

WATERWORKS INFORMATION
(As required under *The Municipalities Regulations*)

Municipality: Village of Paradise Hill
Date: August 12, 2024

Waterworks Rate Policy

On August 13, 2024 Council passed a resolution on a waterworks policy.

Describe the waterworks rates and fees charged by the municipality, including the price per unit.

A history of water rates over the last 17 years is provided below. An infrastructure charge was implemented effective January 1, 2007, to help fund the construction of a water treatment plant in 2008. This infrastructure charge was increased to \$15.00 on January 1, 2015. Once the long-term debt on the water plant is paid, this money will be set aside for water and/or wastewater project expansion and upgrades. The infrastructure charge will be used for the long-term debt on the construction of the joint aerated lagoon project.

Consumption	First 1000 gallons Minimum charge	Infrastructure Charge	2 nd 1000 gallons	3 rd 1000 gallons	4 th 1000 gallons and thereafter	Residential Sewer Rental
Jan. 1, 2007	\$15.00	\$10.00	\$8.00	\$8.00	\$8.00	\$13.00
Jan. 1, 2012	\$15.00	\$10.00	\$0.015 per gallon			\$13.00
Jan. 1, 2017	\$20.00	\$15.00	\$0.017 per gallon			\$15.00
Jan. 1, 2018	\$20.00	\$15.00	\$0.017 per gallon			\$20.00
Jan. 1, 2019	\$20.00	\$15.00	\$0.017 per gallon			\$20.00
Jan. 1, 2020	\$20.00	\$15.00	\$0.017 per gallon			\$20.00
Jan. 1, 2021	\$20.00	\$15.00	\$0.017 per gallon			\$20.00
April 1, 2021	\$20.00	\$15.00	\$0.017 per gallon			\$25.00
Jan. 1, 2022	\$20.00	\$15.00	\$0.017 per gallon			\$25.00
Jan. 1, 2023	\$20.00	\$15.00	\$0.017 per gallon			\$25.00
Jan. 1, 2024	\$20.00	\$15.00	\$0.017 per gallon			\$25.00

Describe how the waterworks rates and fees are determined, including the types of costs used for determining the rates and fees.

Construction of a new reverse osmosis water plant was completed in September, 2008. Construction of the joint aerated lagoon project was completed in fall of 2019. An analysis of operating costs for the most recent 4 years is as follows:

Revenue / Expense Specific to Water Treatment	2020	2021	2022	2023
Revenue generated per 1000 gallons of water treated	16.19	\$15.19	\$15.97	\$15.45
Cost to treat 1000 gallons of water **	20.09	\$20.32	\$23.93	\$23.66
Cost to treat 1000 gallons of water, with interest and amortization included	28.63	\$29.53	\$33.06	\$30.99

** The operating costs factored into this include salaries for plant operations, a portion of the foreman's contract, utilities at the water plant, repairs and maintenance, chemicals, lab testing, technical support for the RO units, and other supplies.

Gallons treated increased slightly from 2022 to 2023, and the water revenue was higher, there was a increase in the unaccounted water.

Operating expenses in 2023 increased by 8.71%. The increase is due to higher expenses, and sewer lines being cleaned.

Total Water and Sewer Revenue / Expense	2020	2021	2022	2023
Revenue generated per 1000 gallons of water treated	\$28.74	\$29.55	\$30.32	\$28.65
Cost to treat 1000 gallons of water **	\$19.44	\$23.54	\$27.80	\$26.24
Cost to treat 1000 gallons of water, with interest and amortization included	\$32.94	\$32.74	\$36.93	\$33.57

** The operating costs factored into this include all expenses related to water and sewer.

The total cost to treat which includes interest, amortization.

Describe the objectives of the waterworks rate policy.

The infrastructure charge, which is the \$10.00 increase in the minimum water charge implemented on January 1, 2007, is utilized to help pay long term debt incurred to construct the reverse osmosis treatment plant. The infrastructure charge was increased to \$15.00 per month in 2015. The funds raised from the infrastructure charge are directed to future capital reserve and in 2019 to help pay the long-term debt incurred to construct the joint aerated lagoon project

The increases in cost of water over and above the minimum charge, which took effect January 1, 2011 and January 1, 2012, were implemented to help fund amortization costs, which increased significantly with the construction of the new water plant. A further increase in 2015 was implemented to encourage conservation of water, thereby facilitating a reduction in operating costs.

Consumption in 2020, 2021, and 2022 has been relatively stable, there is a slight increase in 2023. There were no major line breaks in 2023. Monitoring usage in public facilities where there is no charge for water, has paid off in terms of ensuring that leaking toilets are fixed in a timely manner. In 2023 increase in water usage by approximately 829,067 gallons, the public facilities used approximately 12,748 less gallons than in 2022, water usage by residence has increased slightly and there is a increase in unaccountable water.

With the conversion to radio frequency read meters, we have the ability to more accurately and efficiently bill for water used. As such, the rates charged beyond the minimum are calculated per gallon, as opposed to per 1000 gallons. This has eliminated some inequality resulting from rounding of usages. Costs associated with this conversion have been reduced substantially as we have 95% of the Village converted. As the meters are starting to age, some repairs are required on the meters which has increased repair costs.

Fees for water, and infrastructure charge over the last 4 years have remained constant, the sewer rate was increased in April 2021.

Charge	Increase over 4 years in %
Water – Minimum	0.00 %
Water – Overage	0.00%
Sewer	25.00%
Infrastructure Charge	0.00 %

To further reduce the gap between revenue generated and cost to treat, some fee increases will be necessary. In the past few years, increases have been minimal in an effort to bring revenues in line with the cost of operations. Gradual increments in revenue will also offset the cost of inflation on expenses on an annual basis.

Future increases will target the water minimum charge, the charge that has been affected the least over the last 5 years. It is projected that an increase of \$1.00 per year in the minimum charge would generate \$3,000 in revenue. This is equivalent to a 2% increase in operating costs, calculated on the total 2014 operating costs less amortization and interest.

CAPITAL INVESTMENT STRATEGY

On August 13, 2024, Council passed a resolution on a waterworks policy.

Describe the objectives of the waterworks capital investment strategy. Describe how capital plans are determined, including how they are identified and prioritized.

Construction of a reverse osmosis water treatment facility and an additional 105,000-gallon treated water storage reservoir was completed in 2008. The reverse osmosis system, while more expensive than the old filtration system, was chosen because:

- the extra cost is offset by the increase in the quality of treated water produced
- improved water quality will result in consumer savings on softening, tap and toilet repairs, hot water heaters, etc.
- extra raw water used in the treatment process will be offset in reduced consumption from water softeners

Estimated required capacity (as provided by Bullee Consulting)

	Existing Capacity 2009	Estimated Required Capacity		
		2016	2021	2026
Population	500	548	570	593
Water supply		7.26 l/s	7.90 l/s	8.58 l/s
Water Treatment	5.04 l/s	5.81 l/s	6.32 l/s	6.86 l/s
Storage reservoir	705,000 l	545,800 l	593,600 l	644,500 l
Distribution pumping	22.0 l/s	11.05 l/s	12.02 l/s	13.05 l/s
Lagoon Treatment	1.57 ha	1.41 ha	1.46 ha	1.52 ha
Storage	44,000 m ³	49,122 m ³	53,420 m ³	58,000 m ³

Capital commitments over the next 5 to 10 years include:

- An additional RO unit, should current water treatment capacity become inadequate. The plant was designed to accommodate another unit. So far, the two existing RO units are keeping up with demand for water.
- Upgrades are required to the RO unit and will be completed in 2024, a grant has been received to help with the upgrade costs.
- The lagoon expansion is complete and has been operational since late October 2019. A partnership with the RM of Frenchman Butte and the Town of St. Walburg for a new joint aerated lagoon is completed and was operational in the fall of 2019. The Building Canada Fund Grant, the R. M. of Frenchman Butte, the Town of St. Walburg and Village of Paradise will be sharing the cost of this project.

A small sum is being set aside annually to prepare for these commitments. A projection has been created to predict cash flow and funding requirements for the next 10 years. Funds have been borrowed to complete the lagoon project and will have the ability to pay down that debt in 6 years.

Indicate the sources of funding for waterworks capital infrastructure projects.

Construction of a joint aerated lagoon has been completed in 2019. The cost of this project was funded one third by the federal government, one third by the provincial government, and one third by the three municipal partners, RM of Frenchman Butte #501, Town of St. Walburg and Village of Paradise Hill. The Village of Paradise Hill's share of the total anticipated cost is \$1,315,916.00. A loan of \$1,200,000 was acquired to fund this commitment.

A grant has been approved for the Water Treatment Plant upgrades.

ANNUAL FINANCIAL OVERVIEW

Total 2023 waterworks revenue (R)		\$263,365	
Total 2023 waterworks expenditures – operating (E)		\$241,241	
Total 2023 waterworks expenditures – capital (E)		nil	
 Total debt payments on waterworks loans (D)		 \$113,995 principal	
		\$ 28,121 interest	

Comparison of waterworks revenues to expenditures			
Revenues	<u>(R)</u>	<u>263,365</u>	= .74
Operating Expense + Debt repayment	<u>(E)+(D)</u>	<u>355,236</u>	

Comparison of waterworks revenues to expenditures 2023			
Revenues	<u>(R)</u>	<u>263,365</u>	= 1.09
Operating Expense	<u>(E)</u>	<u>241,241</u>	

Explanation of the ratio: Some consideration will have to be given to future funding of the amortization, capital and debt repayment.

RESERVES - DECEMBER, 2023

Reserve for future water and sewer capital expenses		\$ 120,886	
 Cash reserves in retained earnings and undesignated reserves (for future capital expenses, not specifically water and sewer)		 \$ 478,474	