



# Yucaipa Valley Water District

## Notice and Agenda of a Board Workshop

Tuesday, October 8, 2019 at 4:00 p.m.

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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

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- 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 America's Water Infrastructure Act - Risk Assessments and Emergency Response Plans [[Workshop Memorandum No. 19-209 - Page 6 of 115](#)]
  - V. **Operational Updates**
    - A. Status Report on the Installation of Replacement Lamps for the Ultraviolet Disinfection Process at the Wochholz Regional Water Recycling Facility [[Workshop Memorandum No. 19-210 - Page 10 of 115](#)]
    - B. Overview of Professional Services Contract for Equipping Wells with Piezometers and Data Logging Equipment [[Workshop Memorandum No. 19-211 - Page 11 of 115](#)]
  - VI. **Capital Improvement Projects**
    - A. Status Report on the Improvements to the Primary Clarifiers at the Wochholz Regional Water Recycling Facility [[Workshop Memorandum No. 19-212 - Page 17 of 115](#)]
    - B. Authorization to Solicit Bids for the Replacement of the Drinking Water Reservoir R-16.6 - Calimesa [[Workshop Memorandum No. 19-213 - Page 18 of 115](#)]
    - C. Status Report on the Geotechnical Investigation for the Artificial Groundwater Recharge Project in the Beaumont Groundwater Basin [[Workshop Memorandum No. 19-214 - Page 21 of 115](#)]
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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](http://www.yvwd.dst.ca.us)

**VII. Administrative Issues**

- A. Overview of Cyber Liability Insurance for the Yucaipa Valley Water District [[Workshop Memorandum No. 19-215 - Page 27 of 115](#)]
- B. Review of the Workers' Compensation Insurance Policy for 2019-2020 [[Workshop Memorandum No. 19-216 - Page 45 of 115](#)]
- C. Overview of the Draft Financial Rate Model for the Drinking Water, Sewer, and Recycled Water Enterprises [[Workshop Memorandum No. 19-217 - Page 47 of 115](#)]
- D. Discussion Regarding the Conversion from a Weekly Utility Billing Workflow to a Monthly Utility Billing Workflow [[Workshop Memorandum No. 19-218 - Page 104 of 115](#)]
- E. Review of Cost Accounting Methodology for the Yucaipa Valley Regional Brineline – Mountain View Power Plant [[Workshop Memorandum No. 19-219 - Page 105 of 115](#)]

**VIII. Director Comments****IX. Announcements**

- A. October 15, 2019 at 6:00 p.m. - Board Meeting
- B. October 29, 2019 at 4:00 p.m. - Board Workshop
- C. November 5, 2019 at 6:00 p.m. - Board Meeting
- D. November 12, 2019 at 4:00 p.m. - Board Workshop
- E. November 19, 2019 at 6:00 p.m. - Board Meeting
- F. November 26, 2019 at 4:00 p.m. - Board Workshop
- G. December 3, 2019 at 6:00 p.m. - Board Meeting
- H. December 10, 2019 at 4:00 p.m. - Board Workshop
- I. December 17, 2019 at 6:00 p.m. - Board Meeting
- J. **December 31, 2019 at 4:00 p.m. - Board Workshop - Cancelled**
- K. **January 7, 2020 at 6:00 p.m. - Board Meeting - Cancelled**
- L. January 14, 2020 at 4:00 p.m. - Board Workshop
- M. January 21, 2020 at 6:00 p.m. - Board Meeting
- N. 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



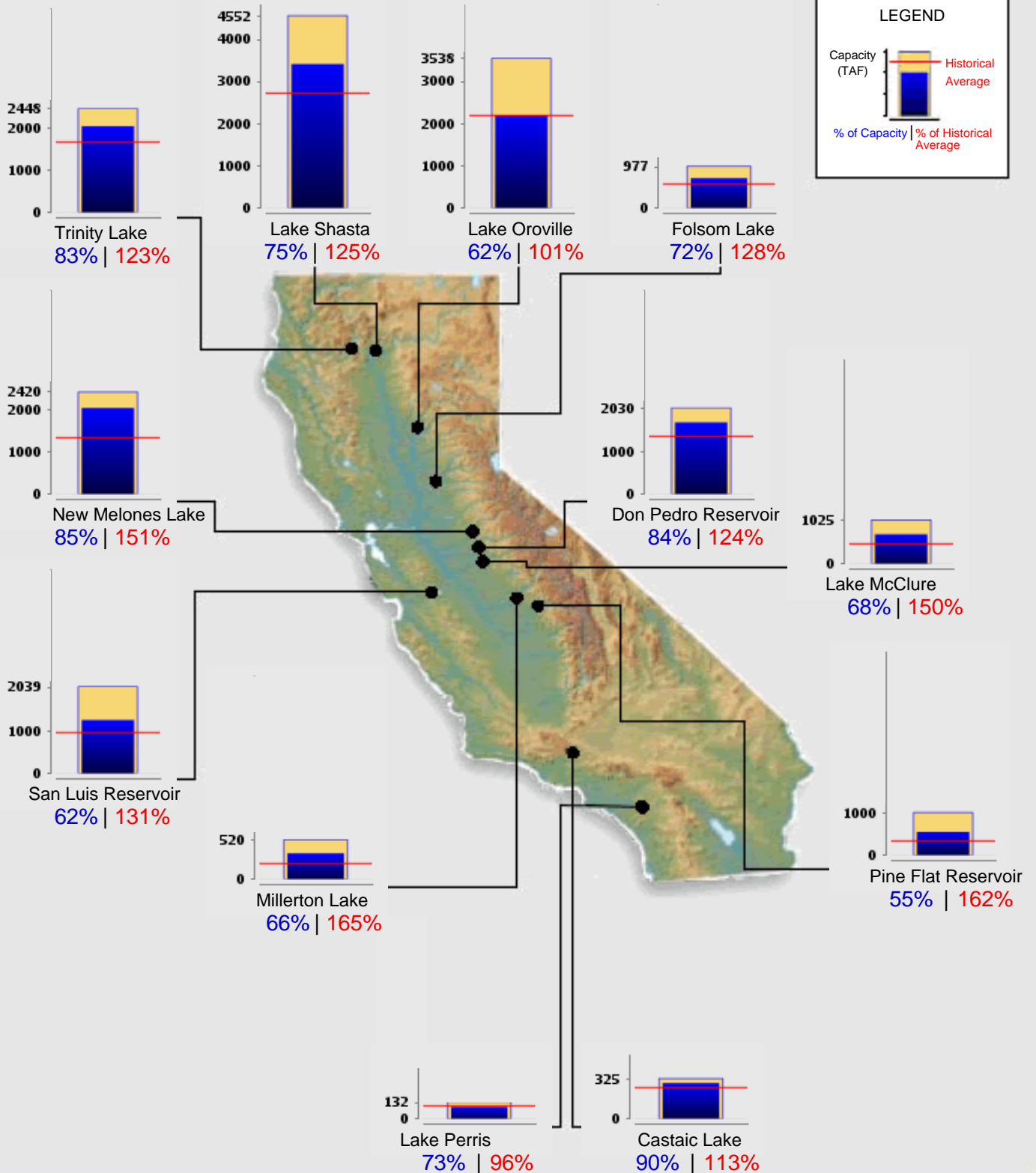
Yucaipa Valley Water District



# Reservoir Conditions

Ending At Midnight - October 2, 2019

## CURRENT RESERVOIR CONDITIONS





# Presentations



Yucaipa Valley Water District



**Date:** October 8, 2019

**From:** Joseph Zoba, General Manager

**Subject:** Overview of the America’s Water Infrastructure Act - Risk Assessments and Emergency Response Plans

On October 23, 2018, America's Water Infrastructure Act (“Infrastructure Act”) was signed into law. Section 2013 of the Infrastructure Act requires community drinking water systems serving more than 3,300 people to develop or update risk assessments and emergency response plans.

Each community water system serving a population of greater than 3,300 persons shall assess the risks to, and resilience of, its system. Such an assessment shall include:

- the risk to the system from malevolent acts and natural hazards;
- the resilience of the pipes and constructed conveyances, physical barriers, source water, water collection and intake, pretreatment, treatment, storage and distribution facilities, electronic, computer, or other automated systems (including the security of such systems) which are utilized by the system;
- the monitoring practices of the system;
- the financial infrastructure of the system;
- the use, storage, or handling of various chemicals by the system; and
- the operation and maintenance of the system.

The assessment may include an evaluation of capital and operational needs for risk and resilience management for the system.

Population Served	Risk Assessment Deadline	Emergency Response Plan Deadline*
≥ 100,000	March 31, 2020	September 30, 2020
50,000 - 99,999	December 31, 2020	June 30, 2021
3,301 - 49,999	June 30, 2021	December 30, 2021

\*Emergency response plan certifications are due six months from the date of the risk assessment certification. The dates shown above are certification dates based on a utility submitting a risk assessment on the final due date.

The risk and resilience assessment must be reviewed and updated at least once every five years. Upon completion of such a review, the system must submit to the EPA a certification that it has reviewed its assessment and revised it, if applicable.

# RISK AND RESILIENCE ASSESSMENTS AND EMERGENCY RESPONSE PLANS:



## NEW REQUIREMENTS FOR DRINKING WATER UTILITIES

Section 2013 of America's Water Infrastructure Act of 2018 (AWIA) requires community water systems<sup>1</sup> that serve more than 3,300 people to complete a risk and resilience assessment and develop an emergency response plan.

### RISK AND RESILIENCE ASSESSMENT

Your utility must conduct a risk and resilience assessment and submit certification of its completion to the U.S. EPA by the following dates:

### EMERGENCY RESPONSE PLAN

Your utility must develop or update an emergency response plan and certify completion to the U.S. EPA **no later than six months** after risk and resilience assessment certification. Each utility deadline is unique; however, the dates below are the due dates for utilities who submit a risk and resilience assessment certification by the final due date according to the population served.

#### Important Dates

- March 31, 2020 if serving ≥100,000 people.
- December 31, 2020 if serving 50,000 to 99,999 people.
- June 30, 2021 if serving 3,301 to 49,999 people.

- September 30, 2020 if serving ≥100,000 people.
- June 30, 2021 if serving 50,000 to 99,999 people.
- December 30, 2021 if serving 3,301 to 49,999 people.

#### Recertification

**Every five years**, your utility must review the risk and resilience assessment and submit a recertification to the U.S. EPA that the assessment has been reviewed and, if necessary, revised.

**Within six months** of submitting the recertification for the risk and resilience assessment, your utility must certify it has reviewed and, if necessary, revised, its emergency response plan.

Visit the U.S. EPA website to find more information on guidance for developing a risk and resilience assessment at <https://www.epa.gov/waterriskassessment/conduct-drinking-water-or-wastewater-utility-risk-assessment>.

Visit the U.S. EPA website for guidance on developing an Emergency Response Plan at <https://www.epa.gov/waterutilityresponse/develop-or-update-drinking-water-or-wastewater-utility-emergency-response-plan>.



### TOOLS OR METHODS

AWIA does not require the use of any standards, methods or tools for the risk and resilience assessment or emergency response plan. Your utility is responsible for ensuring that the risk and resilience assessment and emergency response plan address all the criteria in AWIA Section 2013(a) and (b), respectively. The U.S. EPA recommends the use of standards, including AWWA J100-10 Risk and Resilience Management of Water and Wastewater Systems, along with tools from the U.S. EPA and other organizations, to facilitate sound risk and resilience assessments and emergency response plans.

<sup>1</sup> Section 2013 of AWIA applies to community water systems. Community water systems are drinking water utilities that consistently serve at least 25 people or 15 service connections year-round.

Still have questions about the new AWIA requirements?  
Contact the U.S. Environmental Protection Agency (U.S. EPA) at [dwresilience@epa.gov](mailto:dwresilience@epa.gov).

Office of Water (4608T)  
EPA-817-F-19-004  
May 2019

## FREQUENTLY ASKED QUESTIONS

### I need more information about risk and resilience assessments and emergency response plans:

Risk and resilience assessments evaluate the vulnerabilities, threats and consequences from potential hazards.

#### What does a risk and resilience assessment include?

- Natural hazards and malevolent acts (i.e., all hazards).
- Resilience of water facility infrastructure (including pipes, physical barriers, water sources and collection, treatment, storage and distribution, and electronic, computer and other automated systems).
- Monitoring practices.
- Financial systems (e.g., billing systems).
- Chemical storage and handling.
- Operation and maintenance.

#### Who should I work with when creating my emergency response plan?

- Utilities must coordinate the risk and resilience assessments, as well as the emergency response plans with local emergency planning committees.

For more information, see [www.congress.gov/bill/115th-congress/senate-bill](http://www.congress.gov/bill/115th-congress/senate-bill).

#### What does an emergency response plan include?

- Strategies and resources to improve resilience, including physical security and cybersecurity.
- Plans and procedures for responding to a natural hazard or malevolent act that threatens safe drinking water.
- Actions and equipment to lessen the impact of a malevolent act or natural hazard, including alternative water sources, relocating intakes and flood protection barriers.
- Strategies to detect malevolent acts or natural hazards that threaten the system.

### I need more information on the certification process:

#### What do I need to submit to the U.S. EPA?

- Each utility must submit a certification of your risk and resilience assessment and emergency response plan. Each submission must include: utility name, date and a statement that the utility has completed, reviewed or revised the assessment. The U.S. EPA has developed an optional certification template that can be used for email or mail certification. The optional certification form will be available in August 2019.

#### Who can certify my risk and resilience assessment and emergency response plan?

- Risk and resilience assessments and emergency response plans can be self-certified by the utility.

#### How do I submit my certification?

- Three options will be provided for submittal: regular mail, email and a user-friendly secure online portal. The online submission portal will provide drinking water systems with a receipt of submittal. The U.S. EPA recommends using this method. The certification system will be available in August 2019.

#### When can I submit the initial certification?

- Utilities should wait to submit the initial certification to the U.S. EPA until the U.S. EPA publishes *Baseline Information on Malevolent Acts Relevant to Community Water Systems*, which is required under AWIA by August 2019.

#### Do I need to submit my certification to my state or local government?

- No. Section 2013 of AWIA does not require utilities to submit the certification to state or local governments.

#### How long do I need to keep a copy of my risk and resilience assessment and emergency response plan?

- Utilities need to keep a copy of both documents for five years after certification.

#### What if I do not have a copy of my most recent risk and resilience assessment?

- The U.S. EPA intends to destroy vulnerability assessments (VAs) submitted in response to the Bioterrorism Act of 2002, but if utilities would like to have their VA and certification documents mailed to them, contact [WSD-Outreach@epa.gov](mailto:WSD-Outreach@epa.gov), and on utility letterhead, include the utility name, PWSID, address and point of contact as an attachment to the email.

## RESOURCES & TOOLS

#### Conducting a Risk and Resilience Assessment

- The U.S. EPA's Risk and Resilience Baseline Threat Document (available August 2019).
- The U.S. EPA's [Vulnerability Self-Assessment](#).

#### The U.S. EPA Website

- <https://www.epa.gov/waterresilience/americas-water-infrastructure-act-2018-risk-assessments-and-emergency-response-plans>.

#### Developing an Emergency Response Plan

- [Emergency Response Plan Guidance](#).
- The U.S. EPA's [Emergency Response Webpage](#).
- [Local Emergency Planning Committees](#).

Still have questions about the new AWIA requirements?  
Contact the U.S. Environmental Protection Agency (U.S. EPA) at [dwresilience@epa.gov](mailto:dwresilience@epa.gov).

Office of Water (4608T)  
EPA-817-F-19-004  
May 2019

# Operational Updates



Yucaipa Valley Water District



**Date:** October 8, 2019

**From:** Charles Thomas, Operations Manager

**Subject:** Status Report on the Installation of Replacement Lamps for the Ultraviolet Disinfection Process at the Wochholz Regional Water Recycling Facility

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The Wochholz Regional Water Recycling Facility (WRWRF) utilizes a Trojan 3000+ ultraviolet system for disinfecting the final recycled water produced at the facility. The California Department of Public Health regulates ultraviolet disinfection systems in the State of California and requires the individual ultraviolet lamps be replaced prior to exceeding 9,000 hours of operation, or approximately one year of continuous usage.

The WRWRF was designed with two ultraviolet disinfection channels with each channel containing 168 lamps, or 336 lamps total for the entire facility.

As of Wednesday, October 2<sup>nd</sup> the District staff successfully installed 56 UV bulbs for a complete bulb replacement on channel 2 bank 1. On Wednesday, October 8<sup>th</sup> District staff will be working on channel 2 bank 2.







**Date:** October 8, 2019

**From:** Jennifer Ares, Water Resource Manager

**Subject:** Overview of Professional Services Contract for Equipping Wells with Piezometers and Data Logging Equipment

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Yucaipa Valley Water District has been actively recharging water in the Wilson Creek Basins for several years with additional plans to recharge recycled water to enhance the District's water supply reliability.

On March 5, 2019, Board of Directors approved [Director Memorandum No. 19-024] the workplan for the tracer testing at the Wilson Creek Recharge Basins. Prior to conducting the intrinsic tracer test it would be beneficial to track the travel time of the State Water Project recharge water to determine when it reaches the water table. Collection of this baseline data prior to tracer studies would provide an understanding of the seasonal subsurface variations in water movement near the basin. In addition, as basin recharge occurs, the height of the groundwater mound can be determined which will also provide further information about the aquifer.

Since recharge activity is currently taking place at Wilson Creek and Oak Glen Basins, it is advantageous to install monitoring equipment in both monitoring wells. Geoscience will assist District staff with the water level and conductivity transducer installation. This will also give District staff a training opportunity of transducer installation, allowing for future installation to be conducted in-house.





# GEOSCIENCE

The First Name in Groundwater

September 10, 2019

Jennifer Ares  
Water Resource Manager  
Yucaipa Valley Water District  
12770 Second Street  
Yucaipa, CA 92399

**Re: Scope and Cost Estimate to Provide Professional Geohydrologic and Engineering Services Related to Equipping Two Piezometers with Data Logging Equipment and Field Training of Yucaipa Valley Water District Personnel – Recharge Investigation of the Yucaipa Groundwater Basin**

Dear Jennifer:

We are pleased to provide Yucaipa Valley Water District (YVWD) with this proposal for geohydrologic services to purchase and install water level and specific conductance data logging equipment in two piezometers (YRP-PZ1 and YRP-PZ2) located adjacent to the Wilson Creek and Oak Glen Recharge Basins in Yucaipa, California. YVWD has requested GEOSCIENCE (GSSI) purchase data loggers and accessory equipment in addition to training YVWD personnel to deploy transducers and navigate equipment software for the purpose of long-term monitoring of water level and specific conductance (EC).

We propose the following tasks:

## Scope

### Task 1.0 Data Logger Acquisition

GSSI will procure two new data loggers (In-Situ AquaTROLL 200), a barometer, non-vented cables, manufacturer software (Vu-Situ and Win-Situ 5), laptop communication cables and other materials necessary for the equipping of the two 2-inch diameter PVC piezometers, YRP-PZ1 and YRP-PZ-2. If requested by the District, GSSI will purchase a field capable laptop or tablet that meets the minimum system requirements for installation of In-Situ software:

400 MHz Pentium® II processor; 128 MB RAM, 100 MB free disk space; Internet Explorer® 6.01 or higher; Windows® 2000 Professional SP4 or higher, Windows XP Professional SP2 or higher, or Windows Vista SP1 or higher; Windows 7 or higher, CD-ROM drive; serial or USB port

GSSI's staff will install the necessary manufacturer software and drivers on the District's laptop or tablet while on site, prior to data logger installation. Following installation of the software GSSI will train YVWD personnel on proper field techniques for installing and programming the data loggers. The date for the installations will be agreed upon by the District and GSSI. The installations and training are expected to take approximately 3 hours.

### **Task 2.0 Data Logger Installation and District Staff Training**

GSSI will train YVWD personnel to check and calibrate the data logger EC sensor, make proper cable/logger connections, anchor the cables to the piezometers, navigate the manufacturer's software and set up long-term monitoring tests. Parameters to be recorded by the AquaTROLL 200 data loggers:

- Pressure
- Submergence/Depth
- Temperature
- Actual Conductivity
- Specific Conductivity
- Resistivity
- Total Dissolved Solids
- Salinity
- Water Density

Training will include instruction on how to make connections and download data logger water level and EC data using either the Win-Situ software (direct cable connection) or Vu-Situ software (mobile device Bluetooth connection). Instruction will also be given on how to properly record water levels using an electronic wireline water level indicator. In addition to the transducers, a barometer (BaroTROLL) will be programmed and installed at one of the two monitoring locations. Barometric pressure data recorded with this device will be used to barometrically correct water level data recorded by the non-vented AquaTROLL 200 data loggers. GSSI staff will train YVWD personnel to perform this site-specific barometric correction using the Win-Situ software.

GSSI will make recommendations for data logger maintenance and data download frequency. Staff will discuss proper sensor cleaning tools and techniques, transducer battery and memory level checks, and identification of potential issues and data anomalies.

## Cost Estimate

The proposed total cost for Tasks 1 and 2 is \$15,686.

Thank you for the opportunity to provide assistance in setting up your monitoring network.

If you have any questions, please contact me at (909) 451-6650

Sincerely,

A handwritten signature in blue ink, appearing to read "Nathan Reynolds", with a long horizontal flourish extending to the right.

Nathan Reynolds, PG  
Project Geohydrologist  
Encl.

Yucaipa Valley Water District  
 Cost Proposal for Installation of Data Loggers and Staff Training

**YUCAIPA VALLEY WATER DISTRICT**  
**Cost Estimate for Installation of Two Data Loggers and YVWD Personnel Training**

Task Description	Hourly Rate:				Labor	Reimbursable Expenses <sup>1</sup>	Total Cost
	Principal Geohydrologist \$245	Project Geohydrologist \$195	Staff Geohydrologist \$155				
1.0 <b>Data Logger &amp; Accessories Acquisition:</b> Purchase two new data loggers (In-Situ AquatROLL 200), barometer (BaroTROLL), non-vented cables, EC sensor calibration solutions, desiccant, laptop communication cables and well anchoring and protection materials. GSSI staff inspection of transducers and equipment. <sup>2</sup>	1	6	4		\$ 2,035	\$ 11,631	\$ 13,666
2.0 <b>Data Logger Installation and District Staff Training:</b> Install Win-Situ software on YVWD laptop or tablet, deploy two data loggers in existing piezometers YRP-PZ1 and YRP-PZ2, check and calibrate EC sensors, program transducer logging tests, and secure wells with vented locking well caps. On-site training of YVWD personnel in the tasks listed above. Train YVWD to install and download data loggers, and maintenance of sensors.	1	2	8		\$ 1,875	\$ 145	\$ 2,020
<b>Total</b>	<b>2</b>	<b>8</b>	<b>12</b>		<b>\$ 3,910</b>	<b>\$ 11,776</b>	<b>\$ 15,686</b>

<sup>1</sup> Reimbursable expenses include mileage, per diem field vehicle usage (\$145/day), data loggers and installation materials, field tablet or laptop, project-specific mailing and reproduction charges.

<sup>2</sup> Includes cost for a laptop or tablet. If the District prefers to provide a compatible laptop this cost (\$500) can be removed from Reimbursable Expenses in Task 1.0.

# Capital Improvement Projects



Yucaipa Valley Water District



**Date:** October 8, 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

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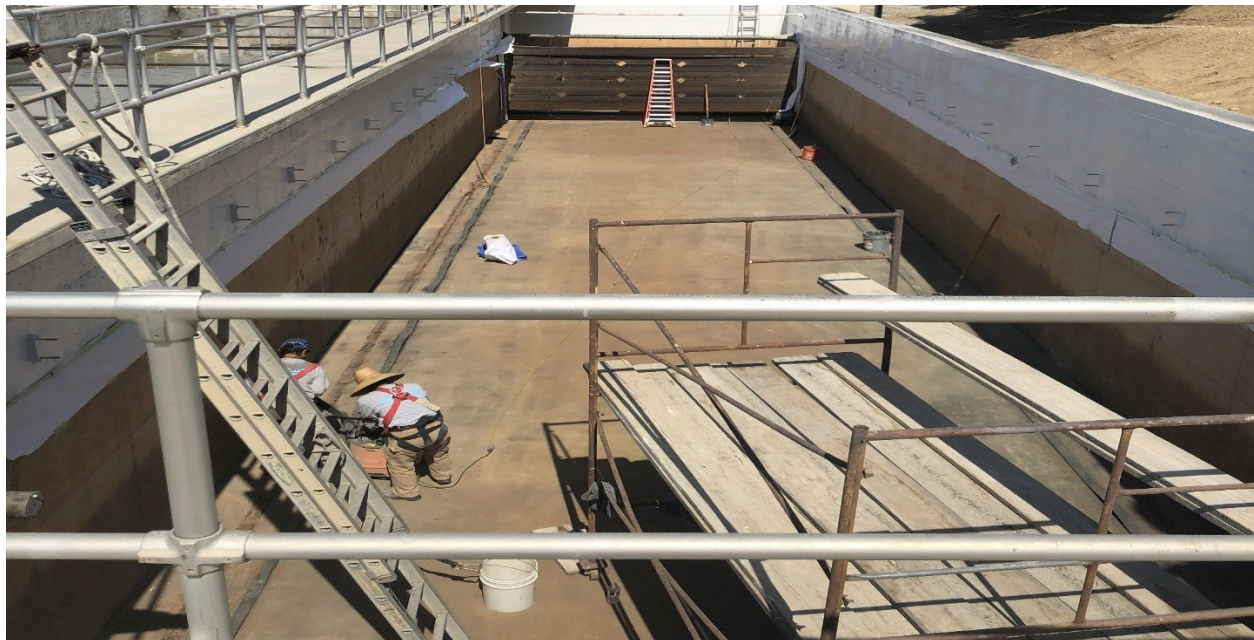
On August 20, 2019 the Yucaipa Valley Water District Board of Directors authorized the General Manager to award a contract to Track Tech, Inc. for the rehabilitation of the primary clarifier equipment at the Wochholz Regional Water Recycling Facility for a sum not to exceed \$327,800 [Director Memorandum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

Track Tech Inc. staff began work on the first of three clarifiers on August 28, 2019.

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 project has been put on hold for approximately 8-10 weeks as a result of the mechanical part supplier not having all the required parts in stock.

District staff will bring this back to a future workshop once updates are available.







**Date:** October 8, 2019

**From:** Matthew Porras, Implementation Manager

**Subject:** Authorization to Solicit Bids for the Replacement of the Drinking Water Reservoir R-16.6 - Calimesa

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The District owns and operates a drinking water storage facility [Asset ID: PW-R-13016.6] that was initially put into service in the early 1980's when the Oak Hills Estates residential area was developed. The R-16.6 reservoir serves drinking water to the 16.6 pressure zone within the residential area.



In the past few years of the reservoir's almost 40-year life, District staff has been observing and monitoring the deteriorating condition. Most recently, numerous leaks on the exterior walls of the tank have developed and have signaled the end of this assets useful life. The replacement is of this tank is recommended before the condition becomes more severe.

District staff is planning the replacement of the steel bolted tank in the same location. Traditional options of tank construction include bolted steel, welded steel, or reinforced concrete. Some advantages of the bolted steel tanks are the relatively short manufacturing time, construction time, and overall cost. In addition, the individual panels of a bolted steel tank are constructed off site and their protective coating is applied off site resulting in a reduced on site fabrication and construction effort. The lifespan of a bolted steel tank is typically 40 years.



The new tank will comply with current seismic requirements with a concrete ring wall that will provide the tank a solid foundation and secure bolt down installation. Our current tank (pictured below) is 24 feet tall and 37 feet in diameter with approximately 195,000 gallons of useable capacity. Without extensive grading, the new tank can be increased in size to 32 feet tall and 47 feet wide. The additional height of the new tank would provide the freeboard needed to comply with updated construction standards and the additional width would provide the usable capacity of approximately 298,000 gallons, an increase of over 100,000 gallon capacity.



The proposed project would require a temporary storage solution during the demolition and construction of the new tank. If the District staff receives authorization to proceed with this project

at the October 15, 2019 board meeting, a new tank can be operational by June 2020. With the deteriorating condition of the existing tank, the timing of the installation of the temporary tank system should be considered a priority.

A temporary tank solution will need to be established before the demolition of the existing tank and preferably installed in the near future. Options for the temporary tank include either purchasing or renting the portable water tank(s) as well as the type and size of the temporary tank(s). District staff will summarize these options and discuss their associated costs at a future meeting if authorized to proceed.

A geotechnical report will need to be completed to ensure the proposed tank is designed and constructed appropriately as well as processing the necessary environmental documents.

Therefore, the District staff is requesting the authorization to solicit bids for the replacement of drinking water reservoir R16.6 with the construction contract to include the demolition of the existing tank, the design and engineering of the new tank, furnishing, installing, and testing the new tank and the required onsite piping. A proposed construction schedule will be required for all bidders to provide the opportunity to evaluate the cost and timeframe as lead times vary from tank manufactures.



### **Financial Consideration:**

District staff estimates this project could cost between \$400,000-\$600,000 and will be paid for by the Water Fund, Infrastructure Reserves [G/L Account #02-000-10311]. This project was included in the CIP budget estimated for fiscal year 2021-22 but as a result of the urgency will be moved to the current fiscal year. An engineer's estimate will be included in the group of bids for your consideration.





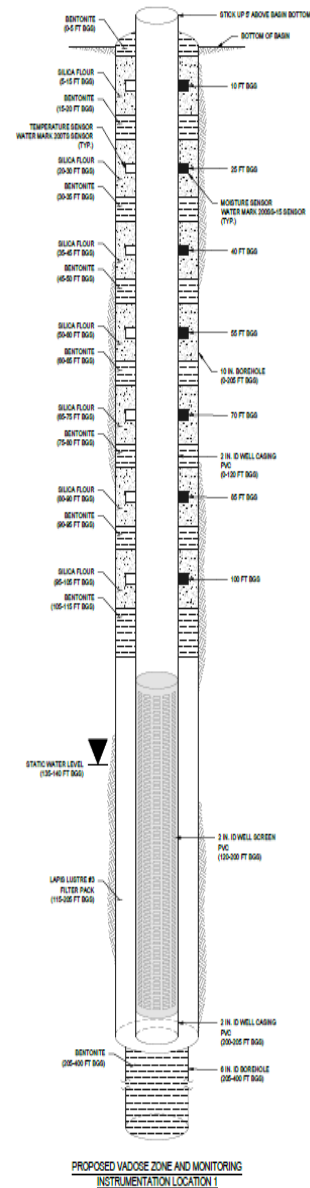
**Date:** October 8, 2019

**From:** Joseph Zoba, General Manager

**Subject:** Status Report on the Geotechnical Investigation for the Artificial Groundwater Recharge Project in the Beaumont Groundwater Basin

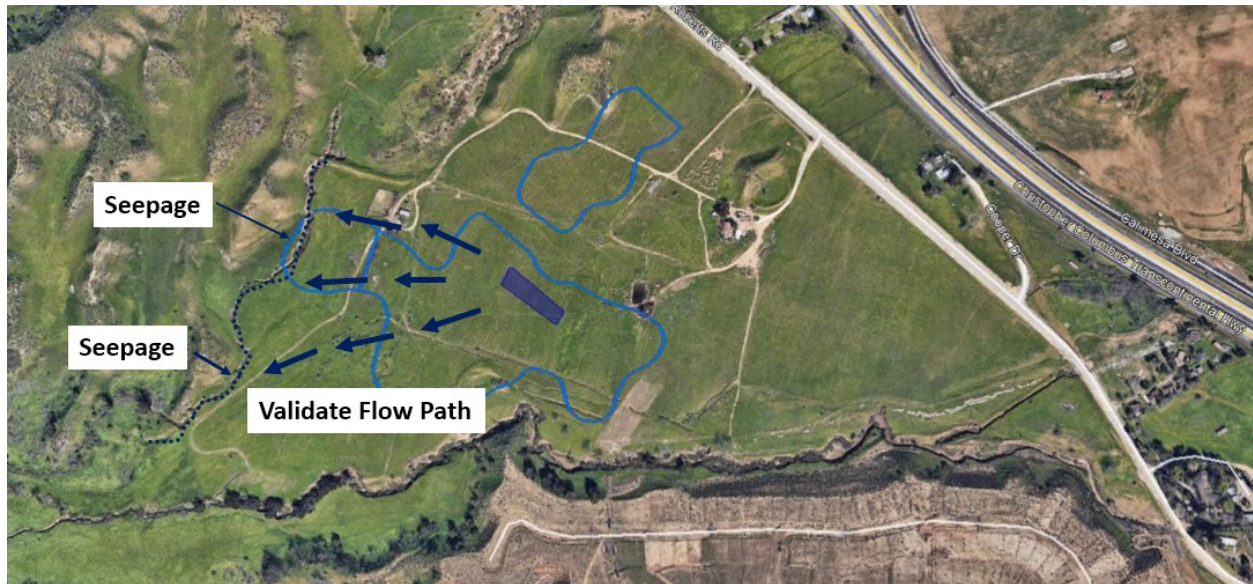
On November 6, 2018, the Board of Directors authorized the General Manager to execute a contract with Geoscience to investigate the long-term infiltration rates in the western portion of the Beaumont Basin.

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



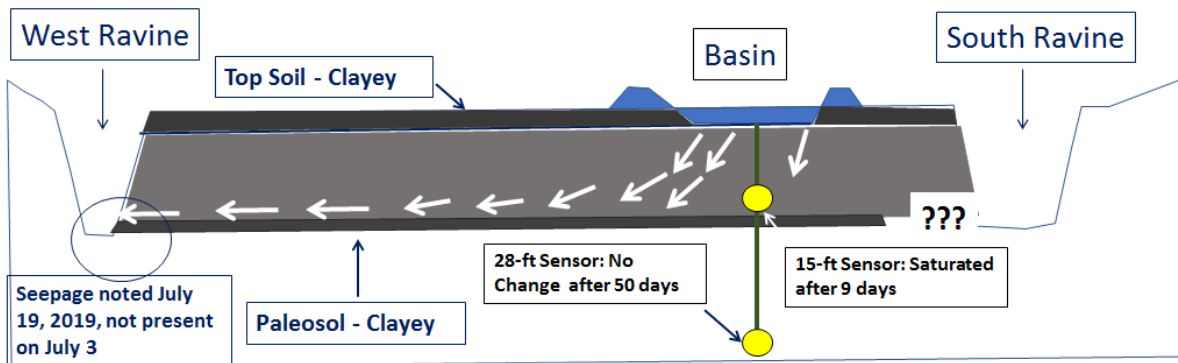
On April 20, 2019, the initial test was stopped to re-evaluate the project due to slow infiltration. The District staff drained the basin, tested the soils in the basin, and removed additional soil from the basin to reach a more permeable layer of soil. Following the modifications to the basin, the District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

Based on the results of this initial phase of the study, the infiltration testing showed the movement of groundwater in a westerly direction instead of traveling vertically to reach 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.

### Hydrogeologic Conceptual Model Shallow Zone



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.

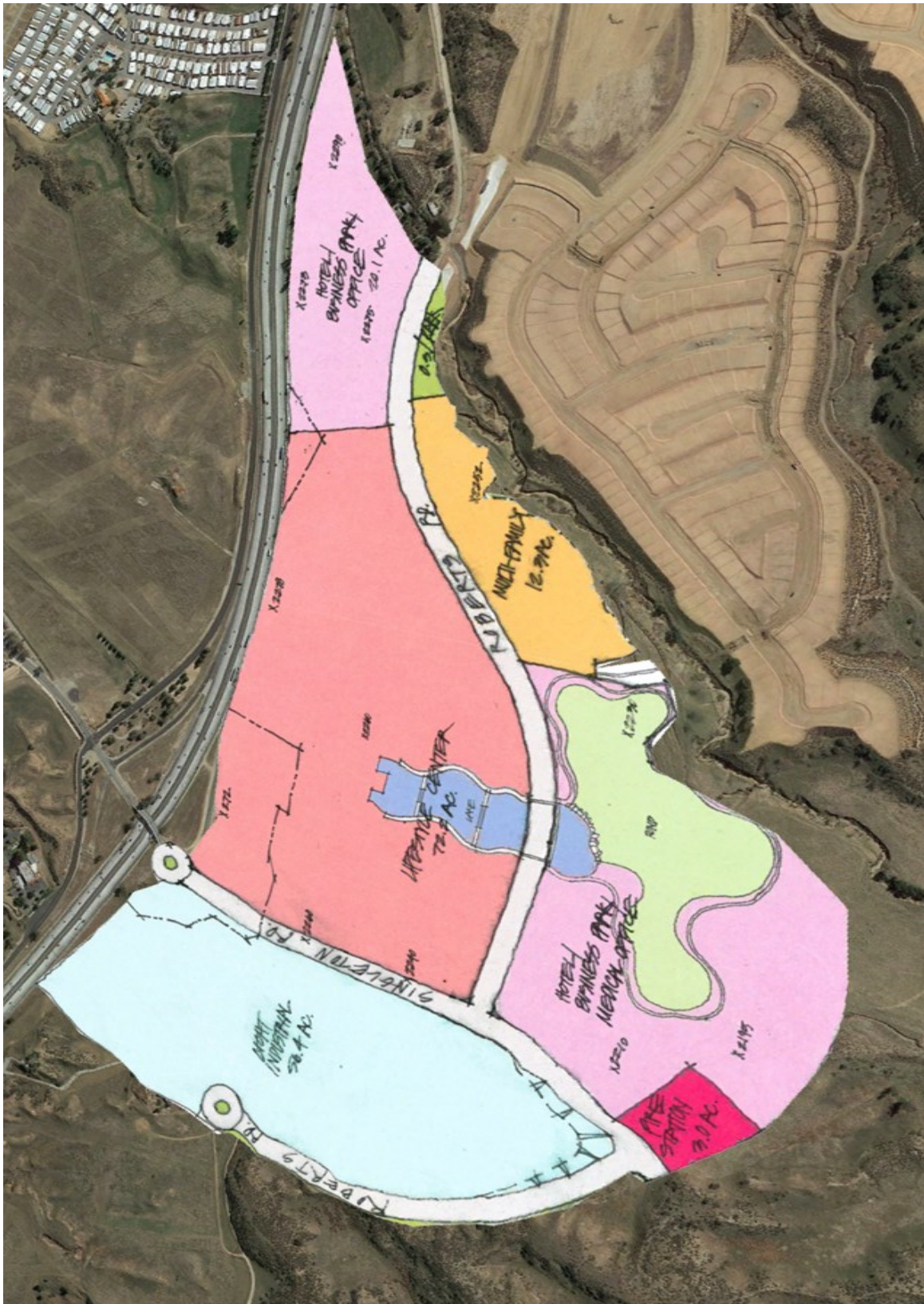


The Board of Directors requested that regular updates are provided to determine whether or not to continue with the proposed project. The District staff will add agenda items to future workshops and board meetings in order to provide regular updates on the status of the project.



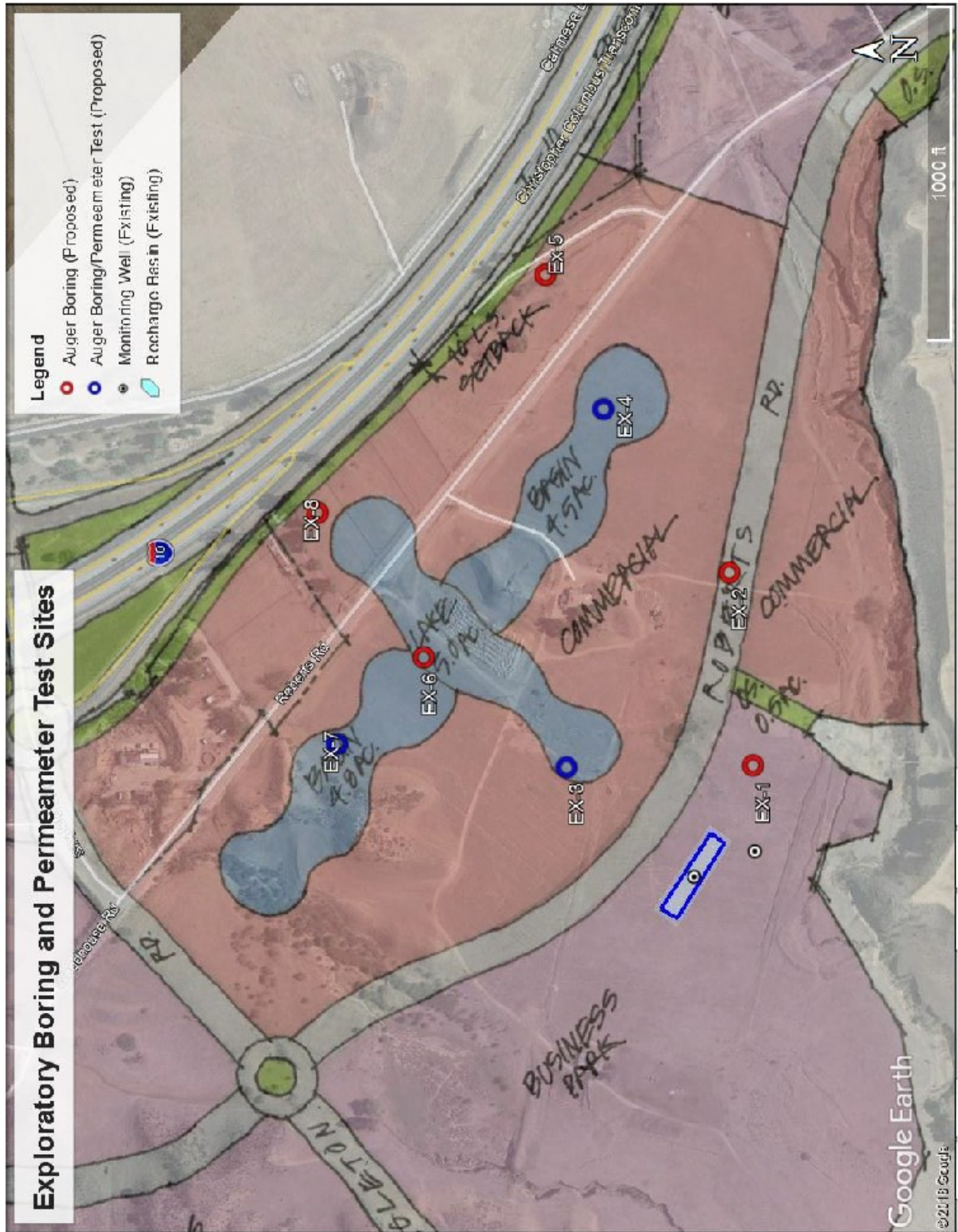


### Concept and Layout A





### Concept and Layout B





# Administrative Items



Yucaipa Valley Water District



**Date:** October 8, 2019  
**From:** Kathryn Hallberg, Implementation Manager  
**Subject:** Overview of Cyber Liability Insurance for the Yucaipa Valley Water District

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As cyber events and computer system failures are increasing throughout the country, the District staff has been researching the benefits of cyber liability insurance. Cyber liability insurance covers financial losses that result from data breaches and other cyber events. A cyber event means any actual or suspected unauthorized system access, electronic attack or privacy breach, including denial of service attack, cyber terrorism, hacking attack, Trojan horse, phishing attack, man-in-the-middle attack, application-layer attack, compromised key attack, malware infection (including spyware or Ransomware) or computer virus. System failure means any sudden, unexpected and continuous downtime of the computer systems which renders the District incapable of supporting their normal business function and is caused by an application bug, an internal network failure or hardware failure.

The attached proposal includes both first-party and third-party coverages. First-party coverages apply to losses sustained directly by the District, as in the District's computer system was lost, stolen, or compromised. Third-party coverage covers possible claims against the District by people or businesses whose data has been stolen as a result of the cyber incident or system failure. There are numerous other coverage parts that are associated with a data breach, including notification costs associated with a data breach, incident response, legal and regulatory costs and cyber extortion (ransom).

The time retention or waiting period noted in the proposal relates to business interruption and dependent business interruption claims. In order to trigger the business interruption and dependent business interruption claim, the District must have an interruption to their business operations caused by computer systems downtime arising directly out of a cyber event or system failure lasting longer than 8 hours. Once the 8-hour time retention is exhausted, the policy will pay the lost profits from the moment the systems went down. Also included in the proposal is Terrorism Risk Insurance Act (TRIA) coverage which covers a cyber event if it was terroristic in nature.

The policy options are \$1,000,000, \$2,000,000 and \$3,000,000 in limits as seen in the attached proposal. The annual cost for the \$1,000,000 limit is \$4,592.40, for the \$2,000,000 limit is \$6,088.80, and for the \$3,000,000 limit is \$7,069.20.

### Financial Consideration

This is additional insurance coverage that is not currently included within the District budget. This cost would be shared by the Water, Sewer and Recycled Water funds, Insurance Expenses [G/L Account #xx-506-56001]. If a budget adjustment is needed, it will be brought before the Board at a future meeting.



# Yucaipa Valley Water District

2019 – 2020

## Cyber Liability Insurance Proposal

Presented on September 18, 2019 by:

Seth Cole, ARM  
Senior Vice President

Alliant Insurance Services, Inc.  
100 Pine Street, 11th Floor  
San Francisco, CA 94111  
O 415 403 1400  
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[www.alliant.com](http://www.alliant.com)



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## Company Profile

With a history dating back to 1925, Alliant Insurance Services is one of the nation's leading distributors of diversified insurance products and services. Operating through a national network of offices, Alliant offers a comprehensive portfolio of services to clients, including:

- Risk Solutions
- Employee Benefits
  - Strategy
  - Employee Engagement
  - Procurement
  - Analytics
  - Wellness
  - Compliance
  - Benefits Administration
  - Global Workforce
- Industry Solutions
  - Construction
  - Energy and Marine
  - Healthcare
  - Law Firms
  - Public Entity
  - Real Estate
  - Tribal Nations
  - And many other industries
- Co-Brokered Solutions
  - Automotive Specialty
  - Energy Alliance Program
  - Hospital All Risk Property Program
  - Law Firms
  - Parking/Valet
  - Public Entity Property Insurance Program
  - Restaurants/Lodging
  - Tribal Nations
  - Waste Haulers/Recycling
- Business Services
  - Risk Control Consulting
  - Human Resources Consulting
  - Property Valuation

The knowledge that Alliant has gained in its more than eight decades of working with many of the top insurance companies in the world allows us to provide our clients with the guidance and high-quality performance they deserve. Our solution-focused commitment to meeting the unique needs of our clients assures the delivery of the most innovative insurance products, services, and thinking in the industry.

Alliant ranks among the 15 largest insurance brokerage firms in the United States.



### Alliant Advantage

	Alliant	Competition
1. Satisfying the insurance needs of business for nearly 90 years	✓	
2. Privately owned and operated.	✓	
3. A full-service insurance agency for all your business, life and health, and personal insurance.	✓	
4. Representing over 40 insurance companies to provide the best and most affordable coverage.	✓	
5. State-licensed support staff.	✓	
6. Dedicated Certificate of Insurance personnel.	✓	
7. Risk management services to help identify hazards and present options.	✓	
8. Workers' compensation insurance claims management at no additional charge.	✓	



## Your Service Team

**Seth Cole, ARM**  
Senior Vice President  
[scole@alliant.com](mailto:scole@alliant.com)

Phone: 415 4031419

---

**Thary Ou, CLIC**  
Assistant Account Manager  
[tou@alliant.com](mailto:tou@alliant.com)

Phone: 415 403 1433





## Named Insured / Additional Named Insureds

### Named Insured(s)

Yucaipa Valley Water District

### Additional Named Insured(s)

None

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#### NAMED INSURED DISCLOSURE

- The first named insured is granted certain rights and responsibilities that do not apply to other policy named insureds and is designated to act on behalf of all insureds for making policy changes, receiving correspondence, distributing claim proceeds, and making premium payments.
- **Are ALL entities listed as named insureds?** Coverage is not automatically afforded to all entities unless specifically named. Confirm with your producer and service team that all entities to be protected are on the correct policy. Not all entities may be listed on all policies based on coverage line.
- Additional named insured is (1) A person or organization, other than the first named insured, identified as an insured in the policy declarations or an addendum to the policy declarations. (2) A person or organization added to a policy after the policy is written with the status of named insured. This entity would have the same rights and responsibilities as an entity named as an insured in the policy declarations (other than those rights and responsibilities reserved to the first named insured).
- Applies to Professional Liability, Pollution Liability, Directors & Officers Liability, Employment Practices Liability, Fiduciary Liability policies (this list not all inclusive). Check your Policy language for applicability. These policies provide protection to the Named Insured for claims made against it alleging a covered wrongful act. Coverage is not afforded to any other entities (unless specifically added by endorsement or if qualified as a "Subsidiary" pursuant to the policy wording) affiliated by common individual insured ownership or to which indemnification is otherwise contractually owed. If coverage is desired for affiliated entities or for contractual indemnities owed, please contact your Alliant Service Team with a full list of entities for which coverage is requested. With each request, include complete financials and ownership information for submission to the carrier. It should be noted, that the underwriter's acceptance of any proposed amendments to the policy, including expansion of the scope of "Insureds" under the policy could result in a potential diminution of the applicable limits of liability and/or an additional premium charge.



**Line of Coverage**

**Cyber Liability Coverage**

**INSURANCE COMPANY:**

1. Lloyd's of London
2. Argo Group US Inc.
3. HDI Global Specialty SE
4. Fidelis Underwriting Limited

**A.M. BEST RATING:**

1. A (Excellent), Financial Size Category: XV (\$2 Billion or greater) as of July 10, 2019
2. A (Excellent)
3. A (Excellent), Financial Size Category: XV (\$2 Billion or greater) as of January 11, 2019
4. A+ (Excellent), Financial Size Category: XII (\$1 Billion to \$1.25 Billion) as of August 30, 2019

**STANDARD & POOR'S RATING:**

1. A+(Strong) as of April 23, 2017
2. A – (Strong)
3. A+(Strong) as of May 18, 2018
4. Not Rated

**CALIFORNIA STATUS:**

Non - Admitted

**POLICY/COVERAGE TERM:**

12 Months

**Coverage Form:**

Cyber Liability - EVO 4.0 – Claims Made

**Retroactive Date:**

Full Prior Acts

**Business Operations:**

Water District

**Gross Revenue:**

\$ 12,562,321

**Legal Action:**

Worldwide

**Territorial Scope:**

Worldwide

**Reputational Harm Period:**

12 Months

**Indemnity Period:**

12 Months



Cyber Liability Coverage - Continued

<b>Time Retention:</b>	8 Hours
<b>Limits:</b>	
Combined Policy Aggregate Limit	\$ 1,000,000
Cyber Crime	Yes
Media Liability	Yes
<b>Insuring Clauses 1 – 3 are Subject to an Each and Every Claim Limit:</b>	
<b>Insuring Clause 1: Cyber Incident Response (Separate Tower - Mirrors Policy Limit)</b>	
Section A: Incident Response Costs	Full Limits
Section B: Legal and Regulatory Costs	Full Limits
Section C: IT Security and Forensic Costs	Full Limits
Section D: Crisis Communication Costs	Full Limits
Section E: Privacy Breach Management Costs	Full Limits
Section F: Third Party Privacy Breach Management Costs	Full Limits
Section G: Post Breach Remediation Costs	\$ 50,000 subject to a maximum of 10% of all sums we have paid as a direct result of the cyber event
<b>Insuring Clause 2: Cyber Crime</b>	
Section A: Funds Transfer Fraud (Social Engineering)	\$ 250,000
Section B: Theft of Funds Held In Escrow	\$ 250,000
Section C: Theft of Personal Funds	\$ 250,000
Section D: Extortion	Full Limits
Section E: Corporate Identity Theft	\$ 250,000
Section F: Telephone Hacking	\$ 250,000
Section G: Push Payment Fraud	\$ 50,000
Section H: Unauthorized Use of Computer Resources	\$ 250,000
<b>Insuring Clause 3: System Damage and Business Interruption</b>	
Section A: System Damage and Rectification Costs	Full Limits
Section B: Income Loss and Extra Expense	Full Limits
	\$ 1,000,000 sub-limited - in respect of system failure



Cyber Liability Coverage - Continued

**Limits – Continued:**

Section C: Additional Extra Expense	10% of the Overall Limit - Sub-limited to \$ 100,000 Maximum Sub-limit
Section D: Dependent Business Interruption	Full Limits \$ 1,000,000 sub-limited - in respect of system failure
Section E: Consequential Reputational Harm	Full Limits
Section F: Claim Preparation Costs	\$ 25,000
Section G: Hardware Replacement Costs	Full Limits
<b>Insuring Clauses 4 – 7 are Subject to an Aggregate Limit:</b>	
<b>Insuring Clause 4: Network Security &amp; Privacy Liability</b>	
Section A: Network Security Liability	Full Limits, including costs and expenses
Section B: Privacy Liability	Full Limits, including costs and expenses
Section C: Management Liability	Full Limits, including costs and expenses
Section D: Regulatory Fines	Full Limits, including costs and expenses
Section E: PCI Fines, Penalties and Assessments	Full Limits, including costs and expenses
<b>Insuring Clause 5: Media Liability</b>	
Section A: Defamation	Full Limits, including costs and expenses
Section B: Intellectual Property Rights Infringement	Full Limits, including costs and expenses
<b>Insuring Clause 6: Technology Errors and Omissions</b>	
Technology Errors and Omissions	No Cover Provided
<b>Insuring Clause 7: Court Attendance Costs</b>	
Court Attendance Costs	\$ 100,000 in the aggregate
<b>Deductible:</b>	
	\$ 5,000 each and every claim, including costs and expenses
	\$ 0 Apply to Insuring Clause 1 - Section A; Insuring Clause 1 - Section G; Insuring Clause 3 - Section F; Insuring Clause 7 - Yucaipa Valley District
<b>Defense Inside/Outside the Limit:</b>	
	Inside the Limit



Cyber Liability Coverage - Continued

**Who has the Duty to Defend:**

**Policy Form Exclusions:**  
(including but not limited to)

**Endorsement & Exclusions:**  
(including but not limited to)

Insurer

- Business interruption liability
- Antitrust
- Associated companies
- Betterment
- Bodily injury and property damage
- Chargebacks
- Core internet infrastructure failure
- Domain name suspension or revocation
- Insolvency
- Known claims and circumstances
- Liquidated damages, service credits and penalty clauses
- Loss of economic value
- Management liability
- Misleading advertising
- Nuclear
- Patent infringement
- Payment card industry related fines, penalties and assessments
- Power and utility failure
- Product IP infringement
- Professional liability
- Property and hardware costs
- Regular hours staff costs
- Sanctions
- Terrorism
- Theft of funds held in escrow
- Uninsurable fines
- Unlawful surveillance
- Unsolicited communications
- War
- Willful or dishonest acts of senior executive officers
  
- Notice of TRIA



Cyber Liability Coverage - Continued

<b>Total Cost Excluding TRIA:</b>	\$ 4,150.00 Policy Premium \$ 300.00 Service Fee \$ 133.50 CA Surplus Taxes (3%) \$ 8.90 CA Stamping Fee (0.2%) <b>\$ 4,592.40 Total Cost</b>
<b>Total Cost Including TRIA:</b>	\$ 4,150.00 Policy Premium \$ 0.00 TRIA Premium \$ 300.00 Service Fee \$ 133.50 CA Surplus Taxes (3%) \$ 8.90 CA Stamping Fee (0.2%) <b>\$ 4,592.40 Total Cost</b>
<b>Optional Coverages:</b>	<b>Option 2:</b> \$ 2,000,000 Combined Policy Aggregate Limit  <b>Total Cost Excluding TRIA:</b> \$ 5,600.00 Policy Premium \$ 300.00 Service Fee \$ 177.00 CA Surplus Taxes (3%) \$ 11.80 CA Stamping Fee (0.2%) <b>\$ 6,088.80 Total Cost</b>  <b>Total Cost Including TRIA:</b> \$ 5,600.00 Policy Premium \$ 0.00 TRIA Premium \$ 300.00 Service Fee \$ 177.00 CA Surplus Taxes (3%) \$ 11.80 CA Stamping Fee (0.2%) <b>\$ 6,088.80 Total Cost</b>  <b>Option 3:</b> \$ 3,000,000 Combined Policy Aggregate Limit  <b>Total Cost Excluding TRIA:</b> \$ 6,550.00 Policy Premium \$ 300.00 Service Fee \$ 205.50 CA Surplus Taxes (3%) \$ 13.70 CA Stamping Fee (0.2%) <b>\$ 7,069.20 Total Cost</b>



Cyber Liability Coverage - Continued

Optional Coverages - Continued:

<b>Total Cost Including TRIA:</b>	
\$ 6,550.00	Policy Premium
\$ 0.00	TRIA Premium
\$ 300.00	Service Fee
\$ 205.50	CA Surplus Taxes (3%)
\$ 13.70	CA Stamping Fee (0.2%)
<b>\$ 7,069.20</b>	<b>Total Cost</b>

Minimum Earned Premium:

Not Applicable

Quote Valid Until:

October 11, 2019

Policy Auditable:

Not Auditable

Binding Conditions:

- A written request to bind coverage
- All Surplus Lines Taxes/Fees are Fully Eamed
- Signed TRIA
- For Surplus Lines filing: Complete the CA tax form (included in hyperlink)

See Disclaimer Page for Important Notices and Acknowledgement





## Disclosures

This proposal of insurance is provided as a matter of convenience and information only. All information included in this proposal, including but not limited to personal and real property values, locations, operations, products, data, automobile schedules, financial data and loss experience, is based on facts and representations supplied to Alliant Insurance Services, Inc. by you. This proposal does not reflect any independent study or investigation by Alliant Insurance Services, Inc. or its agents and employees.

Please be advised that this proposal is also expressly conditioned on there being no material change in the risk between the date of this proposal and the inception date of the proposed policy (including the occurrence of any claim or notice of circumstances that may give rise to a claim under any policy which the policy being proposed is a renewal or replacement). In the event of such change of risk, the insurer may, at its sole discretion, modify, or withdraw this proposal, whether or not this offer has already been accepted.

This proposal is not confirmation of insurance and does not add to, extend, amend, change, or alter any coverage in any actual policy of insurance you may have. All existing policy terms, conditions, exclusions, and limitations apply. For specific information regarding your insurance coverage, please refer to the policy itself. Alliant Insurance Services, Inc. will not be liable for any claims arising from or related to information included in or omitted from this proposal of insurance.

Alliant embraces a policy of transparency with respect to its compensation from insurance transactions. Details on our compensation policy, including the types of income that Alliant may earn on a placement, are available on our website at [www.alliant.com](http://www.alliant.com). For a copy of our policy or for any inquiries regarding compensation issues pertaining to your account you may also contact us at: Alliant Insurance Services, Inc., Attention: General Counsel, 701 B Street, 6th Floor, San Diego, CA 92101.

Analyzing insurers' over-all performance and financial strength is a task that requires specialized skills and in-depth technical understanding of all aspects of insurance company finances and operations. Insurance brokerages such as Alliant Insurance typically rely upon rating agencies for this type of market analysis. Both A.M. Best and Standard and Poor's have been industry leaders in this area for many decades, utilizing a combination of quantitative and qualitative analysis of the information available in formulating their ratings.

A.M. Best has an extensive database of nearly 6,000 Life/Health, Property Casualty and International companies. You can visit them at [www.ambest.com](http://www.ambest.com). For additional information regarding insurer financial strength ratings visit Standard and Poor's website at [www.standardandpoors.com](http://www.standardandpoors.com).

Our goal is to procure insurance for you with underwriters possessing the financial strength to perform. Alliant does not, however, guarantee the solvency of any underwriters with which insurance or reinsurance is placed and maintains no responsibility for any loss or damage arising from the financial failure or insolvency of any insurer. We encourage you to review the publicly available information collected to enable you to make an informed decision to accept or reject a particular underwriter. To learn more about companies doing business in your state, visit the Department of Insurance website for that state.





#### NY Regulation 194

Alliant Insurance Services, Inc. is an insurance producer licensed by the State of New York. Insurance producers are authorized by their license to confer with insurance purchasers about the benefits, terms and conditions of insurance contracts; to offer advice concerning the substantive benefits of particular insurance contracts; to sell insurance; and to obtain insurance for purchasers. The role of the producer in any particular transaction typically involves one or more of these activities.

Compensation will be paid to the producer, based on the insurance contract the producer sells. Depending on the insurer(s) and insurance contract(s) the purchaser selects, compensation will be paid by the insurer(s) selling the insurance contract or by another third party. Such compensation may vary depending on a number of factors, including the insurance contract(s) and the insurer(s) the purchaser selects. In some cases, other factors such as the volume of business a producer provides to an insurer or the profitability of insurance contracts a producer provides to an insurer also may affect compensation.

The insurance purchaser may obtain information about compensation expected to be received by the producer based in whole or in part on the sale of insurance to the purchaser, and (if applicable) compensation expected to be received based in whole or in part on any alternative quotes presented to the purchaser by the producer, by requesting such information from the producer.

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#### Other Disclosures / Disclaimers

##### FATCA:

The Foreign Account Tax Compliance Act (FATCA) requires the notification of certain financial accounts to the United States Internal Revenue Service. Alliant does not provide tax advice so please contact your tax consultant for your obligation regarding FATCA.

##### Claims Reporting:

Your policy will come with specific claim reporting requirements. Please make sure you understand these obligations. Contact your Alliant Service Team with any questions.

##### Claims Made Policy:

This claims-made policy contains a requirement stating that this policy applies only to any claim first made against the Insured and reported to the insurer during the policy period or applicable extended reporting period. Claims must be submitted to the insurer during the policy period, or applicable extended reporting period, as required pursuant to the Claims/Loss Notification Clause within the policy in order for coverage to apply. Late reporting or failure to report pursuant to the policy's requirements could result in a disclaimer of coverage by the insurer.

##### NRRA:

The Non-Admitted and Reinsurance Reform Act (NRRA) went into effect on July 21, 2011. Accordingly, surplus lines tax rates and regulations are subject to change which could result in an increase or decrease of the total surplus lines taxes and/or fees owed on this placement. If a change is required, we will promptly notify you. Any additional taxes and/or fees must be promptly remitted to Alliant Insurance Services, Inc.



## Other Disclosures / Disclaimers - Continued

### Changes and Developments

It is important that we be advised of any changes in your operations, which may have a bearing on the validity and/or adequacy of your insurance. The types of changes that concern us include, but are not limited to, those listed below:

- Changes in any operations such as expansion to another states, new products, or new applications of existing products.
- Travel to any state not previously disclosed.
- Mergers and/or acquisition of new companies and any change in business ownership, including percentages.
- Any newly assumed contractual liability, granting of indemnities or hold harmless agreements.
- Any changes in existing premises including vacancy, whether temporary or permanent, alterations, demolition, etc. Also, any new premises either purchased, constructed or occupied
- Circumstances which may require an increased liability insurance limit.
- Any changes in fire or theft protection such as the installation of or disconnection of sprinkler systems, burglar alarms, etc. This includes any alterations to the system.
- Immediate notification of any changes to a scheduled of equipment, property, vehicles, electronic data processing, etc.
- Property of yours that is in transit, unless previously discussed and/or currently insured.

### Certificates / Evidence of Insurance

A certificate is issued as a matter of information only and confers no rights upon the certificate holder. The certificate does not affirmatively or negatively amend, extend or alter the coverage afforded by a policy. Nor does it constitute a contract between the issuing insurer(s), authorized representative, producer or certificate holder.

You may have signed contracts, leases or other agreements requiring you to provide this evidence. In those agreements, you may assume obligations and/or liability for others (Indemnification, Hold Harmless) and some of the obligations that are not covered by insurance. We recommend that you and your legal counsel review these documents.

In addition to providing a certificate of insurance, you may be required to name your client or customer on your policy as an additional insured. This is only possible with permission of the insurance company, added by endorsement and, in some cases, an additional premium.

By naming the certificate holder as additional insured, there are consequences to your risks and insurance policy including:

- Your policy limits are now shared with other entities; their claims involvement may reduce or exhaust your aggregate limit.
- Your policy may provide higher limits than required by contract; your full limits can be exposed to the additional insured.
- There may be conflicts in defense when your insurer has to defend both you and the additional insured.

***See Request to Bind Coverage page for acknowledgment of all disclaimers and disclosures.***



## Optional Coverages

The following represents a list of insurance coverages that are not included in this proposal, but are optional and may be available with further underwriting information.

Note some of these coverages may be included with limitations or insured elsewhere. This is a partial listing as you may have additional risks not contemplated here or are unique to your organization.

- Crime / Fidelity Insurance
- Directors & Officers Liability
- Earthquake Insurance
- Employed Lawyers
- Employment Practices Liability
- Event Cancellation
- Fiduciary Liability
- Fireworks Liability
- Flood Insurance
- Foreign Insurance
- Garage Keepers Liability
- Kidnap & Ransom
- Law Enforcement Liability
- Media and Publishers Liability
- Medical Malpractice Liability
- Pollution Liability
- Owned/Non-Owned Aircraft
- Owned Watercraft
- Special Events Liability
- Student Accident
- Volunteer Accidental Death & Dismemberment (AD&D)
- Workers' Compensation
- Workplace Violence

## Glossary of Insurance Terms

Below are a couple of links to assist you in understanding the insurance terms you may find within your insurance coverages:

<http://insurancecommunityuniversity.com/UniversityResources/InsuranceGlossaryFREE.aspx>

<http://www.ambest.com/resource/glossary.html>

<http://www.irmi.com/online/insurance-glossary/default.aspx>



## Request to Bind Coverage

Yucaipa Valley Water District

We have reviewed the proposal and agree to the terms and conditions of the coverages presented. We are requesting coverage to be bound as outlined by coverage line below:

Coverage Line	Bind Coverage for:
Cyber Liability	
• Option 1 - \$1,000,000 Limit	<input type="checkbox"/>
• Option 2 - \$2,000,000 Limit	<input type="checkbox"/>
• Option 3 - \$3,000,000 Limit	<input type="checkbox"/>

*This Authorization to Bind Coverage also acknowledges receipt and review of all disclaimers and disclosures, including exposures used to develop insurance terms, contained within this proposal.*

Signature of Authorized Insurance Representative	Date
Title	
Printed / Typed Name	

**This proposal does not constitute a binder of insurance. Binding is subject to final carrier approval. *The actual terms and conditions of the policy will prevail.***



**Date:** October 8, 2019  
**From:** Kathryn Hallberg, Implementation Manager  
**Subject:** Review of Workers' Compensation Insurance Policy for 2019-2020

---

Yucaipa Valley Water District currently has a workers' compensation insurance policy with EPIC Brokers with insurance coverage provided by Berkshire and Hathaway.

The District has investigated and requested a variety of quotes. The attached spreadsheet details the quotes received. Redwood F&C Berkshire Hathaway submitted a quote for \$146,922 and has the strongest AM Best Rating of A++XV, which is the highest rating given and has more than sufficient financial capacity to provide the necessary policy limits. Cal Mutual JPRIMA's provided a premium quote of \$144,582 with a rating of A XII; while the quote is less than Redwood F&C Berkshire Hathaway it requires a 3-year commitment without a guarantee of price locking the premium in the following years.

The Experience Modification percentage increased from 74% in the 2018-19 policy to 93% in the 2019-20 policy. This was due to an increased amount for claims and actual losses from \$13,907 for 2018-19 to \$117,301 for 2019-20. This does not reflect the District safety record; the District maintains a good safety record that has allowed the broker to obtain multiple competitive quotes. Also taken into consideration for the 2019-20 quote is a payroll increase of 9.2% from the 2018-19 policy from standard salary increases and the recruitment of additional employees.

#### Financial Consideration

Funding for the insurance was included in the fiscal year 2019-20 budget and will be split between the Water, Sewer and Recycled Water Funds, Workers Compensation account [G/L Account #xx-5xx-50019].



**YUCAIPA VALLEY WATER DISTRICT  
Workers Compensation Renewal Comparison**

			10/31/18 to 10/31/19			10/31/19 to 10/31/20			10/31/19 to 5/01/20 (Short-Term)		
			Redwood F&C (BHHC)			Redwood F&C (BHHC)			Short-Term Payroll Used Cal Mutual JPRIMA The Zenith		
<b>AM Best Rating</b>			A ++ XV			A ++ XV			A XII		
State	Class Code	Description	Estimated Payroll	Base Rate	Net Rate	Estimated Payroll	Base Rate	Net Rate	Estimated Payroll	Base Rate	Net Rate
CA	7520	Waterworks Ops	\$3,349,402	6.51	2.71	\$2,816,047	5.83	3.06	\$1,411,881	4.32	3.01
CA	7580	Sanitation	\$666,604	7.35	3.06	\$1,684,198	6.10	3.21	\$844,406	4.52	3.15
CA	8810	Clerical – NOC	\$1,410,313	0.71	0.30	\$1,467,439	0.83	0.44	\$735,730	0.46	0.43
CA	8742	Salespersons-O/S	\$465,206	0.92	0.38	\$470,357	0.61	0.32	\$235,823	0.61	0.32
		Experience Modification Factor	74%			93%			93%		
		Total Annual Payroll	\$5,891,525			\$6,438,041			\$6,438,041		
		Total Short Term Payroll							\$3,227,840		
		* Short Term Premium							\$72,719		
		* Estimated Annual Premium	\$117,066			\$146,922			\$144,582		

\*Premium Does Not Include State Taxes and Fees

**MARKET RESPONSE**

- Redwood/BHHC - Incumbent, Quote \$146,922
- JPRIMA/Zenith - Quotes \$144,582 Annual / \$72,719 Short-Term
- State Fund - Indication \$230k - \$282k
- Liberty - Quote \$199,042
- Atlas General - submitted
- Star Stone - submitted
- Hartford - submitted
- ICW - submitted
- Amtrust - Declined
- Arrowhead - Declined
- Chubb - Declined
- Comp West - Declined
- Employers - Declined
- Everest - Declined, minimum premium \$500k
- Pacific Comp - Declined
- Preferred - Declined
- Protective - Declined
- Republic Indemnity - Declined
- Travelers, Declined





**Date:** October 8, 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

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## 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:

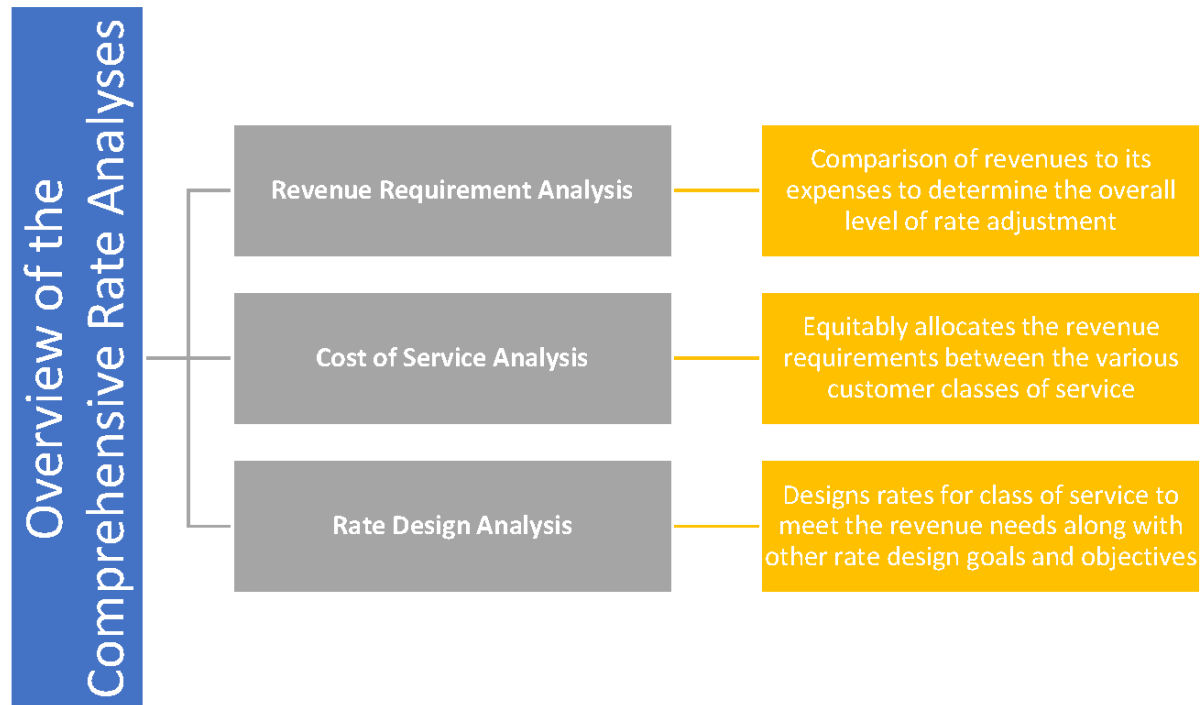
- Develop the study in a manner that is consistent with the principles and methodologies established by the American Water Works Association (AWWA) M1 Manual, Principles of Water Rates, Fees and Charges.
- Develop the District's revenue requirement analysis to provide prudent and adequate funding levels 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

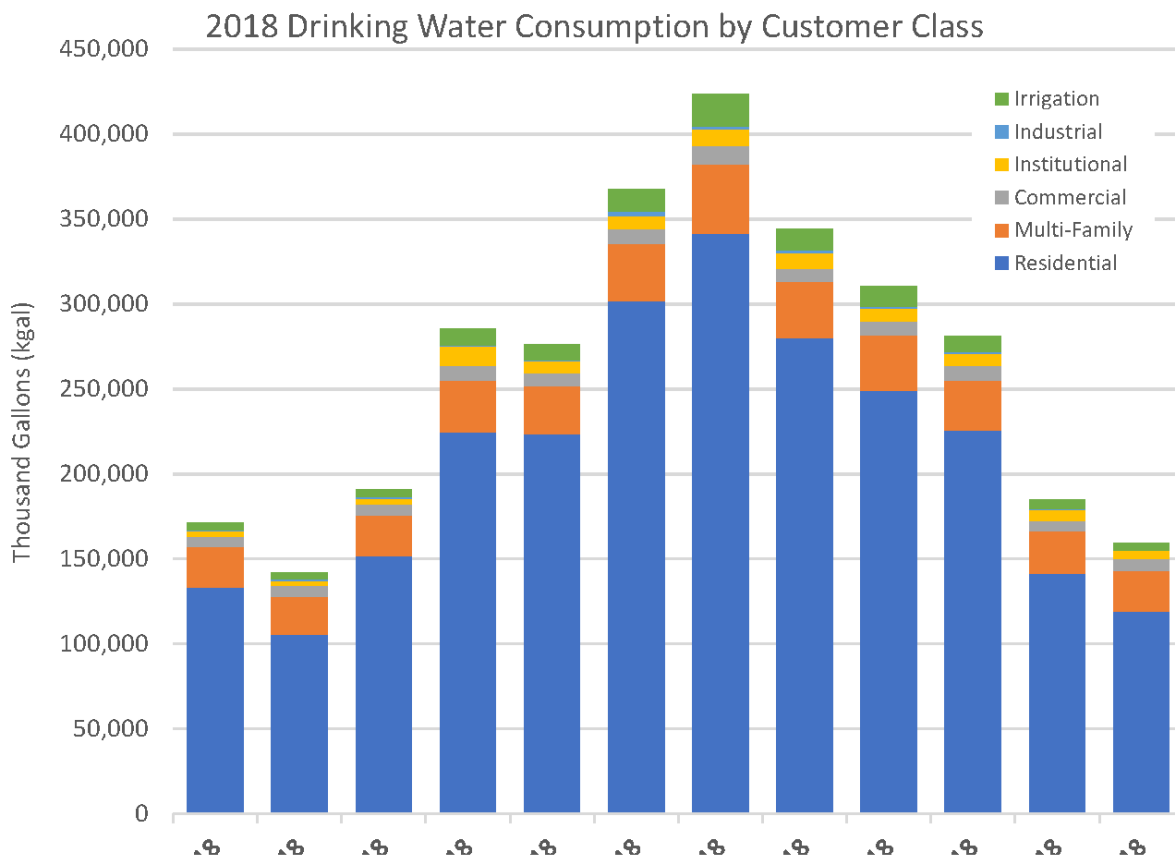
a financial plan for the next five-years and the level of capital improvement funding available for the asset management plan.

**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:

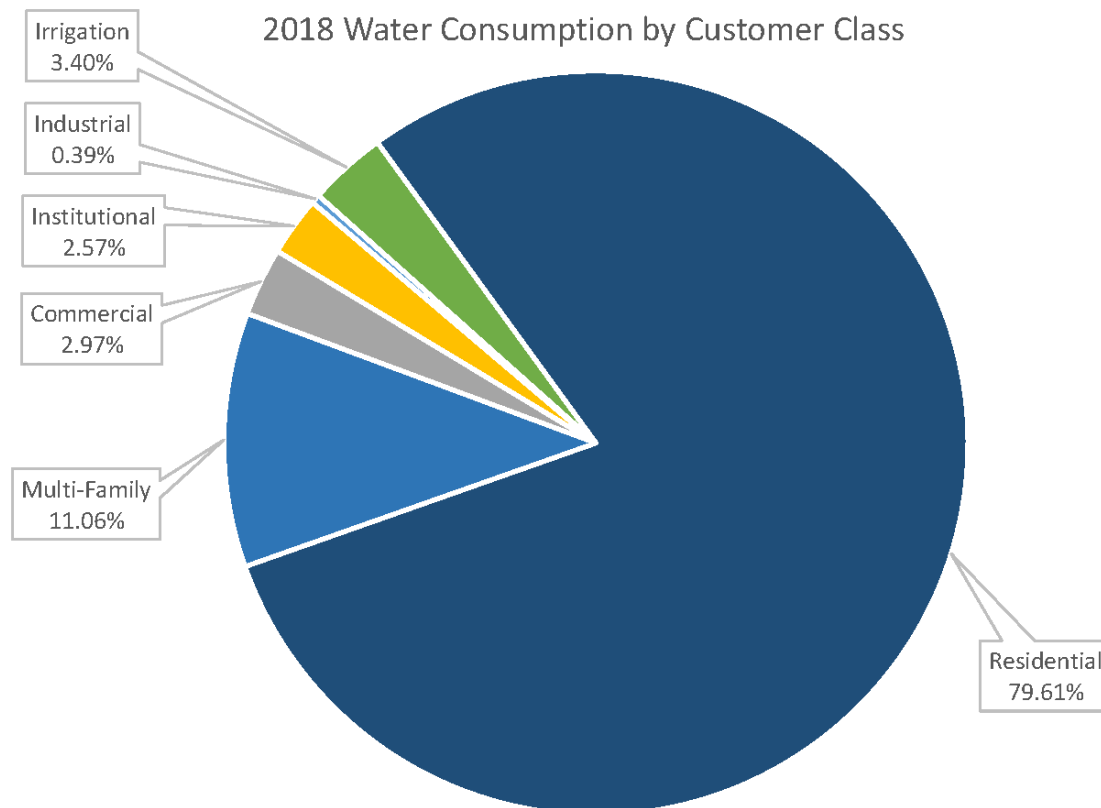
- Equitably allocate the revenue requirement among the customer classes of service; and
- Derive average unit costs for subsequent rate designs

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 1 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**

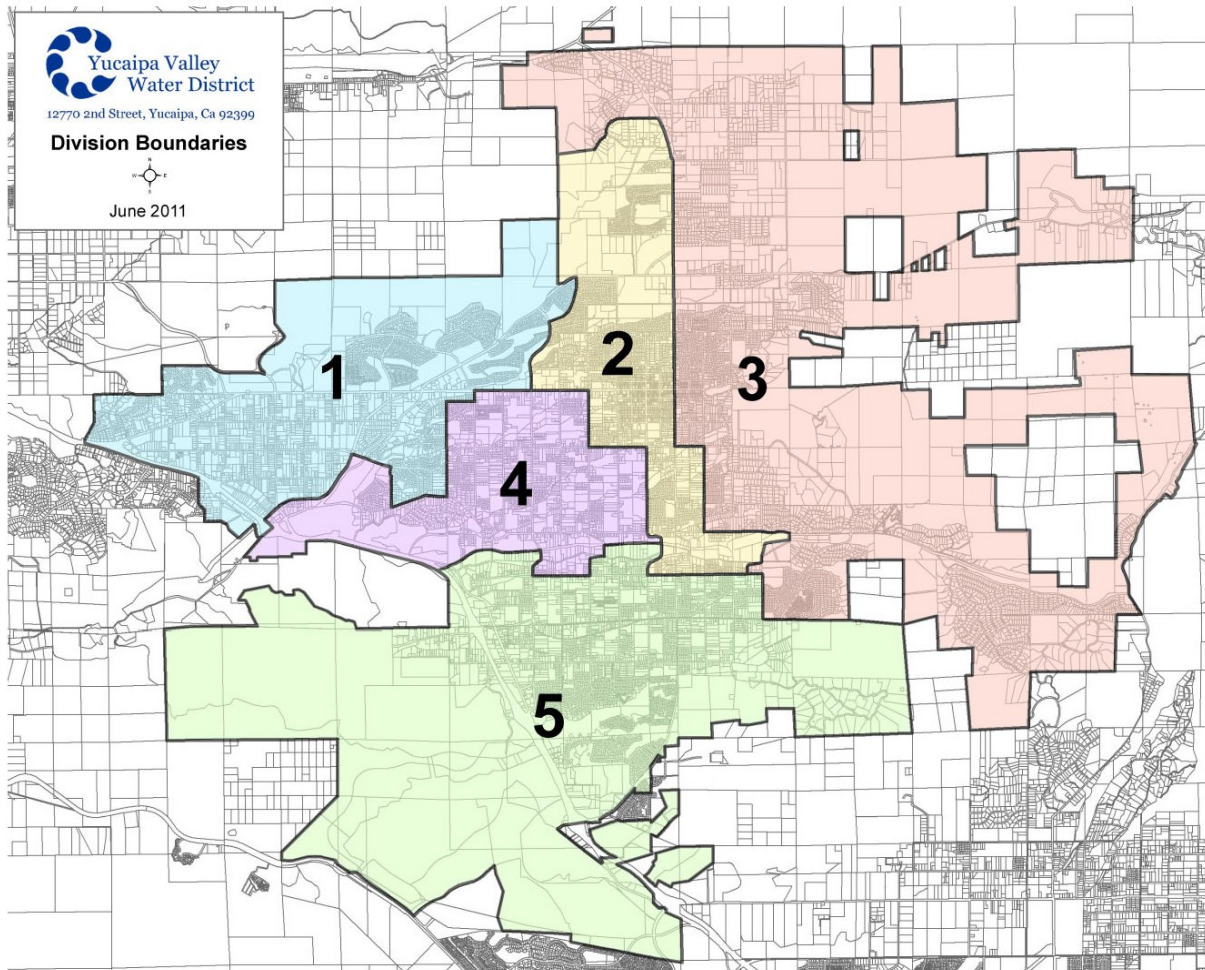
The altitude of the District rises from about 2,000 feet above sea level at the western end of the valley to about 5,000 feet at the eastern end, with average elevation of roughly 2,650 feet. The topography of the area is characterized by rolling hills separated by deeply entrenched stream beds, namely, 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

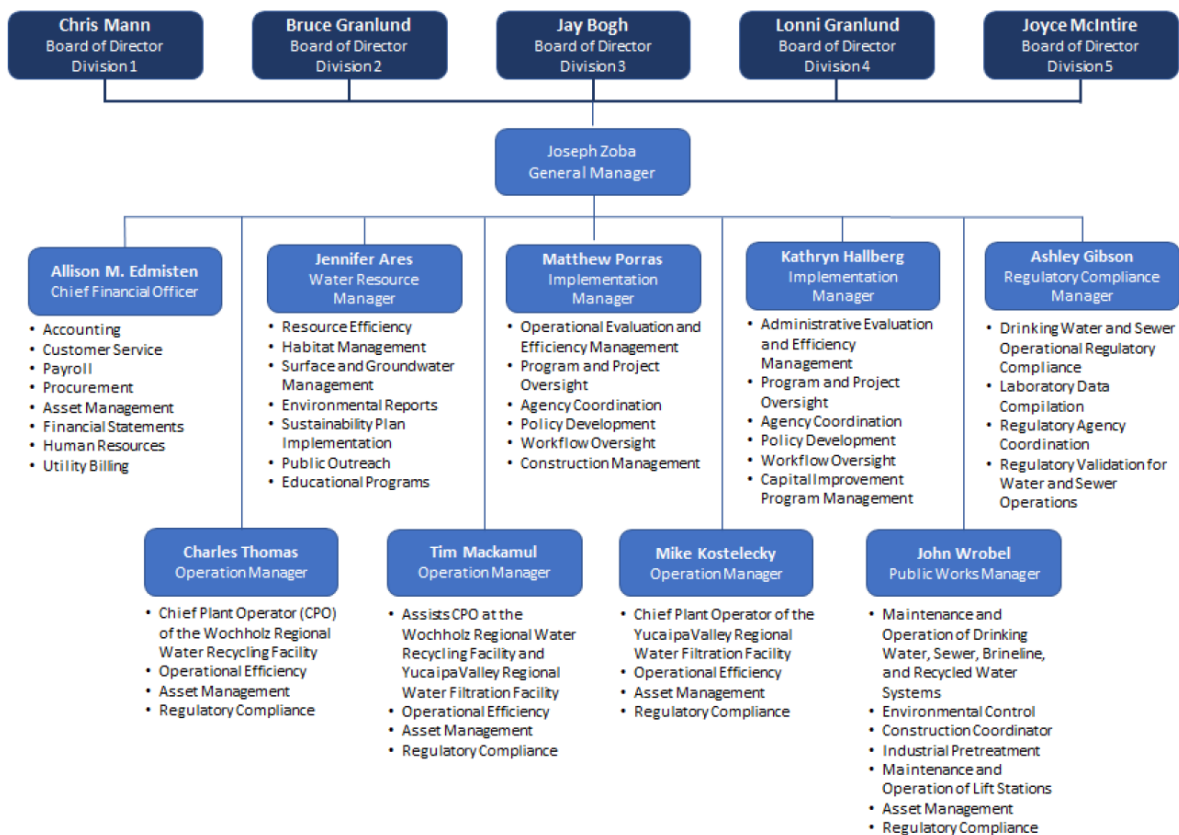


The following individuals have served as President of the Board since the District was created in 1972.

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

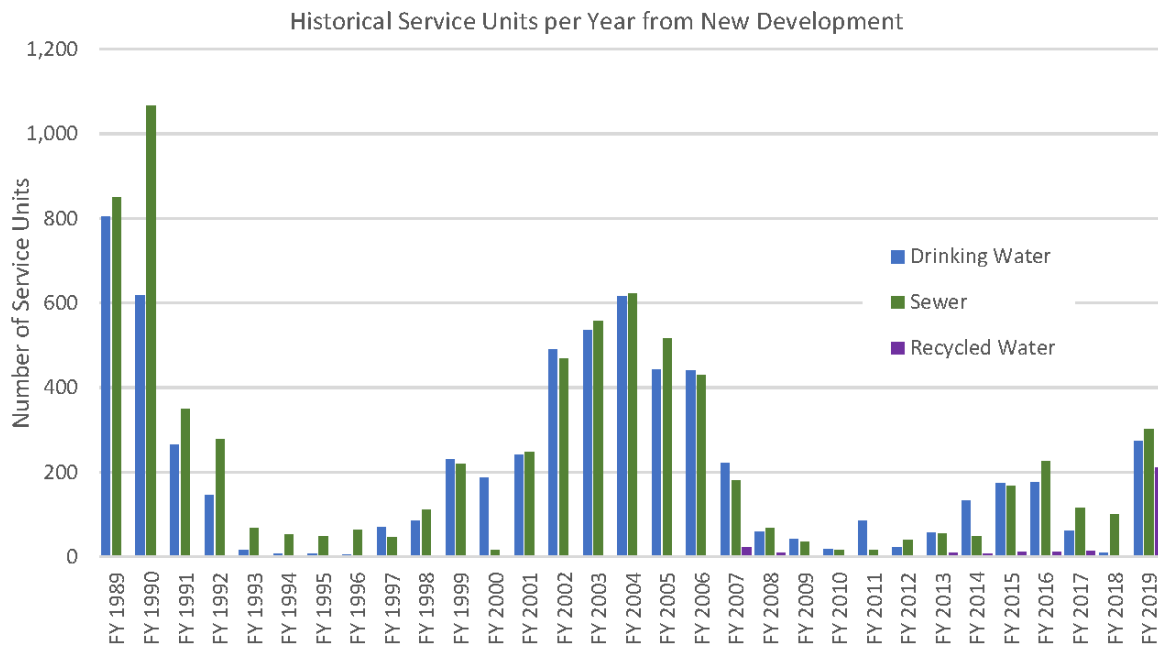
As of June 30, 2019, the District provided service to 13,794 drinking water connections (19,243 water service units), 14,104 sewer connections (22,774 sewer service units) and 111 recycled water connections (460 recycled service units).



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	--	--
<b>Total</b>	<b>13,794</b>	<b>19,243</b>	<b>14,104</b>	<b>22,774</b>	<b>111</b>	<b>460</b>

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.

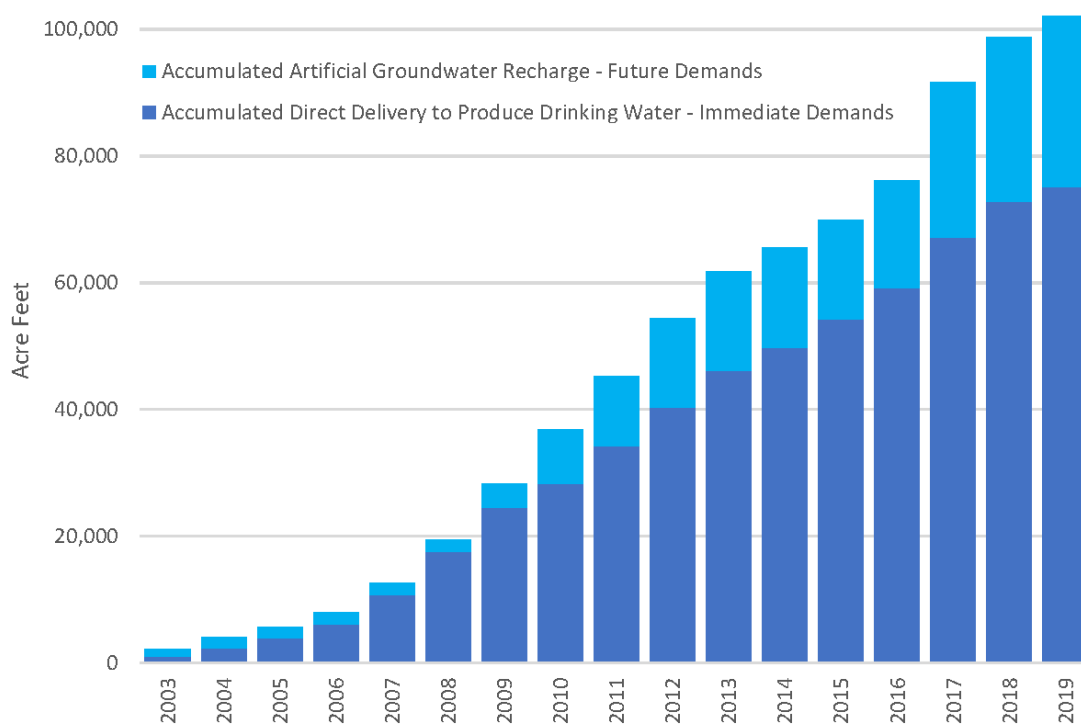


### 1.1.5 Supplemental Water Purchases

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.

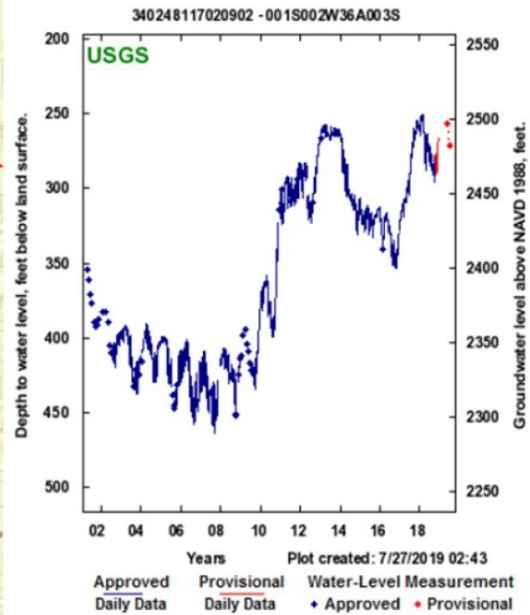
Use of Imported Water Resources



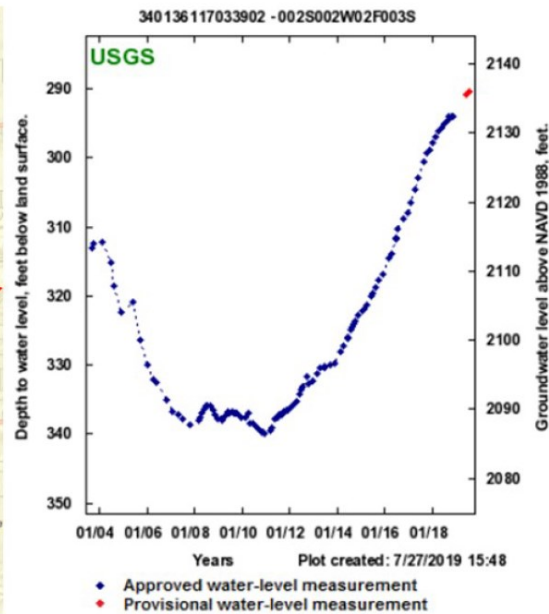
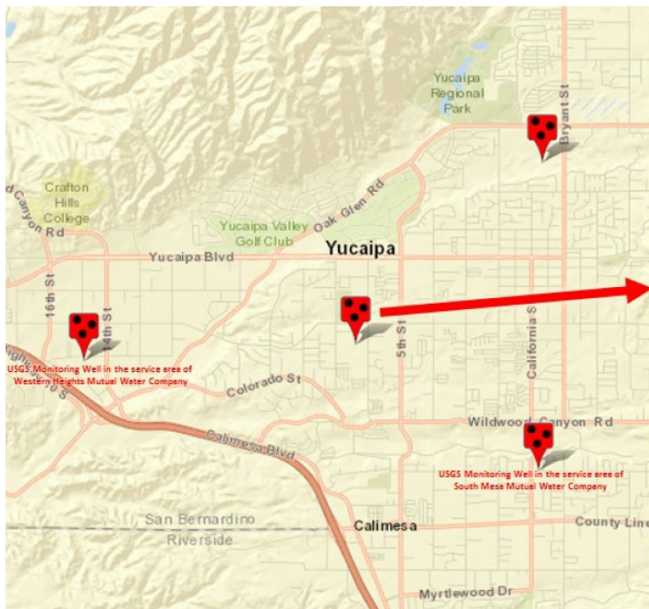
### 1.1.6 Groundwater Conditions and Resource Management

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

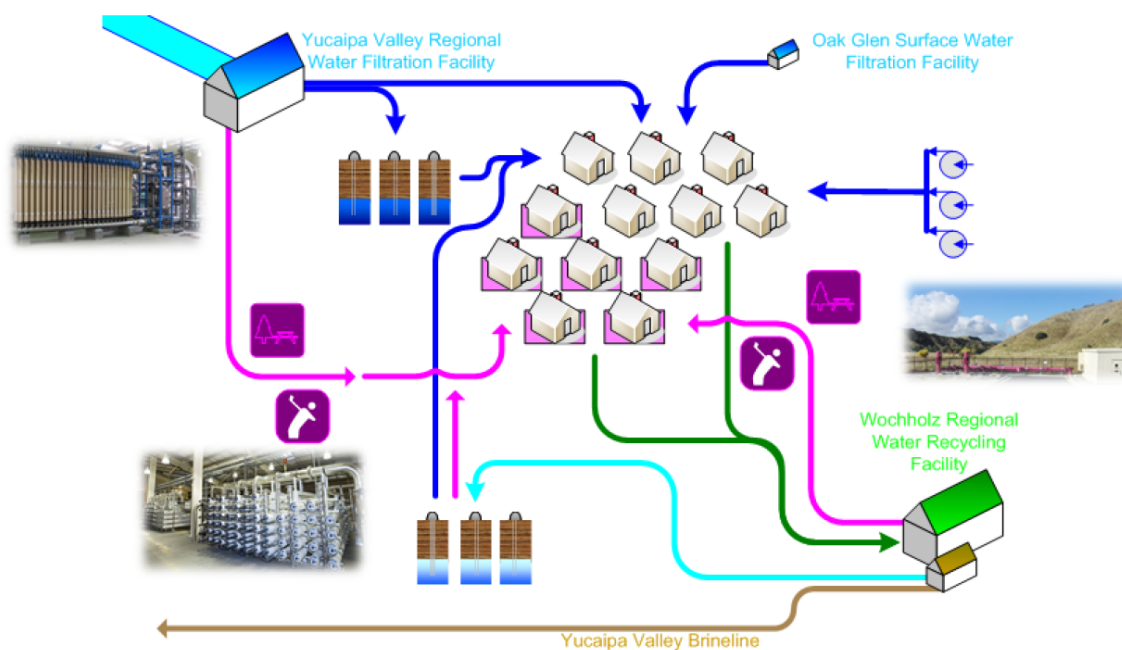
groundwater basins governed by the Sustainable Groundwater Management Act, namely the Yucaipa Groundwater Basin (<https://yucaipasgma.org/>) and the San Timoteo Groundwater Basin (<http://www.santimoteosgma.org/>).

### 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.

## Water Resource Management Schematic for the Yucaipa Valley Water District



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](http://www.yvwd.dst.ca.us). Regular workshops and board meetings are public meetings and scheduled late in the day and evenings to encourage public 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



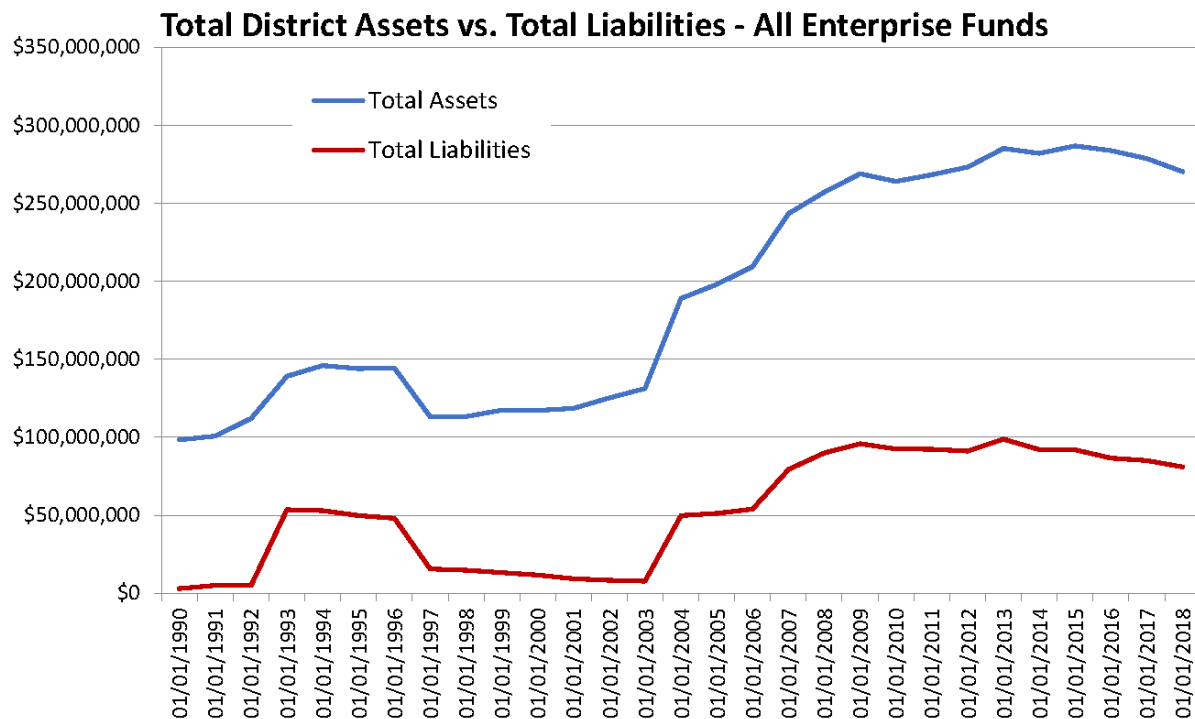
system assets. Under the accrual basis, depreciation expense (a non-cash item) is included as an operating expense.

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

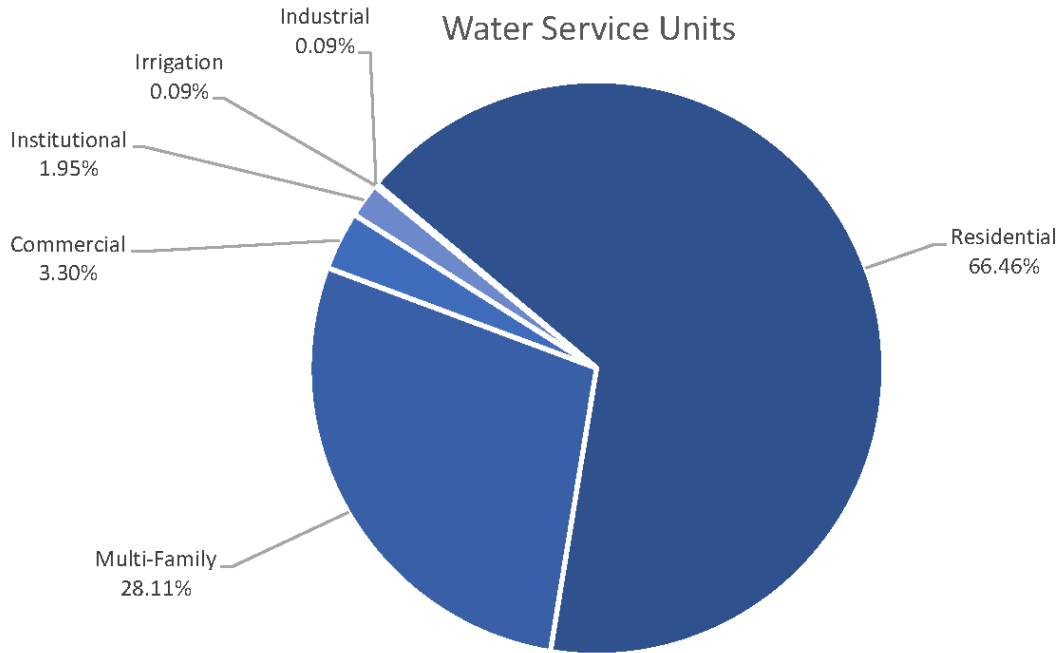
A fundamental element for developing service projections is the quantification of customer demand characteristics and the revenues derived from the current schedule of utility charges. This information provides the foundation for integrating projected changes in demands and customer unit rate adjustments.

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.

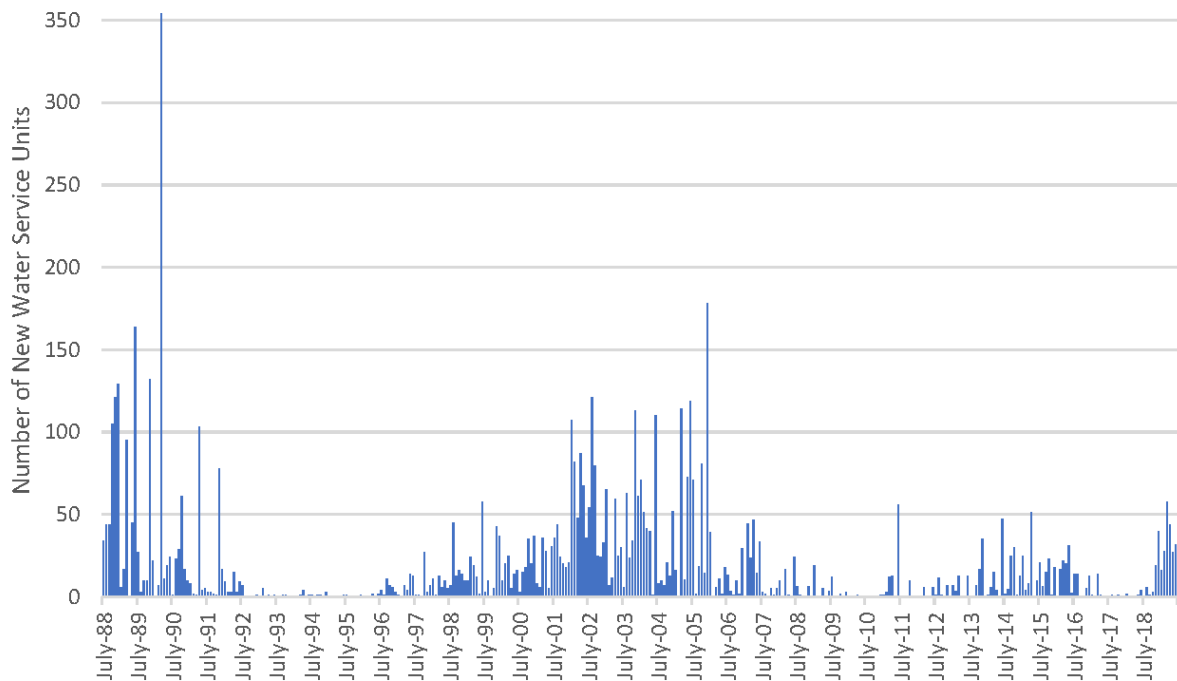
The table below illustrates a detailed breakdown of service connections by the type of customer. The difference between the number of service connections and the number of Water Service Unit represents multiple units on a property and larger capacity water meters that are typically used for commercial,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

Customer Type	Drinking Water Enterprise	
	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	--	--
<b>Total</b>	<b>13,794</b>	<b>19,243</b>



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.

Drinking Water Facility Capacity Fees - Monthly Data

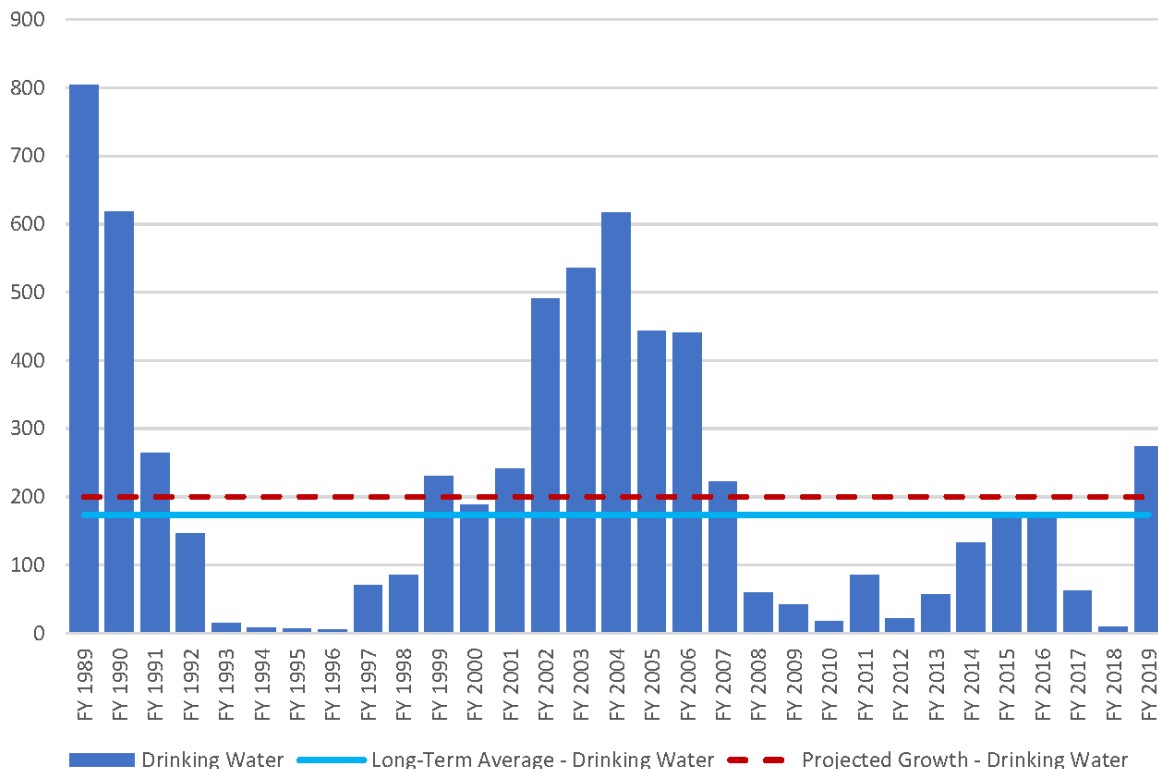


For the purposes of this comprehensive rate study, the District recognizes that several large developments have started construction and will add thousands of Water Service Units in the near future. These fully entitled development projects will likely skew the relatively slow growth that has occurred 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.

Drinking Water Facility Capacity Charges - Annual Data



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**

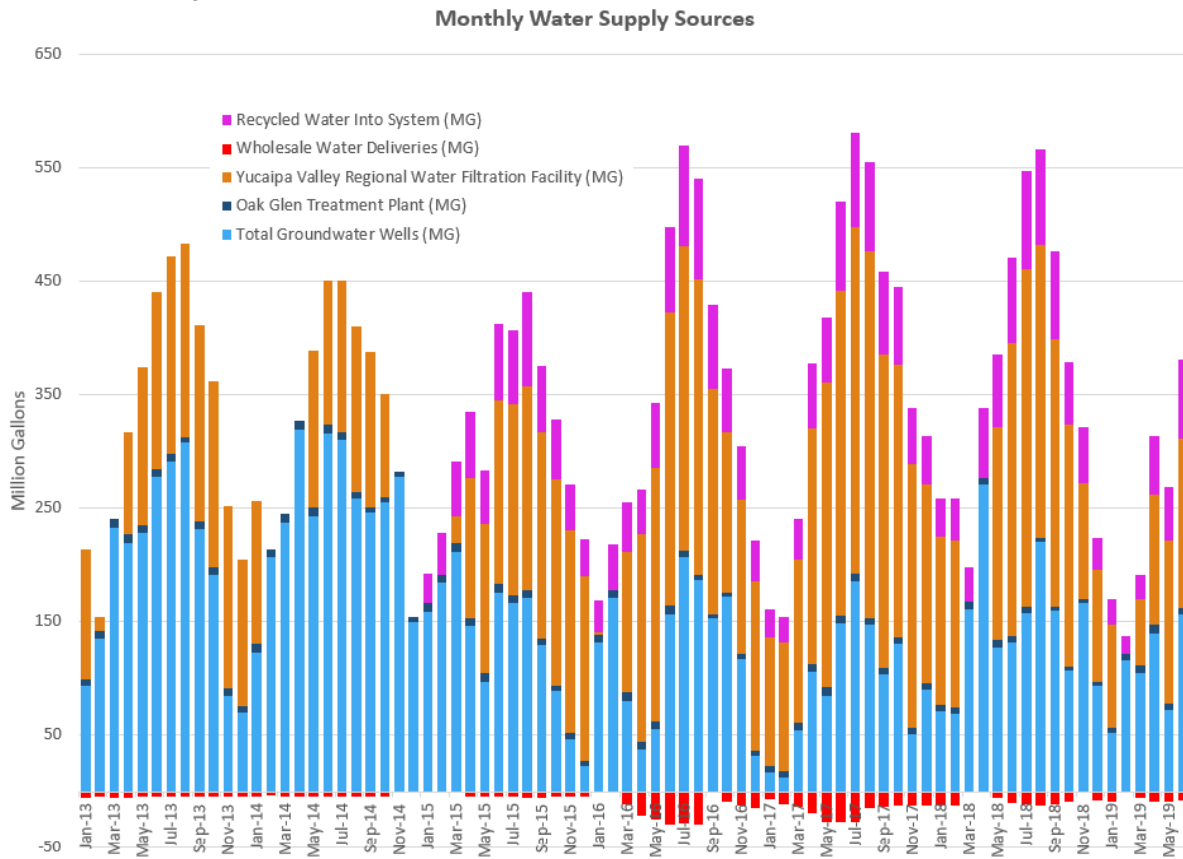
The Yucaipa Valley Water District maintains a highly diversified water resource portfolio that consists of groundwater, imported water, local surface water, and recycled water. The use of these resources varies each month depending on the regional and statewide climatic conditions and policies/goals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



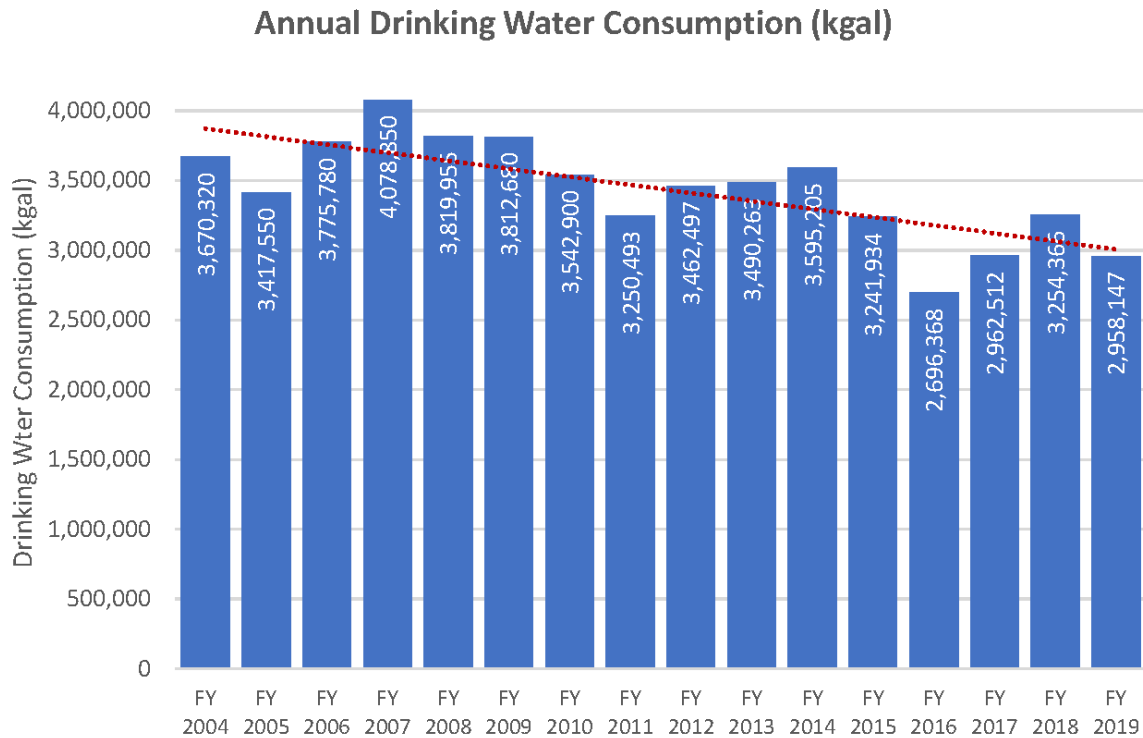
The following graph illustrates the monthly water demands and the various water supply sources used by the District to meet the demand.



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.

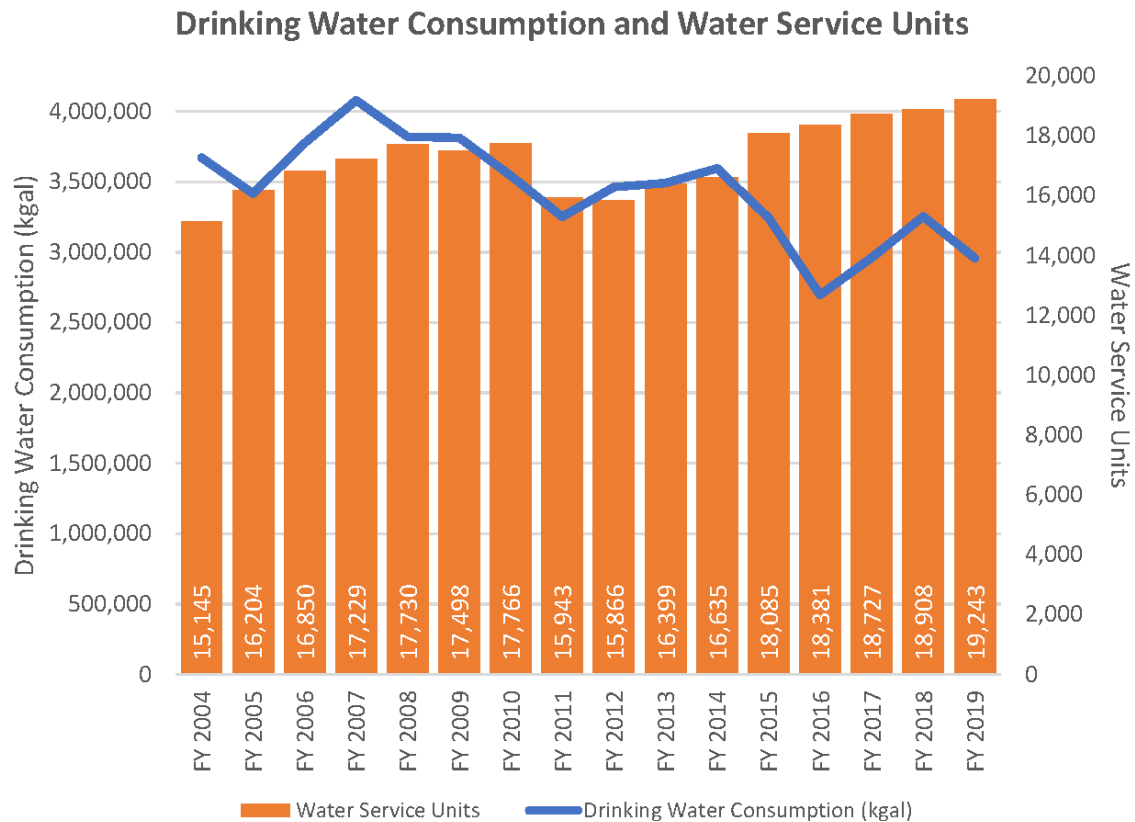


The Yucaipa Valley Water District has been experiencing a decline in drinking water consumption over the past decade. In FY 2007 the District delivered 4,078,850 kgal of drinking water (12,517 acre feet) compared to 2,958,147 kgal of drinking water (9,078 acre feet) in FY 2019. This represents a decrease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

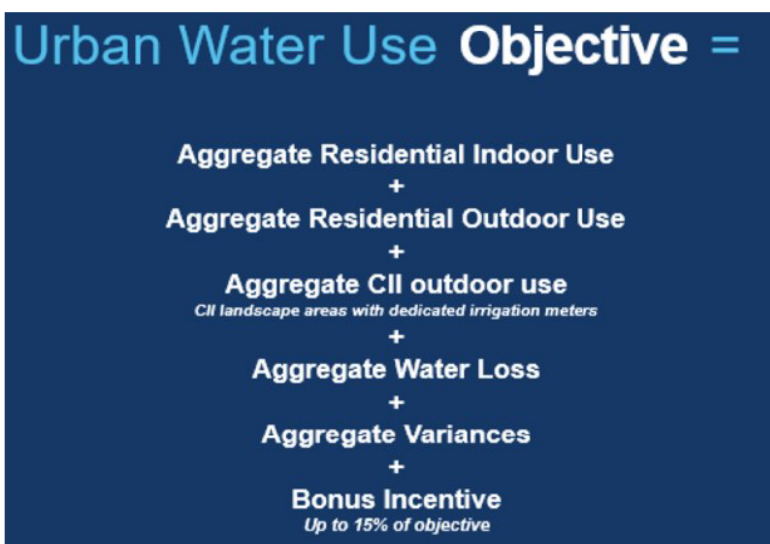


On May 31, 2018, Governor Brown signed two bills which build on the ongoing efforts to “make water conservation a California way of life.” Senate Bill No. 606 (Hertzberg) and Assembly Bill No. 1668 (Friedman) place a large emphasis on water use efficiency mandates that will be the responsibility of urban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



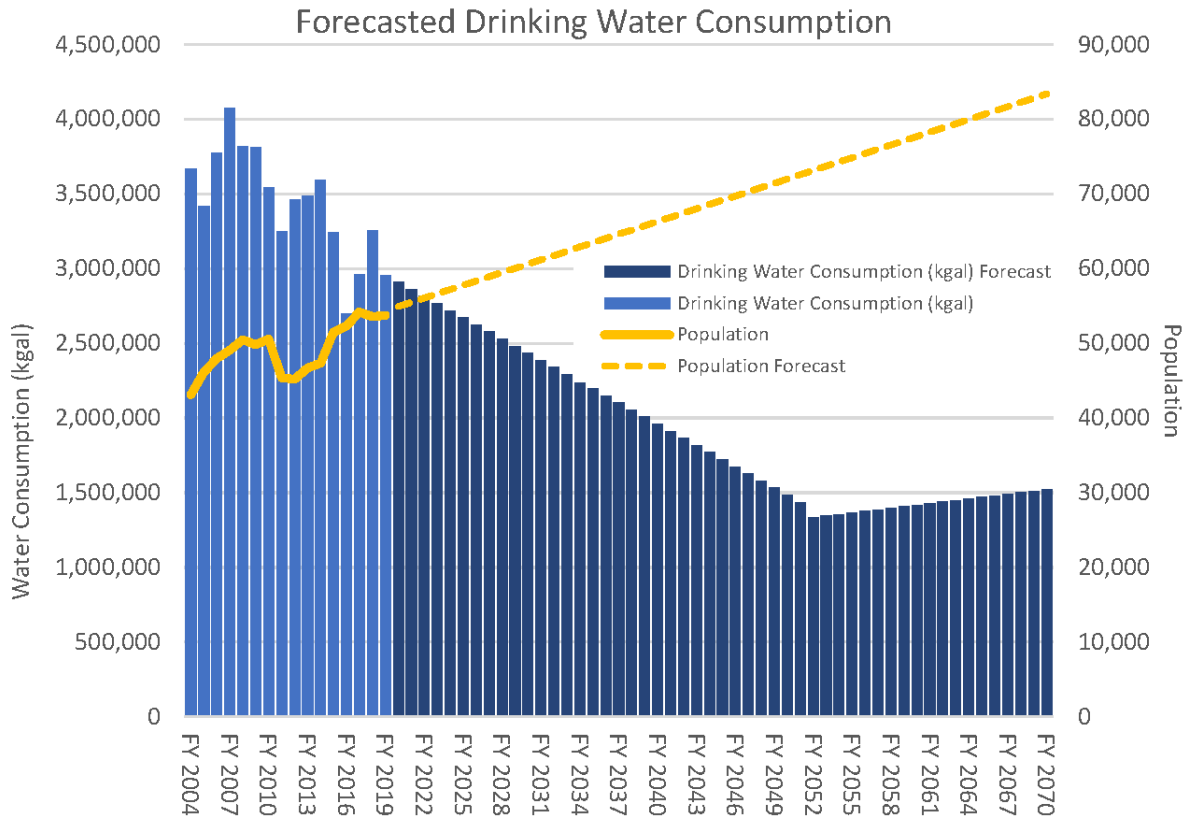
The indoor water use standard will be 55 gallons per person per day (gallons per capita daily, or GPCD) until January 2025; the standard will become stronger over time, decreasing to 50 GPCD in January 2030. For the water use objective, the indoor use is aggregated across population in an urban water 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.

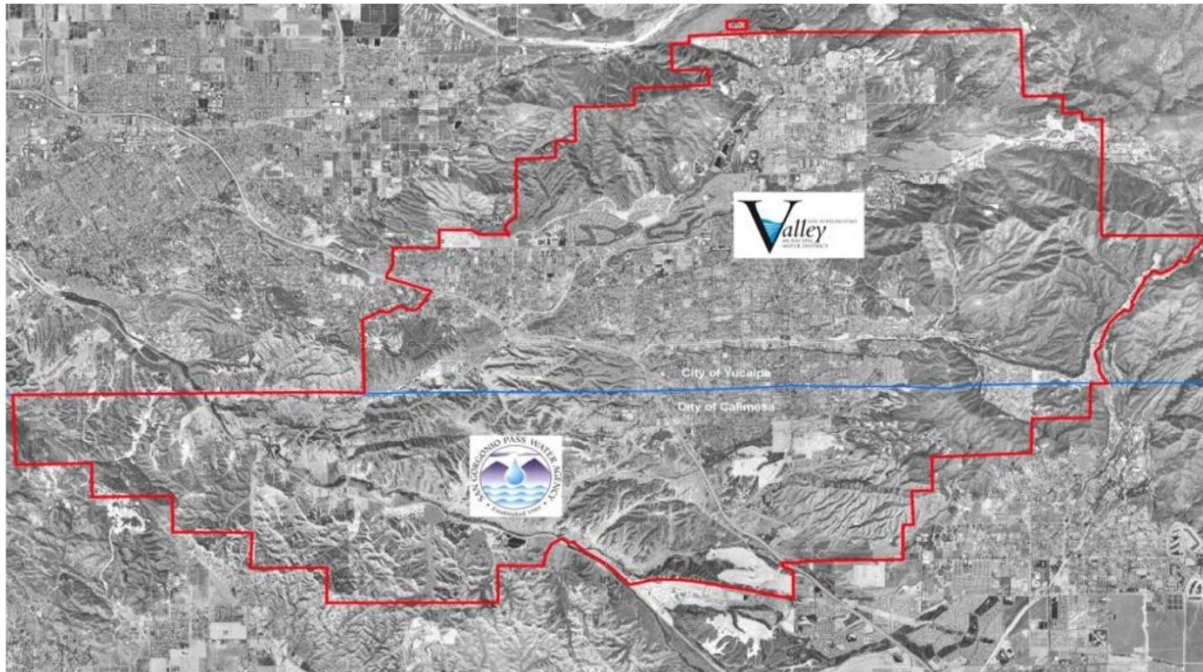


**3.2.2 Evaluation of Supplemental Water Demands**

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





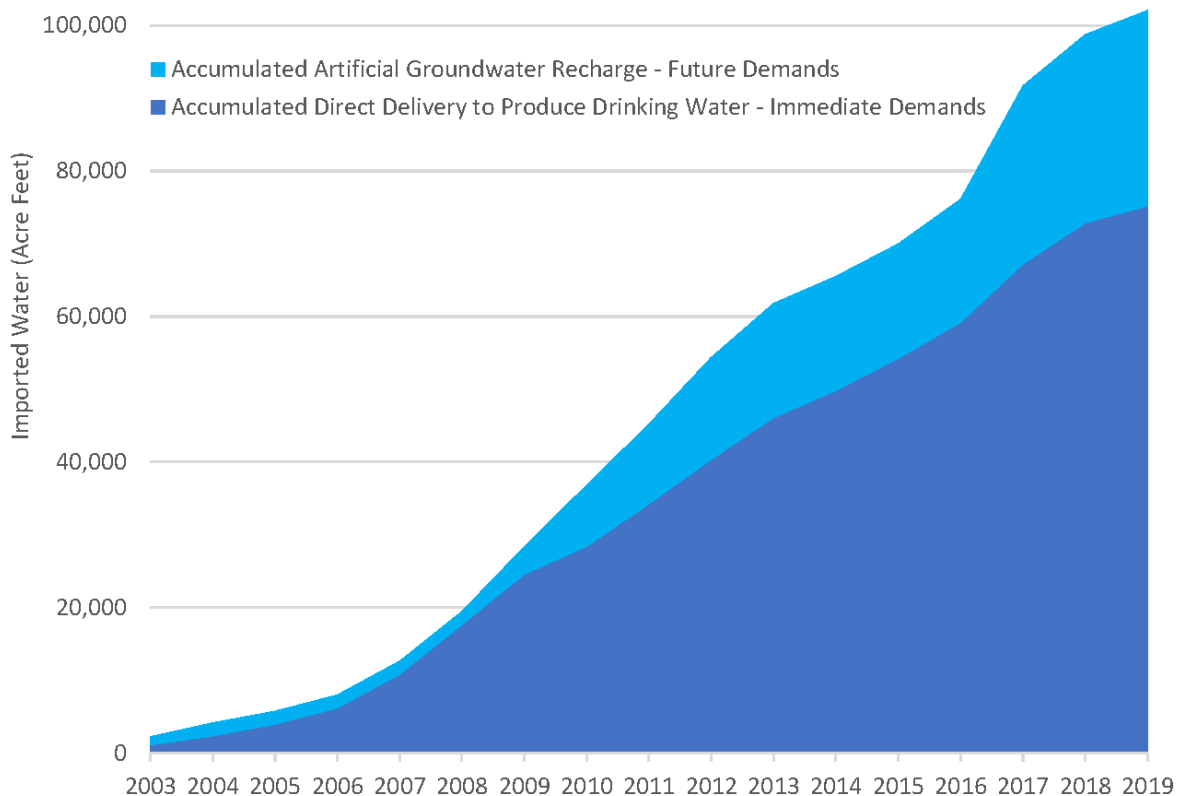
Imported water from the SBVMWD and SGPWA is delivered to the Yucaipa Valley Regional Water Filtration Facility for treatment to drinking water. The Yucaipa Valley Regional Water Filtration Facility is a technologically advanced drinking water facility that uses microfiltration and nanofiltration membranes 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 is located in the service area of the San Bernardino Valley Municipal Water District and 10% in the service area of the San Geronimo 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.



### Accumulated Imported Water Deliveries



### 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.

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

### 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.

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

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
<b>Water Production Department</b>		
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%
		\$19,692 +
02-5-01-50016	Benefits-Health & Dental	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%

<b>Drinking Water Enterprise Expense Forecast</b>	<b>Forecast Factor</b>
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<b>Public Works Department</b>		
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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%
		\$19,692 +
02-5-03-50016	Benefits-Health & Dental	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%

<b>Administration Department</b>		
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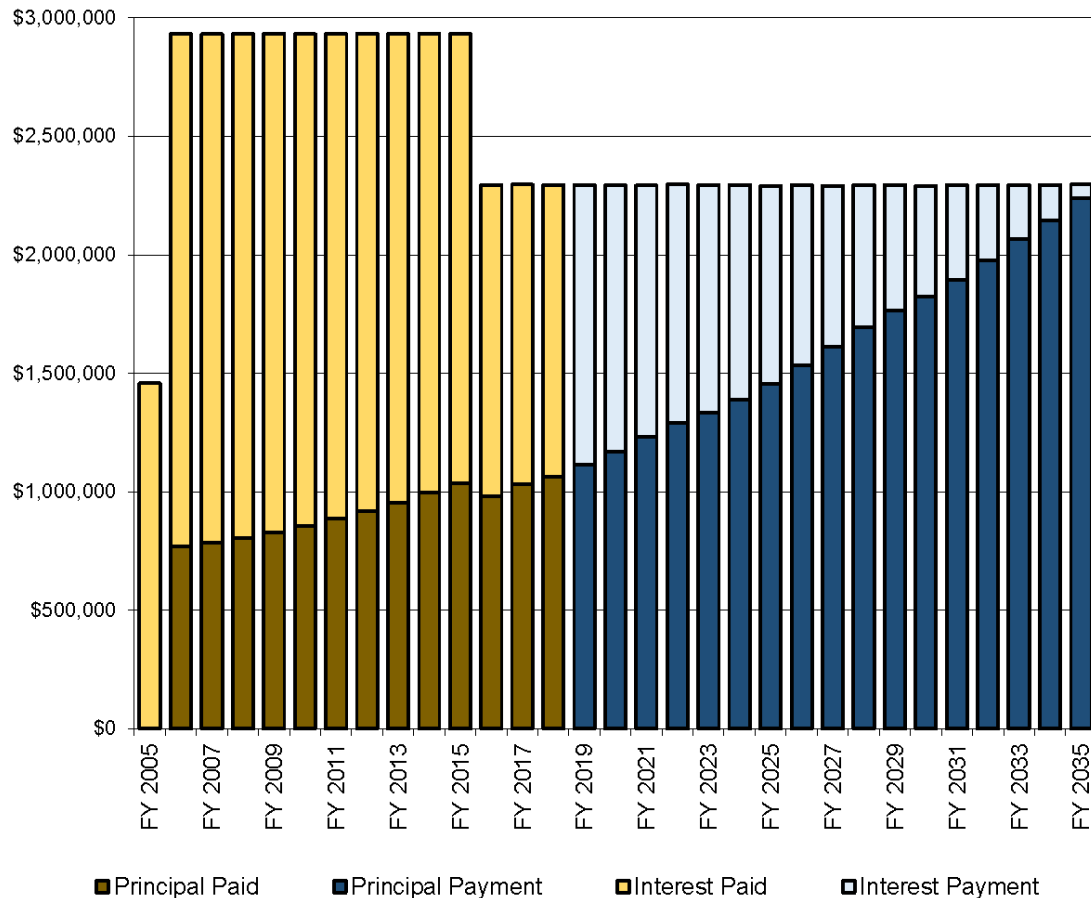
02-5-06-50010	Labor	3.0%
02-5-06-50012	Director Fees	5.0%
02-5-06-50013	Benefits-FICA	7.7%
02-5-06-50014	Benefits-Life Insurance	\$480 + 1%
		\$19,692 +
02-5-06-50016	Benefits-Health & Def Comp	2%
02-5-06-50017	Benefits-Disability Insurance	0.9%
02-5-06-50019	Benefits-Workers Compensation	2.7%
02-5-06-50022	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%
<i>fund transfer</i>	<i>Infrastructure replacement fund</i>	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  $\frac{3}{4}$ -inch residential meter. For example, a 2-inch meter can deliver 5.33 times as much water as a standard  $\frac{3}{4}$ -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  $\frac{3}{4}$ -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  $\frac{3}{4}$ -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.**

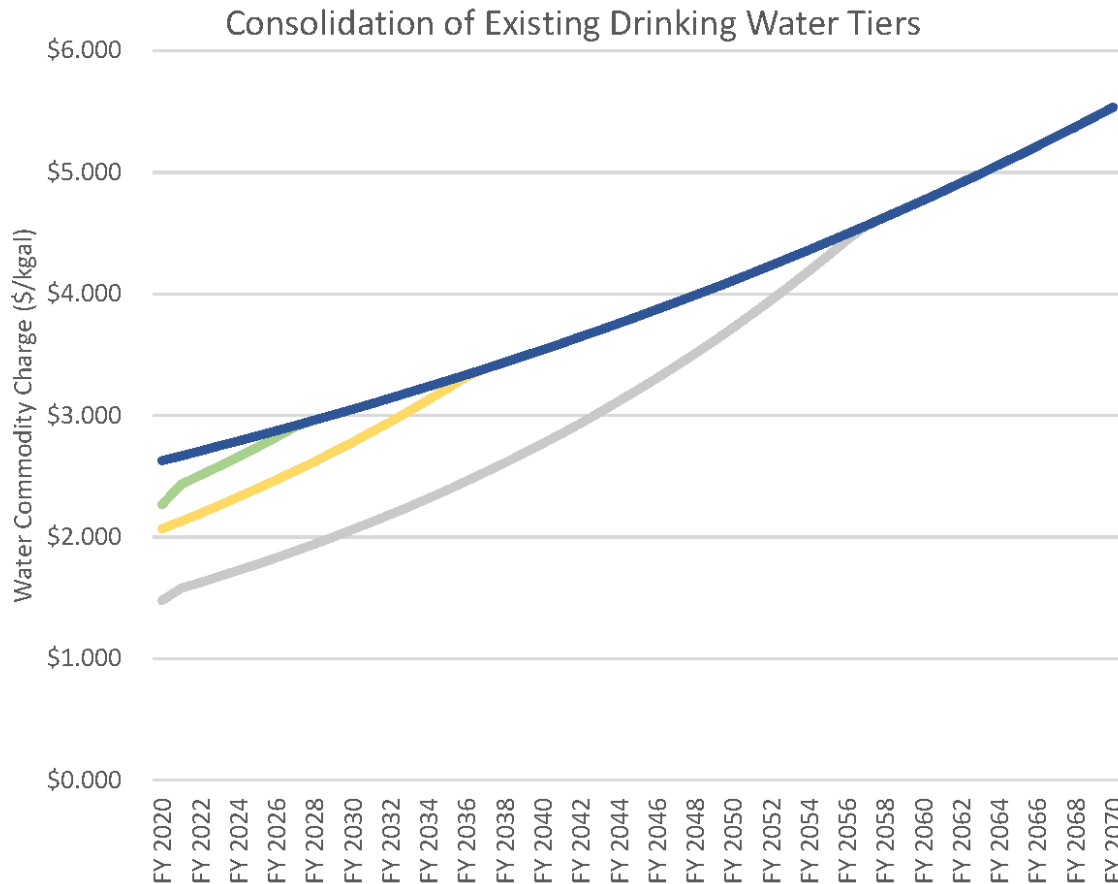
- **Develop a rate structure that incorporates the California Statutes Making Conservation a California Way of Life.** Assembly Bill No. 1668 and Senate Bill No. 606 build on ongoing efforts to make water conservation a way of life in California and create a new foundation for long-term improvements 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

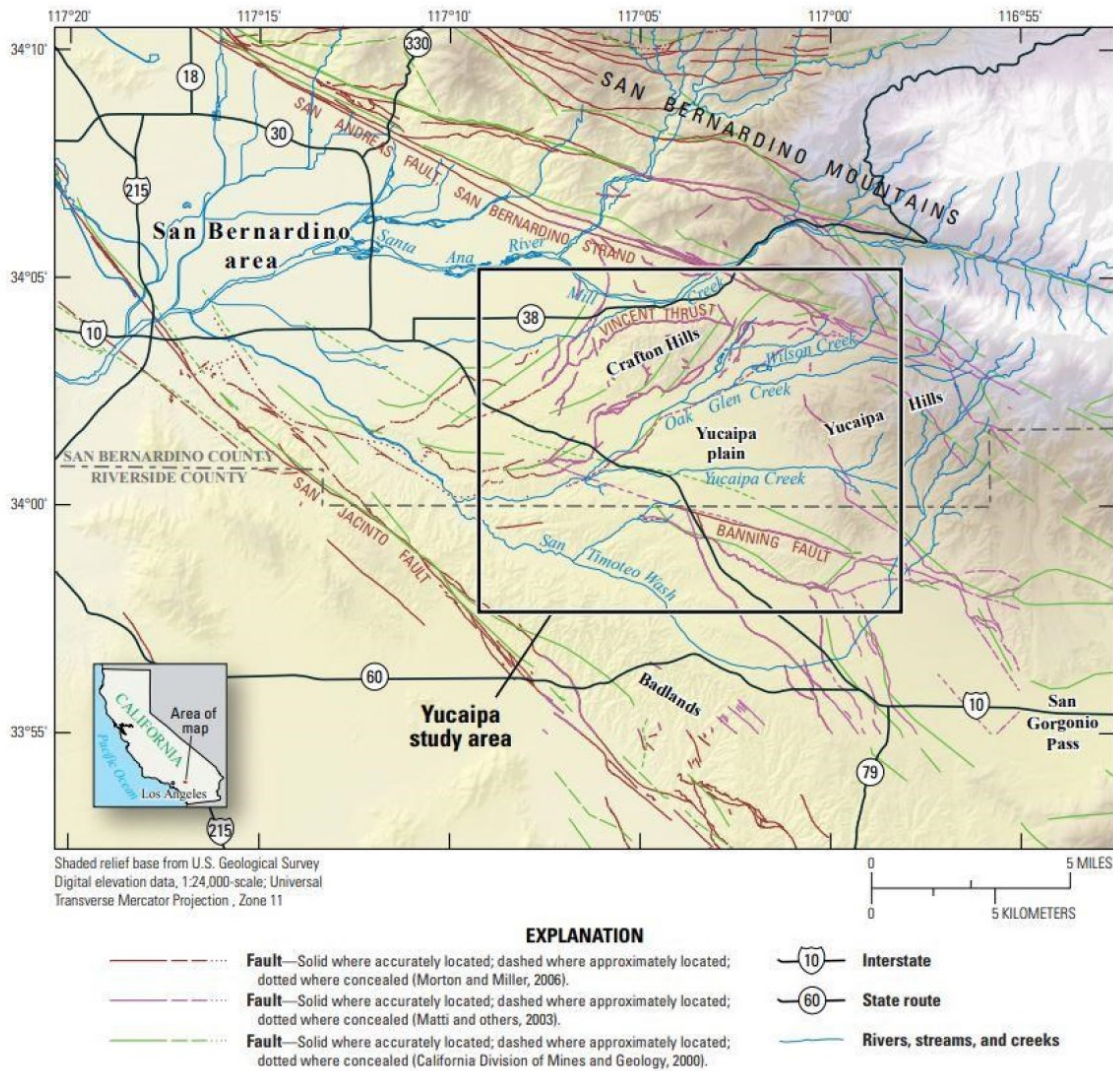
AB = Assembly Bill 1668; CWC = California Water Code; DWR = California Department of Water Resources Water Code; State Water Board = State Water Resources Control Board; SB = Senate Bill 606.

- **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 from 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		Forecasted Drinking Water Service Charge	
Current Rate	\$14.00	Effective 1/1/2026	\$19.00
Effective 1/1/2020	\$15.00	Effective 7/1/2027	\$19.50
Effective 7/1/2020	\$16.00	Effective 7/1/2028	\$20.00
Effective 7/1/2021	\$16.50	Effective 7/1/2029	\$20.50
Effective 7/1/2022	\$17.00	Effective 7/1/2030	\$21.00
Effective 7/1/2023	\$17.50	Effective 7/1/2031	\$21.50
Effective 7/1/2024	\$18.00	Effective 7/1/2032	\$22.00
Effective 7/1/2025	\$18.50	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:

$$\text{If Drinking Water Commodity (kgal)} > (\text{Water Service Unit}) \times (0.7 \text{ kgal}) \times (30 \text{ days}),$$

*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
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Billing Units in Excess of Water Service Unit Allocation	\$0.240	\$0.242	\$0.245	\$0.247	\$0.250
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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
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Billing Units in Excess of Water Service Unit Allocation	\$0.252	\$0.255	\$0.257	\$0.260	\$0.262
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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
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Billing Units in Excess of Water Service Unit Allocation	\$0.265	\$0.268	\$0.270	\$0.273	\$0.276
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**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:

$$\text{Supplemental Water Supply Commodity Charge} = (0.70) \times \left( \frac{\text{Imported}}{\text{Water Rate}} \right) \times (0.00307)$$

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.



**Date:** October 8, 2019

**From:** Allison M. Edmisten, Chief Financial Officer

**Subject:** Discussion Regarding the Conversion from a Weekly Utility Billing Workflow to a Monthly Utility Billing Workflow

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The District recently implemented Caselle as the new financial software system. In addition, District staff continues to move forward with the Advanced Metering Infrastructure (AMI) Project. As a result of both of these items, District staff would like to move toward billing once a month on one cycle instead of processing weekly utility bills. Some of the benefits of doing this include:

- Consistent reporting data that will be tied to each calendar month;
- A consolidated billing cycle; and
- Improved workflow for staff resources related to check reads, turn offs, etc.

District staff is still working through the details of what this will take to move forward and the anticipated effective date.



**Date:** October 8, 2019

**From:** John Wrobel, Public Works Manager  
Allison M. Edmisten, Chief Financial Officer

**Subject:** Review of Cost Accounting Methodology for the Yucaipa Valley Regional Brineline  
– Mountain View Power Plant

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Annually, District staff performs maintenance tasks to the Yucaipa Valley Regional Brineline (“Brineline”). The Brineline extends from the Wochholz Regional Water Recycling Facility, 14 miles to E Street in San Bernardino, where it connects to the Inland Empire Brine Line (IEBL). These maintenance tasks consist of hydro-jetting and video inspection of the Brineline which takes approximately 40 days to complete each year.

Until recently, the District was the only discharger to the Brineline. In 2019, the Mountain View Power Generating Station began discharging cooling tower blow down waste into the Brineline under a permit with the Santa Ana Watershed Project Authority (SAWPA). The Mountain View connection is located on Van Leuven Street in Redlands, and there is 3.94 miles of Brineline from their connection (approximately 28% of the total distance) to the IEBL connection.

Mountain View discharges approximately 431,000 gallons per day (approximately 52% of the total discharge), while YVWD discharges approximately 391,000 gallons per day. As a result of the total distance as well as total discharge by Mountain View, 40% of the annual maintenance cost (average of the two percentages above) for the above mentioned 4 miles of the lateral will be paid by the Mountain View Power Generating Station. This cost will be billed to the Edison Mountain View Power Generating Station on a monthly basis. Below is the detailed breakdown of half of the cost of the annual maintenance expense for the last 4 miles of the Brineline.

#### Financial Impact

The costs listed above will be reviewed annually and brought before the Board of Directors for approval. The annual charge will be billed monthly at a rate of \$2,293.25 and will result in additional revenue for the Sewer Division.

	Hours	Rate	Total
<b>Staff Time</b>			
Public Works Supervisor	88	\$79.39	\$6,986.32
Utility Service Worker IV	88	\$69.64	\$6,128.32
Utility Service Worker III	88	\$62.77	\$5,523.76
(2) Utility Service Worker I	176	\$46.29	\$4,073.52
<b>Equipment</b>			
Aquatech	88	\$125.00	\$11,000.00
Water Truck	88	\$22.50	\$1,980.00
Utility Truck	88	\$16.00	\$1,408.00
Light Board	88	\$15.00	\$1,320.00
Confined Space	88	\$2.25	\$198.00
Water – 21,000 gallons	-	\$1.425 per 1,000 gal	\$29.93
Video Inspection	-	\$1,950 per day	\$21,450.00
Utility Service Worker III	56	\$62.77	\$3,515.12
(2) Utility Service Worker I	112	\$46.29	\$5,184.48
		<b>TOTAL</b>	<b>\$68,797.45</b>
		<b>40% of annual cost paid by Mountain View</b>	<b>\$27,518.98</b>
		<b>Remaining 60% annual cost paid by YVWD</b>	<b>\$41,278.47</b>



# Director Comments



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

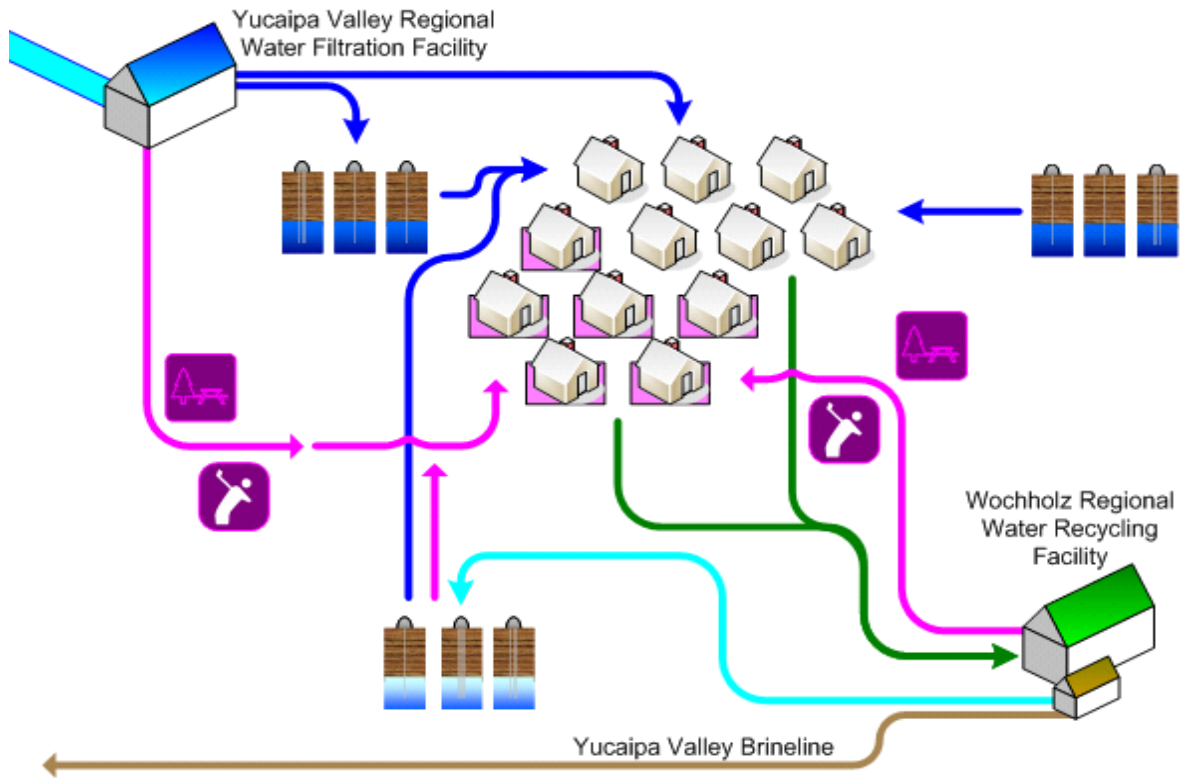
**Water System:** 223 miles of drinking water pipelines  
2,033 fire hydrants  
27 reservoirs - 34 million gallons of storage capacity  
18 pressure zones  
2.958 billion gallon annual drinking water demand  
Two water filtration facilities:  
- 1 mgd at Oak Glen Surface Water Filtration Facility  
- 12 mgd at Yucaipa Valley Regional Water Filtration Facility

**Sewer System:** 8.0 million gallon treatment capacity - current flow at 3.5 mgd  
213 miles of sewer mainlines  
4,504 sewer manholes  
5 sewer lift stations  
1.27 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
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- 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
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**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.





## 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 to 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.





## 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