

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

Municipality: Village of Paradise Hill
Date: Sept 11, 2017

Waterworks Rate Policy

On Sept 11, 2017 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 8 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.

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, 2006	\$15.00		\$8.00	\$7.00	\$6.00	\$13.00
Jan. 1, 2007	\$15.00	\$10.00	\$8.00	\$8.00	\$8.00	\$13.00
Jan. 1, 2011	\$15.00	\$10.00	\$0.010 per gallon			\$13.00
Jan. 1, 2012	\$15.00	\$10.00	\$0.015 per gallon			\$13.00
Jan. 1, 2014	\$20.00	\$10.00	\$0.015 per gallon			\$15.00
Jan. 1, 2015	\$20.00	\$15.00	\$0.017 per gallon			\$20.00
Jan. 1, 2016	\$20.00	\$15.00	\$0.017 per gallon			\$20.00
Jan. 1, 2017	\$20.00	\$15.00	\$0.017 per gallon			\$20.00

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. An analysis of operating costs for the most recent 4 years is as follows:

Revenue / Expense Specific to Water Treatment	2013	2014	2015	2016
Revenue generated per 1000 gallons of water treated	\$12.74	\$15.14	\$15.06	13.54
Cost to treat 1000 gallons of water **	\$10.02	\$11.86	\$10.06	16.16
Cost to treat 1000 gallons of water, with interest and amortization included	\$20.22	\$22.03	\$14.84	20.70

** 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 2015 to 2016, and the water revenue was slightly lower, there was an increase in the unaccounted water.

Operating expenses in 2016 increased by 23.7%, due to increase in chemical charges for 2016.

Total Water and Sewer Revenue / Expense	2013	2014	2015	2016
Revenue generated per 1000 gallons of water treated	\$20.00	\$23.19	\$25.80	\$23.92
Cost to treat 1000 gallons of water **	\$12.68	\$15.15	\$12.36	\$16.16
Cost to treat 1000 gallons of water, with interest and amortization included	\$22.88	\$25.32	\$17.15	\$20.70

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

The total cost to treat which includes interest and amortization is has increased due to increase in chemical costs.

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. Once the debenture is paid in full, in 2015, the funds raised from the infrastructure charge will be directed to future capital reserve.

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 2014, 2015, and 2016 has been relatively stable. There is a slight increase in usage due to new public facilities and new business additions. Monitoring usage in public facilities where there is no charge for water, is a relatively new initiative, but it has paid off in terms of ensuring that leaking toilets are fixed in a timely manner. In 2016 increase in water usage by approximately 296,520 gallons with the public facilities using approximately 20,000 less gallons than in 2015, water usage by residence has decreased slightly.

With the gradual 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 80% of the Village converted. Less is being spent on new meters, which will help to shrink the gap between revenue and expense per 1000 gallons treated.

Significant increases have been made in fees for water, sewer, and infrastructure charge over the last 5 years.

Charge	Increase over 5 years in %
Water – Minimum	33.33 %
Water – Overage	50 %
Sewer	50 %
Infrastructure Charge	112 %

To further reduce the gap between revenue generated and cost to treat, some fee increases will be necessary. In the past 8 to 10 years, increases have been quite significant in an effort to bring revenues in line with the cost of operations. Now that this objective is nearing completion, more gradual increments are acceptable and desirable. 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 September 11 2017, 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 new 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.
- A lagoon expansion within the next 1 to 2 years. A partnership with the RM of Frenchman Butte and the Town of St. Walburg for a new joint lagoon is in the planning stages. The Building Canada Fund Grant has been approved. The anticipated starting time line is spring of 2018. 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. Capital commitments relating to community growth and a residential subdivision are currently limiting the ability of the village to put more money into reserves, but residential lots are now ready for sale and a rapid sale of these lots will provide additional cash flow. Final payment on the loan to fund the subdivision is due in 2017. This will substantially ease cash flow restrictions. A projection has been created to predict cash flow and funding requirements for the next 10 years. This projection indicates that, given the current annual operating surplus can be maintained, we can borrow funds to complete the lagoon project and have the ability to pay down that debt within 8 to 10 years.

Indicate the sources of funding for waterworks capital infrastructure projects.

No capital expenses related to provision of water and sewer are anticipated for the current year. With approval for funding from the Building Canada program, construction of a joint aerated lagoon could begin in 2018. Approval has been requested to share the cost of this project one third by the federal government, one third by the provincial government, and one third by the three municipal partners. The Village of Paradise Hill's share of the total anticipated cost is \$1,315,916.00. It is projected that a loan of \$1,000,000 will need to be acquired to fund this commitment.

ANNUAL FINANCIAL OVERVIEW

Total 2016 waterworks revenue (R)		\$257,217	
Total 2016 waterworks expenditures – operating (E)		\$229,798	
Total 2016 waterworks expenditures – capital (E)		nil	
Total debt payments on waterworks loans (D)		\$ 0.00	
Comparison of waterworks revenues to expenditures			
Revenues	$\frac{(R)}{(E)+(D)}$	$\frac{257,217}{229,798}$	= 1.12
Operating Expense + Debt repayment			

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

RESERVES - DECEMBER, 2016

Reserve for future water and sewer capital expenses	\$ 282,949
Cash reserves in retained earnings and undesignated reserves (for future capital expenses, not specifically water and sewer)	\$369,974