Notice and Agenda of a Board Workshop

Tuesday, November 29, 2016 at 4:00 p.m.

MEETING LOCATION:	District Administration Building 12770 Second Street, Yucaipa
MEMBERS OF THE BOARD:	Director Ken Munoz, Division 1 Director Bruce Granlund, Division 2 Director Jay Bogh, Division 3 Director Lonni Granlund, Division 4 Director Tom Shalhoub, Division 5

I. Call to Order

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. Presentations

A. Overview of the California Drought and Yucaipa Valley Water District's Action Plan Related to the State Water Resources Control Board Water Conservation Restrictions [Workshop Memorandum No. 16-162 - Page 12 of 112]

V. Capital Improvement Projects

A. Status Report on the Construction of a 6.0 Million Gallon Drinking Water Reservoir R-12.4 - Calimesa [Workshop Memorandum No. 16-163 - Page 21 of 112]

B. Notice of Completion for the Wochholz Regional Water Recycling Facility Digester Cleaning and Cover Replacement Project [Workshop Memorandum No. 16-164 - Page 25 of 112]

C. Status Report on the Regional Drinking Water Purification and Recycled Water Purification Project [Workshop Memorandum No. 16-165 - Page 27 of 112]

D. Authorization to Implement Phase II of the Automated Meter Infrastructure Project [Workshop Memorandum No. 16-166 - Page 30 of 112]

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

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

VI. Policy Issues

A. Policy Discussion Regarding the Hauling of Drinking Water from Construction Meters Connected to the Potable Water System [Workshop Memorandum No. 16-167 - Page 52 of 112]

VII. Development Projects

A. Overview of Development Agreement No. 2016-08 to Provide Water and Sewer Facilities and Service to the Private Development of Assessor Parcel Numbers 0322-102-49, 0322-102-50, and 0322-102-51 by American Investments Management [Workshop Memorandum No. 16-168 - Page 66 of 112]

VIII. Administrative Issues

A. Overview of a Proposed Resolution Setting Fees for the Installation of Automated Meter Infrastructure for New Drinking Water and Recycled Water Services [Workshop Memorandum No. 16-169 - Page 83 of 112]

B. Overview of a Claim for Tree Removal at 11975 4th Street, Yucaipa - Dini Martz [Workshop Memorandum No. 16-170 - Page 85 of 112]

C. Overview of a Suggested Revision to the District's Participation in the OmniEarth Grant offered by the Santa Ana Watershed Project Authority [Workshop Memorandum No. 16-171 - Page 96 of 112]

D. Consideration of Appointing a Representative to the San Bernardino Valley Municipal Water District Advisory Commission on Water Policy [Workshop Memorandum No. 16-172 - Page 97 of 112]

E. Reorganization of the Board of Directors [Workshop Memorandum No. 16-173 - Page 99 of 112]

F. Oath of Office for Yucaipa Valley Water District Director Lonni Granlund and Director Chris Mann [Workshop Memorandum No. 16-174 - Page 101 of 112]

IX. Director Comments

X. Adjournment

Staff Report

Yucaipa Valley Water District

Open House Event

Yucaipa Valley Water District

Yucaipa Valley Water District invites you
to celebrate the completion of
your newest drinking water reservoir.

Saturday, December 3, 2016
8 a.m. to Noon
1471 Singleton Road, Calimesa, 92320

Please join us for coffee and donuts!

Water Recycling May Prompt New Environmental Concerns

Treated sewage has been discharged for decades into Western rivers. It turns out this provides vital aquatic habitat in stressed rivers, as revealed by concern over a major Sacramento water recycling proposal.

WRITTEN BY
Matt Weiser

PUBLISHED ON
Nov. 21, 2016

READ TIME
Approx. 6 minutes

Workers install rebar and lay concrete in November 2015 as part of the EchoWater Project, an effort by the Sacramento Regional County Sanitation District to purify wastewater effluent. A related project will divert some of the purified wastewater from an existing river discharge to a new system to irrigate farmlands. Sacramento Regional County Sanitation District

Wastewater recycling is being hailed in many communities as the answer to ongoing drought problems. By cleaning sewage effluent to extract pure water, it's possible to create a sustainable water supply that is cheaper than seawater desalination or buying a new water supply.

But there's a little-recognized downside to water recycling: It may damage wildlife habitats already imperiled by water scarcity.

That's because many rivers in California and the West are already so extensively tapped for human purposes that our sewage effluent – dumped back into streams after treatment – provides an important share of the stream flows that remain.

Even as California's State Water Resources Control Board encourages water recycling through grants, low-interest loans, and streamlined regulations, other state agencies are raising objections.

In September, the California Department of Fish and Wildlife filed a formal protest against a water recycling proposal by the Sacramento Regional County Sanitation District. The department alleges that by diverting as much as 50,000 acre-feet (62m cubic meters) of water per year from its existing Sacramento River discharge, the district may deprive endangered salmon and other species of important habitat.

The situation puts the Sacramento district in a Catch-22, because its water recycling project is partly motivated by the protection of another species: Delta smelt. A 2014 order by the state water board requires the district to clean up its effluent, which the board determined may be harming the aquatic food chain in the Sacramento-San Joaquin Delta.

The regional sanitation district is the largest single discharger of treated wastewater in the Delta watershed. Most of this effluent is released into the Sacramento River near Freeport.

"The thing that strikes me as interesting is … the state as a whole has determined this is a good idea to recycle water," said Christoph Dobson, director of policy and planning at the Sacramento regional sanitation district. "So you would hope the state would then be supportive of projects, particularly projects like this, that have multiple benefits to them."

It certainly says something about the strain on California water supplies when treated human sewage comes to be seen as vital to fishery habitat.

It certainly says something about the strain on California water supplies when treated human sewage comes to be seen as vital to fishery habitats. But it also may represent a new understanding of the water cycle in the state. After all, that effluent mostly originated as fresh water pumped out of a river somewhere upstream.

The Department of Fish and Wildlife fears that salmon, splittail, sturgeon and other fish could be imperiled if effluent discharges to the Sacramento River are reduced, especially as the drought continues and river flows are low.

Lauren Mulloy, water rights coordinator at Fish and Wildlife, said the recycling project is akin to proposing a new water diversion on the Sacramento River. And water supplies are so tight in the region that a new diversion of equal size would also face a protest, she said.

“When we get discharges into these water courses for many years – sometimes 50 years – it becomes part of the flow regime that the water course and wildlife expect to see on an annual basis,” Mulloy said. “So taking it out is the same as proposing a new diversion.”

A new state water quality permit approved in 2013 requires the regional sanitation district to clean up its discharge effluent. To comply, the district is building what it calls the EchoWater Project. With a price tag of at least $1.5 billion, it will modify existing operations to achieve so-called “tertiary” treatment, a common practice in the industry, but one which the Sacramento district has not yet adopted.

Workers install pipes and valves as part of the EchoWater Project, an effort by the Sacramento Regional County Sanitation District to clean up the effluent it discharges to the Sacramento River. Some of this effluent will be diverted to a new network of distribution pipes that will irrigate farmland. (Sacramento Regional County Sanitation District)

A related project will divert about one-fifth of this effluent, under present conditions, into a new distribution system that will deliver recycled wastewater to 16,000 acres (65 sq km) of farmland in south Sacramento County. Some of the water will also be provided to nearby Stone Lakes National Wildlife Refuge to augment wetland habitat.

The diverted water amounts to about 45 million gallons (205m liters) per day, or about 50,000 acre-feet per year. The project is estimated to cost $200 million.

The district estimates this will reduce total Sacramento River flows by 1 to 2 percent, depending on river conditions.

That doesn't sound like much. But it could be enough, under some conditions, to produce violations in key water quality standards in the Delta. This would require other agencies to release precious stored water from upstream reservoirs.

But Dobson said this won't be a permanent concern. Eventually, he said, the irrigation water supplied to farmers will recharge depleted groundwater that they now rely upon. When that happens, the aquifer will again be connected to the Sacramento River, and flows in the river will return to conditions that existed before the recycling project began.

"In the long run, it's not having a significant reduction in river flows. It ultimately makes its way back to the river in various ways," he said. "That's one of the key benefits of the project."

The state water board has set a goal to increase water recycling by 1 million acre-feet per year, statewide, through 2020, and at least 2 million acre-feet per year by 2030.

Indeed, the ongoing drought has produced so much interest in wastewater recycling that a state fund to support such projects has been temporarily depleted of money.

So it is likely that more water recycling projects will encounter similar protests about declining streamflows.

"While it's a good idea to use more recycled water, we recognize that it also means reducing stream flows and we need to evaluate if that reduction causes a problem," said Timothy Moran, a spokesman for the state water board.

If necessary, the board will impose rules on new water recycling projects to protect streamflows, Moran said.

Another example can be found in Ventura County, where the city of Oxnard plans to double its capacity to recycle sewage effluent. This has brought lawsuits by the Wishtoyo Foundation, a nonprofit arm of the Chumash Tribe, against both the state water board and the Los Angeles Regional Water Quality Control Board.

The foundation is concerned about protecting the Santa Clara River. In the lawsuit, it argues the two state agencies should be required to conduct a comprehensive analysis of water needs in the river basin before allowing more water recycling.

Jason Weiner, attorney for the foundation, said Oxnard's recycling program is intended to prop up unsustainable water uses in the region that already withdraw water from the Santa Clara River, such as strawberry farming and golf course irrigation.

The wastewater recycling itself does not result in any diversion of water from the river. But those who benefit from the recycled water, he said, should be required to stop diverting an equivalent amount of water from the river.

As it stands now, he said, new water recycling projects are being approved without any consideration for the Santa Clara River's needs. The river is almost completely dry much of the year, yet also home to an endangered population of steelhead trout.

Opening arguments in the case are expected in 2017. If successful, it could require all new wastewater recycling projects in the state to conduct a "reasonable use" analysis to ensure the water they produce benefits the environment and is not wasteful.

"The issue here and across the state is, you can bring all the recycled water in the world online, but that won't help if you allow it to be used wastefully," Weiner said. "We're arguing the boards have a mandatory duty to ensure reasonable use and protection of public trust resources in their allocation of the recycled water."

In the Sacramento case, the regional sanitation district is expected to begin negotiations with the Department of Fish and Wildlife soon in an effort to resolve its concerns. Mulloy said she hopes to see a rule added that will adjust the volume of water diverted for recycling based on flow conditions in the river.

"I'm expecting we're going to see more recycled water projects as agencies need to stretch their water for their service areas," she said. "I like the recycled water projects. I also don't want to see it harm things. There's got to be a balance."

About the Author

Matt Weiser

Matt Weiser is a contributing editor at Water Deeply. Contact him at matt@newsdeeply.org or via Twitter at @matt_weiser.

Source: https://www.newsdeeply.com/water/articles/2016/11/21/water-recycling-may-prompt-new-environmental-concerns

Presentations

Yucaipa Valley Water District

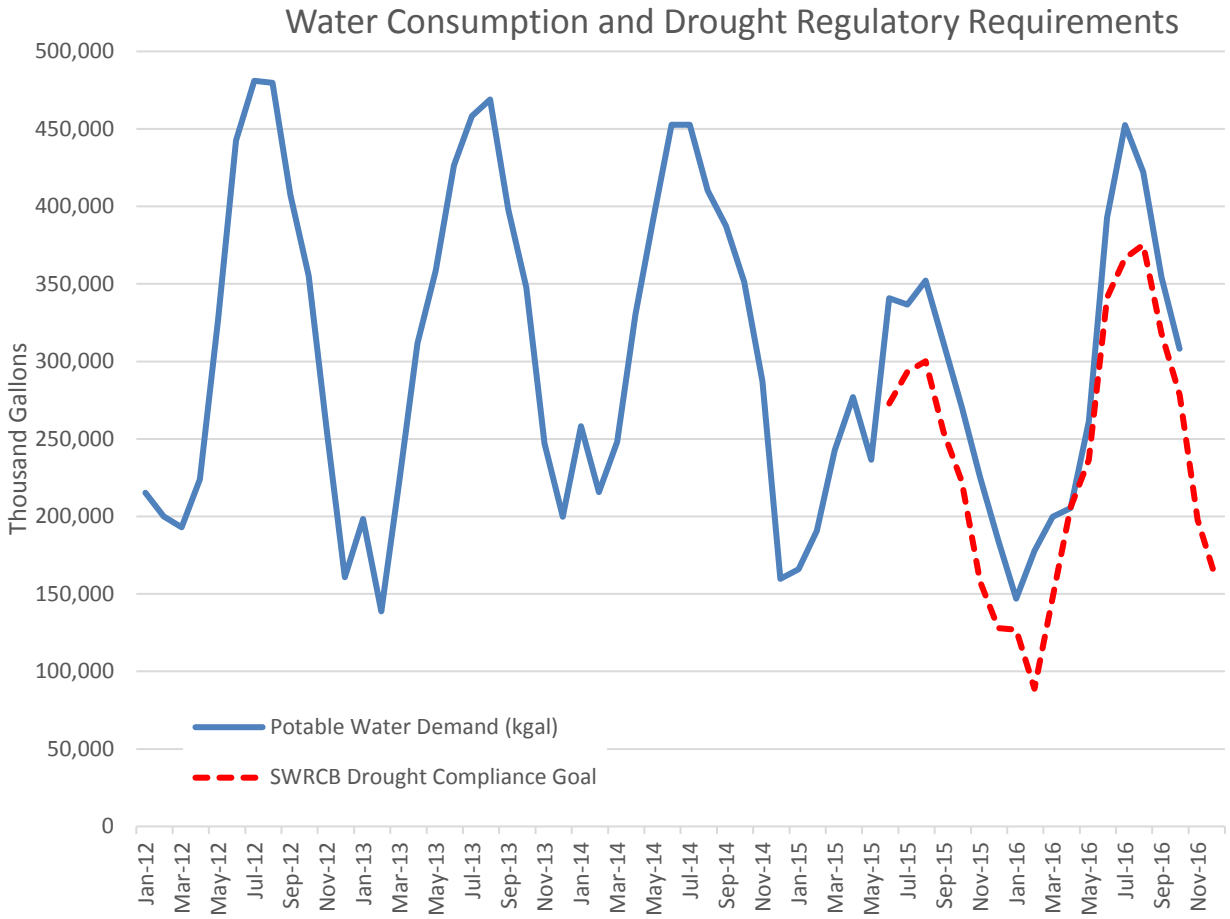
Yucaipa Valley Water District

Workshop Memorandum 16-162

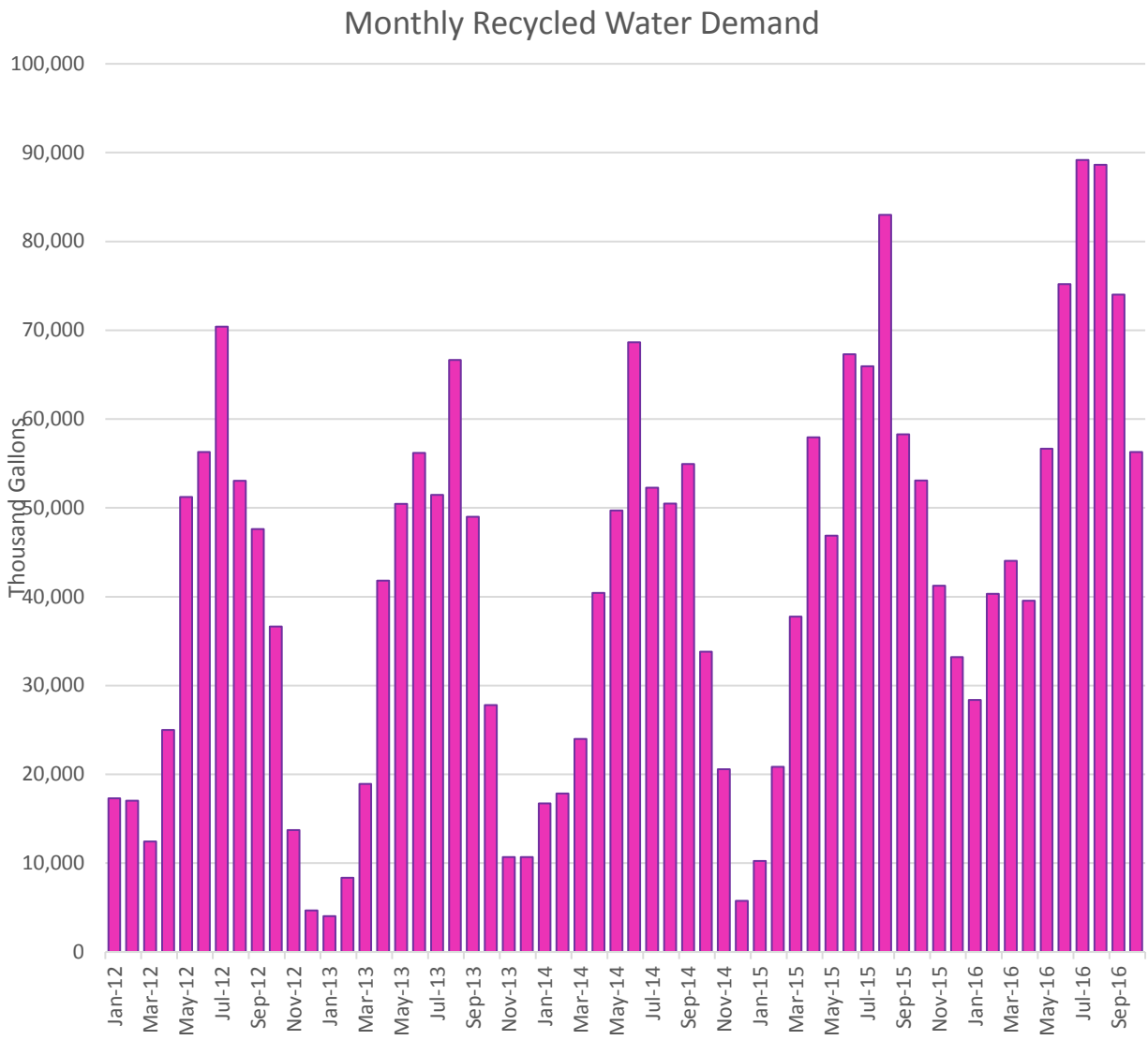
Date: **November 29, 2016**

Subject: **Overview of the California Drought and Yucaipa Valley Water District's Action Plan Related to the State Water Resources Control Board Water Conservation Restrictions**

On May 5, 2015, the State Water Resources Control Board ("SWRCB") adopted emergency regulations to achieve a 25% statewide reduction in potable urban water use. These stringent water use regulations required the Yucaipa Valley Water District to achieve a 36% reduction from the amount of drinking water produced in 2013. In March 2016, the SWRCB modified the emergency water conservation requirements for Yucaipa Valley Water District to a 34% reduction from the amount of drinking water produced in 2013. In June 2016, the District self-certified a water conservation reduction of 20%. Each level of regulated water conservation requirement is illustrated in the chart below as the red-dashed line.

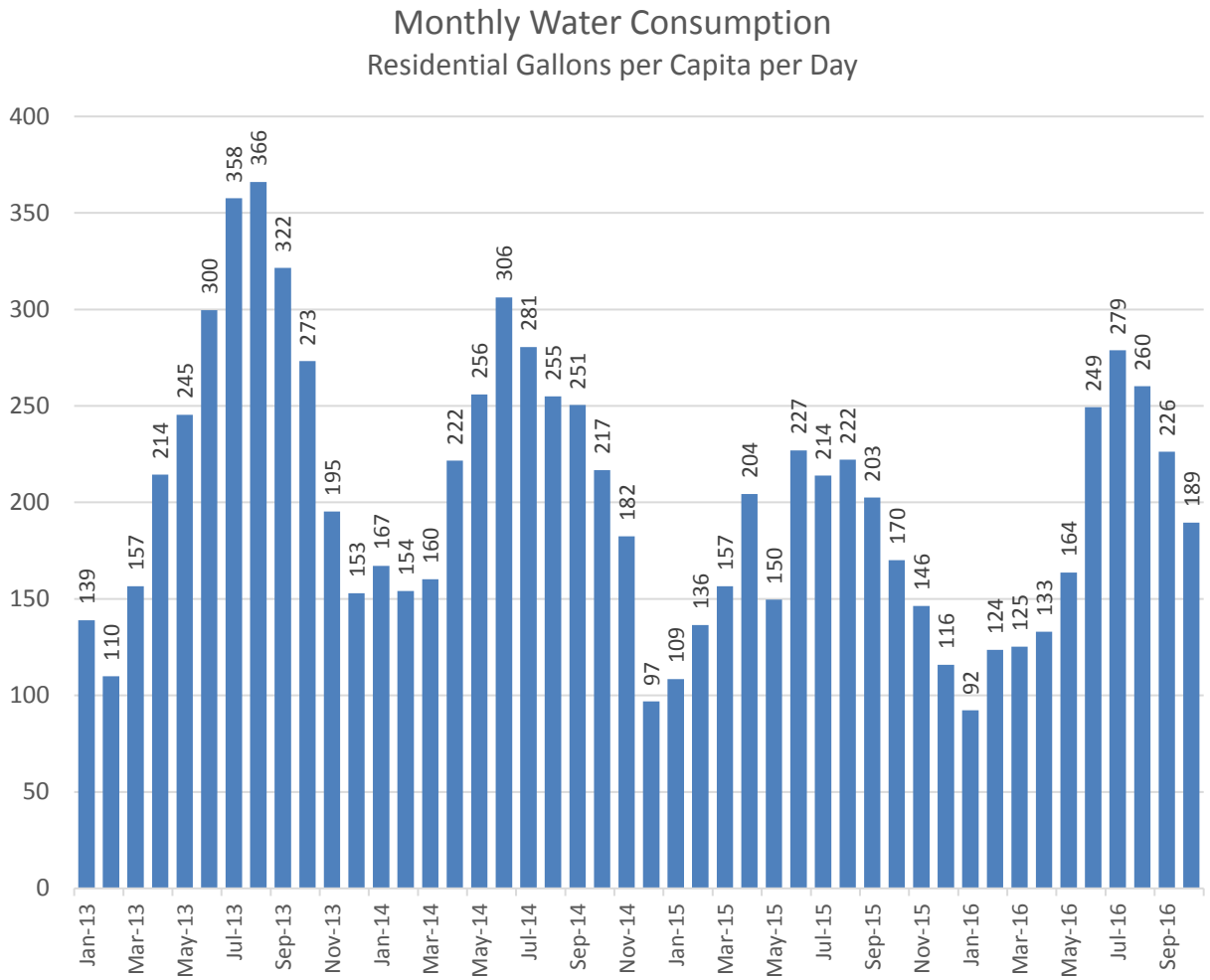


During the current drought, the Yucaipa Valley Water District has been able to increase the amount of recycled water delivered throughout our service area. The chart below shows the monthly delivery quantity to District customers.



The customers of the Yucaipa Valley Water District responded accordingly and significantly reduced the amount of drinking water consumed per person. As shown below, the per capita drinking water consumption dropped significantly from 366 R-GPCD[1] in August 2013 to 222 R-GPCD in August 2015, representing a decrease of 39%. However, due to the hot weather this summer and the eased water conservation requirements statewide, the R-GPCD jumped significantly.

[1] R-GPCD - Residential gallons per capita per day.


Monthly Water Consumption
Residential Gallons per Capita per Day
400
350
300
250
200
150
100
50
0
139
110
157
214
245
300
358
366
322
273
195
153
167
154
160
222
256
306
281
255
251
217
182
97
109
136
157
204
150
227
214
222
203
170
146
116
92
124
125
133
164
249
279
260
226
189
Jan-13
Mar-13
May-13
Jul-13
Sep-13
Nov-13
Jan-14
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May-14
Jul-14
Sep-14
Nov-14
Jan-15
Mar-15
May-15
Jul-15
Sep-15
Nov-15
Jan-16
Mar-16
May-16
Jul-16
Sep-16

Yucaipa Valley Water District

Self-Certification of Supply Reliability for Three Additional Years of Drought Pursuant to Section 864.5 of Title 23 of the California Code of Regulations for the Yucaipa Valley Water District

Supporting Analysis and Calculations

June 20, 2016

Background

On April 1, 2015, Governor Brown issued Executive Order B-29-15 that directed the State Water Resources Control Board to impose water supplier restrictions to achieve a statewide 25 percent reduction in potable urban usage through February 2016. As a result of this Executive Order, the Yucaipa Valley Water District was required to achieve an emergency water conservation standard of 36% based on a reported Residential Gallons per Capita per Day (R-GPCD) of 265.0 for the period of July 2014 to September 2014. The regulations were approved by the State of California, Office of Administrative Law on May 18, 2015 and required compliance with the emergency water conservation standard through February 2016.

On November 13, 2015, Governor Brown issued Executive Order B-36-15 that directed the State Water Resources Control Board to extend water conservation restrictions until October 31, 2016 if drought conditions persist through January 2016. The State of California, Office of Administrative Law subsequently approved regulations that provided more flexibility to urban water suppliers by considering specific factors that influence water use throughout California. The regulations changed the emergency water conservation standard for the Yucaipa Valley Water District from a 36% conservation standard to a 34% conservation standard based on monthly water use during the same month in Calendar Year 2013.

On May 9, 2016, Governor Brown issued Executive Order B-37-16 that directed the State Water Resources Control Board to extend water conservation restrictions through January 2017 and make adjustments in recognition of the differing water supply conditions throughout California. This Executive Order is based on the likelihood that drought conditions will likely continue for the foreseeable future and additional action by both the State Water Resources Control Board and local water suppliers will be necessary to prevent waste and the unreasonable use of water. Based on the recently released regulations, Urban Water Retail Suppliers are required to develop a localized "stress test" approach to ensure at least a three year supply of water is available to customers under the ongoing drought conditions.

The Yucaipa Valley Water District recognizes the importance of the newly enacted regulations and has based the data sources and calculations on the following requirements and assumptions:

- The current conditions to use in the self-certification calculations are as of October 1, 2016.
- The precipitation in Water Year 2017 mirrors that of Water Year 2013, precipitation in Water Year 2018 mirrors that of Water Year 2014, precipitation in Water Year 2019 mirrors that of Water Year 2015. (Section 864.5(b)(1)). Only precipitation data from the California Data Exchange Center (e.g., http://cdec.water.ca.gov/cgi-progs/prevprecip/PRECIPOUT), or CIMIS station data or an equivalent source may be used. **Do not average precipitation**.

- There are no temporary change orders that increase the availability of water to any urban water supplier are issued by the State Water Resources Control Board in the next three years.
- Potable water supply only includes sources of supply available to the supplier that could realistically be used for potable drinking water purposes during the time period identified in the regulation.
- If a water source is not of sufficient quality to be realistically treated and use as potable water by the water retailer, it shall not be included as a water supply.
- Consider requirements and assumptions that are used that impact supply reliability, for example, in the case of groundwater, if your water agency has its own requirement not to lower the water level of an aquifer below a certain amount, provide an explanation in the "Notes and comments".
- Groundwater: use the quantity of groundwater that is accessible, **without** addition of new wells or completion of treatment projects that would fall outside the three-year projection period (2016-17 through 2018-19).
- If new diversions or treatment equipment or facilities will come on-line between now until the end of Water Year 2019, sufficient evidence must be provided to indicate is it going to be implemented (e.g., funds have been allocated, contract with a builder has been approved).
- If a water supply is dedicated for another purpose (e.g., agriculture) and is therefore committed for another use, it is not available and shall be **subtracted** for the subtotal of water supplies.
- Identify all sources of data used (e.g., "our water product information is from Supervisor Control and Data Acquisition (SCADA)" and include a link to the source and identify a pinpoint citation to the pertinent information).
- Provide supporting documentation the covers each water source. For example, when the amount of water obtained from one river is summed in one number and there are multiple diversion or treatment points, then the supporting documentation shall describe each diversion and/or treatment point and the amount of water from each that are summed together and equal the amount on the worksheet.
- Recycled water for purple pipe systems is not a potable supply and is not included as a supply on Worksheet 1. You may use the "Notes and Comments" section in this section to describe non-potable recycled water

Given the requirements and assumptions above, the Yucaipa Valley Water District decided to take a conservative approach by adding additional stress to the anticipated water sources of supply thereby implementing a proactive water conservation strategy for our community. Without the certainty of knowing what the future holds for our water resources, it is prudent and reasonable to increase the probability of severe/extreme drought conditions in California.

Determine the Annual Total Potable Water Demand

Available Water Supplies – Wholesaler Supplied

The Yucaipa Valley Water District relied upon water production data generated monthly by the Water Resources Department to tabulate the amount of potable water production in calendar year 2013 and calendar year 2014. The total amount of potable water produced by the Yucaipa Valley Water District is provided below.

	Potable Water Production for Calendar Year 2013	Potable Water Production for Calendar Year 2014	**Calculated Annual Potable Water Demand**
Potable Water Production (acre feet)	12,040	12,011	**12,026**

Estimate the Annual Total Potable Water Supply

The Yucaipa Valley Water District receives imported water from two State Water Contractors: San Bernardino Valley Municipal Water District and San Gorgonio Pass Water Agency.

www.sbvmwd.com

www.sgpwa.com

Both State Water Contractors have provided the Yucaipa Valley Water District with anticipated water deliveries for Water Years 2017, 2018, and 2019 as shown below:

	San Bernardino Valley Municipal Water District	San Gorgonio Pass Water Agency	Total Wholesale Supply by Water Year
Water Year 2017 (acre feet)	7,763	500	8,263
Water Year 2018 (acre feet)	4,324	500	4,824
Water Year 2019 (acre feet)	4,997	500	5,497
Total Anticipated Supply (acre feet)	**17,084**	**1,500**	**18,584**

Internet reference for San Bernardino Valley Municipal Water District: http://www.sbvmwd.com/home/showdocument?id=4188
Internet reference for San Gorgonio Pass Water Agency: http://www.sgpwa.com/wp-content/uploads/2016/06/SWRCB-Emergency-Conservation-Regs-Three-Year-Projection-June-2016.pdf

In order to perform the "stress test" of the water supply sources based on the SWRCB criteria outlined above, the Yucaipa Valley Water District reduced the anticipated quantity of imported supply included in SWRCB *Worksheet 1: Total Available Water Supply for Individual Water Supplier* to represent an average of the lowest two years of imported water projected to be delivered to Yucaipa Valley Water District by the San Bernardino Valley Municipal Water District [7,763 + 4,324 + 4,997 = 17,084 / 3 = 4,661 acre feet per year]. This conservative approach will directly reduce the calculated imported water supply from the San Bernardino Valley Municipal Water District by 3,101 acre feet over the next three years [17,084 – 13,983 = 3,101].

	San Bernardino Valley Municipal Water District	San Gorgonio Pass Water Agency	Total Wholesale Supply by Water Year
Water Year 2017 (acre feet)	~~7,763~~ 4,661	500	~~8,263~~ 5,161
Water Year 2018 (acre feet)	~~4,324~~ 4,661	500	~~4,824~~ 5,161
Water Year 2019 (acre feet)	~~4,997~~ 4,661	500	~~5,497~~ 5,161
Total Anticipated Supply (acre feet)	**~~17,084~~ 13,983**	**1,500**	**~~18,584~~ 15,483**

The calculated reduction in imported water does not mean the water supply will not be used by the Yucaipa Valley Water District. Rather, by de-obligating the dependency of 3,101 acre feet of imported water supply, the Yucaipa Valley Water District will purchase this water supply and recharge the local groundwater supply to hedge against unexpected water supply issues during the next three years, or to reduce the impacts of future drought conditions beyond Water Year 2019.

Available Water Supplies – Surface Water Sources

The Yucaipa Valley Water District receives potable water from the Oak Glen Surface Water Filtration Facility. Based on the SWRCB criteria outlined above, the quantity of potable water for the "Stress test" will be less than the anticipated quantity of potable water received from these surface water sources of supply.

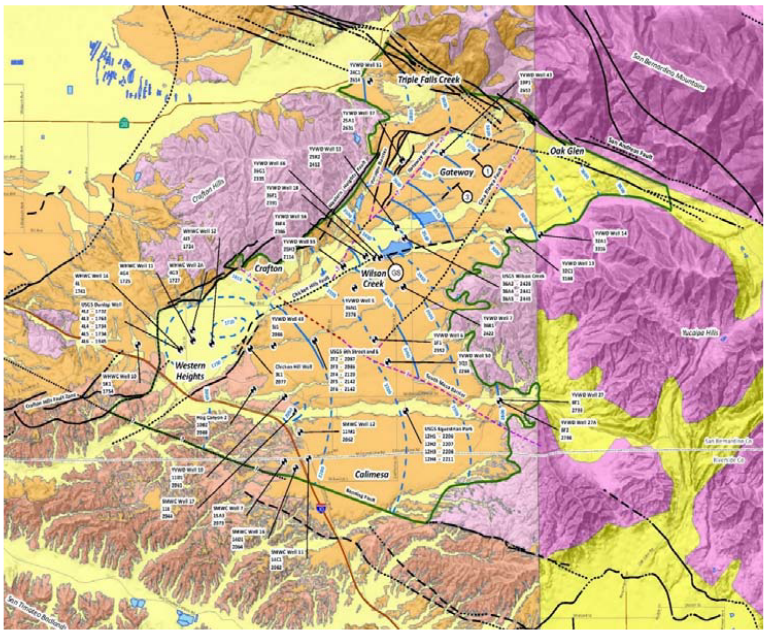
	Anticipated Quantity of Potable Water from the Oak Glen Surface Water Filtration Facility	"Stress Test" Quantity of Potable Water from the Oak Glen Surface Water Filtration Facility
Water Year 2017 (acre feet)	240	220
Water Year 2018 (acre feet)	229	220
Water Year 2019 (acre feet)	234	220
Total Anticipated Supply (acre feet)	**703**	**660**

The Yucaipa Valley Water District believes that based on the criteria required for the self-certification, the quantity of water provided by the Oak Glen Surface Water Filtration Facility will be consistent at 220 acre feet per year for the next three water years. The difference between the anticipated quantity of potable water from surface water sources of 43 acre feet [703 acre feet – 660 acre feet = 43 acre feet] will provide additional surface water supplies that can be recharged into the local groundwater supply for future use.

Available Water Supplies – Local Groundwater Water Sources

The Yucaipa Valley Water District produces groundwater from local groundwater basins. In recent years, the following quantity of local groundwater was produced by the Yucaipa Valley Water District:

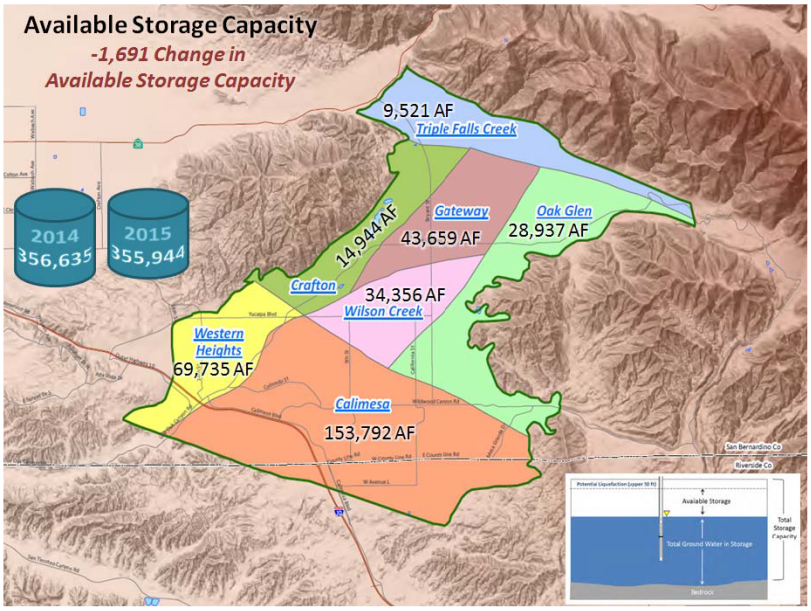
- Calendar Year 2013:
  - 7,243 acre feet
- Calendar Year 2014:
  - 9,027 acre feet
- Calendar Year 2015:
  - 4,905 acre feet



Based on the SWRCB criteria outlined above, the quantity of potable water for the "Stress test" from groundwater sources will be based on the least amount of water received from groundwater sources of supply over the past three years, or 4,905 acre feet per year. By reducing the reliance on local groundwater supplies for the next three years, the Yucaipa Valley Water District estimates that approximately 1,500 acre feet to 2,000 acre feet of groundwater can be saved each year for future use. The specific quantity depends on the amount of groundwater produced by other water producers that have access to the Yucaipa Groundwater Basins.

	"Stress Test" Quantity of Treated Water from local groundwater sources
Water Year 2017 (acre feet)	4,905
Water Year 2018 (acre feet)	4,905
Water Year 2019 (acre feet)	4,905
Total Anticipated Supply (acre feet)	**14,715**

The Yucaipa Valley Water District believes that based on the criteria required for the self-certification, the 4,905 acre feet of groundwater produced per year will result in sustainable groundwater levels and a possibility that groundwater levels may increase throughout the Yucaipa basin area.



The reduction in groundwater production over the past two years has resulted in more groundwater in storage. For example, from calendar year 2014 to calendar year 2015, the change in storage space above the groundwater table decreased from 356,635 acre feet to 355,944 acre feet. This is a good indicator that an additional 1,691 acre feet of groundwater was saved in the local groundwater basin. Additional information about the Yucaipa Basin area and the reports prepared by the Yucaipa Valley Water District can be downloaded from the following link:

http://documents.yvwd.dst.ca.us/government/california/self-certification/140417_yucaipa_sy_full_report_geoscience.pdf

On June 15, 2016, the Yucaipa Valley Water District Board of Directors authorized the continuation and refinement of the original study. Information about the future anticipated scope of work can be downloaded from the following link:

http://documents.yvwd.dst.ca.us/government/california/self-certification/160615_16-058_geoscience.pdf

These reports provide important groundwater monitoring data that will be available to monitor the conditions of the groundwater basins in the future.

Capital Improvement Projects

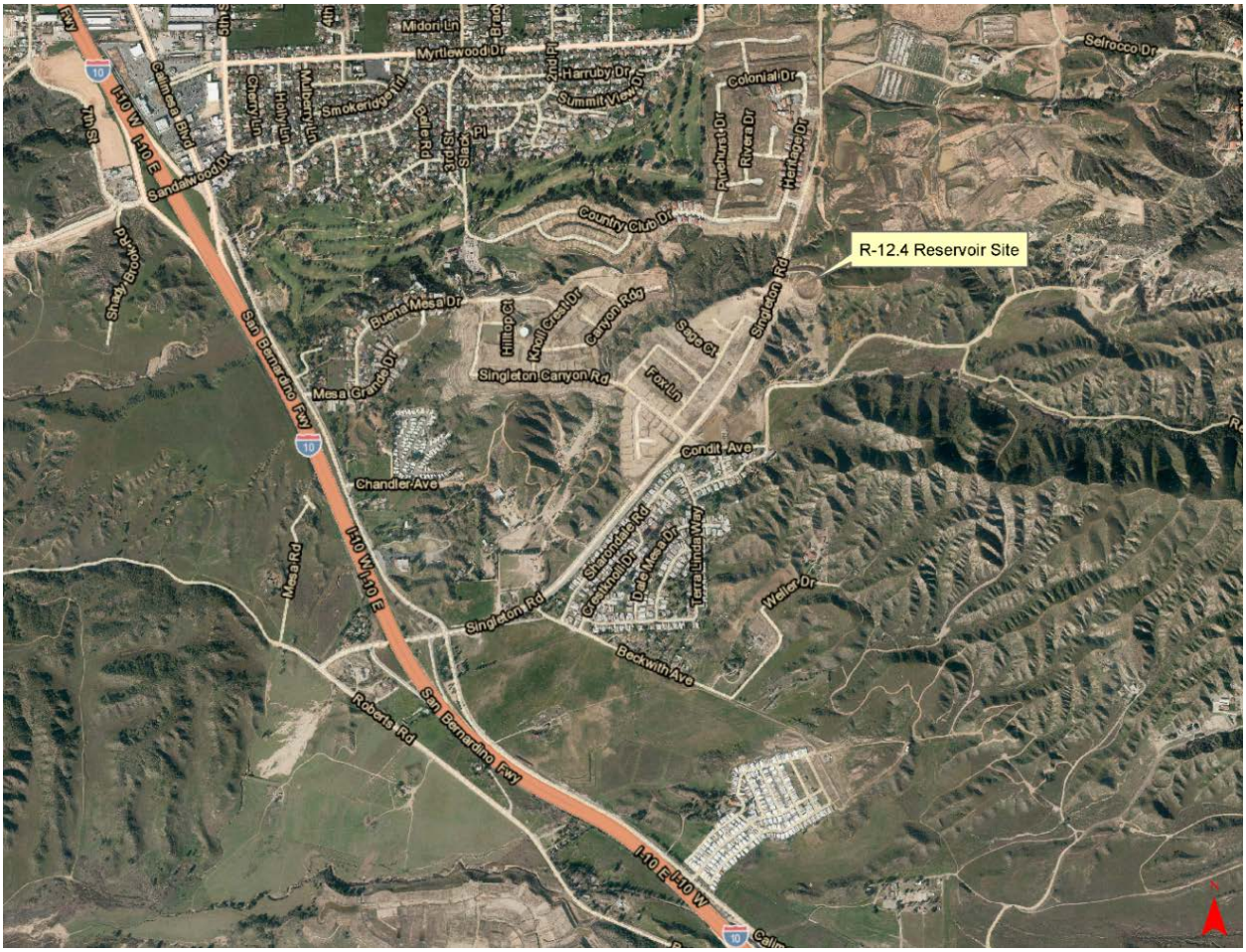
Yucaipa Valley Water District

Yucaipa Valley Water District **Workshop Memorandum 16-163**

Date: **November 29, 2016**

Subject: **Status Report on the Construction of a 6.0 Million Gallon Drinking Water Reservoir R-12.4 - Calimesa**

At the regular meeting on July 16, 2014, the Board authorized the solicitation of bids for the construction of a 6.0 Million Gallon R-12.4 Reservoir located on Singleton Road in Calimesa [Director Memorandum No. 14-060]. On November 19, 2014, the Board of Directors awarded the construction contract for the reservoir facility to Gateway Pacific Contractors [Director Memorandum No. 14-091].



The purpose of this agenda item is to provide an update on the progress of the reservoir construction project.

Yucaipa Valley Water District

Workshop Memorandum 16-164

Date: **November 29, 2016**

Subject: **Notice of Completion for the Wochholz Regional Water Recycling Facility Digester Cleaning and Cover Replacement Project**

On November 2, 2016 staff conducted a final inspection for the Wochholz Regional Water Recycling Facility Digester Cleaning and Cover Replacement Project with Pascal & Ludwig. District staff considers the project complete and recommends filing the Notice of Completion and release the retention of $118,278 45 days following the filing of the Notice of Completion.

Record Without Fee
Per Govt. Code 6103

Recording Requested By:
Yucaipa Valley Water District

And When Recorded Mail To:
Yucaipa Valley Water District
P.O. Box 730
Yucaipa, CA 92399

SPACE ABOVE THIS LINE FOR RECORDERS USE

NOTICE OF COMPLETION

Project Number/CMMS Number: P-88-289
Director Memorandum Number for Authorization: DM 15-041
Director Memorandum Number for Notice of Completion: DM 16-XXX

Notice pursuant to Civil Code Section 3093, must be filed within 10 days after completion.
Notice is hereby given that:

1. The undersigned is owner or corporate officer of the owner of the interest in the property hereinafter described:
2. The full name of the owner is Yucaipa Valley Water District
3. The full address of the owner is 12770 Second Street, Yucaipa, CA 92399
4. The Nature of the Interest or Estate of the Undersigned is: In Fee
5. A work performed hereinafter described was completed on November 2, 2016. The work done was: Miscellaneous Recycled Pipelines
6. The name of the contractor for such work was: Pascal & Ludwig Constuctors
   May 18, 2015
   (Date of Contract)
7. The property on which said work was complete in the City of Yucaipa
   County of San Bernardino, State of CA, and is described as APN: N/A
8. The street address of said property is N/A
   (if no street address has been assigned, insert "none")

Dated November 15, 2016

Brent Anton, Engineering Manager
Yucaipa Valley Water District

Verification

I, the undersigned, say: I am the General Manager of the Declarant of the foregoing Notice of Completion; I have read said Notice of Completion and know the comments thereof; the same is true to my knowledge. I declare under penalty of perjury that the foregoing is true and correct.

Executed on November 15, 2016 at Yucaipa, CA.

Joseph B. Zoba, General Manager
Yucaipa Valley Water District

Yucaipa Valley Water District

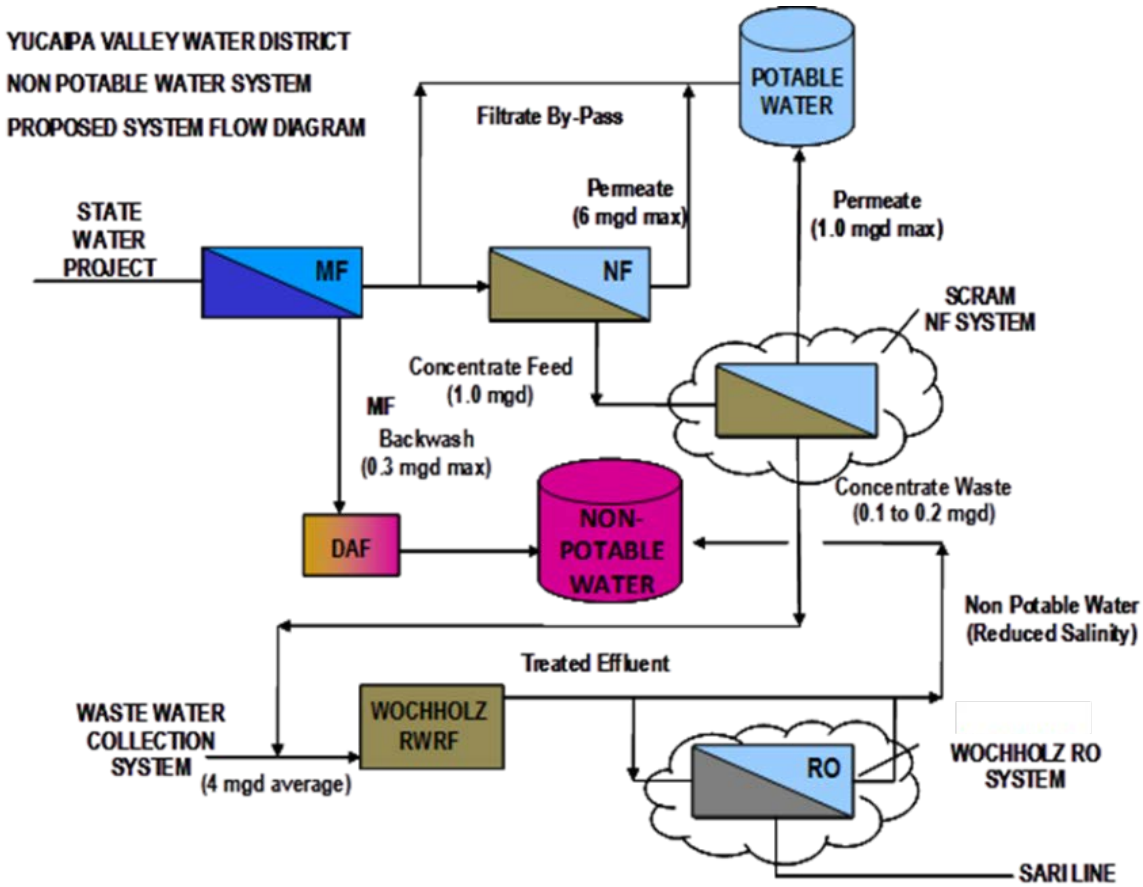
Workshop Memorandum 16-165

Date: **November 29, 2016**

Subject: **Status Report on the Regional Drinking Water Purification and Recycled Water Purification Project**

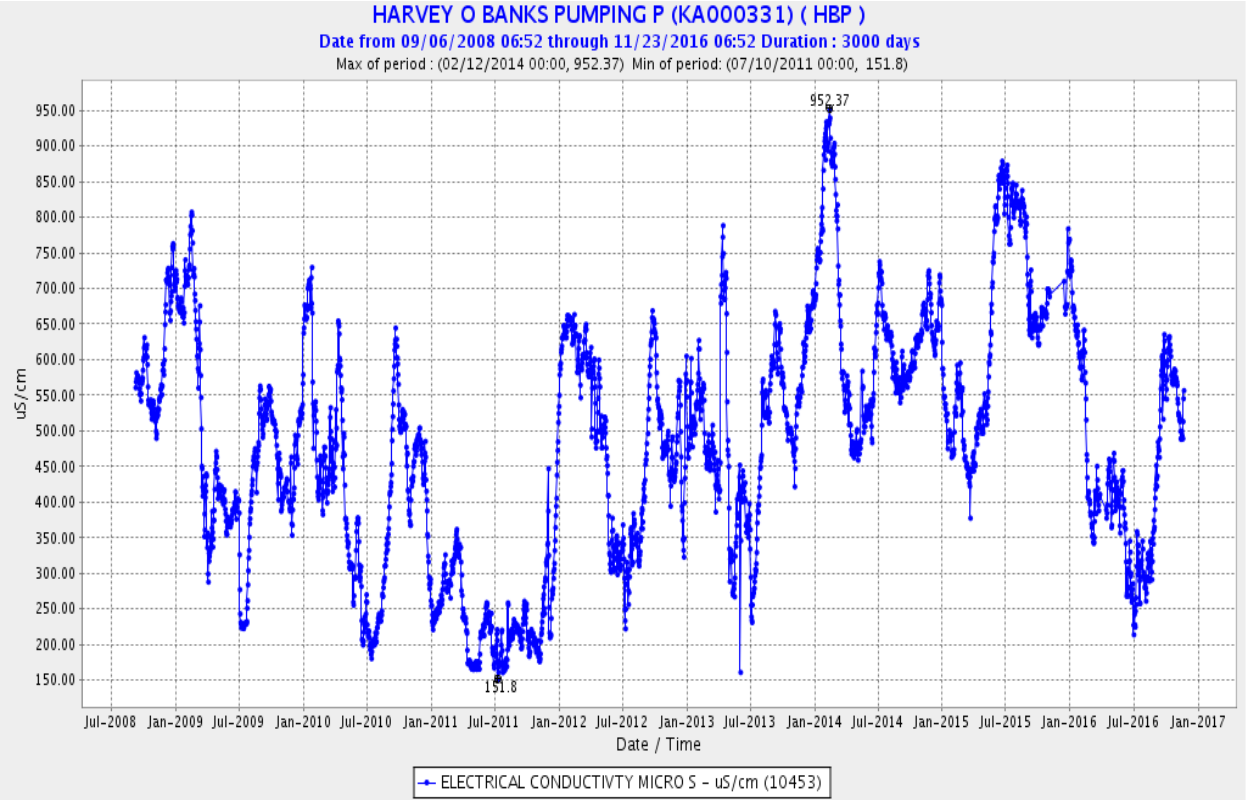
The Yucaipa Valley Water District operates the Yucaipa Valley Regional Water Filtration Facility (YVRWFF) for production of drinking water. The drinking water filtration facility is designed for an ultimate capacity of 36 million gallons per day (mgd) using the latest membrane barrier technology for the removal of macro, micro and molecular constituents that are commonly found in surface water streams and lakes.

Today the filtration system consists of 13.6 mgd of microfiltration (MF) and 6.0 mgd of nanofiltration (NF) processes. The 6.0 mgd NF system capacity allows the District to provide up to 8.0 mgd of drinking water at a blend ratio of 75:25 NF:MF, which is needed to minimize formation of regulated disinfection by products. To increase the production capacity of the facility, an additional NF process should be installed.

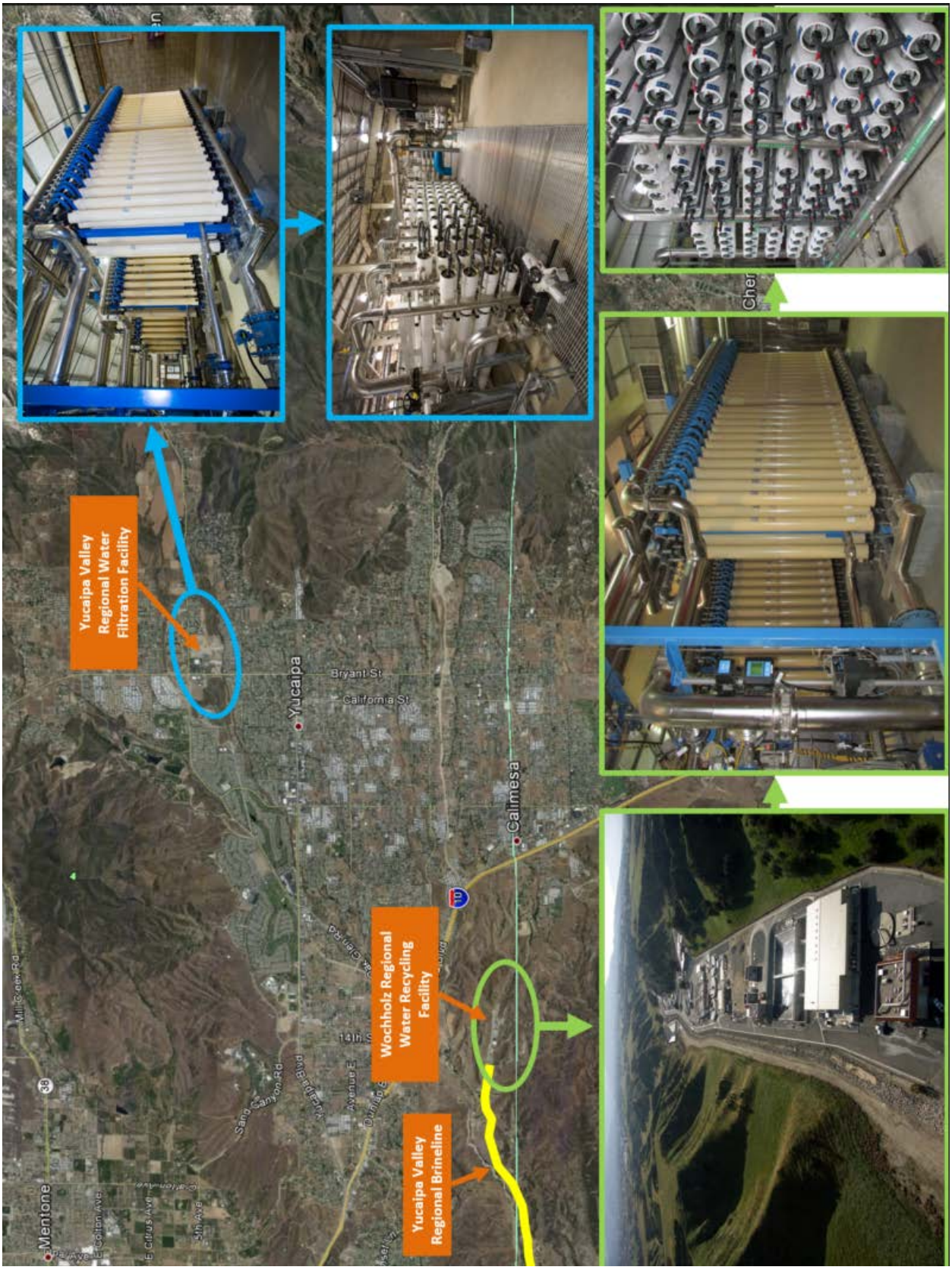


The District staff has analyzed the benefit of increasing the nanofiltration capacity by 3 mgd with a concentrate recycle process to increase the productivity and efficiency of the system while reducing the volume of the backwash water produced at the facility. This system enhancement will increase the overall drinking water capacity of the facility from 8 mgd to 12 mgd while eliminating about 1.0 mgd of flow to the recycled water system.

The benefit of this project would be to: (1) increase the efficiency of drinking water produced from the filtration facility from 85% to 95%; (2) decrease the amount of recycled water produced from the drinking water facility; (3) enhance the protection of the drinking water supply from increased salinity excursions and an upward overall salinity trend from source water originating from the State Water Project (a salinity peak in early 2014 and mid-2015 is shown below); and (4) maintain compliance with the Regional Water Quality Control Board Basin Plan objectives for the Beaumont, San Timoteo and Yucaipa Management Zones.



The purpose of this agenda item is to provide an overview of the water quality enhancements planned for the Yucaipa Valley Regional Water Filtration Facility and the Wochholz Regional Water Recycling Facility.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Wochholz Regional Water Recycling Facility
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Bryant St
California St

Yucaipa Valley Water District

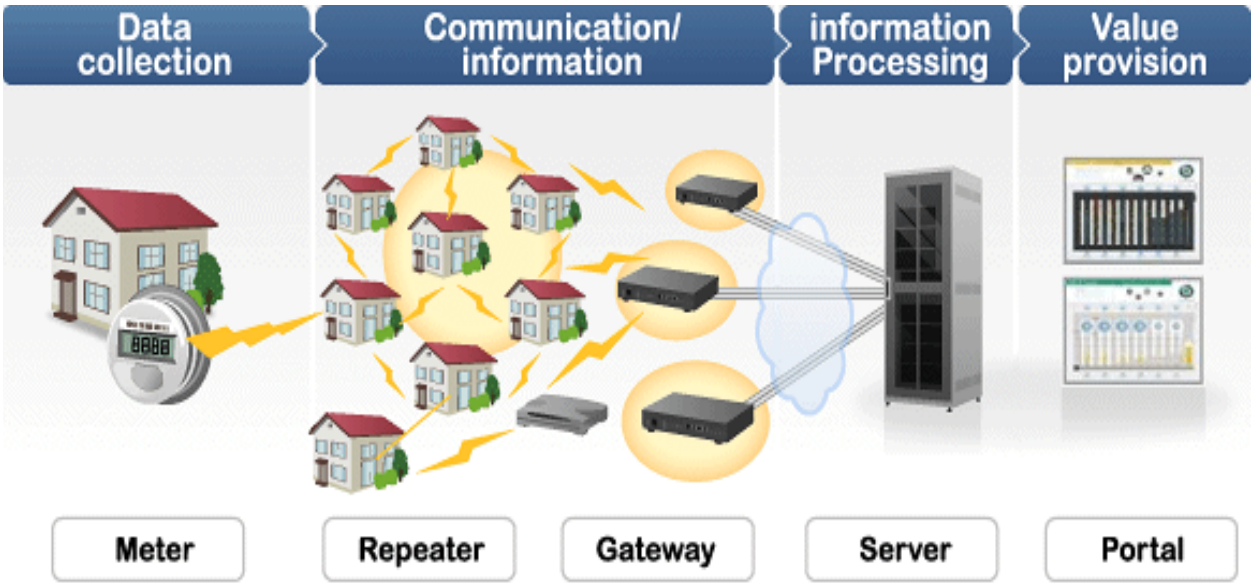
Workshop Memorandum 16-166

Date: **November 29, 2016**

Subject: **Authorization to Implement Phase II of the Automated Meter Infrastructure Project**

There are several types of water meters used throughout the United States. Typically, a standard water meter has a dial similar to a clock, with gradations around the perimeter to indicate the measuring unit and the amount of water used. Often times a small indicator wheel, like the triangle in the center of the dial to the left, is used to measure low flow conditions like a water leak.

Water meter manufacturers have developed pulse or encoder registers that produce electronic output for radio transmitters, reading storage devices, and data logging devices. These meters do not always have digital readouts, but they are certainly becoming more popular.

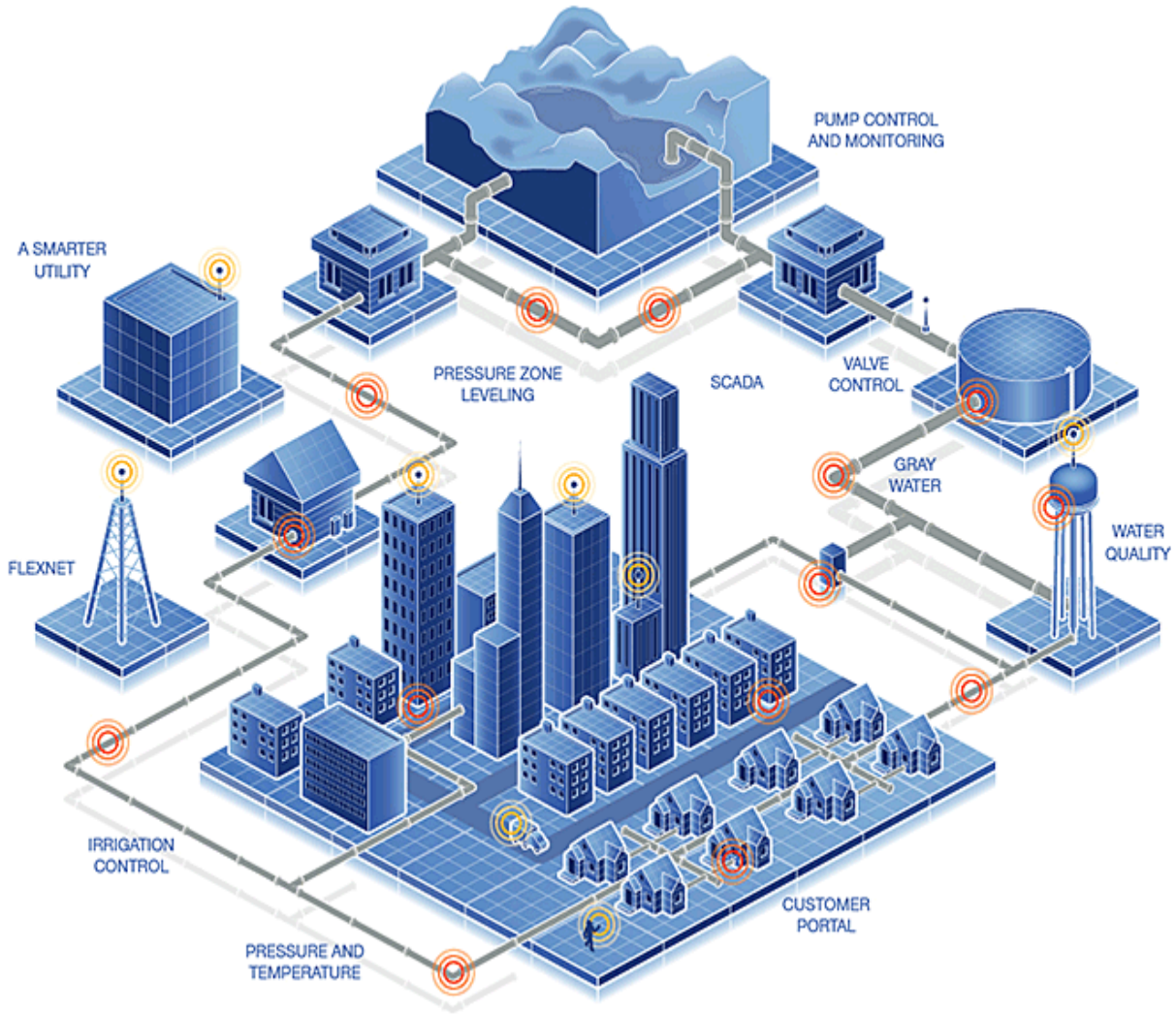


What is an Automated Meter Reading (AMR) System?

An Automated Meter Reading System allows for the collection of consumption/diagnostic data from a water meter that is transferred to a central location for billing, troubleshooting and analyzing. Instead of manually reading each meter, the meter data in an AMR system is gathered by either a walk-by or drive-by automated reading device. Therefore, meter reading accuracy is increased with an AMR system while continuing to require labor to gather the meter data.

What is an Advanced Metering Infrastructure (AMI) System?

Advanced metering systems are comprised of state-of-the-art electronic/digital hardware and software, which combine interval data measurement with continuously available remote communications. These systems enable measurement of detailed, time-based information and frequent collection and transmittal of such information. Advanced Metering Infrastructure (AMI) typically refers to the measurement and collection system that includes meters at the customer site, communication networks, and management systems that make the information readily available without the need to be in the proximity of the water meter to collect the data.



The benefits of an AMI system include:

- System Operation Benefits are commonly associated with the reduction in meter reads and related management and administrative support, increased meter reading accuracy and improved utility asset management.
- Customer Service Benefits include the early detection of meter failures, billing accuracy improvements, faster service restoration, and flexible billing cycles.
- Financial Benefits accrue to the District from reduced equipment maintenance costs and reduced support expenses.

Phase I of the Automated Meter Infrastructure Project

The Yucaipa Valley Water District has completed the installation of 5,065 water meters that need a transceiver to connect to a fixed base network to enhance the ability to record water consumption. This represents about 40% of the District's 12,637 water meters that will not need to be manually read each month.

By upgrading to a fixed base network and wirelessly transmitting data from the 5,065 upgraded water meters, the water meter reading staff will be able to focus on the conversion of the remaining 60% of the water meters over time. As new water meters are installed and old water meters are replaced, the new/upgraded meters would be added to the fixed base system upon installation and activated immediately.

Phase II of the Automated Meter Infrastructure Project

The next step of implementation of the Automated Meter Infrastructure (AMI) will be the installation of three new Sensus M-400 AMI Flex Net Base Station 2-way antennas and 5,065 Sensus Smart Point 520M transceivers throughout the District that will transmit the meter data back to Regional Network Interface (RNI). The necessary software to support the RNI will be hosted off-site through the Software as a Service (SAAS) option offered by Sensus.

The Sensus Flex Net Base Stations will be mounted on top of reservoirs R12.4, R15.1, and R18.4 and will have a mast style antenna that will have a total structure height of 52 feet. These Base Stations are long range radio transceivers that communicate to and from the RNI with the Smart Point modules that are attached to each of the Sensus water meters. The cost of the three new antennas will be $84,000.00 including installation. Additionally, these three antenna locations will need an internet connection that will be provided by an industrial LTE broadband gateway. Our application requires three AirLink Raven RV50 Industrial LTE Gateway devices that will cost $775.00 each, totaling $2,325.00 with a $60.00 total monthly fee for service and will be mounted with the base stations and antennas.

The Sensus Flex Net Smart Point 520M is a radio transceiver that mounts to a modified reading lid with our existing meter boxes and makes a wired connection to the Sensus water meter. The Smart Point 520M can obtain hourly readings, continuous flow measurements, and also send alerts of leak conditions. The cost of the 5,065 Smart Points needed is $829,393 including installation. The cost of the modified reading lids that accept the transceiver will total $151,950.

Additional costs will consist of Sensus Analytic and RNI Training [$6,000], RNI Server set up fee [$7,725], Sensus Analytic and Integration fee [$5,625], and a Base Station Maintenance fee starting on year two [$3,000]. Additionally, if any of the existing meters have a damaged wire, the cost of the replacement wire will be $16.50 each.

Roadmap to Full Functionality of the Automated Meter Infrastructure

Phase 1 (Complete):

> Installation of AMI capable meters in replacement situations and new construction to test operation and durability of the physical meter while building a foundation for the future AMI implementation. [5,065 currently installed]

Phase 2 (Scheduled for 2017 for a cost of $1,105,845):

> Activate 5,065 water meters with the installation of the required transceivers, retrofitted meter box lid, and programming. Install three radio antennas with base stations and

internet gateways to gather meter data and back load the information to the Regional Network Interface.

Phase 3 (Scheduled for 2018 to 2020 for an estimated cost of $2,488,750, or $829,585 per year)

Convert the remaining 7,572 meters in the system to AMI capable meters and transceivers with the retrofitted meter box lid. The conversion to AMI by replacing the existing water meters will be distributed over three years.

- 2018 - Upgrade 2,600 AMI capable meters with all required hardware for integration.
- 2019 - Upgrade 2,600 AMI capable meters with all required hardware for integration.
- 2020 - Upgrade 2,600 AMI capable meters with all required hardware for integration.

Phase 4 (Future enhancements including Smart Lighting and SCADA)

Consider expansion of FlexNet system to include Smart Lighting and System Control and Data Acquisition [SCADA] telemetry to take advantage of the Districts Fixed Base Infrastructure.

District Staff Recommendations

Therefore, the District staff suggests that the Board of Directors consider the following recommendations:

1. Authorize the District staff to initiate the implementation of Phase 2 of the AMI Project for a sum not to exceed $1,105,845 from water deprecation reserves.

2. Consider the adoption of a resolution setting and automatically adjusting the cost as a time and material expense related to the installation of fully integrated AMI water meters for all new installations.

3. Authorize the District staff to pursue grant funding opportunities for the funding of Phase 3 and plan for Capital Improvement Project budget funding each year.

Aqua Metric Sales Company 4050 Flat Rock Dr., Riverside CA 92505 • Phone: (951) 637-1400 Fax: (951) 637-1500

November 3, 2016

Aqua-Metric Sales Company is pleased to propose the Sensus Flex-Net AMI system to the Yucaipa Valley Water District. Aqua Metric and Sensus understand the intent of the District to deploy a proven, reliable, feature-rich AMI network that will provide the following;

- Enhanced customer service
- Increased revenue through more accurate metering
- Reduction of employee injuries
- Increased efficiency and reduced costs

Sensus Flex-Net is the industry's only solution for utilities that demand unmatched customer service and pinpoint-accurate reads. Only Flex-Net delivers Primary-Use licensing by the FCC, which guarantees an uncluttered, crystal clear path for transmissions. And that paves the way for an industry-leading two watts of power, making the Flex-Net system the only mass-deployed utility system with the highest level of protection, power and productivity in North America.

Flex-Net Advanced Metering Infrastructure (AMI) solution is offered exclusively from Sensus. It empowers water utilities with a proven means to increase meter reading efficiency, reduce overhead costs and enhance customer service simply, reliably, and with unlimited flexibility.

Sensus Flex-Net is composed of three main components the Flex-Net BaseStation, Sensus 520M SmartPoints, and Sensus MDM software as a service.

Sensus Flex-Net BaseStation (M400) is a long-range radio transceiver that communicates with SmartPoints deployed throughout the water utility. With the BaseStation broadcasting on a primary licensed frequency at 8 watts, makes Sensus Flex-Net the most powerful and most reliable 2-way AMI network on the market.

The Flex-Net SmartPoint is a radio transceiver that provides water utilities inbound and outbound access to water measurement and ancillary device diagnostics via radio signal. The SmartPoint 520M is designed for submersible, pit-set environments. The SmartPoint broadcasts hourly meter data 6 times a day with 7 days of hourly historical data so no data will be lost on missed transmissions. Available in a 2-port option that allows the utility to connect two meters to a single SmartPoint.

The Sensus Analytic software is a user-friendly interface that allows the utility to use numerous reports that can be automatically distributed to staff through e-mail. Analytics offers easy to read graphs and reports on hourly usage for each individual meter throughout the system. Sensus Analytic Customer Portal is also available as an option with Sensus Flex-Net.

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Sensus AMI Cost Breakdown

Unit Description	Unit Cost
Sensus M-400 AMI BaseStation 2-way (Includes Installation)	$35,000.00*
520-M SmartPoint Single Port	$133.75
520-M SmartPoint Dual Port	$148.75
BaseStation Maintenance Fee (Starting Year 2)	$3,000.00

*If all 3 BaseStation are purchased at one time, a $7,000.00 discount will be applied per BaseStation

Sensus AMI Software Cost Breakdown

Sensus Analytic Essential Package:

SmartPoints Installed	1 > 5,000	5,000 > 10,000	10,000 > 14,000
Yearly Cost	$12,500.00	$18,825.00	$26,225.00

Software as a Service One time fees	Unit Cost
SaaS RNI System Set-Up Fee	$7,725.00
Sensus Analytic Set-Up and Integration Fee	$5,625.00
Analytic and RNI Training (Onsite)	$6,000.00

SaaS includes software support and:

- Daily backup
- Data replication to a Disaster Recovery site
- Anti-Virus and Malware subscription and scanning
- Operating System support, troubleshooting, security patching and upgrades
- Linux Red Hat, Microsoft Windows Server, Microsoft SQL Server and Oracle licenses and ongoing maintenance
- Hardware maintenance or refresh
- Tier IV SSAE 16 Data Center facility

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All products, software, and services are subject to a 3% yearly cost increase.

Further information on all products and services proposed can be found at www.sensus.com. We would like to thank you again for your interest in Sensus Flex-Net and your ongoing business with Aqua Metric Sales Co.

Sincerely,
Steve Kamiyama
Aqua Metric Sales Company
Account Manager
Steve.kamiyama@aqua-metric.com

SIERRA WIRELESS

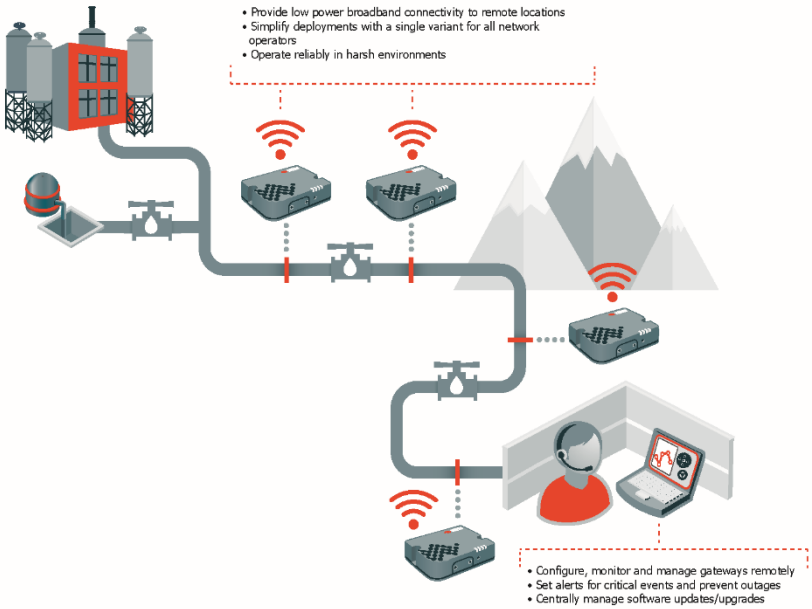
AirLink Raven RV50 Datasheet

AirLink® Raven RV50 Industrial LTE Gateway

Industrial Grade, LTE Performance, Low Power

The AirLink® Raven RV50 is the industry's lowest power consuming LTE gateway. Simple to install and easy to manage, the Raven RV50 industrial gateway is designed to connect critical assets and infrastructure. Ideal for industrial-grade applications in energy, utilities and smart-city infrastructure, the Raven RV50 provides real-time remote connectivity for SCADA, distribution management systems and metering.

With LTE coverage on major global networks, the Raven RV50 brings the benefits of broadband connectivity to the most challenging environments, where servicing is not an option and power is often scarce. It is the industry's only fully operational 4G gateway with 2G power consumption. LTE bandwidth makes it a viable alternative to costly wired and wireless technologies, providing a future-proof solution that protects investment.



sierrawireless.com/routers-gateways

AirLink Raven RV50 Industrial LTE Gateway Datasheet

FEATURES

- LTE performance at 2G power consumption (less than 1W in idle mode)
- State-of-the-art LTE coverage spanning 11 LTE frequency bands
- Single product variant for all major North American network operators
- Fully automatic network operator switching: just insert the SIM
- Provides network connectivity via Ethernet, Serial and USB
- Remote configuration, software update, and monitoring with AirLink Management Service (ALMS)
- Meets industrial-grade certifications including Class 1 Div 2, MIL-STD-810G, IP64 ingress protection
- Supports up to 5 VPN tunnels for secure cellular communications
- Events Engine for alert reporting to third party server platforms
- Application Framework (AAF) offers real-time onboard data processing
- GPS for tracking equipment

RUGGED DESIGN FOR DEMANDING ENVIRONMENTS

The Raven RV50 is the most rugged AirLink gateway ever built. Designed to withstand harsh industrial conditions, it is capable of surviving 5 V brownouts and spikes from -600 VDC to 200 VDC.

Certified as Class I Div 2, it is ideal for hazardous environments. The die cast aluminium housing is sealed to meet IP64 for resistance to dust and water ingress. The Raven RV50 is tested to meet and exceed the MIL-STD-810G specification for shock, vibration, temperature and humidity. The built-in power supply protection make it suitable for harsh electrical environments such as compressors, generators, and excavators.

ULTRA-LOW POWER CONSUMPTION

The Raven RV50 offers best-in-class power consumption combined with LTE performance, and is optimized for solar applications. It is the industry's only 4G gateway with 2G power consumption, operating at 900 mW in idle mode. For 2G and 3G deployments migrating to LTE, the Raven RV50 will work with existing power infrastructure, eliminating the need to invest in replacement solar panels.

Standby Mode provides additional protection for batteries by dropping power consumption to 53 mW, and can be triggered by timers, low voltage detection or I/O.

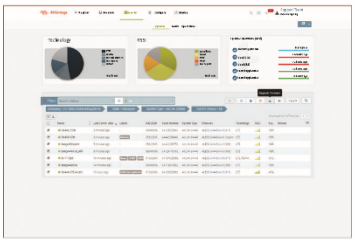
SIMPLIFIED DEPLOYMENT

The Raven RV50 is the first industrial LTE gateway to offer a single product variant for North American network operators, and a single product variant for international network operators. The Raven RV50 supports network operator switching—automatic configuration of the radio, based on the SIM—providing versatility and simplicity when changing between network operators at any time.

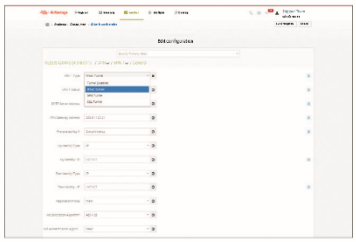
DASHBOARD

MONITOR CONNECTIVITY

SOFTWARE UPGRADES/UPDATES



SECURITY CONFIGURATION



SIERRA WIRELESS

AirLink Raven RV50 Industrial LTE Gateway Datasheet

BENEFITS

- Provides LTE broadband connectivity to remote locations and in harsh environments
- Ultra-low power consumption, ideal for solar or battery powered installations
- Maximizes longevity of deployed equipment and protects investments with LTE
- Improves ROI by supporting multiple network operators without additional hardware costs
- Powerful remote management solution
- Built-in, class-leading voltage transient protection provides superior reliability and continuous operation
- Proven reliability and over 1 million AirLink gateways deployed
- Industry leading warranty includes support, software updates and advance replacement

BEST-IN-CLASS REMOTE MANAGEMENT

The Raven RV50 can be remotely managed by AirLink Management Service (ALMS)—the cloud management solution ranked "best-in-class" by ABI Research. ALMS supports over-the-air device registration, configuration and software updates. Variables such as signal strength, network technology, location, temperature and voltage can be remotely monitored to help maintain connectivity. Dashboards display up-to-date views of the entire deployment, and custom reports can be set-up to monitor critical events and prevent downtime.

INSTANT INTEGRATION

The Raven RV50 is designed to install directly into existing infrastructure. Offering both serial and Ethernet connectivity, it can be used to connect devices like PLCs and RTUs, and transmit a wide variety of protocols like Modbus/DNP3 with ease. The Raven RV50 can also be integrated directly into existing management systems via SNMP.

INTELLIGENCE AT THE EDGE

The Raven RV50's Application Framework (AAF) provides programmability for leading-edge on-board data gathering, real-time processing and integration with the Sierra Wireless IoT Acceleration Platform. Processing data from connected devices, and making decisions at the edge can all be realized with the Raven RV50.

SECURE INDUSTRIAL COMMUNICATIONS

The Raven RV50 is loaded with features to secure critical data. It supports secure communications to multiple back-end systems by providing up to five concurrent VPN sessions. Remote authentication management allows enterprise-grade systems to manage access to devices in the field. Finally, port filtering and trusted IP protect the devices connected to the Raven RV50 from unwanted access.

SIERRA WIRELESS

Sierra Wireless
AIRLINK RAVEN RV50

	Specification
CELLULAR WAN	North American Model (Sierra Wireless MC7354) • Carrier Approvals: Verizon, AT&T, Sprint, T-Mobile USA, US Cellular, Rogers, Bell, Telus • Supported Frequency Bands - LTE: 1900(B2), AWS(B4), 850(B5), 700(B13), 700(B17), 1900(B25) - WCDMA: 2100(B1), 1900(B2), AWS(B4), 850(B5), 900(B8) - EV-DO/CDMA: 800(BC0), 1900(BC1), 1700(BC10) - GSM/GPRS/EDGE: Quad-band • Industry Approvals: FCC, IC, PTCRB • Software defined radio with automatic network operator switching • Dual SIM Interfaces (2FF) International Model (Sierra Wireless MC7304) • Supported Frequency Bands - LTE: 2100(B1), 1800(B3), 2600(B7), 900(B8), 800(B20) - WCDMA: 2100(B1), 1900(B2), 850(B5), 900(B8) - GSM/GPRS/EDGE: Quad-band • Industry Approvals: CE, RCM, GCF, R&TTE • Software defined radio with automatic network operator switching • Dual SIM Interfaces (2FF)
HOST INTERFACES	10/100/1000 Ethernet (RJ45) RS-232 serial port (DB-9) USB 2.0 Micro-B Connector 3 SMA antenna connectors (primary, diversity, GPS) Active GPS antenna support
INPUT/OUTPUT	Configurable I/O pin on power connector • Digital Input ON Voltage: 2.7 to 36 VDC • Configurable Pull-up for dry contact input • Digital Open Collector Output > sinking 500 mA • Analog Input: 0.5-36 VDC
LAN (ETHERNET/USB)	DNS, DNS Proxy DHCP Server IP Passthrough VLAN Host Interface Watchdog PPPoE
SERIAL	TCP/UDP PAD Mode Modbus (ASCII, RTU, Variable) PPP DNP3 Interoperability
NETWORK AND ROUTING	Network Address Translation (NAT) Port Forwarding Host Port Routing NEMO/DMNR VRRP Reliable Static Route Dynamic DNS
VPN	IPsec, GRE, and OpenVPN Client Up to 5 concurrent tunnels Split Tunnel Dead Peer Detection (DPD) Multiple Subnets
EVENTS ENGINE	Custom event triggers and reports Configurable interface, no programming Event Types: Digital Input, Network Parameters, Data Usage, Timer, Power, Device Temperature and Voltage Report Types: RAP, SMS, Email, SNMP Trap, TCP (Binary, XML, CSV) Event Actions: Drive Relay Output
DIMENSIONS	4.69 in x 1.34 in x 3.35 in (3.70 in including connectors) 119 mm x 34 mm x 85 mm (94 mm including connectors)

	Specification
SECURITY	Remote Authentication (LDAP, RADIUS, TACACS+) DMZ Inbound and Outbound Port filtering Inbound and Outbound Trusted IP MAC Address Filtering PCI compatible
SATELLITE NAVIGATION (GNSS)	12 Channel GPS and GLONASS Receiver Acquisition Time: 1 s Hot Start Accuracy: <2 m (50%), <5 m (90%) Tracking Sensitivity: -145 dBm Reports: NMEA 0183 V3.0, TAIP, RAP, XORA Multiple Redundant Servers Reliable Store and Forward
AIRLINK MANAGEMENT SERVICE	Secure cloud-based device management application Remote provisioning and airtime activation (where applicable) Gateway configuration and template management Gateway staging over the air and local Ethernet connection Over-the-air software and radio module firmware updates Device Configuration Templates Configurable monitoring and alerting Fleet wide firmware upgrade delivery Redundant data centers
GATEWAY MANAGEMENT INTERFACES	ALMS Local web user interface AT Command Line Interface (Telnet/SSH/Serial) SMS Commands SNMP
MANAGEMENT SYSTEM ACCESS/SECURITY	Remote authentication (LDAP, RADIUS and TACACS+)
APPLICATION FRAMEWORK	ALEOS Application Framework (AAF) LUA Scripting Language Eclipse-based IDE Integrated with AirVantage®
POWER	Input Voltage: 7 to 36 VDC LTE Idle Power: 900 mW (75 mA @ 12 VDC) Standby Mode Power: 53 mW (4.4 mA @ 12 VDC) triggered on low voltage, I/O or periodic timer Low voltage disconnect to prevent battery drain Built-in protection against voltage transients including 5 VDC engine cranking and +200 VDC load dump Ignition Sense with time delay shutdown Configurable features and ports to optimize power consumption
ENVIRONMENTAL	Operating Temperature: -30°C to +70°C / -22°F to +158°F Storage Temperature: -40°C to +85°C / -40°F to +185°F Humidity: 90% RH @ 60°C Military Spec MIL-STD-810G conformance to shock, vibration, thermal shock, and humidity IP64 rated ingress protection
INDUSTRY CERTIFICATIONS	Safety: IECEE Certification Bodies Scheme (CB Scheme), UL 60950 Vehicle Usage: E-Mark (UN ECE Regulation 10.04), ISO7637-2, SAE J1455 (Shock & Vibration) Hazardous Environments: Class 1 Div 2 Environmental: RoHS, REACH, WEEE
SUPPORT AND WARRANTY	3-year standard warranty Optional 2-year warranty extension Unrestricted device software upgrades 1-day Accelerated Hardware Replacement available through participating resellers

About Sierra Wireless

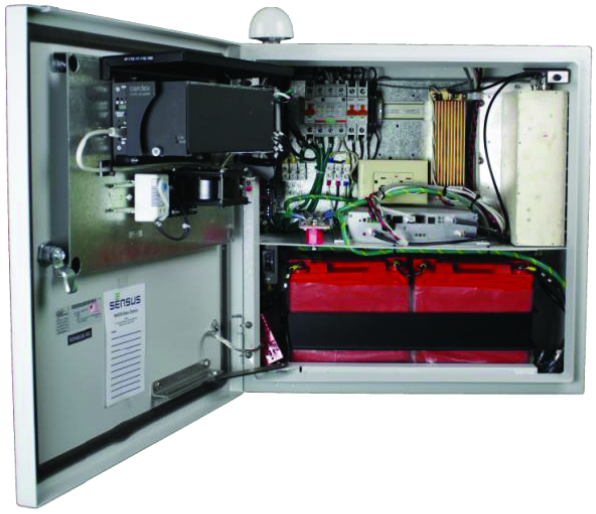
Sierra Wireless is building the Internet of Things with intelligent wireless solutions that empower organizations to innovate in the connected world. We offer the industry's most comprehensive portfolio of 2G, 3G, and 4G embedded modules and gateways, seamlessly integrated with our secure cloud and connectivity services. OEMs and enterprises worldwide trust our innovative solutions to get their connected products and services to market faster.

For more information, visit www.sierrawireless.com

SIERRA WIRELESS

FlexNet® M400B Base Station

Compact Point-to-Multipoint Base Station



Properties

Receive bandwidth	200 KHz
Transceivers	Single
Spectrum	Licensed 900 MHz PCS/MAS
Duplexing	Single transmit Eight receive channels - simultaneous/dedicated
Applications	Single
Expandability	No
Compatibility	SNMP
FlexNet	Requires RNI 3.x or newer

Enclosures - Outdoor - Pole/Wall Mount

Height	22" (55.9 cm)
Width x Depth	22" (55.9 cm) x 10.5" (26.7 cm)
Capacity	One transceiver
Temperature	-40° to +122° F (-40° to +50° C)
Voltage	120 VAC
Battery backup	8 hours
NEMA rating	4
Air conditioned	No

8601 Six Forks Road
Suite 700
Raleigh, NC 27615
1-800-638-3748
sensus.com

AMR-337

FlexNet

SmartPoint™ M2

Model 520M – Pit Set

DESCRIPTION

Application: The FlexNet SmartPoint M2 is a radio transceiver that provides water utilities inbound and outbound access to water measurement and ancillary device diagnostics via radio signal. The SmartPoint 520M is designed for submersible, pit-set environments. With its migratable, two-way communication ability, the M-Series SmartPoint functions as a walk-by/drive-by endpoint, fixed base endpoint, or combination of the two. This flexibility increases utility data collection capabilities and streamlines operations.

TouchCoupler Design: The SmartPoint M2 utilizes TouchCoupler, the patented Sensus inductive coupling communication system, to interface with the meter encoder as well as other devices. With TouchCoupler, the SmartPoint M2 can connect to the meter using existing two wire AMR installations instead of requiring utilities to access the home to install a new three-wire system. This results in a fast, efficient and reliable connection at minimal cost.

Operation: The FlexNet SmartPoint M2 receives input from the meter register and remotely sends data to a walk-by/drive-by or fixed base collection device. The SmartPoint M2 easily migrates from walk-by/drive-by to fixed base by simply installing a Tower Gateway Basestation (TGB).

In walk-by/drive-by mode, the SmartPoint M2 collects data and awaits an activation signal from the Vehicle Gateway Basestation (VGB) or Hand-Held Device (HHD). Upon signal receipt, it transmits readings, the meter identification number and any alarms.

As a fixed-base endpoint, the SmartPoint M2 interacts with one or more strategically placed TGBs located in the utility service area. Top of the hour readings and other diagnostics are instantly forwarded to the Regional Network Interface (RNI) at time of transmission. The FlexNet system provides unmatched reliability by using expansive tower receiver coverage of metering end points, data/message redundancy, fail over back up provisions and operation on FCC primary-use (unshared) RF spectrum.

Powerful Transmission, Flexible Platform: The SmartPoint M2 offers several advantages that control both deployment and lifetime operation costs. It's powerful, industry leading two watt transmitter broadcasts over large distances and minimizes collection infrastructure. And once the SmartPoint M2 is installed, its migratable, two-way system platform can be updated without requiring personnel to visit each meter and/or inconveniencing customers.

Additional SmartPoint M2 Features: The SmartPoint M2 obtains hourly readings and can monitor continuous flow over a programmable period of time, alerting the utility to leak conditions. In addition, the SmartPoint M2 stores up to 840 consumption intervals (35 days of hourly consumption), providing the utility with the ability to extract detailed usage profiles for consumer information and dispute resolution. The SmartPoint M2 also incorporates a two-port design, allowing the utility to connect multiple registers and ancillary devices (such as acoustic monitoring) to a single SmartPoint. This results in a compact installation that saves time, space and money - without reducing system performance.

SPECIFICATIONS

SERVICE	Pit set installation interfacing the utility meter to the Sensus FlexNet system. Unit requires 1.75" diameter hole in pit lid; fits pit lid thicknesses up to 1.75"
PHYSICAL CHARACTERISTICS	Width: 4.43" x Height: 5.09" x Depth: 3"
WEIGHT	1.0 lbs/16.0 oz
COLOR	Black
FREQUENCY RANGE	900 – 950 MHz, 8000 channels X 6.25 kHz steps
MODULATION	Proprietary Narrow Band
MEMORY	Non-Volatile
POWER	Lithium Thionyl Chloride batteries
APPROVALS	**US:** FCC CFR 47: Part 90, Part 24D, Part 101C, Part 15 Licensed operation **Canada:** Industry Canada (IC) RSS-134, RSS-119, RSS-210
OPERATING TEMPERATURE	- 22° F to +185° F *- 30° C to + 85° C*
OPTIONS	Dual or single port availability; TouchCoupler only, wired only.
INSTALLATION ENVIRONMENT	100% condensing, water submersible
COMPATIBILITY	**TouchCoupler and Wired Version:** Sensus ECRII, ICE and Badger ADE water registers **Wired Version Only:** Elster Encoder (Sensus protocol) and Neptune ARB VI (ProRead).
WARRANTY	20 years – Based on six transmissions per day. Refer to Sensus G-500 for warranty.

Page 1 of 1

AUTHORIZED SENSUS DISTRIBUTOR

SENSUS

P.O. Box 487 | 450 North Gallatin Avenue
Uniontown, PA 15401 USA
T: 1-800-638-3748
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www.sensus.com/water
h2oinfo@sensus.com

PRODUCT INFORMATION
COVERS

ARMORCAST®

ARMORCAST PRODUCTS COMPANY

Armorcast Polymer Concrete Fiberglass, and Rotocast products compared to conventional material; Concrete, Wood, Steel etc..

- Lighter weight
- High load carrying capacity
- High impact resistance
- Non-conductive or sparking
- Non-combustible
- Superior weathering resistance
- Excellent chemical resistance
- Excellent insulating properties for cold climate installations
- Bolt Down options available
- Ease of installation
- Zero maintenance

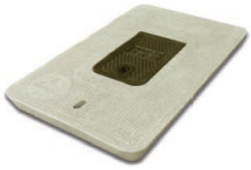
Covers: Slip Resistance Surfaces

All covers that are exposed to foot traffic have a slip resistant surface with a minimum coefficient of friction of 0.60 under wet or dry conditions. Armorcast Products Company slip resistant covers meet the American with Disabilities Act slip resistance requirements.

ROUND / DROP IN / HINGED READER LIDS

ROUND AMR/AMI
UNDER MOUNT

COVER WITH
DROP-IN LID



COVER WITH
CAST IRON HINGED LID

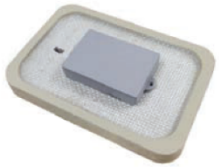
COVER WITH
DIAMOND PLATE HINGED LID

AMR / AMI FEATURES

Covers are compatible to most AMR/AMI manufacturers, transmitter holes vary in size and location. Bottom surface mounting options are available. Contact an Armorcast representative for more information.

COVER WITH
SINGLE TOP MOUNT AMR/AMI

COVER WITH
DUAL TOP MOUNT AMR/AMI

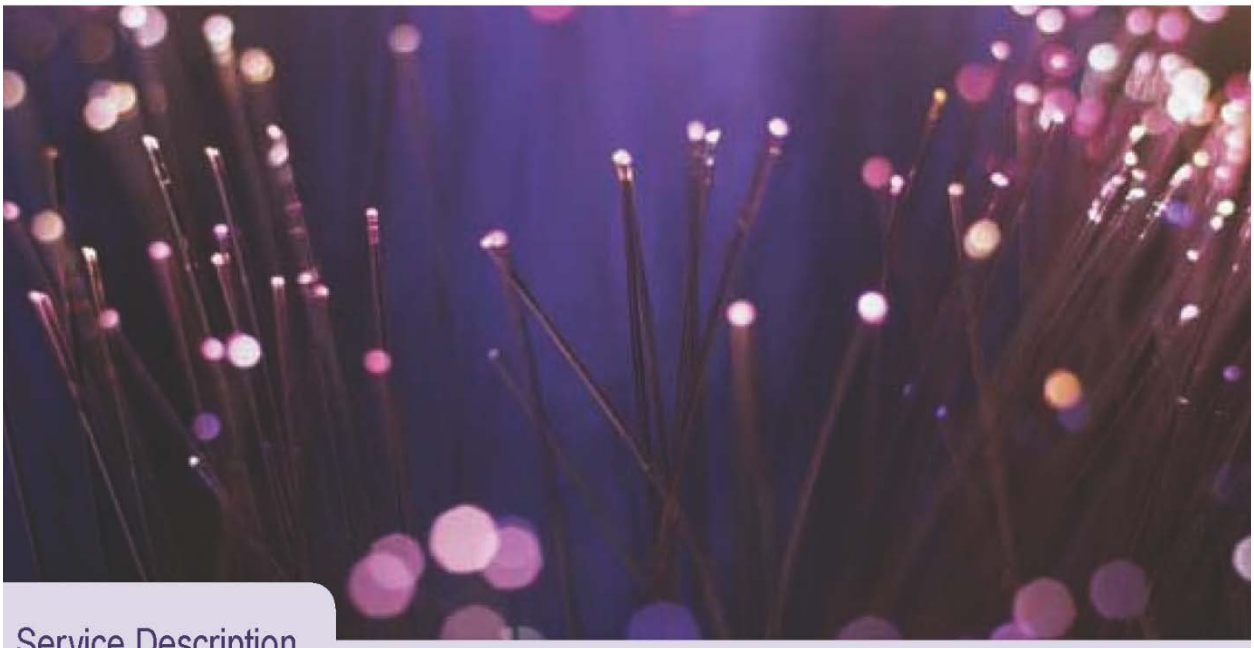


COVER WITH
BOTTOM MOUNT AMR/AMI

www.armorcastprod.com Tel: (818) 982-3600 Fax: (818) 982-7742

SS-C-SVS-0001-0213-01-A

Software as a Service



Service Description

WHAT IS SOFTWARE AS A SERVICE?

Software as a Service (SaaS) is a software application you can securely access by using any Internet-enabled device without having to install it locally or on a server. It offers multiple benefits across many industries for personal and business use. An example of this would be Google's Gmail service. If you have a Gmail account, all you have to do is pull it up in any browser to manage your email. There's no software you have to install on your computer. And, when Google makes enhancements to the Gmail service, they're made available to you instantly without you having to do anything at all. It's a seamless process. It happens this way because Google is managing all of the software and hardware requirements—including the security of your data. This is Software as a Service. It enables you to focus on what matters most to you: using the application. The Sensus SaaS solution was created with your needs in mind. It is easy to use, reliable, and the responsibility for maintaining it falls on Sensus—not you.

SAAS VS. LICENSE SOFTWARE

Sensus understands that the ability to manage vital utility applications is key to maintaining operational efficiency and providing first rate customer support. Sensus offers a choice when it comes to managing the software and hardware required to run your AMI system. With SaaS, you can rest assured that the services being conducted behind the scenes such as hardware or operating systems software maintenance, and ensuring your AMI software is always on the latest version, will be handled by the experts at Sensus. This way you can focus on your business. Of course, if your utility has the expertise on staff, Sensus also provides licensed software that allows your IT staff to maintain the AMI Software. The licensed software model allows you to install software updates or security patches on your own schedule. With licensed software, we provide the tools you need to manage and maintain your network software. Whichever software model you choose, our commitment to providing exceptional customer service is unwavering.

SENSUS

SS-C-SVS-0001-0213-01-A

Software as a Service

Benefits

Software as a Service (SaaS) is a proven concept in every regard—from ease of use to safety of data.

- SaaS isn't a new concept. It's been around for decades and is currently being used for a variety of applications in many industries.
- Sensus currently has over 400 SaaS customers. Over 100 of them are utilizing SaaS for AMI applications.

When utilities subscribe to Sensus Software as a Service (SaaS), they are getting more than just the software. They're securing the confidence and peace of mind that comes with enhanced ongoing support.

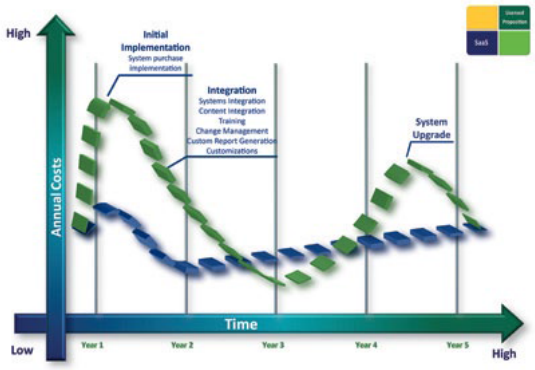
- Sensus SaaS includes delivery, software support and ongoing maintenance.
- Backup and disaster recovery service is included in the subscription price so utilities always know their data is available.
- Each utility has its own separate firewalled network.
- 99% uptime is guaranteed.
- Two Tier IV SSAE 16 certified data centers provide continuous replication of data to prevent data loss.
- Sensus provides monthly vulnerability scanning, anti-virus management and disaster recovery/data backup.

Included Services	Licensed Model	SaaS Model
Telephone Support	✓	✓
Remote Diagnostics of Software Problems	✓	✓
Software Updates	✓	✓
AutoRead annual support (if applicable)	✓	✓
Loaner Programming Equipment	✓	✓
Discounted Remote or On-site Training	✓	✓
Daily Backup		✓
Data replication to a Disaster Recovery site		✓
Anti-Virus and Malware subscription and scanning		✓
Operating System support, troubleshooting, security patching and upgrades		✓
Linux Red Hat, Microsoft Windows Server, Microsoft SQL Server and Oracle licenses and ongoing maintenance		✓
Hardware Maintenance or Refresh		✓
Data secured in a Tier IV SSAE 16 Certified Data Center		✓

*Requires customer to provide secure Cisco or OpenVPN connection

Sensus SaaS solutions are subscription-priced products that offer upfront cost benefits as well as lower total cost of ownership for utilities.

- **Overall cost savings:**
  - SaaS provides utilities of all sizes an affordable, efficient and effective alternative to building their own data management solution.
  - Sensus manages all updates and upgrades at no extra cost.
  - No additional software or hardware will need to be purchased by utilities upfront or as their customer base grows—this eliminates the need to dispose of depreciated hardware.
- **Predictable IT expenses:**
  - SaaS provides predictable IT expenditures and fewer over-budget IT project surprises. Internal IT support is freed up to focus on core competencies.
  - The support Sensus provides with its SaaS solutions can reduce or eliminate the need for any additional IT expenses.



- **Shorter deployment time and global availability:**
  - SaaS implementations are typically performed in 45% to 55% of the time and cost of on-premise licensed services.
  - Access to SaaS is available anywhere on Internet natively. There is no need to VPN into a network to obtain access to a licensed on premise application.

For more information, visit us at sensus.com

8601 Six Forks Road, Suite 700
Raleigh, NC 27615
1-800-638-3748

DATA SHEET

iPERL Smart Water Meter

Electromagnetic Flow Measurement System

Sensus iPERL® smart water meters are designed to capture both lost water and lost revenue. The innovative magnetic technology delivers unmatched low flow registration and minimal pressure loss. With no moving parts, iPERL maintains its accuracy over a 20 year lifetime and is equipped with smart water alarms – delivering the intelligence you need to quickly resolve issues in the field.

CAPABILITIES

- The iPERL meter has an operating range of 0.11 gpm (0.025 m^3/hr) to 55 gpm (12.5 m^3/hr)—it even starts to register flow as low as 0.03 gpm (0.007 m^3/hr).
- Sizes include: 5/8" (DN 15mm), 3/4" (DN 20mm) and 1" (DN 25mm)
- iPERL can be installed horizontally, vertically or diagonally.

BENEFITS

- Maximize investment with iPERL's magnetic technology, which delivers a 20-year accuracy warranty, with no repairs
- Get smart water alarms to detect issues such as leaks, reverse flow, empty pipe, etc.
- Improve low flow accuracy to drive additional revenue

Industry Leading Performance

The patented measurement technology of the iPERL water meter provides enhanced accuracy at both low and high flows. Over a 20-year lifespan, your iPERL will measure just as accurately as the day it was installed.

Solid State Magnetic Technology

By avoiding the use of a mechanical measuring element inside the flow tube, metering performance is linear over the entire flow range – ensuring no reduction in accuracy at any flow rate over the life of the meter. The iPERL meter uses our patented remanent magnetic field technology – requiring far less energy and delivering superior accuracy.

Alarms

Quick resolution of field issues is made possible with smart water alarms including leak detection, reverse flow, empty pipe, magnetic tamper and low battery. When integrated with our FlexNet® communication network, remotely gathering and transmitting data has never been more reliable or profitable.

Construction

The iPERL meter body is made of composite alloy and contains no metal material. Inside the meter body is an electronic register and a measuring device that is comprised of a composite alloy flow tube. Embedded in the flow tube are coated silver electrodes. iPERL utilizes these to measure the fluid velocity through the flow tube – enabling less power consumption and predictable meter performance. The iPERL meter has a 20-year accuracy warranty and a 20-year battery life guarantee.

SENSUS

WDS-10006-03

DATA SHEET

iPERL Smart Water Meter

Electronic Register

The 9-digit hermetically-sealed electronic register with LCD display was designed to eliminate dirt, fog and moisture contamination in pit settings. The large, easy-to-read display includes AMR digits, direction of flow, units of measure and smart water alarms. The AMR digits and units of measure are fully programmable. The register also provides integrated customer data logging.

AMI / AMR Compatibility

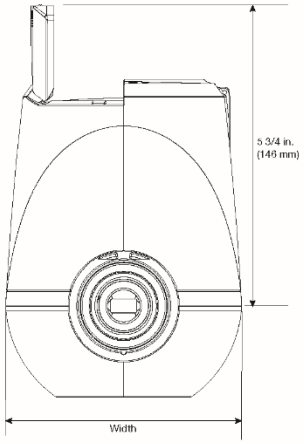
Sensus iPERL meters are compatible with common AMR/AMI systems, including the Sensus FlexNet® communication network.

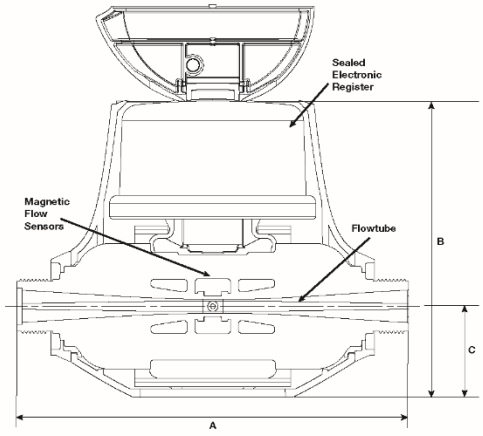
Conformance to Standards

The iPERL meter far exceeds the most recent revision of ANSI/AWWA Standard C-700 and C-710 for accuracy and pressure loss requirements. All iPERL meters are NSF/ANSI Standard 61 Annex F and G compliant and tested to AWWA standards.

Tamper Resistant

The integrated construction of the iPERL water meter prevents removal of the register to obtain free water. The magnetic tamper and low field alarms will both indicate any attempt to tamper with the magnetic field of the iPERL meter.





Dimensions and Net Weights

Size	A (lay length)	B	C	Spud Ends	NPSM Thread Size	Width	Net Weight
5/8" (DN 15 mm)	7-1/2" (190 mm)	6-1/10" (155 mm)	1-3/4" (44 mm)	5/8" (15 mm)	3/4" (19 mm)	4-1/2" (114 mm)	3.1 lb. (1.4 kg)
3/4"S (5/8" x 3/4") (DN 20 mm)	7-1/2" (190 mm)	6-1/10" (155 mm)	1-3/4" (44 mm)	3/4" (20 mm)	1" (25 mm)	4-1/2" (114 mm)	3.1 lb. (1.4 kg)
3/4" (DN 20 mm)	9" (229 mm)	6-1/10" (155 mm)	1-3/4" (44 mm)	3/4" (20 mm)	1" (25 mm)	4-1/2" (114 mm)	3.2 lb. (1.5 kg)
1" (DN 25 mm)	10-3/4" (273 mm)	6-1/10" (155 mm)	1-3/4" (44 mm)	1" (25 mm)	1-1/4" (32 mm)	4-1/2" (114 mm)	3.3 lb. (1.6 kg)

SENSUS

WDS-10006-03

CASE STUDY

Eastern Municipal Water District Improves Meter Read Accuracy

Utility uses FlexNet to better serve growing customer base

Challenge
Improve customer service and data accuracy

Solution
Deploy the Sensus FlexNet communication network

Reach Farther
Empower customers to conserve water during record-breaking drought

Eastern Municipal Water District's headquarters is home base for leak detection and water conservation in Riverside County, California.

Too many meters, not enough time

For Eastern Municipal Water District's (EMWD) field technicians, manually reading 148,000 meters across a 555 square mile service area was a daunting task. They spent their days traveling around dry, drought-stricken Riverside County, California to read each of the utility's meters—only to find that missing data limited the organization's ability to proactively review data and provide customer service options and updates that help customers become more efficient.

"EMWD has a responsibility to implement industry-leading technologies that create an efficient environment and empower the customer to conserve water," said David Gayneaux, manager, meter services, EMWD. "By doing so, we are able to limit the water lost to leaks in an economically responsible manner."

To provide their growing customer base with the best possible service and water for years to come, the utility needed more accurate data, fast.

Managing a growing population

Headquartered in Perris, California, EMWD provides services to seven cities in Riverside County and is California's sixth-largest water agency. With 795,000 individuals served and counting, the Southern California water provider is quickly installing meters to keep up with its expanding customer base. In the past four years alone, the utility has installed more than 7,000 new residential and commercial meters.

With a growing number of customers to gather data from each month and California's ongoing drought creating new regulatory challenges, the organization needed to conserve time and water.

"With FlexNet, we are able to alert users if they exceed their monthly water budget," said Gayneaux. "Doing so ensures we are doing our part to assist in statewide conservation efforts in a constantly changing regulatory environment."

Data needed to conserve resources

To increase efficiency, EMWD invested in new processes to read meters. To conserve water, the utility needed to monitor for high usage patterns, identify areas where customers exceeded their water budgets and detect leaks throughout the system. Without accurate data, it was challenging to educate consumers or spot leaks.

EMWD uses an allocation-based rate structure that provides both indoor and outdoor water budgets to customers. By obtaining additional data through their smart water network, they were able to better track water budget compliance and proactively assist customers with leak detection.

Reaping benefits with new technology

EMWD deployed the Sensus FlexNet® communication network to improve operations and meet the needs of a growing population. The utility now relies on the FlexNet system to read meters remotely, a vast improvement over manual reads. In fact, EMWD now reads more than 52,000 meters using Sensus technology.

In addition, EMWD uses FlexNet to:

- Collect accurate data in a timely manner
- Generate reports for customers
- Analyze usage
- Improve operational efficiency
- Conserve water

Remote meter reading leads to new opportunities

Without FlexNet, EMWD leaders estimate it would take as many as eight additional staff members to manually read the meters of the utility's growing population. With it, employees can instead focus their time on analyzing data and using insights gleaned to better serve customers, assist customers in water use efficiency and conserve water.

Case in point: the utility was able to identify a leak and immediately address the issue with a grateful customer within the first two days of deploying the technology. A retaining wall in a sloped area of the yard concealed a broken sprinkler head in a customer's backyard, making it difficult to notice. Had EMWD not caught the leak in time, the customer's monthly bill could have easily doubled.

But efforts don't stop with leak detection.

Using data to empower customers

FlexNet opened the door to new monitoring possibilities that have given rise to innovative ways to rally customers around water conservation and combatting the drought. Continuous usage reports identify consumers with high consumption levels. EMWD staff initiates contact via phone call, email or text message to inform customers of elevated usage and encourages them to repair the issue. To date, 2,600 customers have been contacted regarding continuous usage at their residence, and 2,300 of them no longer show signs of leaks.

"To help abide by state-imposed drought mandates, we implement certain allowances for our outdoor watering," said Gayneaux. "With FlexNet, we're able to alert users if they exceed their allowance, which helps improve conservation efforts."

Opportunity for the future

As a flexible and scalable technology, FlexNet enables accurate and reliable meter reads no matter how many people and businesses come to Riverside County.

"Accurate meter reads and data monitoring are just the beginning of what we can do with FlexNet," said Gayneaux. "We look forward to expanding our use of technology to better serve our customers, including the launch of a customer portal so that users can self-monitor their consumption."

The FlexNet system not only provides EMWD with meaningful benefits, it also equips them for the future by providing support for many years of sustainable growth.

About Sensus

Sensus helps public service providers—from utilities to cities to industrial complexes and campuses—do more with their infrastructure to improve quality of life in their communities. We enable our customers to reach farther by responding to evolving business needs with innovation in sensing and communications technologies, data analytics and services. Learn more at sensus.com.

Policy Issues

Yucaipa Valley Water District

Yucaipa Valley Water District

Workshop Memorandum 16-167

Date: **November 29, 2016**

Subject: **Policy Discussion Regarding the Hauling of Drinking Water from Construction Meters Connected to the Potable Water System**

On October 4, 2016, the District staff received a request from Mr. Al Ineichen requesting a waiver in monthly fees and construction meter deposit for his use of potable water hauled to 36610 Singleton Road, Calimesa. Since the District staff does not have the authority to waive the monthly construction meter fees or the deposit for the construction meter, the item was scheduled for a discussion at the board workshop on October 25, 2016 [Workshop Memorandum No. 16-161].

On October 25, 2016, the board members, District staff and Mr. Al Ineichen discussed the practice of hauling drinking water from the District's drinking water system to property owned by Mr. Al Ineichen.

The policy discussion was continued to the board meeting on November 1, 2016 as Director Memorandum No. 16-102. Following the board meeting, the District staff noted the following elements that need to be considered as part of the policy regarding the hauling of drinking water:

- Validate that the water hauled is used for residential use which will require a metered connection to the drinking water system;

- If construction water is needed, the water type should be recycled water and not drinking water unless otherwise approved by the Board of Directors;
- A construction meter will always be required to record water consumption for all water provided by the District;
- Any unauthorized water use of water, including water taken from the District without the use of a water meter, shall be immediately assessed by the District;
- The proposed policy should determine the amount of the monthly fixed charge;
- The proposed policy should determine the amount of the Facility Capacity Charge to be applied to the water used;
- The proposed policy should provide a locking mechanism to be used only by registered individuals for approved uses;
- The District staff needs to evaluate the potential public risk that may occur from a locked hydrant that would normally be used for fire protection;
- The proposed policy should determine if a new outlet is needed for a long-term hauling contract.

Water Hauler's License (State of California)

Pursuant to California Health and Safety Code, Section 111120, the State of California requires a Water Hauler's License to haul drinking water in bulk (250 gallons capacity or greater). This license is needed anytime water is transported for drinking, culinary or other purposes involving a likelihood of water being ingested by humans.

Water hauling vehicles are defined as self-propelled or towed vehicles having an attached water tank, with or without pumps, hoses and accessory equipment for filling or distribution of water. The tank must be 250 gallons capacity or higher and comply with all applicable State and Federal laws and regulations. Use of convertible trucks, dump trucks or flat-bed trucks with detachable tanks is allowed if the tanks are securely attached. Vehicles without a tank or detached tanks cannot be licensed.

Since the Yucaipa Valley Water District could be subject to enforcement procedures and violations pursuant to California Health and Safety Code, Section 111120(f), the District staff will require permits are obtained as the first step in the procedure. Therefore, the customer(s) need to pursue the required permit as a parallel process to the development of the water hauling policy.

The application process for the customer to obtain the permit will typical require the following steps:

- Applicant must obtain a Water Hauler's License application (CDPH 8605) from the Department of Public Health, Food and Drug Branch (FDB).
- Applicant must conduct water quality testing from the hauling vehicle by a laboratory certified by the California Environmental Laboratory Accreditation Program (ELAP), or the United States Environmental Protection Agency (US EPA) as follows:
    - Bacteriological analyses (total coliform) and *E. coli; and*
    - Separate coliform tests are required for each water hauler. Copies of the results need to be provided for review upon request from FDB.
- Once licensed the FDB will conduct periodic, unannounced inspections of the water hauler to ensure that the Licensee is operating in compliance with all applicable state and federal laws and regulations:
    - Inspections include a review of required water testing, equipment maintenances, sanitation, and record keeping; and

    - Guidelines regarding equipment compliance are required pursuant to 21 CFR 129.40.
- The hauler shall keep a log of activities on board the vehicle:
    - Dates of cleaning and sanitation procedures;
    - Water sources used;
    - Delivery points, including dates and volumes delivered;
    - Copies of agreements, contracts, licenses; and
    - Test results of bacterial (coliform and *E. coli*) testing.
- Water Hauler's License in non-transferable.
- The Water Hauler's License must be renewed and the license fee/renewal fee is due annually with the State of California. See most current state requirements for fees.

This condensed version of the California Health and Safety Code requirements for the Water Hauler's License should be used for reference only. A complete detailed description of the requirements should be obtained from the California Health and Safety Code (H&SC) Section 111120.

water meter or load sheet

Al Ineichen
Today, 9:03 PM
jzoba@yvwd.dst

Reply

Sent Items

Show all 2 attachments (161 KB) Download all Save all to OneDrive - Personal

Evernote Wunderlist

October 3,2016

Attn: Joe Zoba

My name is Al Ineichen I live at 36610 Singleton Rd. Calimesa. I have a small ranch in Calimesa. I have been hauling water for approximately 27 years with the permission of YVWD using a load sheet all this time with no problems or incidence. It just recently changed requesting me to have a meter . I do not see the need to have a meter, if required I do not fill I should have to pay $80.00 a month plus $1,500 deposit, which I have done,This is a construction meter and I'm not using the meter for construction. Since I now have a meter I'm responsible for the meter and the water that runs through it according to district rules. This meter has been attached to the hydrant for only a short time and already thee are other people using it, which I have no control over [see attached]. It would be more functional if I had control of the meter or went back on the load sheet at which I could report in more often if necessary .

I would like to request no monthly fee of $80.00 and a refund of my $1,500.00 deposit. Thank you for your attention in this matter as I would like to resume using the load sheet. Please take a look at my account, which can help you determine my usage.

I look forward to your response.Thanks very much

yours truly; Al Ineichen 951 809 4818

WATER HAULER
LICENSE PROCEDURE

California Health and Safety Code (H&SC) Section 111120 requires water haulers operating in California to obtain a Water Hauler's License issued by the Department of Public Health, Food and Drug Branch (FDB). The Water Hauler's License is required to haul **potable water** in bulk by any means of transportation for drinking, culinary, or other purposes involving a likelihood of the water being ingested by humans. "In bulk" means containers having capacities of 250 gallons or greater.

Water hauling vehicles are defined as self-propelled or towed vehicles having an attached water tank, with or without pumps, hoses and accessory equipment for filling or distribution of water. The tank must exceed 250 gallons capacity and comply with all applicable State and Federal laws and regulations. Use of convertible trucks, dump trucks or flat-bed trucks with detachable tanks is allowed if the tanks are securely attached. Vehicle without a tank or detached tanks cannot be licensed. The Water Hauler's License must be renewed annually.

There are two water hauler designations.

- Category B haulers may haul potable water or any food product including wine, syrup, fruit concentrates and soft drink concentrates. Category B haulers **cannot** haul non-food products.
- Category X haulers may **only haul potable water**. No other materials may be hauled by Category X haulers.

How to apply for a Water Hauler's License

- Obtain a Water Hauler's License application (CDPH 8605) by calling the FDB Water program desk at (916) 324-2170, or by downloading the form at http://www.cdph.ca.gov/pubsforms/forms/CtrldForms/cdph8605.pdf
- Complete the application in type or legible print and sign the form. Make sure each section is completed fully. **Incomplete applications will be returned to the applicant.**
- Make arrangements with a certified laboratory to conduct water quality testing on your water, as follows:
  - Bacteriological analyses (total coliforms)
- Make sure you include a valid telephone number on the application. FDB staff may contact you at the provided number to ask questions or request additional information regarding your water hauler.
- You must list all water haulers on the Water Hauler's License application. Each water hauler will receive a unique FDB water hauler decal.

- You must include the License plate number and Vehicle Identification Number (VIN) for each water hauler.
- Submit your completed application, the non-refundable license fee (check or money order), and water quality test results to CDPH (see the Water Hauler's License application for the mailing instructions).
- If you have a valid Water Bottling Plant License issued by FDB and the water hauler and water bottling plant are based, and operating at the same location, you may request a fee exemption from the Water Hauler's License.
- After your application is processed you will be contacted by FDB, at the telephone number provided on your application, to schedule a pre-licensing inspection.
- If your water hauler is found to be in substantial compliance with all applicable laws and regulations, your license will be issued shortly thereafter.
- The Water Hauler's License is valid for one calendar year. It is your responsibility to renew the license prior to the expiration date printed on the license.
- Your Water Hauler's License is non-transferable. If you transfer or sell your water hauler, the new owner will be required to apply for a new Water Hauler's License.

Renewal of a Water Hauler's License

- Once licensed, you will receive a Renewal notice and partially completed Water Hauler's License application 60 days prior to the expiration date of your license.
  - If you do not receive your renewal notice, please contact the FDB Water program desk at (916) 324-2170, or you may download a blank application at http://www.cdph.ca.gov/pubsforms/forms/CtrldForms/cdph8605.pdf
  - Sections 1-5 will be pre-filled on the Water Hauler's License application. Verify the information, make any corrections, and complete the remaining sections. Make sure each section is completed fully. **Incomplete applications will be returned to the applicant.**
- Submit copies of the required bacteriological test results for water sampled from your water hauler, as follows:
  - Current bacteriological analyses (total coliforms) test results for analyses conducted by a certified laboratory within the last 30 days.
  - A separate coliform test is required for each water hauler. Make sure the laboratory analytical report indicates the water hauler's license plate number or VIN.
- If you have added or changed water hauler vehicles you must provide the license plate number and Vehicle Identification Number (VIN) for each water hauler.
- Submit your renewal application, non-refundable license fee (check or money order), and water quality test results and records to CDPH (see the Water Hauler's License application for the mailing instructions).
- FDB will conduct periodic, unannounced inspections of your water hauler to ensure that you are operating in compliance with all applicable state and federal laws and regulations.

Tips for completing the Water Hauler's License application

- Do not skip any sections of the application. Each section must be completed fully. Incomplete sections will delay processing of your application. Refer to the instruction page included with the application.
- For renewal licenses, write your current license number above the "☒ RENEWAL APPLICANT" selection on the top of the form.
- The "Facility Address" must be that of the physical location where your water hauler is stored.
- The "Mailing Address" should be that where you wish to receive correspondence from FDB, such as your license and license renewal notice.
- Provide valid phone numbers. FDB staff will contact you at the given numbers. Wrong, disconnected, or unmonitored phone numbers will delay the processing of your application and may significantly delay the scheduling of your pre-licensing inspection.
- Write the phrase "PCA Code 76204" on the front of your check or money order.
- Submit legible copies of the requested water quality test results and/or monitoring records. Keep the original test results in your water hauler and available for review by FDB upon request.
- **Water Hauler's Licenses are non-transferrable to new owners.** A change of ownership will require a new Water Hauler's License.

Additional information

- Once licensed, periodic on-site inspections are conducted to assess compliance with applicable State and federal laws and regulations. Inspections will include a review of required water testing, equipment maintenance and sanitation, and record-keeping. Please review the Water Hauler's Inspection Procedure document, located at the link below, for information to help you prepare for your inspection.
  http://www.cdph.ca.gov/pubsforms/Documents/fdbBVWgde17.pdf

- Water quality testing must be conducted by a laboratory certified by the California Environmental Laboratory Accreditation Program (ELAP) or the United States Environmental Protection Agency (USEPA). For a list of ELAP-certified drinking water laboratories, please visit the agency website links below:

  State Water Resources Control Board, Division of Drinking Water/ELAP
  http://www.waterboards.ca.gov/drinking_water/certlic/labs/index.shtml

  ELAP certified drinking water labs, List
  http://www.waterboards.ca.gov/drinking_water/certlic/labs/documents/elap_certified_drinking%20_water_labs.pdf

WATER HAULER

INSPECTION PROCEDURE AND OPERATING REQUIREMENTS

California Health and Safety Code (H&SC) Section 111120 requires water haulers operating in California to obtain a Water Hauler's License issued by the Department of Public Health, Food and Drug Branch (FDB). A Water hauler is defined as any person who hauls water in bulk (250 gallons or more) by any means of transportation if the water is to be used for drinking, culinary, or other purposes involving a likelihood of the water being ingested by humans. The Water Hauler's License must be renewed annually.

Once licensed, periodic water hauler inspections are conducted to assess compliance with applicable State and Federal laws and regulations. Inspections will include a review of required water testing results and records, an inspection to determine equipment suitability, equipment maintenance, and an evaluation of operating and sanitation procedures.

General Requirements

Pursuant to 21 CFR 129.40, all water contact equipment shall be suitable for its intended use, including tanks, surfaces, hoses, pumps, valves, fittings and lubricants. All such equipment shall be constructed of non-toxic, non-absorbent material which can be adequately cleaned and sanitized. All equipment shall be constructed so as to allow inspection and adequate sanitation of water contact surfaces.

The following Guidelines regarding equipment will assist you to ensure compliance with CFR Part 129.40.

1. Water hauler tank
   - (i) Tank materials
     - a) The prior use of a tank must be known. If the tank was used for non-food purposes, FDB will require testing by an approved laboratory to ensure safety.
     - b) Examples of Acceptable Tank Materials
       - stainless steel;
       - food grade plastics;
       - food grade epoxy coated tanks;
       - glass and glass coated tanks;
       - aluminum (smooth finished);
       - copper;
       - ceramic.
     - c) Examples of Unacceptable Tank Materials:
       - non-coated steel or galvanized steel;

- rusted or cracked surfaces;
- tar, bituminous, or asbestos coatings;
- coatings that are not documented as food grade

d) Existing equipment with galvanized steel will not be allowed unless a food grade coating has been properly applied to all water contact surfaces.

(ii) Tank construction

a) Openings:

- Hatches and other openings, except fittings for water entry or discharge, shall be completely covered and sealed with tightly fitted coverings, permanently mounted food grade gaskets, or screw or clamp fastenings. The only exception is for Category B haulers which are equipped with security locks.
- Water fittings shall be equipped with clamp or screw-type caps, tethered to the fittings with chain or cable. These caps shall be in position on the fittings whenever they are not used for water transfer.

b) Vents:

- The tank shall be vented by a downward facing, or otherwise protected vent opening of a sufficient size to allow air to replace water as it is discarded.
- The opening shall be protected by an adequately supported air filter material capable of removing fine dust particles from the air.

c) Drain:

- A bottom drain shall be provided to facilitate complete discharge of water during sanitation procedures.

(iii) Tank Filling Mechanisms:

a) Tanks shall be filled using a system that prevents backflow of water from the vehicle tank to the source. Either of the following methods may be used:

- Acceptable double check valves on the direct filling connection to the tank. Two consecutively connected single check valves may be used in place of a double check valve.
- Overhead filling through a hatch opening at the top of the tank. The filling spout must not be allowed to intrude into the tank further than two diameters of the filling pipe above the highest water level that is possible when the tank is filled. If an overhead filler pipe is mounted on a vehicle, this pipe shall be capped at each end with threaded or clamped caps when the filler pipe is not in use. The caps need to be tethered to the fittings at the ends of the filler pipe.

b) Filling must be accomplished using acceptable source water under pressure.

c) Drafting of surface waters is not allowed under any circumstances.
d) Power take-off pumps will be allowed if they are properly sealed and isolated from the vehicle transmission.

2. Water pump
   (i) Only water transfer pumps which can be readily disassembled to demonstrate the condition of the impeller and impeller chamber shall be used.
   (ii) Acceptable Pumps:
      a) food grade pumps constructed from stainless steel, plastic, smooth-finish aluminum or other food grade materials.
      b) All water contact surfaces, including seals, bearings and lubricants must be constructed from food grade materials and must be smooth, non-porous and corrosion resistant. Acceptable food grade lubricants are usually white or pastel colored.
   (iii) Unacceptable Pumps:
      a) Any pump using non-food grade lubricant, seals, or bearings; porous, pitted or corroded impellers or impeller chamber surfaces; cast iron pumps; petroleum lubricated pumps; and pumps installed within the water tank.
   (iv) When discharge or transfer pumps are used, an effective check valve shall be provided on the pump or tank discharge line, as near to the pump or tank as possible. No connections shall be located between the tank and the check valve. The check valve may be in-line or within the pump itself.

3. Hoses
   (i) The ends of all hoses shall be fitted with threaded or clamped caps. Such caps shall be in place when hoses are not in use. A tight, clean storage compartment can substitute for hose caps if the hoses are stored within the compartment at all times except during use for transfer of water.
   (ii) Acceptable:
      a) Hoses shall have approved food grade water contact surfaces prepared from plastic, synthetic rubber, metal or other smooth non-porous material.
   (iii) Unacceptable:
      a) Rubber hoses, garden hoses, canvas fire hoses, radiator or engine cooling system hoses, surface water drafting hoses.

4. Other equipment
   (i) Piping:
      a) Food grade plastic or acceptable metal (brass, aluminum, stainless steel, copper) may be used. No corroded steel, galvanized steel or black pipe.
   (ii) Canteen filling equipment
      a) Must have effective backflow prevention (check valves) and dispensing spouts or hose bibs.

(iii) Miscellaneous Equipment:
a) Potable water heaters, pressure tanks and other equipment for operation of shower and kitchen units are allowed.
(iv) Spray Bays
a) Are **not allowed unless** equipped with an acceptable backflow prevention device.
(v) Fire hoses/nozzles and surface water drafting equipment
a) Are **not allowed**.

5. Labeling Requirements
(i) The following statements must be permanently attached to or painted onto the vehicle and must be fully visible and legible at all times:
a) The name and address of the licensee must appear on both sides of the tank or on both truck cab doors in letters at least 2 inches in height. If the tank is covered or located inside a vehicle, this information must be on each truck cab door or on each side of the container.
b) The words "drinking water" or "potable water" must appear on both sides of the tank in letters of at least 4 inches in height. If the tank is covered or located inside the vehicle, this information must be on each truck cab door or on each side of the container.
c) The capacity (gallonage) of the tank must appear on both sides of the tank or on both cab doors in letters of at least 2 inches in height. If the tank is covered or located inside the vehicle, this information must be on each truck cab door or on each side of the container.
d) A sticker provided by FDB shall be affixed to the upper left quarter of the rear of the tank and shall be visible at all times. If the tank is covered or located inside the vehicle, the sticker must be affixed to the upper left quarter of the rear of the VEHICLE. The sticker indicates that the vehicle has been inspected and found to be in compliance with applicable requirements.

6. Inspection and Sanitizing
(i) All equipment surfaces intended for potable water contact, including source fill point equipment, containers, caps, tanks, hoses, valves, filters and fittings shall be inspected, washed, rinsed, sanitized and replaced as often as necessary to maintain sanitation of such surfaces. Procedures to be used are contained in 21 CFR Part 129.80.
(ii) If household chlorine bleach (containing 5% chlorine) is to be used as a sanitizer, use one gallon of chlorine bleach in 1,000 gallons of water. Agitate the chlorine solution thoroughly and allow contact with tank hoses for at least 30 minutes. Run chlorine solution to waste through delivery hoses. The tank must then be thoroughly rinsed with potable water before filling. Do not use scented chlorine bleach for this process.

(iii) Adequate cleaning and sanitizing procedures as described in subsection (a) above shall be used on hauling vehicles and associated equipment at the following times:

a) When equipment is first placed into service; when it has been unused and stored in a sealed condition for a period of 4 weeks or more; or when it was used to haul any food products other than potable water.
For Category B Vehicles: When any food product has been hauled, the tank, hoses and other equipment must be thoroughly cleaned, sanitized and rinsed. **Water samples must be collected for coliform analysis.** Licensees may haul water only if the test data shows that the water contains coliform bacteria at less than 2.2 MPM/100 ml (or "absence" if the presence/absence test is used).

b) Whenever the filled or empty tank has been exposed by open or unsealed cover caps or fittings to any condition of possible contamination of the tank or contents. This includes potential contamination from dust, smoke, rain, or chemical substances.

c) When any fault or defect becomes apparent in the seals, vents, hatch doors, welds, valves, pipes, pumps, hoses, or other equipment which may allow the water to become contaminated.

d) When bacterial analysis of the water indicates presence of *E. coli*.

7. Bacteriological testing

(i) Hauled water samples shall be submitted to an approved water laboratory for coliform testing at the following times:

a) The first water load following any of the required sanitation procedures described in (6) above.

b) At least one sample of hauled water every 30 days during months when water hauling is performed.

c) Whenever such analysis is requested by state or local health authorities.

(ii) All testing must be conducted by a laboratory certified by the California Environmental Laboratory Accreditation Program (ELAP) or the United States Environmental Protection Agency (USEPA). For a list of ELAP-certified drinking water laboratories, please visit the agency website links below:

State Water Resources Control Board, Division of Drinking Water/ELAP
http://www.waterboards.ca.gov/drinking_water/certlic/labs/index.shtml

ELAP certified drinking water labs, List
http://www.waterboards.ca.gov/drinking_water/certlic/labs/documents/elap_certified_drinking%20_water_labs.pdf

(iii) Take four samples and send all four samples to the testing laboratory. The laboratory will randomly select one of the four samples to test for coliforms.

(iv) The laboratory may use the presence/absence (P&A) test for the coliform analysis. Only negative (absence) test data are acceptable. **If a sample tests positive (presence) for coliforms, you must further test the water for *E. coli*. If *E. coli* is detected, you must immediately stop distributing the water; notify the FDB Licensing Desk; investigate the cause of the problem; take corrective actions and resample/test the water. You must not resume the distribution of water until the test shows no *E. coli* in the water.**

(v) Pursuant to H&SC Section 111155, FDB may ask you to test for other contaminants if FDB suspects other substances may be present in the water.

8. Storage of water in the water hauler tank
   (i) Water shall NOT be stored in the water hauler for a period of greater than one week.

9. Logs
   (i) The hauler shall keep a log of the following activities **on board the vehicle**;
      a) Dates of cleaning and sanitizing procedures. This log is to include descriptions of processes used for cleaning/sanitizing. For example: cleaning agents, contact time, concentration of sanitizing agent.
      b) Water sources used. This log is to include: dates, gallonage and the name of the person who authorized/directed use of the source.
      c) Delivery points, including dates and volumes delivered.
      d) Copies of agreements, contracts, licenses
      e) Test results of bacterial (coliform and *E. coli*) testing

10. Record Retention
   (i) Pursuant to 21 CFR Part 129.80(h) all testing, suitability, and performance records must be maintained for at least 2 years.

11. Design or Construction Changes
   (i) You must inform FDB when any changes are made in the design or construction of your water hauler.

Development Projects

Yucaipa Valley Water District

Yucaipa Valley Water District

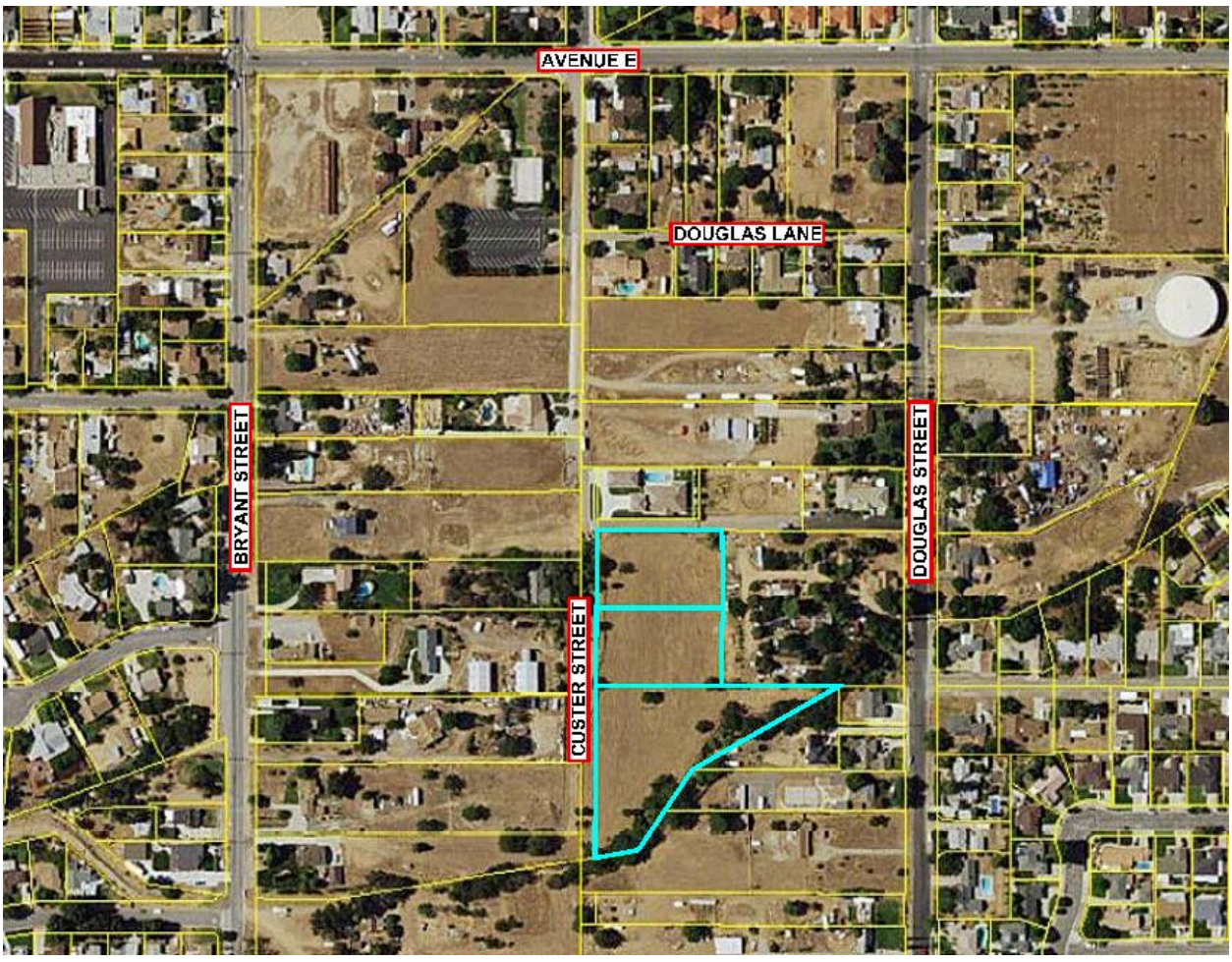
Workshop Memorandum 16-160

Date: **October 25, 2016**

Subject: **Overview of Development Agreement No. 2016-08 to Provide Water and Sewer Facilities and Service to the Private Development of Assessor Parcel Numbers 0322-102-49, 0322-102-50, and 0322-102-51 by American Investments Management**

This development consists of three single family residences on three existing parcels, located to the south of Douglas Lane, between Custer Street and Douglas Street in the City of Yucaipa, San Bernardino County.

The District staff has been working with the developers for the preparation of a development agreement. The specific conditions of service for this project are included in Part G of the attached agreement.



YVWD AGREEMENT NO. 2016-08

AGREEMENT TO PROVIDE WATER AND SEWER FACILITIES AND SERVICE TO THE PRIVATE DEVELOPMENT OF ASSESSOR PARCEL NUMBERS 0322-102-49, 0322-102-50 AND 0322-102-51

This Agreement is made and effective this 6th day of December, 2016, by and between the YUCAIPA VALLEY WATER DISTRICT, a public agency ("DISTRICT") and American Investments Management, Inc.,("DEVELOPER"). Each is sometimes referred to herein as a "Party" and jointly as the "Parties".

Contact information for the parties is as follows:

DISTRICT:
Yucaipa Valley Water District
12770 Second Street
Post Office Box 730
Yucaipa, California 92399-0730
Attn: Joseph B. Zoba, General Manager
Telephone: (909) 797-5119
Facsimile (909) 797-6381

DEVELOPER:
American Investments Management, Inc.
17130 Van Buren Boulevard
Suite Number 117
Riverside, California 92504
Attn: Doug Dooley, General Manager
Telephone: (951) 377-7246
Email: dougdooley79@yahoo.com

PROJECT OVERVIEW

This development consists of 3 single family residences on three separate parcels. The project consists of Assessor Parcel Numbers 0322-102-49(0.85 acres), 0322-102-50(0.85 acres) and 0322-102-51(1.74 acres) which are located on the east side of Custer Street, south of Avenue E in the City of Yucaipa, San Bernardino County, (the "Property"). The proposed development of the Property will not include phased construction and will not be required to be "dual plumbed". (see "Attachment A – Project Overview Map").

The Yucaipa Valley Water District has been involved in the review process for this project and has established the following development related project files: P-65-316/Work Order 65-22197

RECITALS

WHEREAS, DEVELOPER desires to develop its Property situated within the service area of the DISTRICT, and

WHEREAS, DEVELOPER proposes to develop the DEVELOPER's Property in the manner generally proposed and in accordance with the currently approved maps and construction drawings reviewed by the Yucaipa Valley Water District at this time, and

WHEREAS, DEVELOPER desires to obtain water (as used herein, "water" includes, but is not limited to, recycled water where applicable) and sewer service from the DISTRICT for its development in accordance with the DISTRICT's Rules, Regulations and Policies; and

WHEREAS, it is the purpose of this Agreement to set forth the terms and conditions by which the DISTRICT will provide water and sewer service to the DEVELOPER's Property.

AGREEMENT

NOW, THEREFORE, in consideration of the mutual promises and covenants contained herein, the DEVELOPER and the DISTRICT agree as follows:

PART A: THE FACILITIES

1. General Description.

a. The DEVELOPER proposes to develop its Property as provided on the approved development construction drawings approved by the DISTRICT (the "Approved Plans" as defined in Paragraph 3(a) of this Agreement) which includes water and sewer facilities ("Facilities" or "Facility") necessary to serve the Property.

b. Ownership; Operation and Maintenance: Once constructed and accepted by the DISTRICT, title to the facilities (and associated right-of-way) shall be conveyed by the DEVELOPER to the DISTRICT, and the DISTRICT shall operate and maintain the facilities and shall provide water and sewer service to the DEVELOPER's Property in accordance with the DISTRICT's Rules, Regulations and Policies and the provisions of this Agreement.

PART B: DESIGN AND CONSTRUCTION

2. Licensed Professionals. All work, labor and services performed and provided in connection with (for example) the preparation of surveys and descriptions of real property and right-of-ways, the preparation of construction specifications, plans and drawings, and the construction of all Facilities, shall be performed by, or under the direction of, professionals appropriately licensed by the State of California and in good standing. In the event the

DISTRICT reasonably determines after conferring with the DEVELOPER that other licensed professionals are required in order to satisfy the obligations of the DEVELOPER hereunder, the DEVELOPER shall promptly retain such professionals at its sole cost and expense.

3. Plan Acceptance; Facility Acceptance.

a. The DISTRICT shall within 30 calendar days of receipt respond to all plans and specifications ("Plans") related to the construction of the Facilities. Upon its final review and approval of the Plans, the DISTRICT shall sign the construction drawings ("Approved Plans") indicating such approval ("Plan Acceptance"). Plans are subject to an annual review by the District and modifications may be required by the DISTRICT to conform to revised construction standards.

b. The DEVELOPER shall not permit, or suffer to permit, the construction of any Facility without having first obtained Plan Acceptance. In the event the DEVELOPER fails or refuses to obtain the DISTRICT's Plan Acceptance, the DISTRICT may refuse, in its sole discretion and without liability to the DEVELOPER, to issue its Facility Acceptance (as that term is defined below) as to such Facility when completed.

c. The DEVELOPER shall not deviate from any Approved Plans and/or specifications without the DISTRICT's prior written approval.

d. All construction work shall be inspected on a timely basis by DISTRICT personnel and/or by DISTRICT's consultants at the sole cost of the DEVELOPER. The DEVELOPER acknowledges that the inspector(s) shall have the authority to require that any and all unacceptable materials, workmanship, construction and/or installation not in conformance with either (i) the Approved Plans, or (ii) standard practices, qualities and standards in the industry, as reasonably determined by the DISTRICT, shall be replaced, repaired or corrected at DEVELOPER's sole cost and expense.

e. In the event the DEVELOPER's contractor proposes to work overtime and beyond normal business hours, the DEVELOPER shall obtain the DISTRICT's approval at least 24 hours in advance so that inspection services may be appropriately scheduled. The DEVELOPER shall be solely responsible for paying all costs and expenses associated with such inspection services.

f. The DISTRICT shall promptly upon request of DEVELOPER cause the final inspection of a Facility which DEVELOPER indicates is completed. If the DISTRICT finds such Facilities to have been completed in conformance with the Approved Plans for which a Plan Acceptance has been issued, then DISTRICT shall issue to DEVELOPER its letter ("Facility Acceptance") indicating satisfactory completion of the Facility and DISTRICT's acceptance thereof. Neither inspection nor issuance of the Facility Acceptance shall constitute a waiver by DISTRICT of any claims it might have against DEVELOPER for any defects in the work performed, the materials provided, or the Facility constructed arising during the one year warranty period provided for under Paragraph 8 of this Agreement.

4. Project Coordination and Designation of DEVELOPER's Representative.

a. The DEVELOPER shall be solely responsible for coordinating the provision of all work, labor, material and services associated with the planning, design and construction of the water and sewer Facilities required for the DEVELOPER's Property. The DEVELOPER shall be solely responsible for compliance with all applicable federal, state and local safety rules and regulations, and shall conduct periodic safety conferences as required by law and common sense.

b. Prior to proceeding with any Facility construction, the DEVELOPER shall schedule and conduct a preconstruction conference with the DISTRICT's General Manager and the DISTRICT Engineer and/or their designees or agents. In the event the DEVELOPER fails or refuses to conduct any such conference, the DISTRICT may refuse, in its sole discretion, to accept the Facilities constructed by the DEVELOPER.

c. The DISTRICT and the DEVELOPER hereby designate the individual identified on page 1 of this Agreement as the person who shall have the authority to represent the DISTRICT and DEVELOPER in matters concerning this Agreement. In order to ensure maximum continuity and coordination, the DISTRICT and DEVELOPER agree not to arbitrarily remove or replace the authorized representative, but in the event of a substitution, the substituting Party shall promptly advise the other Party of such substitution, in writing.

5. DISTRICT's Right to Complete Facilities. The DISTRICT is hereby granted the unqualified right to complete, construct or repair all or any portion of the water and/or sewer Facilities, at DEVELOPER's sole cost and expense in the event there is a threat to the public's health, safety or welfare.

6. Construction of Connections to DISTRICT Facilities. Unless otherwise agreed to in writing by the DISTRICT, the DISTRICT shall furnish all labor, materials and equipment necessary to construct and install connections between the DEVELOPER's Facilities and the DISTRICT's water, recycled water, and sewer systems. All costs and expenses associated therewith shall be paid by the DEVELOPER.

7. Compliance With Law and DISTRICT Regulations. The DEVELOPER hereby agrees that all Facilities shall be planned, designed and constructed in accordance with all applicable laws, and the DISTRICT'S Rules, Regulations and Policies in effect at the time of construction. The DEVELOPER shall strictly comply with all applicable law, rules and regulations, concerning the provision of services, materials and the payment of wages. The DEVELOPER shall keep fully informed of and obey all laws, rules and regulations, and shall indemnify the DISTRICT against any liability arising from DEVELOPER's violation of any such law, rule or regulation.

8. DEVELOPER's Warranties. The DEVELOPER shall unconditionally guaranty, for a period of one year following the DISTRICT's Facility Acceptance thereof, any and all materials and workmanship, at the DEVELOPER's sole cost and expense. The provision of temporary water service through any of the DEVELOPER's Facilities, prior to DISTRICT's acceptance of same, shall not nullify nor diminish the DEVELOPER's warranty obligation, nor shall the DEVELOPER's warranty obligation be voided if the DISTRICT determines, in its sole discretion,

to make any emergency repairs necessary to protect the public's health, safety or welfare or to ensure continuity of water or sewer service. The DISTRICT shall notify DEVELOPER of such emergency repairs.

9. Testing and Disinfection. Upon approval by the DISTRICT, the DEVELOPER, at its sole cost and expense, shall undertake and satisfactorily complete a testing program, including without limitation, compaction, cleaning, video and air testing, and pressurized and disinfection testing, for all Facilities prior to acceptance by the DISTRICT, and to disinfect all water Facilities in accordance with the DISTRICT's procedures and other applicable laws, rules and regulations.

10. Bond Requirements. The DEVELOPER shall provide to the DISTRICT, in a form satisfactory to the DISTRICT, the following bonds:

a. A Performance and Warranty Bond. A performance bond issued by a corporate surety or sureties licensed and permitted to do business by and within the State of California in an amount representing not less than one hundred percent (100%) of any and all construction work to be conducted or performed under this Agreement. A warranty bond issued by a corporate surety or sureties licensed and permitted to do business by and within the State of California in an amount representing not less than fifty percent (50%) of the total cost of any and all construction performed hereunder, insuring against any and all defects in the Facilities constructed hereunder, for a period of not less than one full year after the date of acceptance thereof by the DISTRICT.

b. A Labor and Materials Payment Bond issued by a corporate surety or sureties licensed and permitted to do business by and within the State of California in an amount representing not less than one hundred percent (100%) of the total cost of any and all construction performed hereunder per California Civil Code Sections 9550 and following.

c. Miscellaneous Bond Requirements. All bonds required by this Section 10 shall be provided to the DISTRICT within sixty (60) days of the date that this Agreement was approved by the DISTRICT's Board of Directors. All bonds required by this section are subject to the approval as to form and content by the General Manager and DISTRICT's Legal Counsel. All bonds required by this section shall be provided by a surety that is an "admitted" surety insurer authorized to transact surety insurance in California, with assets exceeding its liabilities in the amount equal to or in excess of the amount of the bonds, and each bond shall not be in excess of ten percent (10%) of the surety insurer's assets. The bond shall be duly executed and shall meet all of the requirements of Section 995.660 of the Code of Civil Procedure.

PART C: TITLE TO FACILITIES; OPERATION

11. Title to Facilities and Right-of-Way.

a. Provided that the DEVELOPER's Facilities are designed and constructed as required hereunder and the DISTRICT proposes to issue its Facility Acceptance, the DEVELOPER shall, concurrently with the DISTRICT's Facility Acceptance, convey ownership title to all Facilities (and right-of-way, if applicable) to the DISTRICT, free and clear of any and

all liens and encumbrances except those that are expressly agreed to by the DISTRICT. The DISTRICT may require fee title or an easement, depending upon the location of the Facility through action by the Board of Directors. Upon conveyance of title, the DISTRICT shall assume the responsibility of operating and maintaining the Facilities, subject to the DEVELOPER's warranty as provided herein. The DEVELOPER acknowledges and agrees that the DISTRICT shall not be obligated to operate and maintain the Facilities and to provide service to and through them until all applicable conditions imposed by this Agreement hereunder are satisfied and title to the Facilities has been conveyed and delivered to the DISTRICT in recordable form.

b. A form for the *Grant of Easement and Rights-of-Way* and *Bill of Sale of the Facilities* is available from the District upon request.

12. Risk of Loss. Until such time as acceptance thereof by the DISTRICT, and until good and marketable title to the easements, rights-of-way and Facilities are conveyed and delivered to the DISTRICT in recordable form, the DEVELOPER shall be solely and completely responsible for any and all losses and/or damage of every kind or nature to the easements, rights-of-way and Facilities. In the event DEVELOPER believes the loss and/or damages arose from or are related to acts performed by the DISTRICT, this provision does not preclude DEVELOPER's insurance carrier from seeking indemnity and/or reimbursement from the DISTRICT.

13. Conditions Precedent to the Provision of Water and Sewer Service. Unless the DISTRICT otherwise agrees in writing, the DISTRICT shall not be obligated to provide any water and/or sewer service to the DEVELOPER's Property or any part thereof, including model homes, until Facility Acceptance by the DISTRICT and DEVELOPER conveys to the DISTRICT the right-of-way and Facilities associated with the requested service. Upon acceptance of the right-of-way and appurtenant Facilities, the DISTRICT shall provide the service requested and assume the responsibility for operating and maintaining the affected Facilities. Service provided by the DISTRICT shall be in accordance with its Rules, Regulations and Policies and shall be comparable in quality of service to that provided all similarly situated customers.

PART D: FEES AND CREDITS

14. DEVELOPER's Fees, Charges, Costs and Expenses. The DEVELOPER shall be solely responsible for the payment to the DISTRICT of all fees, charges, costs and expenses related to this development.

a. DEVELOPER Cash Account Deposit: The DEVELOPER shall deposit with the DISTRICT, to be held in a Cash Account administered by the DISTRICT, the sum of 10% of the construction costs as an initial deposit within 10 business days following the DISTRICT's approval of this Agreement. The DEVELOPER acknowledges and hereby agrees that the DISTRICT is authorized, from time-to-time, to reimburse itself from the funds on deposit. The District shall provide a monthly accounting of how funds were disbursed. The DEVELOPER further agrees to periodically replenish within 30 calendar days upon the date an invoice is issued by the DISTRICT, the Cash Account in order to maintain a minimum amount as specified by the DISTRICT. The DISTRICT will not release any buildings for occupancy unless there is a balance

of at least $1,000 in the Cash Account. Should any unexpended funds remain in the Cash Account upon termination of this Agreement, then such funds shall be reimbursed to the DEVELOPER within 90 days.

b. Current Fees and Charges: In the event of a change in the DISTRICT's schedule of fees and charges as stated in DISTRICT's existing Resolution 07-2007 adopted on March 8, 2007, such change shall automatically be incorporated into this Agreement as though set forth in full. Unless otherwise agreed to in writing by the DISTRICT, the DEVELOPER shall pay, when due, the then-current amount of the applicable fee or charge.

i. The DEVELOPER shall pay for the purchase of a quantity of imported water pursuant to the Sustainability Policy adopted by the Board of Directors as a Resolution No. 11-2008 on August 20, 2008. The imported water rate shall be the rate in effect at the time water is secured from the San Bernardino Valley Municipal Water District. Imported water for compliance with the Yucaipa Valley Water District's Sustainability Policy may be pre-paid to lock in the Development Sustainability fee or purchased prior to the issuance of building permits and pay the fee in effect at that time.

15. DISTRICT Financial Participation; Credits. The DISTRICT may agree to participate in certain facilities for this Project. Any participation or financial contribution to construct the water and wastewater infrastructure associated with this project is contained in Part G - Special Conditions of this Agreement.

PART E: PERMITS AND DOCUMENTATION

16. Permits, Licenses and CEQA Documentation. The DEVELOPER shall be solely responsible for securing and paying for all permits and licenses necessary to develop its project. The DEVELOPER shall be solely responsible for complying with the California Environmental Quality Act under the auspices of the City and/or County within which the Property is situated. However, upon request, the DEVELOPER shall furnish to the DISTRICT all relevant environmental documentation and information. The DEVELOPER, at its sole cost and expense, shall be solely responsible for defending against any and all legal challenges to the DEVELOPERS entitlements including permits, licenses and CEQA documents.

17. Documents Furnished by the DEVELOPER. The DEVELOPER shall furnish to the DISTRICT project documentation as required by the District specified below, within the time periods specified. Each and every document submittal shall consist of a fully executed original or certified copy (in recordable form, if applicable) and four copies.

Document(s)	Due Date
Certification of Streets to Rough Grade	Prior to Construction
Field Engineering Surveys ("Cut Sheets")	Prior to Construction
Liability Insurance Certificate(s)	Prior to Construction
Performance Bond	Prior to Construction
Labor and Materials Bond	Prior to Construction
City/County Encroachment Permits and Conditions	Prior to Construction

Soil Compaction Tests	Prior to Acceptance
Grant of Easements and Rights-of-Way	Prior to Acceptance
Warranty Bond	Prior to Acceptance and Recording
Bill of Sale	Prior to Acceptance
List of Approved Street Addresses and Assessor Parcel Numbers	Prior to Setting Meter
Notice of High/Low Water Pressure	Prior to Setting Meter
Notice of Water Pumping Facility	Prior to Construction
Mechanic's Lien Releases	Upon Request of District

NOTE: The DEVELOPER hereby acknowledges and agrees that the foregoing list is not intended to be exclusive; therefore, the DISTRICT reserves the right to request, from time-to-time, additional documents or documentation.

PART F: INSURANCE AND INDEMNIFICATION

18. Indemnification and Hold Harmless. The DEVELOPER and the DISTRICT agree that the DISTRICT should, to the extent permitted by law, be fully protected from any loss, injury, damage, claim, lawsuit, cost, expense, attorneys' fees, litigation costs, defense costs, court costs or any other costs arising out of or in any way related to the performance by DEVELOPER of this Agreement. Accordingly, the provisions of this indemnity provision are intended by the Parties to be interpreted and construed to provide the fullest protection possible under the law to the DISTRICT, except for liability attributable to the DISTRICT's intentional and/or negligent acts. DEVELOPER acknowledges that the DISTRICT would not enter into this Agreement in the absence of this commitment from the DEVELOPER to indemnify and protect the DISTRICT as set forth here.

Therefore, the DEVELOPER shall defend, indemnify and hold harmless the DISTRICT, its employees, agents and officials, from any liability, claims, suits, actions, arbitration proceedings, administrative proceedings, regulatory proceedings, losses, expenses or costs of any kind, whether actual, alleged or threatened, actual attorneys' fees incurred by the DISTRICT, court costs, interest, defense costs including expert witness fees and any other costs or expenses of any kind whatsoever without restriction or limitation incurred in relation to, as a consequence of or arising out of or in any way attributable actually, allegedly or impliedly, in whole or in part in the performance by DEVELOPER of this Agreement. All obligations under this provision are to be paid by the DEVELOPER as incurred by the DISTRICT. Notwithstanding the foregoing, the DEVELOPER shall have no obligation to defend, indemnify or hold harmless the DISTRICT, its employees, agents or officials from any liability arising, in whole or in part, from the DISTRICT'S intentional and/or negligent acts.

19. Insurance. The DEVELOPER agrees to provide insurance in accordance with the requirements set forth here throughout the term of this Agreement. If the DEVELOPER uses existing coverage to comply with these requirements and that coverage does not meet the requirements set forth herein, the DEVELOPER agrees to amend, supplement or endorse the existing coverage to do so. The following coverages will be provided by the DEVELOPER and maintained on behalf of the DISTRICT and in accordance with the requirements set forth herein.

a. Commercial General Liability Insurance (Primary) shall be provided on ISO-CGL Form No. CG 00 01 10 93. Policy limits shall be no less than $1,000,000 per occurrence for all

coverages and $2,000,000 general aggregate. The DISTRICT and its officials, employees and agents shall be added as additional insureds using ISO Form CG 20 10 10 93. Coverage shall apply on a primary non-contributing basis in relation to any other insurance or self-insurance, primary or excess, available to the DISTRICT or any employee or agent of the DISTRICT. Coverage shall not be limited to the vicarious liability or supervisory role of any additional insured. Coverage shall contain no contractors' limitation endorsement. There shall be no endorsement or modification limiting the scope of coverage for liability arising from explosion, collapse, or underground property damage.

b. Umbrella Liability Insurance (over Primary) shall apply to bodily injury/property damage, personal injury/advertising injury, at a minimum, and shall include a "drop down" provision providing primary coverage above a maximum $25,000 self-insured retention for liability not covered by primary policies but covered by the umbrella policy. Coverage shall be following form to any underlying coverage. Coverage shall be provided on a "pay on behalf" basis, with defense costs payable in addition to policy limits. There shall be no cross-liability exclusion and no contractor's limitation endorsement. Policy limits shall be not less than $1,000,000 per occurrence and $1,000,000 in the aggregate, above any limits required in the underlying policies. The policy shall have starting and ending dates concurrent with the underlying coverages.

c. Workers' Compensation/Employer's Liability shall provide workers' compensation statutory benefits as required by law. Employer's liability limits shall be no less than $1,000,000 per accident or disease. Employer's liability coverage shall be scheduled under any umbrella policy described above. Unless otherwise agreed, this policy shall be endorsed to waive any right of subrogation as respects the DISTRICT, its employees or agents.

d. The DEVELOPER and the DISTRICT further agree as follows:

i. All insurance coverage provided pursuant to this Agreement shall not prohibit the DEVELOPER, and the DEVELOPER's employees or agents, from waiving the right of subrogation prior to a loss. The DEVELOPER waives its right of subrogation against the DISTRICT.

ii. Unless otherwise approved by the DISTRICT in writing, the DEVELOPER's insurance shall be written by insurers authorized to do business in the State of California and with a minimum "Best's" Insurance Guide rating of "A:VII". Self-insurance will not be considered to comply with these insurance specifications.

iii. The DEVELOPER agrees to provide evidence of the insurance required herein, satisfactory to the DISTRICT, consisting of certificate(s) of insurance evidencing all of the coverages required and an additional insured endorsement to the DEVELOPER's general liability and umbrella liability policies. Certificate(s) are to reflect that the insurer will provide 30 days' notice of any cancellation of coverage. The DEVELOPER agrees to require its insurer to modify such certificate(s) to delete any exculpatory wording stating that failure of the insurer to mail written notice of cancellation imposes no obligation, and to delete the word "endeavor" with

regard to any notice provisions. The DEVELOPER agrees to provide complete certified copies of policies to the DISTRICT within 10 days of the DISTRICT's request for such copies.

iv. In the event of any loss that is not insured due to the failure of the DEVELOPER to comply with these requirements, the DEVELOPER agrees to be responsible for any all losses, claims, suits, damages, defense obligations and liability of any kind attributed to the DISTRICT, or the DISTRICT's officials, employees and agents as a result of such failure.

v. The DEVELOPER agrees not to attempt to avoid its defense and indemnity obligations to the DISTRICT and its employees, agents and officials by using as defense the DEVELOPER's statutory immunity under workers' compensation and similar statutes.

PART G: SPECIAL CONDITIONS

20. The following conditions, being contained herein, will be required by the District in order to receive water, recycled water and sewer service for the Project.

a. General Grading and Construction Water Needs: Due to the current drought conditions, this Project will be required to us Recycled Water for all construction water needs including but not limited to, pre-watering, grading, dust control, trench line construction and backfill procedures. Potable water needs for testing purposes of new potable water mains are required to be scheduled with the DISTRICT a minimum of 48-hours ahead of the anticipated use

b. Potable Water Related Facilities: A potable water pipeline exists within Custer Street, which extends from the intersection of Douglas Lane southerly to the approximate southern property line of Assessor's Parcel Number 0322-102-41.

The DEVELOPER shall design and construct a new 8-inch minimum ductile iron pipeline or of suitable size greater than 8-inch, for potable water service and fire flow protection of 1,500 gallons per minute fire flow, to be connected at the northerly property line of Assessor's Parcel Number 0322-102-49 and extended southerly to the farthest property line of the Assessor's Parcel Number 0322-102-51 pursuant to DISTRICT Ordinance Number 48-1998, Section 7 in order to serve the individual parcels.

i. Due to the current condition of the existing infrastructure and the requirements of the project, the Developer/Builders, will be required to install a new pipeline for potable water use. When this takes place, the existing fire hydrant will be relocated to the appropriate location for regional benefit pursuant to District Resolution 2016-14.

Therefore, at this time, the District will allow the existing fire hydrant to be used for fire flow protection so the Developer may start construction, but service for domestic water needs will not be allowed off of this existing pipeline. The services will be required to come off of the new pipeline to be designed and constructed and after it is placed into service after the roadway improvements have been addressed.

c. Recycled Water Related Facilities: The DEVELOPER will not be required to dual plumb these existing lots or to design and install any recycled facilities for their project site.

d. Wastewater Related Facilities: There is an existing public sewer mainline in Custer Street along the frontage of the DEVELOPER's project. The DEVELOPER shall be responsible for the design and construction of the new sewer service laterals for Assessor's Parcel Numbers 0322-102-49 and 0322-102-50.

Assessor's Parcel Number 0322-102-051 has an existing sewer service lateral "wye" connection located approximately 100-linear feet north of the south property line. The location is shown on DISTRICT Sewer Map A.D. 8-24 for location reference. The DEVELOPER may choose to either use or abandon and relocate this sewer service lateral "wye" at their expense.

e. Previously Constructed Facilities: The DEVELOPER shall be responsible for relocations, adjustments and abandonments of all existing potable water and sewer facilities to the current DISTRICT standards within the frontage limits of the DEVELOPER's project for the facilities that are affected by the DEVELOPER's improvements.

f. The DISTRICT shall require all outstanding invoices related to the Project to be paid prior to releasing each lot for occupancy.

PART H: MISCELLANEOUS

21. Term and Termination of Agreement.

a. Unless extended by mutual agreement of the parties in writing, this Agreement shall terminate at 5:00 p.m., on the day before the sixth (6^{th}) anniversary date of this Agreement; provided, however, that this Agreement shall automatically terminate, without further liability to either party, as follows:

i. Within 10 business days of the effective date of this Agreement if the DEVELOPER fails or refuses to make the Cash Account deposit, or if the Cash Account is not replenished to a positive balance after the issuance of an invoice by the DISTRICT for a period of 75 calendar days; or

ii. Within 12 months of the effective date of this Agreement, if the initial construction contemplated hereunder has not commenced within such time; or

iii. Immediately, upon abandonment by the DEVELOPER of the DEVELOPER's Property and/or the work hereunder. "Abandonment" is defined as the act of bankruptcy or to fail to improve the Property in a manner consistent with the proposed development plan; and/or

iv. Within 45 days of the date of the issuance of a Notice of Default by the DISTRICT to the DEVELOPER in the event the DEVELOPER fails or refuses to perform, keep or observe any of the terms, conditions or covenants set forth in this Agreement.

b. Any termination of this Agreement shall not be construed as a waiver of any claim the DISTRICT may have against the DEVELOPER or that the DEVELOPER may have against the DISTRICT.

c. In the event of termination, and in order to counteract any threat to the public's health, safety or welfare, the DISTRICT shall have the right, without liability to complete, at the DEVELOPER's non-reimbursable expense, all or a portion of the Facilities constructed pursuant to this Agreement on the condition that a claim has been made against the performance bond issued by the DEVELOPER for this Property.

d. Notwithstanding the foregoing, the Indemnification clauses contained herein shall survive the termination of this Agreement.

22. Status of the Parties. This Agreement is not intended to create, and nothing herein contained shall be construed to create, an association, a trust, a joint venture, a partnership or other entity of any kind, or to constitute either party as the agent, employee or partner of the other.

23. Amendment; Assignment.

a. Amendment. This Agreement may be amended, from time-to-time, by mutual agreement of the DISTRICT and the DEVELOPER, in writing signed by both Parties. The DISTRICT and the DEVELOPER further agree that to the extent this Agreement does not address all aspects of the DEVELOPER's Property, the Parties shall meet and confer and negotiate in good faith, and execute a written amendment or supplement to this Agreement.

b. Assignment. This Agreement shall not be assigned, whether in whole or in part.

24. Force Majeure. If either the DISTRICT or the DEVELOPER is delayed, hindered or prevented from performing any term of this Agreement by any cause beyond either party's control including, without limitation, any strike, walkout, prohibitions imposed by law, rules or regulations, riot, war, act of God or the default of the other party, then such performance may be excused or the time of performance tolled during the period of delay.

25. Incorporation of Prior Agreements. This Agreement contains all of the agreements of the parties with respect to any matter covered or mentioned in this Agreement, and no prior agreement or understanding pertaining to any such matter shall be effective for any purpose.

26. Waiver. No waiver by either Party of any provisions of this Agreement shall be deemed to be a waiver of any other provision hereof or of any subsequent breach by either Party of the same or any other provisions.

27. Severance. If any provision of this Agreement is determined to be void by any court of competent jurisdiction then such determination shall not affect any other provision of this Agreement provided that the purpose of this Agreement is not frustrated.

28. DISTRICT's Disclaimer. Utilizing fees and Facilities provided to the DISTRICT by the DEVELOPER, the DISTRICT will supply potable water, recycled (non-potable) water, and wastewater collection and treatment services to the DEVELOPER's Property and development thereon. However, the DISTRICT shall not be obligated to utilize public funds to subsidize the DEVELOPER's Project. The DISTRICT shall not be required to authorize the issuance of grading, building or occupancy permits during the period of time that the Board of Directors have declared a 20% reduction or greater of overall water use for a portion or all of the DISTRICT's service area. The DISTRICT agrees, however, to make every effort to minimize drought impacts.

29. Preparation of This Agreement. This Agreement shall not be construed against the Party preparing it, but shall be construed as if both Parties prepared it.

30. Alternative Dispute Resolution.

a. Any dispute as to the construction, interpretation or implementation of this Agreement, or any rights or obligations hereunder, shall be submitted to mediation. Unless the Parties enter into a written stipulation to the contrary, prior to the filing of any complaint to initiate legal action, all disputes shall first be submitted to non-binding mediation, conducted by the Judicial Arbitration and Mediation Services, Inc./Endispute, or its successor, or any other neutral, impartial mediation service that the Parties mutually agree upon in accordance with its rules for such mediation. Mediation fees shall be shared equally by the DEVELOPER and the DISTRICT.

IN WITNESS WHEREOF, the parties have executed is Agreement to be effective on the day and year first above written.

YUCAIPA VALLEY WATER DISTRICT

Dated: _____ By: _____
Lonni Granlund, Board President

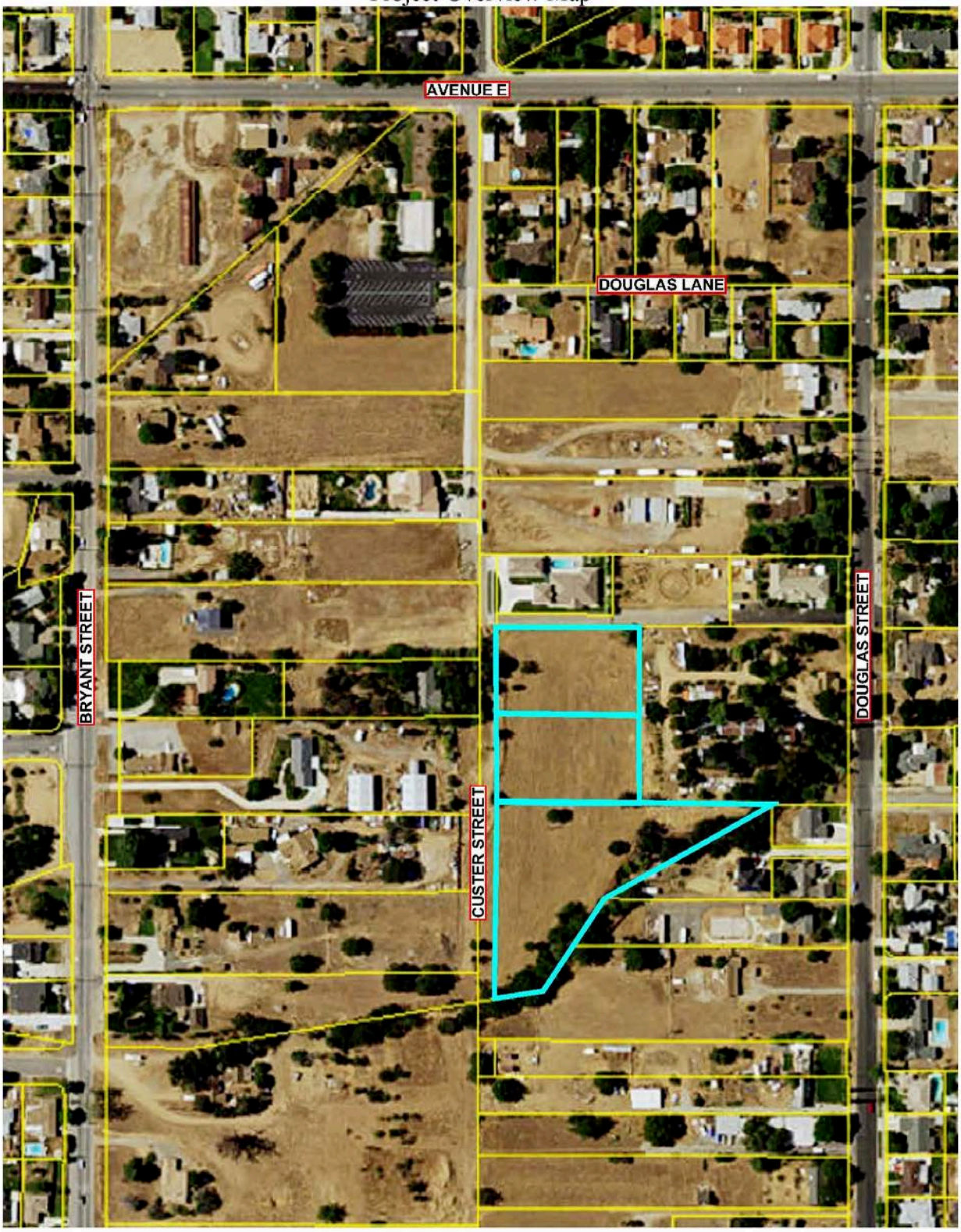
DEVELOPER:

Dated: _____ By: _____

_____
Print Name

_____
Print Title

Attachment A
-Project Overview Map-



Administrative Issues

Yucaipa Valley Water District

Yucaipa Valley Water District

Workshop Memorandum 16-169

Date: **November 29, 2016**

Subject: **Overview of a Proposed Resolution Setting Fees for the Installation of Automated Meter Infrastructure for New Drinking Water and Recycled Water Services**

Resolution No. 18-2011 Section 2.7 *Potable Water & Recycled Water Meter Installation Charge*, is outdated in regards to the cost recovered by the District for the installation of 3/4", 1", and 1" fire service meters. Specifically, the current charges are not sufficient to accommodate for the equipment required to operate an automated meter infrastructure. It is important that new construction of a residence or business covers the full cost associated with these charges to the District rather than existing ratepayers.

District staff recommends adoption of a new resolution to reflect the current and ongoing cost of installing Automatic Meter Infrastructure for 3/4", 1" and 1" fire service meters.

RESOLUTION NO. 2016-XX

A RESOLUTION OF THE YUCAIPA VALLEY WATER DISTRICT SETTING FEES FOR THE INSTALLATION OF AUTOMATED METER INFRASTRUCTURE FOR NEW DRINKING WATER AND RECYCLED WATER SERVICES

WHEREAS, the Yucaipa Valley Water District (District) has invested in the construction and operation of Automated Meter Infrastructure (AMI) that is currently being expanded for drinking water and recycled water customers throughout the District; and

WHEREAS, the construction of a new home or business in the District's service area will be required to be connected to the AMI prior to receiving drinking water or recycled water service; and

WHEREAS, it is the intent of the Board of Directors by this Resolution to assist in the cost recovery of the required AMI equipment and installation costs for new development; and

WHEREAS, the cost of equipment and installation shall be updated on a regular basis to reflect the true and accurate cost of the AMI related to each meter installation including all required and related meter appurtenances.

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of the Yucaipa Valley Water District as follows:

1. The cost associated with the hardware, software, installation, and equipment for the Automated Meter Infrastructure related to drinking water and recycled water service by the Yucaipa Valley Water District shall be invoiced and paid based on the actual cost of all labor, materials, and equipment, plus employee benefits, overhead and administrative surcharges pursuant to this resolution and other resolutions duly approved and adopted by the Board of Directors.

2. The cost shall be calculated and updated as needed on a regular basis and set forth in the cost of service information provided on the District website.

3. Payment of all related charges set forth in this resolution is required prior to installation of the drinking water or recycled water service pipeline.

4. This Resolution shall be effective immediately and shall supersede previous resolutions setting forth the cost recovery of water meter installations.

PASSED AND ADOPTED this ___ day of November, 2016.

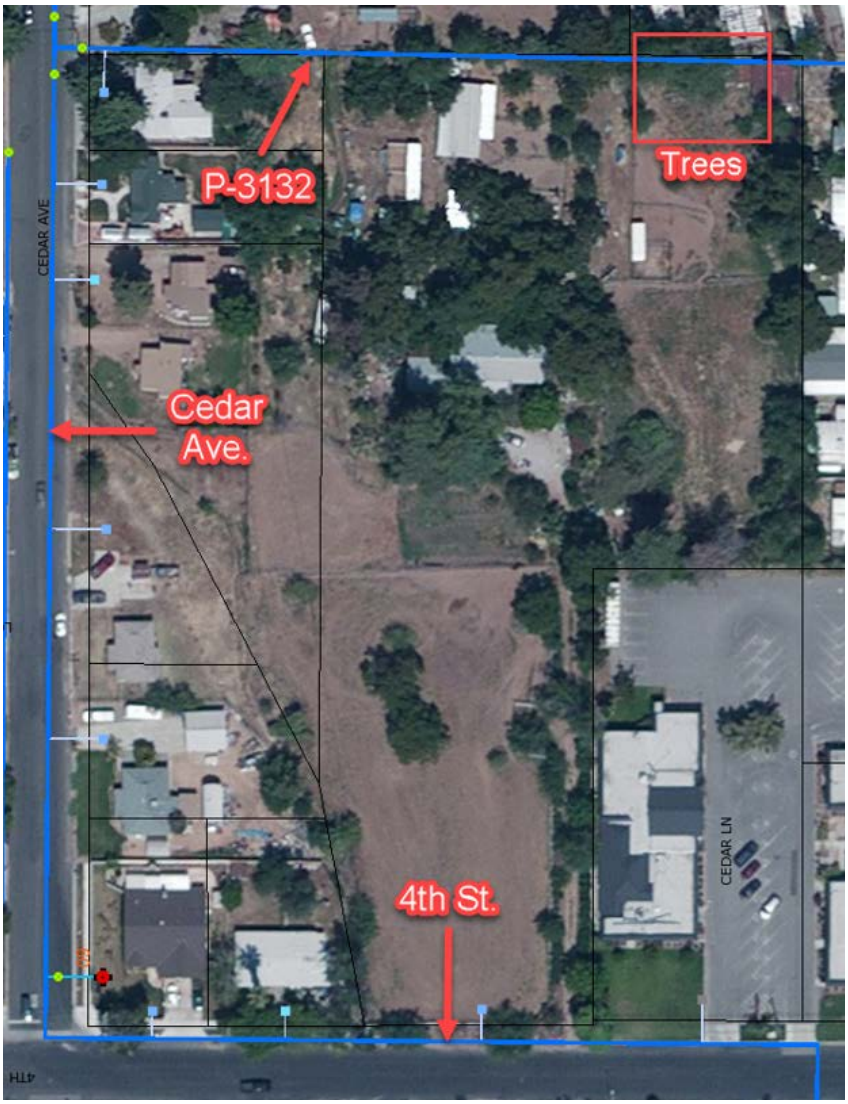
Yucaipa Valley Water District

Workshop Memorandum 16-170

Date: **November 29, 2016**

Subject: **Overview of a Claim for Tree Removal at 11975 4th Street, Yucaipa - Dini Martz**

On October 13, 2016, the Yucaipa Valley Water District received a claim from Dini Martz ("Claimant") for damage to her trees at 11975 4th Street, Yucaipa resulting from various water system leaks.



District records show a total five leaks since August 2008, on the water pipeline that passes through the east end of the property. The 4" pipeline [P-3132] is positioned in an easement from Cedar Avenue, where it is connected to the 8" pipeline [P-51] and continues to the southeast corner of the Citi Bank parking lot between 3rd Street and 4th Street.

The Claimant states that she needs to remove a large tree [Tree #1], which died as a result of a water leak underneath its roots. The Claimant claims to have received a quote for tree removal of $500.00, this was not submitted with the claim.

In addition, the Claimant is concerned about a second tree [Tree #2] that may be dying due to a possible different water leak.

The claimant is also concerned about liability due to the proximity of these two trees to the adjacent Hitching Post mobile home park. The Claimant states that she has received concerns from the mobile home park about the liability the trees pose to their residents.

Options for consideration:

- Option #1 – Deny the claim based on available information and lack of definitive correlating evidence between the previous water leaks and the health of the trees. Referring this claim to the District insurance company for further processing.

- Option #2 – Direct District staff to remove and/or trim the trees as a result of the impact from previous water leaks.

Figure 2.


Cedar Avenue
11975 4th St
4th Street
3rd Street
Yucaipa Boulevard

YUCAIPA VALLEY WATER DISTRICT – CLAIM FORM

INSTRUCTIONS

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

Yucaipa Valley Water District

Attn: Claims Dept.

12770 2nd St

Yucaipa, Ca. 92399

(909) – 797-5937 FAX

RECEIVED
OCT 13 2016
YUCAIPA VALLEY
WATER DISTRICT

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

Claims:

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

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

This claim form must be signed and dated.

Who is Responsible for Damages?

No utility is in a position to guarantee 100 percent continuity of water service. However, it is our policy to investigate claims in order to determine if our conduct or inaction was unreasonable under the circumstances, thereby causing injury or damages. YVWD will not be liable for interruption or shortage or insufficiency of supply, or any loss or damage of any kind, if same is caused by inevitable accident, act of God, fire, strikes, riots, war, or any other cause except that arising from its failure to exercise reasonable diligence.

Determination of Responsibility and Payment if YVWD is at fault

YVWD will conduct an investigation based on the information you provide on your claim form and internal YVWD records and interviews with YVWD field personnel. The investigation results will determine weather your claim is accepted or rejected. If your claim is accepted, YVWD's payment with regard to property damage will depend on the extent of damage and value of the property. If the property can be repaired, YVWD will pay the cost of repair. If the property cannot be repaired, YVWD will generally pay reasonable market value for the property at the time it was damaged, or the depreciated cost to replace the property, whichever is less. Payment for bodily injury is determined by several factors including, but not limited to, type and severity of injury, medical bills incurred, loss of wages (if any) and permanent disability sustained (if any).

Claim for Damage

Name Dini Martz	Clerks Date Stamp
Address 11975 4th St	
Phone(s) 909-797-8285 Business Home Message/Cell	
E-mail:	
Address at time of loss/Incident: Same	*This box is for Official Use only!

Description of Details: (Describe how the loss/incident occurred)

Water line at back of my property Has leaked / been Repaired countless times over the years - Have sustained property loss / damage / etc. repeatedly and never previously put in a claim. Now need to remove a large tree which died as a result of a massive water leak

(Attach additional pages and supporting documentation as needed) continued on Blank Sheet . . . →

YVWD's involvement :(If possible, please identify employee and/or department involved)

Water leak under Trees

Witnesses: (please provide address and phone numbers)

1.	2.	3.

Property Damage (please describe the value and extent of the damage to your home, automobile or personal property: (Attach estimates, bills, or whatever documentation of damages you have)

Make:_____ Model:_____ Year:_____ License #_____ Insurance Co._____ Policy #:_____

Where you injured?: No: ☒ Yes: ☐ (If yes please complete the following)

Describe your injury (Identify your doctor(s)/Health care provider(s)

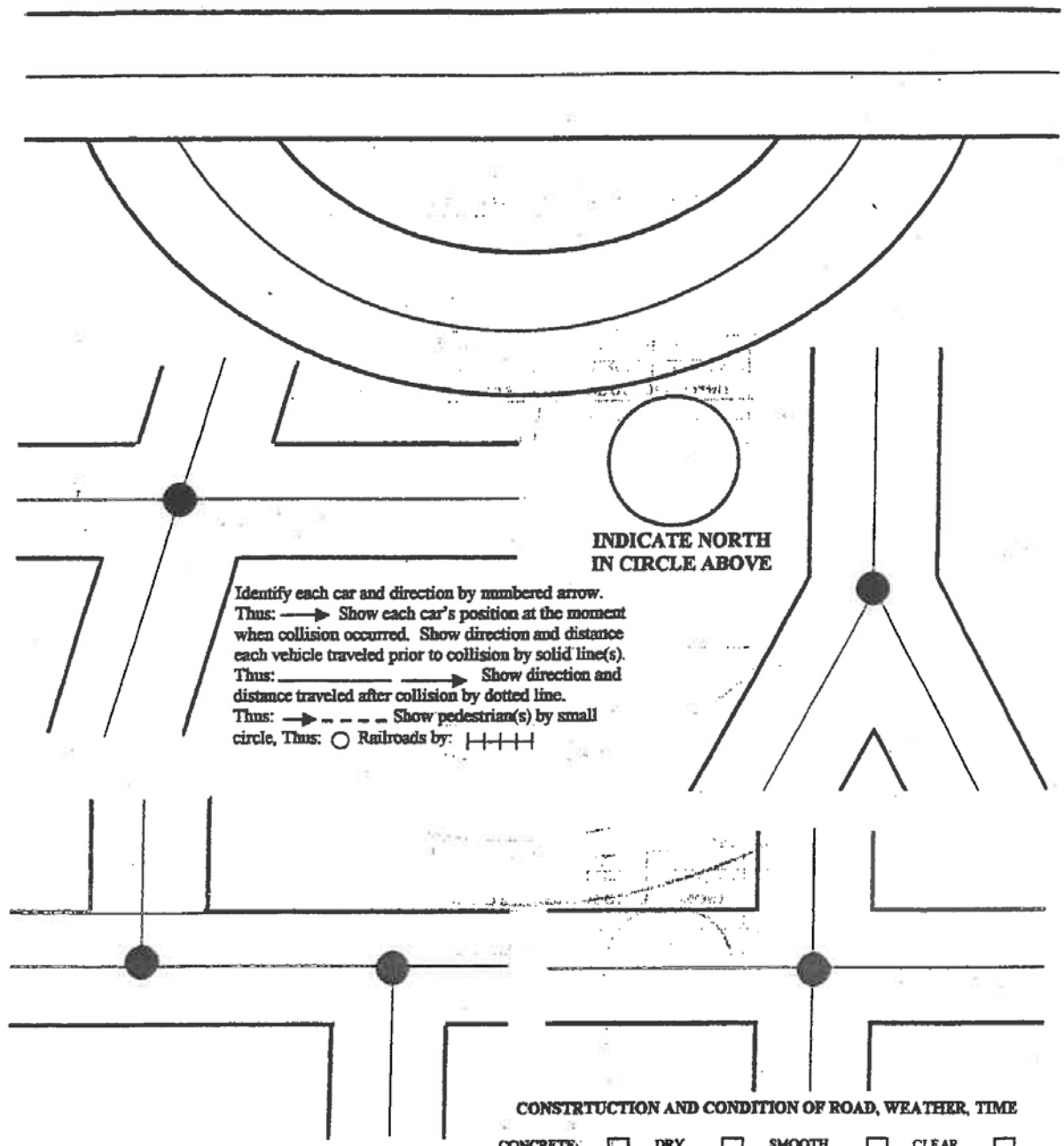
Are you still receiving Medical Treatment? No: ☐ Yes: ☐

Employer: Type of Work:

Wage Loss? No: ☐ Yes: ☐ If Yes, rate of pay:

*"I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct"

Date and Place (City and State)	Signature


INDICATE NORTH
IN CIRCLE ABOVE
Identify each car and direction by numbered arrow.
Thus: ⟶ Show each car's position at the moment when collision occurred. Show direction and distance each vehicle traveled prior to collision by solid line(s).
Thus: _____ ⟶ Show direction and distance traveled after collision by dotted line.
Thus: ⟶ - - - - Show pedestrian(s) by small circle, Thus: ○ Railroads by: ⊢⊢⊢⊢
CONSTRUCTION AND CONDITION OF ROAD, WEATHER, TIME
CONCRETE ☐ DRY ☐ SMOOTH ☐ CLEAR ☐
GRAVEL ☐ WET ☐ ROUGH ☐ RAINING ☐
OILED ☐ ICY ☐ UPHILL ☐ MISTY ☐
DIRT ☐ ☐ DOWNHILL ☐ FOG ☐
ASPHALT ☐ ☐ LEVEL ☐ SNOW ☐
TIME OF ACCIDENT: _____ O'CLOCK AM PM

Automobile Accident Report

Date:		
Name of Owner of Your Vehicle:		
Model Year:	Make of Car:	Body Style:
State and License No.	Mileage:	IF Leased, by Whom Held
Name of Your Insurance Co.		
Type of Insurance Carried		
Name of Driver:	Address:	Phone No.:
Relationship of Driver To Owner:	Driver's Date of Birth:	Driver's License No.:
Date of Accident:	Time: (AM / PM)	Location: (Address No. And Street)
City- Town:	State:	

OCCUPANTS OF VEHICLE:

Name	Address	Approx. Age	Relation to Owner	Your Vehicle	Other Vehicle	Ped.	Injured

Nature of injuries: _____

Where Treated: _____ Name of Treating Physician: _____

DAMAGE TO PROPERTY OF OTHERS

Extent of Damage: _____

If Auto, Make of Vehicle:	State and License #:	Driver's License #:
Owner's Name	Address:	Phone:
Driver's Name (if different)	Address:	Phone:

Witnesses, (Include occupant's of Vehicle)

Name:	Address:	Phone:

Date: 10-13-16 Signature: _____

***Must Complete Back Page!**

Description of Details — continued

underneath its Roots. Tree is over buildings & mobile homes in adjacent mobile home park (The Hitching Post). Have received complaints, and am concerned about liability. Estimates to remove tree were over $500.00. I'm devastated at the loss. There are Three Trees in a line which have been there my lifetime, so I'm very sad to lose one. A 2nd tree in the line is possibly dying as a result of a seperate massive leak (different location on line at a different time) but I'm still hoping it will survive - but several large branches have died & need to be removed as they also are over mobile homes. Do not want to remove this tree if there is a chance it will survive - so I will get seperate estimates for arborist opinion. Jesse McCartney took photos - and knows history of leaks & damage.

Yucaipa Valley Water District

Report Criteria

Work Order # is 65-22034, 65-2672, 65-6303, 65-7555 or 65-9587

Procedure is Water Leak Repair

Work Order #	Reason	Project ID	Project Name	Account ID	Asset Name	Asset ID
Potable Water System						
65-2672	01 11975 4 th St. / Cedar Ave.			02-5-03-51020	P-3132	PW-PIP-133-0370
65-6303	01 11975 4th St / Cedar Ave			02-5-03-51020	P-3132	PW-PIP-133-0370
65-7555	01 11975 4th St / Cedar St			02-5-03-51020	P-3132	PW-PIP-133-0370
65-9587	01 11975 4th Street / Cedar St			02-5-03-51020	P-3132	PW-PIP-133-0370
65-22034	01 11975 4th St / Cedar St			02-5-03-51020	P-3132	PW-PIP-133-0370
Potable Water System - 5 Total:						
Grand Total (5 Records):						

Yucaipa Valley Water District

Report Criteria

Location / Asset is P-3132

Procedure is Water Leak Repair

	Work Order #	Reason	Project ID	Project Name	Account ID	Asset Name	Asset ID
	Potable Water System						
①	65-2672	01 11975 4 th St. / Cedar Ave.			02-5-03-51020	P-3132	PW-PIP-133-0370
	65-4157	01 34593 Cedar St. / 4th St.				P-3132	PW-PIP-133-0370
	65-4812	01 34642 Yucaipa Blvd. / 3rd St.			02-5-03-51020	P-3132	PW-PIP-133-0370
②	65-6303	01 11975 4th St / Cedar Ave			02-5-03-51020	P-3132	PW-PIP-133-0370
	65-7250	01 34574 Cedar St / 3rd St 4" intermediate line			02-5-03-51020	P-3132	PW-PIP-133-0370
③	65-7555	01 11975 4th St / Cedar St			02-5-03-51020	P-3132	PW-PIP-133-0370
④	65-9587	01 11975 4th Street / Cedar St			02-5-03-51020	P-3132	PW-PIP-133-0370
	65-10760	01 34593 Cedar St / 3 st intermediate line			02-5-03-51020	P-3132	PW-PIP-133-0370
	65-10989	01 34588 Cedar Ln / 4th St			02-5-03-51020	P-3132	PW-PIP-133-0370
	65-11215	01 34578 Cedar St / 4th Street				P-3132	PW-PIP-133-0370
	65-11389	01 34578 Cedar LN / 4 TH ST			02-5-03-51020	P-3132	PW-PIP-133-0370
	65-13578	01 34578 Cedar Ave / 4th St			02-5-03-51020	P-3132	PW-PIP-133-0370
	65-14198	01 34593 Cedar St / 4th St			02-5-03-51020	P-3132	PW-PIP-133-0370
	65-14739	01 34580 Yucaipa Blvd / 4th St			02-5-03-51020	P-3132	PW-PIP-133-0370
	65-15011	01 34642 Yucaipa Blvd / 3rd St			02-5-03-51020	P-3132	PW-PIP-133-0370
	65-15244	01 34580 Yucaipa Blvd. / 3rd St			02-5-03-51020	P-3132	PW-PIP-133-0370
	65-17227	01 34580 Yucaipa Blvd / 4th St			02-5-03-51020	P-3132	PW-PIP-133-0370
	65-17339	01 34958 Yucaipa Blvd / 3rd St			02-5-03-51020	P-3132	PW-PIP-133-0370
	65-18024	01 34580 Yucaipa Blvd / 3rd St			02-5-03-51020	P-3132	PW-PIP-133-0370
⑤	65-22034	01 11975 4th St / Cedar St			02-5-03-51020	P-3132	PW-PIP-133-0370
	65-22079	01 34610 Yucaipa Blvd / 4 TH			02-5-03-50010	P-3132	PW-PIP-133-0370
	Potable Water System - 21 Total:						
	Grand Total (21 Records):						

Yucaipa Valley Water District

Workshop Memorandum 16-171

Date: **November 29, 2016**

Subject: **Overview of a Suggested Revision to the District's Participation in the OmniEarth Grant offered by the Santa Ana Watershed Project Authority**

On October 18, 2016, the Board of Directors authorized the General Manager to execute grant contracts and related agreements with the Santa Ana Watershed Project Authority for the calculation and evaluation of outdoor irrigation usage by OmniEarth. This geographical information system and data analysis program would use aerial images to differentiate between irrigated areas and non-irrigated areas for every parcel within the District's service area.

On November 16, 2016, the District staff attended an Esri Water and Wastewater User Group meeting and gathered information regarding the land cover analysis capabilities of our current geographical information system software. Working together with the Esri staff, the District staff is proposing to perform the land cover data analysis in our service area utilizing our current Esri software.

Therefore, since the District has not yet entered into the contract with OmniEarth, the District staff recommends performing the land cover analysis calculations in-house to build a robust geographical information system.

Yucaipa Valley Water District

Workshop Memorandum 16-172

Date: **November 29, 2016**

Subject: **Consideration of Appointing a Representative to the San Bernardino Valley Municipal Water District Advisory Commission on Water Policy**

On April 7, 2016, the District staff notified the San Bernardino Valley Municipal Water District that Director Munoz will no longer be representing the Yucaipa Valley Water District as an alternate member at the Advisory Commission on Water Policy ("Advisory Commission").

The Board of Directors have requested that the appointment to the Advisory Commission be scheduled for a meeting when all board members are present. The District staff anticipates scheduling this item for the board meeting on December 8, 2016, to discuss the appointment of a primary and alternate representative to the Advisory Commission.

Yucaipa Valley Water District
12770 Second Street • P. O. Box 730 • Yucaipa, California 92399-0730
(909) 797-5117 • Fax: (909) 797-6381 • www.yvwd.dst.ca.us

April 7, 2016

Mr. Doug Headrick, General Manager
San Bernardino Valley Municipal Water District
380 East Vanderbilt Way
San Bernardino, California 92408

Subject: **Yucaipa Valley Water District Representation on the San Bernardino Valley Municipal Water District Advisory Commission on Water Policy**

Dear Mr. Headrick:

On Wednesday, April 6, 2016, Director Ken Munoz announced that he will no longer be the alternate member representing the Yucaipa Valley Water District at the San Bernardino Valley Municipal Water District Advisory Commission on Water Policy ("Advisory Commission").

I will let you know when the Yucaipa Valley Water District appoints a new alternate member for the Advisory Commission.

Attached is FPPC Form 700 for Director Munoz for the period of January 1, 2016 to April 6, 2016.

Sincerely,

Joseph B. Zoba
General Manager

cc: Director Ken Munoz

Yucaipa Valley Water District

Workshop Memorandum 16-173

Date: **November 29, 2016**

Subject: **Reorganization of the Board of Directors**

At the regular board meeting on December 6, 2016, the District staff will provide an agenda item related to the reorganization of the Board of Directors. This action is required following every regular election, to elect a President and a Vice-President for a two year term.[1]

Due to the November 2016 elections, it is necessary to reorganize the officers of the Board and certify the results of the reorganization by adopting Resolution No. 2016-xx.

[1] California Water Code §30520 states, "within 30 days after the election of the first directors and thereafter within 30 days after taking office … the directors shall meet and shall elect one of their number president and may elect one of their number vice president".

RESOLUTION NO. 2016-xx

RESOLUTION OF THE YUCAIPA VALLEY WATER DISTRICT CONFIRMING THE ELECTION OF OFFICERS

WHEREAS, California Water Code §30520 states, "Within 30 days after the election of the first directors and thereafter within 30 days after taking office … the directors shall meet and shall elect one of their number president and may elect one of their number vice president"; and

WHEREAS, on December 6, 2016, the Board of Directors elected a President and Vice-President as documented below.

NOW, THEREFORE, BE IT HEREBY RESOLVED AND ORDERED, that the Yucaipa Valley Water District by an affirmative vote of a majority of the Board of Directors has duly elected Director _____ and President and Director _____ as Vice-President.

BE IT FURTHER RESOLVED, that the President and Vice-President shall serve in such capacities until the next general district election; a vacancy or resignation of the President or Vice-President occurs; or a change of officer(s) by an affirmative vote of a majority of the Board of Directors.

PASSED, APPROVED, and ADOPTED this 6th day of December 2016.

Yucaipa Valley Water District

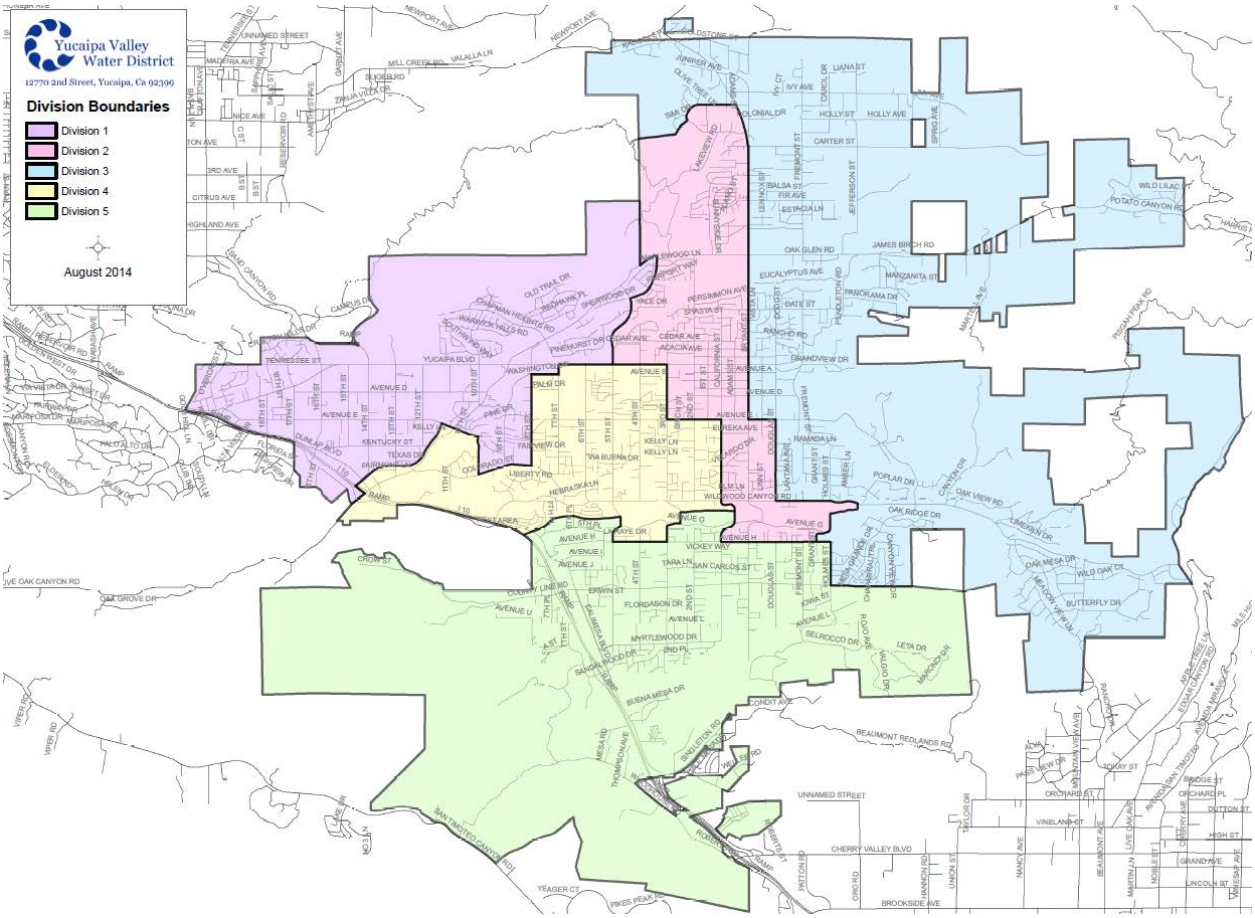
Workshop Memorandum 16-174

Date: **November 29, 2016**

Subject: **Oath of Office for Yucaipa Valley Water District Director Lonni Granlund and Director Chris Mann**

On November 8, 2016, Chris Mann was elected to represent constituents in Division 1 and Lonni Granlund did not have an opponent during this election cycle, so she will be appointed in lieu of an election to represent constituents in Division 4.

At this time it is appropriate to administer the oath of office to the board members in preparation for these individuals taking office at noon on Friday, December 2, 2016.



Oath of Office

I, _____ do solemnly swear (or affirm) that I will support and defend the Constitution of the United States and the Constitution of the State of California against all enemies, foreign and domestic; that I will bear true faith and allegiance to the Constitution of the United States and the Constitution of the State of California; that I take this obligation freely, without any mental reservation or purpose of evasion; and that I will well and faithfully discharge the duties upon which I am about to enter.

Director Comments

Yucaipa Valley Water District

Adjournment

Yucaipa Valley Water District

Yucaipa Valley Water District

FACTS ABOUT THE YUCAIPA VALLEY WATER DISTRICT

Service Area Size: 40 square miles (sphere of influence is 68 square miles)

Elevation Change: 3,140 foot elevation change (from 2,044 to 5,184 feet)

Number of Employees:
5 elected board members
62 full time employees

Operating Budget:
Water Division - $13,397,500
Sewer Division - $11,820,000
Recycled Water Division - $537,250
Total Annual Budget - $25,754,750

Number of Services:
12,434 water connections serving 17,179 units
13,559 sewer connections serving 20,519 units
64 recycled water connections

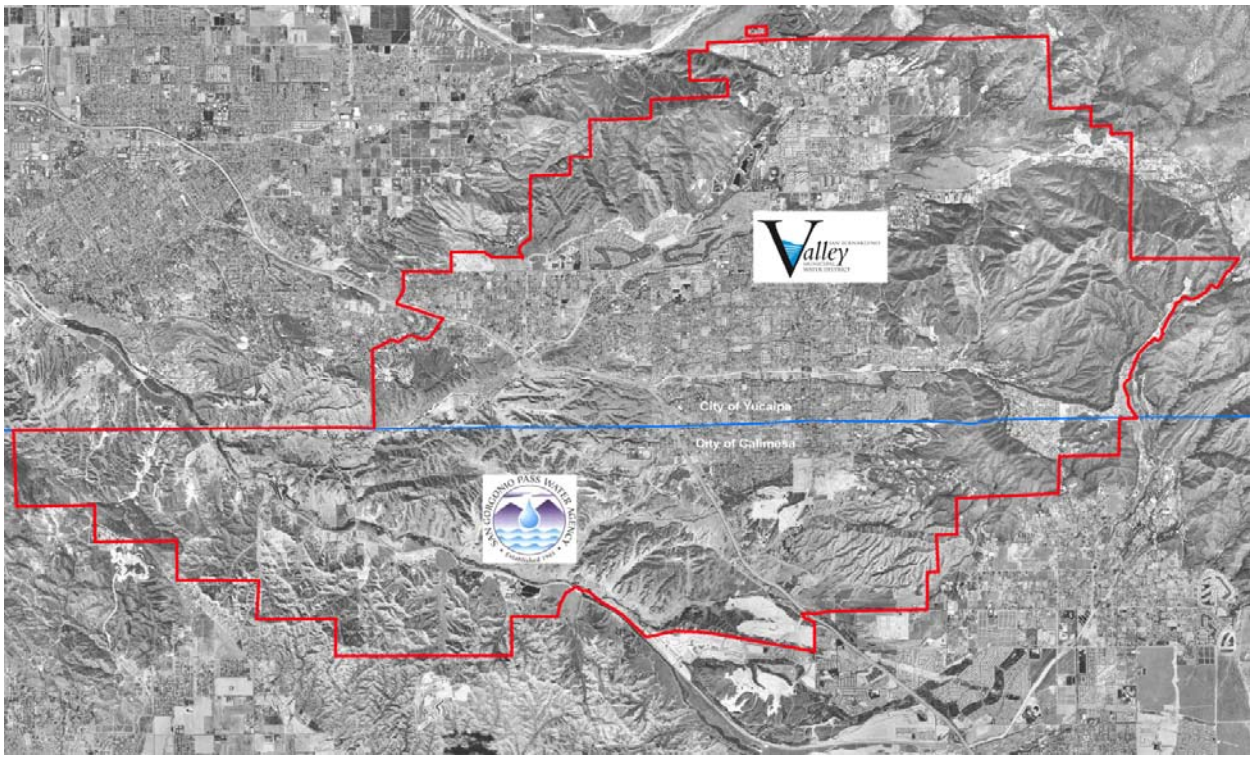
Water System:
215 miles of drinking water pipelines
27 reservoirs - 34 million gallons of storage capacity
18 pressure zones
12,000 ac-ft annual water demand (3.9 billion gallons)
Two water filtration facilities:
- 1 mgd at Oak Glen Surface Water Filtration Facility
- 12 mgd at Yucaipa Valley Regional Water Filtration Facility

Sewer System:
8.0 million gallon treatment capacity - current flow at 4.0 mgd
205 miles of sewer mainlines
5 sewer lift stations
4,500 ac-ft annual recycled water prod. (1.46 billion gallons)

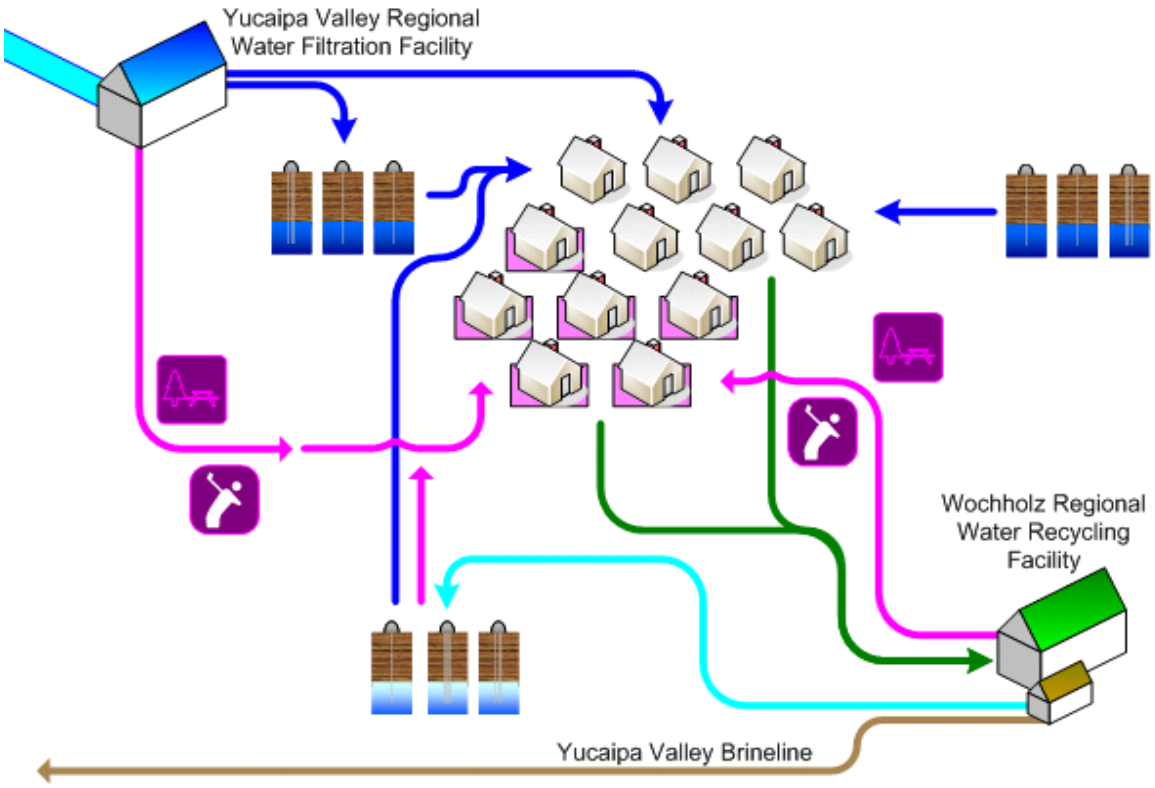
Recycled Water:
22 miles of recycled water pipelines
5 reservoirs - 12 million gallons of storage
1,200 ac-ft annual recycled demand (0.4 billion gallons)

Brine Disposal:
2.2 million gallon desalination facility at sewer treatment plant
1.108 million gallons of Inland Empire Brine Line capacity
0.295 million gallons of treatment capacity in Orange County

State Water Contractors: San Bernardino Valley Municipal Water District
San Gorgonio Pass Water Agency



Sustainability Plan: A Strategic Plan for a Sustainable Future: The Integration and Preservation of Resources, adopted on August 20, 2008.



Yucaipa Valley Water District

THE MEASUREMENT OF WATER PURITY

One part per hundred is generally represented by the percent (%).
This is equivalent to about fifteen minutes out of one day.

One part per thousand denotes one part per 1000 parts.
This is equivalent to about one and a half minutes out of one day.

One part per million (**ppm**) denotes one part per 1,000,000 parts.
This is equivalent to about 32 seconds out of a year.

One part per billion (**ppb**) denotes one part per 1,000,000,000 parts.
This is equivalent to about three seconds out of a century.

One part per trillion (**ppt**) denotes one part per 1,000,000,000,000 parts.
This is equivalent to about three seconds out of every hundred thousand years.

One part per quadrillion (**ppq**) denotes one part per 1,000,000,000,000,000 parts.
This is equivalent to about two and a half minutes out of the age of the Earth (4.5 billion years).

Yucaipa Valley Water District

GLOSSARY OF COMMONLY USED TERMS

Every profession has specialized terms which generally evolve to facilitate communication between individuals. The routine use of these terms tends to exclude those who are unfamiliar with the particular specialized language of the group. Sometimes jargon can create communication cause difficulties where professionals in related fields use different terms for the same phenomena.

Below are commonly used water terms and abbreviations with commonly used definitions. If there is any discrepancy in definitions, the District's Regulations Governing Water Service is the final and binding definition.

Acre Foot of Water - The volume of water (325,850 gallons, or 43,560 cubic feet) that would cover an area of one acre to a depth of 1 foot.

Activated Sludge Process – A secondary biological sewer 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 sewer treatment process. This high-quality product can be used as a soil amendment on farm land or further processed as an earth-like product for commercial and home gardens to improve and maintain fertile soil and stimulate plant growth.

Catch Basin – A chamber usually built at the curb line of a street, which conveys surface water for discharge into a storm sewer.

Capital Improvement Program (CIP) – Projects for repair, rehabilitation, and replacement of assets. Also includes treatment improvements, additional capacity, and projects for the support facilities.

Collector Sewer – The first element of a wastewater collection system used to collect and carry wastewater from one or more building sewer laterals to a main sewer.

Coliform Bacteria – A group of bacteria found in the intestines of humans and other animals, but also occasionally found elsewhere and is generally used as an indicator of sewage pollution.

Combined Sewer Overflow – The portion of flow from a combined sewer system, which discharges into a water body from an outfall located upstream of a wastewater treatment plant, usually during wet weather conditions.

Combined Sewer System– Generally older sewer systems designed to convey both sewage and storm water into one pipe to a wastewater treatment plant.

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.

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.

Dry Weather Flow – Flow in a sanitary sewer during periods of dry weather in which the sanitary sewer is under minimum influence of inflow and infiltration.

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.

Infiltration – Water other than sewage that enters a sewer system and/or building laterals from the ground through defective pipes, pipe joints, connections, or manholes. Infiltration does not include inflow. See *Inflow.*

Inflow - Water other than sewage that enters a sewer system and building sewer from sources such as roof vents, yard drains, area drains, foundation drains, drains from springs and swampy areas, manhole covers, cross connections between storm drains and sanitary sewers, catch basins, cooling towers, storm waters, surface runoff, street wash waters, or drainage. Inflow does not include infiltration. See *Infiltration*.

Inflow / Infiltration (I/I) – The total quantity of water from both inflow and infiltration.

Mains, Distribution - A network of pipelines that delivers water (drinking water or recycled water) from transmission mains to residential and commercial properties, usually pipe diameters of 4" to 16".

Mains, Transmission - A system of pipelines that deliver water (drinking water or recycled water) from a source of supply the distribution mains, usually pipe diameters of greater than 16".

Meter - A device capable of measuring, in either gallons or cubic feet, a quantity of water delivered by the District to a service connection.

Overdraft - The pumping of water from a groundwater basin or aquifer in excess of the supply flowing into the basin. This pumping results in a depletion of the groundwater in the basin which has a net effect of lowering the levels of water in the aquifer.

Peak Flow – The maximum flow that occurs over a specific length of time (e.g., daily, hourly, instantaneously).

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.

Sanitary Sewer System - Sewer collection system designed to carry sewage, consisting of domestic, commercial, and industrial wastewater. This type of system is not designed nor intended to carry water from rainfall, snowmelt, or groundwater sources. See *Combined Sewer System*.

Sanitary Sewer Overflow – Overflow from a sanitary sewer system caused when total wastewater flow exceeds the capacity of the system. See *Combined Sewer Overflow*.

Santa Ana River Interceptor (SARI) Line – A regional brine line designed to convey 30 million gallons per day of non-reclaimable wastewater from the upper Santa Ana River basin to the sewer treatment plant operated by Orange County Sanitation District.

Secondary Treatment – Biological sewer treatment, particularly the activated-sludge process, where bacteria and other microorganisms consume dissolved nutrients in wastewater.

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.

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 sewage.

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.

Special District - A political subdivision of a state established to provide a public services, such as water supply or sanitation, within a specific geographic area.

Surface Water - Water found in lakes, streams, rivers, oceans or reservoirs behind dams.

Total Suspended Solids (TSS) – The amount of solids floating and in suspension in water or sewage.

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 primary treated sewage as it trickles over them.

Underground Service Alert (USA) - A free service 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 typically carries 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; see Hydrologic cycle.

Water Pressure - Pressure created by the weight and elevation of water and/or generated by pumps that deliver water to the tap.

Water Service Line - The pipeline that delivers potable water to a residence or business from the District's water system. Typically the water service line is a 1" to 1½" diameter pipe for residential properties.

Watershed - A region or land area that contributes to the drainage or catchment area above a specific point on a stream or river.

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.

Water Well - A hole drilled into the ground to tap an underground water aquifer.

Wetlands - Lands which are fully saturated or under water at least part of the year, like seasonal vernal pools or swamps.

Wet Weather Flow – Dry weather flow combined with stormwater introduced into a combined sewer system, and dry weather flow combined with infiltration/inflow into a separate sewer system.

Yucaipa Valley Water District

COMMONLY USED ABBREVIATIONS

AQMD	Air Quality Management District
BOD	Biochemical Oxygen Demand
CARB	California Air Resources Board
CCTV	Closed Circuit Television
CWA	Clean Water Act
EIR	Environmental Impact Report
EPA	U.S. Environmental Protection Agency
FOG	Fats, Oils, and Grease
GPD	Gallons per day
MGD	Million gallons per day
O & M	Operations and Maintenance
OSHA	Occupational Safety and Health Administration
POTW	Publicly Owned Treatment Works
PPM	Parts per million
RWQCB	Regional Water Quality Control Board
SARI	Santa Ana River Inceptor
SAWPA	Santa Ana Watershed Project Authority
SBVMWD	San Bernardino Valley Municipal Water District
SCADA	Supervisory Control and Data Acquisition system
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