climate Action Plan															C											
36	Water Conservation Garden and Education Experience - Design Update																			C							
37	Status of Recycled Water Program																										
38	Recommend Authorizing the General Manager to Execute an Construction Contract for Bridgeport Pocket Park - TBD																										

P = Planned
C = Completed
CNL = Cancelled
CNT = Continued Item

ITEM NO.
12.1

Lynne Plambeck
AB1234 report
Southern California Water Dialogue
Wednesday, March 23, 2022
12:00 – 1:30 pm
Zoom Webinar

"The Future We Worried About is Here"

Join the Water Dialogue as renowned climate scientist, Dr. Daniel Swain, will speak about the mega-drought descending across many parts of the western United States and specifically southern California, new weather and drought modeling predictions for the future, and the impact of drought on the looming wildfire season.

The January and February 2022 period was the driest on record (in at least 127 years) resulting in record-dry vegetative conditions in parts of the state. Dr. Swain believes this portends a very early start to an active and potentially devastating fire season. "Wildfires aren't new, but the character of the fires – how quickly they become large and destructive – is shocking, even compared to recent extremes."

Speaker:
Dr. Daniel Swain, Research Scientist at UCLA's Institute of Environment and Sustainability, Research Fellow with the Capacity Center for Climate and Weather Extremes at the National Center for Atmospheric Research, and California Climate Fellow at The Nature Conservancy.

Precipitation evaluations have changed because precipitation runoff is evaporating instead of being absorbed. That makes water supply estimates in accurate and the models inadequate. This happened with DWR estimates from last year.

If you get a lot of water all at once it is not the same for recharge as getting a small amount over a period of months. This is leading to the drying out of vegetation, adding to fuels that increase wildfire activity.

In climate change, atmospheric river events will increase. As the temperature increases the atmosphere absorbs more water causing more extreme events. Because these are tropical storms, the precipitation will fall more as rainfall than snow. FloodMar and groundwater recharge can help to address this situation. Building new dams is not the answer, though we may need new infrastructure – should look for other bypasses similar to the Yolo Bypass. Another answer – increased pervious pavement in urban areas.

The next Water Dialogue meeting will be on Wednesday, April 27.