Yucaipa Valley Water District

Notice and Agenda of a Board Workshop

Tuesday, September 10, 2019 at 4:00 p.m.

MEETING LOCATION:	District Administration Building 12770 Second Street, Yucaipa
MEMBERS OF THE BOARD:	Director Chris Mann, Division 1 Director Bruce Granlund, Division 2 Director Jay Bogh, Division 3 Director Lonni Granlund, Division 4 Director Joyce McIntire, Division 5

I. Call to Order - Pledge of Allegiance

II. Public Comments At this time, members of the public may address the Board of Directors on matters within its jurisdiction; however, no action or significant discussion may take place on any item not on the meeting agenda.

III. Staff Report

IV. Presentation

A. Overview of the Santa Ana River - Mill Creek Cooperative Water Project Agreement [Workshop Memorandum No. 19-191 - Page 6 of 192]

B. Overview of the Stream Monitoring Requirements for Maximum Benefit Program Compliance [Workshop Memorandum No. 19-192 - Page 86 of 192]

C. Overview of the Educational Element of the Yucaipa Valley Water District Public Outreach Program [Workshop Memorandum No. 19-193 - Page 87 of 192]

D. Overview of the San Timoteo Habitat Monitoring Program [Workshop Memorandum No. 19-194 - Page 88 of 192]

V. Capital Improvement Projects

A. Review of a Proposal to Update the Preliminary Engineering Design Study for the Salinity and Groundwater Enhancement (SAGE) Project [Workshop Memorandum No. 19-195 - Page 93 of 192]

B. Status Report on the Improvements to the Primary Clarifiers at the Wochholz Regional Water Recycling Facility [Workshop Memorandum No. 19-196 - Page 98 of 192]

C. Status Report on the Geotechnical Studies Associated with the Calimesa Lake and Recharge Facility [Workshop Memorandum No. 19-197 - Page 99 of 192]

Any person who requires accommodation to participate in this meeting should contact the District office at (909) 797-5117, at least 48 hours prior to the meeting to request a disability-related modification or accommodation.

Materials that are provided to the Board of Directors after the meeting packet is compiled and distributed will be made available for public review during normal business hours at the District office located at 12770 Second Street, Yucaipa. Meeting materials are also available on the District's website at www.yvwd.dst.ca.us

VI. Development Related

A. Overview of Requirements to Install Water Submeters on Multi-Family Housing Developments [Workshop Memorandum No. 19-198 - Page 104 of 192]

VII. Administrative Issues

A. Overview of the Draft Financial Rate Model for the Drinking Water, Sewer, and Recycled Water Enterprises [Workshop Memorandum No. 19-199 - Page 121 of 192]

B. Overview of Claim for Repair Costs Related to Water Line Leak on Third Street [Workshop Memorandum No. 19-200 - Page 178 of 192]

VIII. Director Comments

IX. Announcements

A. September 17, 2019 at 6:00 p.m. - Board Meeting
B. September 24, 2019 at 4:00 p.m. - Board Workshop
C. September 25, 2019 at 1:30 p.m. - Joint Board Meeting with San Bernardino Valley Municipal Water District, San Gorgonio Pass Water Agency and Yucaipa Valley Water District
D. October 1, 2019 at 6:00 p.m. - Board Meeting
E. October 8, 2019 at 4:00 p.m. - Board Workshop
F. October 15, 2019 at 6:00 p.m. - Board Meeting
G. October 29, 2019 at 4:00 p.m. - Board Workshop
H. November 5, 2019 at 6:00 p.m. - Board Meeting
I. November 12, 2019 at 4:00 p.m. - Board Workshop
J. November 19, 2019 at 6:00 p.m. - Board Meeting
K. November 26, 2019 at 4:00 p.m. - Board Workshop
L. December 3, 2019 at 6:00 p.m. - Board Meeting
M. December 10, 2019 at 4:00 p.m. - Board Workshop
N. December 17, 2019 at 6:00 p.m. - Board Meeting
O. December 31, 2019 at 4:00 p.m. - Board Workshop - Cancelled
P. January 7, 2020 at 6:00 p.m. - Board Meeting - Cancelled
Q. January 14, 2020 at 4:00 p.m. - Board Workshop
R. January 21, 2020 at 6:00 p.m. - Board Meeting
S. January 28, 2020 at 4:00 p.m. - Board Workshop

X. Closed Session

A. Conference with Real Property Negotiator(s) - Government Code 54956.8
Property: Assessor's Parcel Number: 473-070-019
Agency Negotiator: Joseph Zoba, General Manager
Negotiating Parties: Vinh Nguyen
Under Negotiation: Terms of Payment and Price

B. Conference with Real Property Negotiator(s) - Government Code 54956.8
Property: Assessor's Parcel Number: 473-070-020
Agency Negotiator: Joseph Zoba, General Manager
Negotiating Parties: Hector Erami and Alexandra Rodriguez
Under Negotiation: Terms of Payment and Price

C. Conference with Legal Counsel - Anticipated Litigation (Government Code 54956.9) - Two Cases

XI. Adjournment

Staff Report

Yucaipa Valley Water District

Presentations

Yucaipa Valley Water District

Yucaipa Valley Water District

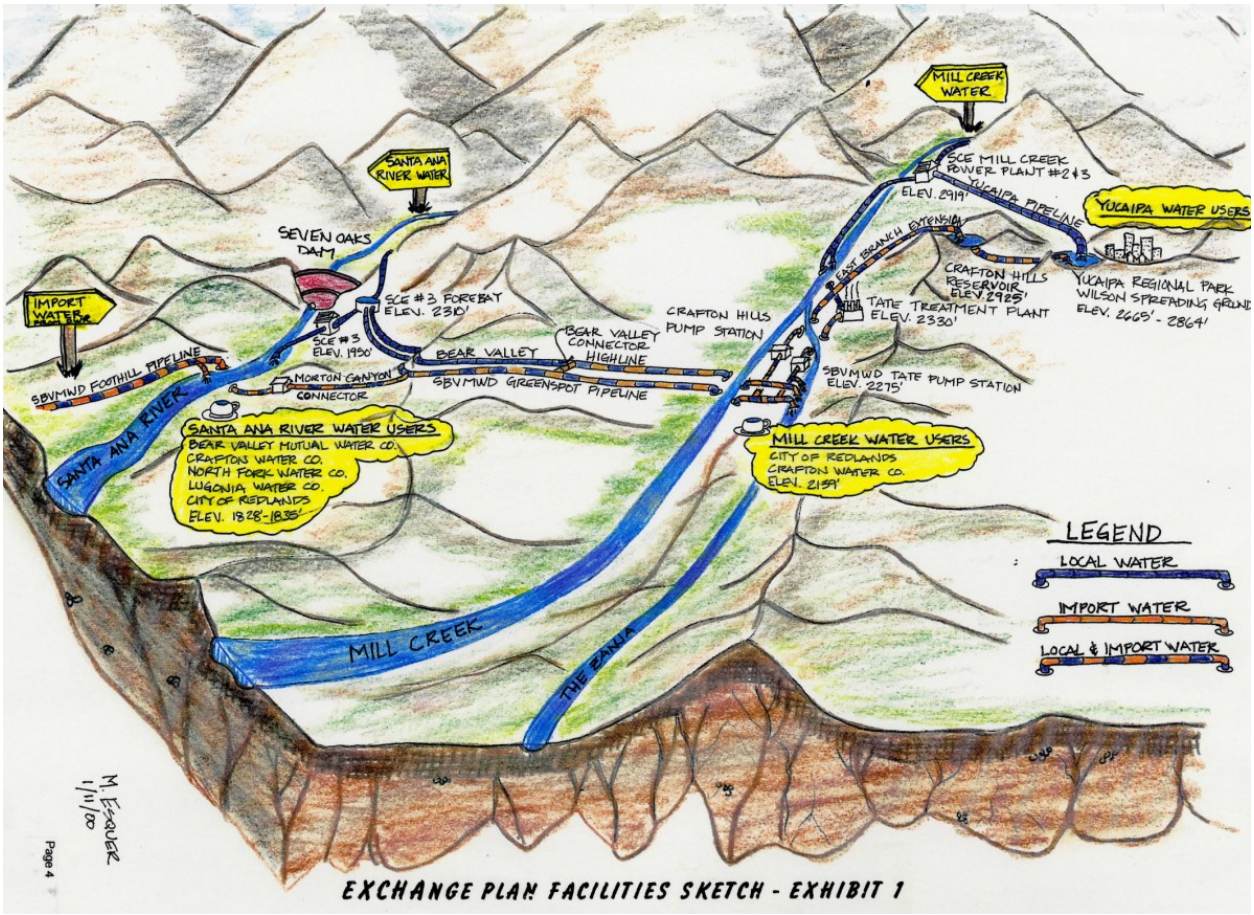
Workshop Memorandum 19-191

Date: September 10, 2019

Prepared By: Joseph Zoba, General Manager

Subject: Overview of the Santa Ana River - Mill Creek Cooperative Water Project Agreement

The Santa Ana River - Mill Creek Cooperative Water Project ("Exchange Plan") was a multi-entity effort adopted on May 3, 1976 in an effort to find the most efficient manner to deliver supplemental water to the higher elevations of the region (Yucaipa) regardless of water rights and infrastructure ownership.



The participants of the Exchange Plan have started to re-engage to develop efforts to review and maximize the efficiency and effectiveness of the regional infrastructure. The Parties have agreed to hire a consultant to review and amend the Exchange Plan to improve the functionality of the Agreement.

On Wednesday, September 11, 2019, the San Bernardino Valley Water Conservation District will be considering the approval of a contract with Water Systems Consulting to assist with the development of an amendment for the Exchange Plan. The Yucaipa Valley Water District's share for the consultant will be $5,556. This might be a good meeting to attend to learn more about the Exchange Plan and how the regional agencies work closely together.

Attachments:

- San Bernardino Valley Water Conservation District Memorandum No. 1669 - Exchange Plan Agreement Support and Contribution for Plan Update
  YVWD Workshop Memorandum No. 19-191 Page 3 of 80

- Measure for Measure or San Bernardino Valley Water Exchange Plan by Raymond Beeler, May 12, 1977
  YVWD Workshop Memorandum No. 19-191 Page 10 of 80

- Santa Ana River - Mill Creek Cooperative Water Project Agreement, May 3, 1976
  YVWD Workshop Memorandum No. 19-191 Page 31 of 80

San Bernardino Valley
Water Conservation District
Helping Nature Store Our Water

Memorandum No. 1669

To: **Board of Directors**

From: **General Manager, Daniel Cozad**

Date: **September 11, 2019**

Subject: **Exchange Plan Agreement Support and Contribution for Plan Update**

RECOMMENDATION

Staff and the Exchange Plan Committee recommends the Board authorize the general manager to contract with Water Systems Consulting (WSC) for support services to enable the amendment and update of the Cooperative Exchange Plan Agreement under standard terms acceptable to legal counsel. The agreement is not expected to exceed $100,000.

BACKGROUND

The District is a signatory and project manager for the Santa Ana/Mill Creek Cooperative Exchange Plan Agreement. The group has held over 100 meetings in the last 20 years but very few in the last 15 years. Several issues came to the attention of the Committee members, which reinitiated meetings in early 2019. Based on the early meeting the Committee has asked the Project Manager to contract for facilitation and updates to the plan and agreement.

DISCUSSION

After discussion of a draft scope developed for the Committee, they requested the District contract with WSC for services to support the committee meetings and updates to the plan. This procurement is considered a sole source as it was unanimously recommended by the Committee with no other recommendations. Additionally, the selected firm recently successfully won similar work for other agencies including SBVMWD. The selection of WSC is based on these factors. The Committee also requested the Conservation District provide legal counsel services to update the agreement after the plan changes are developed. The Committee has directed and reviewed the draft budget.

The Budget would obligate the District to provide some staff time and a contribution of approximately $5,500 as a share of the consultant costs. This share is low because SBVMWD is seeking approval to pay half of the cost, and the other 9 participants pay the other 50%. The District would also have undetermined legal costs for agreement language.

1630 W. Redlands Blvd, Suite A
Redlands, CA 92373
Phone: 909.793.2503
Fax: 909.793.0188
www.sbvwcd.org Email: info@sbvwcd.org

Memorandum No. 1669 SBVWCD Board Letter, September 11, 2019

The update of this agreement and plan will continue to benefit the agencies regionally and the District by increasing flexibility of facility use in recharging and direct delivery of water.

ALTERNATIVES

Potential Board Actions include:

- Provide authorization to execute the agreement and make the contributions identified
- Cede the role of Project Manager for the Exchange Plan to another entity
- Table the issue to a later meeting delaying the effort of the Co0mmittee.

FISCAL IMPACT

Staff time for Exchange is included in the Water Enterprise of the approved budget. SBVMWD provides $30,000 toward the administration of the Exchange Plan, and while this level of effort was not expected, it is likely recoverable from the Groundwater Council future budgets. This effort is supportive of field operations and is appropriate as a groundwater enterprise cost. The estimated cost by participate is shown below but may vary due to many factors; staff would only authorize work up to the revenue available.

Exchange Plan Agreement Update Budget

DRAFT 1 8/27/19

	Estimated Cost Percentage	**$ 100,000 Amount**
Signatory Participant Entity		
Bear Valley Mutual Water Company	5.6%	$ 5,556
City of Redlands	5.6%	$ 5,556
Crafton Water Company	5.6%	$ 5,556
Lugonia Water Company	5.6%	$ 5,556
East Valley Water District (East San Bernardino County Water District)	5.6%	$ 5,556
North Fork Water Company	5.6%	$ 5,556
Redlands Water Company	5.6%	$ 5,556
San Bernardino Valley Municipal Water District	50%	$ 50,000
San Bernardino Valley Water Conservation District	5.6%	$ 5,556
Yucaipa Valley Water District (Yucaipa Valley County Water District)	5.6%	$ 5,556
	100%	**$ 100,000**

POTENTIAL MOTIONS

1. Move staff's recommendation to provide authority to execute the agreement and support the Exchange Plan Committee
2. Direct staff on the other actions
3. Table the issue to a future meeting

ATTACHMENTS OR MATERIALS

Scope and Proposal

Memorandum No. 1669 SBVWCD Board Letter, September 11, 2019

APPROVALS
Reviewed by District Counsel

WSC
WATER SYSTEMS CONSULTING, INC.

8/30/2019

Daniel B. Cozad
San Bernardino Valley Water Conservation District
1630 West Redlands Blvd., Suite A
Redlands, CA 92373

SUBJECT: PROPOSAL TO PROVIDE COORDINATION / FACILITATION TO UPDATE THE SANTA ANA RIVER – MILL CREEK COOPERATIVE WATER PROJECT AGREEMENT ("EXCHANGE PLAN")

Dear Mr. Cozad,

Water Systems Consulting, Inc. (WSC) appreciates the opportunity to submit this proposal to provide coordination and facilitation to update the Santa Ana River – Mill Creek Cooperative Water Project Agreement ("Exchange Plan"). The services are envisioned to help the Exchange Plan Task Force ("Task Force") conceptualize, develop, review and refine a modified or amended exchange plan document. The anticipated scope of services is included as Attachment 1.

WSC proposes to provide the coordination and facilitation services on a time and materials basis, with an anticipated not-to-exceed budget of $79,800. A detailed breakdown of our budget estimate is included as Attachment 2. The expected duration of the project is between six and nine months from notice to proceed.

Due to the uncertainty associated with creative and collaborative multi-stakeholder projects such as this, we cannot provide a firm fixed fee for the proposed services, nor can we commit to a pre-determined schedule as the schedule will be primarily driven by the needs and availability of the Task Force. However, we will partner with the Task Force to closely manage scope, schedule and budget to achieve the Task Force's objectives as cost-effectively and expeditiously as possible.

WSC's team will include Mr. Jeffery Szytel (Principal) and Ms. Laine Carlson (Project Manager), supported as needed by additional WSC staff. If you have any questions or would like to discuss any aspect this proposal, please contact Jeff (jszytel@wsc-inc.com) or Laine (lcarlson@wsc-inc.com) directly.

Sincerely,

Water Systems Consulting, Inc.

Jeffery M. Szytel, PE, MBA
Principal

Laine Carlson, PE
Project Manager

9375 Archibald Avenue Ste 200 I Rancho Cucamonga, CA 91730 I Phone: (909) 483-3200 I www.wsc-inc.com

Exchange Plan Update Facilitation
ATTACHMENT 1 – ANTICIPATED SCOPE OF SERVICES

TASK 0.0 PROJECT MANAGEMENT

0.1 Project Administration

- Finalize and initiate contract
- Prepare monthly invoices and progress reports (9 assumed)
- Conduct as-needed coordination via phone and email

0.2 Kickoff Meeting

- Prepare for and conduct in-person kickoff meeting to review the agreements and plans that make up the Exchange Plan, discuss goals and objectives for the update, review the update facilitation scope and approach and define coordination needs.

TASK 1.0 BACKGROUND AND PREPARATION

1.1 Data Review

- Review existing Exchange Plan agreement and Bucket for Bucket guide
- Review documentation of Seven Oaks Dam Water Quality Exchange and recharge exchanges

1.2 Listening Sessions with Task Force Members

- Schedule and conduct up to three (3) one-hour listening sessions with individual Task Force members to understand unique perspectives, goals, & needs to in advance of larger Task Force working sessions. Meetings will be held in-person if possible, or via conference call if needed. The budget is based on all three in-person meetings being held on the same day.
- Prepare summary of feedback received at the listening sessions.

TASK 2.0 TASK FORCE COORDINATION AND FACILITATION

2.1 Task Force Working Sessions

- Plan, organize and facilitate two (2) 4-hour Working Sessions with the Task Force to brainstorm potential new facilities, processes or entities to be added or updated.
- Compile explanatory maps, charts and graphics to support the discussion at the Working Sessions.
- Prepare meeting summaries documenting key discussion points, decisions, data needs and action items.
- Following Working Session 1, coordinate with Task Force members to collect and review additional technical data needed to support new concepts identified in Working Session 1. Develop supplemental maps, charts and graphics to support the discussion at Working Session 2.

2.2 Monthly Meetings

- Plan, organize and conduct up to four (4) two-hour in-person meetings with the Task Force to review progress, discuss key issues and review and discuss draft deliverables.
- Prepare and distribute meeting summaries.

Exchange Plan Update Facilitation
ATTACHMENT 1 – ANTICIPATED SCOPE OF SERVICES

TASK 3.0 EXCHANGE PLAN ADDENDUM

3.1 Define Proposed Changes

- Identify any required updates to procedural issues or names and dates in the Exchange Plan.
- Describe new exchanges, including Seven Oaks Dam Water Quality Exchange and recharge exchanges.
- Identify whether any desired changes cannot be included in an addendum.
- Submit summary of proposed changes to the Task Force for review and approval.

3.2 Preliminary Draft Addendum

- Draft Preliminary Addendum text and needed maps, tables or figures for legal and Task Force review. The budget is based on preparing an Addendum consisting of 5-pages of text and tables and up to two figures.
- The scope assumes WSC will prepare materials for discussion and revision, but that revisions to or legal agreement addenda will be prepared by Water Conservation District legal counsel.
- The scope does not include revision of the Bucket for Bucket guide. The need for any updates to this guide will be discussed with the Task Force following review of the Preliminary Draft Addendum.

3.3 Approval Draft Addendum

- Incorporate comments received on the Preliminary Draft Addendum and prepare an Approval Draft Addendum

3.4 Final Addendum

- Incorporate comments received on the Approval Draft Addendum and prepare a Final Addendum

TASK 4.0 BOARD PRESENATION SUPPORT

4.1 Prepare PowerPoint Presentation

- Prepare a draft PowerPoint presentation summarizing the existing Exchange Plan and proposed changes to be used for Board/Counsel updates.
- Present draft the Task Force at a Monthly Meeting (Task 2.2) to receive feedback
- Incorporate comments from the Task Force and prepare a final Powerpoint Presentation

4.2 Board/Counsel Memorandum

- Prepare draft Board/Counsel Memorandum summarizing the existing Exchange Plan and proposed changes and submit to the Task Force for review and comment.
- Incorporate comments from the Task Force and prepare a final Board/Counsel Memorandum.

4.3 Board Presentations

- Attend up to two (2) Board/Counsel meetings to present the PowerPoint Presentation and support Task Force members in answering questions about the proposed amendment.

Exchange Plan Update Facilitation
ATTACHMENT 2 – ANTICIPATED BUDGET

Task No.	Task Description	WSC							
		Principal	Project Manager	Document & Graphics Support	Engineering Support	WSC Labor Hours	WSC Labor Fee	Expenses	WSC Fee
0	**Project Management**								
0.1	Project Administration	2	20			22	$ 5,480	$ -	$ 5,480
0.2	Kickoff Meeting	10	10			20	$ 5,350	$ 550	$ 5,900
	SUBTOTAL	**12**	**30**	**0**	**0**	**42**	$ 10,830	$ 550	$ 11,380
1	**Background and Preparation**								
1.1	Data Review	6	12			18	$ 4,680	$ -	$ 4,680
1.2	Listening Sessions with Task Force Members	9	12			21	$ 5,550	$ 550	$ 6,100
	SUBTOTAL	**15**	**24**	**0**	**0**	**39**	$ 10,230	$ 550	$ 10,780
2	**Task Force Coordination and Facilitation**								
2.1	Task Force Working Sessions	20	32	8	16	76	$ 17,160	$ 1,100	$ 18,260
2.2	Monthly Meetings	28	30			58	$ 15,470	$ 2,200	$ 17,670
	SUBTOTAL	**48**	**62**	**8**	**16**	**134**	$ 32,630	$ 3,300	$ 35,930
3	**Exchange Plan Addendum**								
3.1	Define Proposed Changes	4	12		8	24	$ 5,180	$ -	$ 5,180
3.2	Preliminary Draft Addendum	4	12		8	24	$ 5,180	$ -	$ 5,180
3.3	Approval Draft Addendum	2	4		2	8	$ 1,830	$ -	$ 1,830
3.4	Final Addendum	2	4		2	8	$ 1,830	$ -	$ 1,830
	SUBTOTAL	**12**	**32**	**0**	**20**	**64**	$ 14,020	$ -	$ 14,020
4	**Board Presentation Support**								
4.1	Prepare PowerPoint Presentation	2	8	8		18	$ 3,900	$ -	$ 3,900
4.2	Board/Counsel Memorandum	1	4			5	$ 1,270	$ -	$ 1,270
4.3	Board Presentations		10			10	$ 2,450	$ 70	$ 2,520
	SUBTOTAL	**3**	**22**	**8**	**0**	**33**	$ 7,620	$ 70	$ 7,690
	COLUMN TOTALS	**90**	**170**	**16**	**36**	**312**	$ 75,330	$ 4,470	$ 79,800

Measure for Measure

or

San Bernardino Valley Water Exchange Plan

by

Raymond Beeler

May 12, 1977

We all appreciate the importance of water in this arid valley. The need varies from indoor uses such as drinking water to water for sinks, dishwashers, bathtubs and toilets. A larger portion of water is used outdoors for watering lawns and shrubs. Without water agriculture could not survive. Water is also used for industrial uses and for cooling in power plants. We also recognize the need for water that is low in salts and the need for purification of sewage water to state standards. We are cognizant of the energy stored in falling water, so every effort must be made to put this energy to constructive use. Furthermore, this energy is clean and the generation of hydroelectric power causes no atmospheric pollution. We are aware of the fact that there is great diurnal variation in the use of power, so consideration should be given to generation of power during periods of greatest use. This is accomplished by storing water in reservoirs and generating power during peak periods. Locally this is presently done with water from Lake Silverwood at the Devil Canyon Power Plant north of San Bernardino.

We are all aware of rain fall cycles. I should call your attention to the Douglas tree ring studies and to the effect of droughts on early Indian inhabitants of the Southwest. We tend to think of water needs in short periods of time. However, a study of past history discloses long-periods of drought and long rainy periods. We have been able to ameliorate recent lack of rainfall by building dams and aqueducts. We seek out the water

where it is available and convey it to the place where the need and population exists.

The sources of water available to this area are as follows:

a) Stream water from Mill Creek and the Santa Ana River,

b) Well water pumped from the underground basins, and

c) State Project water.

The San Bernardino Valley Municipal Water District, hereafter referred to as Muni, has an entitlement of 57,500 acre feet from the State Water Project for 1977. Because of drought this has been reduced to 24,535 acre feet. The entitlement for 1978 is 60,000 acre feet and the District will receive perhaps 36,000 acre feet under the best of water conditions.

The Santa Ana River has a drainage area of about 200 square miles. The average yearly precipitation in the higher portions of the area is as much as 45 inches per year. The average yearly stream flow of the Santa Ana River where it discharges from the mountains, including water diverted for use, is about 66,000 acre feet per year. The lowest flow during this century was in 1951 when the discharge was 23,000 acre feet. The highest flow was in 1938 when the discharge was 169,000 acre feet. Water diverted for use by the three companies owning the rights to the flow has averaged about 33,000 acre feet per year with the maximum year being 49,000 acre feet in 1922. Depending on the length of the irrigation season, the average diversion of 33,000 acre feet per year represents an average flow of about 3,000 to 4,000 miner's inches.

During the winter and other periods when the water is not being used for irrigation, the flow of the river is diverted by the San Bernardino Valley Water Conservation District into spreading grounds so that it may percolate into the underground basin to replenish the ground waters. The rights to Santa Ana River water are owned by Lugonia Water Company, North Fork Water Company and Bear Valley Mutual Water Company.

Mill creek drains an area of about forty square miles of the San Bernardino Mountains. The long time average annual run-off is about 30,000 acre feet. The flow varies greatly in various years and the different seasons. The maximum recorded flow was 18,100 cubic feet per second in the 1938 flood. The minimum flow recorded was about 8 second feet or 400 miner's inches on February 2, 1951.

In summer months especially, the flow of Mill Creek is supplemented by water from several wells located in Mill Creek Canyon. These wells are owned and operated by the owners of the rights to the stream flow. In a dry summer such as 1950, three pumped wells together produced about 250 miner's inches.

The major portion of the flow of Mill Creek is diverted in the Canyon by the Southern California Edison Company to be used for power generation at their Mill Creek Powerhouses Nos. 2 and 3, located at the mouth of Mill Creek Canyon at an elevation of 2960 feet. From the discharge of these powerhouses the water is carried in a steel line down the slope to the west to Mill Creek Powerhouse No. 1.

A short distance below the discharge from Mill Creek Powerhouse No. 1 the water is divided with one portion going to the southwest through a pipeline under Mill Creek channel to discharge into the Zanja, then on to the Crafton reservoir. The other portion goes to the northwest in a pipeline to the filter plant of the City of Redlands. The Crafton Water Company owns 56% of the water, the City of Redlands owns about 40% and various individuals and companies own 4%.

During the winter months and at other times when the Mill Creek water is not all being used by its owners, the flow is diverted into spreading grounds above Mentone which are operated by the San Bernardino Valley Water Conservation District for the purpose of replenishing the ground waters of the basin.

Muni is not a member of the Metropolitan Water District, so water is not available from the Colorado River. Perhaps this is just as well, since the Supreme Court decided to greatly restrict the usage of Colorado River water in California.

Early in the study of water needs for this area, it was apparent that imported water would be needed. Two attempts were made to vote annexation to the Metropolitan Water District. Both attempts failed.

In 1954 Muni authorized a study by E. F. Dibble, consulting engineer, entitled "Possible Use of Moreno Pipelines for Importing Water to the San Bernardino Municipal Water District." This study investigated the feasibility of importing water to this area by using in reverse flow the Moreno Mutual Irrigation

Company's pipeline from the Singleton Ranch to the Moreno tunnel and the Bear Valley-Allesandro or Hendricks line from Sand Canyon to the Moreno Tunnel. The areas which might be served by the pipelines under study were the Yucaipa area, and the Redlands-Crafton-San Timoteo Canyon area. Engineering studies showed that it was possible by improvements to the pipelines to use them for importing water from the tunnel reservoir at the west end of the Moreno Tunnel. Study was also done on a possible line from the Colorado River Aqueduct near Lakeview to the Tunnel Reservoir, and joint usage with Eastern Municipal Water District.

Years of less than average rainfall, greater usage of water, and overdraft of underground water in the Yucaipa area, caused a delegation from that area to appear before the Board of Directors of Muni and request that a study be made of how water might be obtained for the Yucaipa area, either by purchasing water or exchanging water in some way. The Directors authorized that such a study be made. This study appears in a report by E. F. Dibble, consulting engineer, dated August 12, 1955, entitled, "Possible Plans for Acquiring Water for Yucaipa Area by Purchase or Exchange."

Five ways to obtain water for the area by purchase were considered, as follows:

1. Purchase water stock from owners now exporting water from the San Bernardino Valley, specifically the Moreno Valley. This would be the same as obtaining an additional amount of

water for the local area, because the presently exported water would then become available for local use instead of being exported.

2. Purchase water stock in one of adjacent water companies having a high elevation supply which comes onto the market for sale from owners who are taking their land out of use or who decide to sell stock which is in excess of their needs.

Water stock in this category includes the Bear Valley Mutual Water Company, North Fork Water Company, Lugonia Water Company and Crafton Water Company.

3. Purchase established water rights to a high elevation supply from some present owner. In this category is the flow of Mill Creek.

4. Import water from Colorado River Aqueduct either directly or through Eastern Municipal Water District. For this to be considered a permanent supply, it would be necessary for the area to become part of the Metropolitan Water District.

5. Import water from the Feather River. It must be recognized that this would definitely not be an early or easy solution to this problem.

Two ways to obtain water by exchange were explored:

1. Water obtained at high elevation from the Santa Ana River, through purchase of stock in Bear Valley Mutual Water Company, North Fork Water Company or Lugonia Water Company, might be exchanged for water from Mill Creek. The Mill Creek

water could then be brought at high elevation into the Yucaipa Area. Any such exchange would, of course, have to be made with some owner who is in a position to take the Santa Ana River water in place of the Mill Creek water. This would refer particularly to the City of Redlands and the Crafton Water Company. There are some limitations on the amount possible to be exchanged at some locations because of limited capacity of the Bear Valley Highline.

2. Water pumped from the wells at the Singleton Ranch in the lower part of the Yucaipa-Beaumont Basin area might be exchanged with the City of Redlands for Mill Creek water. The water pumped from these wells on the Singleton Ranch could be delivered by pipeline, part of which already exists, into the Redlands system at the City's Country Club Reservoir. The Mill Creek Water could in turn be brought into the Yucaipa area at a high elevation. This would not create a new supply for the Yucaipa area, but would take water out of the area at a comparitively low elevation (about 2100 feet) and would replace it at a high elevation (about 3000 feet), which is advantageous for the area as a whole.

Mention is made in the report of a sound principle in water management which is that water originating at high elevations should be used at high elevations. The cost of pumping adds materially to the cost of a supply of water; therefore, pumping should he kept to a minimum. In many cases the reason

that the higher elevations are short of water is because in the early days of development of the area, much of the water originating in the higher elevations was developed and put to use in the lower areas. In more recent years there has been a trend toward shifting the use of high elevation water back to the high elevation land. To replace on the lower land, the water whose use was shifted to the higher land, will probably mean that part of the area may eventually have to be served with some imported water, but at the lower elevations, so as to minimize the pumping costs.

The same general principle also applies in coordinating the use of gravity water and water pumped from wells. If the gravity water is used on higher elevation lands, it will be the lower lands which may have to be served with water pumped from wells in the underlying ground water basin. It is on the lower land overlying the basin, that the depths to water and pumping lifts are at a minimum, and hence pumping can be done at the lowest cost.

Although consideration was given in 1955 to the State Water Project, it was recognized that completion of such a project was distant many years. With the coming of State Project water, further studies of water exchanges were made by Muni. These studies culminated in a report dated January 16, 1973 entitled, "Conceptual Plan for the Upper Santa Ana River Cooperative Water Project."

This plan includes a pipeline which would convey Mill Creek Water to Yucaipa by gravity. Santa Ana River water would be conveyed by gravity through a new high line to the Tate filter plant of the City of Redlands. State Project water would be furnished to the North Fork, East San Bernardino Water District, Lugonia, and Bear Valley-Redlands canal users in exchange for their Santa Ana River water.

Considerable savings would result from using the Water Exchange Plan. If direct delivery of State Project Water were made to Yucaipa the cost would be $13,615,000. However, the facility cost of the Water Exchange Plan would be $4,335,000. There would be a saving of interest on the $9,280,000 lesser capital cost and also a yearly saving of $350,000 on pumping costs.

Various plans for initiating an Exchange plan were considered by Muni. A number of informative talks were given by Louis Fletcher, engineer for Muni. It was perceived that because of the large number of water agencies involved and the need for educating many people, it would take a massive effort by a neutral party to effectuate an exchange. Mr. Jack Beaver, the manager of Muni, approached Mr. Donald Anderson, then president of the San Bernardino Valley Water Conservation District, to initiate a cooperative water plan. It was decided to sponsor the exchange plan under the aegis of the Water Conservation District, using their facilities and personnel.

A meeting was held October 4, 1973 at which the status of the proposed project was presented by Louis Fletcher. It was decided to form a working committee composed of one representative from each water agency involved. The following agencies were named: City of Redlands, Crafton, Bear Valley Mutual, North Fork, Lugonia and Redlands Water Companies, Yucaipa Valley County Water District, East San Bernardino County Water District, Muni and the San Bernardino Valley Water Conservation District.

The Water Exchange Plan Committee met for the first time on October 30, 1973. Since I was in Australia I was not present at that meeting. However, the resume of the meeting discloses that the participants agreed on the points of delivery for exchange water and discussed delivery schedules. The Committee agreed that water delivered under the Exchange Plan and used for spreading operations could be on an intermittent and interruptable basis. The City of Redlands and Crafton Water Company desire continuous delivery. The Bear Valley Mutual Water Company has no deliveries above the Mentone Reservoir, which holds a full day's delivery. Because of this, deliveries to the Bear Valley Mutual Water Company, Redlands Water Company and Lugonia Water Company could be on an intermittent basis. Deliveries to North Fork and East San Bernardino County Water District would probably have to be on a continuous basis. It is planned to spread water at times when peak power can be generated at the Devil Canyon power plant. This will derive more revenue from power. Mr, Fletcher reported that quantities of water to be delivered and the sizing of new

facilities was under study, and future demands of parties to the Exchange Plan should be considered.

Subsequent to the initial meeting of the Exchange Plan Committee on October 30, 1973, meetings were held on a more or less monthly basis through 1974, 1975 and until the Cooperative Water Project Agreement dated May 3, 1976 was signed. The Agreement was recorded September 9, 1976. While the study of the Exchange Plan by the committee proceeded in a rational, deliberate manner, there were numerous stumbling blocks along the way. Time does not permit complete details of all the discussions. However, a summary of each meeting will be given.

At the second meeting, November 13, 1973, consideration was given to the water needs of the various parties and to the water needs in August, the month of maximum demand. A study of the flow components in the Santa Ana River and Mill Creek is being made. The third meeting on December 18, 1973 was chiefly a review of the ground water basin operation. One of the basic concepts of the Exchange Plan is that all of the irrigation requirements be met first, before any deliveries to Yucaipa are made, or additional deliveries beyond the entitlement, to Redlands. It was found that there is not enough water to meet Redlands increasing demands at the high elevation, even if water were not taken to Yucaipa. The fourth meeting, January 15, 1974, consisted of a discussion of various alternatives for sizing of pipelines and principles of entitlements.

At the fifth meeting, February 12, 1974, attention was given to developing flow charts of each source of supply and for each pipeline involved in the exchange plan. The analysis included accounting for all of the water, delivery schedules, average flow and peak flow requirements. The Sixth meeting on March 12, 1974 included a study of operations of the exchange, alternatives and the placing of the task of drafting principles of agreement in the hands of a subcommittee. The subcommittee met sixteen times and reported to the full committee at the seventh meeting on November 6, 1974. The draft of the agreement was discussed and additions and revisions made. It was agreed to meet after a new updated version of the draft was mailed to all committee members. At the eighth meeting on November 27, 1974 there was discussion of the formula concerning pricing of supplemental water and refining of the language of the present draft of the agreement.

At the ninth meeting on December 12, 1974 a new draft of the Cooperative Water Project Agreement was presented. Muni had completed preparation of preliminary designs of the facilities required to implement the agreement and sold the bonds which will finance the project. At the tenth meeting on January 9, 1975 Mr. Blair of Bechtel Inc., reviewed the design criteria report for the physical facilities of the Water Exchange Plan. Each of the parties was requested to review the preliminary design as to adequacy to meet the needs of their respective entities.

During the first half of 1975 the Committee ran into trouble with North Fork and the East San Bernardino County Water District. East San Bernardino comes into the picture because of its ownership of about 1900 shares of the total 7200 North Fork shares and about 2500 Bear Valley shares. Because of declining agricultural use of water it appears that East San Bernardino might eventually own all of the North Fork stock.

Mr. Denslow Green, attorney for North Fork, addressed a letter to the subcommittee in April 1975 regarding certain terms and conditions that North Fork was interested in having in the Agreement. Mr. Green indicated that if these conditions were not met he could see no reason for North Fork to enter into the Exchange Plan. The subcommittee reviewed his suggestions item by item and found some of the requirements were indeed justified and agreed to them. The subcommittee agreed that Exchange Water would be delivered to the North Fork Box through a line from the Foothill pipeline or surge riser. The benefits to North Fork include an alternate supply and the ability to get clean water when the River is muddy. The subcommittee did not agree to pay for North Fork's water entitlement, since this was in conflict with the original intent of the Exchange Plan.

The subcommittee met with the Board of Directors of the East San Bernardino County Water District stating the reasons for the Exchange Plan. First, it will provide a supplemental water supply to the remaining area of the Muni District that

does not have one, namely, Yucaipa, at the lowest cost to the tax payer. Second, there will be a net saving of energy, and it will make supplemental water available to the higher portions of the District at a more reasonable cost than if the entire supplemental supply had to be pumped to the higher points.

During the course of the discussion with the East County Board, the subcommittee stated that if North Fork was either unable or unwilling to participate in the Exchange Plan, there would be no basis for East County to participate.

All of the foregoing was discussed at the eleventh meeting on June 17, 1975. Mr. Rowe and Mr. Rickert reviewed Mr. Green's proposal, that the North Fork Water Company be reimbursed for water which it would make available to the Exchange Plan, and in return would buy such water as it needed from Muni at the same price that it was paid for the water it made available. It was the recommendation of the subcommittee that since the Exchange Plan has been predicated from the beginning on a bucket-for-basket swap, payment in any amount to any member of the Exchange Plan for water that it makes available for exchange is unacceptable. A motion that no party to the Exchange Plan should receive monetary compensation for water it makes available for exchange was passed. The Committee then discussed the question of whether the East San Bernardino County Water District could remain an eligible entity if the North Fork Water Company elects not to participate in the Exchange Agreement. It was moved that if East

San Bernardino will make available to the Committee for exchange its entire North Fork water supply through its stock ownership, in the event that North Fork elects not to be a party to the Exchange Plan, then East San Bernardino County Water District will remain an eligible entity.

The Exchange Plan Committee met for the twelfth time on July 8, 1975. Consideration was given to the problems raised by North Fork and East San Bernardino. It was moved that both parties remain eligible entities but not be mandatory parties, in order for the Agreement to be effective. The Committee voted to include the following in the Agreement, i.e. East San Bernardino County Water District hereby makes available to the Management Committee for exchange, the water it is entitled to receive from North Fork by virtue of its ownership of North Fork stock. However, at such time as North Fork becomes a party to the Agreement, East San Bernardino shall no longer be required to make the water from its stock ownership in North Fork available for exchange. The Committee added to the Agreement, language which made it not necessary to build facilities to deliver exchange water to an entity that did not become a party to the Agreement. This would delete a connection to the North Fork Box.

The Committee met for the thirteenth time on September 30, 1975. Mr. R. B. Pace, manager of the Yucaipa Valley County Water District, reported the interest of the directors in meeting with the directors of other companies to discuss the Exchange Plan.

Mr. Rowe reported that meetings are being arranged by East County, North Fork and Bear Valley to see if an equitable agreement can be reached so that East County could take delivery of its stock water upstream from the North Fork Box.

The Exchange Plan Committee met for the fourteenth time on February 11, 1976. Each representative reported on the status of the Exchange Plan Agreement insofar as his organization was concerned. Mr. Rowe of the North Fork Water Company reported that the Directors are not opposed to the plan, but do not wish to be a party to the Agreement. Mr. Hendricks, representing East San Bernardino, said approval of its Board is dependent upon first getting approval from North Fork to have delivery of its North Fork shares made upstream from the North Fork Box and outside the North Fork service area. In view of the fact that Yucaipa Valley County Water District does not have a water supply to exchange, it was agreed that it should be removed as a required signatory but should remain as an eligible entity. Mr. Fletcher pointed out that it is the policy of Muni that there will be no charges for connections to the Muni pipeline for those who are signers of the Exchange Plan and conversely that those not party to the Agreement will have to pay for the cost of future connections.

The Committee met for the fifteenth time on April 27, 1976 and made further changes in the Agreement. It discussed the time necessary to get the Agreement signed and set a target date for signatures of June 25, 1976. It appeared at this time that Yucaipa and North Fork would not sign the Exchange Agreement.

East San Bernardino County Water District is looking to the future building of a filter plant that would use State Project water. It would make a reciprocal exchange of its North Fork and Bear Valley water for State Project water. When this is effected, it would leave North Fork alone. If North Fork decided to sign the Agreement in the future it would have to pay the entire cost of the connection to the Foothill line. After further deliberation the North Fork Directors decided to join in the Exchange Plan. On August 4, 1976 the officers of the company signed the Agreement.

The lack of unity of the Board of Directors of the Yucaipa Valley County Water District for the Exchange Plan subsided when Mr. H. L. Thackwell decided not to run in the November 1975 elections. His successor, Mr. Robert Laabs, was seated in December 1975, While Mr. Thackwell continued for awhile to push his opposition to the Plan in the press, the Directors evidenced more favor toward the Exchange Plan. Finally, as the deadline for signing approached, there was a favorable vote. Yucaipa Valley County Water District was the last to sign the Agreement on August 26, 1976.

Muni practices cloud seeding under control from Reno. The seeding is done in such a way as to put precipitation in the form of snow at the highest levels in the mountains. The snow melts and the stream water helps to recharge the underground basins. The Santa Ana River basin is presently in good shape, with

400,000 to 900,000 acre feet of water that could be recovered by pumping. The report of the Watermaster shows a production of some 211,000 acre feet per year recently.

Muni is presently working on the connection from the Foothill Feeder line to the North Fork Canal. This connection is being built to handle 30 second feet of water. The engineering has been approved and the plans will go to bid on June 6, 1977. Construction at an estimated cost of $85,000 should commence about July 1. With the introduction of 30 second feet from outside sources, there should be a considerable improvement in the present water supply.

Upon operation of the North Fork connection, a closer look will be taken at the proposed operation of the highline from Santa Ana Powerhouse No. 2 to Mill Creek. The operation of this line involves taking the water away from Edison Powerhouse No. 3 and putting it in a steel line, where it flows by gravity to Mill Creek, ending in the Boullioun Box. Such an operation is contingent on the approval of the Federal Power Commission. Because of inflation and the escalation of power costs which will result in a five-fold increase by 1983, it is the desire of Muni to effect some sort of a trade, kilowatt for kilowatt for the power lost at Edison No. 3 with the Edison Company. The cost of the high line is estimated at $1,500,000 and there is sufficient money in reserve for its construction. A rough guess as to time of construction is two to three years.

In addition to the highline, Muni must build a pump station to raise water from the Foothill pipeline to the new high line and also a pump station at the Boullioun Box in Mill Creek to raise the water fifty feet to the intake of the City of Redlands filter plant. Cost estimates for these facilities and time of construction are not available.

The line to Yucaipa from Mill Creek must wait until the construction of the aforementioned facilities. The cost of the line is estimated at $200,000 and money is available from Davis-Grunsky funds to build it. The three lakes in Yucaipa now under construction using Davis-Grunsky funds can only be filled with surplus storm water. Tidelands Oil money provides the Davis-Grunsky funds. The cost of the water to fill the lakes is small compared to the six million dollar cost of the project. The State requires that the lakes be filled and the initial filling will be with water that cannot otherwise be used. The completion of the high line bringing water to Crafton will signal the diversion of Mill Creek water to Yucaipa. It is impossible to tell at this date when that will be.

B I B L I O G R A P H Y

Self Government by District - Robert Hawkins, Jr. Hoover Institution Press - Stanford University

Minutes of the Exchange Plan Committee

Acquiring Water for Yucaipa Area - E. F. Dibble, San Bernardino Valley Municipal Water District - August 1955

Santa Ana River - Mill Creek Cooperative Water Project Agreement - May 3, 1976

Design Criteria Report - Water Transmission Project - Phase 3 - Cooperative Water Project - Bechtel Inc., - November 1974

Conceptual Plan for the Upper Santa Ana River Cooperative Water Project - January 16, 1973

The Water Supply of the Upper San Bernardino Valley, November 24, 1934 by Raymond Beeler

BOOK 9008 PAGE 1

WHEN RECORDED PLEASE RETURN TO:

San Bernardino Valley
Water Conservation District
303 Brookside Avenue
Redlands, CA 92373

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NO FEE
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RECORDED IN OFFICIAL RECORDS
SEP 9 1976 AT 8 A.M.
V. DENNIS WARDLE
CLERK-RECORDER
SAN BERNARDINO COUNTY, CALIF.

SANTA ANA RIVER – MILL CREEK

COOPERATIVE WATER PROJECT AGREEMENT

MAY 3, 1976

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SANTA ANA RIVER - MILL CREEK

COOPERATIVE WATER PROJECT AGREEMENT

This Agreement is concluded by and between the Parties hereto to provide for the efficient and economical use of Local and Import Water supplies and shall be known as "The Cooperative Water Project Agreement," hereinafter sometimes referred to as "Agreement."

1. RECITALS

The Eligible Entities (as hereinafter defined), other than the San Bernardino Valley Municipal Water District, have water rights, including in certain cases water rights on the Santa Ana River and on Mill Creek, and have, in many cases for over seventy years, exercised those water rights for the purpose of supplying water to the water users of their respective Entities. Such Entities also have existing facilities which they have used for the development, diversion, and transmission of water from their respective sources of supply.

The San Bernardino Valley Water Conservation District has been engaged for many years in conserving and spreading water from the Santa Ana River and Mill Creek for the purpose of groundwater replenishment pursuant to rights which it holds for such purpose.

The San Bernardino Valley Municipal Water District has a contract with the State of California Department of Water Resources pursuant to the State Water Project under which it is importing a water supply into the San Bernardino Valley. Said District is presently engaged in the construction of local distribution facilities to make Import Water available for direct delivery, including groundwater recharge.

Pursuant to engineering studies which indicate that all of the Eligible Entities, as defined herein, will benefit from a cooperative water supply plan, it is the desire of the Parties to provide for the Parties' beneficial use of existing Local Water and of the available Import Water supply on an integrated basis utilizing various exchanges and transfers in order to provide the most economical, efficient, and dependable supply possible at a minimum of expense to water users and the taxpayers and to conserve energy. The studies indicate that the plan is of mutual benefit to all of the Eligible Entities and that

there will be no adverse effects or penalties to any of them or to other Entities not signatory to this Agreement.

2. DEFINITIONS

As used herein, the following terms shall have the meanings set forth below:

a. Entity: An individual, partnership, corporation (including a mutual water company), or public agency.

b. Eligible Entity: Any Entity eligible to become a Party hereto as set forth in Section 3, below.

c. Party: Any Eligible Entity signatory to this Agreement in accordance with its terms and conditions.

d. Management Committee: The committee comprised of one representative from each Party to this Agreement.

e. Project Manager: The San Bernardino Valley Water Conservation District or any other public agency appointed by the Management Committee and approved by the San Bernardino Valley Municipal Water District, acting under the supervision of the Management Committee.

f. Import Water: Water imported by and belonging to San Bernardino Valley Municipal Water District pursuant to its contract with the State of California Department of Water Resources from the State Water Project.

g. Local Water: All water supplies, except Import Water, available to an Entity.

h. Entitlement Water: Local Water to which a Party has an entitlement as described in Exhibit A, which water rights are not necessarily any Party's total claim to water rights in the respective source listed. This definition is solely for purposes of this Agreement and not for the purpose of defining or establishing water rights with respect to any Party.

i. Exchange Water: Local Water or Import Water delivered to a Party in exchange for Entitlement Water. The quantity of Exchange Water delivered to a Party plus Deferred Exchange Water Credits earned by a Party shall be equal to the quantity of that Party's Entitlement Water delivered to and used by the Management Committee.

j. Simultaneous Exchange: Delivery of Exchange Water substantially at the same time the Party's Entitlement Water is being delivered to others. Unless otherwise provided in the rules adopted by the Management Committee, delivery of Simultaneous Exchange Water shall be at the same rate of flow and completed within 24 hours of the delivery of Entitlement Water.

k. Deferred Exchange: Delivery of Entitlement Water to others for a future delivery of Exchange Water. Deferred Exchange shall be made only as provided in Section 5f below.

l. Deferred Exchange Water Credit: A water credit for the quantity of Entitlement Water delivered to others in a Deferred Exchange.

m. Supplemental Water: Any water requested by and delivered to a Party other than said Party's Entitlement Water or Exchange Water.

n. Cooperative Water Project Facilities: Certain facilities constructed or to be constructed and owned and maintained by San Bernardino Valley Municipal Water District which shall be operated by the San Bernardino Valley Municipal Water District in accordance with the Project Manager's instructions to effectuate this Agreement, subject to the provisions of Section 15. These facilities are shown conceptually on Plate I herein.

o. Associated Water Facilities: Water facilities at or near the mouth of Santa Ana Canyon and Mill Creek owned by various Parties to this Agreement which shall be operated by the owners thereof in accordance with the Project Manager's instructions to effectuate this Agreement, as shown generally on Plates 2 and 3 herein.

p. Cooperative Water Project: Those facilities and the operational plan defined herein that permit the substitution of Exchange Water for Entitlement Water.

q. Historical Conditions: Methods and facilities used to take Entitlement Water into the respective distribution systems of the Parties prior to construction of the Cooperative Water Project Facilities.

r. Edison Company: The Southern California Edison Company, a corporation organized under the laws of the State of California.

s. Year: A calendar year unless specified otherwise.

t. State Contract: Contract between the State of California Department of Water Resources and the San Bernardino Valley Municipal Water District for a Water Supply, dated December 30, 1960, and all amendments thereto, heretofore or hereafter concluded.

3. ELIGIBLE ENTITIES

The following Entities shall be eligible to become Parties to this Agreement:

a. Bear Valley Mutual Water Company, a mutual water company, hereinafter referred to as "Bear Valley."

b. City of Redlands, a municipal corporation, hereinafter referred to as "Redlands."

c. Crafton Water Company, a mutual water company, hereinafter referred to as "Crafton."

d. East San Bernardino County Water District, a county water district organized and existing under the County Water District Law, Water Code Sections 30000, et seq, hereinafter referred to as "East San Bernardino."

e. Lugonia Water Company, a mutual water company, hereinafter referred to as "Lugonia."

f. North Fork Water Company, a mutual water company, hereinafter referred to as "North Fork."

g. Redlands Water Company, a mutual water company, hereinafter referred to as "Redlands Water."

h. San Bernardino Valley Municial Water District, a municipal water district organized and existing under the Municipal Water District Law of 1911, Water Code Sections 71000, et seq, hereinafter referred to as "Valley District."

i. San Bernardino Valley Water Conservation District, a water conservation district organized and existing under the Water Conservation District Law of 1931, Water Code Sections 74000, et seq, hereinafter referred to as "Conservation District."

j. Yucaipa Valley County Water District, a county water district organized and existing under the County Water District Law, Water Code Sections 30000, et seq, hereinafter referred to as "Yucaipa District."

4. CONSTRUCTION OF COOPERATIVE WATER PROJECT FACILITIES

Subject to availability of funds, to budgetary, supply, and construction restraints, and to obtaining necessary approvals, permits, and agreements, Valley District shall design and construct the Cooperative Water Project Facilities so as to provide for delivery of water at the maximum flow rates and at the delivery points hereinafter specified. Each of the Parties shall have reasonable opportunity to inspect and study the Valley District's plans and specifications for all Cooperative Water Project Facilities during the planning stage and prior to the solicitation of bids for the construction thereof and may make comments and recommendations thereon to Valley District. Valley District shall make all reasonable efforts to commence construction of the first increment of the Cooperative Water Project Facilities, which consist of the facilities listed in Exhibit D, on or before

April 1, 1977, and bring the first increment to completion with reasonable diligence thereafter. Construction of additional increments will be scheduled by Valley District on a basis of need to meet water demands as determined by Valley District in consultation with the Management Committee. The obligations of Valley District hereunder shall be subject to the following specific conditions:

a. Facilities shown on Exhibit D which are required exclusively or primarily to deliver water to an Eligible Entity which does not become a Party to this Agreement by the effective date of this Agreement need not be built as a part of the first increment of the Cooperative Water Project Facilities nor at any subsequent time until the Eligible Entity shall become a Party.

b. The construction of facilities which would be physically, legally, or economically usable only in the event of the conclusion of the agreement with Edison Company provided for in Section 10 hereof shall be contingent upon the satisfactory conclusion of such an agreement.

c. The construction of facilities which are subject to a requirement of obtaining an approval or permit either for the construction of or for the use of such facilities shall be contingent upon obtaining such approval or permit in form satisfactory to Valley District. Valley District shall attempt to obtain all necessary approvals and permits with reasonable diligence.

d. Valley District with the advice of the Management Committee will schedule the construction of the facilities listed in Exhibit D to keep expenditures within the funds available to Valley District for construction of said facilities.

5. DELIVERY PROVISIONS

a. General

Subject to the delivery of Exchange Water by the Management Committee to replace any Entitlement Water delivered pursuant hereto, each of the Parties having Entitlement Water hereby makes available to the Management Committee said Party's supply of Entitlement Water for delivery and use pursuant to the terms of this Agreement.

East San Bernardino hereby makes available to the Management Committee, for exchange, water it is entitled to receive from North Fork by virtue of its ownership of North Fork stock. However, at such time as North Fork becomes a Party to this Agreement, East San Bernardino shall no longer be required to make the water from its stock ownership in North Fork available for exchange.

The Management Committee may cause delivery of water to be made to any Party entitled to and/or requesting said delivery from any source available to the Management Committee. In exercising its discretion hereunder, the Management Committee shall act on the basis of securing the maximum efficiency and economy in the use of the Local and Import Water supplies available to it.

All water deliveries shall be subject to:

(1) Rules and regulations adopted by the Management Committee.

(2) Scheduling requirements of the Management Committee.

(3) Payment of any charge imposed therefor.

(4) Limitations of available water supplies and capacity in the delivery facilities (including Valley District's Foothill Pipeline).

b. Import Water

Valley District hereby makes Import Water available to the Management Committee as scheduled for delivery and use as Exchange Water and Supplemental Water, subject to the availability of Import Water from the State Water Project, the equal rights of others within the boundaries of Valley District to receive Import Water, requirements for water service other than pursuant hereto, all of the requirements imposed by Valley District's contract with the State of California Department of Water Resources, and all applicable laws and regulations of water service.

c. Exchange Water and Supplemental Water

The Management Committee shall cause to be delivered to each of the Parties Exchange Water to replace any Entitlement Water made available by such Party and used by the Management Committee by Simultaneous Exchange, unless otherwise scheduled by the Party concerned and approved by the Management Committee. Exchange Water shall be delivered to each of the Parties at the points and up to the maximum instantaneous rates of flow specified in Exhibit B.

In addition to such deliveries, the Management Committee shall schedule Supplemental Water deliveries to any Party requesting the same.

d. Use of Cooperative Water Project Facilities to Convey Entitlement Water

A Party may request from the Management Committee delivery of any portion of its Entitlement Water through the Cooperative Water Project Facilities subject to availability of capacity in said facilities and to scheduling limitations.

Nothing in this Agreement shall be construed as authorizing the transport of Entitlement Water outside the boundaries of Valley District without prior approval of the Management Committee; however, in the case of a Party whose own boundaries extend beyond the boundaries of Valley District, that Party may transport Entitlement Water anywhere within its own boundaries.

e. Local Water

The Management Committee shall cause to be delivered to Valley District upon request Local Water if made available by a Party or Parties at flow rates, times, and at the delivery points specified by Valley District to the extent possible, using Cooperative Water Project Facilities, subject to Valley District delivering to the Management Committee an equal quantity of Import Water at the flow rates, times, and to delivery points as required to permit the Management Committee to make said delivery of Local Water to Valley District.

f. Deferred Exchange Water

All Parties with Deferred Exchange Water Credits shall be entitled to receive Deferred Exchange Water for such credits upon request. A Party's Deferred Exchange Water Credits shall be utilized by said Party within a two-year period subsequent to the accumulation of Deferred Exchange Water Credits, unless approved otherwise by the Management Committee.

g. Priorities

After provision for deliveries is made to Valley District and the San Gorgonio Pass Water Agency pursuant to Section 15 of this Agreement, then in case of scheduling, water availability, or facility constraints in any portion of the Cooperative Water Project Facilities, water deliveries in such portion shall be scheduled by the Management Committee on the following basis:

(1) First priority shall be given to Simultaneous Exchange Water.

(2) Second priority shall be given to Deferred Exchange Water.

(3) Third priority shall be given to Supplemental Water.

(4) Fourth priority shall be given to Entitlement Water delivered through Cooperative Water Project Facilities.

(5) Fifth priority shall be any use of the Cooperative Water Project Facilities by parties other than Eligible Entities.

h. Instructions

The Project Manager shall issue all instructions as directed by the Management Committee necessary to deliver water under the terms of this Agreement to the Parties using the Cooperative Water Project Facilities and the Associated Water Facilities.

6. MANAGEMENT

a. Management Committee

A Management Committee comprised of one person representing each of the Parties is hereby established.

(1) Duties: The Management Committee shall be responsible for:

(a) Setting operating rules, regulations, and policies not covered herein;

(b) Approving or disapproving requests for scheduling deliveries of water;

(c) Supervising the work of the Project Manager;

(d) Assisting in resolving disputes between Parties; and,

(e) Advising Valley District on pertinent design, construction, operations, and pricing policies.

(2) Appointments and Terms: Each of the members of the Management Committee shall be appointed by the Party he represents and shall serve at the pleasure of the appointing Party for a period of four (4) years and/or until appointment of a replacement. Notice of appointments shall be filed with the Project Manager. Members shall receive no compensation for their services; provided that in each case the appointing Party may provide such compensation as it deems appropriate.

(3) Quorum and Vote Required for Action: A majority of the members of the Management Committee not in default of this Agreement shall constitute a quorum for the transaction of business, and the vote of a majority of all of the members of the Committee shall be required to take any action.

(4) Officers: At its first meeting in each Year, the Management Committee shall select a chairman and such other officers as it may require. The Management Committee shall select a secretary who may be, but need not be, a member of the Management Committee. Said secretary shall keep an accurate record of all of its proceedings.

(5) Meetings and Notices: The Management Committee shall hold regular meetings at places and times to be specified in the rules to be adopted by the Management Committee. Notice of the scheduled or regular meetings and of any changes in time or place thereof shall be mailed to all persons who shall have filed a request therefor in writing with the Management Committee.

(a) Special meetings may be called at any time by the chairman or by any three (3) members of the Management Committee and shall be noticed as required by Government Code Section 54956.

(b) All meetings of the Management Committee shall be held in conformance with the requirements of Government Code Sections 54950, et. seq.

(6) Incurring of Expenses: Except as herein specifically provided, the Management Committee shall not be authorized to incur any expense on behalf of any or all of the Parties without the written consent of such Party or Parties.

b. Project Manager

Subject to the supervision of the Management Committee, the administration and management of the Cooperative Water Project Facilities shall be the responsibility of the Project Manager, which shall act as the executive arm of the Management Committee with the duty and responsibility to implement Management Committee rules, regulations, and policies and to direct the rate, time, place, and source of all water deliveries from the Cooperative Water Project Facilities and the Associated Water Facilities in accordance with the Management Committee's instructions.

c. Administrative Expenses

Expenses of the Project Manager and expenses of the Management Committee, except compensation for the services of the Management Committee members, shall be paid by Valley District. Valley District's payments for these expenses shall not exceed the budgeted amount set forth in an annual agreement between Valley District, the Project Manager, and the Management Committee without the consent of Valley District. Said agreement shall include terms and conditions of payment and rates of compensation for all services to be provided under said agreement.

7. OWNERSHIP AND OPERATION OF FACILITIES

Each of the Parties hereto shall retain the ownership of its own facilities together with full responsibility for their operation, maintenance, and replacement. The Associated

Water Facilities shall be operated in accordance with the Management Committee's instructions. The Cooperative Water Project Facilities shall be operated in accordance with the Project Manager's instructions to effectuate this Agreement, subject to the provisions of Section 15.

8. WATER QUALITY

All water delivered pursuant to this Agreement will be untreated and shall be of a quality suitable for its intended use, it being understood that suitability is to be determined by a rational method which includes consideration of the quality of the local water used prior to the adoption and implementation of this Agreement. This Agreement is adopted with the understanding that the present quality of Local, Exchange, Entitlement, Supplemental, and Import Water appears to be suitable for the intended uses. Each of the Parties agrees to operate its facilities so that the quality of the water is not impaired or degraded during diversion, transportation, or delivery.

If any Party is in violation of any water quality standards imposed on said Party by any governmental agency or unit because the quality of Exchange Water being delivered to said Party is lower than the quality of said Party's Entitlement Water, then said Party shall be entitled to revert to its Historical Conditions until the Exchange Water quality allows reasonable compliance with such standards.

9. RECORDS

Each Party hereto shall maintain such records and shall file such reports as may be reasonably required by the Management Committee and as may be required by law to protect any water rights affected hereby. In the event any of the Parties shall fail to maintain such records, the Management Committee may direct the Project Manager to estimate and maintain such records for such Party, and such Party shall be charged with the cost thereof.

The Project Manager shall be responsible for maintaining records on all water delivered pursuant to this Agreement.

The Management Committee shall have the right to measure flows of water as needed to satisfy the provisions of this Agreement; necessary access for said measurements will be provided without charge to the Management Committee by the Parties to this Agreement.

10. EDISON COMPANY AGREEMENTS

There are existing agreements between certain Parties to this Agreement and the Edison Company, including, but not limited to, a Grant Deed from Edison Company to Crafton dated February 27, 1929, and a Grant Deed from Crafton to Edison Company dated December 18, 1931. Valley District shall undertake with reasonable diligence to make the new arrangements and agreements with the Edison Company, Crafton and Bear Valley necessitated by the Cooperative Water Project Agreement and to use its best efforts therefor, provided that any such agreement which may in any way alter, modify, change, or affect the rights of any Party hereto under any existing agreements shall not be effective without the consent of such Party.

11. SHORTAGE OF SUPPLY OR TEMPORARY REDUCTION OR CESSATION OF DELIVERIES

a. Scheduled Shutdowns

Each of the Parties shall notify the Project Manager of a scheduled shutdown of any facility that would cause interruption of the Cooperative Water Project.

b. Interruption of Service

In the event of interruption of service in any portion of either the Cooperative Water Project Facilities or the Associated Water Facilities, the Project Manager may, to the extent possible, continue limited operations, and Parties whose delivery of Exchange Water has been interrupted will accrue Deferred Exchange Water Credit for such Exchange Water not delivered during the interruption of service, and such Deferred Exchange Water Credit shall not be subject to the two-year limitation stated in Section 5f but shall maintain its validity until used.

c. Temporary Discontinuance

If the Project Manager is unable to deliver quantities and qualities of water as provided for in this Agreement, it will immediately notify all the affected Parties that the Exchange Program is going to be temporarily discontinued until delivery schedules can be met or until the cause of the interruption is remedied.

After receiving notice of the temporary discontinuance of the Cooperative Water Project, each Party may revert to its Historical Condition.

When the Project Manager is again able to deliver the quantities and qualities of water as scheduled, it shall immediately notify the Parties and resume deliveries.

d. Continuity of Service

When it is necessary to interrupt service, the Project Manager and the Parties shall cooperate to minimize the down time and to restore service to all Parties as soon as possible.

12. BREACH

a. Right to Revert to Historical Conditions

In addition to any other remedies provided by law, in the event the terms and conditions of this Agreement are not complied with and there are no reasonable alternatives, any Party adversely affected by such breach and which is not itself in default may withhold delivery of its Entitlement Water and revert to its Historical Conditions until such breach is remedied.

b. Preliminary Determination of Serious Breach

A preliminary determination that such a breach has occurred may be made (1) by the Party concerned, with the concurrence of the Project Manager, or (2) without the concurrence of the Project Manager, in the manner hereinafter specified. In the event a Party claims such a breach has occurred and the Project Manager disagrees, the Party claiming breach has occurred shall poll other members of the Management Committee and, if any other two (2) members agree that such a breach has occurred, those members shall so certify to the Project Manager a breach has occurred. Immediately upon any preliminary determination that such breach has occurred, the Project Manager shall cause the Party claiming the breach to receive its Entitlement Water under Historical Conditions.

c. Rights to Judicial Relief Unaffected by Preliminary Determination

Nothing herein shall prevent any Party from seeking judicial relief either before or after any preliminary determination, and no preliminary determination shall be binding upon or affect the rights of any Party in connection with such a judicial proceeding.

13. WITHDRAWAL FROM THE COOPERATIVE WATER PROJECT AGREEMENT

No Party shall be entitled to withdraw from this Agreement without the written consent of all other Parties.

14. PROVISIONS WITH RESPECT TO PRESERVATION, TRANSFER, CONDEMNATION, AND DEFENSE OF WATER RIGHTS

With respect to the water rights to produce and use the Entitlement Water set forth in Exhibit A, it is agreed between the Parties hereto that the following shall apply:

a. Non-Use of Water

No Party hereto will lose any such water right by non-use, by use by another Party, by exchange, or by prescription.

b. Transfer

Each Party hereto may sell, mortgage, transfer, or otherwise alienate any such rights, provided that in the event of any such sale, transfer, foreclosure, or alienation of such rights, the transferee shall take such rights subject to the terms and conditions of this Agreement and shall be bound thereby. Prior to the consummation of any such sale, transfer, foreclosure, or alienation, the prospective transferee shall execute an instrument expressly assuming all of the obligations of the transferor under this Agreement with respect to such rights and deliver said instrument to the Management Committee. Until such instrument is so executed and delivered, such transaction shall be void.

c. Rights

The execution of this Agreement by the Parties hereto shall not be construed as constituting any alteration in the respective priorities or terms of any of the rights held by any of the Parties or any admission with respect to any of the rights or claims set forth herein. Between the Parties hereto the Management Committee shall consider that each Party has the rights claimed until otherwise instructed by the Party claiming such right or by the determination of the court with jurisdiction so to do.

d. Condemnation

Each of the Parties hereto, to the extent allowed by law, undertakes not to condemn or take, without consent of the owner thereof, any water rights, sources of water supply, water diversion, production or transmission facilities, or corporate stock owned by any Party hereto, which is subject to the terms of this Agreement, so long as the owner thereof is not in default hereunder.

e. Defense

Each of the Parties hereto shall be responsible for the defense of any rights claimed or asserted by it to produce and use the Entitlement Water set forth in Exhibit A hereto. As against anyone not a Party to this Agreement, Valley District shall defend this Cooperative Water Project Agreement and all rights arising from it.

f. Covenant and Lien

The provisions of this Agreement are hereby declared to be for the benefit of the water rights of the Parties hereto to produce and use the Entitlement Water set forth in Exhibit A. Said provisions are hereby made a covenant binding upon the owners of each such water right and their successors, heirs, transferees, and assigns for the benefit of the owners of each such other water right and their successors, heirs, transferees and assigns. The benefits and burdens of said covenant shall run with said water rights of the Parties hereto.

Each of the Parties hereto hereby grants a lien upon the said water rights to the other Parties hereto to secure its obligations hereunder, which lien shall be appurtenant to the said water rights of the other Parties hereto.

g. Successors and Assigns

Each and all of the terms, conditions, and provisions hereof shall inure to the benefit of and be binding upon the Parties hereto and their respective successors, heirs, transferees, and assigns.

h. None of the provisions of this Section 14 shall apply to or preclude Bear Valley from voluntarily or involuntarily transferring to Big Bear Municipal Water District, free and clear of any obligations of Bear Valley under this Agreement, all of the rights of Bear Valley to impound the natural water supply of Bear Valley behind Bear Valley Dam and later release such water which would otherwise flow in the Santa Ana River.

15. USE OF COOPERATIVE WATER PROJECT FACILITIES FOR DELIVERY OF WATER BY VALLEY DISTRICT

a. Use of Facilities

The Cooperative Water Project Facilities shall be available to Valley District for use as part of its water transmission facilities and may be used by it for the delivery of water to any Entity, whether a Party hereto or not.

b. San Gorgonio Pass Water Agency

Valley District has a contract with the San Gorgonio Pass Water Agency (Pass Agency) dated July 16, 1970, under which the Pass Agency has the option to obtain capacity in certain water transmission facilities constructed by Valley District and to receive deliveries of water or the right to operate the facilities, all upon the terms specified therein. The Cooperative Water Project Facilities to be constructed by Valley District constitute a portion of the water transmission facilities subject to the said contract, and in the event the Pass Agency exercises its option with respect thereto shall be constructed, maintained, and operated in compliance with the terms of the said contract.

16. WATER CHARGES AND PAYMENT PROVISIONS

Charges for water deliveries made under this Agreement and provisions for payment shall be as listed below.

Said charges shall be reasonable and shall conform to the applicable provisions of Section 1611 of the Civil Code, State of California.

a. Charge for Supplemental Water

The charges to be made by the Project Manager to any Party to this Agreement for Supplemental Water per acre-foot shall be computed by the following formula:

$$\text{Supplemental Water Charge per Acre-Foot} = E - S + C \quad \underline{\text{or}} \quad E - S + P + L$$

whichever is greater

where:

E = The variable operation, maintenance, power, and replacement component of the Department of Water Resources Transportation Charge per acre-foot* incurred by Valley District.

S = Direct water spreading costs per acre-foot spread by the Conservation District,. not to exceed $3.00 per acre-foot.

C = Dollar amount equal to power generation credit per acre-foot from Devil Canyon power generation plant.

P = Cost of energy incurred by Valley District to convey Supplemental or Entitlement Water to said Party per acre-foot.

L = Power loss charges incurred by Valley District in conveying Supplemental or Entitlement Water to said Party per acre-foot.**

** As defined in Section 26 of the State Contract.*

*** Power loss charges are defined as those charges resulting from the loss of electric power generation from existing hydroelectric plants on Mill Creek and Santa Ana River.*

If Valley District sets any charges upon a basis which, if applied, would result in a lower charge than is provided for above, then charges computed on said basis shall be substituted for the charges provided for above as long as said basis is in effect.

The charges for Supplemental Water provided for in this Agreement shall be in effect for a period beginning with the effective date of this Agreement and ending ten (10) years thereafter; beginning ten (10) years after the effective date of this Agreement the charges to Parties to this Agreement shall be as set by Valley District.

b. Simultaneous Exchange Water Charge

There are to be no charges made by the Project Manager to any Party for Simultaneous Exchange Water under the terms and conditions of this Agreement.

c. Deferred Exchange Water Charge

The charge to be made by the Project Manager to any Party to this Agreement for Deferred Exchange Water shall be the amount of all additional costs required to deliver water on the Deferred Exchange basis over and above the amount of the costs for making said deliveries on a Simultaneous Exchange basis.

d. Charges for Conveyance of Entitlement Water through Cooperative Water Project Facilities

Charges to be made by the Project Manager for the use of the Cooperative Water Project Facilities by Parties to this Agreement for conveyance of Entitlement Water shall be as follows: During the period beginning with the effective date of this Agreement and ending ten (10) years thereafter, $2.50 per acre-foot + P + L as P and L are defined above. Beginning ten (10) years after the effective date of this Agreement, these charges shall be as set by Valley District, except that they shall not exceed the following: The amount of all costs for making such deliveries including, but not limited to, operations, maintenance, energy, repair, replacement, overhead, and capital costs.

In the event the Management Committee with the approval of Valley District decides to convey all or any portion of the 9 cfs presently going from the forebay of Santa Ana Powerhouse No. 3 to the Boullioun Box through the Cooperative Water Project Facilities, that portion shall be exempt from any conveyance charge.

e. Provisions of Payment

Provisions for payment to the Project Manager by the Parties to this Agreement for water charges are as follows:

(1) The Project Manager shall provide monthly invoices to each Party of monies due the Project Manager.

(2) The Parties to this Agreement shall make payment to the Project Manager within thirty (30) days after receipt of said invoices.

(3) The Project Manager shall remit to Valley District all payments received under this Section within five (5) days of receipt.

17. ADDITIONAL PARTIES

After the effective date of this Agreement, additional Entities may become Parties hereto upon application to and approval by the Management Committee and written consent of all of the Parties not in default of this Agreement.

18. AMENDMENTS

This Agreement may be amended at any time by written agreement signed by all of the Parties.

19. OPINIONS AND DETERMINATIONS

Where the terms of this Agreement provide for action to be based upon the opinion, judgment, approval, review, or determination of any Party hereto, such terms are not intended to be and shall never be construed as permitting such opinion, judgment, approval, review, or determination to be arbitrary, capricious, or unreasonable.

20. NOTICE

Any notice pursuant hereto shall be deemed to have been properly given if delivered personally or if enclosed in a properly addressed envelope and deposited in the United States mail for delivery First Class, postage prepaid.

Unless and until formally notified otherwise, notice may be given to each of the Parties addressed as follows:

Bear Valley Mutual Water Company
101 East Olive Avenue
Redlands, California 92373

City of Redlands
P. O. Box 280
Redlands, California 92373

Crafton Water Company
P. O. Box 627
Mentone, California 92359

East San Bernardino County Water District
P. O. Box 3427
San Bernardino, California 92413

Lugonia Water Company
101 East Olive Avenue
Redlands, California 92373

North Fork Water Company
P. O. Box 3427
San Bernardino, California 92413

Redlands Water Company
101 East Olive Avenue
Redlands, California 92373

San Bernardino Valley Municipal Water District
P. O. Box 5906
San Bernardino, California 92412

San Bernardino Valley Water Conservation District
303 Brookside Avenue
Redlands, California 92373

Yucaipa Valley County Water District
P. O. Box 458
Yucaipa, California 92399

21. APPROVALS REQUIRED, EFFECTIVE DATE, AND MECHANICS OF EXECUTION

This Agreement shall become effective among the Parties executing the same sixty (60) days after it shall have been executed by the Conservation District, Valley District, Bear Valley, Crafton, Redlands, and Redlands Water.

This Agreement may be executed in counterparts so that the same copy need not be signed by each of the Parties hereto. Upon execution of each counterpart, said counterpart shall be delivered to the Conservation District and, when the required number of counterparts has been received, the Conservation District shall give notice to each of the Eligible Entities hereunder stating the date of execution of the last required counterpart and the date 60 days thereafter upon which the Agreement shall become effective. Upon such effective date, this Agreement shall become effective among all of the Eligible Entities which have executed said Agreement by said effective date, and the Conservation District shall attach all of the signature pages from the counterparts to one copy of the Agreement and shall mail a copy of the conformed Agreement to each of the Parties executing the same. From and after the effective date, any non-signatory Entity shall be eligible to become a Party hereto only in the manner provided in Section 17.

BOOK 9008 PAGE 24

IN WITNESS WHEREOF, the parties do execute this Agreement herein by act of their duly authorized representatives undersigned.

DATED: May 5-1976.

BEAR VALLEY MUTUAL WATER COMPANY

By Donald C Anderson
President

Betty Jaqueline
Secretary

Approved:
SURR & HELLYER
By Robert J Birnbach
Attorney

DATED May 6, 1976

SANTA ANA RIVER – MILL CREEK
COOPERATIVE WATER PROJECT AGREEMENT

MAY 3, 1976

BOOK 9008 PAGE 25

STATE OF CALIFORNIA)
: ss.
COUNTY OF SAN BERNARDINO)

On this 6th day of May, 1976, before me, the undersigned a Notary Public in and for said County and State, personally appeared ROBERT J. BIERSCHBACH, a member of the law firm of SURR & HELLYER, known to me to be the person who executed the foregoing instrument on behalf of said law firm, and acknowledged to me that such law firm executed the same.

WITNESS my hand and official seal.

(OFFICIAL SEAL)
MOIRE E. ALEXANDER
NOTARY PUBLIC - CALIFORNIA
SAN BERNARDINO COUNTY
My Commission Expires Oct. 26, 1978

Moire E. Alexander
Notary Public

STATE OF CALIFORNIA)
: ss.
COUNTY OF SAN BERNARDINO)

On this 6th day of May, 1976, before me, the undersigned, a Notary Public in and for said County and State, personally appeared DONALD C. S. ANDERSON, known to me to be the President, and BETTY FARQUHAR, known to me to be the Secretary, of BEAR VALLEY MUTUAL WATER COMPANY, a corporation, the corporation that executed the within instrument, and known to me to be the persons who executed said instrument on behalf of said corporation, and acknowledged to me that such corporation executed the same.

WITNESS my hand and official seal.

OFFICIAL SEAL
PATRICIA L. MERRITT
NOTARY PUBLIC CALIFORNIA
PRINCIPAL OFFICE IN
SAN BERNARDINO COUNTY
My Commission Expires October 2, 1979

Patricia L. Merritt
Notary Public

BOOK 9008 PAGE 26

IN WITNESS WHEREOF, the parties do execute this Agreement herein by act of their duly authorized representatives undersigned.

DATED: June 15, 1976

CITY OF REDLANDS

By _____
Mayor

By _____
City Clerk

Approved:

_____
Attorney

OFFICIAL SEAL
LORETTA C. POYZER
NOTARY PUBLIC - CALIFORNIA
SAN BERNARDINO COUNTY
My Commission Expires June 3, 1977

State of California)
County of San Bernardino) SS

On June 15, 1976, before me, the undersigned, a Notary Public in and for said State, personally appeared Charles G. DeMirjyn, known to me to be the Mayor, and Peggy A. Moseley, known to me to be the Cit Clerk of the City of Redlands that execute the within Instrument, on behalf of the City of Redlands and acknowledged to me that the City of Redlands executed the within instrument pursuant to its City Council meeting of June 15, 1976.

WITNESS my hand and official seal.

_____
Loretta C. Poyzer
DATED _____

SANTA ANA RIVER – MILL CREEK
COOPERATIVE WATER PROJECT AGREEMENT

MAY 3, 1976

IN WITNESS WHEREOF, the parties do execute this Agreement herein by act of their duly authorized representatives undersigned.

CRAFTON WATER COMPANY

By _____
President

_____
Secretary

Approved:

_____
Attorney

DATED June 16, 1976

SANTA ANA RIVER – MILL CREEK
COOPERATIVE WATER PROJECT AGREEMENT

MAY 3, 1976

BOOK 9008 PAGE . 28

STATE OF CALIFORNIA
COUNTY OF SAN BERNARDINO } SS.

On June 16, 1976 before me, the undersigned, a Notary Public in and for said County and State, personally appeared Ralph F. Sechrest, known to me to be the President, and Peggy A. Jacinto, known to me to be Secretary of the corporation that executed the within Instrument, known to me to be the persons who executed the within Instrument on behalf of the corporation therein named, and acknowledged to me that such corporation executed the within instrument pursuant to its by-laws or a resolution of its board of directors.

Signature Alice E. Smith

Alice E. Smith
Name (Typed or Printed)
Notary Public in and for said County and State

FOR NOTARY SEAL OR STAMP

OFFICIAL SEAL
ALICE E SMITH
NOTARY PUBLIC CALIFORNIA
PRINCIPAL OFFICE IN
SAN BERNARDINO COUNTY
My Commission Expires December 29, 1978

BOOK 9008 PAGE 29

IN WITNESS WHEREOF, the parties do execute this Agreement herein by act of their duly authorized representatives undersigned.

EAST SAN BERNARDINO
COUNTY WATER DISTRICT

By Philip A. Davis
President

Secretary

Approved:

Attorney

DATED August 9, 1976

SANTA ANA RIVER – MILL CREEK
COOPERATIVE WATER PROJECT AGREEMENT

MAY 3, 1976

BOOK 9008 PAGE 30

STATE OF CALIFORNIA,

COUNTY OF SAN BERNARDINO } ss.

ON August 9, 19 76,
before me, the undersigned, a Notary Public in and for said State, personally appeared

Philip A. Disch, Bonnie R. Eastwood and Robert J. Farrell, known to me,
to be the persons whose names are subscribed to the within Instrument,
and acknowledged to me that they executed the same.

WITNESS my hand and official seal.

ELISABETH PERKINS
NOTARY PUBLIC
SAN BERNARDINO COUNTY
CALIFORNIA
My Commission Expires February 26, 1978

Elisabeth Perkins
Notary Public in and for said State.

ACKNOWLEDGMENT—General—Wolcotts Form 233—Rev. 3-64

BOOK 9008 PAGE 31

IN WITNESS WHEREOF, the parties do execute this Agreement herein by act of their duly authorized representatives undersigned.

LUGONIA WATER COMPANY

By _____
President

_____
Secretary

Approved:

_____
Attorney

DATED May 20, 1976

STATE OF CALIFORNIA)
) ss.
County of San Bernardino)

On May 20, 1976, before me, the undersigned, a Notary Public in and for said County and State, personally appeared G. R. REES, BETTY FARQUHAR and EDWIN B. HALES, known to me to be the persons whose names are subscribed to the within instrument and acknowledged that they executed the same.

_____
EDWIN R. HALES, Notary Public

OFFICIAL SEAL
EDWIN R. HALES
NOTARY PUBLIC - CALIFORNIA
PRINCIPAL OFFICE IN
SAN BERNARDINO COUNTY
My Commission Expires March 13, 1978

SANTA ANA RIVER – MILL CREEK
COOPERATIVE WATER PROJECT AGREEMENT

MAY 3, 1976

BOOK 9008 PAGE 32

IN WITNESS WHEREOF, the parties do execute this Agreement herein by act of their duly authorized representatives undersigned.

SANTA ANA RIVER - MILL CREEK

COOPERATIVE WATER PROJECT AGREEMENT

MAY 3, 1976

NORTH FORK WATER COMPANY

By Arnold L. Wright
President

Howard H Hendricks
Secretary

Approved:

Attorney

Dated: 8-4-76

Acknowledgment—Corp.—Wolcotts Form 224-S

STATE OF CALIFORNIA
COUNTY OF SAN BERNARDINO } ss.

On August 4th 1976 before me, the undersigned, a Notary Public in and for said State, personally appeared ARNOLD L. WRIGHT known to me to be the _____ President, and HOWARD H HENDRICKS known to me to be the _____ Secretary of the Corporation that executed the within Instrument, known to me to be the persons who executed the within Instrument on behalf of the Corporation therein named, and acknowledged to me that such corporation executed the within instrument pursuant to its by-laws or a resolution of its board of directors.

WITNESS my hand and official seal.

(Seal) Leroy H. Roebke

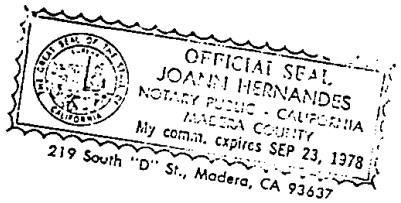
NAME (TYPED OR PRINTED)
Notary Public in and for said State.

LEROY H. ROEBKE
NOTARY PUBLIC
SAN BERNARDINO COUNTY
CALIFORNIA
My Commission Expires May 11 1979

LEROY H. ROEBKE
NOTARY PUBLIC
SAN BERNARDINO COUNTY
CALIFORNIA
My Commission Expires May 11, 1979

BOOK 9008 PAGE 33

STATE OF CALIFORNIA
COUNTY OF Madera } ss.



On this 10th day of August in the year one thousand nine hundred and -76- before me, the undersigned, a Notary Public, State of California, duly commissioned and sworn, personally appeared Denslow Green

known to me to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same.

IN WITNESS WHEREOF I have hereunto set my hand and affixed my official seal in the County of Madera the day and year in this certificate first above written.

Notary Public, State of California

My commission expires 9-23-78

Cowdery's Form No. 32–Acknowledgement–General (C. C. Sec. 1190a)

Printed 12/72

BOOK 9008 PAGE 34

IN WITNESS WHEREOF, the parties do execute this Agreement herein by act of their duly authorized representatives undersigned.

REDLANDS WATER COMPANY

By _____
President

_____
Secretary

Approved:

_____
Attorney

DATED June 7 1976

SANTA ANA RIVER – MILL CREEK
COOPERATIVE WATER PROJECT AGREEMENT

BOOK 9008 PAGE 35

TO 449 C
(Corporation)

TI

STATE OF CALIFORNIA
COUNTY OF San Bernardino } SS.

On June 7, 1976 before me, the undersigned, a Notary Public in and for said State, personally appeared Lloyd Yarbrough,
known to me to be the _____ President, and Betty Farquhar,
known to me to be _____ Secretary of the corporation that executed the within Instrument, known to me to be the persons who executed the within Instrument on behalf of the corporation therein named, and acknowledged to me that such corporation executed the within instrument pursuant to its by-laws or a resolution of its board of directors.

WITNESS my hand and official seal.

Signature Elaine V. Leathy

Elaine V. Leathy
Name (Typed or Printed)

OFFICIAL SEAL
ELAINE V. LEATHY
NOTARY PUBLIC - CALIFORNIA
SAN BERNARDINO COUNTY
My Commission Expires April 11, 1977

(This area for official notarial seal)

IN WITNESS WHEREOF, the parties do execute this Agreement herein by act of their duly authorized representatives undersigned.

SAN BERNARDINO VALLEY
MUNICIPAL WATER DISTRICT

By _____
President

_____
Secretary

Approved:

_____
Attorney

DATED July 6, 1976

SANTA ANA RIVER – MILL CREEK
COOPERATIVE WATER PROJECT AGREEMENT

MAY 2, 1976

BOOK 9008 PAGE 37

STATE OF CALIFORNIA,
COUNTY OF SAN BERNARDINO } ss.

ON July 6, 1976,
before me, the undersigned, a Notary Public in and for said State, personally appeared
Lloyd Yount, LeRoy Holmes, and James W. Dilworth,
known to me,
to be the persons whose names are subscribed to the within instrument,
and acknowledged to me that they executed the same.

WITNESS my hand and official seal.

Brenda M. McCullough
Notary Public in and for said State.

OFFICIAL SEAL
BRENDA M. McCULLOUGH
NOTARY PUBLIC - CALIFORNIA
SAN BERNARDINO COUNTY
My Commission Expires July 11, 1977

ACKNOWLEDGMENT—General—Wolcotts Form 233—Rev. 3-64

IN WITNESS WHEREOF, the parties do execute this Agreement herein by act of their duly authorized representatives undersigned.

SAN BERNARDINO VALLEY
WATER CONSERVATION DISTRICT

By _____
President

_____
Secretary

Approved:

_____
Attorney

DATED June 7, 1976

STATE OF CALIFORNIA]
COUNTY OF SAN BERNARDINO] ss.

On June 7, 1976, before me, a Notary Public in and for said State, personally appeared ROBERT T. PAINE, known to me to be the President, and W. J. HILTGEN, known to me to be the Secretary, of SAN BERNARDINO VALLEY WATER CONSERVATION DISTRICT, the corporation that executed the within instrument, and known to me to be the persons who executed the within instrument on behalf of the said corporation, and acknowledged to me that such corporation executed the same pursuant to its by-laws or a resolution of its board of directors.

WITNESS my hand and official seal.

_____
RICHARD A. MULLIGAN

RICHARD A. MULLIGAN
NOTARY PUBLIC
SAN BERNARDINO COUNTY
CALIFORNIA
My Commission Expires October 30, 1977

SANTA ANA RIVER – MILL CREEK
COOPERATIVE WATER PROJECT AGREEMENT

MAY 3, 1976

BOOK 9008 PAGE 39

STATE OF CALIFORNIA
COUNTY OF SAN BERNARDINO } ss.

ON JUNE 7, 19 76,
before me, the undersigned, a Notary Public in and for said State, personally appeared
RICHARD A. MULLIGAN

, known to me,
to be the person whose name is subscribed to the within Instrument,
and acknowledged to me that he executed the same.

WITNESS my hand and official seal.

(OFFICIAL SEAL)
SHERRY L. TUCKER
NOTARY PUBLIC - CALIFORNIA
SAN BERNARDINO COUNTY
My Commission Expires Jan. 13, 1980

Sherry L. Tucker
Notary Public in and for said State.

ACKNOWLEDGMENT—General—Wolcotts Form 231—Rev. 3-64

IN WITNESS WHEREOF, the parties do execute this Agreement herein by act of their duly authorized representatives undersigned.

YUCAIPA VALLEY COUNTY
WATER DISTRICT

By _____
President

_____
Secretary

Approved:

_____
Attorney

DATED August 26, 1976

SANTA ANA RIVER – MILL CREEK
COOPERATIVE WATER PROJECT AGREEMENT

MAY 3, 1976

BOOK 9008 PAGE . 41

STATE OF CALIFORNIA
COUNTY OF San Bernardino } SS.

On August 26, 1976, before me, the undersigned, a Notary Public in and for said State, personally appeared Gene Blaschke known to me to be the water district President, and Thos. G. Pierce, known to me to be the Secretary of the ~~Corporation~~ that executed the within Instrument, known to me to be the persons who executed the within Instrument on behalf of the Corporation therein named, and acknowledged to me that such Corporation executed the same, and acknowledged to me that such Corporation executed the within Instrument pursuant to its by-laws or a resolution of its board of directors.

WITNESS my hand and official seal.

* to be known as water district

(Seal)

OFFICIAL SEAL
JUNE I. HODGINS
NOTARY PUBLIC
PRINCIPAL OFFICE IN
SAN BERNARDINO COUNTY
My Commission Expires Sept. 23, 1977

June I. Hodgins
(Notary Public's Signature)

(Name - *Typed or Printed*)
Notary Public in and for said State

2307
MIS 3513 8-63* 25 Corporation Notarial Acknowledgment

BOOK 9008 PAGE 42

EXHIBIT A

ENTITLEMENTS TO WATER

Santa Ana River

The general features for conveying Santa Ana River water are shown on Plate 2 herein.

Edison Company diverts water from the Santa Ana River at the confluence of Bear Creek and the Santa Ana River. This use of water is based on an agreement with Bear Valley and a license issued to the Edison Company by the Federal Power Commission.

Water so diverted is conveyed by the Edison Company through a series of tunnels, flumes, and canals through Santa Ana Powerhouse No. 1 and Santa Ana Powerhouse No. 2 to the forebay of Santa Ana Powerhouse No. 3.

At the forebay to Powerhouse No. 3 Bear Valley takes delivery of up to nine (9) cfs, which is conveyed through the Bear Valley High Line (capacity controlled by Crafton Heights Pipeline Company).

The remaining water in the Edison Company facility is dropped through Powerhouse No. 3. At the tailrace of Powerhouse No. 3 certain quantities of water are delivered into the facilities of North Fork and certain quantities are delivered into the Redlands Canal of Bear Valley.

There is an agreement between North Fork and Bear Valley which sets forth the entitlements to water of the respective parties. Said agreement is recorded in the official records of San Bernardino County, State of California, Agreement File E, pages 178 - 187, dated July 3, 1885.

There is an agreement between Bear Valley and Lugonia (South Fork). This agreement sets forth the entitlement to water of the respective parties.

It is the intention of this Cooperative Water Project Agreement that the Management Committee and/or Parties to this Agreement will not do anything which will in any way diminish or interfere with the quantities of water each of the Parties referred to in the two agreements above is entitled to receive as its respective proportionate share of the available supply.

The Conservation District diverts storm flows and waters in excess of the needs of the aforementioned companies at the mouth of Santa Ana Canyon for the purpose

EXHIBIT A
Continued

of spreading and percolating to replenish the groundwater supply. The diversion by the Conservation District is covered by Licenses Nos. 2831 and 2832 issued by the State of California.

Redlands Water diverts water from a tunnel at the mouth of Santa Ana Canyon. Water is conveyed from the tunnel to the Redlands Aqueduct via a pipeline located on the west side of Greenspot Road.

Mill Creek

The general features of conveying Mill Creek water are shown on Plate 3 herein.

Edison Company diverts water from Mill Creek near Forest Home in Mill Creek Canyon. This use of water is based on agreements with certain water purveyors and a license issued to the Edison Company by the Federal Power Commission.

Water is conveyed through Edison Company facilities, including Mill Creek Powerhouses Nos. 3, 2, and 1.

After passing through Mill Creek Powerhouse No. 1, water is conveyed across Mill Creek to a point where it is divided; some going to Redlands, some to Crafton, and that portion above the needs of the two parties being returned to the channel of Mill Creek for spreading.

The amount of water each of the two Entities receives is based upon the ownership of "Zanja hours" per certain deeds and other factors as determined between Redlands and Crafton.

It is the intent of this Cooperative Water Project Agreement that the Management Committee and/or the Parties to this Agreement will not do anything which will in any way diminish or interfere with the quantities of water each of the Parties is entitled to receive as its respective proportionate share of the available supply.

The Conservation District has historically diverted stormflows and water in excess of the needs of Redlands and Crafton for the purpose of spreading and percolating to replenish the groundwater supply.

EXHIBIT B

ENTITLEMENT WATER

MAXIMUM INSTANTANEOUS RATES OF FLOW AND DELIVERY POINTS

(See Plates 2 and 3 attached hereto.)

Maximum Instantaneous Rates of Flow

Redlands
Crafton

32 cfs together.

Bear Valley
Lugonia
North Fork

88 cfs together.

Conservation District

The maximum instantaneous rate of flow that would be available if there was no Cooperative Water Project and all Parties were operating under Historical Conditions.

Delivery Points

Redlands - Mill Creek

Into the influent pipeline into Redlands' Henry Tate Filter Plant at a point within the Plant site located south of Mill Creek Road in the Northeast Quarter of Section 22, T. 1 S., R. 2 W., SBB&M.

Crafton - Mill Creek

Into the Zanja near the Boullioun Box and into the influent pipeline into the Redlands' Henry Tate Filter Plant.

Conservation District - Santa Ana and Mill Creek

a. Mill Creek - In the channel of Mill Creek above the existing intake structure located on the south bank of Mill Creek in the Northeast Quarter of Section 21, T. 1 S., R. 2 W., SBB&M.

EXHIBIT B
Continued

b. Santa Ana - The existing main canal of the Conservation District located on the south side of Greenspot Road in the Northeast Quarter of Section 7, T. 1 S., R. 2 W., SBB&M.

North Fork and Bear Valley - Santa Ana

At the existing North Fork Box located on the north side of the Conservation District main canal in the Southwest Quarter of the Southwest Quarter, Section 4, T. 1 S., R. 2 W., SBB&M, and up to 3 cfs at the East Highlands Company weir.

Bear Valley and Lugonia - Santa Ana

Into the Redlands Aqueduct above the Mentone Reservoir.

Redlands Water - Santa Ana

Into the Redlands Aqueduct above the Mentone Reservoir.

East San Bernardino - Santa Ana

Into the North Fork Canal at or above elevation 1720 feet.

EXHIBIT C

DETERMINATION AND MEASUREMENT OF EXCHANGEABLE WATER

Santa Ana

The quantity of water in the Santa Ana River available for exchange shall be determined as follows:

The quantity of water measured at the USGS gage on the Edison Company canal located below the tailrace of Santa Ana Powerhouse No. 2.

The amount of Santa Ana River water available for exchange shall not exceed 88 cfs.

The quantity of water in the tunnel belonging to Redlands Water available for exchange shall be as measured at the tunnel outlet located on the west side of Greenspot Road at the mouth of Santa Ana Canyon.

Mill Creek

The quantity of water in Mill Creek available for exchange shall be determined as follows:

The quantity of water that would go through Edison Company's Mill Creek No. 1 hydro-plant if there were no upstream diversion.

The total amount of Mill Creek water available for exchange shall not exceed 32 cfs.

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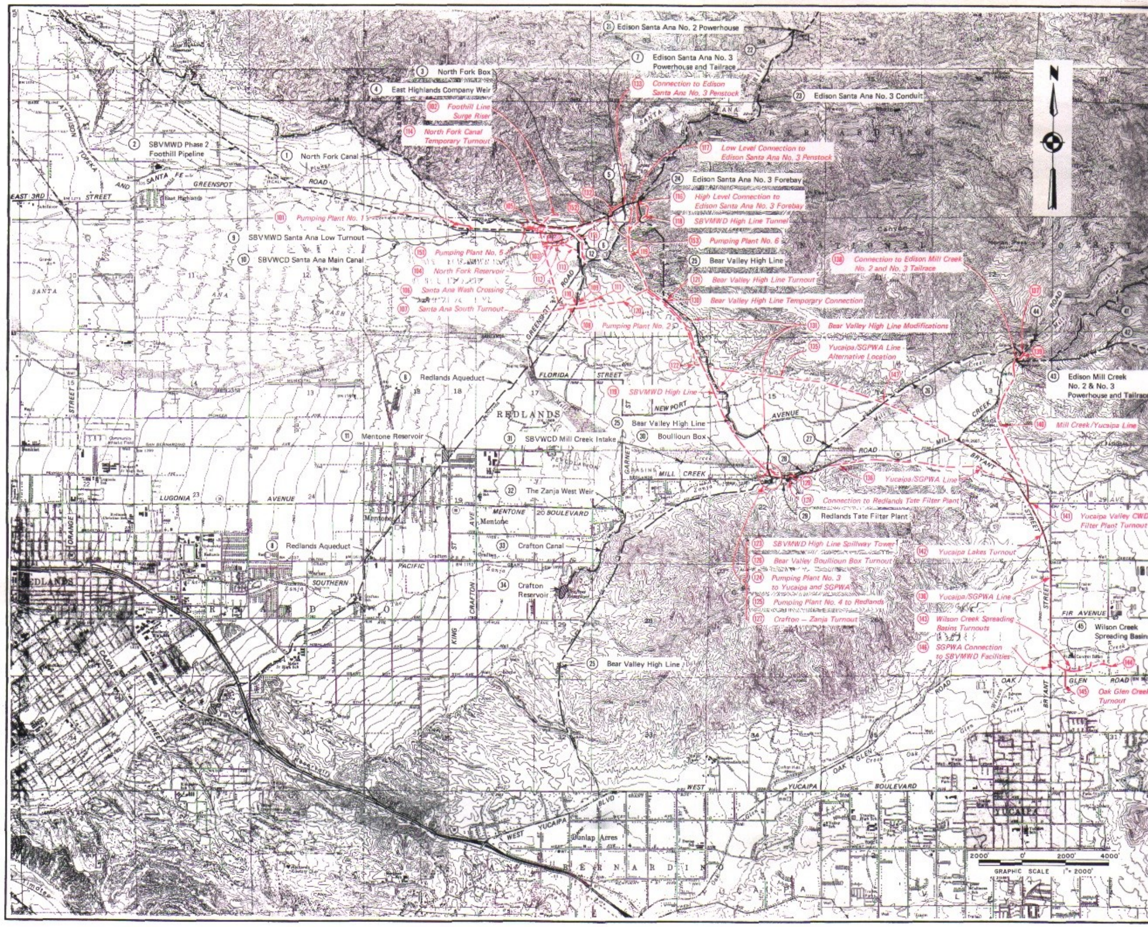
EXHIBIT D

FACILITIES TO BE CONSTRUCTED AS THE FIRST INCREMENT OF THE COOPERATIVE WATER PROJECT

Description	Minimum Capacity in cfs	Key Number on Plate 1
North Fork Canal Temporary Turnout	30	114
Pumping Plant No. 5	12	151
Pumping Plant No. 5 Discharge Line	12	152
Foothill Pipeline to Redlands Aqueduct Turnout	30	115
SBVMWD High Line	25	119
Pumping Plant No. 4 to Redlands	20	125
Connection to Redlands Tate Filter Plant	32	128
Crafton - Zanja Turnout	10	127
Turnout to Mill Creek above Conservation District Spreading Intake	25	
Pumping Plants and Pipelines Connecting SBVMWD Phase 2 Foothill Pipeline to SBVMWD High Line	As Needed	See Note 1

Note 1

Precise location to be determined in final design.



FACILITY LIST

EXISTING AND ASSOCIATED WATER FACILITIES

Key Number	Facility Description
1	North Fork Canal
2	SBVMWD Phase 2 Foothill Pipeline
3	North Fork Box
4	East Highlands Company Weir
5	SBVWCD Santa Ana Intake Headgate
6	SBVWCD Santa Ana Three Way Box
7	Edison Santa Ana No. 3 Powerhouse and Tailrace
8	Redlands Aqueduct
9	SBVMWD Santa Ana Low Turnout
10	SBVWCD Santa Ana Distribution Canal
11	Mentone Reservoir
12	Redlands Water Tunnel
21	Edison Santa Ana No. 2 Powerhouse
22	Bear Valley Santa Ana Canyon Well No. 2
23	Edison Santa Ana No. 3 Conduit
24	Edison Santa Ana No. 3 Forebay
25	Bear Valley High Line
26	Edison Mill Creek No. 2 Conduit
27	Edison Mill Creek No. 1 Powerhouse and Tailrace
28	The Zanja East Weir
29	Redlands Tate Filter Plant
30	Boullioun Box
31	SBVWCD Mill Creek Intake
32	The Zanja West Weir
33	Crafton Canal
34	Crafton Reservoir
41	Edison Mill Creek No. 2 Conduit
42	Edison Mill Creek No. 3 Conduit
43	Edison Mill Creek No. 2 & No. 3 Powerhouse and Tailrace
44	Edison Mill Creek No. 1 Stream Diversion Structures and Pipeline
45	Wilson Creek Spreading Basins

COOPERATIVE WATER PROJECT FACILITIES

Key Number	Facility Description
101	*Pumping Plant No. 1*
102	*Foothill Line Surge Riser*
103	*North Fork Reservoir Inlet System*
104	*North Fork Reservoir*
105	*North Fork Reservoir Outlet System*
106	*Santa Ana Wash Crossing*
107	*Santa Ana South Turnout*
108	*Pumping Plant No. 2*
109	*Foothill Pipeline to Redlands Aqueduct Turnout*
110	*Redlands Aqueduct Turnout to Foothill Line*
111	*Pumping Plant No. 2 Surge Riser*
112	*SBVWCD Santa Ana Main Canal Relocation*
113	*Redlands Water Tunnel/North Fork Reservoir Line*
114	*North Fork Canal Temporary Turnout*
115	*Redlands Aqueduct Temporary Connection*
151	*Pumping Plant No. 5 to North Fork Box and Pumping Plant No. 6*
152	*Pumping Plant No. 5 Discharge Line*
153	*Pumping Plant No. 6 to SBVMWD High Line*
116	*High Level Connection to Edison Santa Ana No. 3 Forebay*
117	*Low Level Connection to Edison Santa Ana No. 3 Penstock*
118	*SBVMWD High Line Tunnel*
119	*SBVMWD High Line*
120	*Pumping Plant No. 2 Discharge Line*
121	*Bear Valley High Line Turnout*
122	*Pumping Plant No. 3 to Yucaipa and SGPWA - Alternative Location*
123	*SBVMWD High Line Spillway Tower*
124	*Pumping Plant No. 3 to Yucaipa and SGPWA*
125	*Pumping Plant No. 4 to Redlands*
126	*Bear Valley Boullioun Box Turnout*
127	*Crafton – Zanja Turnout*
128	*Connection to Redlands Tate Filter Plant*
129	*Upper Zanja Turnout*
130	*Bear Valley High Line Temporary Connection*
131	*Bear Valley High Line Modifications*
132	*Pumping Plant No. 6 Discharge Line*
133	*Connection to Edison Santa Ana No. 3 Penstock*
135	*Yucaipa/SGPWA Line - Alternative Location*
136	*Yucaipa/SGPWA Line*
137	*Connection to Pipeline from Edison Mill Creek No. 1 Stream Diversion*
138	*Connection to Edison Mill Creek No. 2 and No. 3 Tailrace*
139	*Upper Mill Creek/Yucaipa Line*
140	*Mill Creek/Yucaipa Line*
141	*Yucaipa Valley CWD Filter Plant Turnout*
142	*Yucaipa Lakes Turnout*
143	*Wilson Creek Spreading Basins Turnouts*
144	*Mill Creek/Yucaipa/SGPWA Line Surge Riser*
145	*Oak Glen Creek Turnout*
146	*SGPWA Connection to SBVMWD Facilities*
147	*Connection Yucaipa/SGPWA Line – Alternative Location/Edison Mill Creek No. 1 Conduit*

GENERAL NOTES

1. *All facilities needed for the ultimate development of the Santa Ana and Mill Creek Cooperative Water Project are shown on this Plate.*
2. *Locations of facilities shown on this Plate are conceptual, schematic and functional only. Final locations may be modified from those shown as a result of detailed design.*
3. *Alternative locations are shown for certain facilities. Evaluation and selection of alternatives will be made later as a part of detailed design.*
4. *Facilities will be built in increments to serve the needs of the Parties.*

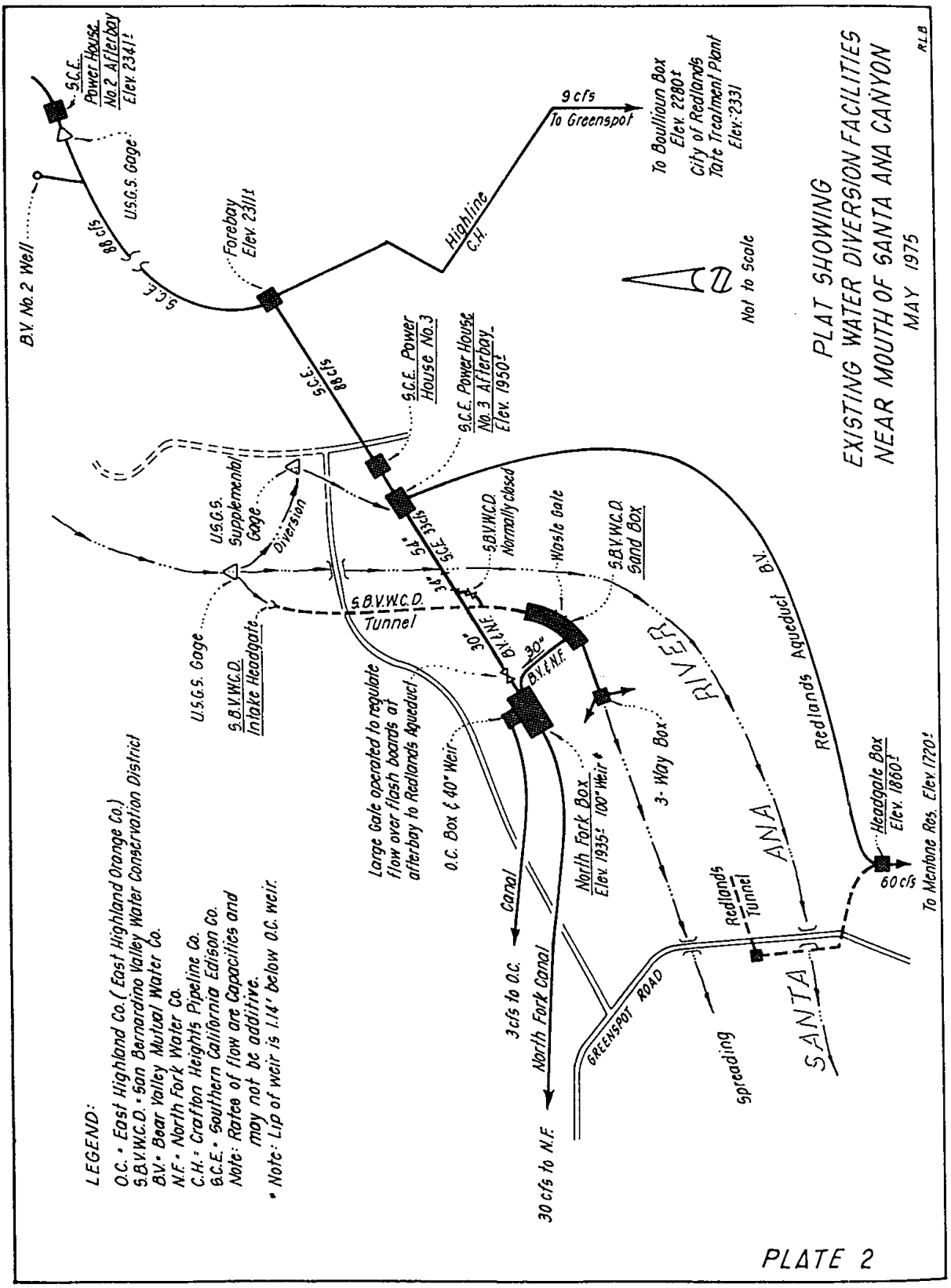
BECHTEL INCORPORATED
SAN FRANCISCO

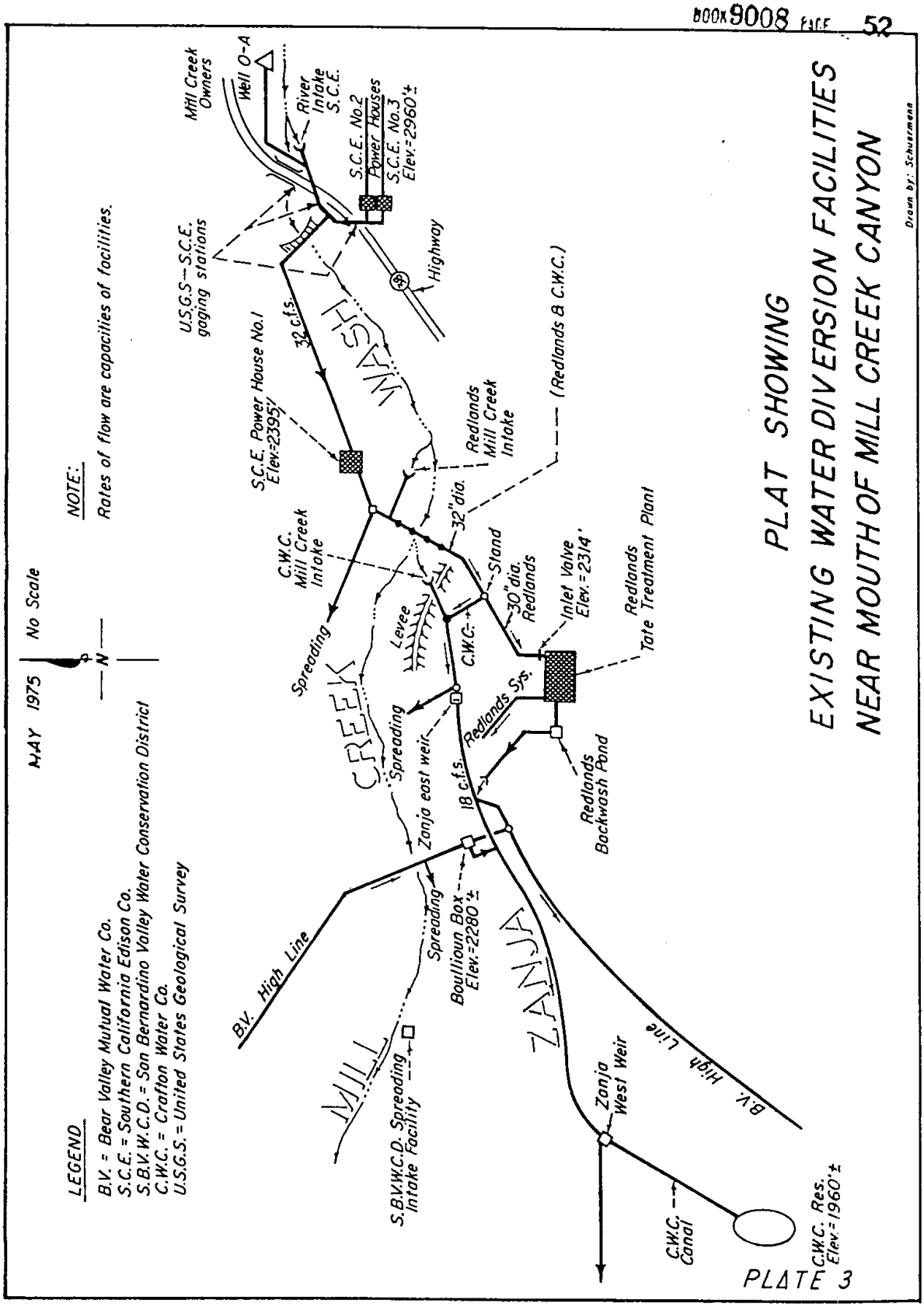
SAN BERNARDINO VALLEY MUNICIPAL WATER DISTRICT
WATER TRANSMISSION PROJECT

SANTA ANA RIVER AND MILL CREEK COOPERATIVE WATER PROJECT AGREEMENT
CONCEPTUAL PLAN OF COOPERATIVE WATER PROJECT FACILITIES AND ASSOCIATED WATER FACILITIES

JOB NO	DRAWING NO	REV
7843	PLATE I	B

BOOK 3008 PAGE 51




BOOK 9008 PAGE 52
PLAT SHOWING
EXISTING WATER DIVERSION FACILITIES
NEAR MOUTH OF MILL CREEK CANYON
Drawn by: Schuermann
MAY 1975
No Scale
N
NOTE:
Rates of flow are capacities of facilities.
LEGEND
B.V. = Bear Valley Mutual Water Co.
S.C.E. = Southern California Edison Co.
S.B.V.W.C.D. = San Bernardino Valley Water Conservation District
C.W.C. = Crafton Water Co.
U.S.G.S. = United States Geological Survey
Mill Creek Owners
Well O-A
River Intake S.C.E.
S.C.E. No.2 Power Houses
S.C.E. No.3 Elev.=2960'±
Highway
U.S.G.S—S.C.E. gaging stations
32 c.f.s.
S.C.E. Power House No.1 Elev.=2395'
C.W.C. Mill Creek Intake
Spreading
Levee
C.W.C.
Redlands Mill Creek Intake
32"dia.
(Redlands & C.W.C.)
Stand
30"dia. Redlands
Inlet Valve Elev.=2314'
Redlands Tate Treatment Plant
Redlands Sys.
Redlands Backwash Pond
18 c.f.s.
Zanja east weir
Spreading
Boulioun Box Elev.=2280'±
B.V. High Line
S.B.V.W.C.D. Spreading Intake Facility
Zanja West Weir
B.V. High Line
C.W.C. Canal
C.W.C. Res. Elev.=1960'±
MILL CREEK
ZANJA
PLATE 3

Yucaipa Valley Water District

Workshop Memorandum 19-192

Date: September 10, 2019

From: Madeline Blua Water Resource Specialist
Jennifer Ares Water Resource Manager

Subject: Overview of the Stream Monitoring Requirements for Maximum Benefit Program Compliance

Each year the Yucaipa Valley Water District prepares a Maximum Benefit report to comply with the Santa Ana Region Basin Plan. For the last several years, the District has hired a consultant to perform groundwater and stream monitoring in San Timoteo Canyon in addition to completing the Maximum Benefit report.

The stream monitoring is a major component of the Maximum Benefit report and includes water quality analysis and flow measurements. The stream monitoring is performed every two weeks with additional measurements taken during high precipitation events. In an effort to reduce costs, the District staff decided to bring the stream monitoring in-house. This will save the District approximately $27,720 annually.

Yucaipa Valley Water District

Workshop Memorandum 19-193

Date: September 10, 2019

From: Jennifer Ares Water Resource Manager
Madeline Blua Water Resource Specialist

Subject: Overview of the Educational Element of the Yucaipa Valley Water District Public Outreach Program

The District conducts water facility tours and school education programs to inform the community and students about local and statewide water issues. Tours are conducted at the Yucaipa Valley Regional Water Filtration Facility and the Regional Water Recycling Facility.

The Inland Empire Resource Conservation District assists with classroom presentations. The Resource Conservation District's conservation programs are very effective but District staff would like to become more proactive and offer programs directly to the schools.

District staff will provide an overview of potential topics for the classroom presentation such as water conservation, recycled water, along with local and state water supply issues.

Yucaipa Valley Water District

Workshop Memorandum 19-194

Date: September 10, 2019

From: Madeline Blua Water Resource Specialist
Jennifer Ares Water Resource Manager

Subject: Overview of the San Timoteo Habitat Monitoring Program

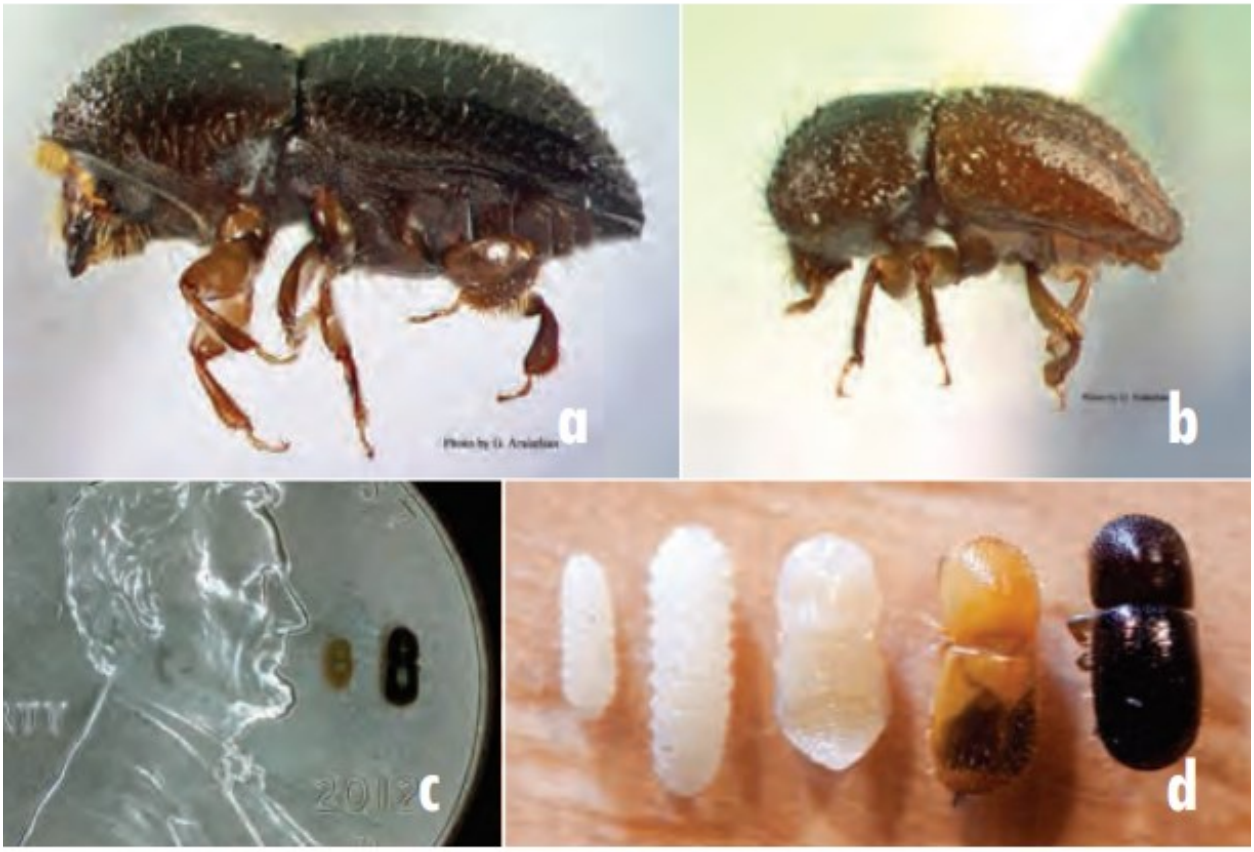
The San Timoteo Habitat Management Program (HMP) was developed in 2006 as a result of the District's discharge into San Timoteo Creek and an agreement with the U.S. Environmental Protection Agency. Monitoring for an invasive insect species, the Polyphagous shot hole borer (PSHB), was recommended by the U.S. Fish and Wildlife Services and became a part of the HMP in November of 2018. Because the PSHB can destroy riparian habitats, it benefits the District to be aware of their presence so that the District is not held accountable for deteriorating habitat.

In the past, a consultant performed all of the monitoring and reporting required by the HMP. However, the District staff decided to perform the PSHB monitoring in-house since the Water Resource Specialist has been trained to conduct the monitoring. This will save the District about $26,000 annually.

Additional Information:

- Invasive Shot-Hole Borer and Fusarium Dieback - Field Guide - https://ucanr.edu/sites/eskalenlab/files/290780.pdf
- Center for Invasive Species Research - https://cisr.ucr.edu/

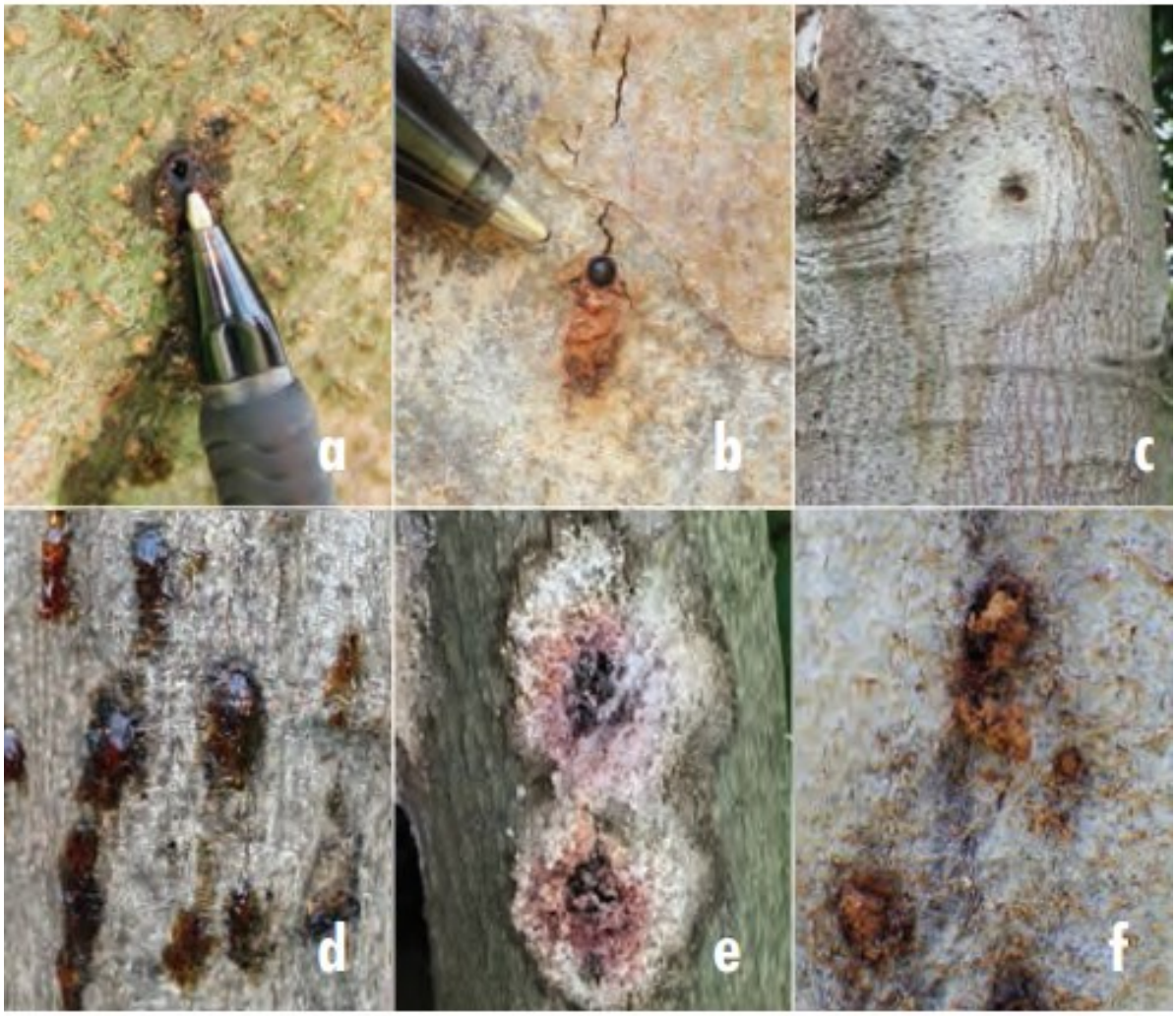
Beetle Biology and ID



ISHB bore tunnels (galleries) into host trees, which is where they lay their eggs and grow the fungi. The two beetle species are physically identical.

At 1.8-2.5 mm long, ISHB adult beetles are smaller than a sesame seed. The adult females (a) are larger than the adult males (b), and are also darker in color (c). Most of the beetle's life cycle, from larva to adult (d), is spent in the galleries. Mature siblings mate with each other so that females are already pregnant when they leave to start their own galleries.

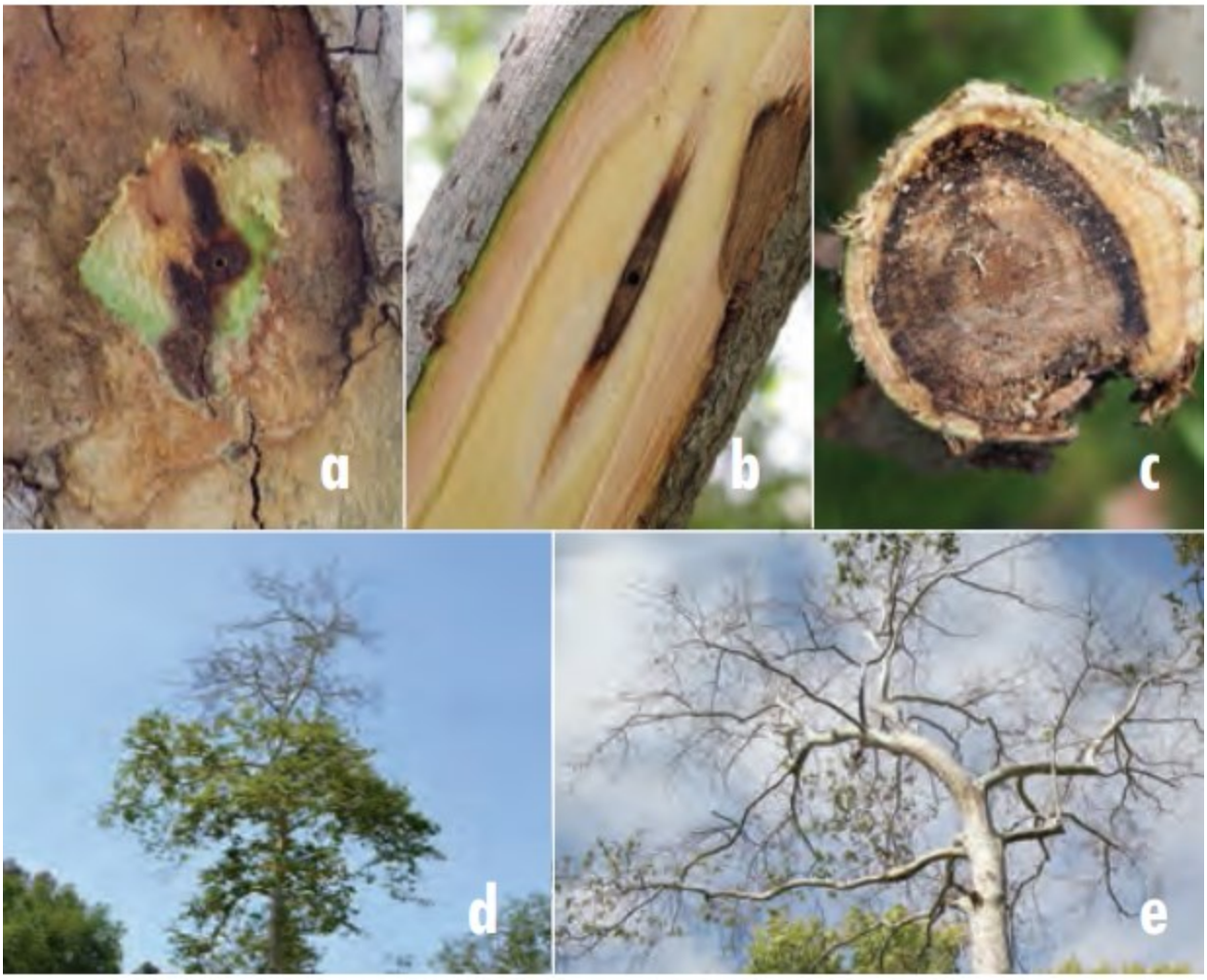
Signs and Symptoms



Entry-holes are round and ~0.85 mm wide, about the size of a ball-point pen tip (a). The abdomen of the female beetle may be seen sticking out of the hole (b).

Tree symptoms are unique to each host species. Around the entry-hole, look for dark, wet staining that sometimes dries to white or yellow (c); thick gumming (d); white, powdery exudate (e); and/or frass (f), which resembles sawdust.

Signs and Symptoms



Signs of Infection by Fusarium Dieback include brown to black discoloration on wood beneath the bark. Scrape away bark around the entry/exit hole to reveal dark staining surrounding the gallery (a, b). Cross-sections of cut branches (c) show the extent of infection.

Branch Dieback is the result of advanced *Fusarium* infections. It may begin on a few branches (d) and eventually kill entire trees (e).

Capital Improvement Projects

Yucaipa Valley Water District

Yucaipa Valley Water District

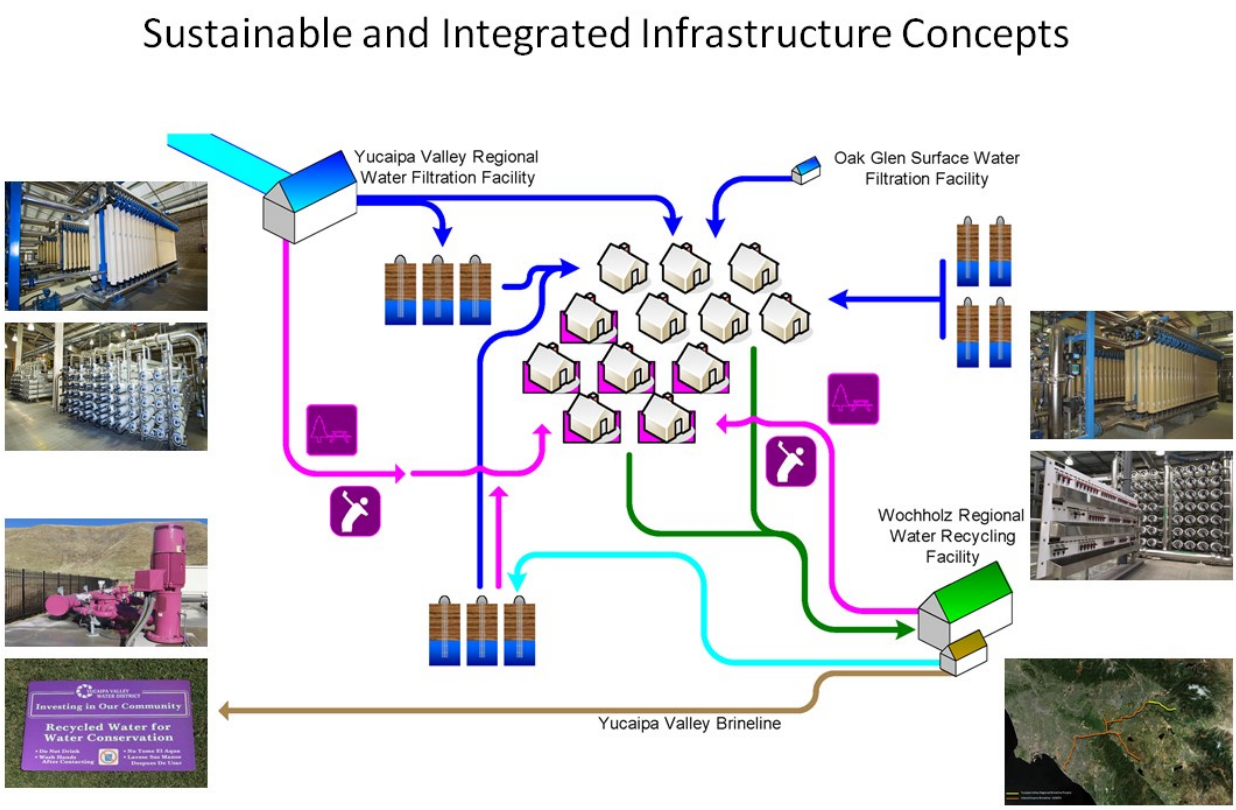
Workshop Memorandum 19-195

Date: September 10, 2019

From: Joseph Zoba, General Manager

Subject: Review of a Proposal to Update the Preliminary Engineering Design Study for the Salinity and Groundwater Enhancement (SAGE) Project

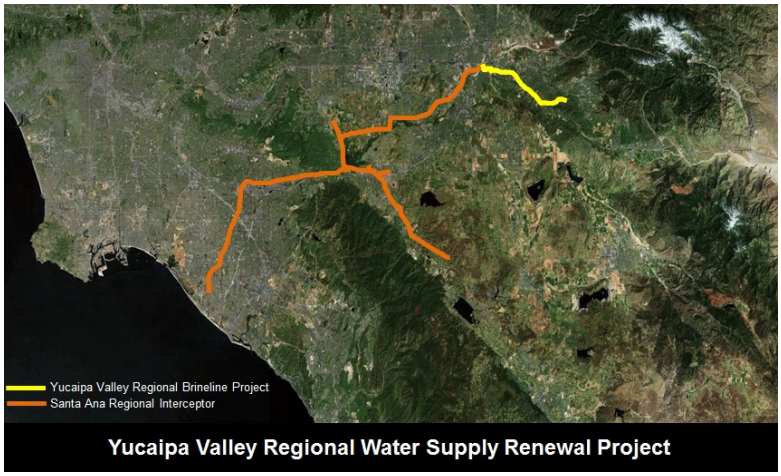
Recognizing the impact that prolonged, severe, and reoccurring droughts, the Yucaipa Valley Water District has embarked on a series of capital improvement projects that integrated drinking water, recycled water, sewer treatment, and brine disposal facilities to create an exceptionally pure and renewable water resource.



In preparation for future droughts, the Yucaipa Valley Water District staff is recommending an expansion of the reverse osmosis equipment at the Yucaipa Valley Regional Water Filtration Facility and the reverse osmosis equipment at the Wochholz Regional Water Recycling Facility, as well as energy neutral equipment to create and store energy to achieve complete sustainability for our purification systems. These improvements will provide additional supplies of high quality water for future use within our community.

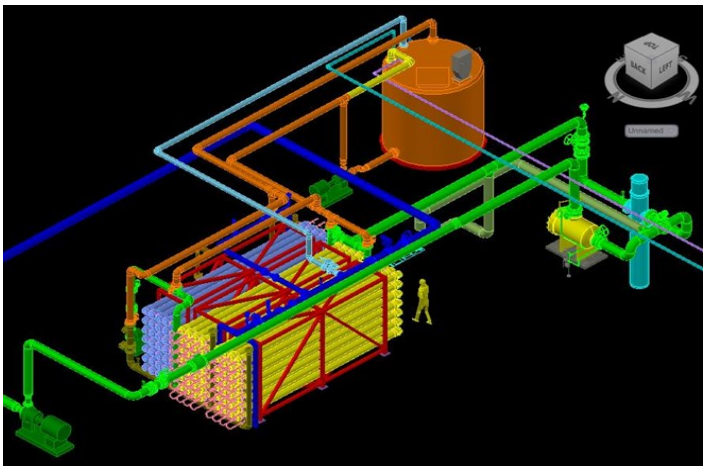
Overview of the Yucaipa Valley Regional Water Supply Renewal Project

The Yucaipa Valley Water District continues to expand recycled water infrastructure to reduce the dependency on imported water supplies from the Sacramento - San Joaquin Delta and to provide a secure and reliable water supply for the region. During the summer months, the Yucaipa Valley Water District has been able to offset up to 15% of the total water demand with recycled water. The goal of the District is to achieve a 30% offset by 2030.



Yucaipa Valley Regional Water Supply Renewal Project

An investment in our water resources and water infrastructure directly benefits the environment and helps stimulate the local economy. Using this philosophy as a guide, the Yucaipa Valley Water District is prepared to implement the next phase of the Regional Water Supply Renewal Project which has been designed to accomplish the following goals:



- Significantly Improve Water Quality – The Yucaipa Valley Water District is located at the headwaters of the Santa Ana Watershed. As a recycled water producer in the Santa Ana Watershed, the Yucaipa Valley Water District was required to extend the Santa Ana Regional Interceptor approximately 15 miles from San Bernardino to Yucaipa. This brine disposal pipeline allows the District to remove salt and minerals from our recycled water supplies to achieve significantly cleaner water than imported water received from the State Water Project. With a drought proof supply of high quality recycled water available to the District, we have implemented dual-plumed homes to utilize recycled water for front and rear-yard irrigation, as well as planned recycled water recharge.

- Minimize Dependency on Imported Water Supplies – This project has been designed to take a proactive step to maximize the use of recycled water in a characteristically water starved region of Southern California. By constructing these additional facilities, the District will become less reliant on water from Northern California, thereby reducing the overall demand for imported water to the region.

Upon review of the overall project elements, the District staff recommends that we update the preliminary engineering design study for the Salinity and Groundwater Enhancement (SAGE) Project.

The Membrane Technology Consultants

Separation Processes, Inc.
2386 Faraday Ave. Suite 100
Carlsbad, CA 92008
Tel: 760-804-5777 Fax: 760-804-5715
www.spi-engineering.com

August 26, 2019

Mr. Joseph B. Zoba
General Manager
Yucaipa Valley Water District
12770 Second Street
Yucaipa, CA 92399

RE: Wochholz Salinity and Groundwater Enhancement (SAGE) Project Update.

Dear Mr. Zoba,

This letter provides a proposal for Separation Processes, Inc. (SPI) to update the preliminary engineering design study in the amount of $32,260 for an nominal 8-mgd Reverse Osmosis and Advanced Oxidation Processes RO/AOP facility at the Henry N. Wochholz Regional Water Reclamation Facility (WRWRF) to achieve treatment suitable for groundwater recharge under Article 5.2 of the California Groundwater Recharge Regulations.

Background

The WRWRF can be configured produce 8-mgd of treated wastewater effluent that can be used as a water supply source in the District's under Article 5.2 of the Groundwater Recharge Regulations. For groundwater recharge, current California regulatory approval requires full advanced treatment (FAT) including RO/AOP.

In 2013, the District commissioned a partial Reverse Osmosis facility would be able to reduce the salinity in order to satisfy the salinity requirements for surface spreading under Article 5.1 of the regulations. In order to meet Article 5.2 of the regulations, the RO processes needs to be expanded, and advanced oxidation needs to be added. In addition, water of the quality produced from the RO/AOP treatment requires stabilization in order to make it compatible with materials in piping distribution system.

As part of the 2017 investigation, the preferred option at that time was to locate the RO/AOP facility behind the existing AWT facility. Option 2. The preliminary report was delivered in August 2017. Since that time, the District has used the report as a reference in support of project funding. There have been additional requests to investigate alternative locations, such as behind the filter press building in order to fit within the constraints of the site.

One of the basic assumptions of the report was that an expansion of the existing secondary clarifier system was required. This expansion was driven by challenges associated with foam generation in the secondary treatment system. Based on some recent work with the secondary aeration system, the construction of a secondary system would not be required. One idea that has come about based on the preliminary biological modeling is that replacement of the coarse bubble diffusers with fine bubble diffusers may be a more cost-effective alternative for operation in the foreseeable future.

Fine bubble diffusers are more efficient than coarse bubble diffusers, and although there may be some reduction on overall treatment capacity, the reduced operating cost may be beneficial into the foreseeable future operation. The deliverable will be a technical memorandum that focuses on the changes to the secondary system (including blowers).

In addition, there were some reservations about the location, and the possibility of locating the RO/AOP facility behind the existing Filter Press Building remains a possible location. The location which is relatively undisturbed may have benefit in terms of construction as this is a relatively undisturbed (greenfield) location.

The update will also include revisiting the construction costs. Modifications to the secondary treatment system will be provides as a separate and/or included as part of the total project to provide flexibility to the District in its funding requests.

Personnel

The proposed work will be managed by Jim Vickers, P.E., with assistance of Charlie Cruz, P.E.. These individuals have provided services to the District on previous projects.

Proposed Budget

The estimate for the project work is provided in the following table.

Yucaipa Valley Water District
Wochholz Salinity and Groundwater Enhancement Project (SAGE) Update
Schedule B
Proposed Scope of Services

		Rate						
		$232	$207	$115				
		PM	**SPE**	**CADD**	**TMH**	**Labor**	**ODC**	**Total**
Task 1 - Water Quality								
	Project Administration	4			**4**	$928	$46	$974
	Obtain Water Quality Information	1	2		**3**	$646	$32	$678
	Obtain Water Quality Demand	1	2		**3**	$646	$32	$678
Task 2 - Process Development								
	Update Process Flow Diagrams	2	4	16	**22**	$3,132	$157	$3,289
	Update Facility Layouts	2	4	24	**30**	$4,052	$203	$4,255
	Secondary Aeration Blowers and Fine Bubble Diffusers	12	24	8	**44**	$8,672	$434	$9,106
	Concentrate Disposal Investigation	2	4		**6**	$1,292	$65	$1,357
Task 3 - Cost Development								
	Update Facility Cost Estimate	8	12		**20**	$4,340	$217	$4,557
Task 4 - Update Feasibility Study Report								
	Draft Feasibility Report	8	8		**16**	$3,512	$176	$3,688
	Final Feasibility Report	4	8	8	**20**	$3,504	$175	$3,679
	TOTALS	**44**	**68**	**56**	**168**	**$30,724**	**$1,536**	**$32,260**

Services for this project will be billed monthly at the following rates:

Senior Project Manager	$232/hr
Project Manager/Senior Project Engineer	$207/hr
Project Engineer	$154/hr
Engineer	$118/hr
CAD Designer	$115/hr
Authorized Expenses (reproduction costs)	as incurred
Travel	$0.535/mile

The proposed work will be performed for a total not-to-exceed fee of $32,260.

Schedule
The proposed work is anticipated to take 6 weeks following authorization, assuming required data is provided by the District.

We hope this proposal meets the needs of the District. Please do not hesitate to contact me with any questions or if revision is needed.

Very Truly Yours,

James C. Vickers

James C. Vickers, P.E.
President

Yucaipa Valley Water District

Workshop Memorandum 19-196

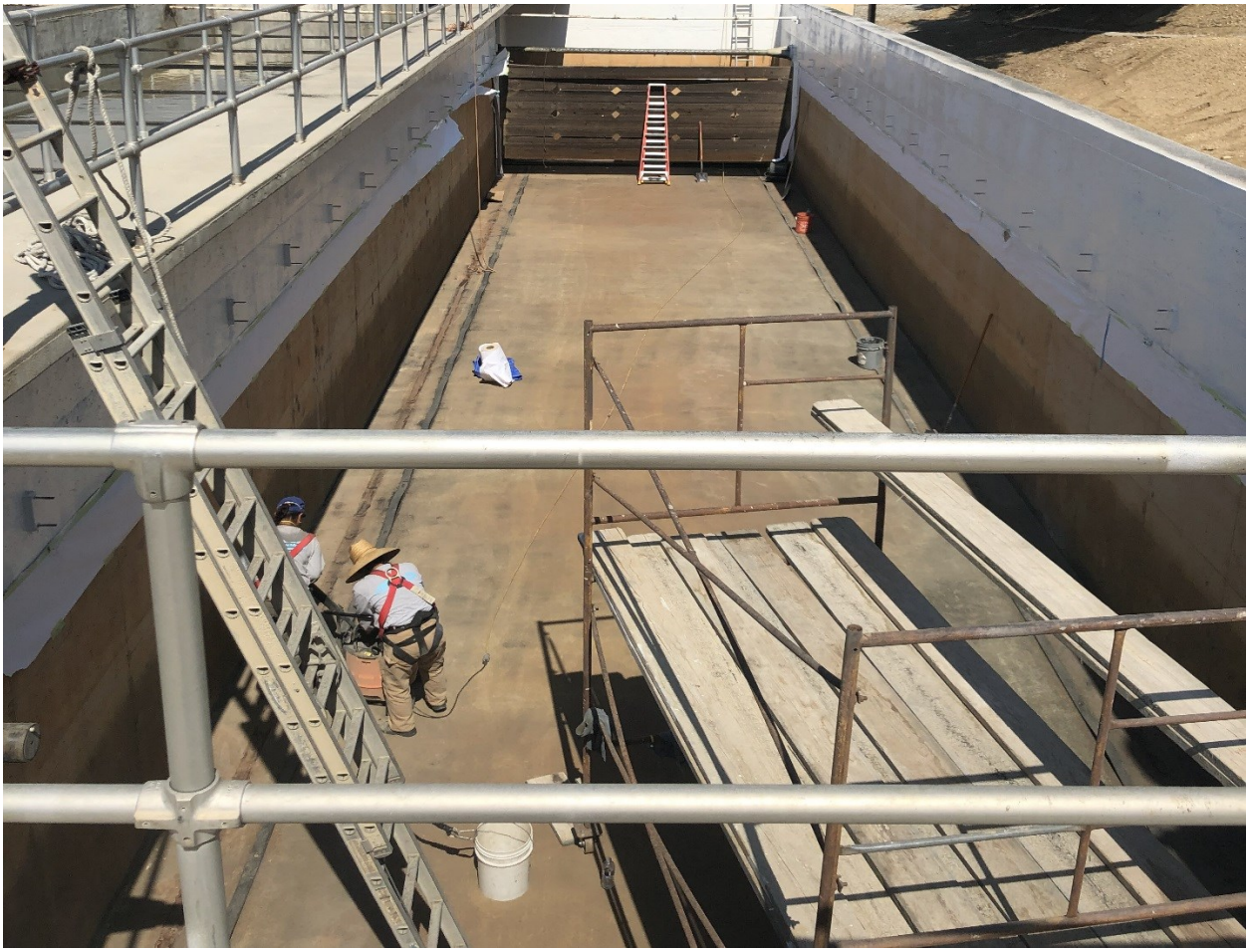
Date: September 10, 2019

Prepared By: Charles Thomas, Operations Manager
Tim Mackamul, Operations Manager

Subject: Status Report on the Improvements to the Primary Clarifiers at the Wochholz Regional Water Recycling Facility

On August 20, 2019 the Yucaipa Valley Water District Board of Directors approved Director Memorandum No. 19-081 which authorized the General Manager to award a contract to Track Technologies for the rehabilitation of the primary clarifier equipment at the Wochholz Regional Water Recycling Facility for a sum not to exceed $327,800.

Track Tech began work on the first of three clarifiers on August 28, 2019. The entire project is anticipated to be complete in 8 to 12 weeks.



Yucaipa Valley Water District

Workshop Memorandum 19-197

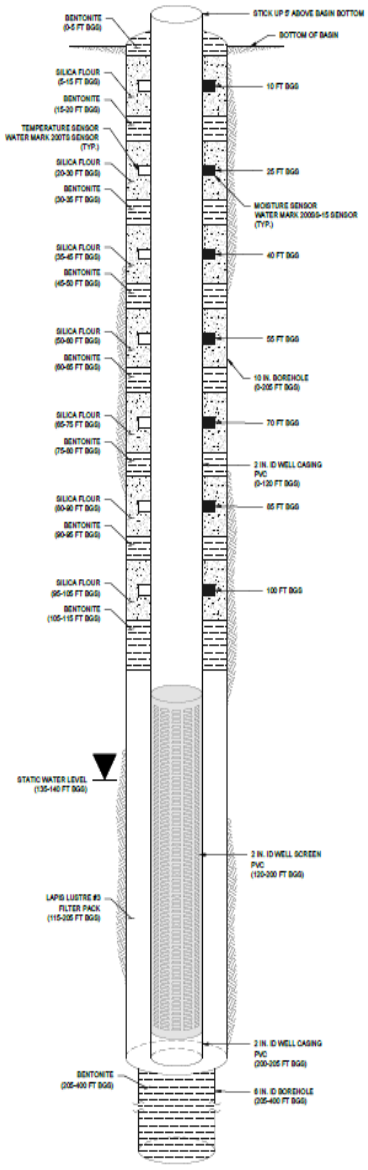
Date: September 10, 2019

From: Joseph Zoba, General Manager

Subject: Status Report on the Geotechnical Studies Associated with the Calimesa Lake and Recharge Facility

On November 6, 2018, the Board of Directors authorized the General Manager to execute a contract with Geoscience to investigate the long-term infiltration rates in the western portion of the Beaumont Basin.

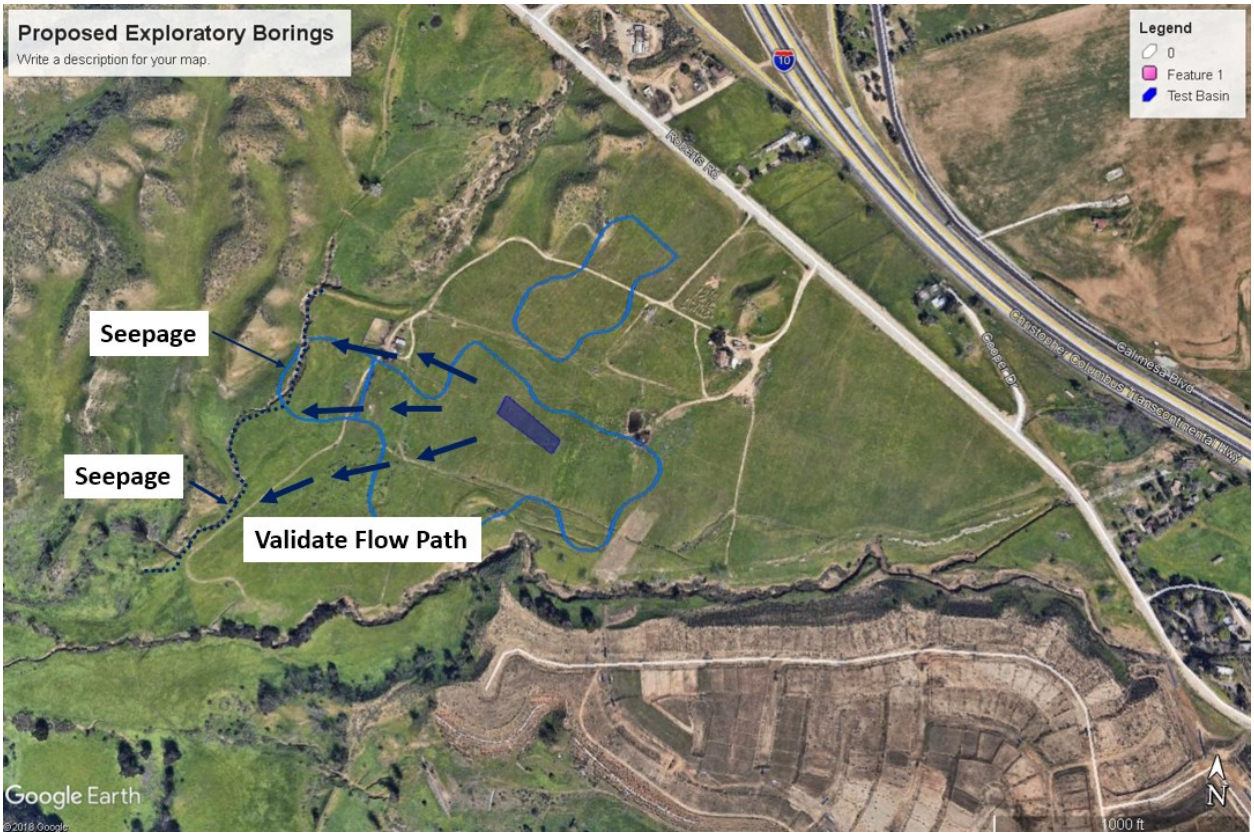
The District staff coordinated the construction of the 300 feet long and 75 feet wide recharge basin. The testing utilized special instrumentation designed to accurately measure changes in moisture and temperature at various depths at two separate locations to measure the rate of surface water infiltration into the groundwater basin.



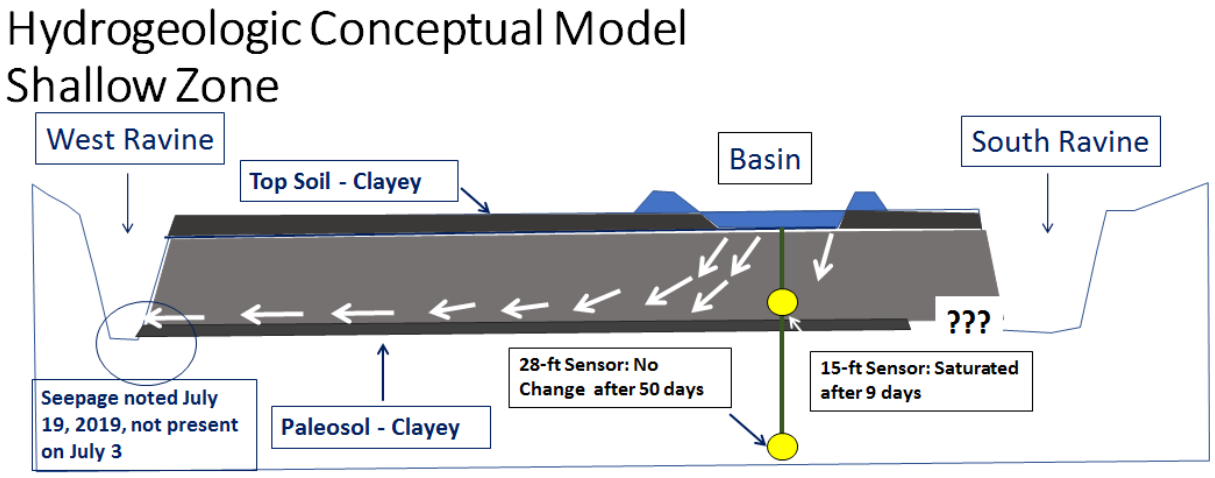
PROPOSED VADOSE ZONE AND MONITORING INSTRUMENTATION LOCATION 1

On April 20, 2019, the initial test was stopped to re-evaluate the project due to slow infiltration. The District staff drained the basin, tested the soils in the basin, and removed additional soil from the basin to reach a more permeable layer of soil. Following the modifications to the basin, the District staff and Geoscience restarted the infiltration investigation.

Based on the results of this study, the infiltration testing showed the movement of groundwater in a westerly direction prior to reaching the groundwater basin.



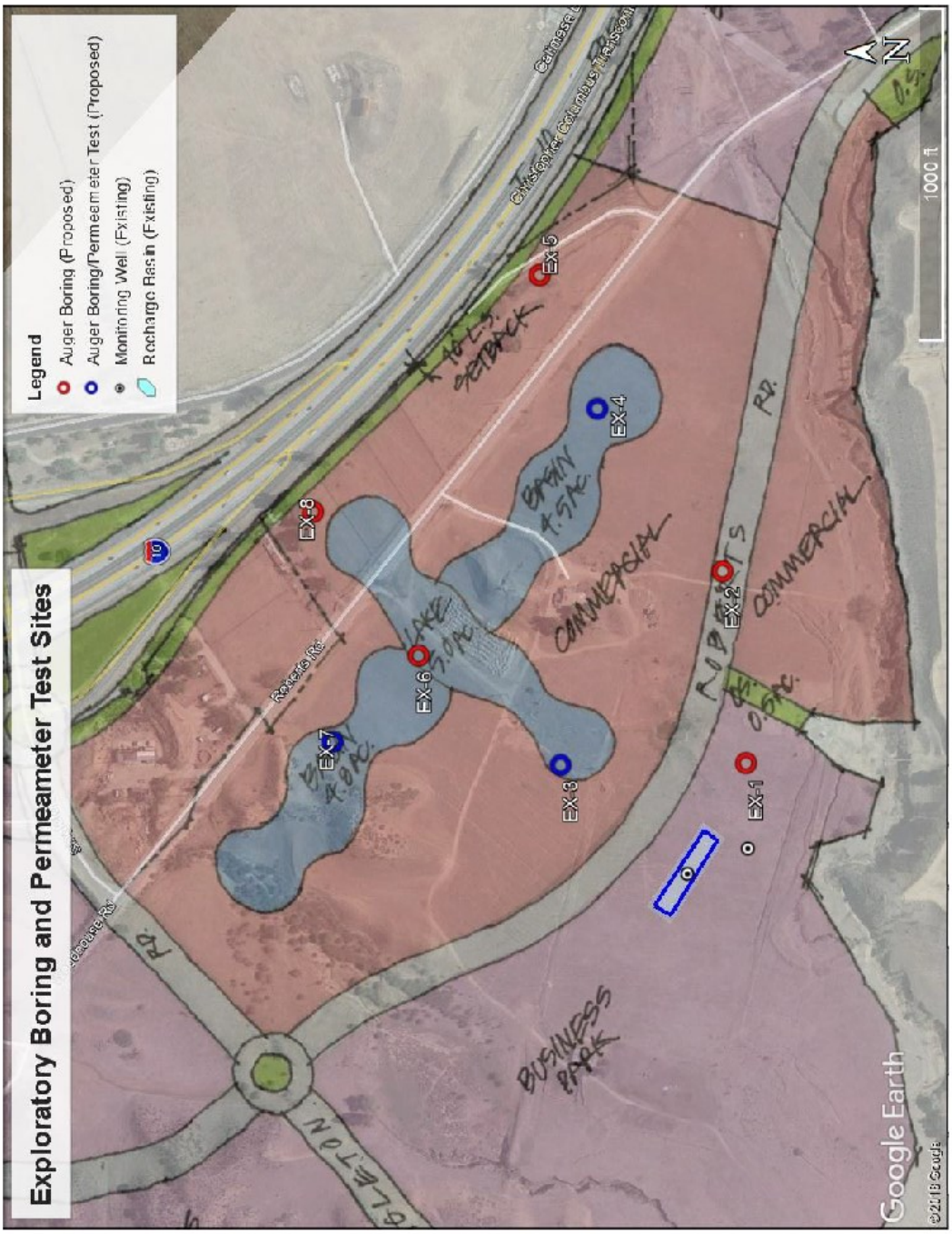
The following illustration shows how it is possible for the recharge water to move laterally instead of vertically to the groundwater basin.



As a result of the initial testing, the District staff requested a proposal from Geoscience to conduct additional geological testing in the easterly portion of the groundwater basin. On September 3, 2019, the Board of Directors authorized Geoscience to proceed with additional tasks to further evaluate the long-term infiltration rates in the westerly portion of the Beaumont Basin [Director Memorandum No. 19-097].

The additional scientific study was developed to: (1) conduct additional exploratory drilling and testing; (2) perform additional infiltration testing; (3) prepare a groundwater model that will be used to support the recharge of recycled water at this location.

The Board of Directors requested that regular updates are provided to determine whether or not to continue with the proposed project. The District staff will add agenda items to future workshops and board meetings in order to provide weekly updates on the status of the project.



Development Projects

Yucaipa Valley Water District

Yucaipa Valley Water District

Workshop Memorandum 19-198

Date: September 10, 2019

From: Joseph Zoba, General Manager

Subject: Overview of Requirements to Install Water Submeters on Multi-Family Housing Developments

On September 25, 2016, Governor Brown approved Senate Bill No. 7 which requires water purveyors that provide water service to a newly constructed multi-unit residential structure or newly constructed mixed-use residential and commercial structure to measure the quantity of water supplied to each individual dwelling unit as a condition of new water service and permit the measurement to be by individual water meters or submeters, as defined. The bill would provide that these provisions shall become operative on January 1, 2018.

The District staff is currently working on the development of standards to implement these requirements for future projects in our service area.

The purpose of this agenda item is to discuss the concepts associated with the implementation of this legislation.

The photograph below illustrates the implementation of a similar policy for the installation of individual gas meters to separate apartment units.

Water Submeters and Rental Property

California Water Submeter Requirements for Multi-Family Housing Installation, Reading, Disclosure & Billing

I. Introduction

Beginning January 1, 2018, all new multi-family construction (defined as two or more units) that apply to a water purveyor for water connection must include water submeters for each individual unit.[1] [# ftn1] At the same time, if an owner has a building constructed before January 1, 2018, and he or she elects to install submeters or already has submeters, the disclosure and billing requirements in the state law must be applied when billing tenants for water.[2] [# ftn2]

Unless the local water provider or local government is operating under an ordinance or regulation requiring individual metering, the owner of the property is required to install and read the submeters, unless the water provider is requested to (by the owner) and agrees to install and read individual meters.[3] [# ftn3] A water provider is not allowed to impose any additional capacity or connection fees or charges for submeters that are installed by the owner or the owner's agent. The law does not require installation in units within property that are used only for commercial purposes.[4] [# ftn4]

All property owners who are required to install submeters at their new buildings after January 1, 2018, must, at all times, bill residents for water service.

This law does not affect ratio utility billing systems or RUBS. It does not prohibit their continued use in existing buildings.

Here is a summary of the requirements under the law.

[1] [# ftnref1] See Cal. Water Code Section 537.1(a) ("Each water purveyor that sells, leases, rents, furnishes, or delivers water service to a newly constructed multiunit residential structure or newly

constructed mixed-use residential and commercial structure for which an application for a water connection, or more than one connection, is submitted after January 1, 2018, shall require a measurement of the quantity of water supplied to each individual residential dwelling unit as a condition of new water service. The measurement may be by individual water meters or submeters.")

[2] [#_ftnref2] California Civil Code 1954, et seq. and California Water Code Section 517, et. seq. Specifically, a submeter used to measure water supplied to an individual residential unit that is required pursuant to the Water Code must be of a type approved pursuant to Section 12500.5 of the Business and Professions Code, and must be installed and operated in compliance with regulations established pursuant to Section 12107 of the Business and Professions Code.

[3] [#_ftnref3] The owner of the building must install submeters that comply with all laws and regulations governing the approval of submeter types or the installation, maintenance, reading, billing, and testing of submeters, including, but not limited to, the California Plumbing Code. Installation of the submeters must be performed by one of the following:

- *A contractor licensed by the Contractors' State License Board who employs at least one journey person who has graduated from a state-approved apprenticeship program.*
- *A registered service agency that has registered with the Department of Food and Agriculture.*

[4] [#_ftnref4] Health and Safety Code Section 17922.14(b).

II. Installation of Submeters

A water submeter, under California law, is defined as a device that measures water consumption of an individual rental unit within a multiunit residential structure or mixed-use residential and commercial structure, and that is owned and operated by the landlord of the structure or the landlord's agent. As used in the law, "multiunit residential structure" and "mixed-use residential and commercial structure" mean real property containing two or more dwelling units. The law does not require, however, the installation of submeters in units within properties that are used only for commercial purposes

Submeters must satisfy all of the following requirements:

- The submeter must be inspected, tested, and verified for commercial purposes pursuant to law, including, but not limited to, Section 12500.5 of the Business and Professions Code.

- The submeter must conform to all laws regarding installation, maintenance, repair, and use, including, but not limited to, regulations established pursuant to Section 12107 of the Business and Professions Code.

- The submeter must measure only water (and all of the water) that is supplied for the exclusive use of the particular dwelling unit, and only to an area within the exclusive possession and control of the tenant of the dwelling unit.

- The submeter must be capable of being accessed and read by the tenant of the dwelling unit and read by the landlord without entering the dwelling unit. A submeter installed before January 1, 2018, may be read by the landlord after entry into the unit, in accordance with this chapter and Section 1954 (Notice of Entry Law).

- The submeter must be reinspected and recalibrated within the time limits specified in law or regulation.

The law does not require a water provider to assume responsibility for ensuring compliance with any law or regulation governing installation, certification, maintenance, and testing of submeters and associated onsite plumbing.

III. Tenant Disclosures for the Rental Agreement or Addendum

Before executing a rental agreement, a residential rental property owner who plans to charge a tenant separately from rent for water service – or a multifamily property owner who is required under state law to install water submeters and charge tenants in a newly-constructed building (which applied for water connection after January 1, 2018), for water service, must clearly disclose the following information to the tenant, in writing, in at least 10-point type. The information may be incorporated into the rental agreement or in a separate addendum:

1. **Water Separate from Rent** – That the tenant will be billed for water service separately from the rent.

2. **Estimate of the Water Bill** – Provide an estimate of the monthly bill for water service for dwelling units at the property based on either of the following:

- The average or median bill for water service for comparative dwelling units at the property over any three of the past six months.
- The amount of the bill based upon average indoor water use of a family of four of approximately 200 gallons per day, and including all other monthly charges that will be assessed. Estimates for other gallons per day may also be included. The estimate must include a statement that the average family of four uses about 200 gallons of water each day.

3. **Due Date** – The due dates and payment procedures for bills for water service.

4. **Contact Information** – A mailing address, an email address, and a toll-free telephone number or a local telephone number for the tenant to contact the landlord or the billing agent with questions about the water service billing and the days and hours for regular telephone service at either number.

5. **Charges on the Bill** – That the monthly bill for water service may only include the following charges[5] [# ftn5]:

- Payment due for the amount of usage as measured by the submeter and charged at the allowable rates in accordance with subdivision (a) of Section 1954.205 (See *Billing Charges and Fees – What's Allowed* hereafter).

- Payment of a portion of the fixed fee charged by the water provider for water service.

- A fee for the landlord's or billing agent's costs in accordance with paragraph (3) of subdivision (a) of Section 1954.205. (See *Billing Charges and Fees – What's Allowed* hereafter).

- Any late fee, with the amounts and times assessed, in compliance with Section 1954.213. (See *Late Fees* explained hereafter).

6. **Tenant Must Report Leaks** – A statement that the tenant must notify the landlord of any leaks, drips, water fixtures that do not shut off properly, including, but not limited to, a toilet, or other problems with the water system, including, but not limited to, problems with water-saving devices, and that the landlord is required to investigate, and, if necessary, repair these problems within 21 days, otherwise, the water bill will be adjusted pursuant to law.

7. **Contact Information to Report Leaks** – A mailing address, an email address, and a toll-free telephone number or a local telephone number for the tenant to use to contact the landlord, or an agent of the landlord, to report any leaks, drips, water fixtures that do not shut off properly, including, but not limited to, a toilet, or other problems with the water system, including, but not limited to, problems with water-saving devices.

[5] [# ftnref5] Civil Code Section 1954.205 specifically provides that the law does not prohibit a landlord or the landlord's billing agent from including any other lawful charges, including, but not limited to, rent, on the same bill.

8. **If the Tenant Asks** – A statement that the landlord must provide any of the following information if asked by the tenant:

- The location of the submeter.

- The calculations used to determine a monthly bill.
- The date the submeter was last certified for use, and the date it is next scheduled for certification, if known.

9. **Inaccurate Meter** – A statement that if the tenant believes that the submeter reading is inaccurate or the submeter is malfunctioning, the tenant must first notify the landlord in writing and request an investigation. A tenant must be provided with a notice that if an alleged submeter malfunction is not resolved by the landlord, a tenant may contact the local county sealer and request that the submeter be tested. Contact information for the county sealer must be included in the disclosure to the tenant.

10. **A General Statement** – A statement that this disclosure is only a general overview of the laws regarding submeters and that the laws can be found at Chapter 2.5 (commencing with Section 1954.201) of Title 5 of Part 4 of Division 3 of the Civil Code, available online or at most libraries.

IV. Billing Charges & Fees – What's Allowed

As part of the regular bill for water service, a landlord may only bill a tenant for the following water service:

1. **Volumetric Usage** – A charge for volumetric usage, which may be calculated in any the following ways:

- The amount must be calculated by first determining the proportion of the tenant's usage, as shown by the submeter, to the total usage as shown by the water provider's billing. The dollar amount billed to the tenant for usage must be in that same proportion to the dollar amount for usage shown by the water provider's billing.
- If the water provider charges for volumetric usage based on a tiered rate schedule, the landlord may calculate the charge for a tenant's volumetric usage as described above or the landlord may instead divide each tier's volume evenly among the number of dwelling units, and the rate applicable to each block must be applied to the consumption recorded for each dwelling unit.
- If the water provider charges the property rates on a per-dwelling unit basis, the tenants may be charged at those exact per unit rates.

2. **Recurring Fixed Charges** – Any recurring fixed charge for water service billed to the property by the water provider that, at the landlord's discretion, must be calculated by either of the following:

- The tenant's proportion of the total fixed charges charged to the property. The tenant's proportion must be based on the percentage of the tenant's volumetric water use in relation to

the total volumetric water use of the entire property, as shown on the property's water bill during that period.
- Dividing the total fixed charges charged to the property equally among the total number of residential units and nonresidential units at the property.

3. **Administrative Fee –** A billing, administrative, or other fee for the landlord's and billing agent's costs, which must be the lesser of an amount not to exceed four dollars and seventy-five cents ($4.75), as adjusted pursuant to this paragraph or 25 percent of the amount billed. Beginning January 1, 2018, the maximum fee authorized by this paragraph may be adjusted each calendar year by the landlord, no higher than a commensurate increase in the Consumer Price Index based on a California fiscal year average for the previous fiscal year, for all urban consumers, as determined by the Department of Finance.

4. **Late Charge** – A late charge. See further information below.

5. **Estimated Billing –** If a submeter reading for the beginning or end of a billing period is, in good faith, not available, the landlord must bill the tenant according to Civil Code Section 1954.212.[6] [# ftn6]

6. **Other Lawful Charges** – This section does not prohibit a landlord or the landlord's billing agent from including any other lawful charges, including, but not limited to, rent, on the same bill.

V. Late Fees

1. **Late Fee After Day 25** – A landlord may charge a tenant a late fee for any water service bill not paid 25 days after mailing or other transmittal of the bill. If the 25th day falls on a Saturday, Sunday, or holiday, the late fee cannot be imposed until the day after the first business day following the 25th day.

2. **The Amount** – The amount and percentage of the late fee is defined as follows:

- **Seven Dollars** – A late fee of up to seven dollars ($7) may be imposed if any amount of a water service bill remains unpaid after the time described above. A late fee of up to ten dollars ($10) may be imposed in each subsequent bill if any amount remains unpaid.
- **10 Percent** – The total late fee imposed in any 12-month period upon the amount of a bill that remains unpaid cannot exceed 10 percent of the unpaid amount, exclusive of the administrative fee and the late fee imposed.
- **Credits** – If any partial payments are made, they must be credited against the bill that has been outstanding the longest.

[6] [# ftnref6] Civil Code Section 1954.212.

(a) If a monthly submeter reading necessary to measure volumetric usage is unavailable, and the tenant has provided access to the submeter, the tenant may be charged 75 percent of the average amount billed for volumetric usage for the last three months for which complete billing information is available. The adjustment shall be disclosed on the bill.

(b) If no complete billing information is available for the prior three months, the volumetric usage charge shall be deemed to be fifty cents ($0.50) per day that the data is not available.

(c) If monthly submeter readings remain unavailable for more than six months, the volumetric usage charge shall be deemed to be zero for any subsequent month that the data is not available.

3. **Termination of Tenancy for Unpaid Water Bill** – If the water bill remains unpaid for 180 days after the date upon which it is due or the amount of the unpaid water bill equals or exceeds two hundred dollars ($200), the landlord may terminate the tenancy in accordance with Section 1161 of the Code of Civil Procedure with the service of a three-day notice to perform the conditions or covenants or quit upon the tenant.

4. **Water is Not Rent** – Water service charges under this law do not constitute rent.

5. **Can't Shut Off the Water, Unless Making Repairs** – The water service to a dwelling unit may not be shut off or otherwise interfered with by the landlord for any reason, including nonpayment of a bill. Notwithstanding the foregoing, a landlord or his or her agent may shut off water service to a dwelling unit or the property, in order to make repairs, replacements of equipment, or perform other maintenance at the property.

VI. Reading Submeters & Billing

1. Read within 3 Days – Submeters must be read within three days of the same point in each billing cycle.

2. Consistent Payment Requirements – Payments must be due at the same point in each billing cycle. A tenant may agree in writing to receive a bill electronically. A tenant may rescind authorization for electronic delivery of bills at any time. The landlord will have 30 days to comply with any change in how a tenant requests to receive a bill. A tenant cannot be required to pay a bill electronically.

3. What Must Be Included on the Bill – A bill must include and separately set forth the following information:

a. **Submeter Reading** – The submeter reading for the beginning date and ending date of the billing cycle, the dates read, and the indicated consumption as determined by subtracting the amount of

the beginning date submeter reading from the amount of the ending date submeter reading. If the unit of measure is in something other than gallons, the indicated consumption must be expressed in gallons.

b. **Amounts Charged** – The amounts charged as allowed by law (as set forth above).
c. **Volumetric Charge Rates** – The rate or rates charged for the volumetric charge per unit of measure.
d. **Previous Amounts Owed** – The amount, if any, due from the previous month's bill, and the amount, if any, due from bills prior to the previous month's bill.
e. **Late Fee** – The late fee, if any, imposed and when the late fee is charged and a statement of when the late fees would apply.
f. **Total Amount** – The total amount due for the billing period.
g. **Due Date** – The due date for the payment.
h. **Contact Information** – The procedure to contact the landlord or billing agent with questions or concerns regarding the bill. If a billing agent is used, the name of the billing agent must be disclosed. The tenant must be provided a mailing address, email address, and telephone number, which must be either a toll-free or a local number, and the time of regular telephone hours for contact regarding billing inquiries.
i. **Respond in Writing** – Upon request of the tenant, the landlord or billing agent must respond in writing to any questions or disputes from the tenant.
j. **Not the Water Provider** – A statement that the landlord or billing agent is not the water provider and must include the name of the local water provider providing the water service to the master meter.
k. **Contact Information to Report Leaks** – A mailing address, an email address, and a toll-free telephone number or a local telephone number for the tenant to use to contact the landlord, or an agent of the landlord, to report any leaks, drips, water fixtures that do not shut off properly, including, but not limited to, a toilet, or other problems with the water system, including, but not limited to, problems with water-saving devices.

4. Separate Billing Allowed for Past Due Amounts – A separate bill may be provided for past due amounts if past due amounts are not included on the current month's bill.

VII. Reading the Meter – Beginning and Ending Unpaid Water Bill May be Deducted from Security Deposit

1. **Readings at the Beginning of the Tenancy** – At the beginning of a tenancy, a submeter must be read after the tenant takes possession. If the regular reading occurs less than five days prior to the tenant taking possession, that reading may be substituted to establish usage. If the submeter is manually read, the first bill may be estimated based on the rates as outlined above.[7] [# ftn7]

2. **Readings at the End of the Tenancy** – For a water-service bill at the end of a tenancy, the submeter must be read within five days, if possible. If the submeter cannot be read within five days at the end of a tenancy, the bill amount for the final month must be based on the bill amount for the previous month.

3. **Security Deposit Deduction** – The landlord may, at his or her discretion, deduct an unpaid water service bill from the security deposit during or upon termination of a tenancy, if the last water service bill showing the amount due is attached to the documentation required by Civil Code Section 1950.5 – Security Deposit law.

VIII. Pass Through of Penalties

Unless it can be documented that a penalty is primarily the result of a tenant's or tenants' failure to comply with state or local water use regulations or restrictions, or both, regarding wasting of water, a landlord may not charge, recover, or allow to be charged or recovered, fees incurred by the landlord from the water provider, billing agent, or any other person for any deposit, disconnection, reconnection, late payment by the landlord, or any other penalty assessed against the landlord. This does not, however, prevent a landlord from charging a tenant for the tenant's late payment of any bill.

[7] [# ftnref7] Civil Code Section 1954.212

IX. Disclosure – At the Request of the Tenant

The landlord must maintain and make available in writing, at the tenant's written or electronic request, within seven days after the request, the following:

- The date the submeter was last inspected, tested, and verified, and the date by which it must be reinspected, tested, and verified under law, if available. If this information is not available, the landlord must disclose that the information is not available.
- The data used to calculate the tenant's bill, as follows:
    - The most recent water bill for the property's master water meter showing the recurring fixed charge for water service billed to the property by the water provider, and the usage charges for the property, including any tiered amounts.
    - Any other bills for water service, as defined in subdivision (h) of Section 1954.202, for the property.[8] [# ftn8]
    - The number of dwelling units in the property used in the last billing period to calculate the tenant's water service charges.
    - If not shown on the bill for the property, the per unit charges for volumetric water usage, including any tiered amounts.
    - The formula used to calculate the charge for the tenant's volumetric water usage.

- The location of the submeter.

X. Water Fixtures Maintenance & Repair

1. **Tenant Notice of a Leak** – If a tenant notifies the landlord of, or the landlord otherwise becomes aware of, a leak, a drip, a water fixture that does not shut off property, including, but not limited to, a toilet, a problem with a water-saving device, or other problem with the water system that causes constant or abnormally high water usage, or a submeter reading indicates constant or abnormal high water usage, the landlord must have the condition investigated, and, if warranted, rectify the condition.

2. **Tenant May Not Remove Fixtures** – A tenant may not remove any water fixtures or water-saving devices that have been installed by the landlord.

3. **Landlord Response to Leaks** – If the condition is rectified more than 21 days after the tenant provides notice to the landlord or the landlord otherwise becomes aware of a leak, a drip, a water fixture that does not shut off properly, including, but not limited to, a toilet, a problem with a water-saving device, or other problem with the water system that causes constant or abnormally high water usage, or a submeter reading indicates constant or abnormally high water usage, pursuant to subdivision (a), the tenant's volumetric usage for any month or months that include the period between 21 days after the initial investigation and the repair must be deemed to be fifteen dollars ($15) or actual usage, whichever is less. At the landlord's option, if submeter readings are available to determine the usage at a point prior to investigation and a point following repair, usage must be deemed to be fifty cents ($0.50) per day for those days between the two submeter readings or actual usage, whichever is less.

   [8] [# ftnref8] Civil Code Section 1954.202 (h) "Water service" includes any charges, whether presented for payment on local water purveyor bills, tax bills, or bills from other entities, related to water treatment, distribution, or usage, including, but not limited to, water, sewer, stormwater, and flood control.

4. **Failure to Correct** – If the condition remains unrectified for 180 days after investigation, no further volumetric usage charges may be imposed until the condition is repaired.

5. **Tenant's Failure to Allow Access** – If, in order to comply with the law, the landlord has provided notice pursuant to existing law (Civil Code Section 1954), and the tenant has failed to provide access to the dwelling unit, then the charges need not be determined as outlined above.

6. **Abnormal High Water Usage** – If the local water provider notifies the landlord of constant or abnormally high water usage at the property, the landlord must investigate and, if possible,

rectify the cause of the high water usage.

XI. Landlord's Entry into the Dwelling Units

The landlord may enter a dwelling unit as follows:

1. For the purpose of installing, repairing, or replacing a submeter, or for the purpose of investigating or rectifying a condition causing constant or abnormally high water usage.

2. To read a submeter. The landlord must provide the tenant a written notice prior to entry.

XII. Ratio Utility Billing Systems

The state law specifically provides that "Nothing in this law shall be construed to apply or create a public policy or requirement that favors or disfavors the use of a ratio utility billing system."

XIII. Hot Water

A submetering system that measures only a portion of a dwelling unit's water usage, including, but not limited to, a system that measures only hot water usage, is not subject to this law if the system was first put in service before January 1, 2018. Such billing methods are not permitted for systems subject to the submeter mandate following January 1, 2018.

XIV. No Connection Fees Allowed

A water provider cannot impose an additional capacity or connection fee or charge for a submeter that is installed by the owner, or his or her agent.

XV. Delayed Water Submeter Installation

1. A final occupancy permit for a building cannot not be denied by a local building official if water submeters or meters have not been installed for each residential unit as required by this law if the building owner can demonstrate either of the following:

- Water submeters have been ordered and were delayed by the manufacturer.

- Water submeters for the building were submitted to a county sealer and are awaiting approval for use.

2. After issuance of the occupancy permit, the owner must demonstrate that the submeters are installed in the building within 120 days of approval by the county sealer.

XVI. Exempt Units

1. The structures in all of the following categories are exempt from this water meter installation requirements[9] [# ftn9]:

- **Low-income housing**. For purposes of this paragraph, "low-income housing" means a residential building financed with low-income housing tax credits, tax-exempt mortgage revenue bonds, general obligation bonds, or local, state, or federal loans or grants, for which the rents of the occupants in lower income households, as defined in Section 50079.5 of the Health and Safety Code, do not exceed rents prescribed by deed restrictions or regulatory agreements pursuant to the terms of the financing or financial assistance, and for which not less than 90 percent of the dwelling units within the building are designated for occupancy by lower income households, as defined in Section 50079.5 of the Health and Safety Code.
- **Housing at a place of education**, as defined in Section 202 of the California Building Standards Code (Title 24 of the California Code of Regulations).
- **Long-term health care facilities**, as defined in Section 1418 of the Health and Safety Code.
- **Time-share property**, as defined in subdivision (aa) of Section 11212 of the Business and Professions Code.
- **Residential care facilities for the elderly**, as defined in Section 1569.2 of the Health and Safety Code.

[9] [# ftnref9] The California Department of Housing and Community Development (HCD) shall determine whether and under what circumstances the installation of water meters or submeters is infeasible and include in the building standards proposed in the next regularly scheduled triennial code cycle that commences January 1, 2018, the appropriate provision for exemption from this requirement. HCD may consider whether there are any issues specific to high-rise structures that would require an exemption from the requirement for the installation of water meters or submeters.

XVII. Local Ordinance Exemptions

1. **Adopted Prior to January 1, 2013** – This article does not preclude or preempt a local ordinance or regulation that regulates the approval of submeter types or the installation, maintenance, reading, billing, or testing of submeters and associated onsite plumbing if the ordinance or regulation was adopted prior to January 1, 2013.

2. **No New Local Laws After January 1, 2013** – It is the intent of the Legislature to preclude the adoption, and preempt the operation, of an ordinance or regulation adopted after January 1, 2013, that regulates the types of approved submeters, their installation, maintenance, reading, billing, and testing, and associated onsite plumbing.

3. **Water Conservation Programs Allowed** – This law does not restrict the existing authority of a water provider, city, county, city and county, or other local agency to adopt and implement a program to promote water conservation that includes the installation of water meters and submeters if the program is at least as stringent as the requirements of this article.

XVIII. Definitions

"Billing agent" means a person or entity who contracts to provide submetering services to a landlord, including billing.

"Landlord" means an owner of residential rental property. "Landlord" does not include a tenant who rents all or a portion of a dwelling unit to subtenants. "Landlord" does not include a common interest development, as defined in Section 4100 of the Civil Code.

"Property" means real property containing two or more dwelling units that is served by a single master meter.

"Ratio utility billing system" means the allocation of water and sewer costs to tenants based on the square footage, occupancy, or other physical factors of a dwelling unit.

"Rental agreement" includes a fixed-term lease.

"Renting" includes leasing, whether on a periodic or fixed-term basis.

"Submeter" means a device that measures water consumption of an individual rental unit within a multiunit residential structure or mixed-use residential and commercial structure, and that is owned and operated by the landlord of the structure or the landlord's agent. As used in this section, "multiunit residential structure" and "mixed-use residential and commercial structure" mean real property containing two or more dwelling units.

"Water service" includes any charges, whether presented for payment on local water purveyor bills, tax bills, or bills from other entities, related to water treatment, distribution, or usage, including, but not limited to, water, sewer, stormwater, and flood control.

"Water purveyor" [or **Water provider** herein] means a water purveyor as defined in Section 512 of the Water Code.

[1] [# ftnref1] *See* Cal. Water Code Section 537.1(a) ("Each water purveyor that sells, leases, rents, furnishes, or delivers water service to a newly constructed multiunit residential structure or newly constructed mixed-use residential and commercial structure for which an application for a water connection, or more than one connection, is submitted after January 1, 2018, shall require a measurement of the quantity of water supplied to each individual residential dwelling unit as a condition of new water service. The measurement may be by individual water meters or submeters.")

[2] [# ftnref2] California Civil Code 1954, et seq. and California Water Code Section 517, et. seq. Specifically, a submeter used to measure water supplied to an individual residential unit that is required pursuant to the Water Code must be of a type approved pursuant to Section 12500.5 of the Business and Professions Code, and must be installed and operated in compliance with regulations established pursuant to Section 12107 of the Business and Professions Code.

[3] [# ftnref3] The owner of the building must install submeters that comply with all laws and regulations governing the approval of submeter types or the installation, maintenance, reading, billing, and testing of submeters, including, but not limited to, the California Plumbing Code. Installation of the submeters must be

performed by one of the following:

- A contractor licensed by the Contractors' State License Board who employs at least one journey person who has graduated from a state-approved apprenticeship program.
- A registered service agency that has registered with the Department of Food and Agriculture.

[4] [# ftnref4] Health and Safety Code Section 17922.14(b).

[5] [# ftnref5] Civil Code Section 1954.205 specifically provides that the law does not prohibit a landlord or the landlord's billing agent from including any other lawful charges, including, but not limited to, rent, on the same bill.

[6] [# ftnref6] Civil Code Section 1954.212.

(a) If a monthly submeter reading necessary to measure volumetric usage is unavailable, and the tenant has provided access to the submeter, the tenant may be charged 75 percent of the average amount billed for volumetric usage for the last three months for which complete billing information is available. The adjustment shall be disclosed on the bill.

(b) If no complete billing information is available for the prior three months, the volumetric usage charge shall be deemed to be fifty cents ($0.50) per day that the data is not available.

(c) If monthly submeter readings remain unavailable for more than six months, the volumetric usage charge shall be deemed to be zero for any subsequent month that the data is not available.

[7] [# ftnref7] Civil Code Section 1954.212

[8] [# ftnref8] Civil Code Section 1954.202 (h) "Water service" includes any charges, whether presented for payment on local water purveyor bills, tax bills, or bills from other entities, related to water treatment, distribution, or usage, including, but not limited to, water, sewer, stormwater, and flood control.

[9] [# ftnref9] The California Department of Housing and Community Development (HCD) shall determine whether and under what circumstances the installation of water meters or submeters is infeasible and include in the building standards proposed in the next regularly scheduled triennial code cycle that commences January 1, 2018, the appropriate provision for exemption from this requirement. HCD may consider whether there are any issues specific to high-rise structures that would require an exemption from the requirement for the installation of water meters or submeters.

California Apartment Association
www.caanet.org
Location: Statewide
Topics: Utilities [https://caanet.org/kb/?kbissue=114]

Administrative Items

Yucaipa Valley Water District

Yucaipa Valley Water District

Workshop Memorandum 19-199

Date: September 10, 2019

From: Joseph Zoba, General Manager

Subject: Overview of the Draft Financial Rate Model for the Drinking Water, Sewer, and Recycled Water Enterprises

The District staff created a financial rate model for the three enterprise divisions of the Yucaipa Valley Water District - drinking water, sewer, and recycled water. The financial model extends to Calendar Year 2070 to provide an opportunity to illustrate how the expiration of the existing water, sewer, and recycled water infrastructure debt can be used for the repair and replacement of existing infrastructure in the future.

The purpose of this agenda item is to review the assumptions, and projections associated with the draft rate model.

The first three chapters of the draft document are attached for your review.

Yucaipa Valley Water District

12770 Second Street, Yucaipa, California 92399

Comprehensive Water, Sewer and Recycled Water Rate Analysis

August __, 2019

Table of Contents

Executive Summary

The purpose of this Comprehensive Drinking Water, Sewer and Recycled Water Rate Analysis (Comprehensive Rate Study) is to develop a financial plan and cost-based rates necessary to meet the Yucaipa Valley Water District's (District) operation and maintenance (O&M) needs and the capital improvement (asset management) program for the District. This study determined the adequacy of the existing water rates and provides the framework for future rate adjustments.

Key Objectives of the Study

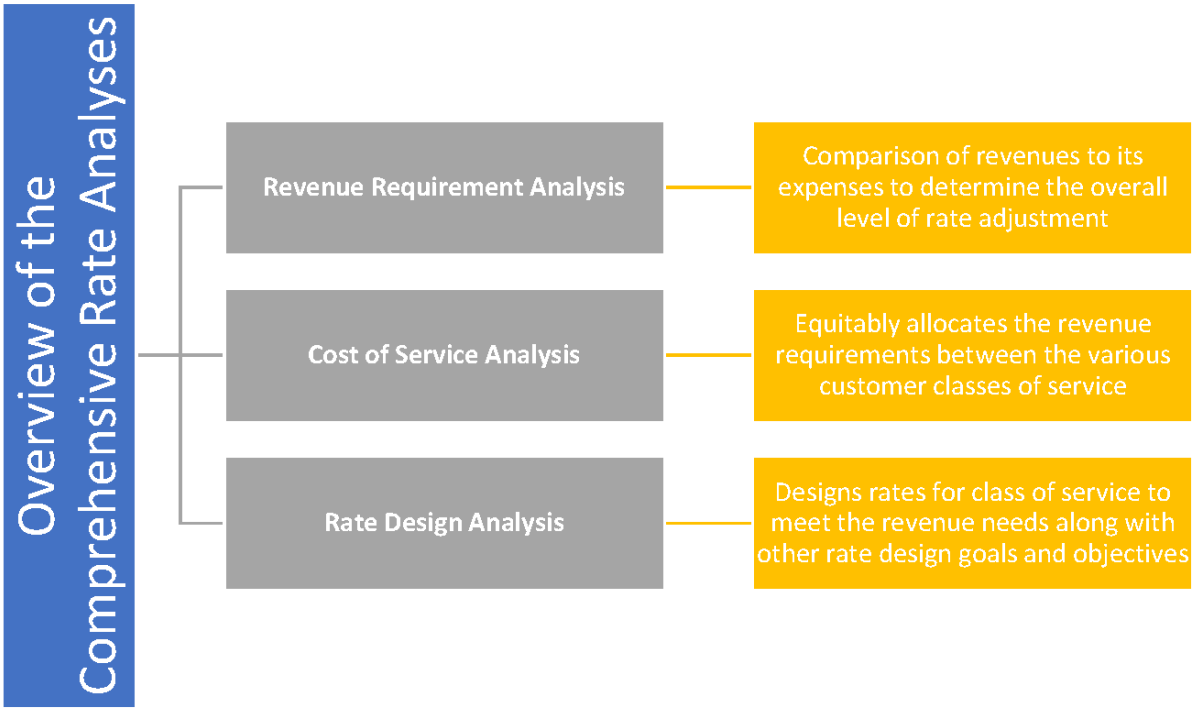
The Board of Directors identified a number of key objectives in developing the comprehensive rate study. These key objectives were as follows:

- Develop the study in a manner that is consistent with the principles and methodologies established by the American Water Works Association (AWWA) M1 Manual, Principles of Water Rates, Fees and Charges.
- Develop the District's revenue requirement analysis to provide prudent and adequate funding levels for operations and maintenance (O&M) and capital infrastructure (asset management plan).
- Develop a cost allocation methodology that equitably allocates the cost of providing service to the District's customers.
- Review the District's current rate designs/structures, and provide rate designs that are contemporary, cost-based, and defensible and meet the specific rate design objectives of the District.
- Develop the proposed water rates and fees to meet the legal and statutory requirements (e.g. Proposition 218, Section 66001, etc.).

These key objectives provided guidance as the study was developed and progressed.

Overview of the Rate Study Process

User rates must be set at a level where a utility's operating and capital expenses are met with the revenues received from customers. This is an important point, as failure to achieve this objective may lead to insufficient funds to maintain system integrity. To evaluate the adequacy of the existing rates, a comprehensive rate study is performed. A comprehensive rate study consists of three interrelated analyses: revenue requirement analysis; cost of service analysis; and a rate design analysis.



The above framework was utilized in the development of the District's Comprehensive Rate Study.

Revenue Requirement Analysis

A revenue requirement analysis is the first step in the preparation of the Comprehensive Rate Study and determines the adequacy of the overall level of utility rates. From this analysis, a determination can be made as to the level of adjustments needed to provide adequate and prudent funding for both operating and capital needs.

In the case of the District, a key issue is the funding of capital infrastructure replacement at a sustainable level. The District developed an asset management plan but did not develop a financial plan to be a companion to the asset management plan. Given that, a key issue and focus of the revenue requirement analysis was how to best transition the District to fully funding the asset management plan. The District desires to fund this plan from rates, as opposed to using long-term borrowing.

In developing revenue requirements, the District's most recent operating budget was used as the initial starting point. The analysis also considered prudent financial planning criteria based upon the financial and rate setting policies of the District.

While the revenue requirements developed for the District included a 50-year projected time period to Fiscal Year 2070, the revenue requirements developed herein provides the District with

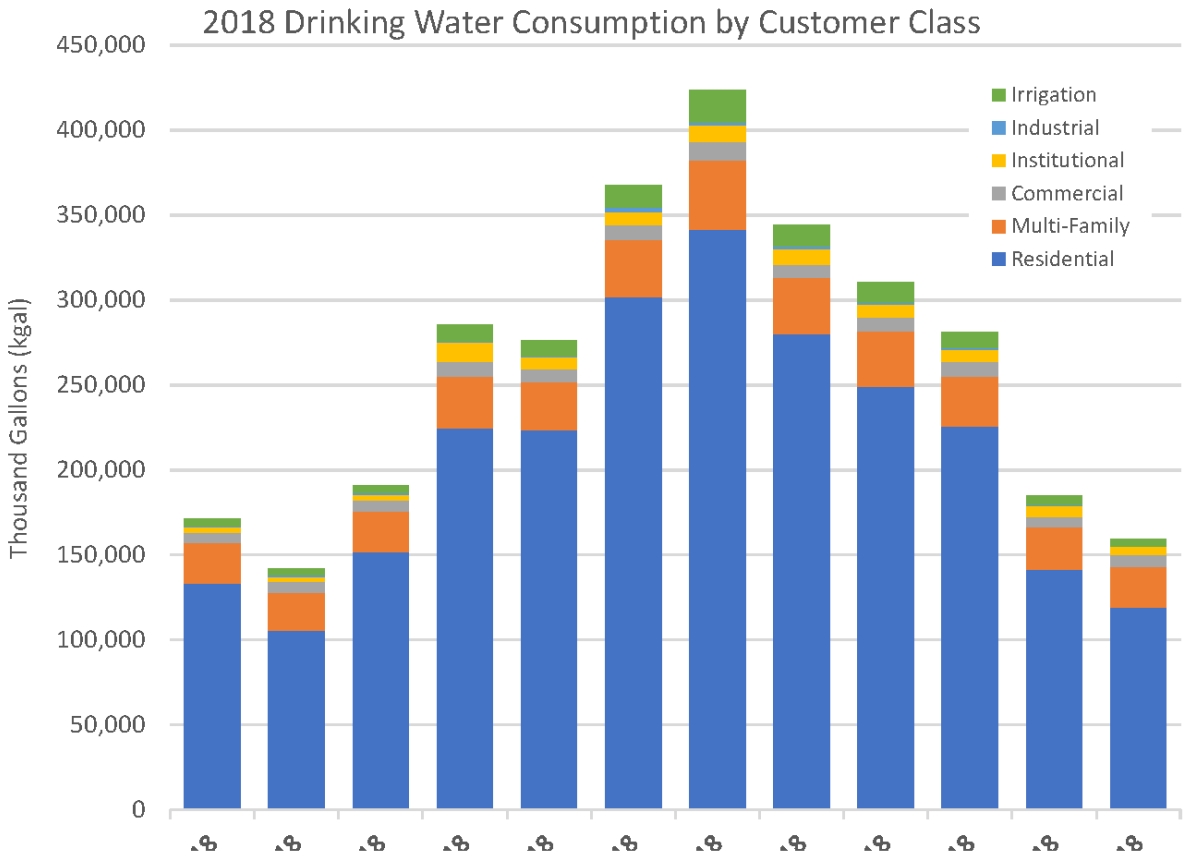
a financial plan for the next five-years and the level of capital improvement funding available for the asset management plan.

Cost of Service Analysis

A cost of service analysis is concerned with the equitable allocation of the total revenue requirement between the various customer classes of service (e.g., residential, non-residential, etc.). There are two primary objectives in conducting a cost of service analysis:

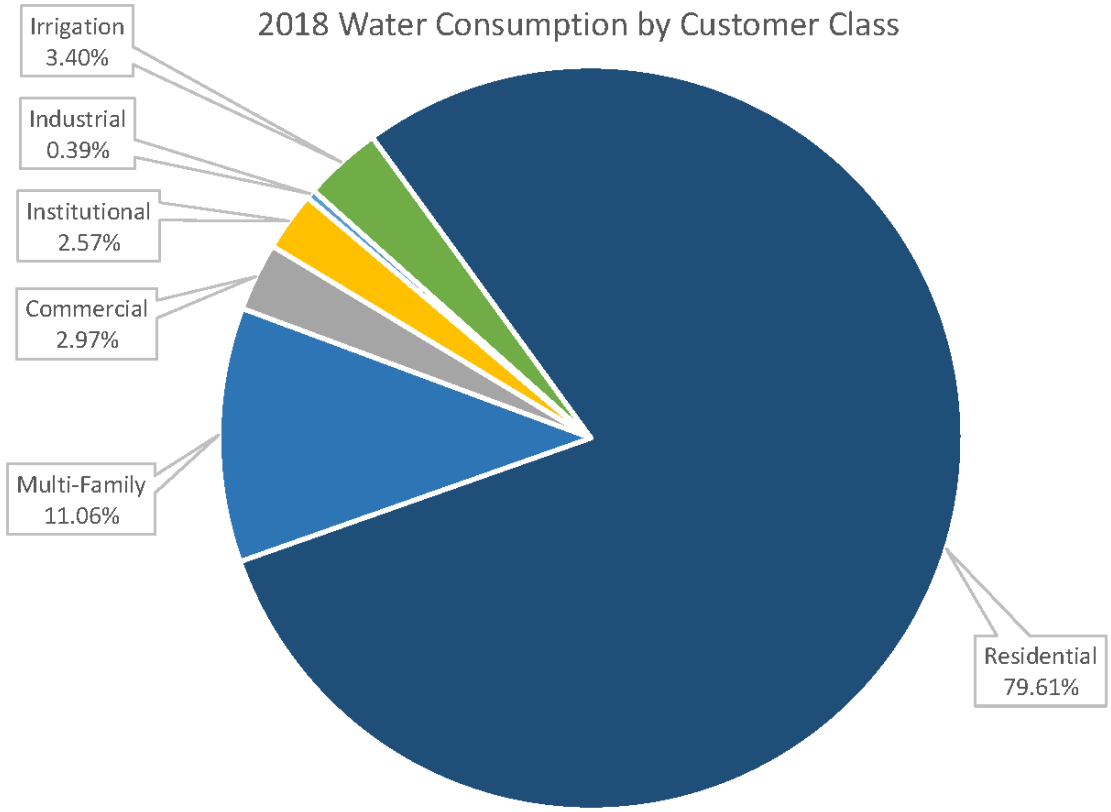
- Equitably allocate the revenue requirement among the customer classes of service; and
- Derive average unit costs for subsequent rate designs

The objectives of the cost of service analysis are different from determining a revenue requirement. As noted in the previous section, a revenue requirement analysis determines the utility's overall financial needs, while the cost of service study determines the fair and equitable manner to collect the revenue requirement.



The cost of service analysis demonstrated that there is a uniformity across the District's customer classes which is primarily due to the large majority of residential (single family and multi-family) customers. The operation of the drinking water and recycled water systems are base-loaded with supplemental water, and water sources are located at different elevations which negates the use of elevation charges and supports the use of a single-tiered rate structure. For the sewer

enterprise, there is a justifiable distinction with the quality of sewer discharges that allows for a rate-based distinction for commercial, industrial, and institutional customers.



California's Proposition 218 requires utility rates to be set such that revenues do not exceed the funds required to provide the service, and the fee or charge imposed on any ratepayer must not exceed the proportional cost of the service attributable to that ratepayer. Given that legal requirement, it is the conclusion that the Comprehensive Rate Study meets the legal requirements of Proposition 218.

Rate Design Analysis

As indicated in the revenue requirement analysis, the priority for the District was to adjust and transition the overall level of the rates to meet the District's financial and capital improvement requirements (i.e. funding of the asset management plan). Therefore, the results of revenue requirement analysis were the primary basis for establishing the proposed overall level of rate adjustments.

On May 31, 2018, Governor Brown signed two bills which build on the ongoing efforts to "make water conservation a California way of life." Senate Bill No. 606 (Hertzberg) and Assembly Bill No. 1668 (Friedman) place a large emphasis on water use efficiency mandates that will be the responsibility of urban water providers like the Yucaipa Valley Water District. This

Comprehensive Rate Study implements the anticipated statutory requirements of SB 606 and AB 1668 which requires urban retail water agencies to calculate its own water conservation objective, based on the water needed in its service area for efficient indoor residential water use, outdoor residential water use, commercial, industrial and institutional (CII) irrigation with dedicated meters, and reasonable amounts of system water loss. Water agencies must meet their water use objective and those that don't may be subject to enforcement by the State Water Resources Control Board ("State Water Board"). The indoor water use standard will be 55 gallons per person per day (gallons per capita daily, or GPCD) until January 2025; after that the standard will become stronger over time, decreasing to 50 GPCD in January 2030. For the water use objective, the indoor use is aggregated across population in an urban water supplier's service area, not each household.

Proposition 218 and the Rate Setting Process

Proposition 218 is also known as the Right to Vote on Taxes Act. Proposition 218 places both procedural and substantive limitations on property-related fees or charges, including certain utility rates. Procedurally, this requires the District to adopt utility rates through a public hearing process and give voters/customers the opportunity to formally protest. Under Proposition 218, utility rates must be set so that revenues do not exceed the funds required to provide the service, and the fee or charge imposed on any ratepayer must not exceed the proportional cost of the service attributable to that ratepayer. This Comprehensive Rate Study has been developed to meet the legal and technical costing requirements of Proposition 218.

Summary of the Comprehensive Rate Study

The results of the rate study conducted indicated that rates are deficient for the projected time period reviewed. The implementation of proposed rate adjustments should generate the additional revenue needed to meet the District's increased operating and capital needs, along with the District's financial and rate setting policies. The water rates, as proposed herein, are cost-based and were developed using "generally accepted" rate making methods and principles. As currently projected, the proposed rates should enable the District to operate in a financially sound and prudent manner.

This rate analysis is comprehensive due to the fact that it incorporates the implementation of numerous financial, environmental, regulatory and long-term policies into one document that can be used as a tool to communicate with the public. Specifically, this document includes numerous policy discussions that are presented in such a manner that allows the public to understand the broad concepts and how each issue is intertwined with other issues in the general operation of the District. It is not the intent of this document to secure or promote full funding for all policies discussed. Rather, the intent is to show that the District is a complex and multifaceted business with the responsibility of protecting and enhancing the infrastructure that is required to promote the local and regional economy and overall quality of life of our customers. Throughout this document, the following policies will be addressed:

- Protection of the groundwater basins with respect to quality and quantity of available water;
- Development of a regional recycled water system with the capability to integrate additional water supplies to enhance the drought tolerance of the entire community;

- Implementation of reasonable depreciation planning consistent with the requirement of asset management included in GASB 34;
- Implementation of methods for increasing the reliability and redundancy of various local water resources;
- Achievement of full compliance with the Regional Water Quality Control Board and State Water Resources Control Board basin plan objectives and maximum benefit analysis;
- Ability to implement a wireless grid for interactive facility control and customer meter monitoring;
- Establishment of methods to improve communications with customers;
- Implementation of alternative customer utility bill payment methods;
- Implementation of rate stabilizing alternatives;
- Construction of regional recycled water storage and recharge facilities designed to minimize the future cost impacts associated with environmental regulations;
- The establishment of benchmarking tools to continuously evaluate the financial health of the organization.

In summary, the goal of the District is to provide a fair and reasonable financial plan that invests in the community we serve. Located in the upper portion of the Santa Ana Watershed between the San Andres and San Jacinto fault lines, we are constantly reminded that the region we serve is both beautiful and unique. The challenges we face are not the same, or in some cases even remotely similar, to our neighboring agencies. Therefore, it is incumbent upon the leadership of the Board of Directors, management, and employees to remain committed to professionally manage the precious water, sewer and recycled water resources of the Yucaipa Valley in a reliable, efficient, cost-effective, and sustainable manner in order to provide the finest service to our customers.

Joseph B. Zoba
General Manager

1.0 Introduction

The Yucaipa Valley Water District is made up of a proactive and diverse group of elected officials and employees dedicated to providing reliable water and sewer service in an efficient, cost effective manner that provides a high level of customer satisfaction. On May 1, 2002, the Board of Directors adopted the following mission statement to clearly reflect the vision and principles that guide the dedicated elected officials and employees of the District.

> Yucaipa Valley Water District is committed to professionally managing the precious water, sewer and recycled water resources of the Yucaipa Valley in a reliable, efficient and cost-effective manner in order to provide the finest service to our customers, both present and future.
>
> We are entrusted to serve the public for the benefit of the community.
>
> We believe in responsive, innovative and aggressive service, and take pride in getting the job done right the first time.
>
> We encourage a work environment that fosters professionalism, creativity, teamwork and personal accountability.
>
> We treat our customers and one another with fairness, dignity, respect and compassion and exhibit the utmost integrity in all we do.
>
> We believe in enhancing the environment by following a general philosophy of eliminating waste and maximizing recycling and reuse of our natural resources.
>
> We are committed to using the following operating principles as a guide to accomplish our mission:
>
> - We are proactive in our approach to issues.
> - We are committed to integrity and consistently high ethical standards in all our business dealings.
> - We use the strategic planning process to focus our efforts and minimize our crisis management mode.
> - We make informed, rational and objective decisions.
> - We aggressively pursue technological solutions to improve operations.
> - We are inclusive in our decision making and delegate responsibility whenever possible.
> - We design our services around customer wants and needs to the degree possible within our financial and regulatory constraints.
> - We cultivate widespread commitment to common goals.
>
> We believe our success depends on every employee knowing and sharing these values and principles

This comprehensive Water, Sewer and Recycled Water Rate Analysis has been prepared with the District's mission statement in mind to link the financial health of the District with our commitment to professionally manage the precious water, sewer and recycled water resources

of the Yucaipa Valley in a reliable, efficient and cost effective manner in order to provide the finest service to our customers, both present and future.

To meet the mission of the District, the Board and staff members continue to proactively focus on water quality issues, water supply issues, infrastructure deficiencies, maintenance of existing systems and compliance with increasingly stringent regulatory requirements.

1.1 Overview of the Yucaipa Valley Water District

The Yucaipa Valley Water District was formed as part of reorganization, pursuant to the Reorganization Act of 1965, being Division I of Title 6 of the Government Code of the State of California. This reorganization consisted of the formation of the District, dissolution of the Calimesa Water District and formation of Improvement District No. 1 of the District as successor-in-interest, and dissolution of Improvement District "A" of the San Bernardino Valley Municipal Water District and the formation of Improvement District "A" of the District as successor-in-interest. On September 14, 1971, the Secretary of State of the State of California certified and declared formation of the Yucaipa Valley County Water District. The District operates under the County Water District Law, being Division 12 of the State of California Water Code (the "Act"). Although the immediate function of the District was to provide water service, the District has assumed responsibility for providing recycled water and sewer service in Yucaipa Valley.

The District is located about 70 miles east of Los Angeles and 20 miles southeast of San Bernardino in the foothills of the San Bernardino Mountains and has a population of approximately 48,350. The District is situated in both San Bernardino County and Riverside County.

1.1.1 Land Use Within the District

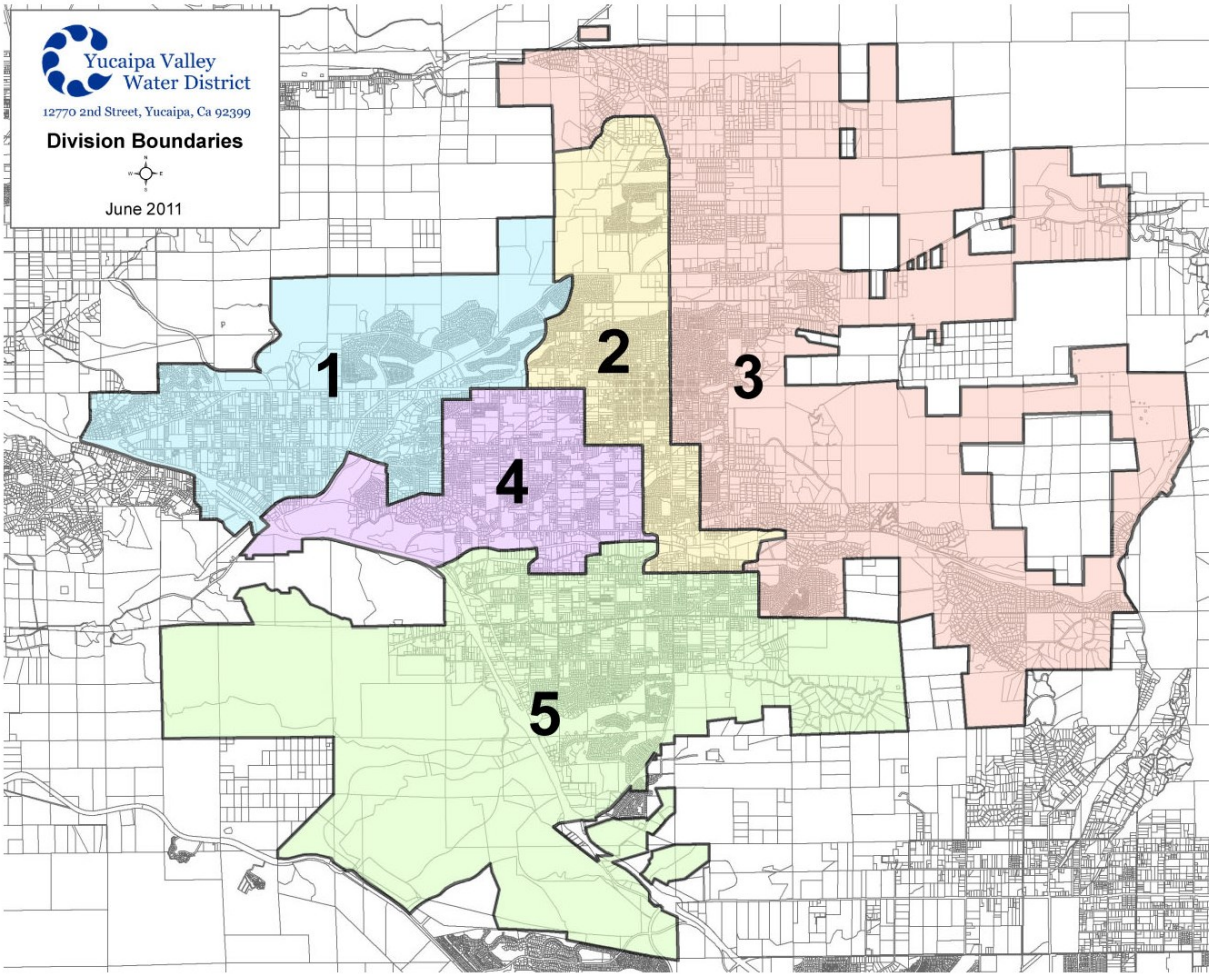
The altitude of the District rises from about 2,000 feet above sea level at the western end of the valley to about 5,000 feet at the eastern end, with average elevation of roughly 2,650 feet. The topography of the area is characterized by rolling hills separated by deeply entrenched stream beds, namely, the Yucaipa and Wilson Creeks. The District includes the incorporated cities of Yucaipa and Calimesa which are in San Bernardino and Riverside Counties respectively.

The District projects that the undeveloped land within its boundaries will continue to be developed consistent with the general plans as provided by the City of Yucaipa and the City of Calimesa. The projected population of the District in the year 2030 will be approximately 94,800, which reflects build-out of the City of Calimesa and the Oak Valley development. Although approximately 49.8% of the land within the boundaries of the District is currently undeveloped, less than 1% of District water sales are to agricultural water users.

1.1.2 Governance and Management

The District is governed by a 5-member board of directors (the "Board"), the members of which are elected from five separate divisions of the District to staggered 4-year terms. The current Board members, the expiration dates of their terms and their occupations are set forth below.

Member of the Board of Directors	Division	Initial Date of Service	Expiration of Term	Occupation
Chris Mann, Director	One	12/2/2016	2020	Public Relations Firm President
Bruce Granlund, Vice President	Two	12/23/1998	2022	Retired Senior D.A. Investigator
Jay Bogh, President	Three	09/07/2005	2022	Building Firm Manager
Lonni Granlund, Director	Four	12/05/2008	2020	Property Manager/Real Estate Broker
Joyce McIntire, Director	Five	12/07/2018	2022	Retired School District Employee

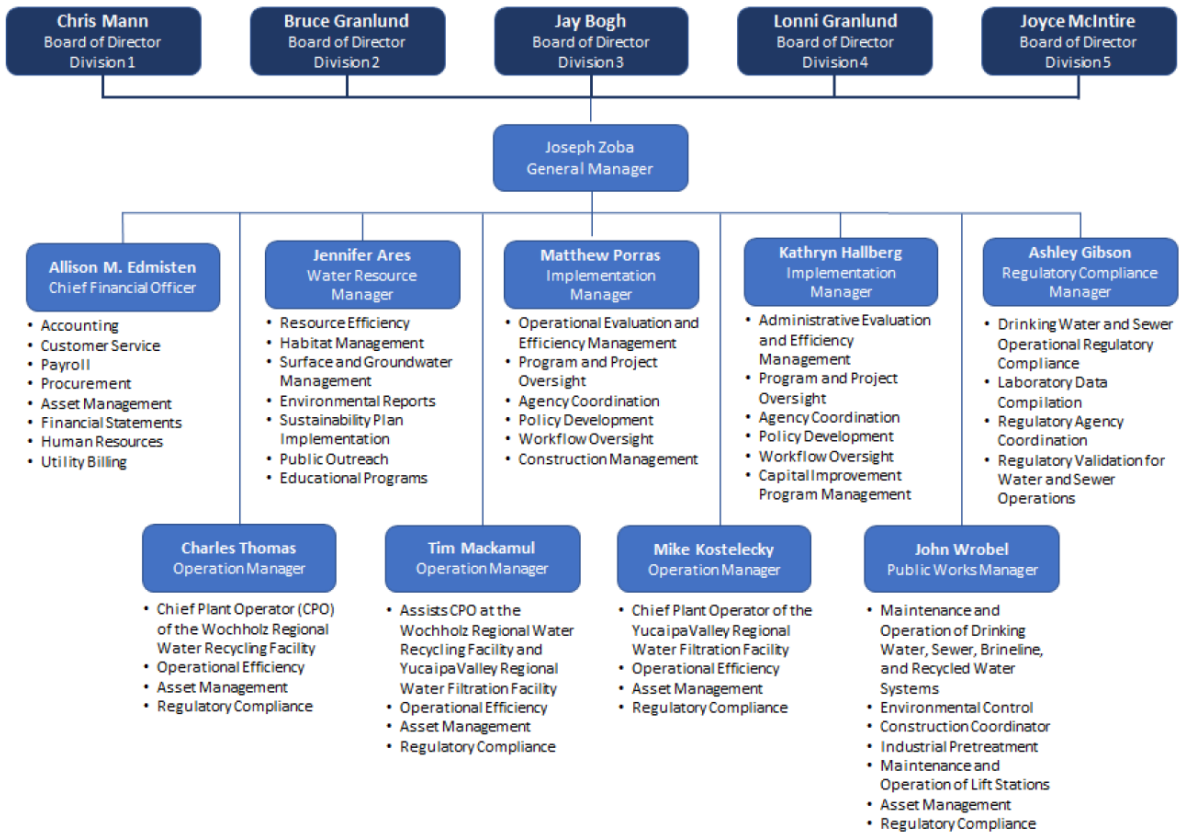


The following individuals have served as President of the Board since the District was created in 1972.

Yucaipa Valley Water District Presidents of the Board of Directors	
October 1971 to November 1973	Harold Lockwood
December 1973 to November 1975	Hank Wochholz
December 1975 to October 1977	Geno Gasponi
November 1977 to November 1979	Eve Kraft
December 1979 to December 1983	Pete Squires
January 1984 to December 1987	Fred Childs
January 1988 to November 1989	George Sardeson

November 1989 to December 1991	Hank Wochholz
January 1992 to November 1993	David Lesser
December 1993 to December 1995	Conrad Nelson
December 1995 to December 1998	Steve Copelan
January 1999 to November 2002	Conrad Nelson
December 2002 to December 2006	Bruce Granlund
December 2006 to December 2008	Tom Shalhoub
December 2008 to December 2012	Jay Bogh
January 2013 to December 2014	Bruce Granlund
December 2014 to December 2016	Lonni Granlund
December 2016 to January 2019	Jay Bogh
January 2019 to Present	Chris Mann

Day-to-day management of the District is delegated to the General Manager who works closely with an executive team who ultimately oversee all of the District's services and functions.



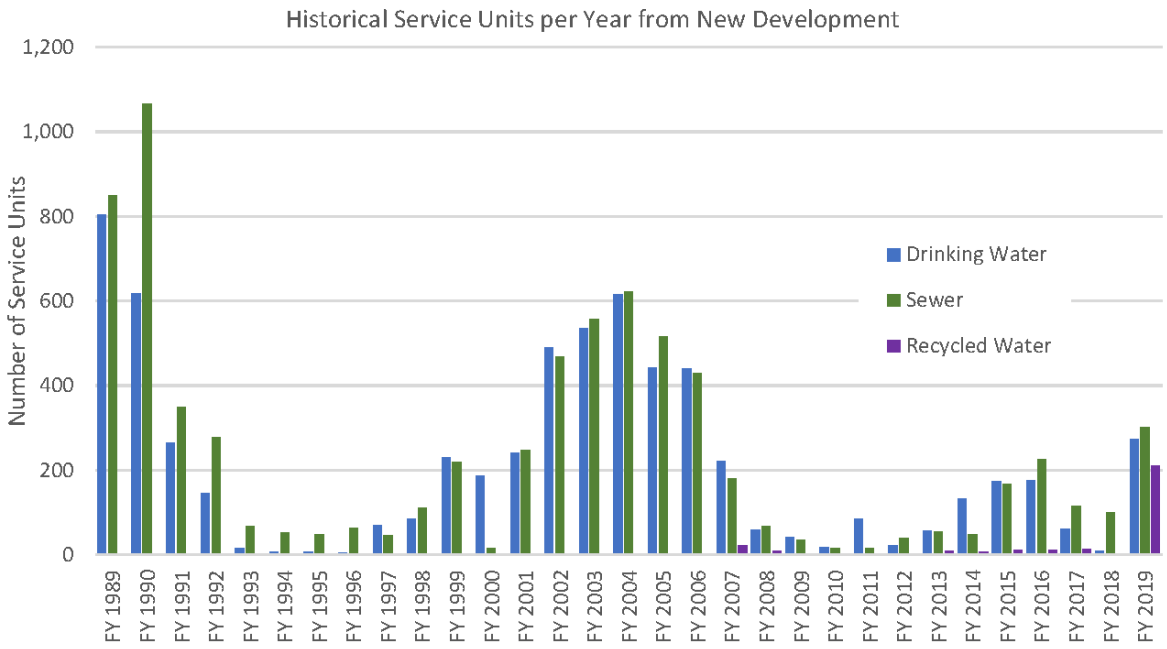
1.1.3 Number of Service Connections

As of June 30, 2019, the District provided service to 13,794 drinking water connections (19,243 water service units), 14,104 sewer connections (22,774 sewer service units) and 111 recycled water connections (460 recycled service units).

Customer Type	Drinking Water Enterprise		Sewer Enterprise		Recycled Water Enterprise	
	Number of Service Connections	Water Service Units (WSUs)	Number of Service Connections	Sewer Service Units (SSUs)	Number of Service Connections	Recycled Service Units (RSUs)
Single Family	11,876	12,602	10,358	10,315	- -	- -
Multiple Units	467	5,331	454	5,311	- -	- -
Commercial	225	626	216	1,011	- -	- -
Institutional	78	370	57	295	- -	- -
Industrial	6	17	3	3	- -	- -
Irrigation	111	297	7	18	- -	- -
Fire Detectors	1,013	- -	- -	- -	- -	- -
Construction Water	18	- -	- -	- -	7	- -
Recycled Water	- -	- -	- -	- -	104	460
Sewer Only	- -	- -	3,009	5,822	- -	- -
Total	**13,794**	**19,243**	**14,104**	**22,774**	**111**	**460**

1.1.4 Development Overview

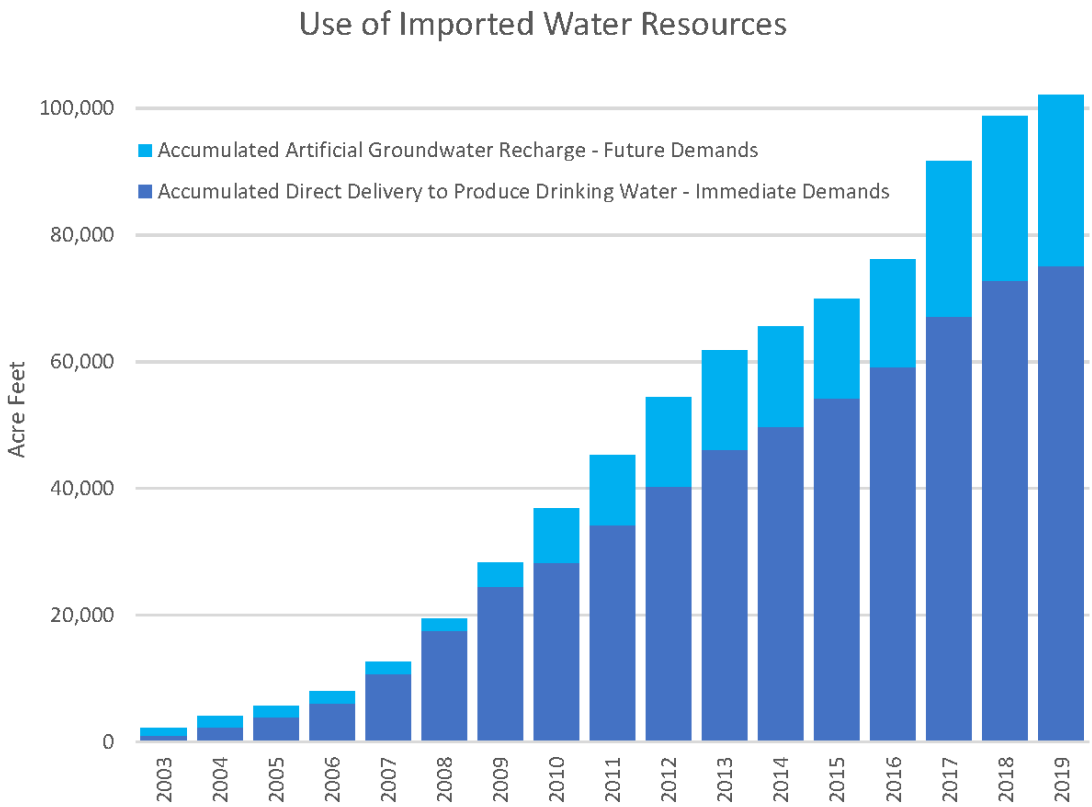
The District charges each new unit a facility capacity charge for drinking water, sewer, and recycled water service. This charge is used to offset the capital cost of the drinking water, sewer and recycled water facilities needed to provide service all new customers regardless of their classification - residential, schools, parks, or businesses. The facility capacity charge is calculated based on a common residential unit; therefore it is common to see in this report references to service units, which takes all users and equates their demand on the infrastructure as a common dwelling unit equivalency.



1.1.5 Supplemental Water Purchases

In 2003, the Yucaipa Valley Water District started to purchase imported water from the San Bernardino Valley Municipal Water District and the San Gorgonio Pass Water Agency.

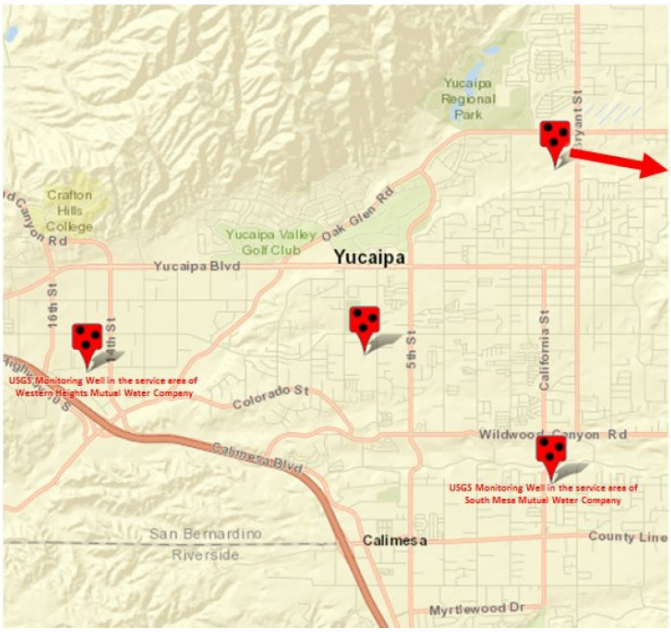
Over the past sixteen years, the District purchased 102,074 acre feet of imported water. Approximately 75% of the imported water has been used to produce drinking water at the Yucaipa Valley Regional Water Filtration Facility. The drinking water produced has reduced the amount of groundwater produced from the local groundwater basins as in-lieu recharge. The remaining 25% of imported water has been delivered to recharge basins to augment the local groundwater supplies for future use by the community.

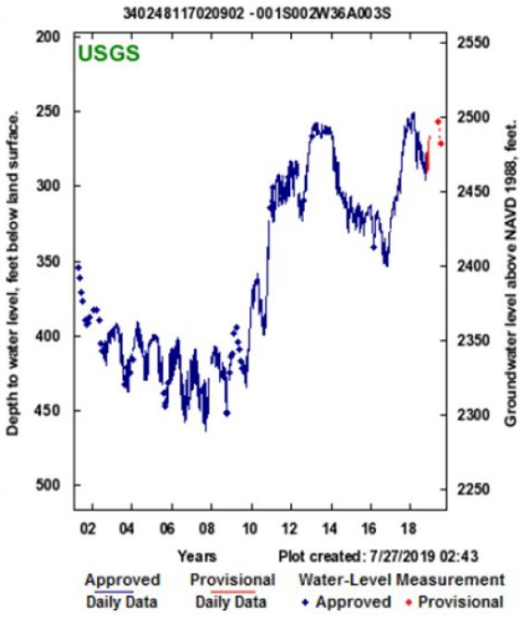


1.1.6 Groundwater Conditions and Resource Management

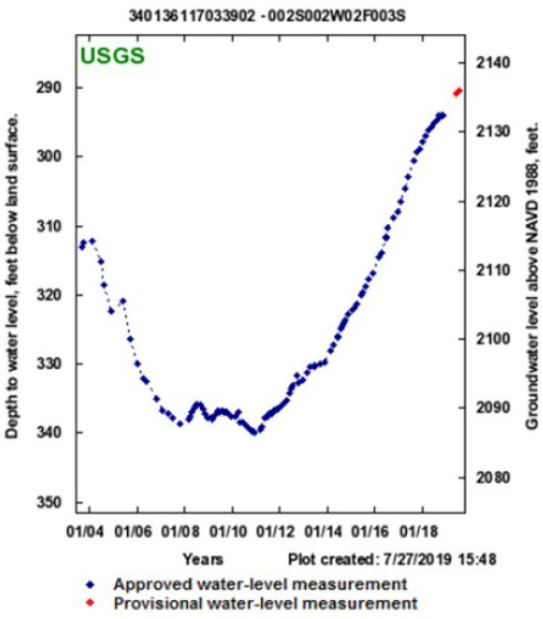
The United States Geological Survey ("USGS") has created various programs to support the monitoring and tracking of groundwater level throughout the nation. Locally, the USGS has coordinated their efforts with the San Bernardino Valley Municipal Water District and the San Gorgonio Pass Water Agency to monitor groundwater levels in the region. Data from this effort is consolidated and provided online as part of the USGS Groundwater Watch (https://groundwaterwatch.usgs.gov/) and the National Water Information System - Web Interface (https://waterdata.usgs.gov/nwis) .

Through the proactive management of our water resources, the Yucaipa Valley Water District has been able to implement a variety of programs that have significantly increased the quantity of water in our local groundwater basins. In the primary groundwater basin used by the District, groundwater elevations have increased about 200 feet over the past ten years.





In another local basin, the amount of groundwater stored in the basin has increased about 50 feet.



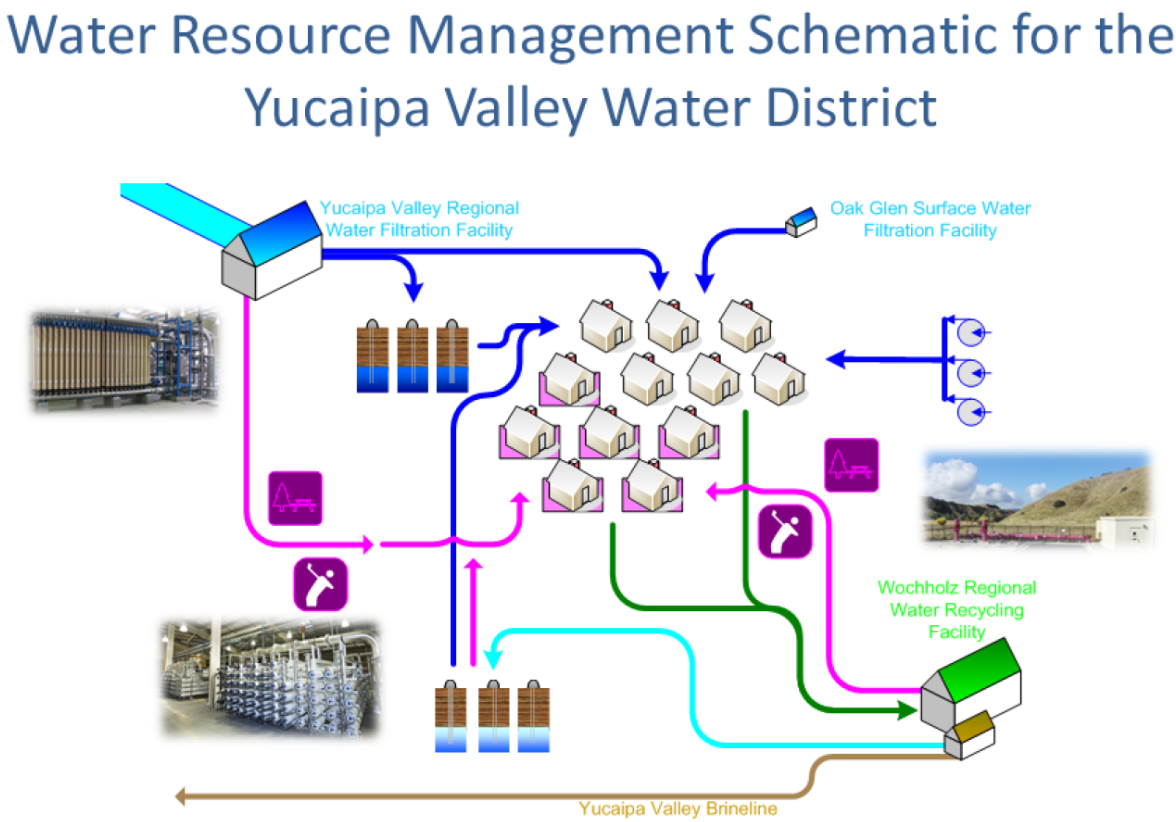
The Yucaipa Valley Water District is working closely with other partners to achieve similar success stories in the adjudicated Beaumont Basin (http://www.beaumontbasinwatermaster.org/) and

groundwater basins governed by the Sustainable Groundwater Management Act, namely the Yucaipa Groundwater Basin (https://yucaipasgma.org/) and the San Timoteo Groundwater Basin (http://www.santimoteosgma.org/).

1.1.7 A Strategic Plan for a Sustainable Future

On August 20, 2008, the Board of Directors adopted A Strategic Plan for a Sustainable Future - The Integration and Preservation of Resources. The development of this document was based upon policy direction by the Board of Directors, and suggestions by staff members, public participants, and other interested stakeholders.

The purpose of pursuing a strategic plan for a sustainable future was to establish the policies and guidelines necessary to protect and preserve the natural resources entrusted to the District for our customers. It is our business to maximize the use of our limited natural resources for the long-term economic growth and expansion of the local economy. In the arid southwest, the basic fuel to create and maintain a local economy is water.



This document has been used to strategically take the necessary steps to improve the social, economic, and environmental sustainability of our community. Recent actions have included the purchase of valuable watershed properties, protection of local water supplies, and management of environmental corridors. While the decisions to embark on these actions have been generally unrelated, a look back in time indicates that the District has been progressing towards a more independent, flexible, and sustainable future.

The specific steps taken by the District to protect and conserve our water resources have been based on the concepts that: (1) resources are not limitless and therefore need to be conserved, nurtured and renewed; and (2) resources that are used to generate short-term gains result in an inefficient and inequitable consumption of resources that are not beneficial for a long-term strategy. Both of these concepts help to guide the District to make decisions that are conservative, careful, and conscious of the role we currently play in a long-term strategy to protect the community.

1.2 Common Questions and Answers

This comprehensive *Drinking Water, Sewer, and Recycled Water Rate Analysis* has been prepared to evaluate the overall rate structure and components for the services provided by the District. Specifically, the services of drinking water, sewer disposal and treatment, and recycled water was reviewed for all users in the residential, commercial, institutional and industrial sectors.

Funding for drinking water, sewer and recycled water service is recovered from those who use the service - that is, a "user pay" basis. Use is measured by the water meters (both drinking water and recycled water) installed on the water supply to your home/business and on a fixed basis for those customers connected to the sanitary sewer. The following questions and answers have been prepared to help explain how the future rates will need to address system growth, regulatory changes, and full cost accounting principles applied to the District and commonly used for governmental agencies even though the District is managed and operated more like a private business.

Why change the existing rate structure?

The District maintains a very cost effective rate structure designed with our customers in mind. Unfortunately, the District has recently encountered a series of issues that require the District to complete a comprehensive analysis of our current rate structure. Some of the issues pressuring the District's existing rate structure include:

- Statewide Issues – This Comprehensive Rate Study is unique in that it projects a declining drinking water use with an increasing population over the next thirty years. This rate scenario is designed to achieve compliance with Senate Bill No. 606 (Hertzberg) and Assembly Bill No. 1668 (Friedman) which mandates water efficiency standards in California. The new legislative mandates will create new efficiency standards for indoor use, outdoor use, and water lost to leaks, as well as any appropriate variances for unique local conditions. Beginning in November 2023, each urban retail water agency will calculate its own water use objective, based on the water needed in its service area for efficient indoor residential water use, outdoor residential water use, commercial, industrial and institutional (CII) irrigation with dedicated meters. The statewide goal is to achieve an indoor water use standard of 55 gallons per person per day (gallons per capita daily, or GPCD); decreasing to 50 GPCD by January 2030.

- Regional Issues – In 2004, the State Water Resources Control Board approved the Basin Plan for the Santa Ana Region of the Water Quality Control Board. This regulation required the District to maintain groundwater quality similar to the quality that existed in the late 1960's and early 1970's. This regulation required the District to implement

nitrogen and TDS reduction strategies on water supplies and sewer discharges. Additionally, the District constructed molecular salinity removal facilities (reverse osmosis) at the Wochholz Regional Water Recycling Facility. In the next decade, the District will expand the reverse osmosis system and construct recharge facilities to recharge our local groundwater basins with exceptionally pure, drought-proof water supplies.

- Local Issues – The District continues to experience accelerated costs associated with the operation and maintenance of the drinking water, sewer and recycled water systems. Specifically, the District is now faced with infrastructure that is nearing the end of its useful life and needs to be replaced. The replacement of existing infrastructure is critical for the delivery of high-quality water supplies, reduced impacts from emergencies such as fires and earthquakes, and an overall improved efficiency of the systems.

As a result of legislative action, stringent regulatory requirements, and the need for infrastructure improvements, the District has determined that it is necessary to adjust the drinking water, sewer and recycled water rates.

Why are the Yucaipa Valley Water District's water rates different from other municipalities?

Water and sewer rates are a function of costs and how those costs are recovered. There are specific characteristics unique to each municipality's utility operations and differing regulatory requirements based on geographical location and service population. Yucaipa Valley District currently draws water from local groundwater wells, imports water from northern California, and receives surface water from the local mountains. The District continues to balance our diversified water resource portfolio and expand the use of recycled water while reducing the importation of water from northern California. This resource mix has been planned for over five decades and is now coming to fruition resulting in the highest quality water resources available in a cost effective and reliable manner.

Additionally, the District operates a water and recycled water system over a very unique topographical area. Consider for a moment that the District office on Second Street is approximately 70 miles inland from the Pacific Ocean and at an elevation of 2,000 feet above sea level. If you compress this 70 mile distance into a five mile distance keeping the 2,000 feet in elevation change the same, this would represent the working conditions of our water supply system. It takes a great deal of energy to move water up in elevation, and likewise, it takes a great capital investment to collect surface water from the upper elevations of the District (when available) and treat, then transport this local water supply to the area of water demand. Overall, the District operates a truly unique water delivery system that is more complex than most other water providers in the region.

Why are the Yucaipa Valley Water District's sewer rates different from other municipalities?

The Yucaipa Valley Water District delivers recycled water in the Yucaipa, San Timoteo, and Beaumont Management Zones as defined by the basin plan adopted in October 2004 by the State Water Resources Control Board and the maximum benefit analysis approved by the Regional Water Quality Control Board in April 2005. Located at the top of the Santa Ana Watershed, these management zones, or groundwater basins, are highly desired as superior groundwater quality that must remain pristine pursuant to the Porter-Cologne Act. This means our sewer treatment requirements are more stringent than most, if not all other municipalities in southern California. While some communities achieve an economy of scale by having fewer, larger sewer treatment plants, the District maintains a smaller, sub-regional facility to deal with the topography of the area. There are many other variables included in the District's sewer costs, but the examples above highlight some unique aspects of the District's operations.

What factors does the District consider when setting water, sewer and recycled water rates?

Since the District strives to operate more like a business than a government bureaucracy, cost recovery is a key consideration in our rate review. Other factors in the proposed rate structure include revenue stability, conservation, equity, economic development, competitiveness, financial sufficiency, cost recovery, ease of implementation and understanding. As the focus or importance of these factors change, the rate structure will be changed as well.

When would the new rate structure likely take effect?

The proposed rate structure requires a public hearing and approval by the Board of Directors. To ease the impact on property owners, tenants, and businesses and allow customers time to plan for rate adjustments, the structure includes adjustments over a long period of time, starting on January 1, 2020.

How would the current and proposed rate structure compare for residential customers?

There are two components to the proposed drinking water and sewer rate structure.

Fixed Charges - A monthly fixed charge has been established to cover the fixed costs regardless of the amount of water consumed or sewer discharged. These fixed costs in the water division represent a small percentage of the overall District's water revenues, currently 24%. The sewer monthly charge is a fixed fee since the operation of the biological, mechanical and filtering

systems of the sewer treatment plant must continue to operate 24 hours per day 7 days per week regardless of whether a customer is home, at work or on vacation.

Consumption Based Charges – A consumption based charge on drinking water and recycled water service has been adopted to charge customers proportionally to the amount of water they use. This consumption charge is used to assist in conservation and fairly allocate the cost of water based on consumption.

Will the District reevaluate the costs included in this proposal?

The District staff will be reviewing the information in this document at least twice per year. The first review begins in late winter/early spring and concludes with the adoption of the District's budget in June. The second review occurs with the completion of the financial audit report prepared during the summer with Board review and adoption in September.

How can I become more involved in the activities of the District?

As a consumer, resident, or business owner, the best way to become involved in the activities of the District is to subscribe to our regular meeting agendas. This can be done through our website at www.yvwd.dst.ca.us. Regular workshops and board meetings are public meetings and scheduled late in the day and evenings to encourage pubic participation. Also, local government is one of the most effective forms of government since your elected officials and the majority of District employees are also your neighbors. Please feel free to provide us with your questions, comments, or concerns.

2.0 Economic Assessment

An important component in the economic evaluation of a utility service provider is to begin by understanding and evaluating the overall financial health of the District. This section briefly reviews and evaluates the historical and future economic assessment for providing service to the community.

2.1 The Economic Nature of Utility Operations

Public utility operations, such as the District's drinking water, sewer and recycled water operations, provide a service to the community which is essential to public health, protection of the environment, and the local economy. Public utility operations differ from most other types of business entities in that they are highly capital intensive; in capital construction; capital operation/maintenance; and capital replacement. This means that a large amount of capital investment is required to begin and operate a utility compared to most other businesses.

The large amount of capital required to fund a utility, combined with operating labor and other costs of operation which do not vary with consumption of water consumed, means that a majority of the costs incurred by a utility (typically 70 to 85 percent) are fixed. Fixed costs are incurred whether or not customers consume water or dispose of sewer and are associated with providing the availability of service at the point of consumer use. A smaller proportion of a utility system's cost is variable and changes with the volume of water consumed or quantity of sewer treated (i.e. the cost of chemicals, power for treatment and pumping, etc.). Due to the large amount of capital required to build and operate a drinking water, sewer and recycled water utility, most public utilities are monopolies in their service areas.

Financing is often required to construct facilities; those providing the capital should receive a fair return on invested funds. Public policy has been established to provide a fair return on invested funds to customers of a public utility through relatively low water, sewer and recycled water rates. These lower rates generally result from the fact that: 1) public utilities do not pay federal income taxes; 2) public utilities receive lower interest rates on financing through tax-exempt bonds; and 3) public utilities do not have to pay dividends to stockholders. Operating funds of a public utility in excess of operating expenses and debt service on financing can be re-invested in the infrastructure. This reduces the need to finance additional capital and, thus, allows utility rates to be set at a lower level.

2.2 Basis of Accounting in Utility Operations

Significant differences exist between the cash and accrual basis of accounting in utility operations. Many public utilities prefer to set rates on the basis of cash requirements. This helps to keep rates at lower levels in the short term. The cash basis includes only cash expenditures of a utility and does not include an allowance for depreciation expense.

Depreciation, however, is a significant means of developing cash reserves for future pay-as-you-go capital investment and replacement. Publicly owned utilities generally use the accrual basis of accounting for financial reporting. This method includes depreciation as an operating expense and identifies an appropriate rate of return which the utility can earn on its investment in the

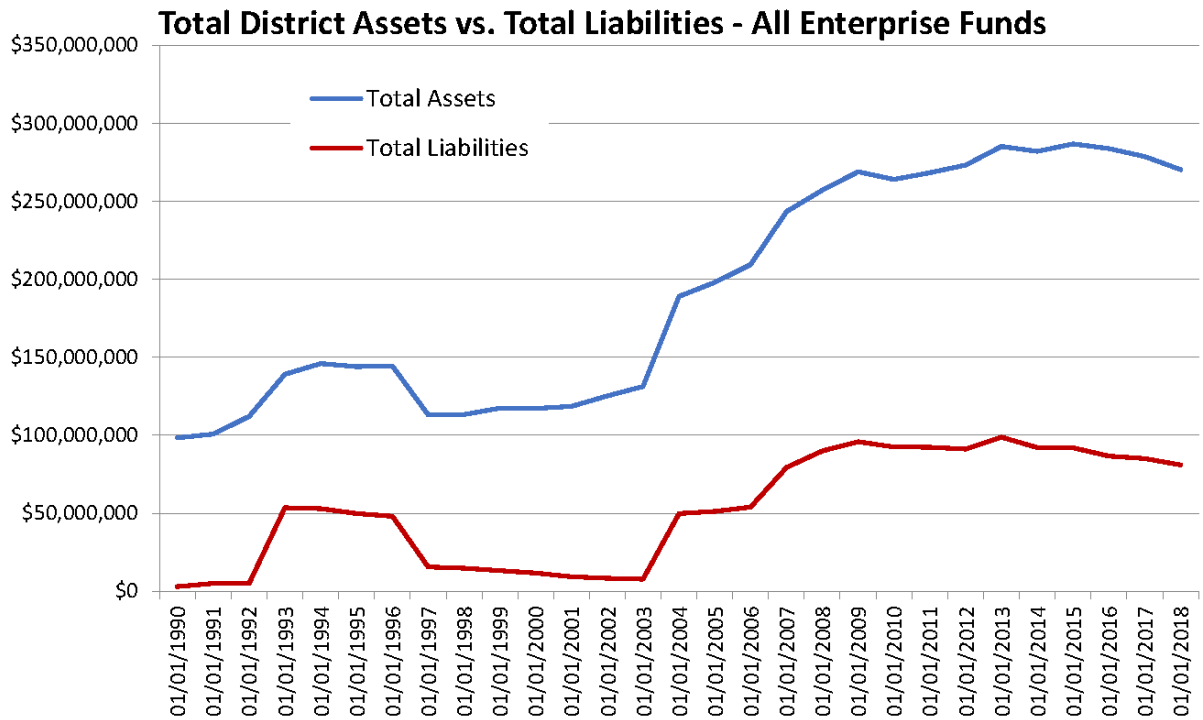
system assets. Under the accrual basis, depreciation expense (a non-cash item) is included as an operating expense.

The District's Audited Financial Statement is conducted on an accrual basis in accordance with the Generally Accepted Accounting Principles (GAAP) and standards promulgated by the Financial Accounting Standards Board (FASB) and the Governmental Accounting Standards Board (GASB). However, because the District prepares its budgets and long-range capital planning on a cash basis, a cash basis is utilized for this study.

2.3 Fiscal Year 2017-18 Audited Financial Statements

Historical income and expense data for the District have been compiled from previously completed Audited Financial Statements. A couple of brief notes may help to explain this financial summary to customers not familiar with the District's operating statement.

- Depreciation Expense - The following financial statement is provided with depreciation listed as an operating expense, both funded and unfunded portions. Most utilities when they examine this type of information do not always list depreciation as an expense since it is a non-cash expense. However, in order to be perfectly truthful, honest and fair to our customers, it is important to convey the fact that not all of the appropriate depreciation is listed. This will result in higher costs in the future when the District will need to replace aged assets without appropriate funds set aside. A summary of the District's recent financial performance is provided in the following table.
- Capital Contributions - Capital contributions are appropriately listed in the District's audited financial statements as a non-operating revenue. For this analysis, the capital contributions are not included as part of net income.



The remaining portion of this chapter is currently being reviewed.

3.0 Drinking Water Enterprise

In order to properly assess the District's future revenue requirements, one must first evaluate and understand trends within four specific areas. These areas are: 1) current customer base and projected changes; 2) evaluation of water demands, 3) significant changes in operating expenses including water filtration and sewer treatment costs, and 4) capital expenditures and debt service obligations. The following is a brief discussion on the impact of these factors on the District's revenue requirements.

3.1 Current and Projected Customer Base

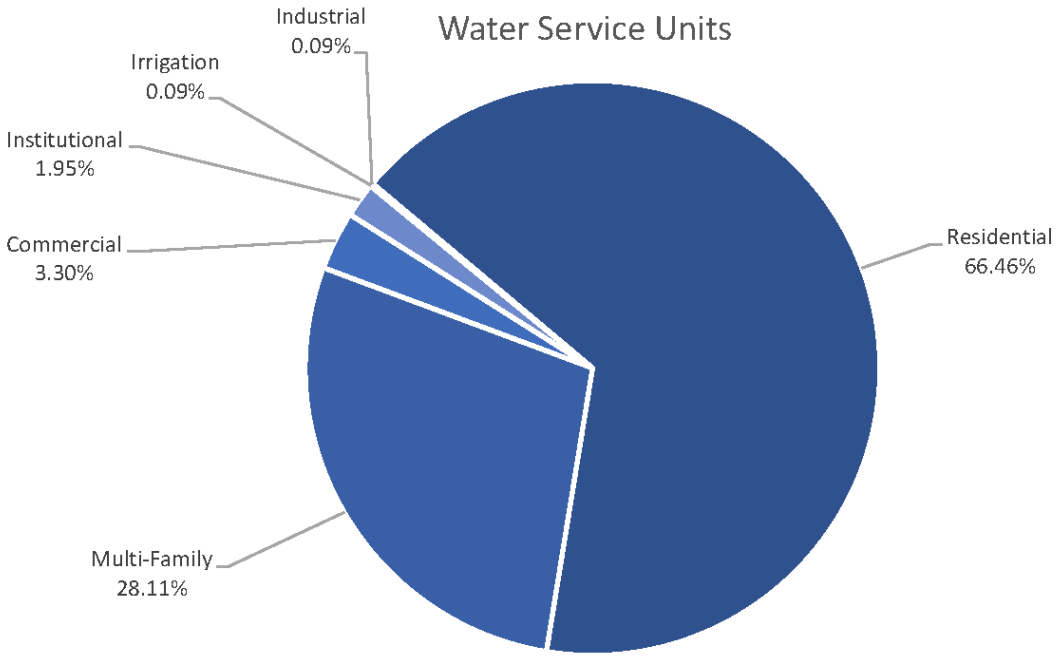
A fundamental element for developing service projections is the quantification of customer demand characteristics and the revenues derived from the current schedule of utility charges. This information provides the foundation for integrating projected changes in demands and customer unit rate adjustments.

As of June 30, 2019, the District's customer base consisted of the following:

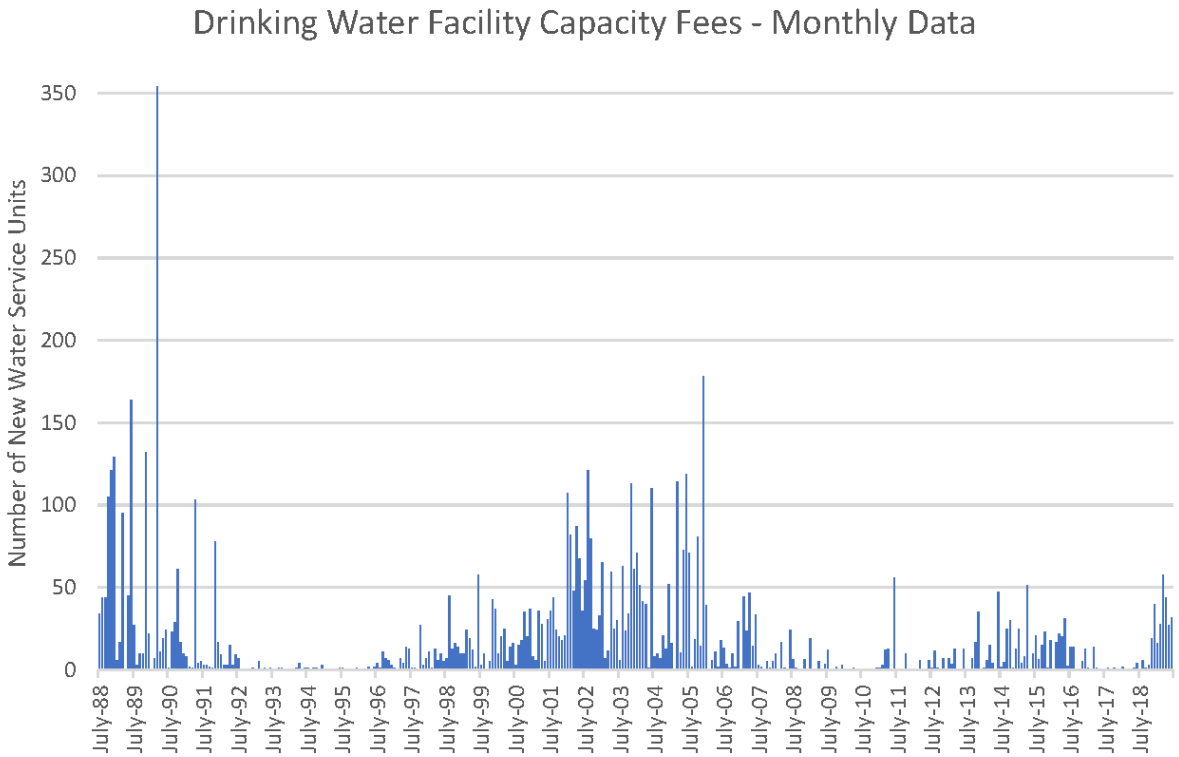
- Drinking water service was provided through 13,794 water service connections; and
- Drinking water was provided to 19,243 Water Service Units.

The table below illustrates a detailed breakdown of service connections by the type of customer. The difference between the number of service connections and the number of Water Service Unit represents multiple units on a property and larger capacity water meters that are typically used for commercial, industrial and institutional customers. The comprehensive rate analysis focuses on Water Service Units for allocation of Drinking Water Enterprise fixed costs.

	Drinking Water Enterprise	
Customer Type	Number of Service Connections	Water Service Units (WSUs)
Single Family	11,876	12,602
Multiple Units	467	5,331
Commercial	225	626
Institutional	78	370
Industrial	6	17
Irrigation	111	297
Fire Detectors	1,013	- -
Construction Water	18	- -
Recycled Water	- -	- -
Sewer Only	- -	- -
Total	**13,794**	**19,243**



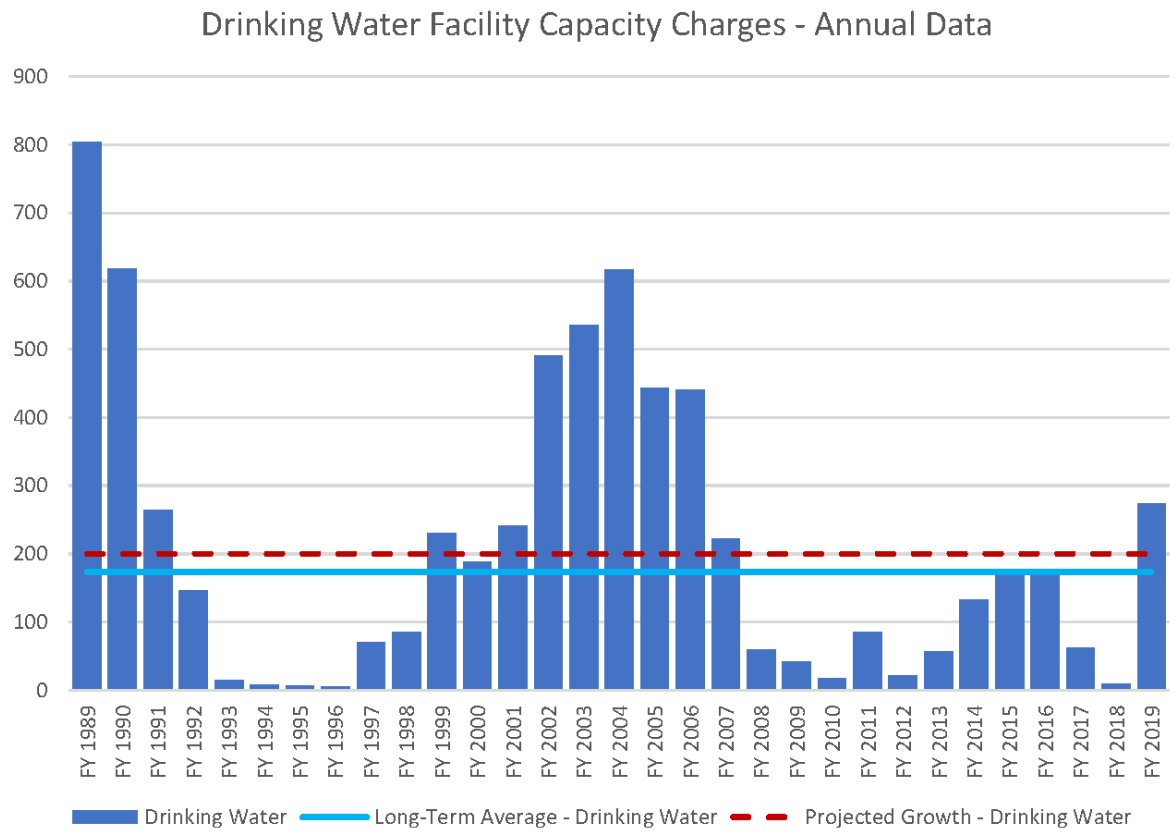
The chart below illustrates the number of Water Service Units (WSUs) added to the District's drinking water system on a monthly basis over the past thirty years. During these three decades, the Yucaipa Valley Water District averaged 174 new services per year.



For the purposes of this comprehensive rate study, the District recognizes that several large developments have started construction and will add thousands of Water Service Units in the near future. These fully entitled development projects will likely skew the relatively slow growth that has occurred over the past decade. Specifically, Summerwind Ranch, Mesa Verde Estates, JP Ranch, and the Oak Valley commercial center all have the ability to change the District's customer base, primarily within the City of Calimesa.

To reasonably project the future growth rate of the Yucaipa Valley Water District, an estimated growth rate of 200 Water Service Units per year will be added to the drinking water system. This projection is based on 50 homes per year will be constructed in the City of Yucaipa and 150 homes per year will be constructed in the City of Calimesa.

While this projection represents a 15% annual increase over the long-term average of 174 Water Service Units per year, the overall increase will be about 1% per year. Over the 50 year projection of this rate study, this growth rate will add 10,000 more Water Service Units to the drinking water system. While this growth rate is more than recently experienced by the District, the projected rate of 200 additional drinking water services per year for the next 50 years will not exceed the projected buildout of either the City of Yucaipa or the City of Calimesa. Therefore, this may be a fairly conservative estimated growth rate when one looks back at this comprehensive rate study in the future.



The projected customer growth rate affects the District's revenue requirements in two ways. First, it increases the customer base, which increases the property tax revenue, fixed charge revenue, and variable charge revenue. Secondly, it increases operating costs associated with the delivery and provision of drinking water services.

3.2 Drinking Water Enterprise Revenue Requirements

The Yucaipa Valley Water District analyzed the revenue requirements of drinking water service customers to test the financial health of the enterprise. The revenue requirement analysis uses FY 2019 as the baseline and extends the forecast period 50 years until FY 2070. With an extended forecast, the District can plan for debt repayment and schedule future capital improvements. However the tables and graphs will typically focus on a ten year period of FY 2020 to FY 2030.

Based on the findings of this study, the rate changes recommended for the Drinking Water Enterprise will consist of changes to the framework of the existing rate structure plus new revenue categories that will fund operational and capital needs and meet debt service obligations. The proposed findings support the Water Enterprise's ability to continue meeting its level of service objectives.

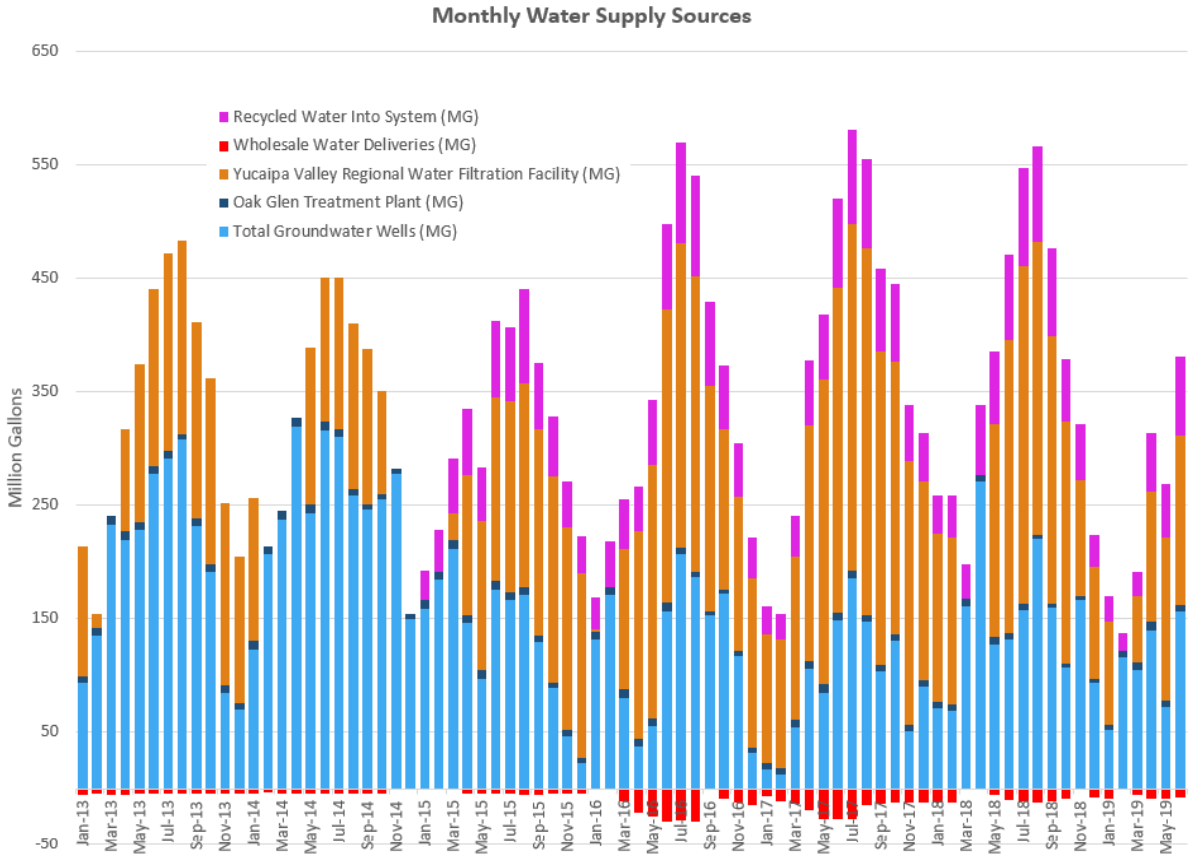
3.2.1 Evaluation of Drinking Water Demands

The Yucaipa Valley Water District maintains a highly diversified water resource portfolio that consists of groundwater, imported water, local surface water, and recycled water. The use of these resources varies each month depending on the regional and statewide climatic conditions and policies/goals set by the Board of Directors.

The two most significant policy decisions by the Yucaipa Valley Water District Board of Directors has been to maximize the use of recycled water and refill the local groundwater basins to enhance the availability of local resources.

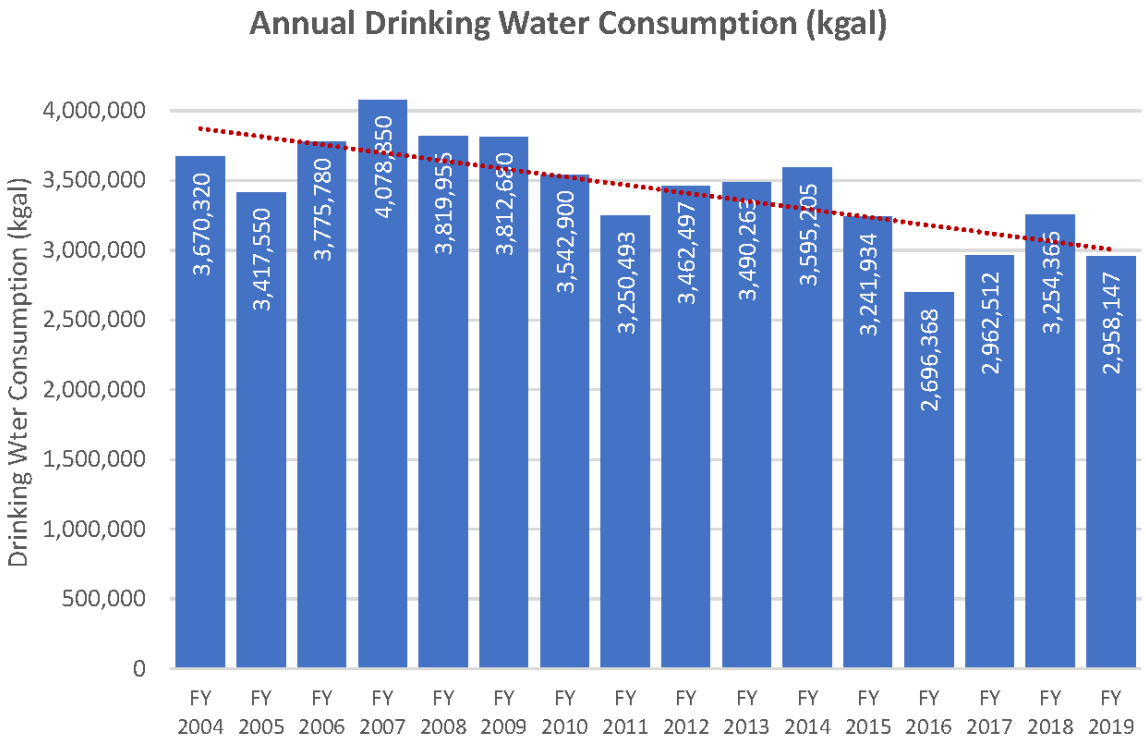
The Yucaipa Valley Water District implemented a recycled water system in 2002 to reduce the amount of groundwater used in the community. This recycled water system was connected to the Wochholz Regional Water Recycling Facility in 2015 and is now part of the District's recycled water system.

The following graph illustrates the monthly water demands and the various water supply sources used by the District to meet the demand.



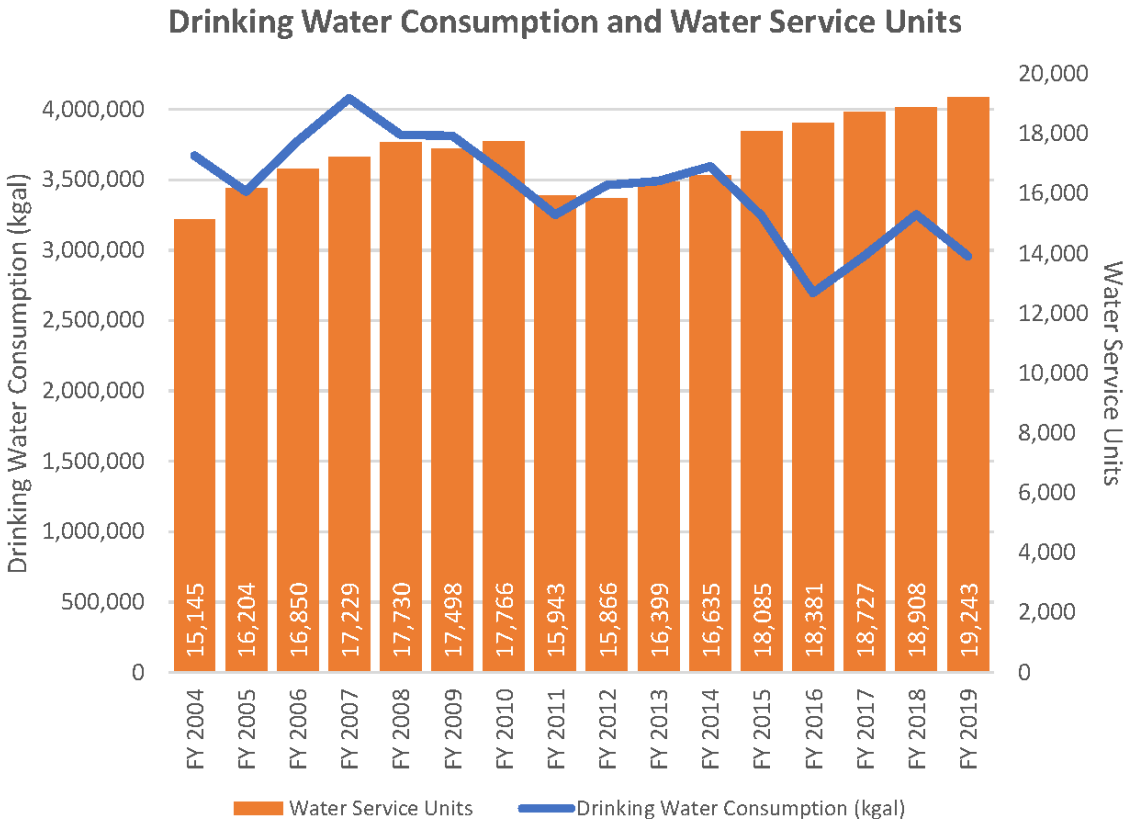
As a direct result of the management of our water resources, the Yucaipa Valley Water District has been able to significantly improve the groundwater conditions within our service area. While the District monitors groundwater conditions at our active and inactive well sites, the District relies upon the groundwater monitoring wells operated and maintained by the United States Geological Survey (USGS) to publicly share groundwater conditions with the community.

The Yucaipa Valley Water District has been experiencing a decline in drinking water consumption over the past decade. In FY 2007 the District delivered 4,078,850 kgal of drinking water (12,517 acre feet) compared to 2,958,147 kgal of drinking water (9,078 acre feet) in FY 2019. This represents a decrease of 27.5% over the past thirteen years.



The decrease in drinking water consumption is largely related to: (1) the implementation of recycled water service as discussed in Section 5 of this report; (2) an increase in drought and water conservation practices by customers; (3) improved water efficiency of new homes; and (4) variations in climatic conditions.

Over the same period of time, the number of Water Service Units increased 10.8% from 17,229 WSUs in FY 2007 to 19,243 WSUs in FY 2019.



On May 31, 2018, Governor Brown signed two bills which build on the ongoing efforts to "make water conservation a California way of life." Senate Bill No. 606 (Hertzberg) and Assembly Bill No. 1668 (Friedman) place a large emphasis on water use efficiency mandates that will be the responsibility of urban water providers like the Yucaipa Valley Water District. This comprehensive rate study implements the anticipated statutory requirements of SB 606 and AB 1668.

The new Legislative framework will create new efficiency standards for indoor use, outdoor use, and water lost to leaks, as well as any appropriate variances for unique local conditions. Beginning in November 2023, each urban retail water agency will calculate its own objective, based on the water needed in its service area for efficient indoor residential water use, outdoor residential water use, commercial, industrial and institutional (CII) irrigation with dedicated meters, and reasonable amounts of system water loss, along with consideration of other unique local uses (i.e., variances) and "bonus incentive," or credit, for using recycled water based on the standards adopted by the State Water Resources Control Board.

Urban water agencies must meet their water use objective. Those that don't may be subject to enforcement by the State Water Resources Control Board ("State Water Board"). Starting in 2023, the State Water Board may issue informational orders to urban water suppliers that do not meet their water use objective and may issue conservation orders beginning in 2025.

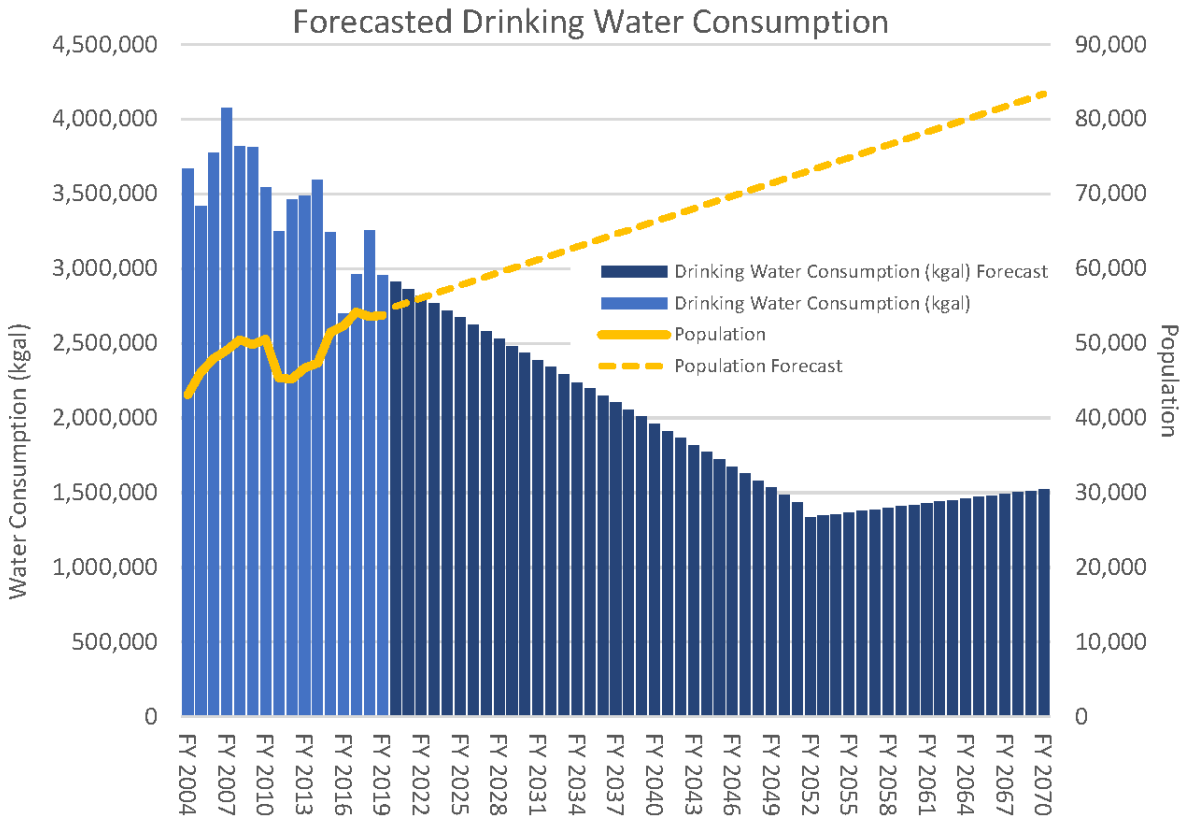
The indoor water use standard will be 55 gallons per person per day (gallons per capita daily, or GPCD) until January 2025; the standard will become stronger over time, decreasing to 50 GPCD in January 2030. For the water use objective, the indoor use is aggregated across population in an urban water supplier's service area, not each household.

The outdoor water use standard will be based on land cover, climate, and other factors determined by the Department of Water Resources and the State Water Resources Control Board. The State Water Resources Control Board will adopt the outdoor standard by June 2022.

In addition, the Department of Water Resources and the State Water Resources Control Board will work collaboratively to define performance measures for Commercial, Institutional, and Industrial (CII) water use by October 2021. The State Water Board will adopt the CII performance measures by June 2022.

To enhance drought planning and preparedness, urban water agencies also will be required to update urban water management plans that specify reliability of water supply, define the agency's strategy for meeting its water needs, including conducting annual "stress tests" of supply versus demand to ensure water service continuity assuming the five worst or driest years in the supplier's historical record.

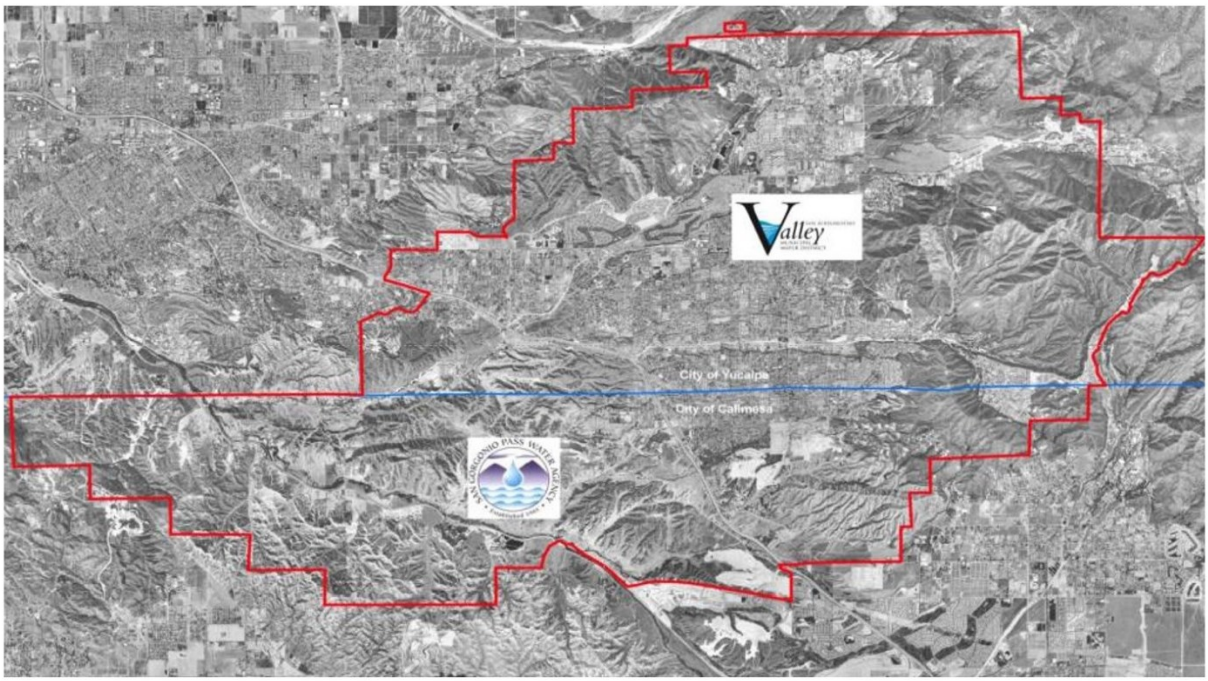
Based on (1) the growth projections identified above; (2) the actual reduction in water consumption over the past decade; and (3) the new water efficiency requirements set forth by the State of California, the District will be projecting an annual decrease in drinking water use of 47,500 kgal per year until 2052. At this point, the District should achieve the goal of 50 gallons per capita daily (GPCD). Future water consumption will then increase at a rate of 50 gallons per capita daily as shown below.



3.2.2 Evaluation of Supplemental Water Demands

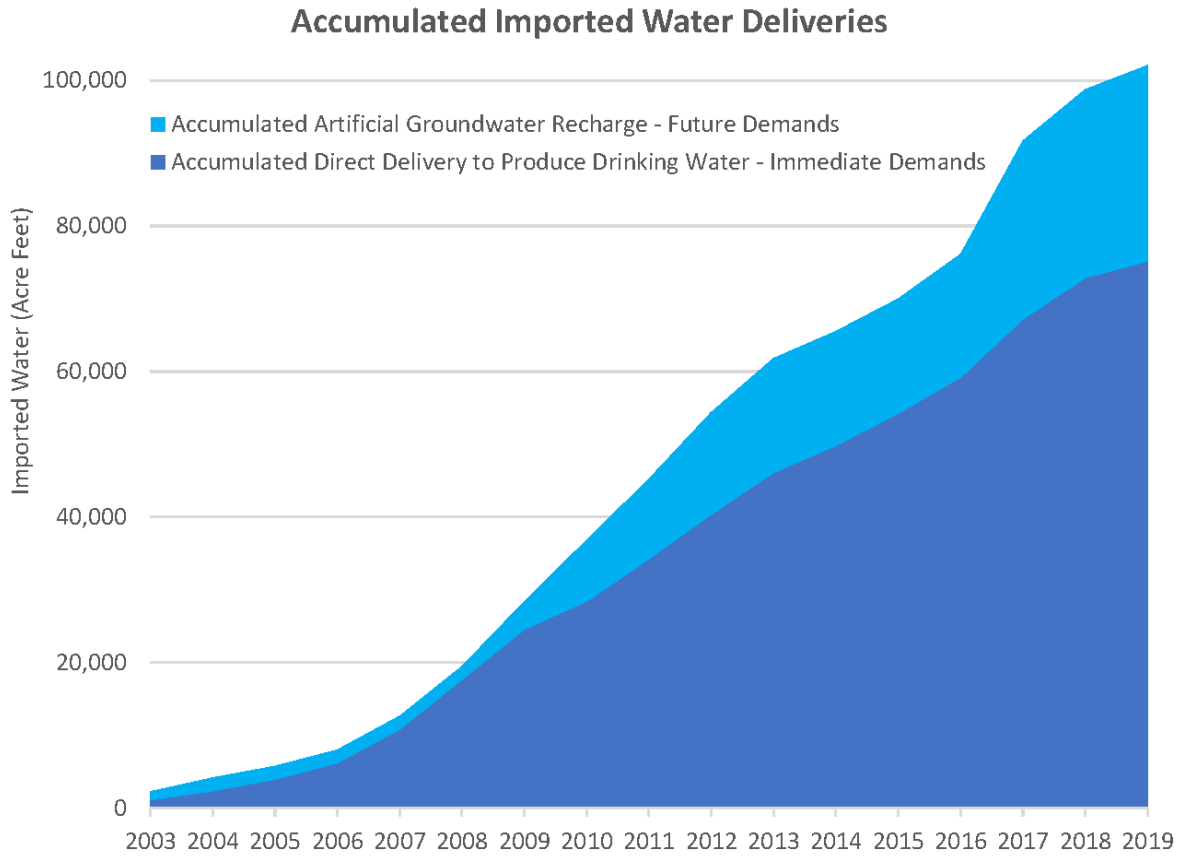
The Yucaipa Valley Water District receives imported water from the San Bernardino Valley Municipal Water District (SBVMWD) and the San Gorgonio Pass Water Agency (SGPWA). The San Bernardino Valley Municipal Water District provides imported water to the portion of the Yucaipa Valley Water District in San Bernardino County while the San Gorgonio Pass Water Agency provides imported water to the Riverside County portion.

	San Bernardino Valley Municipal Water District	San Gorgonio Pass Water Agency
Service Area Size	353 square miles	222 square miles
Table "A" Water Entitlement	102,600 acre feet	17,300 acre feet
Imported Water Rate	$125.80 / acre foot	$399 / acre foot
Tax Rates for FY 2019-20	$0.1425	$0.1825
Number of Board Members	Five (5)	Seven (7)
Operating Budget FY 2019-20	$58,372,000	$9,551,000



Imported water from the SBVMWD and SGPWA is delivered to the Yucaipa Valley Regional Water Filtration Facility for treatment to drinking water. The Yucaipa Valley Regional Water Filtration Facility is a technologically advance drinking water facility that uses microfiltration and nanofiltration membranes to produce exceptionally pure drinking water for the customers of the Yucaipa Valley Water District. The amount of imported water purchased from each State Water Contractor is directly correlated to the amount of drinking water consumed within the service area of each agency. Currently, about 90% of the District's drinking water demand in located in the service area of the San Bernardino Valley Municipal Water District and 10% in the service area of the San Gorgonio Pass Water Agency.

In addition to direct delivery of imported water to the Yucaipa Valley Regional Water Filtration Facility, the Yucaipa Valley Water District also receives imported water from the San Bernardino Valley Municipal Water District for surface water recharge at the Wilson Creek Spreading Basins. Future plans involve the construction of spreading basins in the City of Calimesa. Ultimately, the District plans to replace the use of imported water with highly purified recycled water to implement indirect potable reuse throughout the District's service area.



3.2.3 Revenue Requirements Overview

The revenue requirement analysis compares the forecasted revenues of the District to its forecasted operating and capital costs to determine the adequacy of the existing rates to recover the cost of providing service. Should any deficits be identified, additional funding through rates are reviewed and recommended based on strategic goals and available funding.

To fully analyze the revenue requirements, the District utilized the adopted FY 2020 budget expenses as the base year of operation and maintenance costs. Future expenses were forecasted for a 50 year period. Additional information was evaluated that consisted of a detailed review of costs, operations expenses, capital needs, and reserve requirements. The revenue requirements analysis determines the annual retail revenue necessary to be recovered through water rates and charges in order to meet the expected financial obligations of the Drinking Water Enterprise.

Two tests are utilized to determine whether the annual revenues are sufficient: cash flow test and debt coverage test. Should both tests "fail," the test with the larger deficiency is determined to be the primary driver. Based on the results of the baseline revenue requirement analysis, the main driver in the first few years is the debt coverage requirement, and in later years cash flow drives the need for additional revenue.

3.2.3.1 Cash Flow Test

The cash flow sufficiency test evaluates whether revenues exceed expenses for a net positive cash flow at the end of each fiscal year. When they do not, this test is not passed, and additional rate revenue is recommended. The cash flow test identifies the amount of annual revenues that must be generated in order to meet annual expenditure obligations. These obligations include O&M expenses, debt service payments, policy-driven minimum reserves, and rate-funded capital expenses. These expenses, less offsetting revenues from other sources, are compared to total annual projected retail rate revenues. Deficits are then used to estimate the need for rate revenue increases. The analysis also considers existing reserves and financial policies to help mitigate or smooth the need for rate adjustments in the short-term.

Excess reserve amounts will be considered for contingencies and rate stabilization. As such, the District has the ability to use unrestricted reserves, if available, to satisfy the annual cash flow test in order to minimize rate spikes.

3.2.3.2 Debt Coverage Test

The debt service coverage test measures the ability to meet both legal and policy-driven revenue obligations. The Yucaipa Valley Water District uses bond indebtedness to fairly share the cost of certain capital improvements with future customers.

Debt service coverage is dictated by specific bond covenants and establishes an amount that a borrower must raise in revenue in excess of operations and debt-related expenses.

The Rate Covenant for the Water System Refunding Revenue Bonds - Series 2015A requires the Net Water System Revenues to equal 110% of the Debt Service payable in each Fiscal Year and does not include any amount transferred from the Rate Stabilization Fund to the Water System Revenue Fund in excess of 10% of Debt Service. This Rate Covenant provides that the District may make adjustments from time to time of the rates, fees, and charges as deemed necessary, but shall not reduce the rates in effect unless the District reasonably expects the Net Water System Revenues for the reduced rates to be sufficient to meet the foregoing requirements.

Coverage requirements to ensure payment and security of the bond issuance requires annual revenues to meet a minimum of 1.10x (times) the annual debt service.

$$Debt\ Coverage\ Test = \frac{(Annual\ Revenues - Operating\ Expenses)}{Annual\ Debt\ Service}$$

3.2.3.3 Bond Coverage Guidelines

To ensure that the Yucaipa Valley Water District retains financial flexibility for contingencies, the Board of Directors has adopted and implemented Bond Coverage Guidelines that target higher metrics than the minimum debt service coverage requirements.

On February 18, 2015, the Board of Directors of the Yucaipa Valley Water District approved a policy related to debt management for the Drinking Water Enterprise. The Board of Directors set the following financial benchmark goals:

A. Debt Ratio: The Debt Ratio is a financial ratio that indicates the percentage of the District's capital assets that are provided via debt financing. It is the District's goal to maintain a Debt Ratio between 30 to 40 percent.

B. Credit Rating: The District's credit rating has a direct impact on the access to financial markets and the cost of incurring debt. It is the District's goal to obtain and maintain the following credit ratings: AA (Standard & Poors), Aa1 (Moody's) and/or AA (Fitch).

C. Number of Day's Cash: The District's liquidity position has a large impact on the District's credit rating. It is the District's goal to maintain a level of Days Cash between 300 and 400 days.

D. Debt Service Coverage: The District is required to maintain a minimum debt service coverage ratio as set forth in the outstanding bond documents. It is the District's goal to exceed the minimum coverage ratio with a goal of 1.6 times the annual debt service payments excluding development facility capacity charges and 2.0 times the annual debt service payments for gross revenues and unappropriated fund balance to cover all operations and maintenance including debt service.

This rate study provides for the implementation of the Board approved bond coverage guidelines.

3.2.4 Existing Water Rate Structure and Assumptions

The current water rates, adopted as Resolution No. 18-2011 includes the following components: monthly water service charges by meter size and drinking water commodity charges. These rates were adopted on August 17, 2011 and reflect the current water service and commodity drinking water charges.

3.2.4.1 Drinking Water Service Charge

The monthly drinking water service charge is applied to the greater of (1) meter size or (2) number of Equivalent Dwelling Units / Water Service Units receiving service from the water meter. This charge shall be applicable to drinking water and recycled water users.

Meter Size	Current Water Service Charge
Service Charge per EDU	$14.00
Water Meter Based Charge:	
¾" Water Meter - 1.00 EDU	$14.00
1" Water Meter - 1.67 EDU	$23.38
1½" Water Meter - 3.33 EDU	$46.62
2" Water Meter - 5.33 EDU	$74.62
3" Water Meter - 10.00 EDU	$140.00
4" Water Meter - 16.67 EDU	$233.38
6" Water Meter - 33.33 EDU	$466.62
8" Water Meter - 53.33 EDU	$746.62

Multiple Residential Dwellings of more than 30 dwelling units on the same parcel constructed prior to May 1, 2005 shall be calculated based on the methodology provided above multiplied by the Multiple Residential Water Service Charge Factor of 0.80 to calculate the Multiple Residential Water Service Charge.

3.2.4.2 Drinking Water Commodity Charge

The water commodity charge rate is the charge per one thousand gallons (kgal) for all water registered by the customer's water meter in a monthly billing cycle and is herein established as follows:

Potable Water Consumption (kgal)	Commodity Rate ($/kgal)
1 – 15 Billing Units	$1.429
16 – 60 Billing Units	$1.919
61 – 100 Billing Units	$2.099
101 and greater Billing Units	$2.429

Multiple Residential Dwellings of more than 30 dwelling units on the same parcel constructed prior to May 1, 2005 shall be calculated based on the methodology provided above, but the Commodity Charge is multiplied by the Multiple Residential Water Commodity Charge Factor of 0.80 to calculate the Multiple Residential Water Commodity Charge.

3.2.4.3 Imported Water Commodity Charge

The imported water commodity charge is be applied to all Yucaipa Valley Water District drinking water consumption recorded at each individual water meters including, but not limited to, all residential, commercial, industrial, institutional, and construction users. Since imported water rates are set at the sole discretion of the San Bernardino Valley Municipal Water District and the San Gorgonio Pass Water Agency, it will be necessary for the Imported Water Commodity Charge to be adjusted automatically following any change by either of those two Agencies.

The following calculation is used to adjust the Imported Water Commodity Charge when imported water rates are changed by either the San Bernardino Valley Municipal Water District or the San Gorgonio Pass Water Agency.

$$Imported\ Water\ Commodity\ Charge = (0.7)x\left(\frac{Imported}{Water\ Rate}\right)x(0.00307)$$

Definitions:

- *Imported Water Commodity Charge* (expressed in units of $/kgal) represents the calculated charge implemented by the Yucaipa Valley Water District and applied to customer utility bills within the respective service area of the San Bernardino Valley Municipal Water District and the San Gorgonio Pass Water Agency.

- *Imported Water Rate* (expressed in units of $/acre-foot) represents the rate charged by the San Bernardino Valley Municipal Water District and the San Gorgonio Pass Water Agency for water delivered to the Yucaipa Valley Regional Water Filtration Facility.

3.2.4.4 Capital Improvement Program – Drinking Water

A Capital Improvement Program (CIP) was prepared as part of the Fiscal Year 2020 Budget adopted on June 18, 2019. Some Projects associated with the Capital Improvement Program are constructed with Facility Capacity Charges paid by new development while other projects are paid by existing customers as part of the rate structure.

A copy of the current Capital Improvement Program for the Drinking Water Enterprise is included as Appendix D.

3.2.4.5 Drinking Water Enterprise Revenue Assumptions

The total drinking water revenue generated each year from the customer rates should be approximately equal to the total water operation expenditures planned for that year. The revenue requirements include long-term financial objectives such as capital improvement and refurbishment/replacement projects in addition to regular operations and maintenance. With these basic principles, the required revenue can be projected and then rates can be designed to meet the revenues needed.

Based on prior year information, the following forecast factors were used to develop the Drinking Water Enterprise Revenue Forecast through 2070.

Drinking Water Enterprise Revenue Forecast		Forecast Factor
02-40010	Sales - Drinking Water	See Below
	Sales - Excess Consumption	See Below
02-40011	Sales - Construction Water	Static
02-40012/13	Sales - Supplemental Water	3.0%
02-40014	Sales - Discount (Multi Unit) Variable	0.0%
02-40015	Sales - Wholesale Water	3.0%
02-40016	Sales - Establish Service Fee	2.0%

Drinking Water Enterprise Revenue Forecast		Forecast Factor
02-41000	Sales - Service Demand Charges	See Below
02-41001	Sales - Fire Service Standby Fees	2.0%
02-41003	Sales - Construction Demand Charge	2.0%
02-41005	Sales - Discount (Multi Units) Fixed	(5.0%)
02-41010	Unauthorized Use of Water Charge	Static
02-41110	Meter/Lateral Installation	Static
02-41112	Fire Flow Test Fees	Static
02-41113	Disconnect & Reconnect Fees	3.0%
02-41121	Delinquent Payment Charges	3.0%
02-41124	Bad Debt Write-Off & Recovery	2.0%
02-42122	Revenue - Other Operating	2.0%
02-42123	Administration and Management	2.0%
02-43010	Interest Earned	2.0%
02-431xx	Property Taxes	See Below
02-43140	Taxes - Other	3.0%
02-49110	Rental Income	2.0%
02-49150	Miscellaneous Non-Operating	2.0%

Based on prior year information, the following forecast factors were used to develop the Drinking Water Enterprise Expense Forecast through 2070.

Drinking Water Enterprise Expense Forecast		Forecast Factor
	Water Production Department	
02-5-01-50010	Labor - Water Resources	3.0%
02-5-01-50013	Benefits-FICA	*7.7%*
02-5-01-50014	Benefits-Life Insurance	*$480 + 1%*
02-5-01-50016	Benefits-Health & Dental	*$19,692 + 2%*
02-5-01-50017	Benefits-Disability Insurance	*0.9%*
02-5-01-50019	Benefits-Workers Compensation	*2.7%*
02-5-01-50022	Benefits-PERS Employer	*15.0%*
02-5-01-50023	Benefits-Uniforms	*$500 + 1%*
02-5-01-50024	Benefits-Vacation & Sick Pay	*0.35%*
02-5-01-50025	Benefits-Boots & Incentives	*$650 + 0.5%*
02-5-01-51003	R&M - Structures	2.0%
02-5-01-51011	R&M - Valves	2.0%
02-5-01-51115	Laboratory Supplies	2.0%
02-5-01-51140	General Supplies & Expenses	2.0%
02-5-01-51210	Utilities - Power Purchases	4.0%
02-5-01-51211	Utilities - Electricity	2.0%
02-5-01-51316	Supplemental Source of Supply	1.0%
02-5-01-54019	Licenses & Permits	2.0%
02-5-01-54110	Laboratory Services	2.0%
02-5-01-57040	YVRWFF-Crystal Creek Exp	2.0%

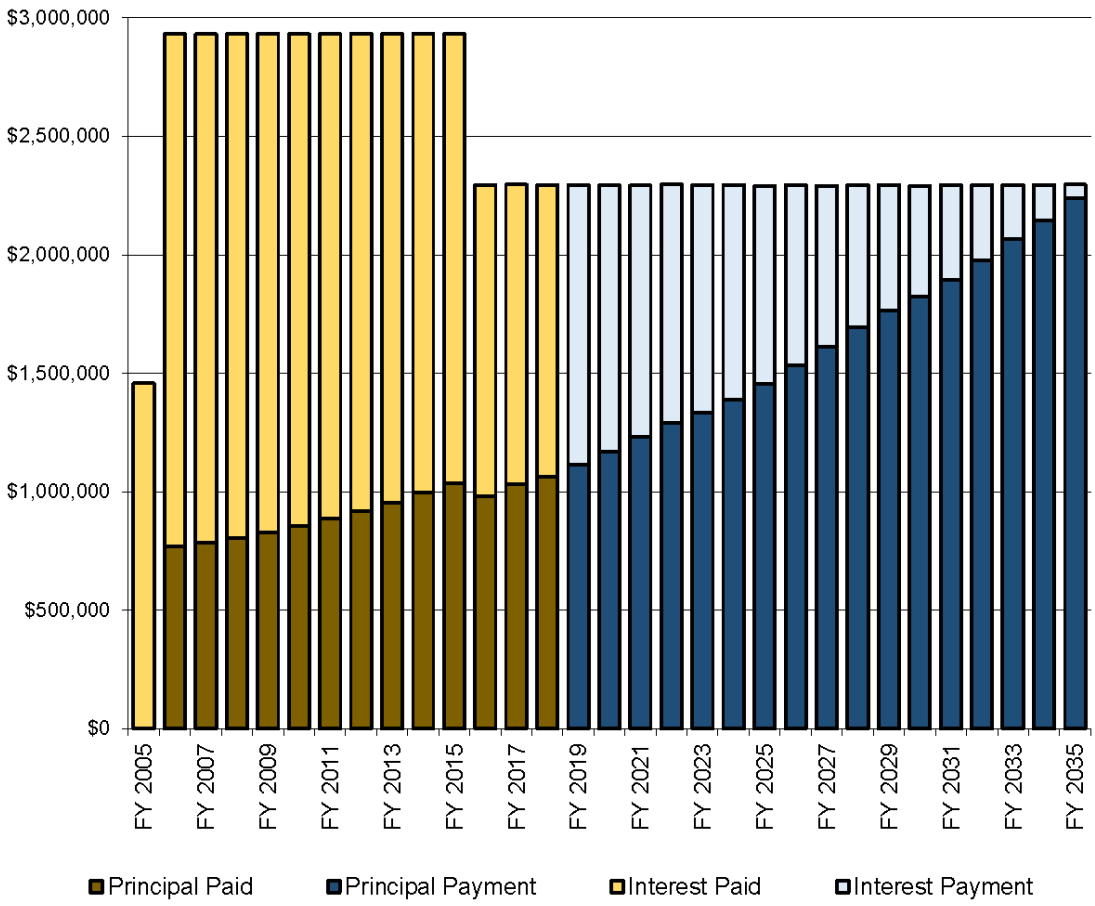
Drinking Water Enterprise Expense Forecast		Forecast Factor
Public Works Department		
02-5-03-50010	Labor - Public Works	3.0%
02-5-03-50013	Benefits-FICA	*7.7%*
02-5-03-50014	Benefits-Life Insurance	*$480 + 1%*
02-5-03-50016	Benefits-Health & Dental	*$19,692 + 2%*
02-5-03-50017	Benefits-Disability Insurance	*0.9%*
02-5-03-50019	Benefits-Workers Compensation	*2.7%*
02-5-03-50022	Benefits-PERS Employer	*15.0%*
02-5-03-50023	Benefits-Uniforms	*$500 + 1%*
02-5-03-50024	Benefits-Vacation & Sick Pay	*0.35%*
02-5-03-50025	Benefits-Boots & Incentives	*$650 + 0.5%*
02-5-03-51001	R&M - Vehicles & Equipment	2.0%
02-5-03-51011	R&M - Valves	2.0%
02-5-03-51020	R&M - Pipelines	2.0%
02-5-03-51021	R&M - Service Lines	2.0%
02-5-03-51022	R&M - Fire Hydrants	2.0%
02-5-03-51029	R&M - Backflow	2.0%
02-5-03-51030	R&M - Meters	2.0%
02-5-03-51031	Fire Flow Testing	2.0%
02-5-03-51140	General Supplies & Expenses	2.0%
Administration Department		
02-5-06-50010	Labor	3.0%
02-5-06-50012	Director Fees	5.0%
02-5-06-50013	Benefits-FICA	*7.7%*
02-5-06-50014	Benefits-Life Insurance	*$480 + 1%*
02-5-06-50016	Benefits-Health & Def Comp	*$19,692 + 2%*
02-5-06-50017	Benefits-Disability Insurance	*0.9%*
02-5-06-50019	Benefits-Workers Compensation	*2.7%*
02-5-06-50022	Benefits-PERS Employer	*15.0%*
02-5-06-50023	Benefits-Uniforms	*$500 + 1%*
02-5-06-50024	Benefits-Vacation & Sick Pay	*0.35%*
02-5-06-50025	Benefits-Boots	*$650 + 0.5%*
02-5-06-51003	R&M - Structures	2.0%
02-5-06-51120	Safety Equipment & Supplies	2.0%
02-5-06-51125	Petroleum Products	2.0%
02-5-06-51130	Office Supplies & Expenses	2.0%
02-5-06-51140	General Supplies & Expenses	2.0%
02-5-06-51211	Utilities - Electricity	2.0%
02-5-06-51213	Utilities - Natural Gas	2.0%
02-5-06-54002	Dues & Subscriptions	2.0%
02-5-06-54005	Computer Expenses	2.0%

Drinking Water Enterprise Expense Forecast		Forecast Factor
02-5-06-54010	Postage	2.0%
02-5-06-54011	Printing & Publications	2.0%
02-5-06-54012	Education & Training	2.0%
02-5-06-54013	Utility Billing Expenses	2.0%
02-5-06-54014	Public Relations	2.0%
02-5-06-54016	Travel Related Expenses	2.0%
02-5-06-54017	Certifications & Renewals	2.0%
02-5-06-54020	Meeting Related Expenses	2.0%
02-5-06-54022	Utilities - YVWD Services	2.0%
02-5-06-54024	Waste Disposal	2.0%
02-5-06-54025	Telephone & Internet	2.0%
02-5-06-54099	Conservation & Rebates	2.0%
02-5-06-54104	Contractual Services	2.0%
02-5-06-54107	Legal	2.0%
02-5-06-54108	Audit & Accounting	2.0%
02-5-06-54109	Professional Fees	2.0%
02-5-06-55500	Depreciation - use budget-prior years	2.0%
fund transfer	*Infrastructure replacement fund*	2.0%
02-5-06-56001	Insurance	2.0%
02-5-06-57030	Regulatory Compliance	2.0%
02-5-06-57090	Election Related Expenses	2.0%
02-506-57095	Yucaipa SGMA	2.0%
02-5-06-57096	Beaumont Basin Watermaster	2.0%
02-5-06-57097	San Timoteo SGMA	2.0%
02-5-06-57098	Bunker Hill GSC	2.0%
	Long-Term Debt	
02-5-40-57201	Series 2004A Principal	
02-5-40-57402	Interest - Bond Repayment	

3.2.4.6 Long-Term Debt – Drinking Water Enterprise

The Yucaipa Valley Water District Financing Corporation was established on May, 24, 2004 as a nonprofit public benefit corporation organized for the sole purpose of acquiring, constructing, rehabilitating, financing and refinancing of, or providing for the sale or leasing of, facilities, land and equipment for the use, benefit and enjoyment of the public served by public agencies in the State of California and any other purpose incidental thereto. In June 2004, the Yucaipa Valley Water District Financing Corporation issued $45,730,000 in revenue bonds for the construction of water related facilities related to the Yucaipa Valley Regional Water Filtration Facility. In early 2015, the outstanding debt was refinanced, resulting in lower principal and interest payment for the remaining term of the financing.

The following schedule provides the principal and interest payments through the full term of the financing.



3.2.5 Drinking Water Rate Design

The Yucaipa Valley Water District has developed drinking water rates that are sound and adhere to the industry best practices. In addition to achieving cost recovery, the rate analysis has been developed to continue to promote the efficient use of water resources.

In California, water rates must adhere to the cost of service requirements imposed by Proposition 218 of the State Constitution. Proposition 218 requires that property-related fees and charges, including water rates, do not exceed the proportional cost of providing the service.

Rate Structure Objectives
Provide revenue stability
Meet debt service obligations
Comply with legal and regulatory requirements
Be concise and understandable
Encourage the efficient use of resources
Maintain affordability
Follow cost of service principles

In determining the appropriate rate level and structure, the District analyzed various rate design alternatives and reviewed the corresponding implications. There is no single structure that meets

all objectives equally, nor are all objectives valued the same by the District or its customers. The objectives were discussed, evaluated, and adjusted at throughout the rate study process.

It is recommended that the current rate structure be adopted to conform to the latest guidelines and court interpretations on Proposition 218 and its implementation, as well as, the water conservation goals set forth by Senate Bill No. 606 (Hertzberg) and Assembly Bill No. 1668 (Friedman) and signed by Governor Brown on May 31, 2018. It is therefore recommended that changes to the rate structure occur based on the following rationale:

- **Increase the monthly fixed rate service charge to provide greater revenue stability during droughts**. It is estimated that only 18 percent (18%) of the water division expenses are variable. Variable costs include utilities, water purchases, and chemicals. Costs that are mostly independent of water usage include personnel cost, general and administrative cost, meter reading and billing, renewal and replacement cost, laboratory costs. In order to maintain an incentive for water conservation, there should be a reasonable balance between cost recovered under the monthly service charge and commodity charges and therefore not all fixed costs will be recovered in the service charge.

- **Make the monthly fixed rate service charge proportional to meter size and flow capability.** The amount of the fixed rate will be based on meter size and application of standard AWWA equivalent meter factors based on the flow that can be delivered through a standard ¾-inch residential meter. For example, a 2-inch meter can deliver 5.33 times as much water as a standard ¾-inch meter. Therefore, a customer with a 2- inch meter will be charged a monthly service charge that is 5.33 times that of the base charge for a ¾-inch meter. Additionally, residential customers are now required to install a 1-inch water meter to support fire sprinklers inside the homes. These larger meters have the ability to deliver more water and they are more expensive to repair/replace when compared to a ¾-inch water meter.

- **Establish an excess drinking water commodity charge for water usage that exceeds the amount of capacity purchased for the property.** Each parcel that receives drinking water service first secures capacity in the drinking water filtration facility, storage reservoirs, conveyance pipelines, booster facilities, and groundwater wells. This system is used to provide reliable and high-quality service to customers. When the amount of drinking water used in a month exceeds the quantity of purchased capacity in the system, there is an inequity that arises for the lack of funding for the variable cost of operation, repair cost, replacement cost, capacity cost, and other related charges. This inequity is resolved with the creation of the Excess Drinking Water Commodity Charge.

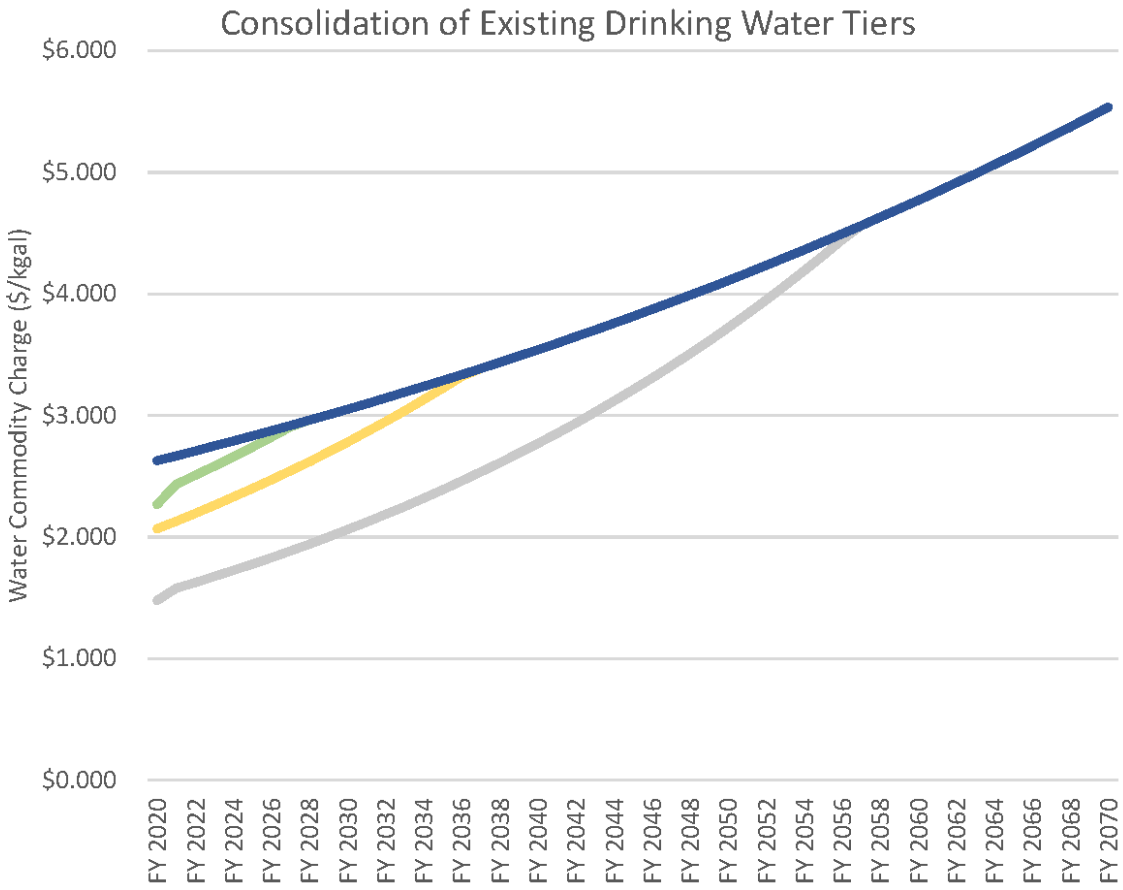
- **Residential, commercial, industrial, and institutional customer will pay the same service charge and commodity rates.**

- **Develop a rate structure that incorporates the California Statutes Making Conservation a California Way of Life.** Assembly Bill No. 1668 and Senate Bill No. 606 build on ongoing efforts to make water conservation a way of life in California and create a new foundation for long-term improvements in water conservation and drought planning. These Statutes establish guidelines for efficient water use and a framework for the implementation and oversight of the new standards, which must be in place by 2022. The legislation contains provisions that include:
  - Establishing water use objectives and long-term standards for efficient water use that apply to urban retail water suppliers; comprised of indoor residential water use, outdoor residential water use, commercial, industrial, and institutional (CII) irrigation with dedicated meters, water loss, and other unique local uses.
  - Providing incentives for water suppliers to recycle water.
  - Requiring urban water suppliers to set annual water budgets and prepare for future droughts.

Compliance and Enforcement Actions		
Description	Deadline	California Water Code Section
Provide progressive enforcement: May issue informational orders	On or after November 1, 2023	10609.26(a)(1) SB
Provide progressive enforcement: May issue written notices	On or after November 1, 2024	10609.26(b) SB
Provide progressive enforcement: May issue conservation orders	On or after November 1, 2025	10609.26(c)(1) SB
Provide progressive enforcement: May impose civil liability (fine) for a violation of regulation	After November 1, 2027	1846.5(b)(2) AB

AB = Assembly Bill 1668; **CWC** = California Water Code; **DWR** = California Department of Water Resources Water Code; **State Water Board** = State Water Resources Control Board; **SB** = Senate Bill 606.

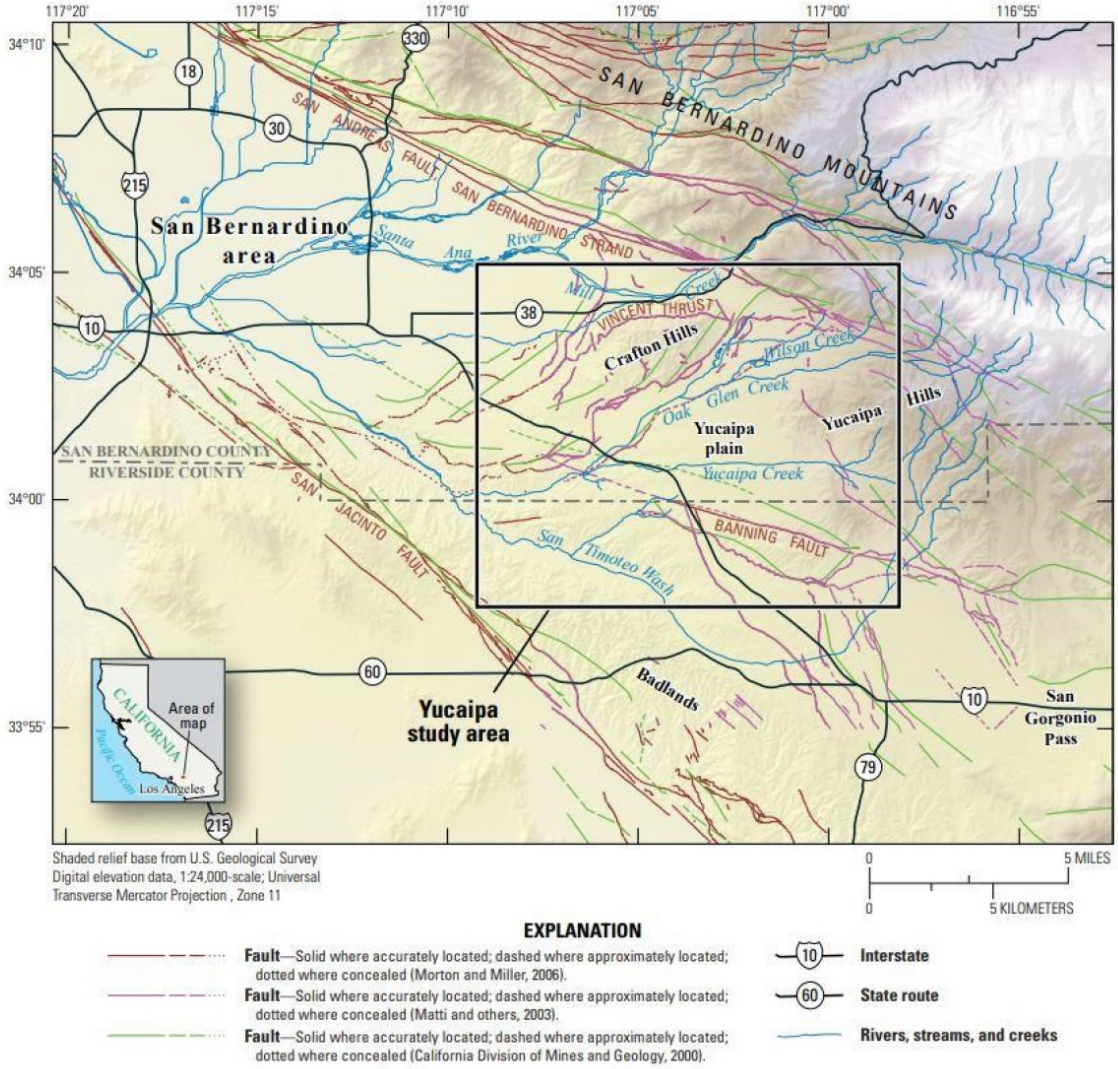
- **Consolidate the existing four-tier water commodity rate structure into a single tier rate structure.** The Yucaipa Valley Water District baseloads supplemental water at the Yucaipa Valley Regional Water Filtration Facility to facilitate in-lieu groundwater recharge to protect the community from outages of the State Water Project. Since all customers proportionally rely upon the same drinking water supply sources, the use of tiers does not equitably represent the melded incremental costs of service. Therefore the existing four-tier system will be consolidated over time to a single tier.



- **Increase reserve funding for debt service coverage and infrastructure replacement.** The Yucaipa Valley Water District relies on a drinking water system that consists of eighteen water pressure zones that are interconnected and receive water from groundwater, imported water, and surface water. As this system continues to age, significant outages are likely to occur unless the District proactively establishes a funding program to replace pipelines, boosters, wells, and storage reservoirs. The funding for infrastructure replacement will be used to accomplish three goals: (1) provide sufficient revenues for debt service coverage; (2) improve the daily cash available for emergencies; and (3) fund a pay-go system for future drinking water system infrastructure replacement. This funding will maintain a stable and sustainable method to make sure each customer equitably contributes to the use of the drinking water system.

- The Yucaipa Valley Water District's asset management program provides the foundation for this use of this funding. The District's asset management program has been designed to:
  - Improve the efficiency and effectiveness of the District;
  - Justify infrastructure needs and decisions;
  - Meet service expectations and regulatory requirements;
  - Improve emergency response;
  - Plan and pay for future repairs and replacements;
  - Make informed decisions for the maintenance, repair, rehabilitation, and replacement of assets;

- Make the best use of limited resources;
- Prolong asset life;
- Plan for capital improvement projects; and
- Reduce vulnerability to hazards and become more resilient.



Source: https://www.usgs.gov/media/images/yucaipa-area-california

Additionally, the Yucaipa Valley Water District has received Federal funding for infrastructure in the Recycled Water and Sewer Enterprises and is planning to pursue funding for the Drinking Water Enterprise for potential groundwater remediation projects. Pursuant to the Federal Water Pollution Control Act, section 603(d)(1)(E) requires a recipient of a loan for a project that involves the repair, replacement, or expansion of a publicly owned treatment works to develop and implement a fiscal sustainability plan or certify that it has developed and implemented such a plan. The Financial Sustainability Plan is intended to be treated as "living documents" that are regularly reviewed, revised, expanded, and implemented as an integral part of the operation and management of the system. This provision in the Comprehensive Rate Study forms an integral part of the Yucaipa Valley Water District Financial Sustainability Plan.

3.2.6 Drinking Water Rate Model Results

The proposed drinking water rates have been developed and tested using a financial model based on estimated expense and revenues developed form a proposed rate schedule that uses the premises outlined above. The objective of the financial model is to test rates to determine if they will provide sufficient revenue to meet all expenses and provide an adequate reserve for unforeseen conditions. The financial model considers reduced water use pursuant to Senate Bill 6060 and Assembly Bill 1668 which direct water agencies to limit customers' indoor water use to an average of 55 gallons per person each day. The goal is reduced to 52.5 gallons by 2025 and 50 gallons by 2030. Outdoor water-use goals will also be established by the State of California and imposed as additional requirements on water agencies.

The proposed drinking water rates begin on January 1, 2020. The Board of Directors will have the option of skipping a year's rate increase or adjusting the rates to any level at or below the recommended rate. The future year's rate will be based on the financial performance of the drinking water system enterprise.

3.2.6.1 Drinking Water Service Charge

The Drinking Water Service Charge represents the fixed charges associated with the Drinking Water Enterprise and is associated with the number of Water Service Units purchased when a new service is secured from the District.

Proposed Drinking Water Service Charge	
Current Rate	$14.00
Effective 1/1/2020	$15.00
Effective 7/1/2020	$16.00
Effective 7/1/2021	$16.50
Effective 7/1/2022	$17.00
Effective 7/1/2023	$17.50
Effective 7/1/2024	$18.00
Effective 7/1/2025	$18.50

Forecasted Drinking Water Service Charge	
Effective 1/1/2026	$19.00
Effective 7/1/2027	$19.50
Effective 7/1/2028	$20.00
Effective 7/1/2029	$20.50
Effective 7/1/2030	$21.00
Effective 7/1/2031	$21.50
Effective 7/1/2032	$22.00
Effective 7/1/2033	$22.50

The monthly Drinking Water Service Charge is applied to the greater of (1) meter size or (2) number of Water Service Units served. The minimum monthly charge for Water Service Units is 1.00 even if less than 1.00 of Water Service Units are purchased through the Facility Capacity Charges. This charge shall be applicable to drinking water and recycled water users.

Water Service Charge	Current Rate	Effective 1/1/2020	Effective 7/1/2020	Effective 7/1/2021	Effective 7/1/2022
Service Charge per EDU	$14.00	$15.00	$16.00	$16.50	$17.00
Water Meter Based Charge:					
¾" Water Meter - 1.00 EDU	$14.00	$15.00	$16.00	$16.50	$17.00
1" Water Meter - 1.67 EDU	$23.38	$25.05	$26.72	$27.56	$28.39
1½" Water Meter - 3.33 EDU	$46.62	$49.95	$53.28	$54.95	$56.61
2" Water Meter - 5.33 EDU	$74.62	$79.95	$85.28	$87.95	$90.61
3" Water Meter - 10.00 EDU	$140.00	$150.00	$160.00	$165.00	$170.00

Water Service Charge	Current Rate	Effective 1/1/2020	Effective 7/1/2020	Effective 7/1/2021	Effective 7/1/2022
4" Water Meter - 16.67 EDU	$233.38	$250.05	$266.72	$275.06	$283.39
6" Water Meter - 33.33 EDU	$466.62	$499.95	$533.28	$549.95	$566.61
8" Water Meter - 53.33 EDU	$746.62	$799.95	$853.28	$879.95	$906.61

As discussed above, this comprehensive rate study includes a 50-year projection that forecasts the water revenues and expenses to fiscal year 2070. Based on these projections, the District is able to forecast the revenue needs for future years as provided below. The charges identified as "projected" will be reviewed and adopted in a future rate resolution.

Water Service Charge	Effective 7/1/2023	Effective 7/1/2024	Effective 7/1/2025	Projected 7/1/2026	Projected 7/1/2027
Service Charge per EDU	$17.50	$18.00	$18.50	$19.00	$19.50
Water Meter Based Charge:					
¾" Water Meter - 1.00 EDU	$17.50	$18.00	$18.50	$19.00	$19.50
1" Water Meter - 1.67 EDU	$29.23	$30.06	$30.90	$31.73	$32.57
1½" Water Meter - 3.33 EDU	$58.28	$59.94	$61.61	$63.27	$64.94
2" Water Meter - 5.33 EDU	$93.28	$95.94	$98.61	$101.27	$103.94
3" Water Meter - 10.00 EDU	$175.00	$180.00	$185.00	$190.00	$195.00
4" Water Meter - 16.67 EDU	$291.73	$300.06	$308.40	$316.73	$325.07
6" Water Meter - 33.33 EDU	$583.28	$599.94	$616.61	$633.27	$649.94
8" Water Meter - 53.33 EDU	$933.28	$959.94	$986.61	$1,013.27	$1,039.94

Water Service Charge	Projected 7/1/2028	Projected 7/1/2029	Projected 7/1/2030	Projected 7/1/2031	Projected 7/1/2032
Service Charge per EDU	$20.00	$20.50	$21.00	$21.50	$22.00
Water Meter Based Charge:					
¾" Water Meter - 1.00 EDU	$20.00	$20.50	$21.00	$21.50	$22.00
1" Water Meter - 1.67 EDU	$33.40	$34.24	$35.07	$35.91	$36.74
1½" Water Meter - 3.33 EDU	$66.60	$68.27	$69.93	$71.60	$73.26
2" Water Meter - 5.33 EDU	$106.60	$109.27	$111.93	$114.60	$117.26
3" Water Meter - 10.00 EDU	$200.00	$205.00	$210.00	$215.00	$220.00
4" Water Meter - 16.67 EDU	$333.40	$341.74	$350.07	$358.41	$366.74
6" Water Meter - 33.33 EDU	$666.60	$683.27	$699.93	$716.60	$733.26
8" Water Meter - 53.33 EDU	$1,066.60	$1,093.27	$1,119.93	$1,146.60	$1,173.26

Multiple Residential Dwellings of more than 30 dwelling units on the same parcel constructed prior to May 1, 2005 shall be charged pursuant to the rates above, multiplied by the Multiple Residential Water Service Charge Factor below to determine the Multiple Residential Water Service Charge.

Multiple Residential Water Charge Factor					
Effective 1/1/2020	Effective 1/1/2021	Effective 1/1/2022	Effective 1/1/2023	Effective 1/1/2024	Effective 1/1/2025
0.80	0.81	0.82	0.83	0.84	0.85

Multiple Residential Water Charge Factor					
Effective 1/1/2026	Effective 1/1/2027	Effective 1/1/2028	Effective 1/1/2029	Effective 1/1/2030	Effective 1/1/2031
0.86	0.87	0.88	0.89	0.90	0.91

Multiple Residential Water Charge Factor					
Effective 1/1/2032	Effective 1/1/2033	Effective 1/1/2034	Effective 1/1/2035	Effective 1/1/2036	Effective 7/1/2037
0.92	0.93	0.94	0.95	0.96	0.97

Multiple Residential Water Charge Factor		
Effective 1/1/2038	Effective 1/1/2039	Multiple Residential Water Charge Factor is Eliminated Effective 1/1/2040
0.98	0.99	1.00

3.2.6.2 Drinking Water Commodity Charge

The Drinking Water Commodity Charge represents the variable charges associated with the Drinking Water Enterprise. This commodity cost applies to each billing unit, or fraction thereof.

Drinking Water Commodity Charge (kgal)	Current Rate ($/kgal)	Effective 1/1/2020	Effective 7/1/2020	Effective 7/1/2021	Effective 7/1/2022
1 – 15 Billing Units	$1.429	$1.479	$1.579	$1.626	$1.675
16 – 60 Billing Units	$1.919	$2.069	$2.131	$2.195	$2.261
61 – 100 Billing Units	$2.099	$2.269	$2.435	$2.508	$2.583
101 and greater Billing Units	$2.429	$2.629	$2.668	$2.708	$2.749

Drinking Water Commodity Charge (kgal)	Effective 7/1/2023	Effective 7/1/2024	Effective 7/1/2025	Projected 7/1/2026	Projected 7/1/2027
1 – 15 Billing Units	$1.725	$1.777	$1.830	$1.885	$1.942
16 – 60 Billing Units	$2.329	$2.399	$2.470	$2.545	$2.621
61 – 100 Billing Units	$2.661	$2.741	$2.823	$2.908	$2.962
101 and greater Billing Units	$2.790	$2.832	$2.875	$2.918	$2.962

Drinking Water Commodity Charge (kgal)	Projected 7/1/2028	Projected 7/1/2029	Projected 7/1/2030	Projected 7/1/2031	Projected 7/1/2032
1 – 15 Billing Units	$2.000	$2.060	$2.122	2.186	2.251
16 – 60 Billing Units	$2.700	$2.781	$2.864	2.950	3.038
61 – 100 Billing Units	$3.006	$3.051	$3.097	3.143	3.190
101 and greater Billing Units	$3.006	$3.051	$3.097	3.143	3.190

Multiple Residential Dwellings of more than 30 dwelling units on the same parcel constructed prior to May 1, 2005 shall be charged pursuant to the rates above, multiplied by the Multiple Residential Water Service Charge Factor below to determine the Multiple Residential Water Service Charge.

Multiple Residential Water Charge Factor					
Effective 1/1/2020	Effective 1/1/2021	Effective 1/1/2022	Effective 1/1/2023	Effective 1/1/2024	Effective 1/1/2025
0.80	0.81	0.82	0.83	0.84	0.85

Multiple Residential Water Charge Factor					
Effective 1/1/2026	Effective 1/1/2027	Effective 1/1/2028	Effective 1/1/2029	Effective 1/1/2030	Effective 1/1/2031
0.86	0.87	0.88	0.89	0.90	0.91

Multiple Residential Water Charge Factor					
Effective 1/1/2032	Effective 1/1/2033	Effective 1/1/2034	Effective 1/1/2035	Effective 1/1/2036	Effective 7/1/2037
0.92	0.93	0.94	0.95	0.96	0.97

Multiple Residential Water Charge Factor		
Effective 1/1/2038	Effective 1/1/2039	Multiple Residential Water Charge Factor is Eliminated Effective 1/1/2040
0.98	0.99	1.00

3.2.6.3 Excess Drinking Water Commodity Charge

The number of Water Service Units on a property is directly related to the capacity purchased in the Yucaipa Valley Water District's drinking water system at the time the new service is originally established. Prior to the issuance of a building permit a property owner will secure capacity in the drinking water system through the payment of Facility Capacity Charges. Pursuant to the District design guidelines, one Water Service Unit provides

capacity in the drinking water system for 700 gallons per day, or 21,000 gallons per month (21 kgal). However, with the implementation of dual-plumbed homes, some properties will be able to purchase a fraction of one Water Service Unit for indoor use and a fraction of a Recycled Service Unit for outdoor use. The minimum number of drinking water and recycled water service units will be equal to one.

Monthly drinking water consumption that exceeds the Water Service Units creates additional demand and costs for the operation, repair, maintenance, and replacement of drinking water filtration facilities, pipelines, reservoirs, boosters, and groundwater wells. This Comprehensive Rate Study incorporated the proportional operational, maintenance, and capital costs for the excessive use into the drinking water infrastructure.

The Excess Drinking Water Commodity Charge applies to the next Drinking Water Commodity unit (kgal) beyond the Water Service Unit based on the formula below:

$$If\ Drinking\ Water\ Commodity\ (kgal)\ >\ (Water\ Service\ Unit)\ x\ (0.7\ kgal)\ x\ (30\ days),$$
$$then\ the\ following\ rate\ structure\ applies$$

Therefore, the Excess Drinking Water Commodity Charge would apply to a property with one Water Service Unit (WSU) if more than 21.000 kgal of water is used during a billing period.

The rate schedule for Excess Drinking Water Commodity Charges is provided below and applies to each billing unit, or fraction thereof.

Excess Drinking Water Commodity Charge (kgal)	Effective 1/1/2020	Effective 7/1/2020	Effective 7/1/2021	Effective 7/1/2022	Effective 7/1/2023
Billing Units in Excess of Water Service Unit Allocation	$0.240	$0.242	$0.245	$0.247	$0.250

Excess Drinking Water Commodity Charge (kgal)	Effective 7/1/2024	Effective 7/1/2025	Effective 7/1/2026	Projected 7/1/2027	Projected 7/1/2028
Billing Units in Excess of Water Service Unit Allocation	$0.252	$0.255	$0.257	$0.260	$0.262

Excess Drinking Water Commodity Charge (kgal)	Projected 7/1/2029	Projected 7/1/2030	Projected 7/1/2031	Projected 7/1/2032	Projected 7/1/2033
Billing Units in Excess of Water Service Unit Allocation	$0.265	$0.268	$0.270	$0.273	$0.276

3.2.6.4 Infrastructure Replacement and Debt Service Coverage

In order to fund the replacement of infrastructure that supports the drinking water system, it is critical to manage and plan for the anticipated replacement of assets. As infrastructure continues to age, significant outages are likely to occur. The funding for infrastructure replacement will be used to accomplish four specific goals: (1) provide sufficient revenues for debt service coverage; (2) improve the daily cash available for emergencies and unforeseen events; (3) fund a pay-go system for drinking water system infrastructure replacement; and (4) fund a Financial Sustainability Plan pursuant to the Federal Water Pollution Control Act. This funding will maintain a stable and sustainable method to make sure each customer equitably contributes to the use of the drinking water system.

Additionally, the Yucaipa Valley Water District has received Federal funding for infrastructure in the Recycled Water and Sewer Enterprises and is planning to pursue funding for the Drinking Water Enterprise for potential groundwater remediation projects. Pursuant to the Federal Water Pollution Control Act, section 603(d)(1)(E) requires a recipient of a loan for a project that involves the repair, replacement, or expansion of a publicly owned treatment works to develop and implement a fiscal sustainability plan or certify that it has developed and implemented such a plan. The Financial Sustainability Plan is intended to be treated as "living documents" that are regularly reviewed, revised, expanded, and implemented as an integral part of the operation and management of the system. This provision in the Comprehensive Rate Study forms an integral part of the Yucaipa Valley Water District Financial Sustainability Plan.

The Infrastructure Replacement Commodity Charge applies to each billing unit, or fraction thereof.

Infrastructure Replacement Commodity Charge (kgal)	Effective 1/1/2020	Effective 7/1/2020	Effective 7/1/2021	Effective 7/1/2022	Effective 7/1/2023
Each billing unit (kgal)	$0.151	$0.397	$0.497	$0.621	$0.766

Excess Drinking Water Commodity Charge (kgal)	Effective 7/1/2024	Effective 7/1/2025	Effective 7/1/2026	Projected 7/1/2027	Projected 7/1/2028
Billing Units in Excess of Water Service Unit Allocation	$0.970	$0.980	$0.989	$0.999	$1.009

Excess Drinking Water Commodity Charge (kgal)	Projected 7/1/2029	Projected 7/1/2030	Projected 7/1/2031	Projected 7/1/2032	Projected 7/1/2033
Billing Units in Excess of Water Service Unit Allocation	$1.019	$1.030	$1.040	$1.050	$1.061

3.2.6.5 Supplemental Water Supply Commodity Charge

The Supplemental Water Commodity Charge shall be applied to all Yucaipa Valley Water District drinking water consumption recorded at individual drinking water meters including, but not limited to, residential, multi-family, commercial, industrial, institutional, and construction users. This commodity charge is based on the pass-through cost of imported water rates set at the sole discretion of the San Bernardino Valley Municipal Water District and the San Gorgonio Pass Water Agency. While it is essential for the Supplemental Water Commodity Charge to be adjusted automatically following any change by either State Water Contractor, the Yucaipa Valley Water District may take action to reduce this commodity charge if a less expensive supplemental water source is available, created, or established by the Yucaipa Valley Water District.

The calculation definitions and methodology are applicable to the Imported Water Rates charged by the San Bernardino Valley Municipal Water District and the San Gorgonio Pass Water Agency as follows:

$$Supplemental\ Water\ Supply\ Commodity\ Charge = (0.70)x\left(\begin{matrix}Imported\\Water\ Rate\end{matrix}\right)x(0.00307)$$

Definitions:

- *Supplemental Water Supply Commodity Charge* (expressed in units of $/kgal) represents the calculated charge implemented by the Yucaipa Valley Water District and applied to customer utility bills. The Charge is independently calculated and applied within the respective service area of the San Bernardino Valley Municipal Water District and the San Gorgonio Pass Water Agency.
- *Imported Water Rate* (expressed in units of $/acre-foot) represents the rate charged by the San Bernardino Valley Municipal Water District and the San Gorgonio Pass Water Agency for water delivered to the Yucaipa Valley Regional Water Filtration Facility.
- *Calculation Factor* represents the proportion of water resources that originate from local groundwater and surface water resources as compared to supplemental water sources. A Calculation Factor of 0.70 signifies that 70% of the total drinking water demands will be satisfied with supplemental water resources. As provided in the table below, the Calculation Factor for supplemental water will slowly increase over time to provide funding necessary to secure alternative supplemental water resources.

Supplemental Water Supply Commodity Charge	Current Factor	Effective 1/1/2023	Effective 7/1/2025	Effective 7/1/2027	Effective 7/1/2029
Calculation Factor	0.70	0.73	0.75	0.775	0.80

3.2.6.6 Fire Service Demand Charge

The Fire Service Demand Charge shall be charged to any account that has a direct or indirect water service connection that supports a fire suppression system. The following

Fire Service Demand Charge is based on the diameter inch of the main fire line detector check valve installed to the premises as provided below:

Fire Service Demand Charge	Current Charge	Effective 1/1/2022	Effective 7/1/2024	Effective 7/1/2026	Effective 7/1/2028
Monthly charge per diameter inch of main fire line detector check valve or meter, whichever is larger	$2.555	$2.683	$2.817	$2.958	$3.106

Water usage through the bypass meter is billed at two times the highest drinking water tiered rate.

3.2.7 Recommendations for the Drinking Water Enterprise

It is recommended that the Yucaipa Valley Water District adjust drinking water division rates as provided in this comprehensive rate study. If adopted following Proposition 218 procedures, the total monthly water bill for a typical single family residential using __ kgal with a ¾ inch meter will be $____. The monthly water bill under current rates would be $_____.

It is further recommended that the Board of Directors review the financial performance of the drinking water enterprise fund each year and, at their discretion, adjust rates as needed to meet increased expenses. The rates may not exceed those presented herein for each fiscal year. The Board may recapture rate increases in a subsequent year if the increase was not accounted for in the prior year.

Other miscellaneous drinking water fees, not subject to Proposition 218 majority protest proceedings, should be reviewed and adjusted annually based on a cost of service study.

The proposed rate increase is a property related fee and thus must be implemented in accordance with the requirements of Proposition 218. The general implementation plan is as follows:

- District Board of Directors (and legal counsel) reviews and accepts the report and recommendations.
- The Board sets a date for a public protest hearing not less than 45 days after notices to customers have been mailed.
- Mail customer notices with the proposed rate increase and time and date of the public protest hearing as well as any other required notice information as specified in Government Code Section 53753.
- Hold public majority protest hearing.
- Determine if there is majority protest, and if not, adopt revised rate structure. Rates will go into effect beginning January 2020.
- Review revenue versus expenditures annually to verify assumptions and projections in Comprehensive Rate Study.
- Conduct Comprehensive Water Rate Study update in Fiscal Year 2023-24.

Yucaipa Valley Water District

Workshop Memorandum 19-200

Date: September 10, 2019

From: Kathryn Hallberg, Implementation Manager

Subject: Overview of Claim for Repair Cost Related to Water Line Leak on Third Street

On August 19, 2019, the Yucaipa Valley Water District received a claim from Mr. Alfredo Rodriguez ("Claimant") for repair cost $8,040 due to a water service line break, which the Claimant states caused the curb to crack and sink. District staff called the Claimant on Thursday August 29, 2019 to determine the dates of the leak(s). The Claimant stated that the last three leaks were within the last two years and the most recent was within the last six months. District staff researched the location and the most recent work order for the location was on March 27, 2014.

The Claimant stated due to numerous main line leaks at the front of the property the leaks have damaged the curb and the driveway curb, causing cracking and undermining. The Claimant stated that he observed water pouring from the crack after the last leak, which was within the last six months.

The claim was turned in to the office on August 19, 2019. The Claimant is requesting the curb to be replaced and submitted a quote in the amount of $8,040.

The claim for is attached together with pictures taken of the damaged curb on August 19, 2019, the work order for the work performed on March 27, 2014, and the quote that was obtained by the Claimant for the repairs.

YUCAIPA VALLEY WATER DISTRICT – CLAIM FORM

INSTRUCTIONS

On the reverse side of sheet is a claim form for filing a claim against Yucaipa Valley Water District. The original and one identical copy of this form, together with a copy of all attachments, are to be filed with the Yucaipa Valley Water District. Retain one copy for your records. Please send to this address:

Yucaipa Valley Water District

Attn: Claims Dept.

12770 2nd St

Yucaipa, Ca. 92399

(909) – 797-6381 FAX

RECEIVED
AUG 19 2019
YUCAIPA VALLEY
WATER DISTRICT

Please fill out form completely. Additional sheets may be attached if more space is needed. Missing information may delay the processing of your claim. Please print.

Claims:

Claims for death, injury to person or personal property must be filed not later than six months after the occurrence. (Gov. Code Sec. 911.2)

Claims for damage relating to any other cause of action must be filed not later than 1 year after the occurrence. (Gov. Code Sec. 911.2)

This claim form must be signed and dated.

Who is Responsible for Damages?

No utility is in a position to guarantee 100 percent continuity of water service. However, it is our policy to investigate claims in order to determine if our conduct or inaction was unreasonable under the circumstances, thereby causing injury or damages. YVWD will not be liable for interruption or shortage or insufficiency of supply, or any loss or damage of any kind, if same is caused by inevitable accident, act of God, fire, strikes, riots, war, or any other cause except that arising from its failure to exercise reasonable diligence.

Determination of Responsibility and Payment if YVWD is at fault

YVWD will conduct an investigation based on the information you provide on your claim form and internal YVWD records and interviews with YVWD field personnel. The investigation results will determine weather your claim is accepted or rejected. If your claim is accepted, YVWD's payment with regard to property damage will depend on the extent of damage and value of the property. If the property can be repaired, YVWD will pay the cost of repair. If the property cannot be repaired, YVWD will generally pay reasonable market value for the property at the time it was damaged, or the depreciated cost to replace the property, whichever is less. Payment for bodily injury is determined by several factors including, but not limited to, type and severity of injury, medical bills incurred, loss of wages (if any) and permanent disability sustained (if any).

Mobile (909) 234-0033
Office (909) 790-3303
Fax (909) 797-6381
khallberg@yvwd.us

Yucaipa Valley Water District
Kathryn Hallberg
Implementation Manager

12770 Second St. • P.O. Box 730 • Yucaipa, CA 92399-0730
www.yvwd.us

Claim for Damage

Clerks Date Stamp

Name Alfredo Rodriguez

Address 11828 3rd st Yucaipa Ca 92399

Phone(s)

Business (909) 556-8818 Home (909) 790-0024 Message/Cell 909 556-8818

E-mail: Fredyup@yahoo.com

Address at time of loss/Incident:

Same as above

*This box is for Official Use only!

Description of Details: (Describe how the loss/incident occurred)

Water main leaks in front of property. leak occurred in the street numerous times. water damage to curb & driveway curb. I observed water pouring out of cracks after last leak

(Attach additional pages and supporting documentation as needed)

YVWD's Involvement :(If possible, please identify employee and/or department involved)

Witnesses: (please provide address and phone numbers)

1. Water Company	2.	3.

Property Damage (please describe the value and extent of the damage to your home, automobile or personal property: (Attach estimates, bills, or whatever documentation of damages you have)

Damage to curb infront of driveway entrance

Make:_____ Model:_____ Year:_____ License #_____ Insurance Co._____ Policy #:_____

Where you injured?: No: ☑ Yes: ☐ (If yes please complete the following)

N/A Describe your injury (Identity your doctor(s)/Health care provider(s)

Are you still receiving Medical Treatment? No: ☐ Yes: ☐

Employer: Type of Work:

Wage Loss? No: ☑ Yes: ☐ If Yes, rate of pay:

*"I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct"

8-19-2019 Yucaipa Ca.	Alfredo R.
Date and Place (City and State)	Signature


11836
1182

Yucaipa Valley Water District

Work Order 65-16464
YVWD
Printed 8/20/2019 - 6:22 AM (Duplicate Copy)

Maintenance Details

Requested By: DeSalliers, Joe on 3/25/2014 3:55:00 PM
Taken By: DeSalliers, Joe
Problem: Leak - Service (LEAK-SVC)
Procedure: Water Leak Repair (01)
Last PM: N/A
Target: 4/11/2014 (1) hr
Priority/Type: 2 - Normal / Corrective
Supervisor: Hull, John
Shop: W
Contact: DeSalliers, Joe
Phone: (909) 721-2814

Reason: 01 11833 3rd St / lockwood Dr

☐ Warranty ☐ Shutdown ☐ Lockout ☐ Attach ☐ Charge

Tasks

#	Description	Rating	Meas.	Initials	Failed	N/A	Complete
1	Special Instructions: **Comments: Repair service leak as needed (Job completed on 3-27-14)**				☐	☐	☑
10	USA # **Comments: B40840220**				☐	☐	☑
	Underground Service Alert						
20	Call Date: **Comments: 3/25/14**				☐	☐	☑
30	Call Time: **Comments: 1545**				☐	☐	☑
40	Caller Name: **Comments: Joe D**				☐	☐	☑
50	County:				☐	☐	☐
60	Page/Grid:				☐	☐	☐
70	Type of Work:				☐	☐	☐
80	Descriptive Location:				☐	☐	☐
90	Update On/Before Date: **Comments: 4/22/14**				☐	☐	☑
100	Subsidence: [ ] Water [ ] Sewer AD#_____				☐	☐	☐
110	Water Loss: GPM_____ HR_____ **Comments: 1,500 gallons**				☐	☐	☑
120	Paving: [ ] No [ ] Yes SF_____ **Comments: Yes +/-20sf**				☐	☐	☐
130	Sawcutting: [ ] Yes [ ] No				☐	☐	☐
140	Shut Down (unplanned disruption) - # of customers affected_____				☐	☐	☐
150	PAV **Comments: 20sf**				☐	☐	☑
					☐	☐	☐

Labor

Labor	Account	Assigned	Work Date	Start	End	Reg Hrs	OT Hrs	Other Hrs
DeSalliers, Joe		3/25/2014 / 1						

Parts/Tools

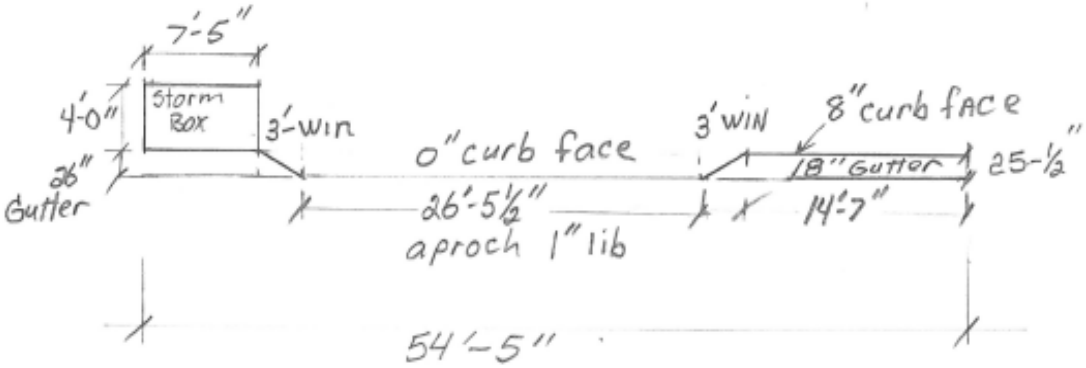
8-28-2019

Alfredo Rodriguez
11828 3rd St
Yucaipa Ca. 92399
Ph#(909) 556-8818

Curb & Gutter

Concrete curb & Gutter Cost: $8,040.00

Labor	$2677. - 3252
Job supplies	$88 - $141. set Forms
Equipment allowance	$86 - 139 per ft.
permit	$ 250.



Director Comments

Yucaipa Valley Water District

Yucaipa Valley Water District

FACTS ABOUT THE YUCAIPA VALLEY WATER DISTRICT

Service Area Size: 40 square miles (sphere of influence is 68 square miles)

Elevation Change: 3,140 foot elevation change (from 2,044 to 5,184 feet)

Number of Employees: 5 elected board members
72 full time employees

FY 2019-20 Operating Budget: Water Division - $14,455,500
Sewer Division - $12,217,712
Recycled Water Division - $1,301,447

Number of Services: 13,794 drinking water connections serving 19,243 units
14,104 sewer connections serving 22,774 units
111 recycled water connections serving 460 units

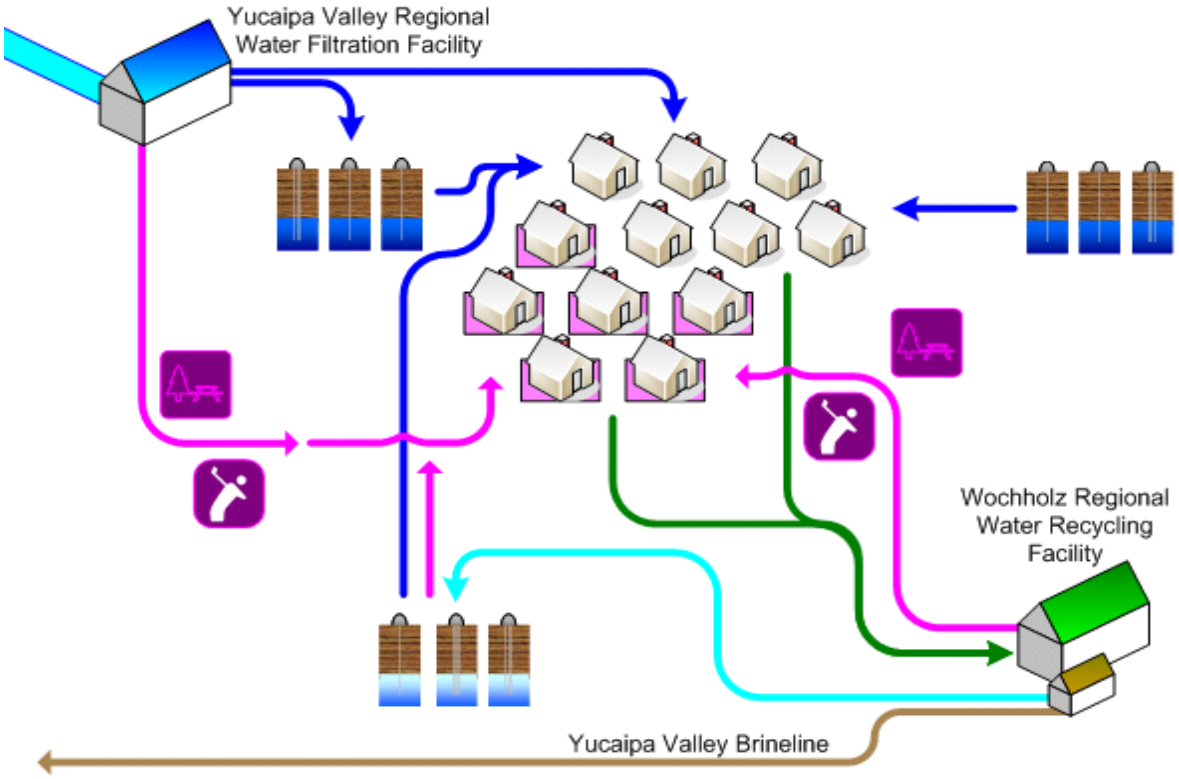
Water System: 223 miles of drinking water pipelines
2,033 fire hydrants
27 reservoirs - 34 million gallons of storage capacity
18 pressure zones
2.958 billion gallon annual drinking water demand
Two water filtration facilities:
- 1 mgd at Oak Glen Surface Water Filtration Facility
- 12 mgd at Yucaipa Valley Regional Water Filtration Facility

Sewer System: 8.0 million gallon treatment capacity - current flow at 4.0 mgd
213 miles of sewer mainlines
4,504 sewer manholes
5 sewer lift stations
1.46 billion gallons of recycled water produced per year

Recycled Water: 22 miles of recycled water pipelines
5 reservoirs - 12 million gallons of storage
0.681 billion gallon annual recycled water demand

Brine Disposal: 2.2 million gallon desalination facility at sewer treatment plant
1.756 million gallons of Inland Empire Brine Line capacity
0.595 million gallons of treatment capacity in Orange County

Sustainability Plan: A Strategic Plan for a Sustainable Future: The Integration and Preservation of Resources, adopted on August 20, 2008.



Typical Rates, Fees and Charges:

- Drinking Water Commodity Charge:

1,000 gallons to 15,000 gallons	$1.429 per each 1,000 gallons
16,000 gallons to 60,000 gallons	$1.919 per each 1,000 gallons
61,000 gallons to 100,000 gallons	$2.099 per each 1,000 gallons
101,000 gallons or more	$2.429 per each 1,000 gallons

- Recycled Water Commodity Charge:

1,000 gallons or more	$1.425 per each 1,000 gallons

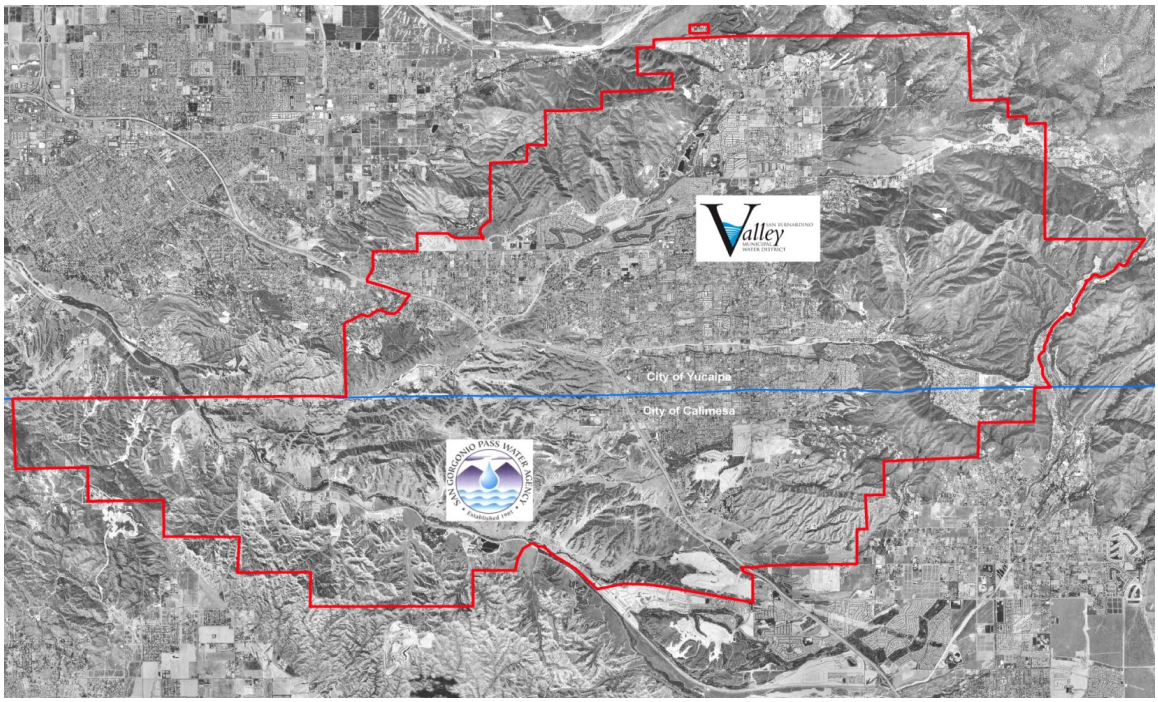
- Water Meter Service Charge (Drinking Water or Recycled Water):

5/8” x 3/4” Water Meter	$14.00 per month
1” Water Meter	$23.38 per month
1-1/2” Water Meter	$46.62 per month

- Sewer Collection and Treatment Charge:

Typical Residential Charge	$42.43 per month

State Water Contractors: San Bernardino Valley Municipal Water District
San Gorgonio Pass Water Agency



	San Bernardino Valley Municipal Water District	San Gorgonio Pass Water Agency
Service Area Size	353 square miles	222 square miles
Table "A" Water Entitlement	102,600 acre feet	17,300 acre feet
Imported Water Rate	$125.80 / acre foot	$399 / acre foot
Tax Rates for FY 2019-20	$0.1425 per $100	$0.1775 per $100
Number of Board Members	Five (5)	Seven (7)
Operating Budget FY 2019-20	$58,372,000	$9,551,000

Imported Water Charges (Pass-through State Water Project Charge)

- San Bernardino Valley Municipal Water District - Customers in San Bernardino County or City of Yucaipa pay a pass-through amount of $0.270 per 1,000 gallons.

- San Gorgonio Pass Water Agency - Customers in Riverside County or City of Calimesa pay a pass-through amount of $0.660 per 1,000 gallons. A proposed rate change to $0.857 per 1,000 gallons is pending future consideration by YVWD.

Yucaipa Valley Water District

GLOSSARY OF COMMONLY USED TERMS

Every profession has specialized terms which generally evolve to facilitate communication between individuals. The routine use of these terms tends to exclude those who are unfamiliar with the particular specialized language of the group. Sometimes jargon can create communication cause difficulties where professionals in related fields use different terms for the same phenomena.

Below are commonly used water terms and abbreviations with commonly used definitions. If there is any discrepancy in definitions, the District's Regulations Governing Water Service is the final and binding definition.

Acre Foot of Water - The volume of water (325,850 gallons, or 43,560 cubic feet) that would cover an area of one acre to a depth of 1 foot.

Activated-Sludge Process - A secondary biological wastewater treatment process where bacteria reproduce at a high rate with the introduction of excess air or oxygen and consume dissolved nutrients in the wastewater.

Annual Water Quality Report - The document is prepared annually and provides information on water quality, constituents in the water, compliance with drinking water standards and educational material on tap water. It is also referred to as a Consumer Confidence Report (CCR).

Aquifer - The natural underground area with layers of porous, water-bearing materials (sand, gravel) capable of yielding a supply of water; see Groundwater basin.

Backflow - The reversal of water's normal direction of flow. When water passes through a water meter into a home or business it should not reverse flow back into the water mainline.

Best Management Practices (BMPs) - Methods or techniques found to be the most effective and practical means in achieving an objective. Often used in the context of water conservation.

Biochemical Oxygen Demand (BOD) - The amount of oxygen used when organic matter undergoes decomposition by microorganisms. Testing for BOD is done to assess the amount of organic matter in water.

Biosolids - Biosolids are nutrient rich organic and highly treated solid materials produced by the wastewater treatment process. This high-quality product can be recycled as a soil amendment on farmland or further processed as an earth-like product for commercial and home gardens to improve and maintain fertile soil and stimulate plant growth.

Capital Improvement Program (CIP) - Projects for repair, rehabilitation, and replacement of assets. Also includes treatment improvements, additional capacity, and projects for the support facilities.

Certificate of Participation (COP) – A type of financing where an investor purchases a share of the lease revenues of a program rather than the bond being secured by those revenues.

Coliform Bacteria - A group of bacteria found in the intestines of humans and other animals, but also occasionally found elsewhere used as indicators of sewage pollution. E. coli are the most common bacteria in wastewater.

Collections System - In wastewater, it is the system of typically underground pipes that receive and convey sanitary wastewater or storm water.

Conjunctive Use - The coordinated management of surface water and groundwater supplies to maximize the yield of the overall water resource. Active conjunctive use uses artificial recharge, where surface water is intentionally percolated or injected into aquifers for later use. Passive conjunctive use is to simply rely on surface water in wet years and use groundwater in dry years.

Consumer Confidence Report (CCR) - see Annual Water Quality Report.

Contaminants of Potential Concern (CPC) - Pharmaceuticals, hormones, and other organic wastewater contaminants.

Cross-Connection - The actual or potential connection between a potable water supply and a non-potable source, where it is possible for a contaminant to enter the drinking water supply.

Disinfection by-Products (DBPs) - The category of compounds formed when disinfectants in water systems react with natural organic matter present in the source water supplies. Different disinfectants produce different types or amounts of disinfection byproducts. Disinfection byproducts for which regulations have been established have been identified in drinking water, including trihalomethanes, haloacetic acids, bromate, and chlorite

Drought - a period of below average rainfall causing water supply shortages.

Fire Flow - The ability to have a sufficient quantity of water available to the distribution system to be delivered through fire hydrants or private fire sprinkler systems.

Gallons per Capita per Day (GPCD) - A measurement of the average number of gallons of water use by the number of people served each day in a water system. The calculation is made by dividing the total gallons of water used each day by the total number of people using the water system.

Groundwater Basin - An underground body of water or aquifer defined by physical boundaries.

Groundwater Recharge - The process of placing water in an aquifer. Can be a naturally occurring process or artificially enhanced.

Hard Water - Water having a high concentration of minerals, typically calcium and magnesium ions.

Hydrologic Cycle - The process of evaporation of water into the air and its return to earth in the form of precipitation (rain or snow). This process also includes transpiration from plants, percolation into the ground, groundwater movement, and runoff into rivers, streams, and the ocean; see Water cycle.

Levels of Service (LOS) - Goals to support environmental and public expectations for performance.

Mains, Distribution - A network of pipelines that delivers water (drinking water or recycled water) from transmission mains to residential and commercial properties, usually pipe diameters of 4" to 16".

Mains, Transmission - A system of pipelines that deliver water (drinking water or recycled water) from a source of supply the distribution mains, usually pipe diameters of greater than 16".

Meter - A device capable of measuring, in either gallons or cubic feet, a quantity of water delivered by the District to a service connection.

Overdraft - The pumping of water from a groundwater basin or aquifer in excess of the supply flowing into the basin. This pumping results in a depletion of the groundwater in the basin which has a net effect of lowering the levels of water in the aquifer.

Pipeline - Connected piping that carries water, oil, or other liquids. See Mains, Distribution and Mains, Transmission.

Point of Responsibility, Metered Service - The connection point at the outlet side of a water meter where a landowner's responsibility for all conditions, maintenance, repairs, use and replacement of water service facilities begins, and the District's responsibility ends.

Potable Water - Water that is used for human consumption and regulated by the California Department of Public Health.

Pressure Reducing Valve - A device used to reduce the pressure in a domestic water system when the water pressure exceeds desirable levels.

Pump Station - A drinking water or recycled water facility where pumps are used to push water up to a higher elevation or different location.

Reservoir - A water storage facility where water is stored to be used at a later time for peak demands or emergencies such as fire suppression. Drinking water and recycled water systems will typically use concrete or

steel reservoirs. The State Water Project system considers lakes, such as Shasta Lake and Folsom Lake to be water storage reservoirs.

Runoff - Water that travels downward over the earth's surface due to the force of gravity. It includes water running in streams as well as over land.

Santa Ana River Interceptor (SARI) Line - A regional brine line designed to convey 30 million gallons per day (MGD) of non-reclaimable wastewater from the upper Santa Ana River basin to Orange County Sanitation District for treatment, use and/or disposal.

Secondary treatment - Biological wastewater treatment, particularly the activated-sludge process, where bacteria and other microorganisms consume dissolved nutrients in wastewater.

Service Connection - The water piping system connecting a customer's system with a District water main beginning at the outlet side of the point of responsibility, including all plumbing and equipment located on a parcel required for the District's provision of water service to that parcel.

Sludge - Untreated solid material created by the treatment of wastewater.

Smart Irrigation Controller - A device that automatically adjusts the time and frequency which water is applied to landscaping based on real-time weather such as rainfall, wind, temperature, and humidity.

South Coast Air Quality Management District (SCAQMD) - Regional regulatory agency that develops plans and regulations designed to achieve public health standards by reducing emissions from business and industry.

Special district - A form of local government created by a local community to meet a specific need. Yucaipa Valley Water District is a County Water District formed pursuant to Section 30000 of the California Water Code

Supervisory Control and Data Acquisition (SCADA) - A computerized system which provides the ability to remotely monitor and control water system facilities such as reservoirs, pumps, and other elements of water delivery.

Surface Water - Water found in lakes, streams, rivers, oceans, or reservoirs behind dams. In addition to using groundwater, Yucaipa Valley Water District receives surface water from the Oak Glen area.

Sustainable Groundwater Management Act (SGMA) - Pursuant to legislation signed by Governor Jerry Brown in 2014, the Sustainable Groundwater Management Act requires water agencies to manage groundwater extractions to not cause undesirable results from over production.

Transpiration - The process by which water vapor is released into the atmosphere by living plants.

Trickling filter - A biological secondary treatment process in which bacteria and other microorganisms, growing as slime on the surface of rocks or plastic media, consume nutrients in wastewater as it trickles over them.

Underground Service Alert (USA) - A free service (https://www.digalert.org) that notifies utilities such as water, telephone, cable and sewer companies of pending excavations within the area (dial 8-1-1 at least 2 working days before you dig).

Urban runoff - Water from city streets and domestic properties that carry pollutants into the storm drains, rivers, lakes, and oceans.

Valve - A device that regulates, directs, or controls the flow of water by opening, closing, or partially obstructing various passageways.

Wastewater - Any water that enters the sanitary sewer.

Water Banking - The practice of actively storing or exchanging in-lieu surface water supplies in available groundwater basin storage space for later extraction and use by the storing party or for sale or exchange to a third party. Water may be banked as an independent operation or as part of a conjunctive use program.

Water Cycle - The continuous movement water from the earth's surface to the atmosphere and back again.

Water Pressure - Water pressure is created by the weight and elevation of water and/or generated by pumps that deliver water to customers.

Water Service Line - A water service line is used to deliver water from the Yucaipa Valley Water District's mainline distribution system.

Water table - the upper surface of the zone of saturation of groundwater in an unconfined aquifer.

Water transfer - a transaction, in which a holder of a water right or entitlement voluntarily sells/exchanges to a willing buyer the right to use all or a portion of the water under that water right or entitlement.

Watershed - A watershed is the region or land area that contributes to the drainage or catchment area above a specific point on a stream or river.

Water-Wise House Call - a service which provides a custom evaluation of a customer's indoor and outdoor water use and landscape watering requirements.

Well - a hole drilled into the ground to tap an underground aquifer.

Wetlands - lands which are fully saturated or under water at least part of the year, like seasonal vernal pools or swamps.

Yucaipa Valley Water District

COMMONLY USED ABBREVIATIONS

AQMD	Air Quality Management District
BOD	Biochemical Oxygen Demand
CARB	California Air Resources Board
CCTV	Closed Circuit Television
CWA	Clean Water Act
EIR	Environmental Impact Report
EPA	U.S. Environmental Protection Agency
FOG	Fats, Oils, and Grease
GPD	Gallons per day
MGD	Million gallons per day
O & M	Operations and Maintenance
OSHA	Occupational Safety and Health Administration
POTW	Publicly Owned Treatment Works
PPM	Parts per million
RWQCB	Regional Water Quality Control Board
SARI	Santa Ana River Inceptor
SAWPA	Santa Ana Watershed Project Authority
SBVMWD	San Bernardino Valley Municipal Water District
SCADA	Supervisory Control and Data Acquisition system
SGMA	Sustainable Groundwater Management Act
SSMP	Sanitary Sewer Management Plan
SSO	Sanitary Sewer Overflow
SWRCB	State Water Resources Control Board
TDS	Total Dissolved Solids
TMDL	Total Maximum Daily Load
TSS	Total Suspended Solids
WDR	Waste Discharge Requirements
YVWD	Yucaipa Valley Water District