

# EXHIBIT C

# Water Rate Study

Revised May 5, 2015

Prepared for the

Palo Verde County Water District,

at the request of the

State Water Resources Control Board,

by the

California Rural Water Association

AR 4528

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Palo Verde County Water District Rate Review

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## **1. Rate Review & Introduction**

Rate studies or reviews are driven by many reasons: the need for major capital improvements, decrease in system revenue, increase in demand and capacity, and the never ending regulatory requirements that will often drive the need for capital improvement projects. CRWA has established a process with some simple system assessment work in conducting rate reviews and studies.

Here in California, public water and wastewater system accounts in any given entity whether they are a Municipality or a Community Services District are considered to be enterprise accounts. By definition an enterprise account must, at a minimum, be self-supporting in operating budgets and funded reserves. In essence as a public entity you should be charging enough for water and/or sewer services that these accounts are self-funded or supporting. The revenue that is realized from the services that are provided should be used to fund the operation of the systems as well as needed reserves and ongoing capital improvement planning and projects. We will ask a few questions to get an idea of the systems capabilities with its current rates and structures to be able to fund the systems enterprise accounts. Some of the questions we ask when reviewing the information are as follows:

- Are they currently able to fund expenditures?
- Do they have appropriate reserves and CIP reserves?
- What kind of shape is the infrastructure in?
- Are they in regulatory compliance?
- Are they able to schedule projects needed as identified in a master plan?
  - Do they have a master plan?

We were able to work with District staff, District Board and State and County Agencies to get a good idea of the systems needs and the future plans for the District with regards to the systems capabilities to fund a CIP for the existing infrastructure and funding needs and eligibility for state and federal infrastructure funding programs.

In most cases, you also have certain financial criteria mandated by all of the different funding agencies within the state. If you intend to seek public funding for infrastructure projects, the terms and conditions of receiving any loans or grants will apply to the District, and typically carry certain criteria for reserves of debt service and insurance requirements that will ultimately affect the cost of providing service to your customers.

There are also accepted standards and practices within municipal finance and operations that are considered good business, such as establishing reserves for equipment, funding preventative maintenance programs, funding normal system infrastructure maintenance, funding system depreciation, establishing and funding capital improvement plans (CIP), etc. There is a big difference between paying the bills and managing your city's infrastructure.

The rate study as presented is divided into 4 sections as follows:

**Section 1. Capital Replacement and Reserve calculations.**

This is not a recommended practice, however, as requested by State and Local Agencies, there will be Zero contributions to the Palo Verde CRP. This request was made in order to keep the monthly rates as low as possible.

Should these proposed rates be adopted by the Palo Verde Board of Directors, there will be a small percentage of revenue that should be applied to the Reserve account.

CRWA recommends an annual review of these proposed rates and adjustments made as needed so the Palo Verde can make sufficient contributions to the CRP.

Capital Replacement Program							Exhibit 1			
Reserve Calculation							Date:	4/24/2015		
							System Number:	1300616		
System Name: Palo Verde County Water District							Service Connections:	133		
*Enter information only in yellow cells.										
Qty	Component	Unit Cost	Installed Cost	Existing Reserve	Avg. Life Rem.	Annual Reserve	Mon. Res.	Res. Per Cust.		
<b>Capital Replacement Program</b>										
5	Booster Pump Station 25 HP, complete	\$0	\$0	\$0	20	\$0.00	\$0.00	\$0.00		
1	Booster Pump Station Electrical Controls	\$0	\$0	\$0	20	\$0.00	\$0.00	\$0.00		
1	Pressure Tank 500 Gallons	\$0	\$0	\$0	15	\$0.00	\$0.00	\$0.00		
1	Master Meter 8"	\$0	\$0	\$0	10	\$0.00	\$0.00	\$0.00		
1	Master Meter 10"	\$0	\$0	\$0	10	\$0.00	\$0.00	\$0.00		
5000	Pipe w/sand bedding 6"	\$0	\$0	\$0	30	\$0.00	\$0.00	\$0.00		
25000	Pipe w/sand bedding 8"	\$0	\$0	\$0	30	\$0.00	\$0.00	\$0.00		
168	Customer Meter w/Box & Shut off, Complete	\$0	\$0	\$0	20	\$0.00	\$0.00	\$0.00		
50	Distribution Valve 6"	\$0	\$0	\$0	20	\$0.00	\$0.00	\$0.00		
60	Distribution Valve 8"	\$0	\$0	\$0	20	\$0.00	\$0.00	\$0.00		
4	Distribution Valve 10"	\$0	\$0	\$0	20	\$0.00	\$0.00	\$0.00		
8	Air & Vacuum Relief Valve, Typical	\$0	\$0	\$0	10	\$0.00	\$0.00	\$0.00		

1	Office Equipment		\$0	\$0	\$0	10	\$0.00	\$0.00	\$0.00
1	Building		\$0	\$0	\$0	35	\$0.00	\$0.00	\$0.00
1	Truck		\$0	\$0	\$0	10	\$0.00	\$0.00	\$0.00
1	Tools & Equipment		\$0	\$0	\$0	10	\$0.00	\$0.00	\$0.00
<b>Subtotal New Capital Replacement Program</b>				\$0			\$0.00	\$0.00	\$0.00

<b>New Project Program</b>									
1	Drilled Wells, 8" Steel Casing			\$0	\$0	50	\$0.00	\$0.00	\$0.00
2	125,000 Gallon Steel Tanks w/appurtanences			\$0	\$0	60	\$0.00	\$0.00	\$0.00
1	Treatment Plant			\$0	\$0	50	\$0.00	\$0.00	\$0.00
<b>Subtotal New project Program</b>				\$0	\$0		\$0.00	\$0.00	\$0.00
<b>Total Capital Programs</b>									
				\$0			\$0.00	\$0.00	\$0.00

## Section 2. System Budget-

This worksheet utilizes the systems current budget numbers as indicated on the Budget Worksheet and any reserves or set asides that the system desires for future improvements or additions to the systems infrastructure. We determine the total amount of the desired revenue that the system needs to operate on a day to day basis, fund any infrastructure loans meaning debt service and reserve requirements of the loans, and set aside reserve funds for needed improvements to the system. The numbers utilized are taken from the information provided by the District Staff, Board and County.

In looking at the existing operating budget, we review the system's current expenditures as well as revenue information. At this point we have a full picture of the desired revenue/expenditures of the system. This is important as this is where the rubber meets the road with regards to determining your rates for services. We then take the current expenditures both O & M as well as General administrative and calculate an inflation factor for the upcoming years. Usually it's kept around 2 or 3 %, in this case we used 3%. These numbers will give the system a very good idea of where the upcoming budgets will be for all of the various categories and forecast upcoming revenues with the same inflation factor.

As you can see on the Budget Worksheet total expenses incurred for 2015 was **\$136,620**. Please review the revenue categories at the bottom of the page which show three revenue sources, they are categorized as Cash Revenues (water rates), Taxes and Misc. We will only utilize the budgeted expenditures to ensure that the rate payers are funding the systems budgeted expenses for operations.

It is important to note that for the remainder of 2015, there will be a deficit in the budget. This is due to insufficient rates being assessed for the first part of Fiscal Year 2015. For years 2016 through 2019 there will be an average of **\$38,560.75** in in Net Cash flow annually available to allocate to the Reserve Account.

**Note:** The District budget is a guideline as are most budgets. Things do change and unexpected events like infrastructure failure, changes in regulations, sudden water quality or quantity issues can all create financial instability. Periodic review of the budget through the year is always recommended and amending budgets can sometimes be necessary depending on the situation. Always review your expenditures, be realistic in your expectations and make changes as needed. The Districts desired revenue is what determines the rates, be sure they are in alignment.

<b>Budget</b>				<b>Exhibit 2</b>		
<b>Palo Verde County Water District</b>		Inflation Factor (%):		3.00%		
		Date:		7/28/2015		
		System Number:		1300616		
<b>EXPENSES AND SOURCES OF FUNDS</b>		<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>
<b>OPERATIONS &amp; MAINTENANCE EXPENSES</b>						
Salaries and Employee Benefits	60,292.00	62,100.76	63,963.78	65,882.70	67,859.18	
Operations & Maintenance	5,578.00	5,745.34	5,917.70	6,095.23	6,278.09	
Fees Regulatory	0.00	0.00	0.00	0.00	0.00	
Treatment Chemicals	7,860.00	8,095.80	8,338.67	8,588.83	8,846.50	
Monitoring	5,758.00	5,930.74	6,108.66	6,291.92	6,480.68	
Permits and Inspections	2,270.00	2,338.10	2,408.24	2,480.49	2,554.90	
Materials, Supplies & Parts	1,019.00	1,049.57	1,081.06	1,113.49	1,146.89	
Office Supplies and Tools	3,291.00	3,389.73	3,491.42	3,596.16	3,704.05	
Transportation	3,095.00	3,187.85	3,283.49	3,381.99	3,483.45	
Other	9,520.00	9,805.60	10,099.77	10,402.76	10,714.84	
Utilities	8,133.00	8,376.99	8,628.30	8,887.15	9,153.76	
Additional O&M for New Project	0.00	0.00	0.00	0.00	0.00	
<b>Total Operation and Maintenance Expenses:</b>	<b>106,816.00</b>	<b>110,020.48</b>	<b>113,321.09</b>	<b>116,720.73</b>	<b>120,222.35</b>	
<b>GENERAL &amp; ADMINISTRATIVE EXPENSES</b>						
Insurance	3,795.00	3,908.85	4,026.12	4,146.90	4,271.31	
Debt Service (flat)	0.00	0.00	0.00	4,325.00	4,325.00	
Existing Debt Service	8,688.00	8,688.00	8,688.00	8,688.00	8,688.00	
Communications & internet	1,864.00	1,919.92	1,977.52	2,036.84	2,097.95	
Memberships & Subscriptions	300.00	309.00	318.27	327.82	337.65	
Professional Services	14,657.00	15,096.71	15,549.61	16,016.10	16,496.58	
Training	500.00	515.00	530.45	546.36	562.75	
Capital Replacement Program	0.00	0.00	0.00	0.00	0.00	



New Project Program	0.00	0.00	0.00	0.00	0.00
<b>Total General and Administrative Expenses:</b>	29,804.00	30,437.48	31,089.96	36,087.02	36,779.24
<b>TOTAL EXPENSES (Line 20+ Line 32):</b>	136,620.00	140,457.96	144,411.06	152,807.75	157,001.59
<b>SOURCE OF FUNDS / REVENUES RECEIVED</b>					
Cash Revenues (Water rates)	121,117.00	174,807.69	182,329.54	191,031.72	200,152.43
Taxes	0.00	0.00	0.00	0.00	0.00
Misc	0.00	0.00	0.00	0.00	0.00
<b>TOTAL REVENUE (Lines 37 through 38):</b>	121,117.00	174,807.69	182,329.54	191,031.72	200,152.43
<b>NET LOSS OR GAIN:</b>	-15,503.00	34,349.73	37,918.48	38,223.97	43,150.84
<b>NET CASH FLOW (Contribution to Reserves)</b>	-15,503.00	34,349.73	37,918.48	38,223.97	43,150.84
Total non-water rates revenue	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00

### Section 3. Fixed Vs Variable Expenses

In Section 3 we utilize the total budgeted expenses for the District to determine the fixed versus variable expenses.

A fixed expense by accounting definitions is an expense that is regularly reoccurring for all of your customers. In determining fixed expenses for the rate study we looked at the expenses that all customers should share in no matter what size meter or classification the customer may be within the current billing system.

A variable expense by accounting definitions is an expense that fluctuates for whatever reason and is not typically the same from month to month. In determining the variable expenses for the rate study we look at expenses that are directly related to water use such as power or treatment chemicals.

This worksheet allows us to assign the expenses based on a percentage of the expense being a fixed or variable expense and then calculates the percentage of fixed versus variable expenses.

In reviewing this worksheet you can see that the majority of your expenses will fall into the fixed or base rate category. The total percentage of the budgeted amount that falls into the base rate category is **79.32%** or **\$118,064.21**

On the usage amount side of the budgeted numbers we have a total of **14.85%** of the budgeted amount or **\$22,102.46** being funded by the water use fees. This split is about normal although due

to increased demand for water use efficiency, there are agencies in the urban areas that are only allowed to put a maximum of 50% of the budgeted expenses into the base rate or fixed rate. This is done in an effort to promote water conservation, but can also create financial hardship for a District if the structure for water use is not well thought out.

At this point we have figured out the total amount that needs to be funded via the base rate and the total amount that needs to be funded via usage fees.

**NOTE:** CRWA recommends review of this split of budgeted expenses on an annual basis. Things do change in the water system and the District will need to make adjustments accordingly. Also this would be part of your annual review of the rates as well, if water use changes dramatically one way or another that will affect the District's ability to fund the system.

# Fixed Vs Variable Expenses

Exhibit 3



	Average	% Fixed	\$ Fixed	\$ Variable
<b>OPERATIONS &amp; MAINTENANCE EXPENSES</b>				
Salaries and Employee Benefits	\$64,019.68	90%	\$57,618	\$6,402
Operations & Maintenance	\$5,922.87	80%	\$4,738	\$1,185
Fees Regulatory	\$0.00	100%	\$0	\$0
Treatment Chemicals	\$8,345.96	0%	\$0	\$8,346
Monitoring	\$6,114.00	80%	\$4,891	\$1,223
Permits and Inspections	\$2,410.35	100%	\$2,410	\$0
Materials, Supplies & Parts	\$1,082.00	50%	\$541	\$541
Office Supplies and Tools	\$3,494.47	100%	\$3,494	\$0
Transportation	\$3,286.36	80%	\$2,629	\$657
Other	\$10,108.59	80%	\$8,087	\$2,022
Utilities	\$8,635.84	80%	\$6,909	\$1,727
Additional O&M for New Project	\$0.00	100%	\$0	\$0
<b>Total Operation and Maintenance Expenses:</b>	<b>\$113,420.13</b>		<b>\$91,318</b>	<b>\$22,102</b>
<b>GENERAL &amp; ADMINISTRATIVE EXPENSES</b>				
Insurance	\$4,029.63	100%	\$4,030	\$0
Debt Service (flat)	\$4,325.00	100%	\$4,325	\$0
Existing Debt Service	\$8,688.00	100%		
Communications & internet	\$1,979.25	100%	\$1,979	\$0
Memberships & Subscriptions	\$318.55	100%	\$319	\$0
Professional Services	\$15,563.20	100%	\$15,563	\$0
Training	\$530.91	100%	\$531	\$0

Capital Replacement Program	\$0.00	100%	\$0	\$0
New Project Program	\$0.00	100%	\$0	\$0
Total General and Administrative Expenses:	\$35,434.54		\$26,746.54	\$0.00
Total All Expenses	\$148,854.67		\$118,064.21	\$22,102.46
Total Expenses to be funded by rates	\$148,854.67		\$118,064.21	\$22,102.46
Fixed-Variable as % of all Expenses			79.32%	14.85%

Assume this relationship between fix/var expenses remains the same over the next five years.

**Section 4. Actual Calculated rates:**

**Base Rate calculations**

This section takes the total amount of the fixed costs and divides it by the number of customers. Typically, we calculate the monthly rate by dividing the total annual payment by 12 months. The monthly base rate that is established is for 5/8 by 3/4 inch residential meter size. We then calculate the base rate for larger meters based on the readily available amount of water that will flow through a 1 inch meter and larger increasing the base rate by the amount of water that is available based on the meter size. The goal is to represent all the meter sizes within the system.

***It is important to note that the Rate Study completed for Palo Verde County Water District was not based on meter size, but based on 5 usage categories.*** The District chose to retain the current rate structure as it was designed previously with a residential, multi-family, commercial, multi-business and out of district classification of customers. These categories have been assigned a meter size value in order to calculate the potential of water that can be served. These values were derived from Industry Standards.

In review of the base rate calculation sheet you can see that we took the recommended revenue of **\$118,064.21** and then divided that by the number of customers the District serves. We then took the different classification of customers and calculated a base rate based on residential, multifamily, commercial, multi-business and out of district users.

**The proposed Base Rates are outlined here.**

<b>Base Rate Calculation</b>							
			2015	2016	2017	2018	2019
Multipli er	Meter Size in Inches	# of meter s	Proposed Base Rate	5%	5%	5%	5%
1.00	Residenti al	122.0 0	\$75.00	\$78.75	\$82.69	\$86.82	\$91.16
1.2	Multi- Family	2.00	\$90.00	\$94.50	\$99.23	\$104.19	\$109.40
1.6	Commer cial	6.00	\$120.00	\$126.00	\$132.30	\$138.92	\$145.86
2.4	Multi - Unit	2.00	\$180.00	\$189.00	\$198.45	\$208.37	\$218.79
3.2	Out of District	1.00	\$240.00	\$252.00	\$264.60	\$277.83	\$291.72
			Avg Mnth Base Rate				
			\$80.08				
			Average Yearly Base Rate				
			\$960.90	\$1,008.95	\$1,059.39	\$1,112.36	\$1,167.98
		Total # of meter s	Total Yearly Revenue				
		133.0 0	\$127,800. 00	\$134,190. 00	\$140,899. 50	\$147,944. 48	\$155,341. 70

**Usage rate calculations**

This section takes the numbers from the Fixed vs Variable Expenses Worksheet and shows us the base rate charge and variable rate charge per 1000/gal of water. In this section we utilize the water usage and production numbers to determine an appropriate amount and then that number is used to determine the price per 1000 gallons based on the systems average consumption of water. This then will calculate the amount of expected revenue from water sales based on the systems current usage numbers.

The tier rates were set up in accordance with standard requirements of the funding agencies to provide a rate structure that encourages water conservation.

**The proposed usage rates are outlined here:**

<b>Usage Rate Calculation</b>							
		<b>2015</b>		<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>
<b>Tier</b>	<b>Tier Cap Amount in gallons</b>	<b>Price per 1,000/gallons</b>	<b>Example Monthly Usage Bill</b>	<b>2%</b>	<b>2%</b>	<b>4%</b>	<b>4%</b>
<b>1 (up to)</b>	<b>5,000</b>	<b>\$3.50</b>	<b>\$17.50</b>	<b>\$3.57</b>	<b>\$3.64</b>	<b>\$3.79</b>	<b>\$3.94</b>
<b>2</b>	<b>10,000</b>	<b>\$4.00</b>	<b>\$40.00</b>	<b>\$4.08</b>	<b>\$4.16</b>	<b>\$4.33</b>	<b>\$4.50</b>
<b>3(over)</b>	<b>15,000</b>	<b>\$4.00</b>	<b>\$60.00</b>	<b>\$4.08</b>	<b>\$4.16</b>	<b>\$4.33</b>	<b>\$4.50</b>
<b>4</b>	<b>20,000</b>	<b>\$4.50</b>	<b>\$90.00</b>	<b>\$4.59</b>	<b>\$4.68</b>	<b>\$4.87</b>	<b>\$5.06</b>
<b>5 (over)</b>	<b>30,000</b>	<b>\$4.75</b>	<b>\$142.50</b>	<b>\$4.85</b>	<b>\$4.94</b>	<b>\$5.14</b>	<b>\$5.35</b>

### **Section 5. Rate Study Summary and Conclusions:**

Palo Verde County Water District will need to evaluate the rates on an annual; basis especially in the first few years after the rates are implemented. Adjustments may need to be made due to ongoing issues here in California with water quantity and quality issues and as the needs of the District change.

The rates as presented will not fund the Districts capital replacement program however, it will allow for a modest annual contribution of funds for reserves. The majority of the budget (79.32%) is funded under the base rate and that should provide the stability the District needs to fund the operation of the District. The usage rates are set up to fund the remaining 14.85% of the District's budget. This revenue amount will go up or down with water use patterns but so will your expenses in this category as the expenses are tied to water production i.e. pumping or electrical costs associated with producing water. The expenses will fluctuate with the water use as will the revenue.

**Note:** CRWA recommends the annual review of the rates and revenue production. Determine what other sources of funding are available as the District has other infrastructure needs that will be pressing in the near future. Ask for staff input from the field on conditions of equipment that is used on a regular basis. With a system the size of Palo Verde, replacement costs can be expensive depending on the piece of equipment.