

ZONE 7

WATER AGENCY

Wholesale Untreated Water Rate Study

Final Report / October 2019

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Executive Summary

Agency Background

The Zone 7 Water Agency (Agency) was established in 1957 to provide both untreated water to support agriculture and treated wholesale water to the Livermore-Amador Valley area. In 1961, the Agency contracted for State Water Project (SWP) water deliveries through the South Bay Aqueduct.

The Agency's water resources include imported water from the SWP, local groundwater storage, surface water captured in the Del Valle Reservoir, and offsite groundwater banking in Kern County. Historically, the majority of the Agency's water demand has been met by imported water from the SWP; approximately 80 percent of the current water demand is met through SWP water.

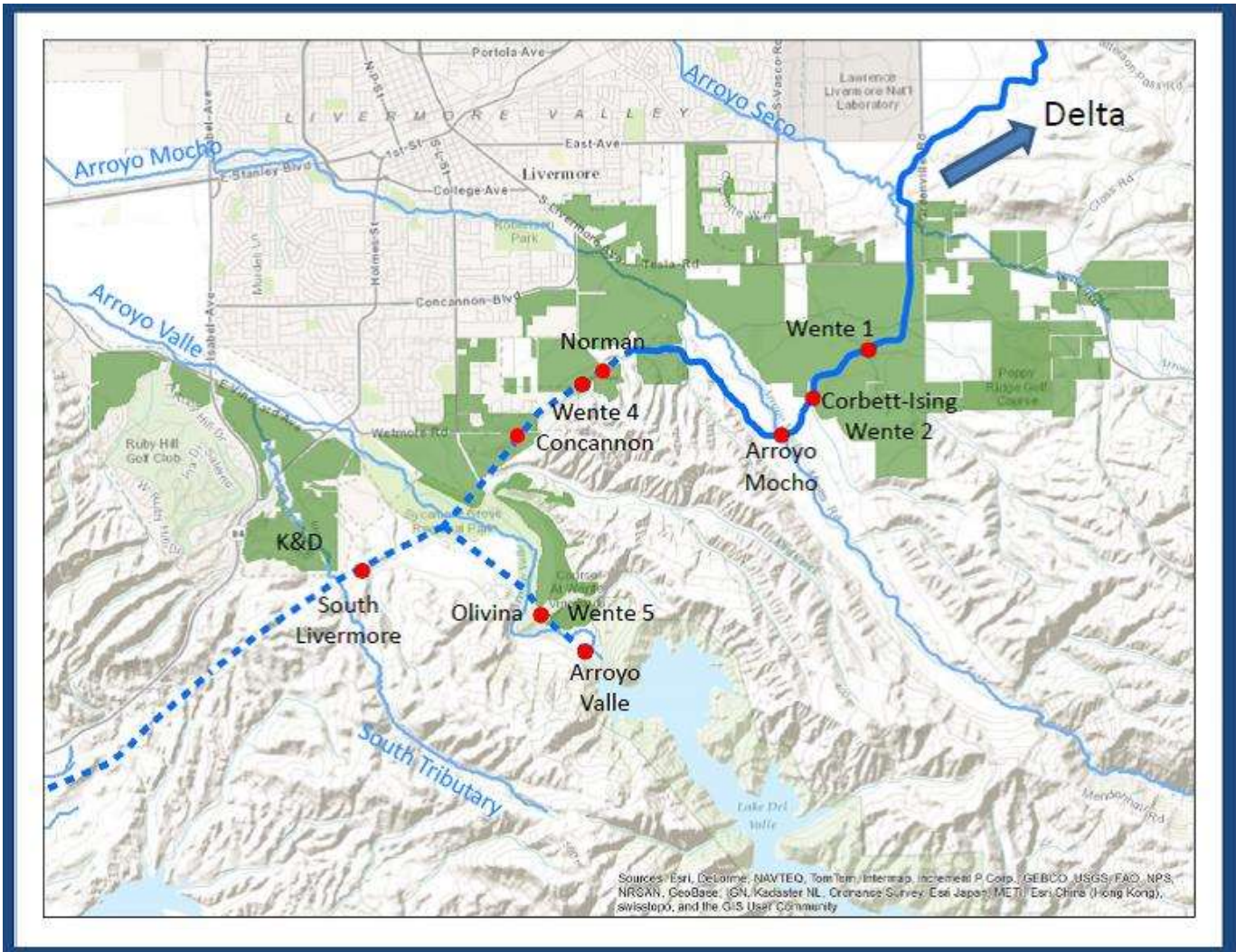
The Agency began delivering untreated water to its service area from the California Department of Water Resources (DWR) via the South Bay Aqueduct in 1962. Over the years, deliveries increased with the agricultural development of South Livermore. The Agency provides untreated water service to 81 untreated water users that may collectively request water deliveries of up to 8,104 AF per year.

Historically, the Agency has had untreated water contracts with 81 separate users, however, only seven of these contractors receive water from the Agency directly from a South Bay Aqueduct turnout. These seven water users are referred to as "turnout water users." The remaining 74 "remote water users" receive their water deliveries through the turnout water users' respective conveyance facilities. The Agency's current practice is to invoice the seven turnout water users for all water delivered through the turnouts, which includes water wheeled, or delivered through their respective facilities, to remote water users. The turnout water users, in turn, invoice the respective individual remote water users.

The Agency has historically had contracts with the separate users but transitioned from individual contracts to the Rules and Regulations Governing Water Service in 2011. The Rules and Regulations Governing Water Service reflect the actual relationship that the Agency has with its untreated water customers. This transition allowed the Agency to more effectively administer the untreated water program by clearly documenting and maintaining a maximum annual allocation for each water user and provide a process for water transfers within the service area.

Figure 1 shows the map of the untreated water turnouts and delivery via the South Bay Aqueduct.

Figure 1: Map of Untreated Water Turnouts



Study Background

In 2019, the Agency engaged Raftelis to conduct an Untreated Water Wholesale Rate Study. The study involved reviewing the untreated water rate structure, analyzing the potential impacts of various financial scenarios, and developing untreated water rates.

The major objectives of the study include the following:

- » Ensure financial sufficiency for the untreated water enterprise to meet water supply and program costs
- » Develop Agency overhead allocation and analyze rate impacts of including overhead costs
- » Determine if implementing a reserve policy for the untreated water system is prudent and provide recommendations based on findings
- » Analyze rate impacts of including water supply and reliability capital project costs
- » Develop untreated and temporary untreated wholesale water rates for calendar year (CY) 2020
- » Maintain fairness and equitability of rates while minimizing customer impacts

Current Rates

The Agency’s current untreated wholesale rates include two components: an untreated water rate for normal water service and a temporary untreated water rate for customers that require temporary service and are unable to obtain water from other areas in the valley. **Table 1** shows the current untreated water rates.

Table 1: Current Untreated Water Rates

Current Untreated Water Rates	CY 2019
Untreated Water Rate	\$167 per AF
Temporary Untreated Water Rate	\$860 per AF

Recommendations

The Agency’s current untreated water rate consists of an administrative labor and a water supply cost component, represented entirely by a variable charge per AF of water usage. However, these two components do not represent the entire costs of the system, which also include overhead costs for the Agency and future capital costs for projects that will benefit the untreated water system. In addition, the variable charges for untreated water are adopted once a year and are designed to cover the estimated costs of the next calendar year. The adopted variable charges each year for untreated water do not consider potential fluctuations in water supply costs due to changing supply availability.

Raftelis recommends the following changes to ensure financial sufficiency for the untreated water system and that all potential costs are accounted for in the adopted rates:

- » Including Agency overhead costs to rate calculation
- » Implementing a water readjustment charge, which is either an additional charge or credit depending on actual water supply costs in prior years
- » Omitting capital project costs for Chain of Lakes Pipeline until planning is complete

Proposed and Adopted Rates

The Board decided on October 24, 2019 to adopt untreated water rates that do not include the Agency overhead costs and include a water rate reconciliation (using the same methodology as the recommended water readjustment charge) for CY 2018 water supply costs in the untreated water rate. **Table 2** shows the proposed rates based on the prior recommendations and the final untreated water rates adopted by the Agency’s Board of Directors.

Table 2: Recommended and Adopted Untreated Water Rates

Untreated Water Rates – CY 2020	Raftelis Recommended	Board Adopted
Untreated Water Rate	\$203 per AF	\$173 per AF
Temporary Untreated Water Rate	\$907 per AF	\$886 per AF

Administrative Labor

This section outlines the administrative labor costs of the untreated water system and the associated costs and descriptions of the various staff programs.

Staff Programs

The Agency is committed to providing a reliable supply of high quality water for municipal, industrial, and agricultural customers and spends a considerable amount of time managing the water supply portfolio. Staff program costs are calculated on actual hours worked by Agency staff and an hourly rate of pay. The following section describes the various staff programs and their roles in the untreated water system.

Untreated Water Administration (1002)

Execution, management, and administration of the Untreated Water Program

Water Utility Planning Administration (1005)

Operational planning of the water utility and the water supply, day-to-day water supply management activities

State Water Project Administration (2003)

Administration of the SWP water supply

Water Storage Administration (3001)

General administration and support related to the Water Storage Program

Groundwater Administration (3002 & 3003)

Groundwater and stormwater monitoring, including toxic site monitoring; groundwater management, including artificial recharge management

Other Water Supplies (2007)

Evaluation of water supplies not specific to SWP, Byron-Bethany Irrigation District, and Bay-Delta

Byron-Bethany Irrigation District (2004)

Administration of the Byron-Bethany Irrigation District contract and associated water purchases

Local Water Rights (2006)

Acquisition, maintenance, and renewal of local water rights

Supply Source & Conveyance Administration (2001)

General administration and support related to the Supply Source and Conveyance Program

Semitropic (3005)

Administration, operation, and maintenance of Semitropic water supply, including recovery and storage

Cawelo (3006)

Administration, operation, and maintenance of Cawelo water supply, including recovery and storage

Labor Costs

Agency staff provided estimated administrative labor costs for each of the staff programs, which include hourly pay and hours worked per role, for CY 2019. Raftelis projected labor costs for CY 2020 by increasing hourly pay using a 3 percent labor inflation factor. Hours worked remain the same from year to year.

Table 3 shows the administrative labor cost detail for each of the staff programs. The cost for each program is calculated by multiplying the hourly pay by the hours worked per role and adding total labor costs for all roles.

Table 3: Administrative Labor Cost Detail

Administrative Labor Costs	CY 2019	CY 2020
Untreated Water Administration (1002)		
Hourly Pay (\$/hr)		
Finance Analyst	\$125.73	\$129.50
IWR Manager	\$174.80	\$180.04
IP Manager	\$168.83	\$173.89
Engineering Manager	\$190.98	\$196.71
Engineer	\$136.25	\$140.34
Hours Worked		
Finance Analyst	10	10
IWR Manager	7	7
IP Manager	9	9
Engineering Manager	3	3
Engineer	82	82
Total - Untreated Water Administration (1002)	\$15,661	\$16,131
Water Utility Planning Administration (1005)		
Hourly Pay (\$/hr)		
IWR Manager	\$175.28	\$180.54
IP Manager	\$169.09	\$174.16
Associate Engineer	\$136.25	\$140.34
Associate Engineer	\$142.14	\$146.40
Assistant Engineer	\$100.20	\$103.21
Assistant Water Resources Planner	\$104.14	\$107.26
Hours Worked		
IWR Manager	465	465
IP Manager	678	678
Associate Engineer	101	101
Associate Engineer	293	293
Assistant Engineer	1,333	1,333
Assistant Water Resources Planner	8	8
Total - Water Utility Planning Administration (1005)	\$385,817	\$397,392
State Water Project Administration (2003)		
Hourly Pay (\$/hr)		
Associate Engineer	\$136.25	\$140.34
Engineering Manager	\$191.26	\$197.00
IP Manager	\$169.09	\$174.16

Administrative Labor Costs	CY 2019	CY 2020
Finance Analyst	\$125.73	\$129.50
Hours Worked		
Associate Engineer	360	360
Engineering Manager	93	93
IP Manager	144	144
Finance Analyst	22	22
Total - State Water Project Administration (2003)	\$93,800	\$96,614
Water Storage Administration (3001)		
Hourly Pay (\$/hr)		
Engineering Manager	\$191.26	\$197.00
Hours Worked		
Engineering Manager	54	54
Total - Water Storage Administration (3001)	\$10,328	\$10,638
Groundwater Administration (3002 & 3003)		
Hourly Pay (\$/hr)		
Associate Engineer	\$128.94	\$132.81
Water Resources Tech	\$76.71	\$79.01
Principal Engineer	\$177.90	\$183.24
Associate Engineer	\$138.84	\$143.01
Water Resources Tech	\$89.70	\$92.39
Water Resources Tech	\$76.71	\$79.01
Water Quality Chemist	\$111.58	\$114.93
Water Quality Lab Tech	\$100.70	\$103.72
Hours Worked		
Associate Engineer	1,618	1,618
Water Resources Tech	72	72
Principal Engineer	1,404	1,404
Associate Engineer	1,015	1,015
Water Resources Tech	367	367
Water Resources Tech	1,840	1,840
Water Quality Chemist	565	565
Water Quality Lab Tech	343	343
Total - Groundwater Administration (3002 & 3003)	\$876,338	\$902,628
Other Water Supplies (2007)		
Hourly Pay (\$/hr)		
IWR Manager	\$175.25	\$180.51
Associate Engineer	\$136.25	\$140.34
Hours Worked		
IWR Manager	35	35
Associate Engineer	163	163
Total - Other Water Supplies (2007)	\$28,255	\$29,103
Byron-Bethany Irrigation District (2004)		
Hourly Pay (\$/hr)		
Associate Engineer	\$136.25	\$140.34

Administrative Labor Costs	CY 2019	CY 2020
Hours Worked		
Associate Engineer	8	8
Total - Byron-Bethany Irrigation District (2004)	\$1,090	\$1,123
Local Water Rights (2006)		
Hourly Pay (\$/hr)		
IP Manager	\$163.15	\$168.04
Associate Engineer	\$131.12	\$135.05
Hours Worked		
IP Manager	5	5
Associate Engineer	172	172
Total - Local Water Rights (2006)	\$23,368	\$24,069
Supply Source & Conveyance Administration (2001)		
Hourly Pay (\$/hr)		
Associate Engineer	\$136.25	\$140.34
Hours Worked		
Associate Engineer	6	6
Total - Supply Source & Conveyance Administration (2001)	\$818	\$842
Semitropic (3005)		
Hourly Pay (\$/hr)		
Associate Engineer	\$136.25	\$140.34
Hours Worked		
Associate Engineer	8	8
Total - Semitropic (3005)	\$1,090	\$1,123
Cawelo (3006)		
Hourly Pay (\$/hr)		
Associate Engineer	\$136.25	\$140.34
Hours Worked		
Associate Engineer	12	12
Total - Cawelo (3006)	\$1,635	\$1,684

Table 4 shows the administrative labor cost summary for all staff programs. Untreated Water Administration (1002) costs are only distributed to the untreated water system, while the remaining staff programs benefit both treated and untreated wholesale customers dependent on the volume of water deliveries.

Table 4: Administrative Labor Cost Summary

Administrative Labor Costs	CY 2020
Untreated Water Administration (1002)	\$16,131
Water Utility Planning Administration (1005)	\$397,392
State Water Project Administration (2003)	\$96,614
Water Storage Administration (3001)	\$10,638
Groundwater Administration (3002 & 3003)	\$902,628
Other Water Supplies (2007)	\$29,103
Byron-Bethany Irrigation District (2004)	\$1,123
Local Water Rights (2006)	\$24,069
Supply Source & Conveyance Administration (2001)	\$842
Semitropic (3005)	\$1,123
Cawelo (3006)	\$1,684
Total	\$1,481,346

Agency Overhead

This section outlines the Agency overhead costs and calculation. The resulting overhead percentage is applied to direct labor costs determined in the previous section.

Overhead Costs and Calculation

Agency staff provided total direct labor and indirect costs for all Agency departments, which include Water Utility Support Services, Supply Source and Conveyance, Water Storage, Water Treatment, Water Transmission, Central Administration, and Flood Protection. All indirect costs are associated with Central Administration. Detailed indirect costs for Central Administration are included in **Table 16** of the Technical Appendix.

Table 5 shows the allocation of indirect costs to each department based on the proportion of direct labor costs. For example, the following equation is used to calculate the Central Administration indirect costs for Water Utility Support Services:

$$\$6,997,538 \text{ total Central Administration costs} \times (\$2,956,696 \text{ Water Utility Support Services direct labor costs} / \$13,506,087 \text{ total direct labor costs}) = \$1,531,872$$

Table 5: Agency Overhead Costs

Departments	Direct Labor	Indirect	Central Admin
10 - Water Utility Support Services	\$2,956,696	\$0	\$1,531,872
20 - Supply Source & Conveyance	\$303,037	\$0	\$157,004
30 - Water Storage	\$1,240,399	\$0	\$642,654
40 - Water Treatment	\$6,129,295	\$0	\$3,175,604
50 - Water Transmission	\$1,169,274	\$0	\$605,804
60 - Central Administration	\$0	\$6,997,538	\$0
70 - Flood Protection	\$1,707,386	\$0	\$884,601
Total - Departments	\$13,506,087	\$6,997,538	\$6,997,538

The Agency overhead represents the indirect costs associated with each dollar of direct labor costs. Raftelis worked closely with Agency staff to determine the relevant departments applicable to the untreated water system, which include Water Utility Support Services, Supply Source and Conveyance, and Water Storage. All other department costs do not directly apply to the untreated water system.

Table 6 shows the calculation of the untreated water overhead. To calculate the untreated water overhead, the allocated Central Administration indirect costs for the three departments are divided by the total direct labor costs for the same three departments. The resulting percentage represents of 51.8 percent represents approximately 52 cents of indirect costs for each dollar of direct labor costs.

Table 6: Untreated Water Overhead Calculation

Untreated Water Departments	Direct Labor	Central Admin
10 – Water Utility Support Services	\$2,956,696	\$1,531,872
20 – Supply Source & Conveyance	\$303,037	\$157,004
30 – Water Storage	\$1,240,399	\$642,654
Total - Untreated Water Departments	\$4,500,132	\$2,331,530
Agency Overhead Percentage		51.8%

Water Supply and Capital

This section of the report outlines the water supply sources and costs and potential capital project costs. Water supply costs are the main driver behind the calculated untreated water rates.

Water Supply Portfolio

The Agency's water sources are used to meet treated and untreated water demand. Treated water demand is from municipal (retailers) and industrial (direct) customers and untreated water demand is from agricultural customers. Excess surface water supplies are placed into storage locally or remotely for future use. Water supply costs are included in the rate calculation for both treated and untreated water deliveries.

State Water Project/Table A

The Agency's portion of the annual SWP allocation represents the largest portion of "new" water supply each year. The maximum allocation is 80,619 AF per year. The projected long-term average allocation is 62 percent of the maximum or about 50,000 AF. In the past ten years, the average has been closer to 40,000 AF.

State Water Project/Article 21

SWP surplus water is made available in instances when the San Luis Reservoir is full. This is in addition to Table A water.

Turnback Pool

This water supply source is from other SWP contractors wishing to sell excess supply.

Byron Bethany Irrigation District

Whenever Byron Bethany Irrigation District, a non-SWP contractor, has surplus supply, water can be made available through a transfer agreement subject to approvals by the DWR and the Bureau of Reclamation. The amount of water varies up to 5,000 AF per year. For planning purposes, this water supply source is presumed to be unavailable for CY 2020. BBID water is subject to a fixed service charge of approximately \$90,000 per year regardless of whether the Agency receives water from this source.

Lake Del Valle/Local Water

The Agency has water rights to Arroyo Valle water captured in Lake Del Valle, which becomes available for use once it has been stored for 30 days. The annual average yield from this source is 7,300 AF. Water captured in Lake Del Valle during the current year needs to be used within the following year.

Yuba Accord

Water from this source is available mainly in dry years through an agreement with the DWR and Yuba County Water Agency. The Agency receives approximately 1 percent of available water.

Dry Year Transfer Program

During dry years, the State Water Contractors negotiate water purchases north of the Delta, which makes additional water available to interested SWP contractors.

Local Groundwater

The Agency recharges the Livermore Valley groundwater basin with surface water and uses groundwater for peaking conditions, dry years, and emergencies. The Agency only pumps what it has stored; over the last 15 years, the average recharge is 8,000 AF per year and the average pumping rate is 7,300 AF per year. The estimated maximum pumping capacity is 34,000 AF per year. The basin has 126,000 AF of operational storage capacity, which is the storage capacity above historical lows.

State Water Project/Article 56 (Carryover)

SWP Table A water rolls over as carryover for use in future years for individual SWP contractors. In most years, this water remains in the San Luis Reservoir, but in wet years such as 2017 the water is gradually converted to SWP water and can no longer be used by the Agency. When water is converted, SWP Article 21 water is offered as surplus water. Each year, the Agency typically reserves 10,000 to 15,000 AF as carryover to mitigate against fluctuating Table A allocations.

Offsite Groundwater Banks

The Agency has agreements with Semitropic Water Storage District and Cawelo Water District in Kern County for 78,000 AF and 120,000 AF of storage capacity, respectively. The Agency recovers water from these banks as needed during dry years (such as 2014 and 2015). Recovered water is delivered via exchange through the SBA as surface water is conveyed through the Delta.

Water Supply Costs

The Agency's water supply costs largely depend upon the SWP allocation in any given year. Agency staff provided estimated water supply costs for CY 2020 based upon a 30 percent SWP allocation. However, the actual water supply costs and availability for CY 2020 will not be available until mid-2021.

Table 7 shows the variable water supply unit costs and amount purchased in AF for the various sources. **Table 8** shows the fixed water supply costs for two different sources. The additional supply and reliability projects are equal to the costs adopted in the treated water rate study and represent additional costs incurred by the Agency to diversify the water supply and increase water reliability for its customers.

Table 7: Variable Water Supply Costs

Water Supply - Variable Costs	CY 2020
Unit Cost (\$/AF)	
Yuba/Dry Year Water Purchase Program	\$470.00
Other Water Transfers	\$570.00
Cawelo Banking & Variable Charge to DWR	\$157.50
Cawelo Recovery	\$261.85
Semitropic Banking and Variable Charge to DWR	\$35.39
Semitropic Recovery	\$170.00
Semitropic O&M	\$7.13
SWP Transportation	\$70.00
Amount Purchased (AF)	
Yuba/Dry Year Water Purchase Program	2,000
Other Water Transfers	2,000
Cawelo Banking & Variable Charge to DWR	0
Cawelo Recovery	0
Semitropic Banking and Variable Charge to DWR	0
Semitropic Recovery	4,500
Semitropic O&M	65,000
SWP Transportation	23,900

Table 8: Fixed Water Supply Costs

Water Supply - Fixed Costs	CY 2020
Fixed Costs (\$/year)	
Byron-Bethany Irrigation District	\$90,000
Del Valle Water Rights	\$3,000
Additional Supply & Reliability Projects	\$500,000

Table 9 shows the total water supply costs for the untreated water system, including the variable costs from **Table 7** and fixed costs from **Table 8**. The variable supply costs are calculated by multiplying the unit cost per AF by the amount purchased in AF for each supply source.

Table 9: Combined Untreated Water Supply Costs

Water Supply Cost	CY 2020
Byron-Bethany Irrigation District	\$90,000
Yuba/Dry Year Water Purchase Program	\$940,000
Other Water Transfers	\$1,140,000
Cawelo Banking & Variable Charge to DWR	\$0
Cawelo Recovery	\$0
Semitropic Banking and Variable Charge to DWR	\$0
Semitropic Recovery	\$765,000
Semitropic O&M	\$463,294
Del Valle Water Rights	\$3,000
SWP Transportation	\$1,673,000
Additional Supply & Reliability Projects	\$500,000
Total - Water Supply Cost	\$5,574,294

Table 10 shows the water supply cost for temporary untreated water service, which include the SWP fixed charges. The need for temporary services results from the inability of customers to obtain water in the outlying areas of the valley. The use of these services is limited. Since temporary untreated water customers do not pay property taxes, they are responsible for the portion of the SWP supply that is paid for by these revenues.

Table 10: Temporary Untreated Water Supply Cost

Temporary Water Supply Cost	CY 2020
SWP Fixed Charges	\$27,628,997
Total - Temporary Water Supply Cost	\$27,628,997

Capital Project Costs

Agency staff provided projected capital costs for the Chain of Lakes Pipeline project. The total cost over four years is \$61.1 million, with \$4.7 million of that allocated to CY 2020. Half of those costs are funded through water rates and the other half through capacity charge revenues. The Agency anticipates cash financing \$750,000 in CY 2020 and debt financing the remainder of the project through a bond with debt service starting in CY 2022. The total annual costs for CY 2020 for the Chain of Lakes Pipeline is \$750,000.

After discussion with Agency staff, Raftelis does not recommend including capital project costs in the untreated water rate calculation for CY 2020. The Agency has not completed its capital planning yet, and the project start date and costs are not fully confirmed. Agency staff and Raftelis both recommend waiting until after all master planning is complete and incorporating capital costs in later iterations of the untreated water rate.

Water Readjustment Charge

This section of the report outlines the policy considerations, analyses, and recommendations for the water readjustment charge.

Policy Considerations

As part of the untreated water rate study, Raftelis analyzed the impacts of various alternatives, such as implementing a financial reserve policy and/or a fixed charge component to the existing rate structure.

The objectives of these potential alternatives, identified by Agency staff, are as follows:

- » Maintaining and ensuring financial sufficiency in case of fluctuating water supply costs primarily due to the SWP allocation
- » Establishing equity between treated and untreated water systems in case of over- or under-collecting untreated water rate revenues
- » Increasing equity among untreated customers due to fluctuations in water deliveries

Recommendations

Although implementing a reserve policy and/or a fixed charge component may meet the Agency's objectives, the administrative cost and burden to the Agency outweighs the potential benefit. Raftelis does not recommend a reserve policy or fixed charge for the untreated water system, but rather the adoption of an annual water readjustment charge based on AF of water deliveries.

The proposed recommendation will meet the objectives outlined above for the following reasons:

- » Truing up water supply costs from prior years will ensure that the Agency can collect sufficient revenues to meet its water supply costs
- » Implementing a water readjustment charge, which can be an additional charge or a credit depending on the water supply costs, will ensure that the Agency is not over- or under-collecting from untreated water customers
- » Analyzing ten years of water deliveries shows that customer usage stays relatively stable

The Agency engaged Raftelis in July 2019 to assist with developing untreated water rates to be implemented in 2020. Actual water supply costs for 2019 will be available in mid-2020. Therefore, the water readjustment charge to true up water supply costs in 2019 will be effective in 2021 because the Agency adopts rates the year prior to the effective start date. The Agency will repeat the same process for every year of untreated water rates and water readjustment charges.

The following numbers in this section of the report are for demonstrative purposes only and do not represent the adopted rates for the untreated water rate study. In CY 2020, the Agency will adopt rates for CY 2021 and will true-up water supply costs for CY 2019. If the Agency adopts a \$210 per AF untreated water rate for CY 2021, and Agency staff previously estimated water supply costs at \$400,000 lower than the actuals in CY 2019, then the following equation is used to calculate the water readjustment charge:

$$\$400,000 \text{ difference in actual water supply costs} / 40,000 \text{ AF estimated water deliveries} = \$10 \text{ per AF}$$

Therefore, the adjusted CY 2021 untreated water rate is equal to \$220 per AF (previously adopted rate of \$210 per AF plus water readjustment charge of \$10 per AF). The water readjustment charge of \$10 per AF in this example ensures that the Agency can sufficiently fund its water supply costs in case of any fluctuations in supply availability. Alternatively, if the Agency overestimates its costs in any given year, then the water readjustment would be a credit or reduction in the adopted rate. The water readjustment charge ensures financial sufficiency for the Agency in the instance of unforeseen fluctuations and fairness for its customers by not over- or under-charging for water deliveries.

Untreated Water Rates

This section of the report combines the administrative labor costs, overhead costs, and water supply costs determined in previous sections to calculate the untreated water rates.

Recommendations

The Agency's current untreated water rates and rate structure do not represent the entire costs of the untreated water system and do not consider potential fluctuations in water supply costs due to changing supply availability. Raftelis recommends the following changes to ensure financial sufficiency for the untreated water system and that all potential costs are accounted for in the adopted rates:

- » Including Agency overhead costs to rate calculation
- » Implementing a water readjustment charge, which is either an additional charge or credit depending on actual water supply costs in prior years
- » Omitting capital project costs for Chain of Lakes Pipeline until planning is complete

Rate Calculation

Untreated water costs, except for those specifically benefitting only untreated water customers, are allocated between treated and untreated water deliveries. The Agency's treated water customers also use untreated water; treatment costs for these customers are separated. **Table 11** shows the projected water deliveries in CY 2020 for both treated and untreated customers.

Table 11: Projected Water Deliveries

Water Deliveries (AF)	CY 2020
Untreated	5,500
Treated	33,768
Total - Water Deliveries (AF)	39,268

Table 12 shows the untreated water rate calculation for the proposed rates derived from Raftelis' recommendations in the prior section. The untreated water rate calculation includes three components: untreated water labor costs from **Table 4**, administrative (system-wide) labor costs from **Table 4**, and water supply costs from **Table 9**. Overhead costs are included in labor costs and are equal to the direct labor costs multiplied by the overhead percentage determined in **Table 6**. Untreated water labor and overhead costs are allocated entirely to untreated water deliveries, whereas administrative labor and overhead costs and water supply costs are allocated between treated and untreated water deliveries. The untreated water rate is the combination of the untreated water, administrative labor, and water supply unit costs, rounded up to the nearest dollar.

The temporary water supply unit cost is derived from the temporary water supply cost from **Table 10** divided by total water deliveries. The temporary untreated water rate is the combination of the untreated water, administrative labor, water supply, and temporary water supply unit costs, rounded up the nearest dollar.

Table 12: Untreated Water Rate Calculation – Raftelis Recommended

Untreated Water Rate Calculation	CY 2020
Direct Untreated Water Labor	\$16,131
Direct Untreated Water Overhead Cost	\$8,358
Total Untreated Water Deliveries (AF)	5,500
Untreated Water Unit Cost	\$4.45
Administrative Labor	\$1,465,214
Administrative Overhead Cost	\$759,131
Total Treated and Untreated Deliveries (AF)	39,268
Administrative Unit Cost	\$56.65
Total Water Supply Cost	\$5,574,294
Total Treated and Untreated Deliveries (AF)	39,268
Water Supply Unit Cost	\$141.96
Untreated Water Rate (\$/AF)	\$203.00
Total Temporary Water Supply Cost	\$27,628,997
Total Treated and Untreated Deliveries (AF)	39,268
Temporary Water Supply Unit Cost	\$703.61
Temporary Untreated Water Rate (\$/AF)	\$907.00

Table 13 shows the untreated water rate calculation for the rates adopted by the Agency’s Board, which omits the overhead costs for the untreated water and administrative labor components. The untreated water rate is the combination of the untreated water, administrative labor, and water supply unit costs, rounded up to the nearest dollar. The Board has also adopted a water rate reconciliation analyzed by Agency staff (using a similar methodology as the proposed water readjustment charge) for CY 2018 water supply costs, equal to a credit of \$9 per AF. The detailed calculation for the water rate reconciliation provided by Agency staff is shown in **Table 17** of the Technical Appendix. The adjusted untreated water rate is the sum of the untreated water rate and the 2018 water rate reconciliation credit.

The temporary untreated water rate is equal to the sum of the untreated water rate (omitting the 2018 water reconciliation credit) and the temporary water supply unit cost.

Table 13: Untreated Water Rate Calculation – Board Adopted

Untreated Rate Calculation	CY 2020
Direct Untreated Water Labor	\$16,131
Direct Untreated Water Overhead Cost	\$0
Total Untreated Water Deliveries (AF)	5,500
Untreated Water Unit Cost	\$2.93
Administrative Labor	\$1,465,214
Administrative Overhead Cost	\$0
Total Treated and Untreated Deliveries (AF)	39,268
Administrative Unit Cost	\$37.31
Total Water Supply Cost	\$5,574,294
Total Treated and Untreated Deliveries (AF)	39,268
Water Supply Unit Cost	\$141.96
Untreated Water Rate (\$/AF)	\$182.00
2018 Water Rate Reconciliation	(\$9.00)
Adjusted Untreated Water Rate (\$/AF)	\$173.00
Total Temporary Water Supply Cost	\$27,628,997
Total Treated and Untreated Deliveries (AF)	39,268
Temporary Water Supply Unit Cost	\$703.61
Temporary Untreated Water Rate (\$/AF)	\$886.00

Proposed and Adopted Rates

Table 14 shows the proposed rates based on Raftelis' recommendations from Table 12 and the rates adopted by the Agency's Board on October 24, 2019 from Table 13.

Table 14: Recommended and Adopted Rates

Untreated Water Rates – CY 2020	Raftelis Recommended	Board Adopted
Untreated Water Rate	\$203 per AF	\$173 per AF
Temporary Untreated Water Rate	\$907 per AF	\$886 per AF

Table 15 shows the customer impacts in dollars per AF for both sets of rates compared to the current untreated water rates.

Table 15: Customer Impacts

Untreated Water Rates – CY 2020	Current Rates	Raftelis Recommended	Board Adopted
Untreated Water Rate	\$167 per AF	\$203 per AF	\$173 per AF
<i>Difference (\$)</i>		<i>\$36 per AF</i>	<i>\$6 per AF</i>
Temporary Untreated Water Rate	\$860 per AF	\$907 per AF	\$886 per AF
<i>Difference (\$)</i>		<i>\$47 per AF</i>	<i>\$26 per AF</i>

Technical Appendix

Agency Overhead Detail

Table 16: Central Administration Indirect Cost Detail

Account Description – 60 - Central Administration	Number	Indirect Costs
Salaries and Wages	5101	\$11,997,579
Overtime Wages	5102	\$170,203
Retirement Tier 1 Contribution	5201	\$48,446
Retirement Tier 2 Contribution	5202	\$3,157,229
Social Security Tax Contribution	5203	\$674,163
HI Tax Contribution	5204	\$175,537
Health Insurance Contribution	5205	\$1,407,921
Dental Insurance Contribution	5206	\$102,075
Worker's Compensation Insurance	5207	\$384,905
SDI Contribution	5208	\$48,238
Group Insurance	5209	\$27,332
Cafeteria Benefit Allowance	5210	\$146,098
Membership Dues	5211	\$1,156
Safety Footwear Reimbursement	5212	\$5,677
Certification/License Reimbursement	5213	\$1,075
Retirement Tier 4 Contribution	5215	\$352,378
Other Employee Benefits	5219	\$687
Pension Expense	5220	\$486,777
Direct Labor & Benefits Distributed	6001	\$3,953,438
Credit for Labor Distributed	6002	(\$18,666,152)
Credit for Applied Overhead from Projects	6003	(\$877,169)
Allocable Agency Overhead - Labor	6010	(\$324,635)
Allocable Agency Overhead - Services & Supplies	6011	(\$289,681)
Professional and Technical Services	6101	\$1,138,765
County Services - Administrative	6103	\$886,927
County Services - General	6121	\$1,384,962
Gas and Electricity	6411	\$107,716
Water Service	6415	\$6,190
Communications	6421	\$54,975
Garbage Disposal Services	6511	\$9,464
Janitorial Services/ Supplies	6512	\$40,256
Repairs/ Service of Equipment	6521	\$8,878
Repairs/ Service of Bldgs & Property	6522	\$122,050
Maintenance Parts & Supplies	6523	\$1,225
Rents & Leases - Equipment	6531	\$26,237
General Office Supplies & Expenses	6541	\$142,893
Reproduction and Printing	6542	\$854
Subscriptions	6543	\$8,872
Postage, Delivery & Shipping	6544	\$7,423
Organization Memberships	6551	\$3,490

Account Description – 60 - Central Administration	Number	Indirect Costs
Advertising and Legal Notices	6561	\$5,180
State and Local Fees	6562	\$3,791
Catering & Hosting Expense	6563	\$7,739
Clothing, Uniform Srv, Personal Supplies	6564	\$3,531
Training Materials and Services	6571	\$22,460
Educational Stipend - Zone 7	6572	\$5,720
Travel/Transportation	6581	\$8,576
Mileage	6582	\$6,084
Total		\$6,997,538

2018 Water Rate Reconciliation

Table 17: Water Rate Reconciliation - CY 2018 ¹

2018 Untreated Water Rate Reconciliation	2018 Rate	2018 Actuals
Planned Treated and Untreated Water Deliveries (AF)	37,167	37,167
Water Supply Costs		
Byron-Bethany Irrigation District	\$90,000	\$90,000
Other Water Transfers	\$1,138,000	\$666,507
Semitropic Recovery	\$1,000,000	\$0
Cawelo Storage	\$0	\$562,242
Del Valle Water Rights	\$3,000	\$3,000
Yuba Costs/Dry Year Program	\$10,000	\$839,904
Bay-Delta Related Costs/Water Supply Reliability Projects	\$209,056	\$0
SWP Transportation Variable Cost	\$2,079,122	\$2,101,728
Total - Water Supply Costs	\$4,529,178	\$4,263,380
Water Supply Management Program Costs		
Byron-Bethany Irrigation District	\$8,101	\$4,516
Other Water Supplies	\$33,140	\$25,914
State Water Project	\$216,610	\$129,668
Untreated Water Program	\$10,121	\$6,431
Total - Water Supply Management Program Costs	\$267,972	\$166,529
Total Water Supply and Program Costs	\$4,797,150	\$4,429,909
Untreated Water Rate per AF (rounded)	\$129	\$120
Difference per AF		(\$9)

¹ Source: http://www.zone7water.com/images/pdf_docs/agenda-oct-board-meeting/10-16-19_12.pdf