

# ALTO UTILITIES WATER RATE STUDY

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PREPARED BY:  
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## 1. INTRODUCTION

AF Consulting was retained by Alto Utilities to complete a Water Rate Analysis for their current operation. The methodology used is based on applicable steps included in the *Setting Small Drinking Water System Rates for a Sustainable Future* published by the *United States Environmental Protection Agency (EPA)*.

Managing a water distribution system requires knowing its operational costs, revenue, contributions to reserve funds, and anticipated capital projects. In this rate analysis report, we investigated Alto Utilities' historical cost of doing business, latest revenue summaries, required contributions for a proper asset management, and anticipated capital projects for the forthcoming fiscal year.

This report is based on the following principles:

- Rates should be set to generate the revenue required to cover the full cost of operating a water system. By charging customers a fair rate of water, the utility sends a message that water is a valued commodity that must be used wisely and not wasted.
- Rates should be fair, with users paying the cost of having the water service.
- When rates are set to cover the full cost of production, water systems are more likely to have financial stability and security.
- Revenues from rates should not be used to subsidize other services or water needs by potential future users.
- Rates should be viewed as short-term strategies and reviewed periodically to adjust for market changes, regulatory requirements, and other needs the system might be subjected to accomplish a successful operation.

This report serves as a guide, offering strategic insights and recommendations for Alto Utilities' sustainable operations and customer-focused service delivery. The report is organized in the following sections:

- Cost of Doing Business
- Current Revenue Analysis
- Contribution to Reserves
- Required Revenue Analysis
- Rate Analysis
- Rate Implementation
- Recommendations

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## 2. COST OF DOING BUSINESS

The identification of the costs to operate the water distribution system is the first step for the water rate analysis.

The cost determination encompasses all aspects of the system operation, including the following:

- Operations
  - Equipment operating
  - Equipment maintenance
  - Equipment acquisition
  - Office and supplies
  - Telephone and utilities
  - Waste disposal
  - Laboratory costs
  - Software
  - Bank fees
  - Insurance
  - Professional fees
  - Vehicle expenses
  - Taxes
- Staff
  - Salaries and wages
  - Benefits
- Outstanding loans
- Mortgage payments

Table 1 summarises the Alto Utilities expenses for the last 5 years. This information was used to calculate the average annual cost of doing business with information from previous years updated to 2023 dollars. The adjustment was based on the annual average Consumer Price Index for Canada as published by Statistics Canada. The 2022 to 2023 index was not available at the time of this report preparation; therefore the 2021 to 2022 data was used.

**Table 1 – Alto Utilities Historical Revenue Summary**

Item	2022	2021	2020	2019	2018
Amortization	\$ 3,619	\$ 4,045	\$ 3,296	\$ 3,374	\$ 2,299
Bank charges and interest	\$ 985	\$ 605	\$ 594	\$ 2,717	\$ 1,180
Bookkeeping fees	\$ 15,718	\$ 18,136	\$ 19,307	\$ 13,845	\$ 11,698
Certified operator	\$ 53,928	\$ 49,939	\$ 43,697	\$ 50,239	\$ 45,777
Insurance	\$ 19,872	\$ 18,489	\$ 16,118	\$ 20,055	\$ 17,259
Office	\$ 4,053	\$ 5,243	\$ 1,694	\$ 4,829	\$ 4,890
Professional fees	\$ 5,307	\$ 6,059	\$ 6,421	\$ 6,678	\$ 2,500
Property taxes	\$ 24,444	\$ 17,709	\$ 17,345	\$ 15,953	\$ 13,076
Rent	\$ 5,393	\$ 4,994	\$ 4,162	\$ 4,999	\$ 4,789
Repairs and maintenance	\$ 38,088	\$ 38,194	\$ 25,874	\$ 36,876	\$ 46,318
Telephone	\$ 6,905	\$ 6,452	\$ 6,632	\$ 9,341	\$ 8,448
Utilities	\$ 17,704	\$ 28,193	\$ 17,291	\$ 20,541	\$ 22,876
Vehicle expenses	\$ 10,690	\$ 9,900	\$ 8,250	\$ 9,932	\$ 10,133
Wages and management	\$ 34,828	\$ 32,252	\$ 33,759	\$ 42,465	\$ 29,564
Wages - payroll costs	\$ 4,802	\$ 3,018			
Water testing		\$ 5,748			
<b>TOTAL</b>	<b>\$ 246,336</b>	<b>\$ 248,976</b>	<b>\$ 204,440</b>	<b>\$ 241,844</b>	<b>\$ 220,807</b>
<b>ANNUAL CPI RATE</b>	<b>6.8%</b>	<b>6.8%</b>	<b>3.4%</b>	<b>0.7%</b>	<b>1.9%</b>
<b>TOTAL ADJUSTED TO 2023</b>	<b>\$ 263,037</b>	<b>\$ 283,880</b>	<b>\$ 240,927</b>	<b>\$ 287,102</b>	<b>\$ 267,237</b>
<b>AVERAGE ANNUAL COST OF DOING BUSINESS</b>	<b>\$ 268,437</b>				

### 3. CURRENT REVENUE ANALYSIS

Table 2 shows the Alto Utilities annual revenue and monthly rates being paid by their current users.

**Table 2 – Alto Utilities Annual Revenue and Monthly Rates**

	Unmetered Residential	Unmetered Commercial	Metered Residential	Vacant lots with rent charges	Subtotal
No. of Units	437.5	1	1	6	445.5
<b>Revenue</b>					
Annual Revenue	\$ 370,125.00	\$ 16,920.00	\$ 558.36	\$ 2,538.00	\$ 390,141.36
Annual rate per unit	\$ 846.00	\$ 16,920.00	\$ 558.36	\$ 423.00	
Monthly rate per unit	\$ 70.50	\$ 1,410.00	\$ 46.53	\$ 35.25	

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## 4. CONTRIBUTION TO RESERVES

In 2022 the contribution to the Replacement Reserve Fund (RRF) was increased from 25% to 30% of the Annual Revenue. In the 2022 fiscal year, Alto Utilities contributed \$108,120.03 to the RRF. The Asset Management Plan completed in July 2023 recommended annual contribution to the Replacement Reserve Fund of \$230,000.

Alto has adopted the Replacement Reserve Fund contribution recommendation.

## 5. REQUIRED REVENUE ANALYSIS

The total annual required revenue is comprised of the following three components:

- Annual cost of doing business, estimated at \$ 268,437
- Annual contribution to the Replacement Reserve Fund, recommended at \$ 230,000 as per the Asset Management Plan
- The total capital projects cost to be implemented over the next 5 years is estimated at \$ 766,125.

### CAPITAL PROJECTS

#### HYDRANT INSTALLATION

Improvements to the hydrant coverage within the Alto Utilities area of service are required. This rate analysis assumes the installation of up to 1 new hydrant during next 5 years.

#### WATER QUALITY IMPROVEMENTS

The current well used by Alto Utilities has manganese concentrations higher than the maximum allowed as per the Canadian Drinking Water Guidelines. There are several options identified to address the water quality as follows:

##### 1. DEDICATED MAIN TO RESERVOIR AND ADDITIONAL TREATMENT

The installation of a dedicated main to the Cheryl Reservoir, will allow improvements to the water treatment and chlorine disinfection of the water supplied to the Alto Utilities users.

The project is described as the installation of 380 m of 200 mm main between the ground water source and the Cheryl Reservoir plus installation of new oxidation system adjacent to Cheryl Reservoir. The oxidation system would use a chemical reagent to oxidize the

manganese with filtration for removal of the precipitate resulting from the oxidation process. The described system would have to be installed adjacent to the Cheryl Reservoir in a new structure.

It is assumed the installation of the dedicated main will be completed using pipe bursting through the existing drain pipe for the reservoir. A new draining system will be required for the reservoir.

## 2. NEW WATER SOURCE

Alto has commissioned hydrogeological studies for a new ground water source feasibility. The latest report by Western Water Associates Ltd., issued in February 2023, indicates that there is potential for developing a new deeper well that will draw water from the same aquifer. Given the increased depth, it is expected the water will meet the Canadian Drinking Water Guidelines.

## 3. TREATMENT AT LODGE PUMPING SITE

The water treatment could be achieved by installing a treatment system at the Lodge pumping site in combination with the dedicated main or the new water source development. The optimal solution should be identified in a future treatment study.

### WATER DISTRIBUTION SYSTEM IMPROVEMENTS

The current configuration of the distribution system satisfies the need of the existing users. A potential future project described as approx. 540m of 200mm main on Lodge Rd will improve available FFs at the multifamily at the north end of the system and will allow servicing of lots along the rail trail that are currently out the area of service. This project capital cost shouldn't be paid by the existing users. Future development and new users should pay for this upgrade.

Table 3 summarizes the Alto Utilities capital projects to be implemented in the next 5 years. It includes their cost estimates that are used in the rate analysis.

**Table 3 – Alto Utilities Capital Projects Summary**

Project	Implementation Cost	Engineering	Contingency	Capital Cost
Hydrant Installation (1 per year)	\$ 7,500	\$ 750	\$ 1,875	\$ 10,125
Dedicated Main to Reservoir	\$ 145,000	\$ 14,500	\$ 36,250	\$ 195,750
New Water Source	\$ 150,000	\$ 15,000	\$ 37,500	\$ 202,500
Water Treatment	\$ 265,000	\$ 26,500	\$ 66,250	\$ 357,750
<b>TOTAL CAPITAL PROJECTS</b>	<b>\$ 567,500</b>	<b>\$ 56,750</b>	<b>\$ 141,875</b>	<b>\$ 766,125</b>

Table 4 summarizes the required annual revenue by Alto Utilities assuming the following projects are implemented over 5 years:

1. Installation of one hydrant per year

2. Development of a New Water Source
3. Installation of Water Treatment

**Table 4 – Alto Utilities Required Annual Revenue**

Description	Amount
Annual Cost of Doing Business	\$ 268,437
Replacement Reserve Fund Contribution	\$ 230,000
Capital Projects (Annual Allocation)	\$ 122,175
<b>Total</b>	<b>\$ 620,612</b>

## 6. RATE ANALYSIS

The objective of this rate analysis is to determine the required water rates to recover the full cost of providing water. If the rates are set lower than required, the system will lose money deteriorating the system performance.

The system customers might have a negative reaction to water rate increase if they believe the rates are not set in a fair manner. Education of the users and clear communication on the reasons for a required rate upgrade will be key factors in the rate review implementation.

There are several water rate structures used, including:

- Flat or fixed rates charged regardless of volume of water used
- Uniform rates per unit of water used
- Decreasing block rates that are typically used in systems with large use consumers such as industrial, agricultural or commercial
- Increasing block rates that are implemented to incentivise water conservation

As the Alto Utilities system has only a few metered connections, this analysis focuses on a fair flat water-rate. All other options will require the implementation of a universal meter program which will take time and will result in additional costs not only due the meter installation but also for meter reading and billing.

### ALTO UTILITIES RATE

The water rate analysis is based on the previously identified parameters listed below:

- Required Revenue which is based on:
  - Cost of doing business
  - Contributions to Replacement Reserve Fund

- Capital projects to be implemented during the year analysed
- Actual revenue which is based in the number of units serviced and the rate charged

The rate calculation process determines what the monthly rate per unit should be to obtain the Required Annual Revenue. The rate analysis should be completed on an annual basis in hand with an analysis of the Capital Projects planned for the following year and the Capital Projects completed.

We developed a spreadsheet that allows Alto Utilities to complete the calculation. The results for next year are summarized in Table 5. The required rate to meet the Required Annual Revenue is \$116.93.

**Table 5 – Proposed Alto Utilities Water Rates**

	Unmetered Residential	Unmetered Commercial	Metered Residential	Vacant lots with rent charges	Subtotal
No. of Units	437.5	1	1	6	445.5
<b>Revenue</b>					
Proposed Annual Revenue	\$ 613,877	\$ 1,403	\$ 1,123	\$ 4,209	\$ 620,612
Proposed Annual rate per unit	\$ 1,403.15	\$ 1,403.15	\$ 1,122.52	\$ 701.57	
Proposed Monthly rate per unit	\$ 116.93	\$ 116.93	\$ 93.54	\$ 58.46	\$ 116.93

## OTHER OKANAGAN WATER RATES

This section is included for information purposes only. It provides the current residential water rates charged by some water utilities in the Okanagan. It should be kept in mind that each water utility has specific conditions that affect their water rates. Factors such as population serviced, water treatment needs, complexity of the distribution network, required capital projects and others have an impact on the used rates.

Most water utilities are metered and used a tier rate based on volume of water consumed. In order to make a useful comparison we adopted a monthly consumption of 45 m<sup>3</sup> per residential unit. This volume is equivalent to a water allocation of 493 L/ca/d and 3 residents per dwelling unit. The adopted number is based on typical water consumption for the Okanagan Valley.

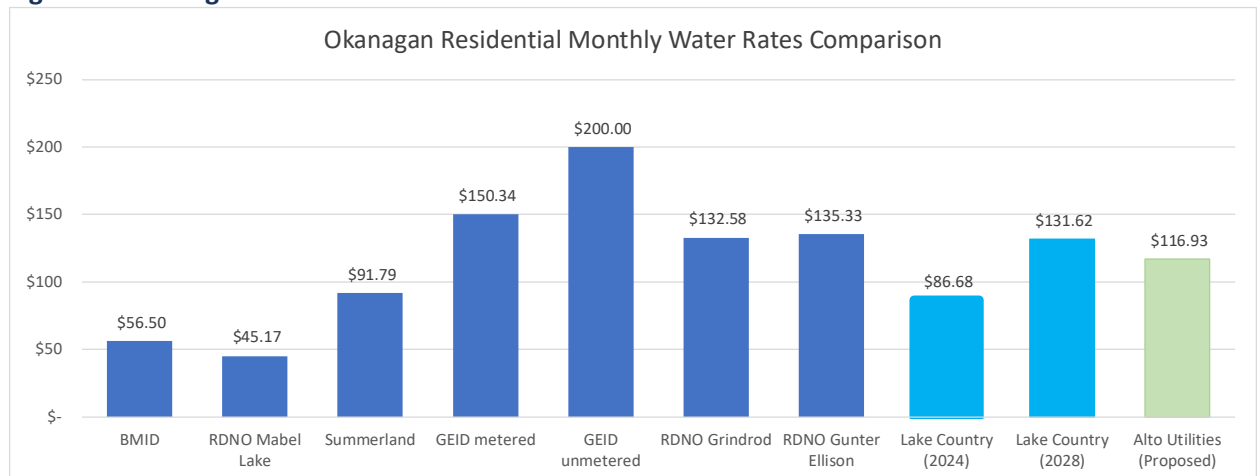
Although each water utility faces different challenges the information presented gives a general idea on what the public should expect to pay for accessing water in the Okanagan. Table 6 summarizes the information researched and Figure 1 shows the same rates plus the proposed Alto Utilities rate in graphical form. Data for Lake Country, the neighbouring utility for years 2024 and 2028 is highlighted.



**Table 6 – Sample of Okanagan Residential Water Rates**

Utility	Estimated monthly fee per residential unit	Comments
BMID	\$ 56.50	Unmetered. Flat fee
RDNO Mabel Lake	\$ 45.17	Base fee plus flat consumption fee
Summerland	\$ 91.79	Base fee plus tiered rates per volumetric consumption
GEID metered	\$ 150.34	Base fee plus tiered rates per volumetric consumption
GEID unmetered	\$ 200.00	Flat fee
RDNO Grindrod	\$ 132.58	Base fee plus flat consumption fee
RDNO Gunter Ellison	\$ 135.33	Base fee plus flat consumption fee
<b>Lake Country (2024)</b>	<b>\$ 86.68</b>	<b>Base fee plus volumetric consumption rate</b>
<b>Lake Country (2028)</b>	<b>\$ 131.62</b>	<b>Base fee plus volumetric consumption rate</b>
Alto Utilities (Proposed)	\$ 116.93	Proposed based on this analysis

**Figure 1 – Okanagan Residential Water Rates**



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## 7. RATE IMPLEMENTATION

Once a decision has been made on the rate adjustment, there additional considerations as discussed herein.

### REGULATORY REQUIREMENTS

Alto Utilities shall ensure that the rate changes are approved by the provincial authority. The approval process is initiated filing and application with the Comptroller of Water Rights (the Comptroller). The Comptroller might require a hearing process to obtain evidence and argument necessary to make a decision.

The two main types of hearings are oral and written. Additional information bulletins in PDF format can be obtained from the following link:

[Water Utilities Information Bulletins - Province of British Columbia \(gov.bc.ca\)](https://www2.gov.bc.ca/gov2/industry/water_utilities/water_utilities_information_bulletins)

### PUBLIC PERCEPTION

Customers should be well-informed about the rates and understand that they are contributing fairly and reasonably towards ensuring the provision of safe drinking water.

As shown by the presented rate analysis, a significant adjustment is necessary. It is recommended to create outreach materials to explain the rationale behind the rate increase. The outreach material might include:

- Website publications
- Newsletters
- Flyers

It's crucial for customers to comprehend that the capacity to deliver safe drinking water significantly depends on obtaining adequate revenue, primarily sourced from customer fees.

Maintaining transparent communications with customers throughout the rate adjustment process is pivotal; well-informed customers are more likely to comprehend and accept rate hikes.

Additionally, gradual rate increments spread over several years might help with the new rate implementation. Financing the required Capital Projects will provide an opportunity to reduce the proposed rates.

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## ASSET MANAGEMENT AND RENEWAL RESERVE

The contribution to the Renewal Reserve Fund is a major factor for the required rate increase. It is important to educate the users on the necessity to make these annual contributions to have the resources in place for future renewal projects. The public might not have a good understanding of the requirements imposed on the water utility to have a successful asset management plan.

## 8. RECOMMENDATIONS

- **Transparent Communication Strategy:** Develop a comprehensive communications plan with outreach materials, such as website publications, newsletters, and flyers. These materials should effectively convey the reasons behind the necessary rate adjustment to customers, emphasizing the importance of their contribution towards ensuring safe drinking water.
- **Gradual Rate Adjustment:** Consider implementing rate increases gradually over several years to alleviate the immediate impact on customers. This phased approach can help in the acceptance and adjustment to the new rates while ensuring the utility's financial sustainability.
- **Long-term Capital Planning:** Establish a strategic long-term plan for capital projects, prioritizing critical infrastructure improvements while aligning these projects with available financial resources. Regularly review and update this plan to accommodate changing needs and market conditions.
- **Asset Management and Reserve Contributions:** Educate customers about the necessity of annual contributions to the Renewal Reserve Fund. Emphasize the critical role these reserves play in funding future infrastructure renewal projects. Enhance public understanding of the requirements imposed on the utility for effective asset management.
- **Regulatory Compliance:** Ensure compliance with provincial regulatory requirements concerning rate adjustments. Initiate the necessary approval process through the Comptroller of Water Rights, maintaining adherence to oral or written hearing procedures as mandated.
- **Efficiency Measures:** Explore opportunities for operational efficiencies within the utility to potentially reduce costs. This might involve optimizing equipment maintenance schedules, exploring cost-effective supply options, or implementing energy-efficient practices where feasible.
- **Customer Engagement:** Foster ongoing dialogue with customers through feedback mechanisms, surveys, or public forums. Encourage customer involvement in

- understanding rate adjustments and capital projects, fostering a sense of ownership and transparency within the community.
- **Continuous Review and Analysis:** Conduct annual reviews of the rate analysis, aligning it with projected capital projects and completed initiatives. Refine rate-setting methodologies to accurately reflect evolving operational costs and future financial requirements.
  - **Investment in Technology and Training:** Consider investing in modern technologies for system monitoring, data analysis, and operational efficiency that might reduce the operational costs. Ensure the utility is equipped to handle evolving challenges and advancements in the industry.

These recommendations aim to guide Alto Utilities in navigating financial sustainability, customer communication, regulatory compliance, and infrastructure planning for the optimal operation of their water distribution system.

## 9. CLOSURE

We trust this rate analysis provides the information required by Alto Utilities at this time. Should you have any comments or require additional information do not hesitate to contact us.

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