



Corporate Report Budget Standing Committee

Report from: Financial Management Services, Director

Report Date: January 10, 2022

Meeting Date: January 24, 2022

Report Number: FMS-B002-2022

File: 18.45.259

Subject: 2022 Water and Wastewater Budget and Associated Rates

Recommendation

That the Budget Standing Committee refer the 2022 Water and Wastewater Budget and Associated Rates, as outlined in Appendix 1, to Council for consideration after the public meeting scheduled for February 14, 2022, for which notice will be duly given; and

That, if approved, the 2022 water and wastewater rates be effective for billing periods ending on or after March 1, 2022.

Summary

This report seeks approval for the 2022 Water and Wastewater Budget and associated rates. The report is organized with the following sections:

1. Proposed Rates
2. Fixed Costs
3. Sustainable Funding of Infrastructure
 - a. Watermain replacement
 - b. Sanitary sewer replacement
4. Regional costs: (a) Regional water (b) Regional Wastewater
5. Forecasting Water Volumes
6. Financial Stability of the Wastewater system
7. Operational Challenges and Required Change
8. Bi-Monthly Billing Update

Background

The Water and Wastewater budget is fully funded by user rates with no reliance on property taxes. The water and wastewater rates fund both operating and capital expenditures.

Report

1. 2022 Water and Wastewater Proposed Rates

General Rate Structure

The City’s current water and wastewater structure is a combination of fixed and volumetric charges. Each customer account is charged a fixed rate for water and wastewater. In addition, the customer is billed volumetric rates for water and wastewater based on the amount of water used.

Recommended Water and Wastewater Rates

For 2022, staff are proposing an increase to both the water and wastewater volumetric rates as well as the water and wastewater fixed rates.

Staff recommend that effective March 1, 2022, the rate structure for recovering water and wastewater costs be the following:

	2022	2021
Water		
Fixed (annual)	\$183	\$177
Volumetric (per cm)	\$1.424	\$1.372
Wastewater		
Fixed (annual)	\$153	\$135
Volumetric (per cm)	\$2.147	\$2.027

The proposed rates will result in an annual increase to the average ratepayer (at annual consumption levels of 170 cubic metres) of \$53.24 – a 5.98% increase. See Appendix 2 for further details on the calculations.

Description	Amount
Water Rates	\$14.84
Wastewater Rates	\$38.40
Total Increase - \$	\$53.24
Total Increase - %	5.98%

2. The Fixed Charge – Water and Wastewater

In the City’s current water and wastewater rate structure, the fixed charge is defined to be the cost of the City’s annual replacement programs and fixed regional charges. For each of the systems these costs are calculated to be:

	Water Budget		Wastewater Budget	
	2022	2021	2022	2021
Improvement program	\$5,332,608	\$4,524,250	\$1,849,854	\$2,418,000
Debt Charges	439,655	395,165	767,081	767,390
Total City Fixed Charges	\$5,772,263	\$4,919,415	\$2,616,935	\$3,185,390
Regional Fixed Charges	3,151,522	3,097,272	24,454,734	22,996,058
Total Fixed Costs	\$8,923,785	\$8,016,687	\$27,071,669	\$26,181,448
Change From 2021	\$907,098		\$890,221	
Calculation of Recovery Rates:				
Based on 42,450 customers	\$210	\$189	\$638	\$617
2022 Proposed/2021 Actual	\$183	\$177	\$153	\$135

As the chart indicates, to fully fund the calculated fixed component of the City’s rate structure should be \$210 for Water and \$638 for Wastewater. While staff does not propose that the 2022 rates be increased in one year to fully recover these costs, additional future increases over time need to be considered. The increase in the fixed water and wastewater rates in 2022 will result in the recovery of a larger portion of the fixed costs to operate the water and wastewater systems. With the increasing cost of construction, especially related to underground services, there will be the need to increase fixed costs just to complete the same level of infrastructure work.

During the Region’s 2021 budget process, the Region deferred the budget request for a 5.15% increase that supports the Regional Council approved Safe Drinking Water Act (SDWA) Financial Plan. Instead, the Region implemented one-time mitigations in 2021 (such as: deferrals of half the 2021 CSO program, student positions, Water wagon / festival, and conferences).

The Region resumed in 2022 the budget request of a 5.15% increase as per their SDWA Financial Plan.

3. Sustainable Funding of Infrastructure

As part of the 2022 Capital budget approval by Council on November 29, 2021, the 2022 Water and Wastewater funding for watermain and sanitary sewer infrastructure replacement were included. Therefore, the capital project portion of the 2022 water and wastewater rates has received Council approval. This report and budget is to obtain Council approval of the rates to fund both the capital projects and operational functions for 2022.

a. Watermain Replacement Program

Approved with the 2022 Capital budget was \$4,259,378¹ for the replacement of watermains and \$1,073,230² for water capital investment (capital out of revenue). This infrastructure cost is funded by the water rates. Details of the watermain replacements in summary can be found in the 2022 Capital Budget under Tab W.

b. Sanitary Sewer Replacement Program

Approved with the 2022 Capital budget was \$1,821,954³ for sanitary sewer infrastructure replacements and \$27,900⁴ for sanitary sewer capital investment (capital out of revenue). This infrastructure is funded by the wastewater rates. Details of the sewer replacements in summary can be found in the 2022 Capital Budget under Tab W.

The table below summarizes the total contribution to capital projects including water and wastewater infrastructure replacements and capital investments.

	2022	2021	\$ Change	% Change
Water	\$5,332,608	\$4,524,250	\$808,358	17.87%
Wastewater	1,849,854	2,418,000	-568,146	-23.50%
Total	\$7,182,462	\$6,942,250	\$240,212	3.46%

In 2019, Council approved a 10-Year Financial Plan for Water and Wastewater (The Water / Wastewater Plan). The Plan includes year over year increases for investment in capital infrastructure, which will reduce the funding gap for these asset classes. As a result of the financial and operational challenges facing the City caused by COVID-19 pandemic, the 2022 budget and 2023-2026 forecast reflects a reallocation of the investment in water and wastewater systems (water distribution system, sanitary sewer collection systems and pollution control). Increases in spending in the years of 2024 through 2026 result in the same net investment in infrastructure, over the next 6 years. However, in the short term the spending deferrals will continue to contribute to the widening infrastructure gap.

4. Regional Costs

The City and Region are responsible for various aspects of water distribution. The Region is responsible for supply and treatment including all reservoirs and water towers. In general, watermains sixteen inches (400 mm) in diameter or larger are a regional responsibility and the City is responsible for the smaller distribution watermains. There is also a shared responsibility for collection and treatment of wastewater between the City and the Region. The Region is responsible for treatment facilities, pumping stations, sludge disposal and sewers with flows of six cubic feet per second or greater or sewers spanning a municipal boundary. The City is responsible for the remaining wastewater pipelines.

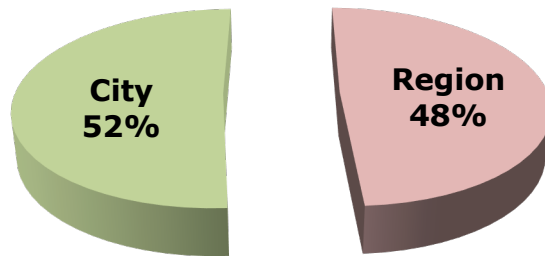
¹ Details can be found in 2022 Capital Budget under Tabs G and K

² Details can be found in 2022 Capital Budget under Tab G and K

³ Details can be found in 2022 Capital Budget under Tabs E, K, and F

⁴ Details can be found in 2022 Capital Budget under Tab K

Figure 1 – Region vs. City Water Expenditure



Determination of St. Catharines’ Share of the Regional Costs

In effect, the Region is the service provider to the City, supplying potable water and treatment of wastewater. The cost to provide the service to lower-tier municipalities is part of the Region’s budget and each municipality is charged for its respective portion. Based on the Region’s Safe Drinking Water Act (SDWA) Financial Plan, the Region has committed to increasing its water and wastewater rates annually for the next several years to ensure program sustainability.

The calculation of each lower municipality’s share is dependent upon the municipality’s usage of each system (i.e., cubic metres of water purchased, or cubic metres of wastewater treated). This means St. Catharines’ share of the total budget may change over time to align with the City’s water purchases and wastewater flows.

a. Regional Water Rates

The Region charges the lower tier municipalities for the supply of potable water using both a fixed monthly charge and a variable rate per cubic metre. The rates for 2022 (with comparable 2021 rates) are as follows:

Water	2022	2021	% increase (decrease)
Variable rate per cm	\$0.6360	\$0.6112	4.06%
Fixed Monthly Charge	\$262,627	\$258,106	1.75%

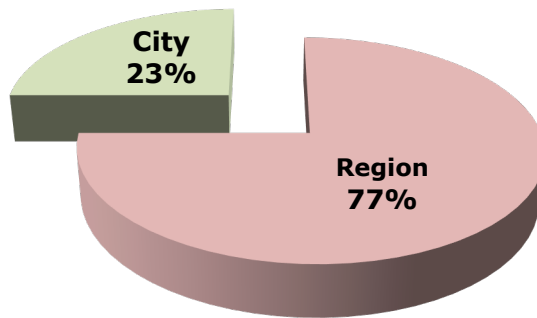
The above rates result in the City’s 2022 draft Water budget including Regional costs of \$12,373,522, an increase of \$108,250 (0.88%) from 2021. As \$9,222,000 of these costs are related to the variable rate, this provides some protection to the City should the water consumption decline in 2022. The fixed annual charge of \$3,151,522 will be payable to the Region regardless of City water consumption.

b. Regional Wastewater Rates

The Regional wastewater charges contain no variable rates. The rates for 2022 (with comparable 2021 rates) are as follows:

Wastewater	2022	2021	% increase
Fixed Monthly Charge	\$2,037,895	\$1,916,338	6.34%

Figure 2 – Region vs. City Wastewater Costs

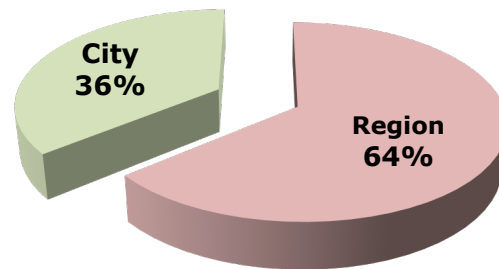


The Region has increased the overall wastewater charges to the lower-tier municipalities by 5.84% for 2022 (6.34% increase for City of St. Catharines).

2022 Water and Wastewater Summary of Expenditures

Expenditure	Water		Wastewater	
City Operating Costs	7,692,288	29.77%	4,738,879	14.90%
Water/Sewer Improvement Program	4,259,378	16.48%	1,821,954	5.73%
City Debentures	439,655	1.70%	767,081	2.41%
Capital Out of Revenue	1,073,230	4.15%	27,900	0.09%
Region	12,373,522	47.89%	24,454,734	76.88%
Total	25,838,073	100.00%	31,810,548	100.00%
Region Controlled Costs	12,373,522	47.89%	24,454,734	76.88%
City Controlled Costs	13,464,551	52.11%	7,355,814	23.12%
Total	25,838,073	100.00%	31,810,548	100.00%

Staff recommends that the 2022 water and wastewater budget increases by 5.98% to the average ratepayer to both meet the Region’s annual prescribed increase and to support the City’s water and wastewater operations as well as continuing to focus on reducing the City’s infrastructure deficit.

Figure 3 – Total Region vs. Total City Water and Wastewater Costs

The details of the water and wastewater expenditures are available in Appendix 1.

5. Forecasting Water Volumes

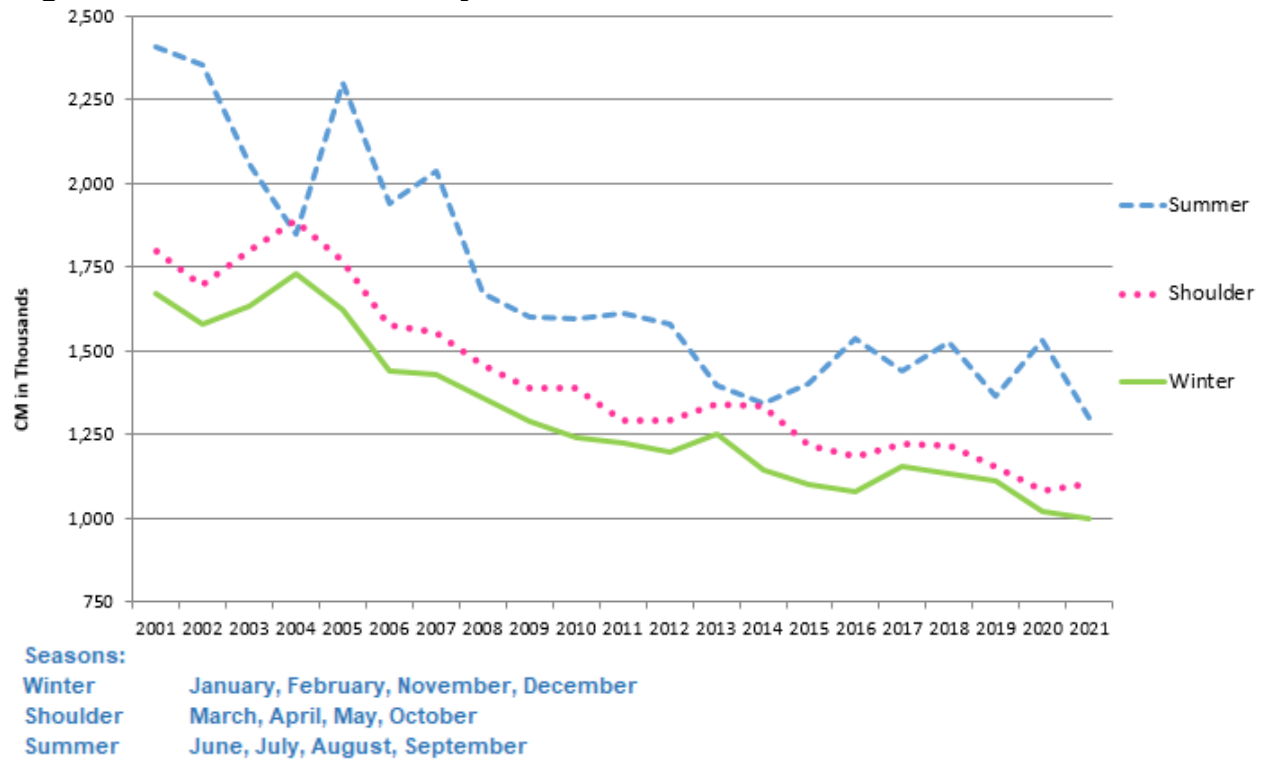
An analysis of water purchases has shown conservation efforts by St. Catharine's water customers have resulted in significant reduction in cubic metres of water purchased from the Region. Since 2000 annual water purchases have decreased 41% from 22,795,000 cubic metres annually to 13,600,140 cubic metres in 2021. Each year staff review the history of water purchase volume and utilize that information to forecast what future volumes will be.

Over the past years there has been concern as to the determination of how much further the volumes can decline. In effect, are we nearing the end of volume decreases, or is there a significant decline still to come? In the process of this estimation, staff analyzed the water purchase based on three separate "seasons" of the year: **summer** – June to September; **winter** – November to February; **shoulder months** – March to May and October. The global pandemic has also had an impact on the city's water purchases in the summer and winter seasons.

Figure 4 clearly depicts the average monthly summer consumption (the blue or top line) as the most volatile line. It fluctuates significantly each year. While the volume rebounded in 2016, in 2017 it declined and in 2018 rebounded again. The 2019 year saw another year of decline due to the extremely wet spring. The 2020 year saw a rebound in volume during the summer months due to a dry summer season, this was a similar level that we saw in 2018. In 2021 the summer months saw another decline. The summer monthly consumption is still higher than either of the other "seasons" which are less volatile.

Reviewing 2021 water purchases, it looks as if water consumption may be levelling off. The 2021 purchases from the Region totaled 13.60 million cubic metres of water. In 2020, the City purchased 14.55 million cubic metres of water, in 2019 the City purchased 14.53 million cubic metres of water, in 2018 the City purchased 15.5 million cubic metres, and in 2017 purchased 15.25 million cubic meters. Staff estimate water purchases for 2022 to be more in line with the three- and five-year average and slightly lower than the 2020 level of 14.55 million. With the changes to our climate, adaptation planning will be needed to manage the risks.

Figure 4 – Water Purchases by Season



St. Catharines continues to experience climate related events. These events include extreme winds / fallen trees (2011), severe rainstorms / basement flooding (2014, 2017, 2018 and 2019), extreme cold / frozen water services (2015 and 2019) and extreme dry periods / fire ban (2016). Additionally, record high water levels in Lake Ontario in the spring and summer of 2017 and again in 2019 resulted in the closure of Lakeside Park.

2021 has seen less precipitation than typically expected based off the long-term “climate normal” (1981-2010) with the total precipitation in 2021 being 555 millimetres (mm) vs the climate normal of 888.1 mm (37.5% less). While there is a general correlation between rainfall and the number of extraneous flows getting into the sewer system (through inflow and infiltration) there are a number of factors that influence this including the type of precipitation, the amount and location of rainfall, wind direction, soil moisture, etc.

The last two years are unusually difficult to analyze as some of the local weather stations have significant data gaps (likely related to the pandemic) and the pandemic has also likely resulted in significant changes to wastewater patterns (e.g. restaurant capacity restrictions, people working from home, educational institutions moving on-line etc.).

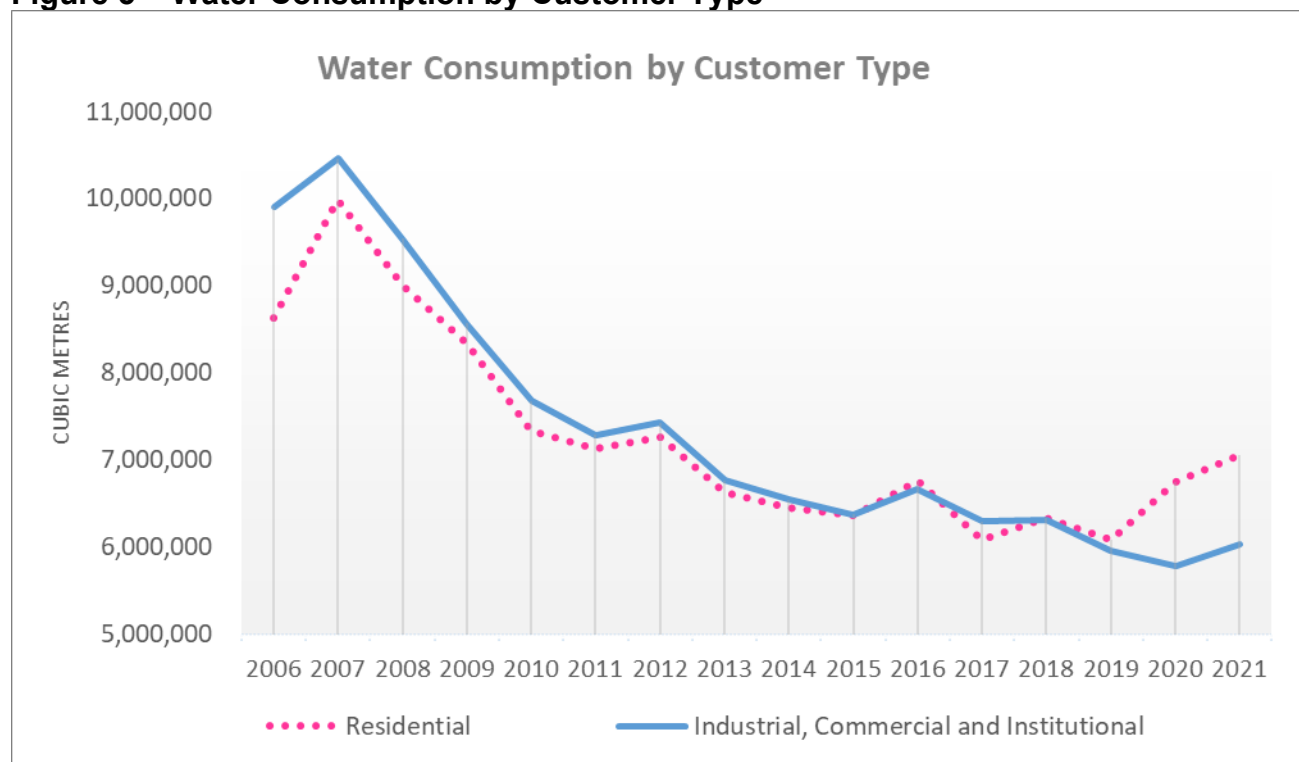
2021 Weather Event Highlights:

- February 15 - a winter storm warning was in affect for all of Niagara
- March 26 - all of Niagara was under a windstorm warning

- Heat warnings in June and July with one heat warning lasting 3 days in August fuelled numerous severe rain and thunderstorm warnings throughout the summer months
- A wind warning was issued and experienced in December 2021
- In 2021 there were 28 weather warnings issued by Environment Canada, with Severe Thunderstorm Warnings as the highest contributing event

Climate projections are long term changes in average conditions, but there will be significant variation from to year-to-year. In addition, the Great Lakes area is especially uncertain with respect to future rainfall / precipitation patterns. The impact on the City’s water consumption and potential changes required for annual forecasts will be closely monitored by staff, as there will be financial impacts on the water and wastewater rates. By continuing to focus on the water and wastewater infrastructure replacements as identified in the 10-Year Financial Plan for Water / Wastewater (2019-2029) approved by Council in 2019 assists in making the City’s infrastructure more resilient and better able to handle these severe and unpredictable events.

Figure 5 – Water Consumption by Customer Type



As shown in Figure 5, since 2007 the City has seen a relatively steady decline in consumption (in cubic metres) of both the Residential and Industrial, Commercial and Institutional (ICI) customers. In 2011, ICI sector consumption began to move closer to the Residential sector until 2015 and 2016 where the ICI transitioned to below the Residential sector. The 2018 year saw Residential and ICI sectors equal. In 2019 are declines in both Residential and ICI consumptions from 2018 due to heavy rainfalls in spring / summer 2019, with Residential sector above the ICI sector similar to 2015 and

2016. The 2020 year saw a significant increase in residential consumptions over ICI, this can be attributed to a significant portion of the population working from home as guided by the provincial government in late March 2020. The global pandemic through 2021 has continued to be the main driver of the increase of residential consumption over ICI, this trend is expected to continue to affect the 2022 consumption levels.

6. Financial Stability of the Wastewater System

A significant portion of the costs of the wastewater system are fixed. While the wastewater rates include a fixed portion, the majority of the revenue is collected through a variable rate based on water purchased by the customer.

When most of a rate structure consists of a variable rate, periods of declining consumption result in the reduction of the overall revenue. Consequently, the revenue generated does not cover the cost of the system. Details are shown in Table 2 below.

Wastewater Annual Recovery / (Loss)

In millions of \$	2021 (est.)**	2020	2019	2018	2017	2016	2015	2014
Revenue	\$30.12	\$28.68	\$26.69	\$26.45	\$26.64	\$27.38	\$25.71	\$25.80
Expenditures	\$30.51	\$29.33	\$27.58	\$25.58	\$25.66	\$26.02	\$25.18	\$25.53
Recovery / (Loss)	<u>(\$0.38)</u>	<u>(\$0.65)</u>	<u>(\$0.90)</u>	<u>\$0.87</u>	<u>\$0.98</u>	<u>\$1.36</u>	<u>\$0.53</u>	<u>\$0.27</u>
Accumulated Surplus / (Deficit)	(\$0.60)	(\$0.22)	\$0.44	\$1.34	\$0.47	(\$0.51)	(\$1.87)	(\$2.40)

** At the end of 2021 it is estimated that wastewater system will have a deficit of \$0.60 million. This trend is partially driving the need for the increase in the wastewater rates in 2022. As a significant portion of wastewater costs are fixed, in future years increases in the fixed wastewater fees will be important to reduce the wastewater system deficits and to have the fully funded wastewater budgets.

In effect, the water rates had been subsidizing the operations of the wastewater system. While many of the City's customers have both water and wastewater charges on their bills, there are customers who do not. As per guidelines from the Province, rates should be structured so that both systems maintain their own financial stability through separate rates.

7. Operational Challenges and Required Change

The following Operational Challenges and changes required were identified through the 2021 budget process, however due to the COVID-19 pandemic uncertainty and budget directives these operational challenges still remain and will need to be addressed in 2022 and future years.

Currently our existing water and wastewater infrastructure systems are experiencing two very distinct challenges, that all systems experience to some degree. With regards to the wastewater collection system, it is subject to “infiltration” or entry of water that does not require treatment. This needs to be kept out of the system to reduce sewer backups, treatment costs and limit the size of capital infrastructure replacements and associated costs. “Infiltration” is the result of a number of things including past practices (i.e. connection of foundation drains, etc.) and leakage of groundwater into the system (i.e. at joints, cracks, etc.) as well as, rainwater entering through the leveling rings just below the metal surface lids.

With regards to the water distribution system, all systems experienced unaccounted for water, or water that is produced / treated and cannot be billed. This is a result of meter accuracy limits (which have been improved with the implementation of the AMR project and the upgraded residential meters installed), bypassing of meters, unbilled water from hydrants (i.e., construction, pool filling, etc.) and illegal connections. In addition, “water loss” occurs from leakage in older watermains (joints, small hole in main pipes); leaking service connections and valves.

Understanding the specific sources and extent of infiltration and water loss, as they apply to a system, and shifting maintenance activities to focus on reducing these, has a number of environmental benefits, and can significantly reduce the long-term costs associated with treatment charges that the City pays to the Region. It also reduces the cost of future capital improvements and can extend the useful life of specific water and wastewater infrastructure.

To date, the city has undertaken some concerted projects / programs to reduce both infiltration and water loss, however an ongoing proactive maintenance program is required. Presently, water and wastewater operations have remained largely reactive; with primary focus on responding to emergencies (i.e., break repairs, blocked basement drains, etc.) and installation of services for new buildings. While these are all needed services, it does not allow resources to be dedicated to any proactive maintenance approach.

As the first step in moving from a reactive to proactive operation model, staff planned in 2021 to undertake a Service Level Review to properly document our current state. Due to COVID-19 the progress of this review has been delayed and staff will continue to review in 2022. This information will be brought to Council in a separate report. From this review, Municipal Works will be developing recommendations on how current service delivery should be modified. With a rationalized service delivery model, our goal is to reallocate existing resources to a proactive maintenance program while providing a reliable and consistent approach to emergencies.

8. Bi-Monthly Billing Update

This section provides details of the changes implemented to the water billing cycle. Starting in December 2021, the City of St. Catharines began to issue water bills bi-monthly. Previously, water was billed three times a year, following a four-month billing cycle. The implementation of Automated Meter Reading (AMR) has allowed the City to adjust the frequency of billing water accounts.

It was anticipated that the billings would be able to transition to bi-monthly billing in Q2 of 2021 as previously reported. There are numerous logistics that were required to implement this change including an upgrade to our existing water billing software system to improve security and to move to the Cloud platform. Alignment with the existing Pre-Authorized Payment Plans (PAP) required alterations in phases for the move to the bi-monthly billing cycle to occur. With the timing of the monthly equal billing plan equalization, which occurs between May 15 to September 1, the earliest the move to bi-monthly billing could occur is mid-September. If the transition was postponed from December 2021, it could not occur until September of 2022. Therefore, staff moved forward in December 2021 with this billing change as the benefits to the ratepayer outweighed waiting another year. City staff worked with the ratepayers to minimize the impact to them, if this change presented any challenges to them.

Financial Implications

The proposed 2022 water and wastewater rates result in an increase for both water and wastewater rates. For the average ratepayer (at annual consumption levels of 170 cubic metres) they will pay \$943.07. This is an annual increase of 5.98% or \$53.24 over the amount they paid in 2021 of \$889.83. This increase is approximately \$1.02 per week.

In addition, based on the 2019-2029 Water and Wastewater Financial Plan, the 2022 estimated rates totaled an annual bill of \$985.13 or an increase of \$56.25 or 6.1%. The 2022 rates proposed are in line with the forecasted financial plan amount. In future years the City will need to adjust the rate increases as a result of the lower rate increase for the 2021 water and wastewater budget as a COVID pandemic mitigation.

Conclusion

Staff recommends that BSC refer the 2022 water and wastewater rates increase as presented, which represents an annual increase of 5.98% or \$53.24 for the average customer annual consumption of 170 cubic metres, to Council for consideration following a public meeting on February 14, 2022.

Prepared by

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Approved by

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Appendices

Appendix 1 – 2022 Water and Wastewater Budget

Appendix 2 – 2022 Water and Wastewater Annual Bill Change

**City of St Catharines
Water/Wastewater Budget Summary**

	Budget		Actual		
	2022	2021	2020	2019	2018
Reserve at Beginning of Year	4,493,676	5,014,188	5,606,298	5,790,622	3,824,317
Revenues	56,674,292	55,234,088	53,691,259	49,910,249	49,419,991
Less: Region expenditures	36,828,256	35,261,330	33,599,776	31,968,317	30,893,197
Safe Restart Funding	-	-	854,282	-	-
Net Revenue	19,846,036	19,972,758	20,091,484	17,941,932	18,526,793
City Expenditures					
Water Operating costs	7,692,288	7,829,808	6,774,039	6,431,728	6,049,676
Water Debenture debt	439,655	395,165	426,247	526,248	587,027
Water Infrastructure costs	5,332,608	4,524,250	5,952,806	4,326,590	3,673,591
Sewer Operating costs	4,738,879	4,558,657	3,691,226	3,682,153	3,537,749
Sewer Debenture debt	767,081	767,390	775,933	638,818	640,958
Sewer Infrastructure costs	1,849,854	2,418,000	3,063,343	2,520,719	2,071,487
	20,820,365	20,493,270	20,683,594	18,126,256	16,560,488
Annual Surplus/(Deficit)	-974,329	-520,512	-592,111	-184,324	1,966,305
Reserve at End of Year	3,519,347	4,493,676	5,014,188	5,606,298	5,790,622
City total	20,820,365	20,493,270	20,683,594	18,126,256	16,560,488
Region total	36,828,256	35,261,330	33,599,776	31,968,317	30,893,197
	57,648,621	55,754,600	54,283,370	50,094,573	47,453,685
cm - purchased	14,500,000	15,000,000	14,547,750	14,529,849	15,507,748

WATER SYSTEM (515.XXX)

2022 Water Budget Summary

	<u>Dept.</u>	<u>Acct.</u>	<u>Budget</u>		<u>Actual</u>		
			<u>2022</u>	<u>2021</u>	<u>2020</u>	<u>2019</u>	<u>2018</u>
<u>Operating Expenditures:</u>							
General Administration	FMS	105	1,472,931	1,354,717	1,078,214	1,044,540	1,044,900
Engineering Overhead	EFES	110	1,974,474	2,120,018	1,848,411	1,754,004	1,578,150
Mains, Valves, Hydrants	EFES	115	2,358,750	2,282,364	2,045,707	1,844,896	1,899,744
Water service lines	EFES	120	595,982	582,732	535,502	520,206	549,495
Meters	EFES	125	657,047	845,627	710,303	786,722	801,808
New Mains, Valves, Hydrants	EFES	135	154,104	152,350	93,178	85,411	138,264
Services Rendered	EFES	145	0	0	-34,988	-17,051	37,315
Cost Allocations			479,000	492,000	497,713	413,000	
Total Operating Expenditures:			<u>7,692,288</u>	<u>7,829,808</u>	<u>6,774,039</u>	<u>6,431,728</u>	<u>6,049,676</u>
<u>Capital Expenditures:</u>							
Water Capital out of Revenue	FMS	190	1,073,230	325,000	425,250	86,000	0
Debenture Debt	FMS	195	439,655	395,165	426,247	526,248	587,027
Water Improvement Program *	EFES	520	4,259,378	4,199,250	5,527,556	4,240,590	3,673,591
Total Capital Expenditures:			<u>5,772,263</u>	<u>4,919,415</u>	<u>6,379,053</u>	<u>4,852,838</u>	<u>4,260,618</u>
Total Water Expenditures			<u>13,464,551</u>	<u>12,749,223</u>	<u>13,153,092</u>	<u>11,284,566</u>	<u>10,310,294</u>

Note: FMS - Financial Management Services
 EFES - Engineering, Facilities and Environmental Services

* - Details of the water improvement program for 2022 are provided in the 2022 Capital budget which was approved by Council on November 15, 2021. For details see under tab G, K, and Q in the 2022 Capital budget

**CITY OF ST. CATHARINES - WATER/WASTEWATER BUDGET
ESTIMATE 2022**

EXPENDITURE ACCOUNT	2022 BUDGET
310.112 <u>WATER/WASTEWATER EQUIPMENT RESERVE:</u>	
OPENING BALANCE	\$674,258
ANNUAL RESERVE PROVISION	100,000
EXPENDITURES, 2022	-168,000
EXPENDITURES, PRIOR YEAR COMMITMENTS *	0
CLOSING BALANCE	\$606,258
 <u>2022 EXPENDITURE DETAILS</u>	
ONE (1) CHEVROLET EXPRESS CARGO 2500 VAN	35,000
ONE (1) GMC SAVANA 3500 CUBE VAN	70,000
ONE (1) LEAK DETECTION EQUIPMENT	9,000
ONE (1) ELECTRIC VALVE TURNER	14,000
TWO (2) REPLACEMENT SEWER CAMERAS	40,000
	\$168,000

* There are no outstanding prior year commitments from this reserve.

Water & Wastewater Vehicle & Equipment Reserve (310.112.000)

**FMS-188-2021
Council Meeting Nov 17, 2021**

Year	Reserve Open Balance	Add: Annual Provision	Add: Proceeds from Auction Sales	Less: Planned Purchase (Full Cost)	Add: Debt Funding Support	Reserve Ending Balance	Purchase Detail
2021	1,286,884	330,000	100,921	(1,043,547)		674,258	Cube van #55, #63, #64; Triaxle dump truck #84; New Tandem dump truck; Sewer flusher/vac combination unit #124
2022	674,258	100,000	5,000	(168,000)		611,258	Chevrolet Express Cargo 2500 Van; GMC Savana 3500 Cube Van; Leak Detection Equipment; Electric Valve Turner; 2 x Replacement Sewer Cameras
2023	611,258	150,000	5,000	(384,000)	320,000	702,258	Ford Transit Connect Van; International 7400 Single Axle Dump Truck (debt funded); Husqvarna FS4800D 30" Road Saw
2024	702,258	150,000	5,000	(94,000)		763,258	Toyota Camry Hybrid; GMC Savana Cargo Van; GMC Terrain
2025	763,258	200,000	5,000	(455,000)		513,258	GMC STV Cube Van (4); Cae 580SN W/T Backhoe
2026	513,258	200,000	5,000	(650,000)	300,000	368,258	Freightliner Single Axle Dump Truck (debt funded); John Deere 310SL Backhoe (2);
2027	368,258	225,000	5,000	-		598,258	
2028	598,258	250,000	5,000	(276,000)		577,258	Ford E350 Cube Van; GMC STV Cube Van (2); GMC Sierra 1/2 Ton Pickup (2)
2029	577,258	250,000	5,000	(382,000)	345,000	795,258	Freightliner Tandem Dump Truck (debt funded); Sullair 185 Compressor
2030	795,258	250,000	5,000	(619,000)		431,258	John Deere 310SL Backhoe; Wachs LX Valve Maintenance Trailer; Ford F250 Crew Cab Pickup (2); GMC STV Cube Van (3)
2031	431,258	275,000	5,000	(545,000)		166,258	Freightliner 114SD Tri-Axle Dump Truck; Freightliner 114SD Tandem Axle Dump Truck

Notes:

1 In 2021 and 2022 budget, capital out of revenue is set at 5% of total capital gross cost in order to relief pressure on the annual operating budget; starting 2023, it is expected to bring it back to 10%.

Report FMS-188-2021 Staff Recommendation:

That Council approve to use debt financing to fund vehicle replacements and purchases across City departments exceeding \$0.3 million to maintain sustainable reserve balance and alleviate pressures on the annual operating and rate budgets.

WASTEWATER SYSTEM

2022 Wastewater Budget Summary

	Dept.	Acct.	Budget		Actual		
			2022	2021	2020	2019	2018
<u>Operating Expenditures:</u>							
Sewers - General	EFES	730.100	742,548	702,881	681,362	532,462	619,953
Sewers - Insurance	FMS	730.105	75,000	75,000	88,258	36,329	28,485
FLAP Program	EFES	732.115	340,611	321,964	338,486	506,518	258,087
Lateral Replacement	EFES	732.100	710,573	712,629	461,147	633,901	665,806
New Laterals	EFES	732.105	0	0	2,453	26,913	32,917
Drain Clearing	EFES	732.110	341,352	328,224	165,078	175,209	179,175
Overhead	EFES	732.190	908,500	943,700	738,905	621,129	635,658
Pollution Control	EFES	735.300	984,428	828,416	641,090	611,719	526,951
Overhead	EFES	735.305	268,867	265,843	241,880	208,973	327,035
Cost Allocations	EFES	731.920/925	367,000	380,000	332,566	329,000	263,682
Total Operating Expenditures:			<u>4,738,879</u>	<u>4,558,657</u>	<u>3,691,225</u>	<u>3,682,153</u>	<u>3,537,749</u>
Debt Service	EFES	731.195	767,081	767,390	775,933	638,818	640,958
Sewer Improvement Program *	EFES	731.100	1,821,954	2,025,000	2,520,343	2,400,719	1,921,487
Capital Out of Revenue *	FMS	735.304	27,900	393,000	543,000	120,000	150,000
Total Capital Expenditures:			<u>2,616,935</u>	<u>3,185,390</u>	<u>3,839,276</u>	<u>3,159,537</u>	<u>2,712,445</u>
Total City Wastewater Expenditures			<u>7,355,814</u>	<u>7,744,047</u>	<u>7,530,501</u>	<u>6,841,690</u>	<u>6,250,194</u>

Note: FMS - Financial Management Services
EFES - Engineering, Facilities and Environmental Services

* - Details of the sewer improvement program for 2022 are provided in the 2022 Capital budget which was approved by Council on November 15, 2021. For details see under tab E, K, and Q in the 2022 Capital budget

WATER, WASTEWATER AND RELATED SERVICE RATES

1. The following rates shall be paid to The Corporation of the City of St. Catharines for the use of water supplied by The Corporation of the City of St. Catharines:

	<u>Current</u> <u>(For 4mo</u> <u>Billing)</u>	<u>Current</u> <u>(Restated for</u> <u>2mo Billing)</u>	<u>Proposed</u> <u>(For 2mo</u> <u>Billing)</u>
(a) <u>Consumption - Cubic Metres</u> (For each four month billing period)			
Customer Charge	\$59.00	\$29.50	\$30.50
Consumption Charge - per cubic metre	1.372	1.372	1.424
*Note: Large Industrial Users are billed monthly			
Water meter size of 1" or greater will be subject to a water meter equivalency charge when calculating the Customer Charge. Exemption: Single Family Residential classification. See (b) below.			
(b) <u>Meter Equivalency</u>			
Water meter size of 1" or greater will be subject to a water meter equivalency charge when calculating the Customer Charge. Exemption: Single Family Residential classification.			
1" meter = 1.4 meter equivalency units			
1 1/2" meter = 1.8 meter equivalency units			
2" meter = 2.9 meter equivalency units			
3" meter = 11 meter equivalency units			
4" meter = 14 meter equivalency units			
* 6" meter = 21 meter equivalency units			
* >6" meter = 21 meter equivalency units			
* Note: Where a single 6" meter or greater is installed for the purpose of additional fire protection, the multiplier equivalency shall be discounted to 50%.			
(c) <u>Flat Rates</u> (For each four month billing period)			
Per Dwelling unit	\$175.00	\$87.50	
Note: Where more than 20 units are being constructed, the maximum number of units charged is 20.			
(d) <u>Estimated Billing</u>			
Where consumption and/or Flat Rate does not apply, estimates are based on previous actual readings. In the absence of previous actual readings, amount to be determined at the discretion of the Treasurer.			
(e) <u>Rates for Services Outside City</u> (For each four month billing period)			
Multiple of Regular Rate	2X	2X	2X
Customer Charge	\$118.00	\$59.00	\$61.00
Consumption Charge - per cubic metre	2.744	2.744	2.848
(f) <u>Bulk Water</u> (Key Pad Operated)			
Multiple of Regular Rate	2X	2X	2X
Per cubic metre	\$2.744	\$2.744	\$2.848
(g) <u>Water Under Construction</u>			
First four month period Per sq. ft. Water Increase 2017 1.22 %, 2018 1.64%, 2019 4.50%, 2020 7.51% increase, 2021 1.85% increase, 2022 5.98% Increase	\$0.030	\$0.030	\$0.032
Per sq. m.	0.326	0.326	0.332

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RESTATED

	<u>Current</u> <u>(For 4mo</u> <u>Billing)</u>	<u>Current</u> <u>(Restated for</u> <u>2mo Billing)</u>	<u>Proposed</u> <u>(For 2mo</u> <u>Billing)</u>
Next Flat Rate per dwelling unit for each four month period until meter is installed	\$175.00	\$87.50	
If there are extenuating circumstances or if large Industrial/Commercial building, "Next Flat Rate" to be determined at the discretion of the Treasurer.			
2. The following rates shall be paid to The Corporation of the City of St. Catharines for the use of water related services supplied by The Corporation of the City of St. Catharines:			
(a) <u>METER RENTALS</u> (Annually)			
<u>Meter Size</u>			
*16mm (5/8") Displacement	\$19.00	\$19.00	
*16mm (5/8")SR II Displacement with ECR	\$35.00	\$35.00	
*16mm (5/8") Accustream/Transmitter	\$40.00	\$40.00	
*16mm (5/8") IPERL/Transmitter	\$45.00	\$45.00	
19mm (3/4") Displacement	\$25.00	\$25.00	
19mm (3/4")SR II Displacement with ECR	\$41.00	\$41.00	
19mm (3/4") Accustream/Transmitter	\$46.00	\$46.00	
19mm (3/4") IPERL/Transmitter	\$50.00	\$50.00	
25mm (1") Displacement	\$29.00	\$29.00	
25mm (1") SR II Displacement with ECR	\$46.00	\$46.00	
25mm (1") Accustream Transmitter	\$51.00	\$51.00	
25mm (1") IPERL/Transmitter	\$55.00	\$55.00	
38mm (1-1/2") Displacement	\$82.00	\$82.00	
38mm (1-1/2") Displacement with ECR	\$115.00	\$115.00	
38mm (1-1/2") Displacement /ECR/ Transmitter	\$120.00	\$120.00	
38mm(1-1/2") Turbine	\$111.00	\$111.00	
38mm(1-1/2") Turbine/Transmitter	\$116.00	\$116.00	
38mm (1 1/2") OMNI C2 Compound	\$122.00	\$122.00	\$140.00
38mm (1 1/2") OMNI R2 Residential	\$75.00	\$75.00	\$100.00
38mm (1-1/2") OMNI T2 Turbine	\$96.00	\$96.00	
50mm(2") Displacement	\$92.00	\$92.00	
50mm(2") Displacement with ECR	\$128.00	\$128.00	
50mm(2") Displacement-ECR/Transmitter	\$133.00	\$133.00	

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	<u>Current</u> <u>(For 4mo</u> <u>Billing)</u>	<u>Current</u> <u>(Restated for</u> <u>2mo Billing)</u>	<u>Proposed</u> <u>(For 2mo</u> <u>Billing)</u>
50mm (2") Compound	\$96.00	\$96.00	
50mm (2") Compound/Transmitter	\$101.00	\$101.00	
50mm (2") Turbine	\$114.00	\$114.00	
50mm (2") Turbine/Transmitter	\$119.00	\$119.00	
50mm (2") OMNI C2 Compound	\$150.00	\$150.00	
50mm (2") OMNI C2 Compound/Trans	\$0.00	\$0.00	\$180.00
50mm (2") OMNI R2 Residential	\$80.00	\$80.00	
50mm (2") OMNI T2 Turbine	\$115.00	\$115.00	
75mm (3") Compound	\$418.00	\$418.00	
75mm (3") Compound/Transmitter	\$423.00	\$423.00	
75mm (3") Turbine	\$375.00	\$375.00	
75mm (3") Turbine/Transmitter	\$380.00	\$380.00	
75mm (3") OMNI C2 Compound	\$402.00	\$402.00	
75mm (3") OMNI T2 Turbine	\$375.00	\$375.00	
100mm (4") Compound	\$498.00	\$498.00	
100mm (4") Compound/Transmitter	\$503.00	\$503.00	
100mm (4") Turbine	\$475.00	\$475.00	
100mm (4") Turbine/Transmitter	\$480.00	\$480.00	
100mm (4") OMNI C2 Compound	\$488.00	\$488.00	
100mm (4") OMNI F2 Fire Assembly	\$798.00	\$798.00	
100mm (4") OMNI T2 Turbine	\$475.00	\$475.00	
150mm (6") Compound	\$671.00	\$671.00	
150mm (6") Compound/Transmitter	\$676.00	\$676.00	
150mm (6") Turbine	\$587.00	\$587.00	
150mm (6") Turbine/Transmitter	\$592.00	\$592.00	
150mm (6") Fire Assembly	\$900.00	\$900.00	
150mm (6") Fire Assembly /Transmitter	\$905.00	\$905.00	
150mm (6") OMNI C2 Compound	\$671.00	\$671.00	
150mm (6") OMNI F2 Fire Assembly	\$980.00	\$980.00	
150mm (6") OMNI F2 Fire Assembly/Trans	\$0.00	\$0.00	\$1,000.00

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	<u>Current</u> <u>(For 4mo</u> <u>Billing)</u>	<u>Current</u> <u>(Restated for</u> <u>2mo Billing)</u>	<u>Proposed</u> <u>(For 2mo</u> <u>Billing)</u>
150mm (6") OMNI T2 Turbine	\$587.00	\$587.00	
200mm (8") Fire Assembly	\$1,340.00	\$1,340.00	
200mm (8") Fire Assembly /Transmitter	\$1,345.00	\$1,345.00	
200mm (8") Turbine	\$665.00	\$665.00	
200mm (8") Turbine/Transmitter	\$670.00	\$670.00	
200mm (8") OMNI C2 Compound	\$930.00	\$930.00	
200mm (8") OMNI F2 Fire Assembly	\$1,350.00	\$1,350.00	\$1,400.00
200mm (8") OMNI T2 Turbine	\$830.00	\$830.00	
250mm (10") Fire Assembly	\$1,510.00	\$1,510.00	\$1,750.00
250mm (10") Fire Assembly/Transmitter	\$1,515.00	\$1,515.00	
250mm (10")Turbine	\$900.00	\$900.00	
250mm (10")Turbine/Transmitter	\$905.00	\$905.00	
250mm (10") OMNI C2 Compound	\$1,125.00	\$1,125.00	
250mm (10")OMNI F2 Fire Assembly	\$1,810.00	\$1,810.00	\$1,950.00
250mm (10") T2 OMNI Turbine	\$1,000.00	\$1,000.00	

* NOTE: No charge for 16mm (5/8") meter unless installed outside the City.

Where meter type consists of two meters combined, one rental rate is applicable, based on the predominant use of the meter.

(a)(i) METER PITS (CHAMBER) RENTALS (Annually)

Meter Size

16mm (5/8")	\$74.00	\$74.00	\$90.00
19mm (3/4")	\$76.00	\$76.00	\$77.00
25mm (1")	\$84.00	\$84.00	\$106.00
38mm (1-1/2")	\$217.00	\$217.00	\$224.00
50mm (2")	\$232.00	\$232.00	\$252.00
75mm (3")	Actual Cost	Actual Cost	
100mm (4")	Actual Cost	Actual Cost	
150mm (6")	Actual Cost	Actual Cost	
200mm (8")	Actual Cost	Actual Cost	
250mm (10")	Actual Cost	Actual Cost	

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RESTATED

	<u>Current</u> <u>(For 4mo</u> <u>Billing)</u>	<u>Current</u> <u>(Restated for</u> <u>2mo Billing)</u>	<u>Proposed</u> <u>(For 2mo</u> <u>Billing)</u>
3. The following rates shall be paid to the Corporation of the City of St. Catharines for the wastewater system and services as outlined herein:			
(a) <u>Wastewater Fees (for each four month period)</u>			
Sewer Replacement Program	\$45.00	\$22.50	\$25.50
Wastewater charges – per cubic metre	2.027	2.027	2.147
Water meter size of 1" or greater will be subject to a water meter equivalency charge when calculating the Customer Charge. Exemption: Single Family Residential classification. See (b) below.			
(b) <u>Meter Equivalency</u>			
Water meter size of 1" or greater will be subject to a water meter equivalency charge when calculating the Customer Charge. Exemption: Single Family Residential classification.			
1" meter = 1.4 meter equivalency units			
1 1/2" meter = 1.8 meter equivalency units			
2" meter = 2.9 meter equivalency units			
3" meter = 11 meter equivalency units			
4" meter = 14 meter equivalency units			
6" meter = 21 meter equivalency units			
>6" meter = 21 meter equivalency units			
Note: Where a single 6" meter or greater is installed for the purpose of additional fire protection, the multiplier equivalency shall be discounted to 50%.			
(c) <u>Flat Rates (For each four month billing period)</u>			
Per Dwelling unit	\$225.00	\$112.50	
(d) <u>Wastewater Under Construction</u>			
First four month period	0.00	0.00	
Next Flat Rate per dwelling unit for each four month period until meter is installed	\$225.00	\$112.50	
Note: Where more than 20 units are under construction, the maximum number of units charged is 20.			
If there are extenuating circumstances or if large Industrial/Commercial building, "Next Flat Rate" to be determined at the discretion of the Treasurer.			
4. <u>Unauthorized Use of Water</u>			
(a) Rate when bypass valve is opened without Authorization or any other unauthorized use of water or determination that water provided has not passed through the meter:			
Two (2) times the average of last three representative bills. If not applicable, estimate to be determined at the discretion of the Treasurer. (For each four month billing period)	2X	2X	
(b) Where property has operated a grow-op, amount is three (3) times the total Flat Rate per dwelling unit as outlined in Sections 1 and 3 (For each four month billing period)	\$1,200.00	\$600.00	

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	<u>Current</u> <u>(For 4mo</u> <u>Billing)</u>	<u>Current</u> <u>(Restated for</u> <u>2mo Billing)</u>	<u>Proposed</u> <u>(For 2mo</u> <u>Billing)</u>
5. <u>Miscellaneous</u>			
(a) <u>Meter Relocation</u> to a more appropriate position to facilitate reading and/or maintenance:			
When requested by homeowner, equivalent to applicable Water Service Call as defined in Rates and Fees.			
When determined by City Engineer, amount charged at the discretion of the Treasurer			
(b) Installation of Automated Meter Reading (AMR) apparatus when performed not in accordance with scheduled deployment :			
When requested by homeowner	\$450.00	\$450.00	
When determined by City Engineer, amount charged at the discretion of the Treasurer			
Customer non compliance with AMR installation	\$500.00	\$500.00	
(c) <u>Late Payment Penalty</u>			
A penalty for late payment of 1.5% per month is added the day following the due date and the first day of each month thereafter.			
(d) The rates set out above shall be deemed to have become effective on all accounts with Billing periods ending on or after March 1, 2022 .			

* NOTE: METRIC CONVERSION: 1 cubic metre (CM) equals 220 gallons or 1,000 litres

*bolded script = proposed changes for 2022

City St. Catharines
Water/Wastewater Budget
Annual Bill Change Comparison (2 month basis)

	2022 New Rates	2021 Old Rates	Change	
			\$	%
<u>Consumption</u>				
Normal Consumption	170	170		
	<u>170</u>	<u>170</u>	<u>0</u>	0.00%
<u>Water - Retail Rate</u>				
Rate per billing period (2 months)	\$30.50	\$29.50		
Fixed Fee	\$183.00	\$177.00	6.00	3.39%
Consumption Rate per CM	\$1.424	\$1.372		
Consumption Fee	\$242.08	\$233.24	8.84	3.79%
Total Water	<u>\$425.08</u>	<u>\$410.24</u>	<u>\$14.84</u>	3.62%
<u>Wastewater - Retail Rate</u>				
Rate per billing period (2 months)	\$25.50	\$22.50		
Fixed Fee	\$153.00	\$135.00	18.00	13.33%
Consumption Rate per CM	\$2.147	\$2.027		
Consumption Fee	\$364.99	\$344.59	20.40	5.92%
Total Wastewater	<u>\$517.99</u>	<u>\$479.59</u>	<u>\$38.40</u>	8.01%
<u>Total Water and Wastewater Bill</u>	<u><u>\$943.07</u></u>	<u><u>\$889.83</u></u>	<u><u>\$53.24</u></u>	5.98%
Fixed Component	\$336.00	\$312.00		
Variable Component	<u>\$607.07</u>	<u>\$577.83</u>		
	<u>\$943.07</u>	<u>\$889.83</u>		
Fixed Percentage	35.63%	35.06%		
Variable Percentage	<u>64.37%</u>	<u>64.94%</u>		
	<u>100.00%</u>	<u>100.00%</u>		