

**Report from** Financial Management Services, Accounting and Payroll

**Date of Report:** February 21, 2019

**Date of Meeting:** March 6, 2019

**Report Number:** FMS-B007-2019

**File:** 18.20.205 18.45.256

**Subject:** Water and Wastewater Financial Plan Update

## Recommendation

That the Water and Wastewater Financial Plan updates, included as Appendix 1, be approved by Budget Standing Committee (BSC); and

That the updates be forwarded to City Council for approval, and upon approval, be used by staff as the guidance for the preparation of the water and wastewater budgets for the 2020-2029 period of the plan; and

That both the 2019-2029 Water and Wastewater Financial Plans be approved by a resolution of City Council in accordance with Ontario Regulation 453/07 ("O.Reg 453/07"); and

That a copy of both the 2019-2029 Water and Wastewater Financial Plans be submitted to the Ministry of Municipal Affairs and Housing as required by O.Reg 453/07 once approved by Council; and

Further, that a copy of both the Water and Wastewater Financial Plans be posted on the City's website.

## Summary

As part of the requirement to renew a Municipal Drinking Water License, Council must approve a Water Financial Plan ("Financial Plan") as outlined in O.Reg 453/07. O.Reg 453/07 requires financial plans be approved by a resolution that indicated that the drinking water system is financially viable and that the financial plan include a statement that the financial impacts of the drinking water system have been considered, with the plan covering a minimum of six years. While not required for license renewal, completing and approving a Wastewater Financial Plan in tandem with the Water Financial Plan is encouraged under O.Reg 453/07.

## Background

The Municipal Drinking Water Licensing Program was implemented under the Safe Drinking Water Act, 2002 ("SDWA") and requires system owners to meet a number of requirements for licensing including holding a Municipal Drinking Water License ("License") issued by the Ministry of the Environment, Conservation and Parks ("MOECP"). These licenses are issued for a period of five years.

The City has a License which was issued in 2014 and expires in October 2019. As part of the requirement to renew the License, a Financial Plan must be approved by a resolution of Council six months prior to current license expiry, which is by April 14, 2019.

## **Report**

### **Introduction:**

Every five years, the City of St. Catharines must renew its water license to deliver treated water as mandated by the SDWA. As part of the drinking water license renewal, the City must submit a Water Financial Plan to the Ministry of Municipal Affairs and Housing along with a resolution from Council that indicates that the drinking water system is financially viable. The requirements of the Financial Plan are specified in O.Reg 453/07.

The minimum requirements of O.Reg 453/07 only covers the water operations and only requires a forecasted financial plan which covers the year of renewal and the follow five year period. In order to provide a complete picture, it is common for a plan in the same format to be provided for the wastewater system as well. Additionally, in order to present the rate increases necessary to support the long term target of a sustainable level of capital reinvestment and to understand the impacts of deviations from the plan, the attached forecast covers a period of ten years following the year of the license renewal.

### **Guiding Principles:**

The following guiding principles were used in the development of the water and wastewater financial plans:

- Fully meets the requirements of O. Reg. 453/07 (Financial Plans)
- Commit to the long term objective of moving towards full cost recovery for water and wastewater services
- Reduce the existing funding gaps and move towards achieving a sustainable (replacement) level of capital spending by implementing year over year increases in capital spending over the term of the financial plan;
- Identify the resources required to accomplish the program goals, including staffing and equipment needs. Increased capital spending will require increased staff capacity;
- Improve predictability and clarity the plan contains:
  - A consistent annual percentage increase in the fixed and variable water rates;
  - A consistent annual percentage increase in the fixed and variable wastewater rates;
- Balance increased investment with affordability and limit the combined water and wastewater typical residential customer annual household bill impact to no more than 6.5%;
- Continue the usage of Federal Gas Tax funding for the rate supported services;
- Balance the use of debt and rate supported capital to fund the capital requirements;

- Align with the most current asset management planning information. The annual increases in capital spending over the term of the financial plans will reduce the identified funding gaps in support of the long term goal of achieving a sustainable level of capital reinvestment as identified in the 2019 Capital Budget.
- Develop the plan in such a way that the capital reinvestment needs can be easily updated when the asset management plan is updated;
- Provide guidelines for future budget recommendations and act as a tool for the evaluation of longer term impacts of budget decisions.

Detailed water and wastewater statements have been prepared to meet the requirements of O.Reg 453/07 and are included as Appendix 1.

## **What does approving the financial plans mean?**

Approval of a financial plan that indicates the water system is financially viable is a requirement under the SWDA, O. Reg 453/07. The SWDA does not define what is considered to be sustainable, however the Ministry of Environment released a guideline with principles of financial sustainability, which are identified in Appendix 2. Staff are considering a positive cash balance through the Financial Plan period to represent a viable system.

The financial plans act as a guide, rather than a budget when it comes to future decision making. As a guide, the financial plans provide a tool for identifying the longer term impacts of decisions made in an individual budget year. The use of longer term financial plans is most effective when progress relative to the plan is regularly reported on.

In January 2019, the Niagara Region approved their water and wastewater financial plans, including using them as guidance for the preparation of future budgets over the ten-year period of the plan. Their plan calls for an annual 3.8% increase in their water requisition and an annual increase of 6.0% for their wastewater requisition, for a combined total increase of 5.15%. As the Niagara Region acts as a wholesaler of these services to local municipalities, these increases have a direct impact on the City, and as a result have been incorporated into the City's financial plans.

In order for this Financial Plan to retain relevance moving into the future, it should be updated as better information becomes available (such as asset management plan updates), as budgets are approved, and as any policies and strategies are revised or updated (such as the debt management strategy). Updating the plan will become an annual exercise rather than one that occurs only during License renewals.

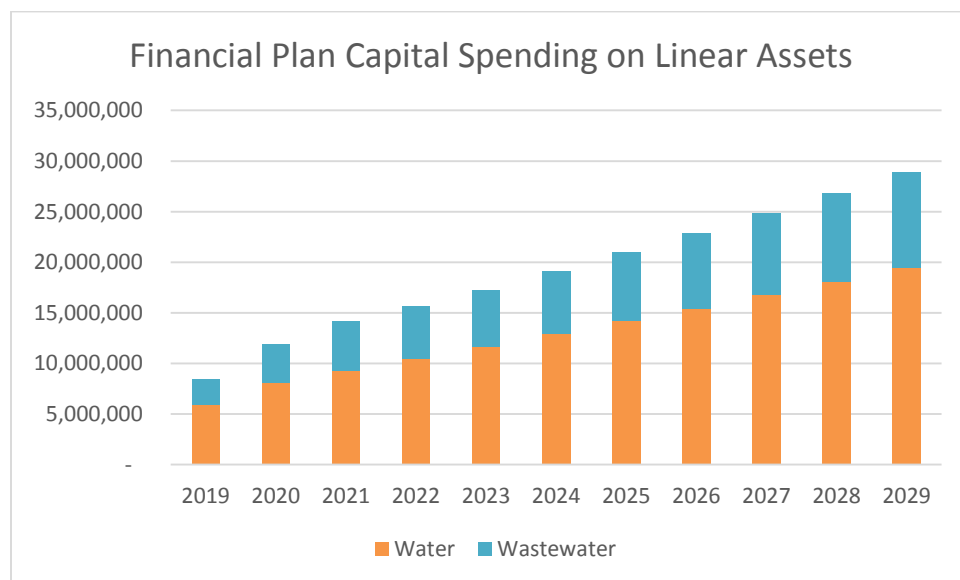
## **Capital Reinvestment Needs**

The major driver of the need for increased rates and revenue for the City of St. Catharines is the capital reinvestment needs. The 2019 capital budget identified that the City's minimum annual target reinvestment rate for the water system should be \$26 million (based on a 50-year replacement cycle), however we currently fall about \$20 million short of this. Using a more conservative replacement period of 65 years, the annual target reinvestment rate decreases to about \$20 million, which still leaves the current funding level approximately \$14 million short. This shortfall has developed over

a period of time, and it will take time to ramp up both this level of funding and staff resources to allow this level of spending to be implemented. Similarly, the sanitary sewer system falls almost \$7 million short of the minimum target annual target reinvestment rate. This minimum target value does not account for the existing infrastructure deficit.

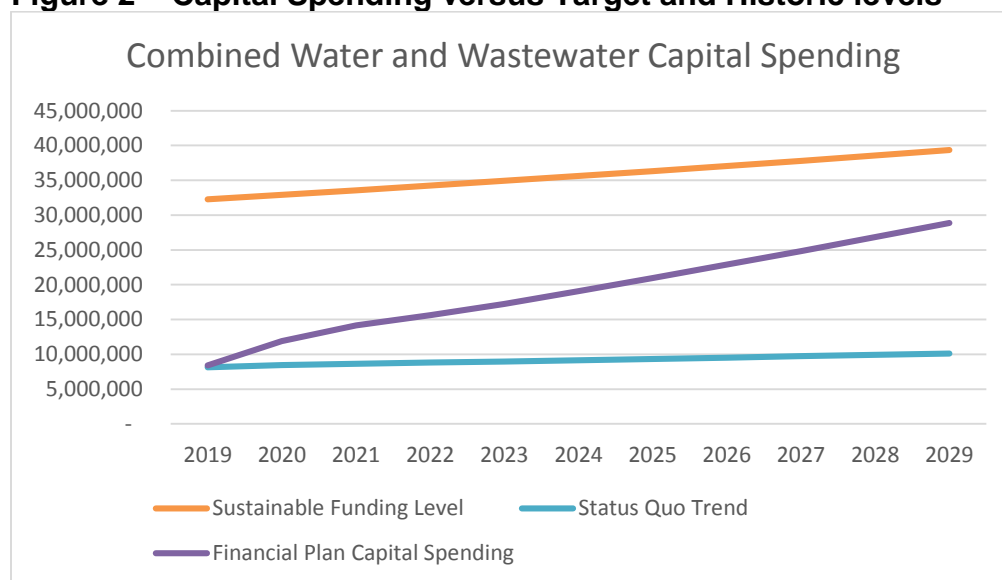
The proposed increase in capital spending on linear infrastructure provided in the financial plans is shown in Figure 1. Over the 10-year period (2020-2029) the total linear water capital spending included in the Financial Plan is \$150 million and the total linear wastewater capital spending is \$66 million. If we continued on our current trajectory, the capital spending over that same period would be approximately \$86 million and \$30 million on Water and Wastewater, respectively. Through the life of this plan (and beyond), this plan will continue to add to the infrastructure deficit.

**Figure 1 – Proposed Water and Wastewater Capital Spending**



The financial plan as submitted does not reach the targeted sustainable level of funding by the end of the ten-year period, however it does move the City closer to the annual sustainable funding level for infrastructure renewal. This financial plan also does not eliminate the existing infrastructure deficit, and will in fact increase the infrastructure deficit through the implementation of this ten-year plan. In order to reach a level of funding required in order to eliminate the existing infrastructure deficit, a significantly higher level of annual spending and rate increases would be required. To illustrate this, a comparison of the historical level of capital spending, the spending level included in the plan, the annual sustainable funding level for infrastructure renewal and the level of spending required to eliminate the infrastructure deficit is shown in Figure 2.

**Figure 2 – Capital Spending versus Target and Historic levels**



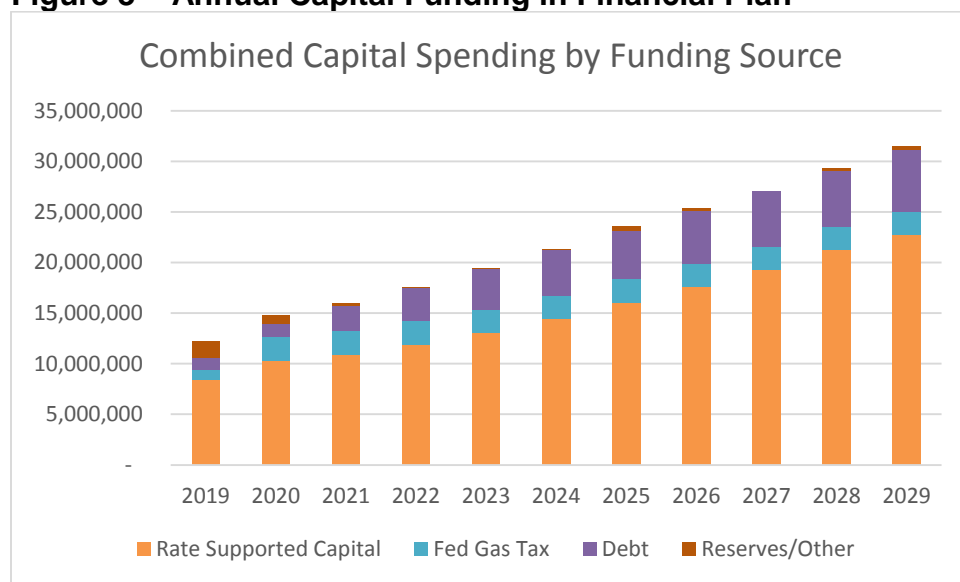
The ability for the City to fund and complete its highest priority projects can be impacted by the work of other governments, such as the Niagara Region. For example, when the Niagara Region is reconstructing a road under which the City owns linear water or sewer infrastructure that is in need of replacement, or nearing the end of life, that replacement must be coordinated with the Region. This requires a commitment of funds which can have an impact on the dollars remaining that are available to fund the City's regular improvement programs. Increased capital spending will make it easier for the City to manage and coordinate these projects with other levels of government, while limiting the impact on its regular improvement program.

## Funding Challenges

Infrastructure reinvestment has three primary funding sources: the rates themselves, grants and debt. Grants are the only option that does not require additional rate funding. Based on the Walkerton Inquiry recommendation that water and wastewater systems operate on a full cost recovery, the Financial Plans does not assume there will be any increase in grant funding available for Water or Wastewater. As a result, in order to realize the level of incremental spending envisioned in the Financial Plan, a mix of debt and rate funding will be required.

The mix of funding sources by year in the Financial Plan for the combined water and wastewater capital programs is included as Figure 3. The reserves / other funding is primarily related to vehicle and equipment replacements, while the remainder of the funding covers the linear water and wastewater infrastructure, as well as meter replacements, pollution control program investments and other smaller non-linear infrastructure replacements and improvements.

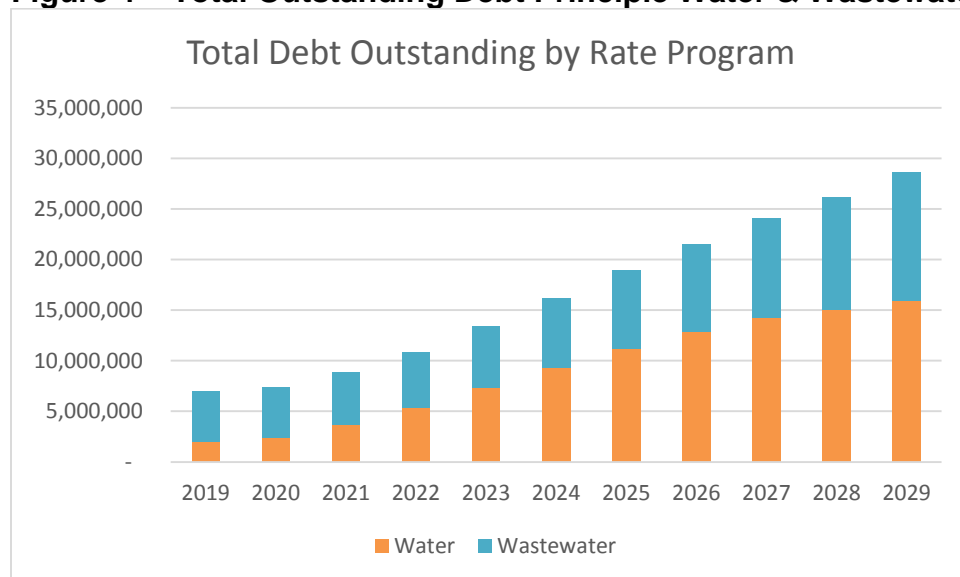
**Figure 3 – Annual Capital Funding in Financial Plan**



The annual funding continues to primarily be rate supported capital (“pay as you go”), although the amount of debt funding increases throughout the financial plan. Using this mix of funding sources allows annual capital investments to exceed \$30 million combined by 2029.

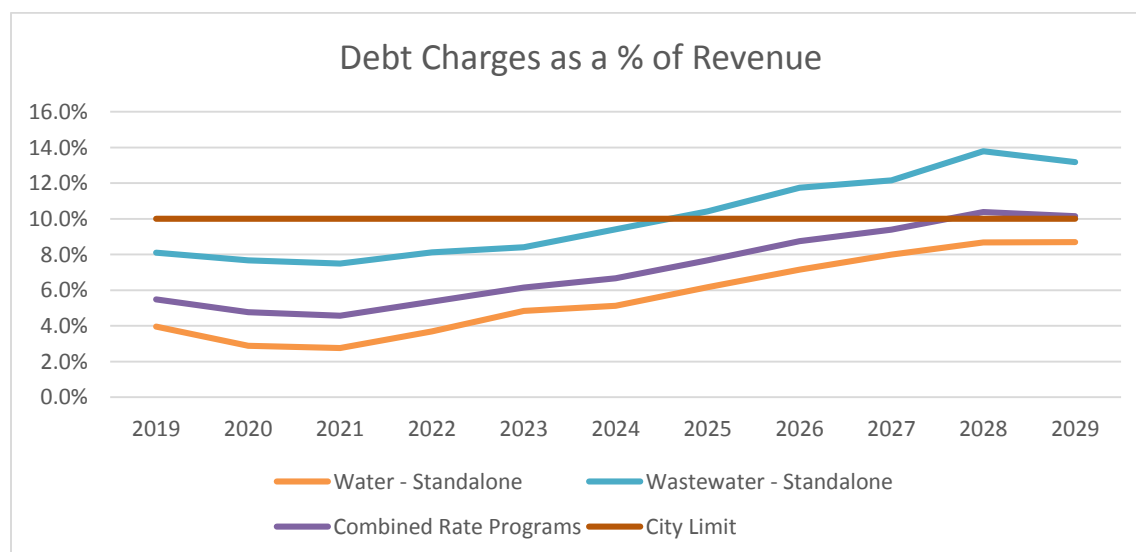
The increase in annual funding from debt has impacts on the rate supported budget in terms of increased debt charges, however it also impacts the amount of debt dollars available for the levy budget if the City is to stay within the existing Council approved level of debt. Currently, the majority of rate supported debt is in the wastewater system, however by the end of the Financial Plan, the outstanding Water related debt will exceed the outstanding Wastewater debt. As the level of debt for the water and wastewater systems increases, it limits the amount of debt available for the levy supported programs. There is a strong argument that can be made for increasing the debt funding for water and wastewater infrastructure given the long term life of these assets and the fairness of expecting them to have intergenerational equity. The projected debt outstanding at the end of each year for the Water and Wastewater systems is shown in Figure 4.

**Figure 4 – Total Outstanding Debt Principle Water & Wastewater**



The Annual Repayment Limit (ARL) calculation takes the total debt charges as a percentage of own source revenues. The Province of Ontario sets the ARL at 25% when looking at the City’s consolidated (levy and rate supported) debt. The debt included in the Financial Plan will put pressure on the levy supported capital program, given the City’s self-imposed 10% limit for debt charges. If the rate supported capital program is looked at separately, the combined debt charges are currently well below the 10% self-imposed limit, however by the end of the Financial Plan, the debt charges are projected to exceed the self-imposed limit. The ARL calculations for the individual water and wastewater systems, along with the combined rate programs and how they compare to the City’s self-imposed limit is shown as Figure 5.

**Figure 5 – Annual Repayment Limit (ARL) – Water & Wastewater Only**



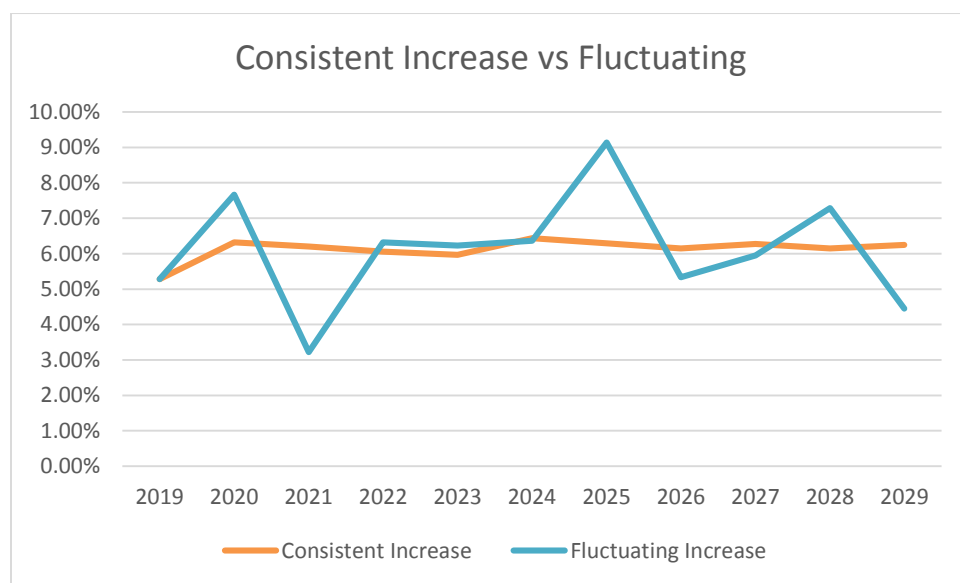
This report does not make recommendations regarding how the capital funding challenges in the rate supported programs and their related impact on levy supported

capital should be addressed, however options such as increases to the dedicated infrastructure levy, revisions to the use of grant funding and modifications to the debt management strategy around the term that debt is issued for different types of capital projects would have an impact on the ability to fund capital requirements of both the levy and rate supported capital programs.

## Rate Increases

A significant challenge to reaching the annual target reinvestment rate for infrastructure funding is the need to balance ratepayer affordability. The Financial Plan makes the assumption that the rate increases that are included would not alter ratepayers' habits and related consumption levels. In accordance with the guiding principles, the Financial Plans use a consistent annual fixed and variable rate increase. If, instead a fluctuating annual increase was used in order to maintain an identified cash balance (for example \$3 million), the rate increases would not be as consistent. The difference between what the impact of a consistent increase as compared to a fluctuating increase would look like is shown in Figure 6. The consistent increase is not the exact same percentage each year as the fixed rate is rounded to the dollar and the water and wastewater services individually increase at different rates resulting in some variance in the combined rate from year to year.

**Figure 6 – Rate Increases – Consistent vs Fluctuating**



The City has continued to have the second lowest typical residential water and wastewater bill among lower tier municipalities in the Niagara Region based on the BMA Management Consulting Inc. annual municipal study. The results of the 2018 BMA Municipal Study are shown in Figure 7.

**Figure 7 – Comparison of Typical Household Annual Water and Wastewater Bill Amounts (200 Cubic Metres)**

<b>Municipality</b>	<b>2018</b>
Fort Erie	\$1,408
Lincoln	\$1,019
Niagara Falls	\$916
Niagara-on-the-Lake	\$1,098
Pelham	\$748
Port Colborne	\$1,355
<b>St. Catharines</b>	<b>\$875</b>
Thorold	\$1,001
Welland	\$1,210
West Lincoln	\$1,059

*Source: 2018 BMA Management Consulting Municipal Study*

*Note: For annual household water consumption the BMA study uses 200 cubic metres, which is higher than the typical amount of St. Catharines households (170 cubic metres). This results in the typical household bill in the City being lower than the amount provided for in the 2018 BMA Municipal Study.*

While it is desirable for St. Catharines to maintain its position as one of the lowest household bills in the Niagara Region, increases are required in order to meet the increased need for infrastructure funding. Given the increases forecasted by the Niagara Region, it is likely that other local municipalities are finding themselves in similar situations with increases to offset the increase in Regional costs as well as to fund local infrastructure being required. The typical household bill amounts, including the annual increases, used in the Financial Plan is provided in Figure 8.

**Figure 8 – Forecasted / Estimated Typical Household Annual Bill Amounts (170 cubic metres)**

<b>Year</b>	<b>Water (\$)</b>	<b>Wastewater (\$)</b>	<b>Combined (\$)</b>	<b>\$ Increase</b>	<b>% Increase</b>
2019	380.45	442.22	822.67	41.29	5.3%
2020	407.24	467.43	874.67	52.00	6.3%
2021	435.05	493.83	928.88	54.21	6.2%
2022	463.88	521.25	985.13	56.25	6.1%
2023	493.90	550.03	1,043.93	58.80	6.0%
2024	528.11	583.00	1,111.11	67.18	6.4%
2025	563.51	617.50	1,181.01	69.90	6.3%
2026	600.27	653.36	1,253.63	72.62	6.1%
2027	641.56	690.75	1,332.31	78.68	6.3%
2028	684.38	729.84	1,414.22	81.91	6.1%
2029	731.90	770.63	1,502.53	88.31	6.2%

## **Financial Implications**

As outlined in the Report section, approval of these Financial Plans does not have any direct financial implications, however it is recommended that these Financial Plans be used as guidance for future Water and Wastewater Budgets. Using these Financial Plans as guidance will set expectations for annual household impacts, annual capital spending requirements, and debt requirements. The increased debt needs for the rate supported budgets will reinforce the need for increased infrastructure levy funding for the levy supported capital budget in order to maintain and increase spending on those services.

## **Relationship to Strategic Plan**

Economic Sustainability will be enhanced through:

- Being an affordable city for young people, families and retired older adults through maintaining water and wastewater rates increase for 2018 at 1.98% which is an increase that is at or below inflation.

## **Conclusion**

Full cost recovery for Water and Wastewater services were part of the recommendations made by the Walkerton Inquiry to ensure municipalities provide for long-term operating and capital plans for maintaining all aspects of the Water and Wastewater systems, including a long-term plan for the replacement of all infrastructure. In Ontario, many municipalities are moving toward or have already implemented full cost recovery to fund Water and Wastewater services. These Financial Plans attached to this report would move the City towards full cost recovery, however full cost recovery would still not be reached by end of the ten-year plan even if it is fully implemented.

With that said, the City's Water and Wastewater Financial Plans have been prepared in accordance with O.Reg 453/07 for the purposes of renewing the City's License. It is anticipated that the Financial Plan will serve as valuable tools to evaluate the long term impacts of budget decisions and to ensure the long term financial sustainability of the City's water and wastewater systems.

## **Notification**

The Ontario Ministry of Municipal Affairs and Housing be provided with a copy of these Financial Plans as required by legislation.

### **Prepared and Submitted by:**

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### **Approved by:**

Kristine Douglas  
Director of Financial Management Services / City Treasurer

Dan Dillon  
Director of Transportation and Environmental Services / City Engineer

## Notes to Financial Plan – Water Operations:

### **Consumption**

Water consumption in the City of St. Catharines seems to have “bottomed out”, and flows have actually increased for the past three years. The forecast assumes consumption will level out at the average of the past 3 years’ consumption levels over the 2020 to 2029 period. Accordingly, the forecast assumes that increases in water rates will not impact water consumption in the City.

#### **1. Revenues**

The Financial Plan includes a rate increase of 5% in 2019 in accordance with the submitted Rate supported budget, and rate increases of 6.75% annually from 2020 to 2029 in order to support the additional capital requirements to move toward replacement level funding.

#### **2. Grants**

Represents Federal Gas Tax funding, which continues to be used at the same level throughout the Financial Plan. Over the longer term, it is expected the use of Federal Gas Tax funding would be phased out for Water and Wastewater projects.

#### **3. Regional Billing**

The annual increases provided for in the Niagara Region’s recently approved Water Financial Plan have been included. The forecast assumes that the Region’s rate methodology for the wholesaling of water will remain unchanged through the 2020-2029 period, and that the City’s proportionate share of the fixed charge will remain the same.

### **Inflation**

In order to project future operating and capital costs, it is assumed that the annual cost inflation will be 2.0% for both operating and capital costs.

#### **4. Operating Costs**

Regular operating costs (excludes Capital funding, debt charges) have been indexed by the noted inflationary factor. The only other increases provided for are related to additional staffing requirements in order to carry out an increased capital program.

#### **5. Debt**

The actual rate used for the 2018 debenture issuance was 2.78%. As rates are projected to increase, an estimate of 4% was used for debt issued between 2019 to 2024 and 5% for 2025 to 2029. The term used for all debt issuances is 10 years. The Financial Plan assumes that all debt will be issued on December 31<sup>st</sup> of the year to which it relates.

## **6. Accumulated Surplus**

The accumulated surplus represents the Net Financial Assets (Financial Assets less Liabilities) as well as the Net Non-Financial Assets which represents the Capitalized Costs which have not yet been depreciated.

## **Capital Spending**

The estimated replacement cost for the water distribution system is \$1,317 million in 2019 dollars. With a 65-year replacement schedule, this results in a target annual capital requirement of \$20.2 million in 2019 dollars. This Financial Plan moves the City closer to achieving this targeted spending level. For Financial Plan purposes, it is assumed that all Capital Spending will occur in the year in which it is approved. The Financial Plan also assumes that as incremental capital spending is added, the incremental staff required will also be added.

## **7. Cash**

The 2018 closing net surplus for Municipal budget purposes is used as the 2019 opening cash balance.

## **8. Accounts Receivable**

The accounts receivable balance reflects the actual closing balance from 2018, adjusted to increase based on the revenue increases included in the Financial Plan.

## **9. Accounts Payable**

The Accounts Payable reflect 1/12<sup>th</sup> of the annual cost of water purchased from the Niagara Region.

## **10. Tangible Capital Assets (TCA)**

Opening balances were taken from the 2017 FIR. As capital spending occurs in the plan, it is added to the TCA balances, and then amortized accordingly on a straight-line basis. It is also assumed that any assets disposed of over the Financial Plan period have been fully amortized for simplicity.

City of St. Catharines  
Statement of Financial Operations - Water

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
<b>Revenues</b>											
Water Rates - Note 1	23,471,025	25,671,015	27,419,831	29,248,609	31,170,677	33,313,384	35,549,380	37,891,993	40,481,899	43,191,748	46,162,218
Other Revenue	440,000	449,000	458,000	467,000	476,000	486,000	496,000	506,000	516,000	526,000	537,000
Grants & Funding - Note 2	1,000,000	1,352,000	1,352,000	1,352,000	1,352,000	1,352,000	1,352,000	1,352,000	1,352,000	1,352,000	1,352,000
<b>Total Revenue</b>	<b>24,911,025</b>	<b>27,472,015</b>	<b>29,229,831</b>	<b>31,067,609</b>	<b>32,998,677</b>	<b>35,151,384</b>	<b>37,397,380</b>	<b>39,749,993</b>	<b>42,349,899</b>	<b>45,069,748</b>	<b>48,051,218</b>
<b>Cost of Water Sold - Note 3</b>											
Fixed Costs	2,920,423	3,031,399	3,146,592	3,266,163	3,390,277	3,519,107	3,652,834	3,791,641	3,935,724	4,085,281	4,240,522
Purchase of Water	8,700,000	9,222,320	9,572,768	9,936,533	10,314,121	10,706,058	11,112,888	11,535,178	11,973,515	12,428,508	12,900,791
<b>Total Cost of Water Sold</b>	<b>11,620,423</b>	<b>12,253,719</b>	<b>12,719,360</b>	<b>13,202,696</b>	<b>13,704,398</b>	<b>14,225,165</b>	<b>14,765,722</b>	<b>15,326,819</b>	<b>15,909,238</b>	<b>16,513,789</b>	<b>17,141,313</b>
<b>Gross Profit</b>	<b>13,290,602</b>	<b>15,218,297</b>	<b>16,510,471</b>	<b>17,864,914</b>	<b>19,294,279</b>	<b>20,926,218</b>	<b>22,631,658</b>	<b>24,423,174</b>	<b>26,440,661</b>	<b>28,555,959</b>	<b>30,909,905</b>
<b>Expenditures - Note 4</b>											
General Administration	1,363,886	1,391,164	1,418,987	1,447,367	1,476,314	1,505,840	1,535,957	1,566,676	1,598,010	1,629,970	1,662,569
Engineering Overhead	1,766,162	1,915,485	1,953,795	2,130,871	2,287,488	2,447,238	2,634,183	2,807,866	2,864,024	3,059,304	3,120,490
Mains, Valves, Hydrants	2,217,207	2,261,551	2,306,782	2,352,918	2,399,976	2,447,976	2,496,935	2,546,874	2,597,811	2,649,768	2,702,763
Water Service Lines	551,981	563,021	574,281	585,767	597,482	609,432	621,620	634,053	646,734	659,668	672,862
Meters	912,208	930,452	949,061	968,042	987,403	1,007,151	1,027,294	1,047,840	1,068,797	1,090,173	1,111,976
New Mains, Valves, Hydrants	169,503	172,893	176,351	179,878	183,475	187,145	190,888	194,706	198,600	202,572	206,623
Interest on Debenture Debt - Note 5	71,359	61,137	82,569	137,840	209,227	287,624	371,477	445,542	512,932	569,458	603,138
Annual amortization	2,466,785	2,567,357	2,781,423	2,991,721	3,117,374	3,350,686	3,540,287	3,747,013	3,970,464	4,212,433	4,472,618
<b>Total Expenditures</b>	<b>9,519,091</b>	<b>9,863,060</b>	<b>10,243,249</b>	<b>10,794,404</b>	<b>11,258,740</b>	<b>11,843,092</b>	<b>12,418,642</b>	<b>12,990,570</b>	<b>13,457,372</b>	<b>14,073,346</b>	<b>14,553,040</b>
<b>Net Surplus</b>	<b>3,771,511</b>	<b>5,355,237</b>	<b>6,267,222</b>	<b>7,070,510</b>	<b>8,035,538</b>	<b>9,083,127</b>	<b>10,213,017</b>	<b>11,432,603</b>	<b>12,983,289</b>	<b>14,482,613</b>	<b>16,356,865</b>
<b>Accumulated Surplus, Beginning of Period</b>	<b>110,903,182</b>	<b>114,674,693</b>	<b>120,029,930</b>	<b>126,297,152</b>	<b>133,367,661</b>	<b>141,403,200</b>	<b>150,486,327</b>	<b>160,699,343</b>	<b>172,131,947</b>	<b>185,115,235</b>	<b>199,597,849</b>
<b>Accumulated Surplus, End of Period Note 6</b>	<b>114,674,693</b>	<b>120,029,930</b>	<b>126,297,152</b>	<b>133,367,661</b>	<b>141,403,200</b>	<b>150,486,327</b>	<b>160,699,343</b>	<b>172,131,947</b>	<b>185,115,235</b>	<b>199,597,849</b>	<b>215,954,713</b>

City of St. Catharines Statement of Cash Flow - Water											
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
<b>Operating Transactions</b>											
<b>Cash received from:</b>											
Revenues	24,911,025	27,472,015	29,229,831	31,067,609	32,998,677	35,151,384	37,397,380	39,749,993	42,349,899	45,069,748	48,051,218
<b>Cash paid for:</b>											
Operating Expenses	(21,068,155)	(22,055,642)	(22,880,040)	(23,859,259)	(24,753,912)	(25,780,633)	(26,812,886)	(27,871,847)	(28,853,678)	(30,017,677)	(31,091,215)
Finance charges	(71,359)	(61,137)	(82,569)	(137,840)	(209,227)	(287,624)	(371,477)	(445,542)	(512,932)	(569,458)	(603,138)
<b>Adjustment for Non-Cash items:</b>											
Addback of amortization	2,466,785	2,567,357	2,781,423	2,991,721	3,117,374	3,350,686	3,540,287	3,747,013	3,970,464	4,212,433	4,472,618
Change in non cash balances	(193,035)	(445,332)	(358,165)	(374,723)	(394,217)	(442,228)	(461,608)	(483,917)	(537,726)	(562,896)	(619,562)
<b>Cash Provided by Operating Transactions</b>	6,045,261	7,477,261	8,690,480	9,687,508	10,758,696	11,991,585	13,291,696	14,695,700	16,416,027	18,132,150	20,209,921
<b>Capital Transactions</b>											
Cash required to acquire tangible capital assets	(7,750,000)	(9,991,000)	(10,667,720)	(11,682,114)	(12,844,657)	(14,158,830)	(15,801,126)	(16,953,049)	(17,986,110)	(19,621,832)	(21,077,749)
<b>Cash Required by Capital Transactions</b>	(7,750,000)	(9,991,000)	(10,667,720)	(11,682,114)	(12,844,657)	(14,158,830)	(15,801,126)	(16,953,049)	(17,986,110)	(19,621,832)	(21,077,749)
<b>Investing Transactions</b>											
<b>Cash Provided (Required) by Investing Transactions</b>	-	-	-	-	-	-	-	-	-	-	-
<b>Financing Transactions</b>											
Proceeds on debt issuance	96,500	789,750	1,673,664	2,239,176	2,625,397	2,846,506	2,848,000	2,958,739	2,986,695	2,726,451	3,021,870
Cash required for debt repayment	(460,200)	(378,305)	(371,349)	(521,204)	(724,429)	(785,703)	(1,025,234)	(1,302,223)	(1,599,573)	(1,911,273)	(2,083,480)
<b>Cash Provided (Required) by Financing Transactions</b>	(363,700)	411,445	1,302,315	1,717,972	1,900,967	2,060,803	1,822,766	1,656,516	1,387,122	815,179	938,390
<b>Increase (Decrease) in Cash and Cash Equivalents</b>	(2,068,439)	(2,102,294)	(674,924)	(276,635)	(184,993)	(106,442)	(686,665)	(600,833)	(182,960)	(674,503)	70,562
<b>Cash and Cash Equivalents, Beginning of Year</b>	4,118,323	2,049,884	(52,409)	(727,334)	(1,003,968)	(1,188,962)	(1,295,404)	(1,982,069)	(2,582,902)	(2,765,862)	(3,440,365)
<b>Cash and Cash Equivalents, End of Year</b>	2,049,884	(52,409)	(727,334)	(1,003,968)	(1,188,962)	(1,295,404)	(1,982,069)	(2,582,902)	(2,765,862)	(3,440,365)	(3,369,803)

City of St. Catharines Statement of Financial Position - Water											
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
<b>Assets</b>											
<b>Financial Assets</b>											
Cash - Note 7	2,049,884	(52,409)	(727,334)	(1,003,968)	(1,188,962)	(1,295,404)	(1,982,069)	(2,582,902)	(2,765,862)	(3,440,365)	(3,369,803)
Accounts Receivable - Note 8	5,266,143	5,759,750	6,152,128	6,562,447	6,993,697	7,474,451	7,976,137	8,501,744	9,082,836	9,690,839	10,357,317
<b>Total Financial Assets</b>	7,316,027	5,707,340	5,424,794	5,558,478	5,804,735	6,179,047	5,994,069	5,918,842	6,316,974	6,250,473	6,987,514
<b>Liabilities</b>											
<b>Current Liabilities</b>											
Current Portion of Debentures Payable	378,305	371,349	521,204	724,429	785,703	1,025,234	1,302,223	1,599,573	1,911,273	2,083,480	2,406,616
Accounts Payable - Note 9	968,369	1,021,143	1,059,947	1,100,225	1,142,033	1,185,430	1,230,477	1,277,235	1,325,770	1,376,149	1,428,443
<b>Long Term Liabilities</b>											
Long Term Portion of Debentures Payable	1,571,443	1,989,844	3,142,304	4,657,051	6,496,744	8,318,016	9,863,793	11,222,960	12,298,382	12,941,354	13,556,608
<b>Total Liabilities</b>	2,918,116	3,382,336	4,723,455	6,481,705	8,424,480	10,528,681	12,396,493	14,099,768	15,535,425	16,400,983	17,391,667
<b>Net Financial Assets</b>	4,397,911	2,325,004	701,339	(923,226)	(2,619,745)	(4,349,633)	(6,402,425)	(8,180,925)	(9,218,451)	(10,150,509)	(10,404,153)
<b>Non-Financial Assets</b>											
Inventory	225,000	229,500	234,090	238,772	243,547	248,418	253,387	258,454	263,623	268,896	274,274
Tangible Capital Assets - Note 10	143,905,982	153,896,982	164,564,702	176,246,817	189,091,473	203,250,303	219,051,429	236,004,478	253,990,588	273,612,420	294,690,169
Accumulated Amortization	(33,854,201)	(36,421,557)	(39,202,980)	(42,194,701)	(45,312,076)	(48,662,761)	(52,203,048)	(55,950,061)	(59,920,526)	(64,132,959)	(68,605,577)
<b>Total Non-Financial Assets</b>	110,276,782	117,704,925	125,595,812	134,290,887	144,022,945	154,835,960	167,101,768	180,312,872	194,333,686	209,748,358	226,358,866
<b>Accumulated Surplus, End of Period</b>	114,674,692	120,029,929	126,297,151	133,367,661	141,403,199	150,486,326	160,699,343	172,131,946	185,115,235	199,597,848	215,954,713

Notes to Financial Plan – Wastewater Operations:

**Consumption**

For Billing to customer purposes, the same assumptions are used as contained in the Water assumptions – that being the forecast assumes consumption will level out at the average of the past 3 years' consumption levels over the 2020 to 2029 period.

**1. Revenues**

The Financial Plan includes a rate increase of 5% in 2019 in accordance with the submitted Rate supported budget, and rate increases of 5.75% annually from 2020 to 2029 in order to support the additional capital requirements to move toward replacement level funding.

**2. Grants**

Represents Federal Gas Tax funding, which continues to be used at the same level throughout the Financial Plan. Over the longer term, it is expected the use of Federal Gas Tax funding would be phased out for Water and Wastewater projects.

**3. Regional Billing**

The annual increases provided for in the Niagara Region's recently approved Water Financial Plan have been included. The forecast assumes that the Region's rate methodology for the cost recovery of Wastewater will remain unchanged through the 2020-2029 period, and that the City's proportionate share of those costs will remain the same.

**Inflation**

In order to project future operating and capital costs, it is assumed that the annual cost inflation will be 2.0% for both operating and capital costs.

**4. Operating Costs**

Regular operating costs (excludes Capital funding, debt charges) have been indexed by the noted inflationary factor. The only other increases provided for are related to additional staffing requirements in order to carry out an increased capital program.

**5. Debt**

The actual rate used for the 2018 debenture issuance was 2.78%. As rates are projected to increase, an estimate of 4% was used for debt issued between 2019 to 2024 and 5% for 2025 to 2029. The term used for all debt issuances is 10 years. The Financial Plan assumes that all debt will be issued on December 31<sup>st</sup> of the year to which it relates.

## **6. Accumulated Surplus**

The accumulated surplus represents the Net Financial Assets (Financial Assets less Liabilities) as well as the Net Non-Financial Assets which represents the Capitalized Costs which have not yet been depreciated.

## **Capital Spending**

The estimated replacement cost for the wastewater distribution system is \$900 million in 2019 dollars. With a 75-year replacement schedule, this results in a target annual capital requirement of \$11.7 million in 2019 dollars. This Financial Plan moves the City closer to achieving this targeted spending level. For Financial Plan purposes, it is assumed that all Capital Spending will occur in the year in which it is approved. The Financial Plan also assumes that as incremental capital spending is added, the incremental staff required will also be added.

## **7. Cash**

The 2018 closing net surplus for Municipal budget purposes is used as the 2019 opening cash balance.

## **8. Accounts Receivable**

The accounts receivable balance reflects the actual closing balance from 2018, adjusted to increase based on the revenue increases included in the Financial Plan.

## **9. Accounts Payable**

The Accounts Payable reflect 1/12<sup>th</sup> of the annual cost of wastewater cost from the Niagara Region.

## **10. Tangible Capital Assets (TCA)**

Opening balances were taken from the 2017 FIR. As capital spending occurs in the plan, it is added to the TCA balances, and then amortized accordingly on a straight-line basis. It is also assumed that any assets disposed of over the Financial Plan period have been fully amortized for simplicity.

City of St. Catharines  
Statement of Financial Operations - Wastewater

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
<b>Revenues</b>											
Wastewater Rates - Note 1	28,333,786	30,745,290	32,495,285	34,320,045	36,244,492	38,383,513	40,634,682	42,985,538	45,448,540	48,036,151	50,748,369
Other Revenue	-	-	-	-	-	-	-	-	-	-	-
Grants & Funding - Note 2	800,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
<b>Total Revenue</b>	<b>29,133,786</b>	<b>31,745,290</b>	<b>33,495,285</b>	<b>35,320,045</b>	<b>37,244,492</b>	<b>39,383,513</b>	<b>41,634,682</b>	<b>43,985,538</b>	<b>46,448,540</b>	<b>49,036,151</b>	<b>51,748,369</b>
<b>Cost of Water Sold - Note 3</b>											
Regional Wastewater	20,740,949	21,867,122	23,179,149	24,569,898	26,044,092	27,606,737	29,263,141	31,018,930	32,880,066	34,852,870	36,944,042
	-	-	-	-	-	-	-	-	-	-	-
<b>Total Cost of Water Sold</b>	<b>20,740,949</b>	<b>21,867,122</b>	<b>23,179,149</b>	<b>24,569,898</b>	<b>26,044,092</b>	<b>27,606,737</b>	<b>29,263,141</b>	<b>31,018,930</b>	<b>32,880,066</b>	<b>34,852,870</b>	<b>36,944,042</b>
<b>Gross Profit</b>	<b>8,392,837</b>	<b>9,878,168</b>	<b>10,316,136</b>	<b>10,750,147</b>	<b>11,200,400</b>	<b>11,776,776</b>	<b>12,371,541</b>	<b>12,966,608</b>	<b>13,568,475</b>	<b>14,183,281</b>	<b>14,804,327</b>
<b>Expenditures - Note 4</b>											
Sewers General Costs	697,188	711,132	839,354	856,141	987,264	1,007,010	1,165,150	1,188,453	1,333,222	1,359,886	1,525,084
Sewers Insurance	-	-	-	-	-	-	-	-	-	-	-
FLAP Program	311,555	317,786	324,142	330,625	337,237	343,982	350,862	357,879	365,036	372,337	379,784
Lateral Replacements	705,535	719,646	734,039	748,719	763,694	778,968	794,547	810,438	826,647	843,180	860,043
Sewer Overhead	669,068	682,449	696,098	710,020	724,221	738,705	753,479	768,549	783,920	799,598	815,590
Drain Clearing	321,546	327,977	334,536	341,227	348,052	355,013	362,113	369,355	376,742	384,277	391,963
Pollution Control	782,204	797,848	813,805	830,081	846,683	863,616	880,889	898,507	916,477	934,806	953,502
Pollution Control Overhead	224,703	229,197	233,781	238,457	243,226	248,090	253,052	258,113	263,275	268,541	273,912
Interest on Debenture Debt - Note 5	116,593	147,289	154,056	169,485	191,711	222,022	257,604	298,115	342,217	392,300	444,186
Annual amortization	2,241,279	2,191,759	2,306,582	2,455,368	2,629,342	2,811,632	2,781,955	2,861,702	2,962,168	3,074,520	3,200,092
<b>Total Expenditures</b>	<b>6,069,671</b>	<b>6,125,083</b>	<b>6,436,394</b>	<b>6,680,123</b>	<b>7,071,429</b>	<b>7,369,038</b>	<b>7,599,650</b>	<b>7,811,111</b>	<b>8,169,704</b>	<b>8,429,445</b>	<b>8,844,156</b>
<b>Net Surplus</b>	<b>2,323,166</b>	<b>3,753,086</b>	<b>3,879,742</b>	<b>4,070,024</b>	<b>4,128,971</b>	<b>4,407,739</b>	<b>4,771,891</b>	<b>5,155,497</b>	<b>5,398,771</b>	<b>5,753,836</b>	<b>5,960,172</b>
<b>Accumulated Surplus, Beginning of Period</b>	<b>57,888,124</b>	<b>60,211,290</b>	<b>63,964,376</b>	<b>67,844,118</b>	<b>71,914,142</b>	<b>76,043,113</b>	<b>80,450,851</b>	<b>85,222,742</b>	<b>90,378,239</b>	<b>95,777,009</b>	<b>101,530,846</b>
<b>Accumulated Surplus, End of Period Not 6</b>	<b>60,211,290</b>	<b>63,964,376</b>	<b>67,844,118</b>	<b>71,914,142</b>	<b>76,043,113</b>	<b>80,450,851</b>	<b>85,222,742</b>	<b>90,378,239</b>	<b>95,777,009</b>	<b>101,530,846</b>	<b>107,491,017</b>

City of St. Catharines  
Statement of Cash Flow - Wastewater

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
<b>Operating Transactions</b>											
<b>Cash received from:</b>											
Revenues	29,133,786	31,745,290	33,495,285	35,320,045	37,244,492	39,383,513	41,634,682	43,985,538	46,448,540	49,036,151	51,748,369
<b>Cash paid for:</b>											
Operating Expenses	(26,694,027)	(27,844,916)	(29,461,487)	(31,080,537)	(32,923,810)	(34,753,752)	(36,605,188)	(38,531,926)	(40,707,552)	(42,890,015)	(45,344,011)
Finance charges	(116,593)	(147,289)	(154,056)	(169,485)	(191,711)	(222,022)	(257,604)	(298,115)	(342,217)	(392,300)	(444,186)
<b>Adjustment for Non-Cash items:</b>											
Addback of amortization	2,241,279	2,191,759	2,306,582	2,455,368	2,629,342	2,811,632	2,781,955	2,861,702	2,962,168	3,074,520	3,200,092
Change in non cash balances	(286,296)	(427,884)	(270,602)	(280,170)	(294,691)	(333,439)	(349,777)	(362,976)	(378,352)	(395,876)	(412,844)
<b>Cash Provided by Operating Transactions</b>	<b>4,278,150</b>	<b>5,516,961</b>	<b>5,915,722</b>	<b>6,245,222</b>	<b>6,463,621</b>	<b>6,885,931</b>	<b>7,204,068</b>	<b>7,654,224</b>	<b>7,982,586</b>	<b>8,432,480</b>	<b>8,747,419</b>
<b>Capital Transactions</b>											
Cash required to acquire tangible capital assets	(4,500,000)	(4,786,000)	(5,361,720)	(5,958,954)	(6,562,133)	(7,173,376)	(7,796,844)	(8,432,781)	(9,081,436)	(9,743,065)	(10,417,926)
<b>Cash Required by Capital Transactions</b>	<b>(4,500,000)</b>	<b>(4,786,000)</b>	<b>(5,361,720)</b>	<b>(5,958,954)</b>	<b>(6,562,133)</b>	<b>(7,173,376)</b>	<b>(7,796,844)</b>	<b>(8,432,781)</b>	<b>(9,081,436)</b>	<b>(9,743,065)</b>	<b>(10,417,926)</b>
<b>Investing Transactions</b>											
<b>Cash Provided (Required) by Investing Transactions</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Financing Transactions</b>											
Proceeds on debt issuance	1,050,000	543,000	803,860	1,074,937	1,348,436	1,625,405	1,907,913	2,196,071	2,489,992	2,789,792	3,095,588
Cash required for debt repayment	(511,840)	(609,888)	(619,689)	(703,502)	(750,334)	(886,105)	(1,031,149)	(1,225,628)	(1,307,684)	(1,564,576)	(1,507,436)
<b>Cash Provided (Required) by Financing Transactions</b>	<b>538,160</b>	<b>(66,888)</b>	<b>184,171</b>	<b>371,435</b>	<b>598,102</b>	<b>739,299</b>	<b>876,764</b>	<b>970,443</b>	<b>1,182,308</b>	<b>1,225,217</b>	<b>1,588,152</b>
<b>Increase (Decrease) in Cash and Cash Equivalents</b>	<b>316,310</b>	<b>664,073</b>	<b>738,173</b>	<b>657,703</b>	<b>499,590</b>	<b>451,854</b>	<b>283,989</b>	<b>191,886</b>	<b>83,458</b>	<b>(85,368)</b>	<b>(82,355)</b>
<b>Cash and Cash Equivalents, Beginning of Year</b>	<b>1,331,163</b>	<b>1,647,473</b>	<b>2,311,546</b>	<b>3,049,719</b>	<b>3,707,421</b>	<b>4,207,012</b>	<b>4,658,866</b>	<b>4,942,855</b>	<b>5,134,741</b>	<b>5,218,199</b>	<b>5,132,831</b>
<b>Cash and Cash Equivalents, End of Year</b>	<b>1,647,473</b>	<b>2,311,546</b>	<b>3,049,719</b>	<b>3,707,421</b>	<b>4,207,012</b>	<b>4,658,866</b>	<b>4,942,855</b>	<b>5,134,741</b>	<b>5,218,199</b>	<b>5,132,831</b>	<b>5,050,476</b>

City of St. Catharines  
Statement of Financial Position - Wastewater

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
<b>Assets</b>											
<b>Financial Assets</b>											
Cash - Note 7	1,647,473	2,311,546	3,049,719	3,707,421	4,207,012	4,658,866	4,942,855	5,134,741	5,218,199	5,132,831	5,050,476
Accounts Receivable - Note 8	6,077,176	6,594,408	6,969,756	7,361,140	7,773,905	8,232,694	8,715,536	9,219,760	9,748,037	10,303,041	10,884,772
<b>Total Financial Assets</b>	7,724,649	8,905,954	10,019,475	11,068,562	11,980,917	12,891,560	13,658,391	14,354,501	14,966,236	15,435,872	15,935,247
<b>Liabilities</b>											
<b>Current Liabilities</b>											
Current Portion of Debentures Payable	609,888	619,689	703,502	750,334	886,105	1,031,149	1,225,628	1,307,684	1,564,576	1,507,436	1,696,113
Accounts Payable - Note 9	1,728,412	1,822,260	1,931,596	2,047,491	2,170,341	2,300,561	2,438,595	2,584,911	2,740,005	2,904,406	3,078,670
<b>Long Term Liabilities</b>											
Long Term Portion of Debentures Payable	4,413,968	4,337,279	4,437,637	4,762,240	5,224,571	5,818,827	6,501,112	7,389,499	8,314,916	9,597,272	10,996,747
<b>Total Liabilities</b>	6,752,268	6,779,228	7,072,734	7,560,066	8,281,017	9,150,537	10,165,335	11,282,094	12,619,497	14,009,114	15,771,530
<b>Net Financial Assets</b>	972,382	2,126,726	2,946,740	3,508,496	3,699,900	3,741,023	3,493,056	3,072,407	2,346,740	1,426,758	163,718
<b>Non-Financial Assets</b>											
Inventory	225,000	229,500	234,090	238,772	243,547	248,418	253,387	258,454	263,623	268,896	274,274
Tangible Capital Assets - Note 10	131,163,997	135,949,997	141,311,717	147,270,671	153,832,805	161,006,181	168,803,025	177,235,805	186,317,242	196,060,306	206,478,233
Accumulated Amortization	(72,150,088)	(74,341,847)	(76,648,429)	(79,103,797)	(81,733,139)	(84,544,771)	(87,326,725)	(90,188,428)	(93,150,595)	(96,225,115)	(99,425,207)
<b>Total Non-Financial Assets</b>	59,238,909	61,837,650	64,897,378	68,405,646	72,343,213	76,709,829	81,729,686	87,305,832	93,430,270	100,104,087	107,327,300
<b>Accumulated Surplus, End of Period</b>	60,211,290	63,964,376	67,844,118	71,914,142	76,043,113	80,450,851	85,222,742	90,378,239	95,777,009	101,530,845	107,491,017

## Financial Plans Guideline

Principle 1	Ongoing public engagement and transparency can build support for, and confidence in, Financial Plans and the system(s) to which they relate.
Principle 2	An integrated approach to planning among water, wastewater, and storm water systems is desirable given the inherent relationship among these services.
Principle 3	Revenues collected for the provision of water and wastewater services should ultimately be used to meet the needs of those services.
Principle 4	Life-cycle planning with mid-course corrections is preferable to planning over the short-term, or not planning at all.
Principle 5	An asset management plan is a key input to the development of a Financial Plan.
Principle 6	A sustainable level of revenue allows for reliable service that meets or exceeds environmental protection standards, while providing sufficient resources for future rehabilitation and replacement needs.
Principle 7	Ensuring users pay for the services they are provided leads to equitable outcomes and can improve conservation. In general, metering and the use of rates can help ensure users pay for services received.
Principle 8	Financial Plans are “living” documents that require continuous improvement. Comparing the accuracy of financial projections with actual results can lead to improved planning in the future.
Principle 9	Financial Plans benefit from the close collaboration of various groups, including engineers, accountants, auditors, utility staff, and municipal council.