



PUBLIC WORKS COMMISSION

DATE: April 13, 2015 **REPORT NO.** PW2015-038
TO: Chair and Members
Committee of the Whole – Operations and Administration
FROM: Russ Loukes, P.Eng.
Acting General Manager, Public Works Commission

1.0	TYPE OF REPORT	CONSENT ITEM []
2.0	TOPIC	ITEM FOR CONSIDERATION [X]
	Revised 2015 Water and Wastewater Rate Study [Financial Impact – None] (PW2015-038)	

3.0 RECOMMENDATION

- A. THAT Report No. PW2015-038 titled “Revised 2015 Water & Wastewater Rate Study” BE RECEIVED; and
- B. THAT the rate structure for water and wastewater as recommended in Tables 1 to 4 of this report with no increase in the water base charge, no increase in the minimum bill and with an increase in the volume charge for 2016-2024 BE APPROVED IN PRINCIPLE.

4.0 PURPOSE

The purpose of this report is to obtain Council approval of the revised Water and Wastewater rate structure for 2016-2024.

5.0 BACKGROUND

Legislation

The Safe Drinking Water Act requires municipalities to submit a Financial Plan (Plan) to obtain a Municipal Drinking Water License. The Plan must be prepared for long-term financial sustainability of drinking water systems. It must account for the full cost of services and provide a cost recovery plan.

The full cost of services (expenditures) is calculated using estimated costs for replacement, operation and maintenance and other lifecycle costs for all the

assets, and growth-related capital costs. The cost recovery plan is prepared based on the current water usage, growth forecasts, development charges, reserve fund positions, and other revenue sources. It is recommended that a similar plan be prepared for wastewater. The rate structure must be set to recover the full cost of services.

The Plan must be updated once every five years. The last Plan for the water and wastewater systems was approved by City Council in June 2010. The Plan must be updated and approved by Council by July 1, 2015. Upon Council approval of the revised Water and Wastewater Rate Structure for the 2016-2024 period proposed in this report, the Financial Plan will be completed and submitted for Council approval before July 1, 2015.

Water Charges

To accomplish full cost recovery, a rate structure is established with a fixed (base) charge and a variable consumption (volume) charge. The fixed (base) charge is based on the water meter size. It recovers the fixed expenditures for making the water available, including the expenditures for fire protection, cost of maintaining the treatment and distribution systems, billing and collection, and debt payment. The consumption (volume) charge is based on the volume of water used and the water rate. It covers the cost of treating the water and other variable costs.

Wastewater Charges

Currently wastewater billing does not have a base charge. The full cost for wastewater collection, treatment and disposal is recovered through the variable wastewater rate. The volume of wastewater discharged from a household is considered equal to the metered water usage. Therefore, the metered water volume and the wastewater rate are used to calculate the wastewater charge. However in summer months (May 1st to September 30th), wastewater bills for residential customers are capped at 30m³ of water usage to account for lawn watering. None of the neighbouring municipalities surveyed provide the relief of the summer cap. They consider the wastewater volume discharged is equal to the water volume metered even during the summer months.

Council Resolution on March 23, 2015 Meeting

At the Committee of the Whole – Operations and Administration meeting held on March 9, 2015 the Committee reviewed the findings of the 2015 Water and Wastewater Rate Study (Report No. PW2015-013). The Committee resolved that a Public Information Session be held. Council received this report along with a memorandum outlining the public input prior to the Council meeting on March 23, 2015 where Council approved the following resolution:

2015 Water and Wastewater Rate Study [Financial Impact – None]
(PW2015-013)

- A. THAT Report No. PW2015-013 titled “2015 Water & Wastewater Rate Study” BE RECEIVED and that staff BE DIRECTED to revise the report to reduce the base charge and report back in the next cycle; and
- B. THAT the March 23, 2015 memorandum from the Director, Environmental Services, which includes information and comments from the public from the March 18, 2015 Public Information Centre BE RECEIVED.

This report is submitted in response to the direction provided by Council at the March 23, 2015 meeting.

6.0 CORPORATE POLICY CONTEXT

Planning for financial sustainability with respect to water and wastewater infrastructure falls in line with Brantford’s strategic goal of excellence in governance and municipal management. Through the financial plan Brantford will be recognized as a fiscally responsible and well-managed city that provides efficient and effective government services.

7.0 INPUT FROM OTHER SOURCES

The City’s Finance Department provided comments on the revised Rate Study.

8.0 ANALYSIS

The 2015-2024 water and wastewater rate structure has been revised as per Council’s direction. The following are the changes in the revised rate structure:

- There is no change in the revenue generated using the revised rate structure compared to the original rate structure proposed in March 2015. (Report No. PW2015-013, 2015 Water and Wastewater Rate Study,)
- There is no increase to the base charge for water. It remains at 2015 level until 2024.
- There is no base charge for wastewater until 2024. It will continue to have only a volume charge.
- The minimum bills for water and wastewater will be maintained at the 2015 level with no increase until 2024.
- The volume charges for water and wastewater have been adjusted to generate revenues required to move towards long-term financial sustainability of the water and wastewater systems, as proposed in the original report.
- The 2015 mid-year increase to the base charge that was proposed has been eliminated.

8.1 Revised Water and Wastewater Rate Structure:

The water and wastewater rate structure recommended in the revised Rate Study is provided below.

Table 1: Proposed Water Rate Structure

Water	2014	2015 (Jan-Jun)	2015 (Jul-Dec)	2016	2017	2018	2019	2020	2021	2022	2023	2024
Base Charges (Monthly in \$):												
15mm - (5/8")	9.04	9.22	9.22	9.22	9.22	9.22	9.22	9.22	9.22	9.22	9.22	9.22
20mm - (3/4")	9.14	9.32	9.32	9.32	9.32	9.32	9.32	9.32	9.32	9.32	9.32	9.32
25mm - (1")	9.47	9.66	9.66	9.66	9.66	9.66	9.66	9.66	9.66	9.66	9.66	9.66
40mm - (1 1/2")	10.01	10.21	10.21	10.21	10.21	10.21	10.21	10.21	10.21	10.21	10.21	10.21
50mm - (2")	11.10	11.32	11.32	11.32	11.32	11.32	11.32	11.32	11.32	11.32	11.32	11.32
75mm - (3")	20.83	21.25	21.25	21.25	21.25	21.25	21.25	21.25	21.25	21.25	21.25	21.25
100mm - (4")	24.08	24.56	24.56	24.56	24.56	24.56	24.56	24.56	24.56	24.56	24.56	24.56
150mm - (6")	32.74	33.39	33.39	33.39	33.39	33.39	33.39	33.39	33.39	33.39	33.39	33.39
200mm - (8")	40.31	41.12	41.12	41.12	41.12	41.12	41.12	41.12	41.12	41.12	41.12	41.12
Volume Charge (per m³ in \$)	1.75	1.81	1.81	1.92	1.99	2.07	2.12	2.17	2.22	2.27	2.32	2.38

The table above shows that there is no increase to the base charge for all meter sizes. The volume charge increases annually on average by 6 cents per cubic metre for the forecast period from 2016 to 2024.

Table 2: Proposed Wastewater Rate Structure

Wastewater	2014	2015 (Jan-Jun)	2015 (Jul-Dec)	2016	2017	2018	2019	2020	2021	2022	2023	2024
Volume Charge (per m³ in \$)	1.69	1.72	1.72	1.81	1.85	1.90	1.94	1.99	2.03	2.08	2.12	2.16

The table above shows that there is no base charge for wastewater. The volume charge increases annually on average by 5 cents per cubic metre for the forecast period from 2016 to 2024.

8.2 Minimum Bill for Water and Wastewater

A minimum bill is charged instead of the base charge and the volume charges for water when a customer's bill is less than the minimum bill for a given meter size.

Tables 3 and 4 provide the minimum monthly bills for water and wastewater. The minimum bills stay at 2015 levels until 2024.

Table 3: Minimum Bill for Water (monthly in dollars)

Water	2014	2015 (Jan-Jun)	2015 (Jul-Dec)	2016	2017	2018	2019	2020	2021	2022	2023	2024
15mm - (5/8")	9.04	9.22	9.22	9.22	9.22	9.22	9.22	9.22	9.22	9.22	9.22	9.22
20mm - (3/4")	10.61	10.82	10.82	10.82	10.82	10.82	10.82	10.82	10.82	10.82	10.82	10.82
25mm - (1")	13.26	13.53	13.53	13.53	13.53	13.53	13.53	13.53	13.53	13.53	13.53	13.53
40mm - (1 1/2")	42.86	43.72	43.72	43.72	43.72	43.72	43.72	43.72	43.72	43.72	43.72	43.72
50mm - (2")	73.06	74.52	74.52	74.52	74.52	74.52	74.52	74.52	74.52	74.52	74.52	74.52
75mm - (3")	146.67	149.60	149.60	149.60	149.60	149.60	149.60	149.60	149.60	149.60	149.60	149.60
100mm - (4")	330.14	336.74	336.74	336.74	336.74	336.74	336.74	336.74	336.74	336.74	336.74	336.74
150mm - (6")	542.30	553.15	553.15	553.15	553.15	553.15	553.15	553.15	553.15	553.15	553.15	553.15
200mm - (8")	921.69	940.12	940.12	940.12	940.12	940.12	940.12	940.12	940.12	940.12	940.12	940.12

Table 4: Minimum Bill for Wastewater (monthly in dollars)

Wastewater	2014	2015 (Jan-Jun)	2015 (Jul-Dec)	2016	2017	2018	2019	2020	2021	2022	2023	2024
15mm - (5/8")	4.82	4.92	4.92	4.92	4.92	4.92	4.92	4.92	4.92	4.92	4.92	4.92
20mm - (3/4")	8.59	8.76	8.76	8.76	8.76	8.76	8.76	8.76	8.76	8.76	8.76	8.76
25mm - (1")	13.41	13.68	13.68	13.68	13.68	13.68	13.68	13.68	13.68	13.68	13.68	13.68
40mm - (1 1/2")	34.31	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00
50mm - (2")	53.62	54.69	54.69	54.69	54.69	54.69	54.69	54.69	54.69	54.69	54.69	54.69
75mm - (3")	120.66	123.07	123.07	123.07	123.07	123.07	123.07	123.07	123.07	123.07	123.07	123.07
100mm - (4")	214.50	218.79	218.79	218.79	218.79	218.79	218.79	218.79	218.79	218.79	218.79	218.79
150mm - (6")	482.62	492.27	492.27	492.27	492.27	492.27	492.27	492.27	492.27	492.27	492.27	492.27
200mm - (8")	858.00	875.16	875.16	875.16	875.16	875.16	875.16	875.16	875.16	875.16	875.16	875.16

8.3 Average Monthly Bill for Water and Wastewater

More than 90% of customers in Brantford have a 5/8" size water meter. The average volume of water used for this meter size is 200 cubic metres per year or 17 cubic metres per month. Therefore the average residential bill is calculated for a customer with a 15 mm or 5/8" water meter size and a usage of 17 cubic metres per month.

Table 5 below shows average residential monthly bill as per the original report with base charges and the revised report without base charges. The monthly bill is less for most residential customers under the revised rate structure compared to the original proposal.

Table 5: Average Residential Monthly Bill for Water and Wastewater

Year	Original Rate Structure With Base Charges (Report No. PW2015-013; Table 4)	Revised Rate Structure Without Base charges (Report No. PW2015-038)
2015 (Jul-Dec)	\$70.02	\$68.02
2016	\$72.62	\$71.31
2017	\$75.23	\$73.29
2018	\$77.86	\$75.30
2019	\$79.76	\$76.87
2020	\$81.69	\$78.47
2021	\$83.53	\$80.02
2022	\$85.52	\$81.69
2023	\$87.45	\$83.31
2024	\$89.34	\$84.91

Under the revised rate structure, while the overall revenue generated is the same, the relative contribution by industrial and commercial (high water users) customers will be more compared to the residential customers.

The pie charts below in Figures 1 and 2 show that in using the revised rates (without a base charge), there is a shift in financial burden for water and wastewater to the industrial, commercial and institutional (ICI) sector. For the Water portion, there is a 4% shift to ICI and for the wastewater revenue, the shift is 8% to the ICI sector.

Figure 1: Comparison of Proportion of Water Revenue from Industrial/Commercial/ Industrial and Residential Users With and Without Base Charges

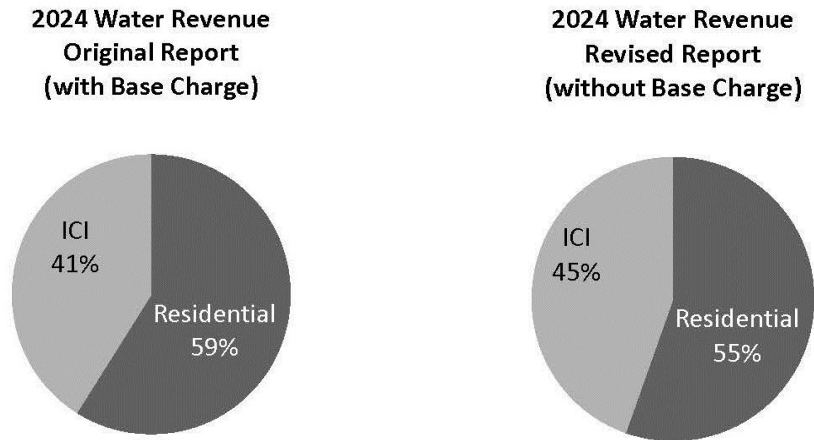


Figure 2: Comparison of Proportion of Wastewater Revenue from Industrial/Commercial/Industrial and Residential Users With and Without Base Charges

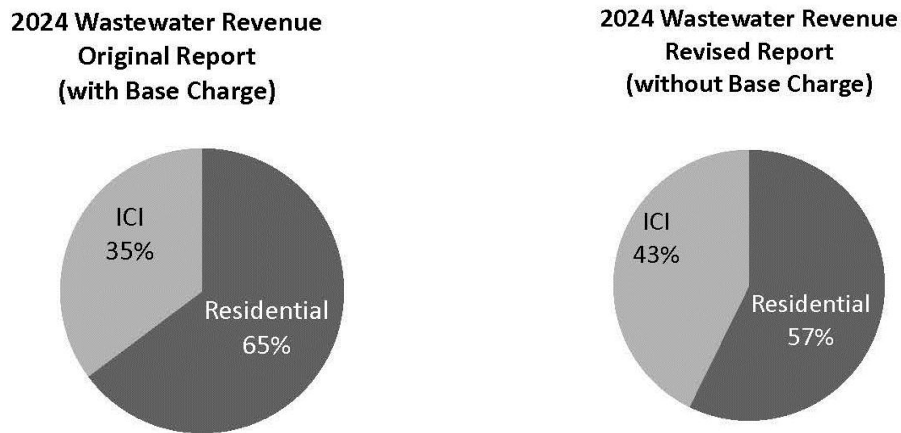


Table 6 provides the average residential monthly bill and the percentage increase to the bill from 2016 to 2024. The average monthly residential bill combined for water and wastewater increases around 2.81% per year on average for the forecast period. In 2016, the combined monthly bill is proposed to increase by \$3.29 (4.9%) over the 2015 total monthly bill. From 2017 to 2024, the average year-to-year increase to the monthly bill is \$1.70.

	2014	2015 (Jan-Jun)	2015 (Jul-Dec)	2016	2017	2018	2019	2020	2021	2022	2023	2024
Water												
Monthly Base Charge - 15mm - (5/8")	9.04	9.22	9.22	9.22	9.22	9.22	9.22	9.22	9.22	9.22	9.22	9.22
Volume Charge (per m ³)	1.75	1.81	1.81	1.92	1.99	2.07	2.12	2.17	2.22	2.27	2.32	2.38
Average Monthly Volume (m ³)	16.7	16.7	16.7	16.7	16.7	16.7	16.7	16.7	16.7	16.7	16.7	16.7
Average Monthly Volume Bill	29.13	30.13	30.13	31.95	33.19	34.45	35.26	36.10	36.96	37.83	38.72	39.62
Total Monthly Water Bill	38.17	39.35	39.35	41.17	42.41	43.67	44.48	45.32	46.18	47.05	47.94	48.84
Percentage Increase in Monthly Water Bill		3.1%	0.0%	4.6%	3.0%	3.0%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%

Wastewater												
Volume Charge (per m ³)	1.69	1.72	1.72	1.81	1.85	1.90	1.94	1.99	2.03	2.08	2.12	2.16
Average Monthly Volume (m ³)	17	17	17	17	17	17	17	17	17	17	17	17
Average Monthly Volume Bill	28.13	28.67	28.67	30.14	30.88	31.63	32.39	33.15	33.84	34.64	35.38	36.07
Total Monthly Wastewater Bill	28.13	28.67	28.67	30.14	30.88	31.63	32.39	33.15	33.84	34.64	35.38	36.07
Percentage Increase in Monthly Wastewater Bill		1.9%	0.0%	5.1%	2.5%	2.4%	2.4%	2.4%	2.1%	2.4%	2.1%	2.0%

Total Average Monthly Residential Water and Wastewater Bill (\$)	66.30	68.02	68.02	71.31	73.29	75.30	76.87	78.47	80.02	81.69	83.31	84.91
Percentage Increase in Monthly Combined Bill		2.6%	0.0%	4.9%	2.8%	2.7%	2.1%	2.1%	2.0%	2.1%	2.0%	1.9%
Total Increase to Monthly Average Residential Water and Wastewater Bill		\$1.72	\$0.00	\$3.30	\$1.98	\$2.01	\$1.58	\$1.60	\$1.55	\$1.67	\$1.63	\$1.60

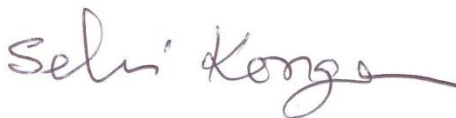
9.0 FINANCIAL IMPLICATIONS

To meet the regulatory requirements, the costs for water and wastewater systems will be recovered based on full-cost accounting principles. However, the proposed rate structure provides only for 93% of the water and 72% of the wastewater annual lifecycle replacement costs at the end of the forecast period.

10.0 CONCLUSION

During the period from 2011 to 2014, the water and wastewater rates were increased by 5% per year and 6% per year, respectively. On average, the rate increase proposed for 2015-2024 is lower than in the past, and it is close to annual inflation. It is to be noted that by removing the base charge as directed by Council, there is a shift of the financial burden to the industrial, commercial and institutional (ICI) sector.

The Rate Study has been prepared using fiscally responsible practices that are in line with the current Provincial Regulations and proposes a reasonable level of water and wastewater rate increases. The recommended rate structure allows the City to move towards sustainable funding for maintaining safe and reliable water and wastewater systems. It is recommended that Council approve, in principle, the 2016-2024 rate structure proposed and recommended in the report for water and wastewater.



Selvi Kongara, P.Eng.,
Director of Environmental Services

Russ Loukes, P.Eng.,
Acting General Manager,
Public Works Commission.

In adopting this report, is a by-law or agreement required? If so, it should be referenced in the recommendation section.

- By-law required yes no
- Agreement(s) or other documents to be signed by Mayor and/or City Clerk yes no
- Is the necessary by-law or agreement being sent concurrently to Council? yes no