



# Water and Wastewater Rate Study

Township of Severn

**Date: March 16, 2021**

Watson & Associates Economists Ltd.  
905-272-3600  
[info@watsonecon.ca](mailto:info@watsonecon.ca)



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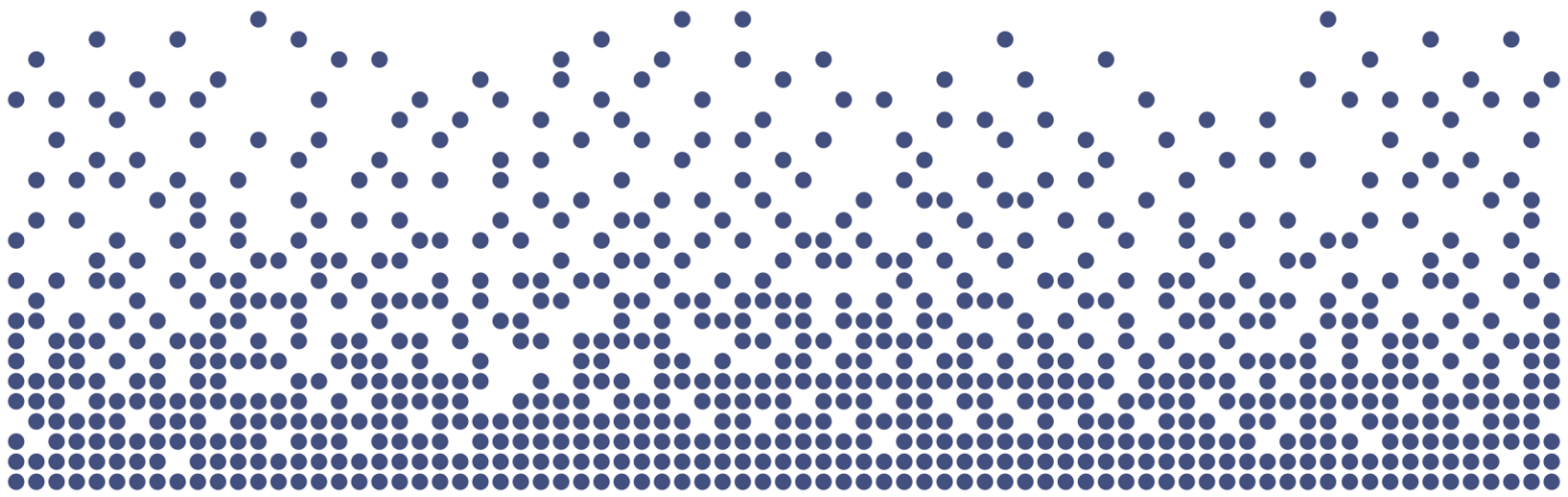
## List of Acronyms and Abbreviations

<b>Acronym</b>	<b>Full Description of Acronym</b>
A.M.O.	Association of Municipalities of Ontario
cu.m.	Cubic metres
C.W.W.F.	Clean Water and Wastewater Fund
D.C.A.	Development Charges Act, 1997
F.I.R.	Financial Information Return
I.J.P.A.	Infrastructure for Jobs and Prosperity Act, 2015
I.O.	Infrastructure Ontario
LPAT	Local Planning Appeal Tribunal
M.O.E.	Ministry of Environment
O.C.I.F.	Ontario Community Infrastructure Fund
O.M.B.	Ontario Municipal Board
O.Reg.	Ontario Regulation
O.S.I.F.A.	Ontario Strategic Infrastructure Financing Authority
P.S.A.B.	Public Sector Accounting Board
P.T.I.F.	Public Transit Infrastructure Fund



## List of Acronyms and Abbreviations (Cont'd)

S.W.S.S.A.            Sustainable Water and Sewage Systems Act, 2002



# Executive Summary



# Executive Summary

The Township of Severn retained Watson & Associates Economists Ltd. (Watson) to undertake a water and wastewater rate study. This study aims to update the analysis for current capital and operating forecasts, costing for lifecycle cost requirements (asset management), current volumes and customer profiles. The results of this analysis provide updated water and wastewater minimum bill charges and volume rates for customers within the Township of Severn. The rate analysis contained herein continues to provide fiscally responsible practices that are in line with current provincial legislation at a level of rate increases that are reasonable.

The analysis presented herein provides the following:

- The 2021 to 2030 capital spending program for water and wastewater is \$10.33 million and \$20.79 million (inflated), respectively;
- Annual operating expenditures are assumed to increase by 2% per annum for most expenditures; expenditures related to fuels, chemicals and other materials have been increased at 5% per annum.
- Additional operating expenditures have been assumed both in water and wastewater to recognize the need for an additional full-time staff member in 2024. When the full-time staff member is hired, part-time staffing would no longer be required, and as such, has been removed from the forecast from 2024 onwards.
- The present rate structure (including a minimum bill and a constant volume rate applied to volumes greater than 68 cu.m. per quarter) is continued;
- Existing water customers within the Township of Severn total 1,954. The Township also services 17 water only customers within the Township of Ramara. For the purposes of the analysis, Ramara is considered one customer that pays 17 times the annual minimum bill that a customer in Severn would pay.
- Existing wastewater customers total 1,669 within the areas of Washago, Coldwater and Westshore;
- Anticipated customer growth is as follows:
  - Coldwater: anticipated to add 164 additional water and wastewater customers by 2030
  - Westshore: anticipated to add 606 additional water and wastewater customers by 2030.



- Severn Estates: anticipated to add 4 additional water only customers by 2030.

Based on the above information, the following annual rate increases are anticipated for the minimum bill and volume rates: the needs for water are significant for the first half of the forecast period, while wastewater needs are arising at the latter part of the forecast. Hence, rate increases have been balanced for the combined water/wastewater user to experience a 4% annual increase on the combined bill. This is achieved by providing the following changes to water and wastewater:

- To meet the needs of the water forecast, an annual increase of 3.5% to the annual minimum bill and the volume rate is required.
- In contrast to water, the wastewater capital needs are more significant and hence it is recommended that both the minimum bill and constant rate for volumes in excess of 272 cu.m. per year increase by 4.5% annually.
- The combined impact for water and wastewater customers is equal to an annual increase of 4% per year on the total water and wastewater bill for customers with annual volumes of 130 cu.m. (constant rate would not apply to the average residential user as they are below the 272 cu.m. of usage).

Table ES-1 and ES-2 summarize the recommended water and wastewater rates and average annual bill (assuming an annual volume of 140 cu.m.), respectively, based on the analysis provided herein over the forecast period. Note that with an annual volume of 140 cu.m., the volume rates do not apply to the average residential customer. For any volumes less than 272 cu.m. per year (based on 68 cu.m. per quarter), the usage is covered in the annual minimum charge.





Table ES-1  
Township of Severn  
Water Services  
Average Annual Residential Water Bill (Based on an annual usage of 140 cu.m.)

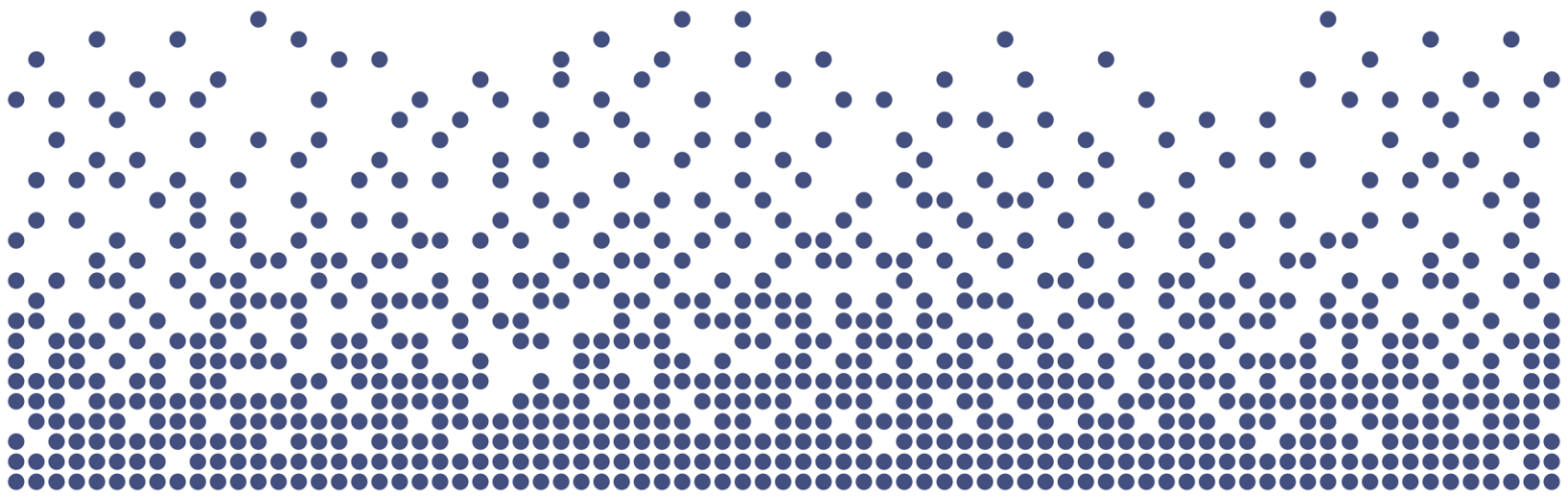
Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Quarterly Minimum Bill	\$195.40	\$202.24	\$209.32	\$216.64	\$224.23	\$232.07	\$240.20	\$248.60	\$257.30	\$266.31
Constant Rate (after > 68 m <sup>3</sup> per quarter)	\$2.58	\$2.67	\$2.76	\$2.86	\$2.96	\$3.06	\$3.17	\$3.28	\$3.40	\$3.52
<b>Annual Minimum Charge Bill</b>	<b>\$781.60</b>	<b>\$808.96</b>	<b>\$837.27</b>	<b>\$866.57</b>	<b>\$896.90</b>	<b>\$928.30</b>	<b>\$960.79</b>	<b>\$994.41</b>	<b>\$1,029.22</b>	<b>\$1,065.24</b>
Volume	140	140	140	140	140	140	140	140	140	140
<b>Annual Volume Bill*</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>
<b>Total Annual Bill</b>	<b>\$781.60</b>	<b>\$808.96</b>	<b>\$837.27</b>	<b>\$866.57</b>	<b>\$896.90</b>	<b>\$928.30</b>	<b>\$960.79</b>	<b>\$994.41</b>	<b>\$1,029.22</b>	<b>\$1,065.24</b>
<b>% Increase - Minimum Charge</b>		<b>3.5%</b>	<b>3.5%</b>	<b>3.5%</b>	<b>3.5%</b>	<b>3.5%</b>	<b>3.5%</b>	<b>3.5%</b>	<b>3.5%</b>	<b>3.5%</b>
<b>% Increase - Volume Rate</b>		<b>3.5%</b>	<b>3.5%</b>	<b>3.5%</b>	<b>3.5%</b>	<b>3.5%</b>	<b>3.5%</b>	<b>3.5%</b>	<b>3.5%</b>	<b>3.5%</b>
<b>% Increase - Total Annual Bill</b>		<b>3.5%</b>	<b>3.5%</b>	<b>3.5%</b>	<b>3.5%</b>	<b>3.5%</b>	<b>3.5%</b>	<b>3.5%</b>	<b>3.5%</b>	<b>3.5%</b>

\*Due to assumed usage of 140 cu.m. per year, the volume rates do not apply to the average residential customer.

Table ES-2  
Township of Severn  
Wastewater Services  
Average Annual Residential Wastewater Bill (Based on an annual usage of 140 cu.m.)

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Quarterly Minimum Bill	\$187.06	\$195.48	\$204.27	\$213.47	\$223.07	\$233.11	\$243.60	\$254.56	\$266.02	\$277.99
Constant Rate (after > 68 m <sup>3</sup> per quarter)	\$2.91	\$3.04	\$3.18	\$3.32	\$3.47	\$3.63	\$3.79	\$3.96	\$4.14	\$4.32
<b>Annual Minimum Bill</b>	<b>\$748.24</b>	<b>\$781.91</b>	<b>\$817.10</b>	<b>\$853.87</b>	<b>\$892.29</b>	<b>\$932.44</b>	<b>\$974.40</b>	<b>\$1,018.25</b>	<b>\$1,064.07</b>	<b>\$1,111.96</b>
Volume	140	140	140	140	140	140	140	140	140	140
<b>Annual Volume Bill*</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>
<b>Total Annual Bill</b>	<b>\$748.24</b>	<b>\$781.91</b>	<b>\$817.10</b>	<b>\$853.87</b>	<b>\$892.29</b>	<b>\$932.44</b>	<b>\$974.40</b>	<b>\$1,018.25</b>	<b>\$1,064.07</b>	<b>\$1,111.96</b>
<b>% Increase - Base Rate</b>		<b>4.5%</b>	<b>4.5%</b>	<b>4.5%</b>	<b>4.5%</b>	<b>4.5%</b>	<b>4.5%</b>	<b>4.5%</b>	<b>4.5%</b>	<b>4.5%</b>
<b>% Increase - Volume Rate</b>		<b>4.5%</b>	<b>4.5%</b>	<b>4.5%</b>	<b>4.5%</b>	<b>4.5%</b>	<b>4.5%</b>	<b>4.5%</b>	<b>4.5%</b>	<b>4.5%</b>
<b>% Increase - Total Annual Bill</b>		<b>4.5%</b>	<b>4.5%</b>	<b>4.5%</b>	<b>4.5%</b>	<b>4.5%</b>	<b>4.5%</b>	<b>4.5%</b>	<b>4.5%</b>	<b>4.5%</b>

\*Due to assumed usage of 130 cu.m. per year, the volume rates do not apply to the average residential customer.



# Report



# Chapter 1

## Introduction



# 1. Introduction

## 1.1 Background

---

The Township of Severn currently services 1,954 metered water customers. The Township also provides water services to 17 customers within the Township of Ramara. For the purposes of this analysis, these customers are considered one customer paying 17 times the minimum bill a customer within the Township of Severn would pay. The Township owns and operates six water systems including:

- Bass Lake Woodlands Well Supply and Distribution System;
- Coldwater Water Treatment and Distribution;
- Sandcastle Estates Water Treatment and Distribution;
- Severn Estates Water Treatment and Distribution;
- Washago Water Treatment and Distribution; and
- Westshore Water Treatment and Distribution.

In addition, the Township also services 1,669 wastewater customers within the areas of Washago, Coldwater, and Westshore.

The Township imposes a quarterly minimum bill for water and wastewater services as well as a volume rate for any usage over 68 cu.m. per quarter (or 272 cu.m. annually). Table 1-1 provides the existing rates currently in effect.



Table 1-1  
Township of Severn  
Water and Wastewater Rates – 2021

2021 - Water Billing Rates		2021 - Wastewater Billing Rates	
Quarterly Minimum Bill per Connection (incl. 68m <sup>3</sup> /quarter)		Quarterly Minimum Bill per Connection (incl. 68m <sup>3</sup> /quarter)	
Washago	\$195.40	Washago	\$187.06
Coldwater	\$195.40	Coldwater	\$187.06
Westshore	\$195.40	Westshore	\$187.06
Sandcastle Estates	\$195.40	Sandcastle Estates	N/A
Bass Lake Woodlands	\$195.40	Bass Lake Woodlands	N/A
Severn Estates	\$195.40	Severn Estates	N/A
Ramara	\$3,321.80	Ramara	N/A
Volume Charge		Volume Charge	
\$2.58	per m <sup>3</sup> for volume greater than 68 m <sup>3</sup> /quarter	\$2.91	per m <sup>3</sup> for volume greater than 68 m <sup>3</sup> /quarter

Since the Walkerton Crisis, the Province has continued to make legislative changes for municipal water and wastewater systems. Noted below are the historic changes along with pending legislation anticipated to be implemented in the future. Watson & Associates Economists Ltd. (Watson) was retained by the Township of Severn to assist in addressing these changes in a proactive manner as they relate to the water and wastewater systems. The assessment provided herein addresses changes recommended to the water and wastewater rates based on the most current information and forecasts the implications over the next ten-year period.

## 1.2 Study Process

The objectives of the study and the steps involved in carrying out this assignment are summarized below:

- Identify all current and future water and wastewater system capital needs to assess the immediate and longer-term implications;
- Identify potential methods of cost recovery from the capital needs listing. These recovery methods may include other statutory authorities (e.g. *Development Charges Act, 1997* (D.C.A.), *Municipal Act*, etc.) as an offset to recovery through the water and wastewater rates;



- Identify existing operating costs by component and estimate future operating costs over the next ten years. This assessment identifies fixed and variable costs in order to project those costs sensitive to changes to the existing infrastructure inventory, as well as costs which may increase commensurate with growth; and
- Provide staff and Committee/Council the findings to assist in gaining approval of the rates for future years.

### 1.3 Regulatory Changes in Ontario

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Resulting from the water crisis in Walkerton, significant regulatory changes have been made in Ontario. These changes arise as a result of the Walkerton Commission and the 93 recommendations made by the Walkerton Inquiry Part II report. Areas of recommendation include:

- watershed management and source protection;
- quality management;
- preventative maintenance;
- research and development;
- new performance standards;
- sustainable asset management; and
- lifecycle costing.

The legislation which would have most impacted municipal water and wastewater rates was the *Sustainable Water and Sewage Systems Act* (S.W.S.S.A.) which would have required municipalities to implement full cost pricing. The legislation was enacted in 2002, however, it had not been implemented pending the approval of its regulations. The Act was repealed as of January 1, 2013. It is expected that the provisions of the *Water Opportunities Act* will implement the fundamental requirements of S.W.S.S.A. Furthermore, on December 27, 2017, O.Reg. 588/17 was released under the *Infrastructure for Jobs and Prosperity Act, 2015* (I.J.P.A.), which outlines the requirements for asset management for municipalities. The results of the asset management review under this Act will need to be considered in light of the recent investments undertaken by the Township and the capital spending plan provided herein. The following sections describe these various resulting changes.



## 1.4 Sustainable Water and Sewage Systems Act

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As noted earlier, the S.W.S.S.A. was passed on December 13, 2002. The intent of the Act was to introduce the requirement for municipalities to undertake an assessment of the “full cost” of providing their water and wastewater services. It is noted, however, that this Act has been repealed. To provide broader context and understanding to other legislation discussed herein, a description of the Act is provided below.

Full costs for water service was defined in subsection 3(7) of the Act and included “...source protection costs, operating costs, financing costs, renewal and replacement costs and improvement costs associated with extracting, treating or distributing water to the public and such other costs which may be specified by regulation.” Similar provisions were made for wastewater services in subsection 4(7) with respect to “...collecting, treating or discharging waste water.”

The Act would have required the preparation of two reports for submission to the Ministry of the Environment (or such other member of the Executive Council as may be assigned the administration of this Act under the *Executive Council Act*). The first report was on the “full cost of services” and the second was the “cost recovery plan.” Once these reports were reviewed and approved by the Ministry, the municipality would have been required to implement the plans within a specified time period.

In regard to the **full cost of services** report, the municipality (deemed a regulated entity under the Act) would prepare and approve a report concerning the provision of water and sewage services. This report was to include an inventory of the infrastructure, a management plan providing for the long-term integrity of the systems and would address the full cost of providing the services (other matters may be specified by the regulations) along with the revenue obtained to provide them. A professional engineer would certify the inventory and management plan portion of the report. The municipality’s auditor would be required to provide a written opinion on the report. The report was to be approved by the municipality and then be forwarded to the Ministry along with the engineer’s certification and the auditor’s opinion. The regulations would stipulate the timing for this report.

The second report was referred to as a **cost recovery plan** and would address how the municipality intended to pay for the full costs of providing the service. The regulations were to specify limitations on what sources of revenue the municipality may use. The



regulations may have also provided limits as to the level of increases any customer or class of customer may experience over any period of time. Provision was made for the municipality to implement increases above these limits; however, ministerial approval would be required first. Similar to the first report, the municipal auditor would provide a written opinion on the report prior to Council's adoption, and this opinion must accompany the report when submitted to the Province.

The Act provided the Minister the power to approve or not approve the plans. If the Minister was not satisfied with the report or if a municipality did not submit a plan, the Minister may have a plan prepared. The cost to the Crown for preparing the plan would be recovered from the municipality. As well, the Minister may direct two or more regulated municipalities to prepare a joint plan. This joint plan may be directed at the onset or be directed by the Minister after receiving the individual plans from the municipalities.

The Minister also had the power to order a municipality to generate revenue from a specific revenue source or in a specified manner. The Minister may have also ordered a regulated entity to do or refrain from doing such things as the Minister considered advisable to ensure that the entity pays the full cost of providing the services to the public.

Once the plans were approved and in place, the municipality would be required to submit progress reports. The timing of these reports and the information to be contained therein would be established by the regulations. A municipal auditor's opinion must be provided with the progress report. Municipalities would also revise the plans if they deem the estimate does not reflect the full cost of providing the services, as a result of a change in circumstances, regulatory or other changes that affect their plan, etc. The municipality would then revise its prior plan, provide an auditor's opinion, and submit the plan to the Minister.

## **1.5 Financial Plans Regulation**

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On August 16, 2007, the M.O.E. passed O.Reg 453/07 which requires the preparation of financial plans for water (and wastewater) systems. The M.O.E. has also provided a Financial Plan Guidance Document to assist in preparing the plans. A brief summary of the key elements of the regulation is provided below:





- The financial plan will represent one of the key elements for the municipality to obtain its Drinking Water Licence;
- The financial plans shall be for a period of at least six years, but longer planning horizons are encouraged;
- As the regulation is under the *Safe Drinking Water Act, 2002*, the preparation of the plan is mandatory for water and encouraged for wastewater;
- The plan is considered a living document (i.e. will be updated as annual budgets are prepared) but will need to be undertaken, at a minimum, every five years;
- The plans generally require the forecasting of capital, operating and reserve fund positions, providing detailed inventories, forecasting future users and volume usage and corresponding calculation of rates. In addition, P.S.A.B. information on the system must be provided for each year of the forecast (i.e. total non-financial assets, tangible capital asset acquisitions, tangible capital asset construction, betterments, write-downs, disposals, total liabilities and net debt);
- The financial plans must be made available to the public (at no charge) upon request and be available on the municipality's website. The availability of this information must also be advertised; and
- The financial plans are to be approved by Resolution of the Council or governing body indicating that the drinking water system is financially viable.

In general, the financial principles of the draft regulations follow the intent of S.W.S.S.A. to move municipalities towards financial sustainability. Many of the prescriptive requirements, however, have been removed (e.g. preparation of two separate documents for provincial approval, auditor opinions, engineer certifications, etc.).

A Guideline ("Towards Financially Sustainable Drinking Shores – Water and Wastewater Systems") had been developed to assist municipalities in understanding the Province's direction and provided a detailed discussion on possible approaches to sustainability. The Province's Principles of Financially Sustainable Water and Wastewater Services are provided below:

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 stormwater 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: Lifecycle 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.

## 1.6 Water Opportunities Act, 2010

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As noted earlier, since the passage of the *Safe Drinking Water Act, 2002*, continuing changes and refinements to the legislation have been introduced. Some of these Bills have found their way into law, while others have not been approved. Bill 72, the *Water Opportunities Act, 2010*, was introduced into legislation on May 18, 2010 and received Royal Assent on November 29, 2010.

The Act provides for the following elements:

- The fostering of innovative water, wastewater and stormwater technologies, services, and practices in the private and public sectors;



- Preparation of water conservation plans to achieve water conservation targets established by the regulations; and
- Preparation of sustainability plans for municipal water services, municipal wastewater services and municipal stormwater services.

With regard to the sustainability plans:

- The Act extends from the water financial plans and requires a more detailed review of the water financial plan and requires a full plan for wastewater and stormwater services; and
- Regulations will provide performance targets for each service – these targets may vary based on the jurisdiction of the regulated entity or the class of entity.

The financial plan shall include:

- An asset management plan for the physical infrastructure;
- A financial plan;
- For water, a water conservation plan;
- An assessment of risks that may interfere with the future delivery of the municipal service, including, if required by the regulations, the risks posed by climate change and a plan to deal with those risks; and
- Strategies for maintaining and improving the municipal service, including strategies to ensure the municipal service can satisfy future demand, consider technologies, services and practices that promote the efficient use of water and reduce negative impacts on Ontario's water resources, and increase co-operation with other municipal service providers.

Performance indicators will be established by service, with the following considerations:

- May relate to the financing, operation or maintenance of a municipal service or to any other matter in respect of what information may be required to be included in a plan;
- May be different for different municipal service providers or for municipal services in different areas of the Province.

Regulations will prescribe:

- Timing;

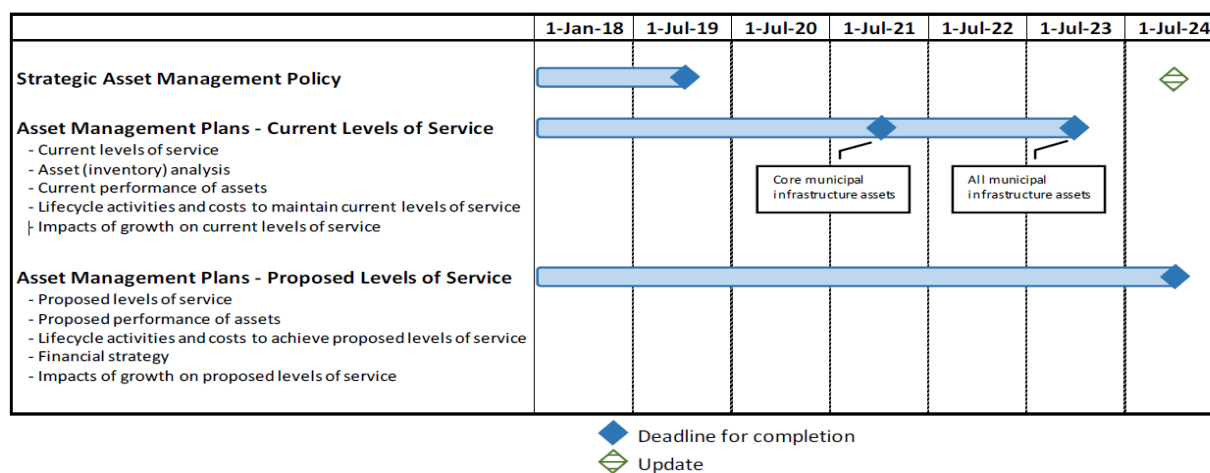


- Contents of the plans;
- Which identified portions of the plan will require certification;
- Public consultation process; and
- Limitations, updates, refinements, etc.

As noted earlier, it is expected that this Act will implement the principles of the S.W.S.S.A. once all regulations are put in place.

## 1.7 Infrastructure for Jobs and Prosperity Act, 2015 (I.J.P.A.)

On June 4, 2015, the Province of Ontario passed the I.J.P.A. which, over time, will require municipalities to undertake and implement asset management plans for all infrastructure they own. On December 27, 2017, the Province released Ontario Regulation 588/17 under the I.J.P.A. which has three phases that municipalities must meet:



Every municipality in Ontario will have to prepare a strategic asset management policy by July 1, 2019. Municipalities will be required to review their strategic asset management policies at least every five years and make updates, as necessary. The subsequent phases are as follows:

- Phase 1 – Asset Management Plan (by July 1, 2021):
  - For core assets, municipalities must have the following:
    - Inventory of assets;
    - Current levels of service measured by standard metrics; and



- Costs to maintain levels of service.
- Phase 2 – Asset Management Plan (by July 1, 2023):
  - Same steps as Phase 1 but for all assets.
- Phase 3 – Asset Management Plan (by July 1, 2024):
  - Builds on Phase 1 and 2 by adding:
    - Proposed levels of service; and
    - Lifecycle management and financial strategy.

In relation to water and wastewater (which is considered a core asset), municipalities will need to have an asset management plan that addresses the related infrastructure by July 1, 2021 (Phase 1). O.Reg. 588/17 specifies that the municipality's asset management plan must include the following for each asset category:

- The current levels of service being provided, determined in accordance with the following qualitative descriptions and technical metrics and based on data from at most the two calendar years prior to the year in which all information required under this section is included in the asset management plan;
- The current performance of each asset category, including:
  - a summary of the assets in the category;
  - the replacement cost of the assets in the category;
  - the average age of the assets in the category, determined by assessing the average age of the components of the assets;
  - the information available on the condition of the assets in the category;
  - a description of the municipality's approach to assessing the condition of the assets in the category, based on recognized and generally accepted good engineering practices where appropriate; and
- The lifecycle activities that would need to be undertaken to maintain the current levels of service.

Upon completion of the asset management plan for water and wastewater services, the Township will need to consider the impacts on the capital plan provided herein.

## 1.8 Forecast Growth and Servicing Requirements

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The Township of Severn services 1,954 metered water customers and 1,669 wastewater customers. There are also 17 water only customers within the Township of

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Ramara (shown as one customer in the following tables). Information on the existing number of customers and existing billable volumes was obtained from the Township.

For future water and wastewater customers to be added to the systems, consideration has been given to development potential within the serviced areas of the Township over the forecast period 2022 to 2030. This data was derived from the 2019 Development Charges Background Study and through discussions with Township staff based on developments currently in various stages of the planning process.

Tables 1-2 through 1-4 provide for the forecast of water and wastewater users and volumes for areas within Severn that are anticipated to experience additional growth. The average annual volumes for new users have been assumed based on historical trends in the consumption of water as follows:

- Coldwater: 140 cu.m. annually;
- Westshore: 130 cu.m. annually; and
- Severn Estates: 105 cu.m. annually.

Since these volumes for new customers are all below the annual 272 cu.m. that is included as part of the minimum charge, there are no additional billable water volumes assumed to be generated as a result of growth.



Table 1-2  
Township of Severn  
2021 to 2030 Water System Forecast

**Water Users Forecast - Coldwater**

Year	Total Users	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
2021	30	15	30	30	30	30	30	30	30	30	30
2022	33		17	33	33	33	33	33	33	33	33
2023	35			18	35	35	35	35	35	35	35
2024	28				14	28	28	28	28	28	28
2025	6					3	6	6	6	6	6
2026	9						5	9	9	9	9
2027	6							3	6	6	6
2028	9								5	9	9
2029	6									3	3
2030	9										5
<b>Total</b>	<b>171</b>	<b>15</b>	<b>47</b>	<b>81</b>	<b>112</b>	<b>129</b>	<b>137</b>	<b>144</b>	<b>152</b>	<b>159</b>	<b>164</b>
m <sup>3</sup> /user	140	140	140	140	140	140	140	140	140	140	140
<b>Annual Flow</b>		<b>2,100</b>	<b>6,580</b>	<b>11,340</b>	<b>15,680</b>	<b>18,060</b>	<b>19,180</b>	<b>20,160</b>	<b>21,280</b>	<b>22,260</b>	<b>22,960</b>

**Water Users Forecast - Westshore**

Year	Total Users	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
2021	65	33	65	65	65	65	65	65	65	65	65
2022	75		38	75	75	75	75	75	75	75	75
2023	75			38	75	75	75	75	75	75	75
2024	65				33	65	65	65	65	65	65
2025	65					33	65	65	65	65	65
2026	65						33	65	65	65	65
2027	65							33	65	65	65
2028	65								33	65	65
2029	65									33	33
2030	65										33
<b>Total</b>	<b>670</b>	<b>33</b>	<b>103</b>	<b>178</b>	<b>248</b>	<b>313</b>	<b>378</b>	<b>443</b>	<b>508</b>	<b>573</b>	<b>606</b>
m <sup>3</sup> /user	130	130	130	130	130	130	130	130	130	130	130
<b>Annual Flow</b>		<b>4,290</b>	<b>13,390</b>	<b>23,140</b>	<b>32,240</b>	<b>40,690</b>	<b>49,140</b>	<b>57,590</b>	<b>66,040</b>	<b>74,490</b>	<b>78,780</b>



Table 1-2 (Cont'd)

**Water Users Forecast - Severn Estates**

Year	Total Users	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
2021	0	-	-	-	-	-	-	-	-	-	-
2022	1		1	1	1	1	1	1	1	1	1
2023	0			-	-	-	-	-	-	-	-
2024	1				1	1	1	1	1	1	1
2025	0					-	-	-	-	-	-
2026	1						1	1	1	1	1
2027	0							-	-	-	-
2028	1								1	1	1
2029	0									-	-
2030	0										-
<b>Total</b>	<b>4</b>	<b>-</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>2</b>	<b>3</b>	<b>3</b>	<b>4</b>	<b>4</b>	<b>4</b>
m <sup>3</sup> /user	105	105	105	105	105	105	105	105	105	105	105
<b>Annual Flow</b>		<b>-</b>	<b>105</b>	<b>105</b>	<b>210</b>	<b>210</b>	<b>315</b>	<b>315</b>	<b>420</b>	<b>420</b>	<b>420</b>

Water Customer Forecast	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Existing	1,954	1,954	1,954	1,954	1,954	1,954	1,954	1,954	1,954	1,954
New - Growth	48	151	260	362	444	518	590	664	736	774
<b>Total</b>	<b>2,002</b>	<b>2,105</b>	<b>2,214</b>	<b>2,316</b>	<b>2,398</b>	<b>2,472</b>	<b>2,544</b>	<b>2,618</b>	<b>2,690</b>	<b>2,728</b>

Billable Water Volume Forecast (m <sup>3</sup> )	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
<b>Volumes &gt; 272m<sup>3</sup>/year</b>										
Existing	53,598	53,598	53,598	53,598	53,598	53,598	53,598	53,598	53,598	53,598
New	6,390	20,075	34,585	48,130	58,960	68,635	78,065	87,740	97,170	102,160
<i>Adjustment due to &lt;272 m<sup>3</sup> included in minimum bill</i>	6,390	20,075	34,585	48,130	58,960	68,635	78,065	87,740	97,170	102,160
<b>Total</b>	<b>53,598</b>	<b>53,598</b>	<b>53,598</b>	<b>53,598</b>	<b>53,598</b>	<b>53,598</b>	<b>53,598</b>	<b>53,598</b>	<b>53,598</b>	<b>53,598</b>





Table 1-3  
Township of Severn  
2021 to 2030 Water System Forecast – Township of Ramara Customers

Year	Total Users	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
2021	0	-	-	-	-	-	-	-	-	-	-
2022	0	-	-	-	-	-	-	-	-	-	-
2023	0	-	-	-	-	-	-	-	-	-	-
2024	0	-	-	-	-	-	-	-	-	-	-
2025	0	-	-	-	-	-	-	-	-	-	-
2026	0	-	-	-	-	-	-	-	-	-	-
2027	0	-	-	-	-	-	-	-	-	-	-
2028	0	-	-	-	-	-	-	-	-	-	-
2029	0	-	-	-	-	-	-	-	-	-	-
2030	0	-	-	-	-	-	-	-	-	-	-
<b>Total</b>	<b>0</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
m <sup>3</sup> /user	2,157	2,157	2,157	2,157	2,157	2,157	2,157	2,157	2,157	2,157	2,157
<b>Annual Flow</b>		<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>

Water Customer Forecast	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Existing	1	1	1	1	1	1	1	1	1	1
New - Growth	-	-	-	-	-	-	-	-	-	-
<b>Total</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>

Billable Water Volume Forecast (m <sup>3</sup> )	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
<b>Volumes &gt; 272m<sup>3</sup>/year</b>										
Existing	1,885	1,885	1,885	1,885	1,885	1,885	1,885	1,885	1,885	1,885
New	-	-	-	-	-	-	-	-	-	-
<i>Adjustment due to &lt;272 m<sup>3</sup> included in minimum bill</i>	-	-	-	-	-	-	-	-	-	-
<b>Total</b>	<b>1,885</b>	<b>1,885</b>	<b>1,885</b>	<b>1,885</b>	<b>1,885</b>	<b>1,885</b>	<b>1,885</b>	<b>1,885</b>	<b>1,885</b>	<b>1,885</b>

Note: Existing customers within Ramara total 17 but are shown as 1 customer for the purposes of the analysis



Table 1-4  
Township of Severn  
2021 to 2030 Wastewater System Forecast

**Wastewater Users Forecast - Westshore**

Year	Total Users	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
2021	65	33	65	65	65	65	65	65	65	65	65
2022	75		38	75	75	75	75	75	75	75	75
2023	75			38	75	75	75	75	75	75	75
2024	65				33	65	65	65	65	65	65
2025	65					33	65	65	65	65	65
2026	65						33	65	65	65	65
2027	65							33	65	65	65
2028	65								33	65	65
2029	65									33	33
2030	65										33
<b>Total</b>	<b>670</b>	<b>33</b>	<b>103</b>	<b>178</b>	<b>248</b>	<b>313</b>	<b>378</b>	<b>443</b>	<b>508</b>	<b>573</b>	<b>606</b>
m <sup>3</sup> /user	130	130	130	130	130	130	130	130	130	130	130
<b>Annual Flow</b>		<b>4,290</b>	<b>13,390</b>	<b>23,140</b>	<b>32,240</b>	<b>40,690</b>	<b>49,140</b>	<b>57,590</b>	<b>66,040</b>	<b>74,490</b>	<b>78,780</b>

**Wastewater Users Forecast - Coldwater**

Year	Total Users	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
2021	30	15	30	30	30	30	30	30	30	30	30
2022	33		17	33	33	33	33	33	33	33	33
2023	35			18	35	35	35	35	35	35	35
2024	28				14	28	28	28	28	28	28
2025	6					3	6	6	6	6	6
2026	9						5	9	9	9	9
2027	6							3	6	6	6
2028	9								5	9	9
2029	6									3	3
2030	9										5
<b>Total</b>	<b>171</b>	<b>15</b>	<b>47</b>	<b>81</b>	<b>112</b>	<b>129</b>	<b>137</b>	<b>144</b>	<b>152</b>	<b>159</b>	<b>164</b>
m <sup>3</sup> /user	140	140	140	140	140	140	140	140	140	140	140
<b>Annual Flow</b>		<b>2,100</b>	<b>6,580</b>	<b>11,340</b>	<b>15,680</b>	<b>18,060</b>	<b>19,180</b>	<b>20,160</b>	<b>21,280</b>	<b>22,260</b>	<b>22,960</b>



Table 1-4 (Cont'd)

Wastewater Customer Forecast	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Existing	1,669	1,669	1,669	1,669	1,669	1,669	1,669	1,669	1,669	1,669
New - Growth	48	150	259	360	442	515	587	660	732	770
<b>Total</b>	<b>1,717</b>	<b>1,819</b>	<b>1,928</b>	<b>2,029</b>	<b>2,111</b>	<b>2,184</b>	<b>2,256</b>	<b>2,329</b>	<b>2,401</b>	<b>2,439</b>

Billable Wastewater Flows Forecast (m <sup>3</sup> )	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
<b>Volumes &gt; 272m<sup>3</sup>/year</b>										
Existing	47,754	47,754	47,754	47,754	47,754	47,754	47,754	47,754	47,754	47,754
New	6,390	19,970	34,480	47,920	58,750	68,320	77,750	87,320	96,750	101,740
<i>Adjustment due to &lt;272 m<sup>3</sup> included in minimum bill</i>	6,390	19,970	34,480	47,920	58,750	68,320	77,750	87,320	96,750	101,740
<b>Total</b>	<b>47,754</b>	<b>47,754</b>	<b>47,754</b>	<b>47,754</b>	<b>47,754</b>	<b>47,754</b>	<b>47,754</b>	<b>47,754</b>	<b>47,754</b>	<b>47,754</b>



# Chapter 2

## Capital Infrastructure Needs



## 2. Capital Infrastructure Needs

### 2.1 Capital Forecast

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Capital forecasts have been provided for the water and wastewater systems and are presented on Tables 2-1 and 2-2 (note: the costs are in uninflated dollars). The basis for these forecasts is the Township's 2021 Capital Budgets, Capital Forecasts and works identified in the 2019 Development Charges Background Study required for growth.

A summary of the capital works related to the water and wastewater services is provided on the following tables.



Table 2-1  
Township of Severn  
2021 to 2030 Water Capital Forecast Summary (Uninflated \$)

Description	Total 2021-2030	Years Undertaken
<b>Capital Expenditures</b>		
<b>Westshore Water Treatment Plant</b>		
Distribution System Fire Flow Testing	20,000	2021
Clearwell Cl2 Analyzer	12,000	2022-2023
New Air Scour Blower	5,000	2022
New Chlorine Panels x 2	15,000	2022
Swabbing	45,000	2023-2025
Low Lift Building Roof	5,000	2027
Low Lift Building Paint Floor	5,000	2,027
Update Lab Equipment	40,000	2028
Filter 1 Rehab	50,000	2029
Plant Roof	100,000	2029-2030
Filter 2 Rehab	50,000	2090
<b>Washago Water Treatment Plant</b>		
Distribution System Fire Flow Testing	2,200	2021
Facility Air Conditioning	26,000	2021
GAC Media	40,000	2022
MCC Upgrade	160,000	2023
Chlorine Dioxide Panel Upgrade	30,000	2025
Distribution Header	25,000	2025
Computer Upgrade	20,000	2028
Upgrade Distribution System	200,000	2029-2030
<b>Severn Estates Water Treatment Plant</b>		
Pave Driveway	15,000	2021
Install Clearwell Cell Cl2 Analyzer	6,000	2022
PLC Upgrade	23,000	2022
Reservoir Cleaning	5,000	2026
Upgrade Distribution System	200,000	2027-2030
<b>Bass Lake Water Treatment Plant</b>		
Two New Drilled Wells (Installation)	100,000	2021
Two New Drilled Wells (Design)	80,000	2021
New Sample Station on Wainman Line	6,500	2021
Indoor Piping Rehab	60,000	2022-2023
Paint Floor	5,000	2026
Swabbing Launches	30,000	2029--2030
<b>Sandcastle Water Treatment Plant</b>		
New Chlorine Analyzer	12,000	2021
Transfer Switch/ MCC	55,000	2022
Low Lift Pump	15,000	2028



Table 2-1 (Cont'd)  
Township of Severn  
2021 to 2030 Water Capital Forecast Summary (Uninflated \$)

Description	Total 2021-2030	Years Undertaken
<b>Coldwater Water Treatment Plant</b>		
New PLC and SCADA	62,000	2021
Distribution System Fire Flow Testing	15,000	2021
4 New GAC Valves	8,000	2022
Reservoir Miltronics	9,000	2022
4 New GAC Valves	8,000	2022
Finish GAC Valves	4,000	2023
Swabbing	38,000	2024-2025, 2029-2030
Repaint Floors/Building	15,000	2025
Paint Floors/Building	15,000	2029
<b>Lifecycle:</b>		
<b>Westshore Water Treatment Plant</b>		
U.V. Disinfection System Replacement	220,000	2021
High Lift Rebuild	35,000	2021
Replace Miltronics	24,000	2022-2023
Filter 1 Rehab/ Replacement	50,000	2023
Polymer Pump Replacement	15,000	2023
Alum Pump Replacement	16,000	2023
Filter 2 Rehab/Replacement	50,000	2024
GAC Replacement ( 1 of each)	200,000	2025-2026
Replace CL2 and pH Analyzer	6,000	2025
Computer Replacement	10,000	2027
Replace Sample Stations	48,000	2029-2030
<b>Washago Water Treatment Plant</b>		
Chlorine Dioxide Control Panel Replacement	60,000	2021
Alum Dosing Panel Replacement	27,000	2021
Stern Pac Pump Replacement	15,000	2022
Replace Miltronics	6,000	2022
VFD Install	50,000	2022
Roof Replacement	80,000	2026-2027
Media Replacement	60,000	2027
GAC Replacement	40,000	2028
Replace Sample Stations	14,000	2029-2030
<b>Severn Estates Water Treatment Plant</b>		
Well Cleaning / Rehab	20,000	2021
Reservoir Cleaning	5,000	2022
Filter Media Replacement	6,500	2021
Replace Miltronics	3,000	2022
Install Clearwell Cell Cl2 Analyzer	6,000	2022
Media Replacement	4,000	2026
Pressure Tank Replacement	5,000	2027



Table 2-1 (Cont'd)  
Township of Severn  
2021 to 2030 Water Capital Forecast Summary (Uninflated \$)

Description	Total 2021-2030	Years Undertaken
Computer Replacement	20,000	2027
Sample Station Replacement	7,000	20230
<b>Bass Lake Water Treatment Plant</b>		
Stainless Piping Rehab (Indoor)	4,500	2021
Well Pump Replacement	3,000	2021
Roof Replacement	8,500	2021
Replace Miltronics	6,000	2022
Well Probe Replacement	3,000	2024
Replace Computer	20,000	2029
Replace Sample Stations	16,000	2030
<b>Sandcastle Water Treatment Plant</b>		
Stern Pac Panel Replacement	26,500	2021
Replace Miltronics	3,000	2022
Replace alum board	30,000	2022
Stern Pac Pump Replacement	15,000	2024
Media Replacement Train 1	10,000	2025
Media Replacement Train 2	10,000	2026
Replace Computer	15,000	2029
Replace pressure tank	1,000	2029
<b>Coldwater Water Treatment Plant</b>		
Reservoir Level Sensors Replacement	8,000	2021
GAC Replacement	200,000	2022-2023, 2027-2028
Replace Roof	60,000	2023
Computer Replacement	15,000	2026
Replace Water Softener	5,000	2029
Replace Sample Stations	40,000	2030
<b>Vehicle Replacement:</b>		
GPS Handheld x 3	3,000	2022-2023
Two (2) Computers (Growth)	2,000	2021
Laptops x 3/ hotspot	1,500	2026
Truck U08	40,000	2022, 2028
Laptops x 2/hotspot	2,000	2022, 2027
Truck U05	40,000	20223, 2029
New Crane Truck	50,000	2023
Truck U06	40,000	2024, 2030
Truck U01	40,000	2024, 2030
Truck U02	20,000	2025
Truck U03	20,000	2025
Truck U04	20,000	2026
Truck U07	50,000	2026





Table 2-1 (Cont'd)  
Township of Severn  
2021 to 2030 Water Capital Forecast Summary (Uninflated \$)

Description	Total 2021-2030	Years Undertaken
<b>Studies and Inspections:</b>		
<b>Westshore Water Treatment Plant</b>		
Backwash Pump 1 Inspection	35,000	2022
HL #2 Inspection	35,000	2023
HL #3 Inspection	35,000	2024
Backwash Pump 2 Inspection	35,000	2025
HL #1 Inspection	35,000	2028
Backwash Pump Inspection	35,000	2030
<b>Washago Water Treatment Plant</b>		
LL # 1 Inspection	30,000	2022
HL # 1 Inspection	30,000	2023
LL# 2 Inspection	30,000	2024
HL#2 Inspection	30,000	2025
HL#3 Inspection	30,000	2026
LL#1 Inspection	30,000	2029
HL#1 Inspection	30,000	2030
<b>Severn Estates Water Treatment Plant</b>		
PLC Upgrade	30,000	2026
HL#1 Inspection	5,000	2024
HL#2 Inspection	5,000	2025
<b>Bass Lake Water Treatment Plant</b>		
HL#1 Inspection	32,000	2026
HL#2 Inspection	32,000	2027
Well 1 Inspection	15,000	2027
Well 2 and 3 Inspections	30,000	2028
HL#3 Inspection	32,000	2028
<b>Sandcastle Water Treatment Plant</b>		
HL#1 Inspection	30,000	2026
HL#3 Inspection	30,000	2027
HL#2 Inspection	30,000	2028
<b>Coldwater Water Treatment Plant</b>		
HL#2 Inspection	32,000	2026
HL#3 Inspection	32,000	2027
Well Inspections	35,000	2027
HL#1 Inspection	32,000	2028
<b>Growth Related:</b>		
<b>Westshore Water Treatment Plant</b>		
Plant Expansion	4,400,000	2027-2029
New Fiber Line from Low Lift	50,000	2021
<b>Severn Estates Water Treatment Plant</b>		
Pump House Upgrade and New well	375,000	2028
<b>Total Water</b>	<b>9,214,200</b>	



Table 2-2  
Township of Severn  
2021 to 2030 Wastewater Capital Forecast Summary (Uninflated \$)

Description	Total 2021-2030	Years Undertaken
<b>Capital Expenditures</b>		
<b>Coldwater Water Pollution Control Plant</b>		
MCC Room Climate Control	120,000	2021
Community Centre SPS Add second pump, piping, rails and Generator	55,000	2022
Hardware SPS panel upgrade	10,000	2022
Donlands SPS Generator	35,000	2022
New Effluent Sampler	12,000	2023
Napier Reid MCC Improvement/Upgrade	100,000	2024
Pipe air to NR Clarifier	6,000	2025
Sludge Storage Panel Repair	150,000	2026-2028
Main SPS Reservoir	200,000	2026
New Force main from Anderson Line	500,000	2028
Collection System Upgrades	200,000	2029-2030
SPS Upgrades	120,000	2029-2030
<b>Westshore Waste Water Treatment Plant</b>		
Main Pump Station Valve Chamber Rebuild	22,000	2021
Forcemain Valve Chamber (New)	40,000	2021
Install MCC for spare air compressor (Parkson Filter)	15,000	2022
Bramshott SPS Generator	50,000	2023
Grayshott SPS Generator	50,000	2023
Generator Aldershott SPS	50,000	2024
Bramshott SPS Valve Chambers	40,000	2025
Wood Ave SPS Valve Chamber	40,000	2025
Grayshott SPS Valve Chambers	40,000	2025
Collection System Upgrades	200,000	2029-2030
SPS Upgrades	120,000	2029-2030
<b>Washago Wastewater / Lagoon</b>		
SPS #3 Panel	35,000	2022
SPS #1 Generator	50,000	2022
SPS # 2 Generator	32,000	2024
SPS #3 Generator	32,000	2025
Desludge Lagoon	125,000	2024-2028
<b>Coldwater Water Pollution Control Plant</b>		
Roof Replacement on MCC, Sludge and Office	50,000	2021
Napier Reed Skimmer Arm Rebuild	40,000	2021
Replace Supernatant Lines	5,500	2023
Replace SS Mixer pump	41,000	2023
Replace SS Blower	12,000	2024
Main building roof replacement	15,000	2024



Table 2-2 (Cont'd)  
Township of Severn  
2021 to 2030 Wastewater Capital Forecast Summary (Uninflated \$)

Description	Total 2021-2030	Years Undertaken
Replace NR Blowers	40,000	2025
Replace SBR Blowers	10,000	2025
<b>Westshore Waste Water Treatment Plant</b>		
Alum Pump Replacement	16,000	2023
Computer Replacement	10,000	2027
Parkson Media Replacement	75,000	2028
UV Replacement	100,000	2028
Replace Compressor	50,000	2029
<b>Washago Wastewater / Lagoon</b>		
SPS #2 Electrical Panel	50,000	2021
Pump Station #2 Rehabilitation	35,000	2022
<b>Vehicle Replacement:</b>		
Two (2) Computers (Growth)	2,000	2021
GPS Handheld x 3	3,000	2022-2023
Laptops x 3/ hotspot	1,500	2026
Truck U08	40,000	2022, 2028
Laptops x 2/hotspot	2,000	2022, 2027
Truck U05	40,000	2023, 2029
New Crane Truck	50,000	2023
Truck U06	40,000	2024, 2030
Truck U01	40,000	2024, 2030
Truck U02	20,000	2025
Truck U03	20,000	2025
Truck U04	20,000	2026
Truck U07	50,000	2026
<b>Washago Wastewater / Lagoon</b>		
Lagoon Study	45,000	2023, 2026, 2028
<b>Growth Related:</b>		
<b>Coldwater Water Pollution Control Plant</b>		
Twin Feed Line to Treatment Plant Design	30,000	2021
Twin feed line to plant	370,000	2022
Plant Expansion Environmental Assessment	70,000	2021
Plant Expansion	1,730,000	2022-2023
Sturgeon Bay Road PS Upgrade	200,000	2027
<b>Westshore Waste Water Treatment Plant</b>		
Timberline Pump Station Panel Upgrade VFD and Pump Upgrades	55,000	2021
Bayou SPS generator, reservoir and property	250,000	2022
Main SPS Upgrade with reservoir	200,000	2022
Wood Ave SPS Generators	50,000	2023
Twin Feed Line to Plant and Valve Chamber	300,000	2023
Lakeside Upgrade SPS	150,000	2024
Engineering for Plant Upgrade	200,000	2024
Plant Expansion	11,540,000	2027-2029
<b>Total Wastewater</b>	<b>18,517,000</b>	



# Chapter 3

## Lifecycle Costing



## 3. Lifecycle Costing

### 3.1 Overview of Lifecycle Costing

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#### 3.1.1 Definition

For many years, lifecycle costing has been used in the field of maintenance engineering and to evaluate the advantages of using alternative materials in construction or production design. The method has gained wider acceptance and use in the areas of industrial decision-making and the management of physical assets.

By definition, lifecycle costs are all the costs which are incurred during the lifecycle of a physical asset, from the time its acquisition is first considered to the time it is taken out of service for disposal or redeployment. The stages which the asset goes through in its lifecycle are specification, design, manufacture (or build), install, commission, operate, maintain and disposal. Figure 3-1 depicts these stages in a schematic form.

#### 3.1.2 Financing Costs

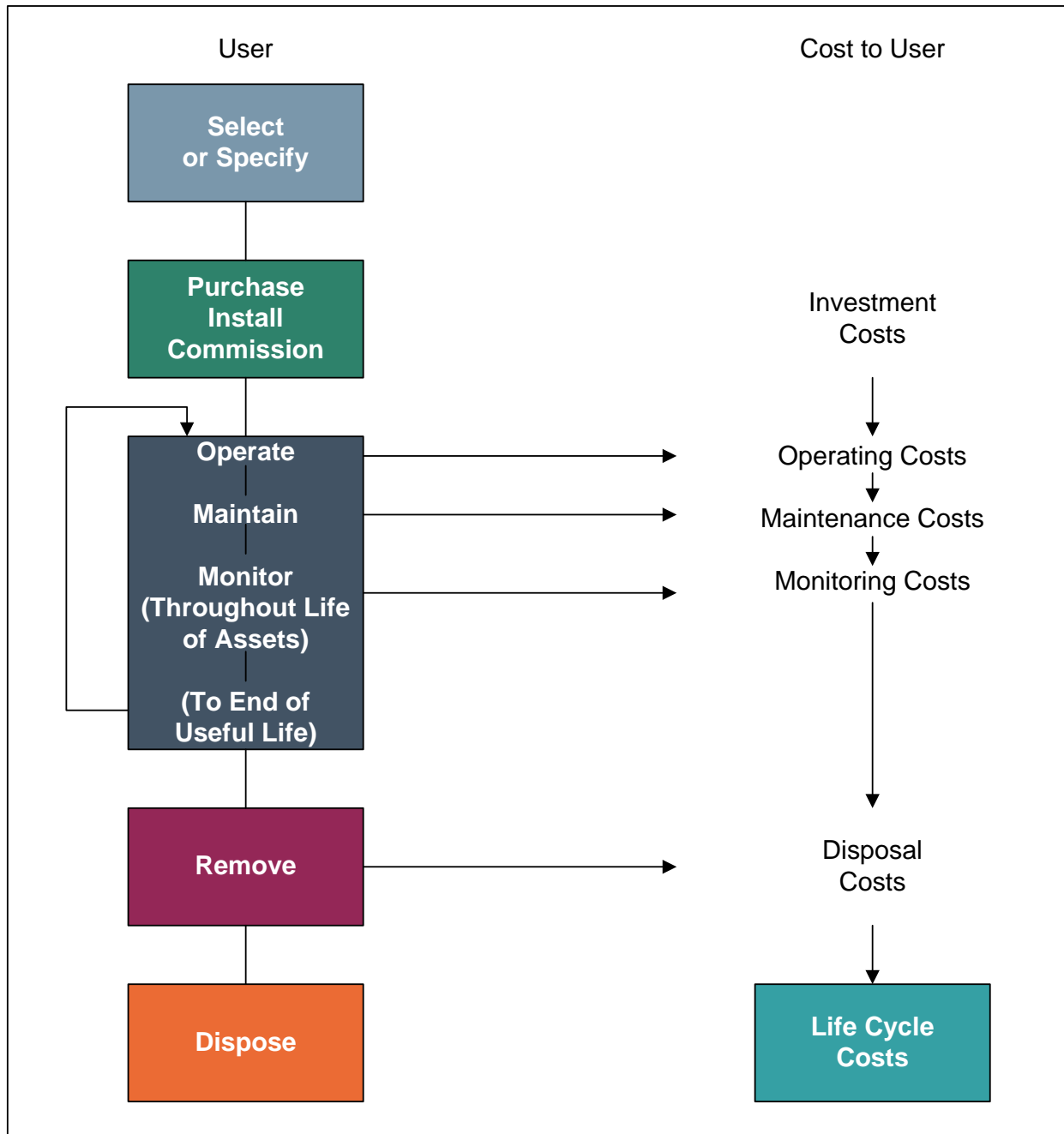
This section will focus on financing mechanisms in place to fund the costs incurred throughout the asset's life.

In a municipal context, services are provided to benefit tax/rate payers. Acquisition of assets is normally timed in relation to direct needs within the community. At times, economies of scale or technical efficiencies will lead to oversizing an asset to accommodate future growth within the Township. Over the past few decades, new financing techniques such as development charges have been employed based on the underlying principle of having tax/rate payers who benefit directly from the service paying for that service. Operating costs which reflect the cost of the service for that year are charged directly to all existing tax/rate payers who have received the benefit. Operating costs are normally charged through the tax base or user rates.

Capital expenditures are recouped through several methods, with operating budget contributions, development charges, reserves, developer contributions and debentures, being the most common.



Figure 3-1  
Lifecycle Costing



New construction related to growth could produce development charges and developer contributions (e.g. works internal to a subdivision which are the responsibility of the developer to construct) to fund a significant portion of projects, where new assets are being acquired to allow growth within the Township to continue. As well, debentures



could be used to fund such works, with the debt charge carrying costs recouped from taxpayers in the future.

Capital construction to replace existing infrastructure, however, is largely not growth-related and will therefore not yield development charges or developer contributions to assist in financing these works. Hence, a municipality will be dependent upon debentures, reserves and contributions from the operating budget to fund these works.

Figure 3-2 depicts the costs of an asset from its initial conception through to replacement and then continues to follow the associated costs through to the next replacement.

As referred to earlier, growth-related financing methods such as development charges and developer contributions could be utilized to finance the growth-related component of the new asset. These revenues are collected (indirectly) from the new homeowner who benefits directly from the installation of this asset. Other financing methods may be used as well to finance the non-growth-related component of this project, such as reserves which have been collected from past tax/rate payers, operating budget contributions which are collected from existing tax/rate payers and debenturing which will be carried by future tax/rate payers. Ongoing costs for monitoring, operating and maintaining the asset will be charged annually to the existing tax/rate payer.

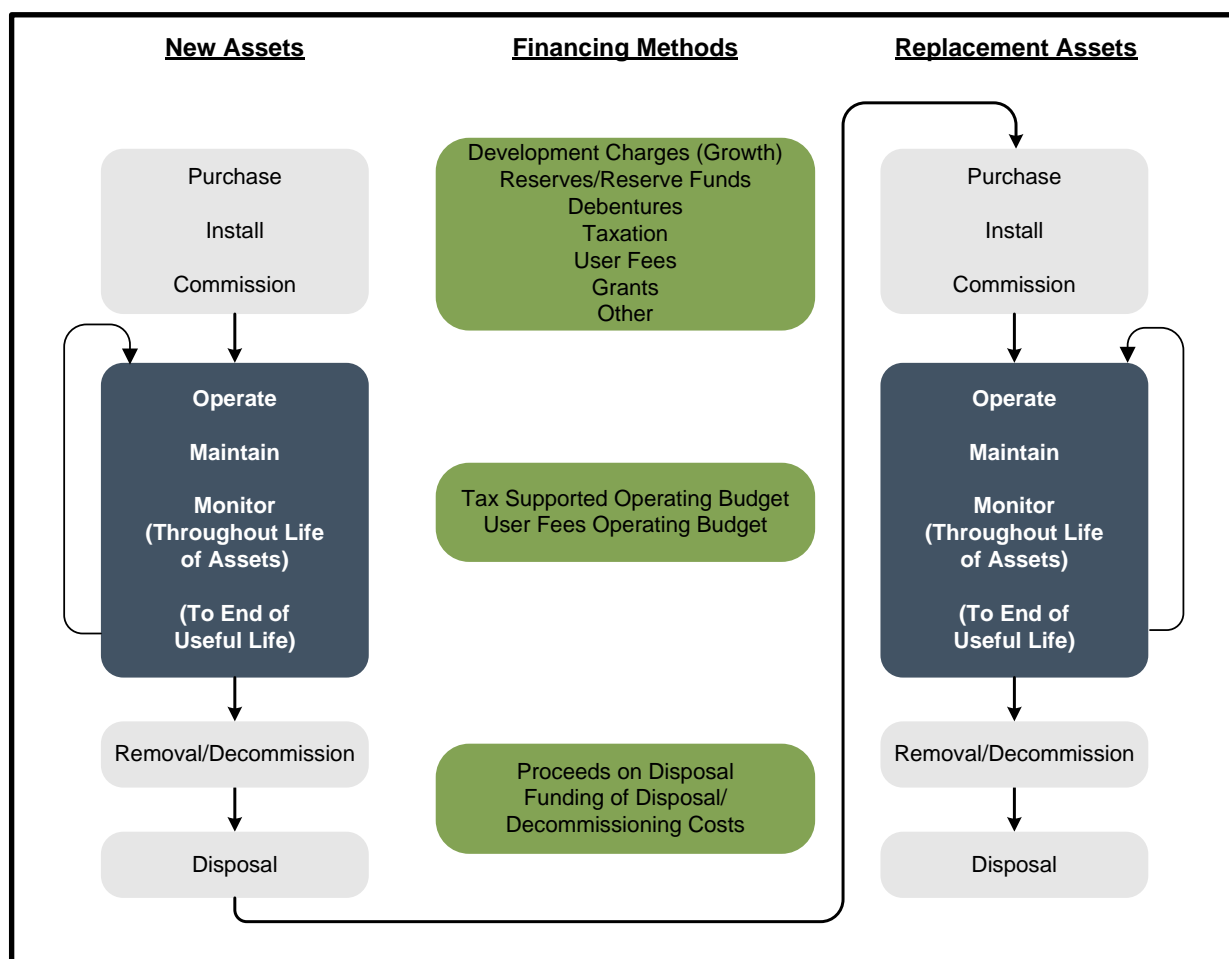
When the asset requires replacement, the sources of financing will be limited to reserves, debentures and contributions from the operating budget. At this point, the question is raised: "If the cost of replacement is to be assessed against the tax/rate payer who benefits from the replacement of the asset, should the past tax/rate payer pay for this cost or should future rate payers assume this cost?" If the position is taken that the past user has used up the asset, hence he should pay for the cost of replacement, then a charge should be assessed annually through the life of the asset, to have funds available to replace it when the time comes. If the position is taken that the future tax/rate payer should assume this cost, then debenturing and, possibly, a contribution from the operating budget should be used to fund this work.

Charging for the cost of using up an asset is the fundamental concept behind depreciation methods utilized by the private sector. This concept allows for expending the asset as it is used up in the production process. The tracking of these costs' forms part of the product's selling price and, hence, end-users are charged for the asset's



depreciation. The same concept can be applied in a municipal setting to charge existing users for the asset's use and set those funds aside in a reserve to finance the cost of replacing the asset in the future.

Figure 3-2  
Financing Lifecycle Costs



### 3.1.3 Costing Methods

There are two fundamental methods of calculating the cost of the usage of an asset and for the provision of the revenue required when the time comes to retire and replace it. The first method is the Depreciation Method. This method recognizes the reduction in the value of the asset through wear and tear and aging. There are two commonly used forms of depreciation: the straight-line method and the reducing balance method (shown graphically in Figure 3-3).





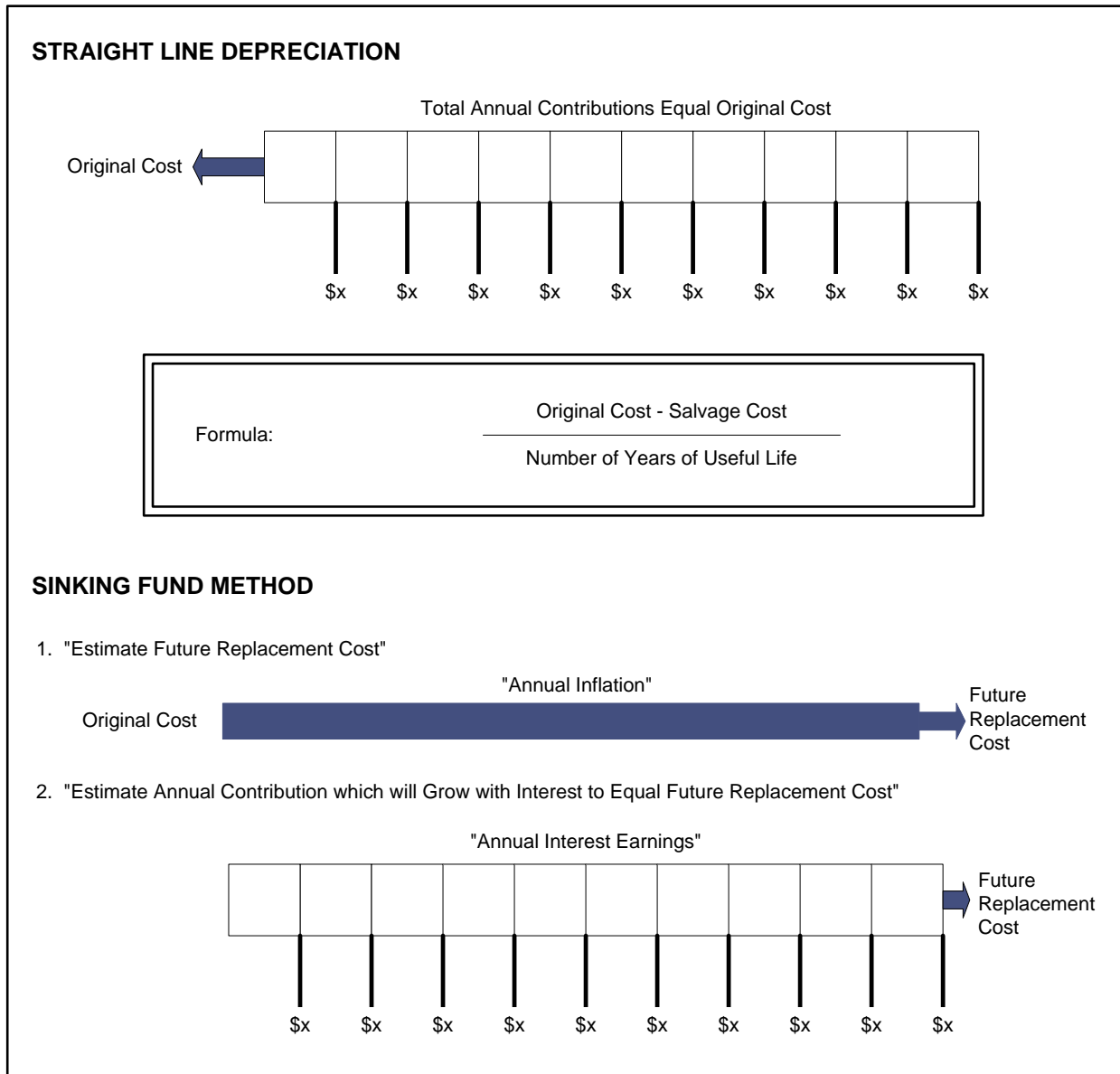
The straight-line method is calculated by taking the original cost of the asset, subtracting its estimated salvage value (estimated value of the asset at the time it is disposed of) and dividing this by the estimated number of years of useful life. The reducing balance method is calculated by utilizing a fixed percentage rate and this rate is applied annually to the undepreciated balance of the asset value.

The second method of lifecycle costing is the sinking fund method. This method first estimates the future value of the asset at the time of replacement. This is done by inflating the original cost of the asset at an assumed annual inflation rate. A calculation is then performed to determine annual contributions (equal or otherwise) which, when invested, will grow with interest to equal the future replacement cost.

The preferred method used herein for forecasting purposes is the sinking fund method of lifecycle costing.



Figure 3-3



## 3.2 Impact on Budgets

Detailed water and wastewater systems inventory information was obtained from the Township. The age of the water system dates back to the mid 1970s. The water system has been expanded throughout the years. The wastewater system dates back to the mid 1980s. The total value of existing water infrastructure is \$58.53 million, and the value of existing wastewater infrastructure is \$42.43 million.



The detailed water and wastewater inventories are provided in Appendices A and B, respectively. As well, the lifecycle “sinking fund” contribution amounts for each piece of infrastructure have also been included. These calculations determine the level of investment the Township may wish to consider as part of its budgeting practices. This information is summarized in Figure 3-4.

**Figure 3-4**  
**Township of Severn**  
**Summary of Water and Wastewater Infrastructure**

Area	Total Replacement Value	Suggested amount to be included in 10-year forecast based on estimated life	Amount included in 10-year forecast	Net Replacement for Future Lifecycle	Annual Lifecycle Replacement
<b>Water</b>					
Water Facilities	16,134,400	3,907,900	3,278,667	12,226,500	574,807
Fleet & Equipment*	448,800	257,550	360,000	191,250	14,438
Watermains	41,945,900	8,668,300	590,700	33,277,600	1,142,376
<b>Total Water</b>	<b>58,529,100</b>	<b>12,833,750</b>	<b>4,229,367</b>	<b>45,695,350</b>	<b>1,731,621</b>
<b>Wastewater</b>					
Wastewater Facilities	17,477,700	1,483,900	2,350,549	15,993,800	689,867
Fleet & Equipment*	448,800	257,550	251,500	191,250	14,438
Sanitary Sewers	24,503,900	3,207,100	1,165,000	21,296,800	633,828
<b>Total Wastewater</b>	<b>42,430,400</b>	<b>4,948,550</b>	<b>3,767,049</b>	<b>37,481,850</b>	<b>1,338,133</b>
<b>Total</b>	<b>100,959,500</b>	<b>17,782,300</b>	<b>7,996,416</b>	<b>83,177,200</b>	<b>3,069,754</b>

Investment per customer is \$29,953 for water and \$25,423 for wastewater

\* Value of Fleet and Equipment is split equally between water and wastewater services

With respect to lifecycle costing contained in the Appendices, the following information was taken into consideration:

- approximate age;
- material type;
- main lengths;
- diameter of the mains;
- estimated useful life; and
- estimated replacement costs.

Summaries of both water and wastewater assets are shown on Figures 3-5 and 3-6. These figures show when the assets are coming due and the cost of replacement in 2020 dollars.



Figure 3-5  
Township of Severn  
Summary of Water Infrastructure Replacement Years (2021 \$)

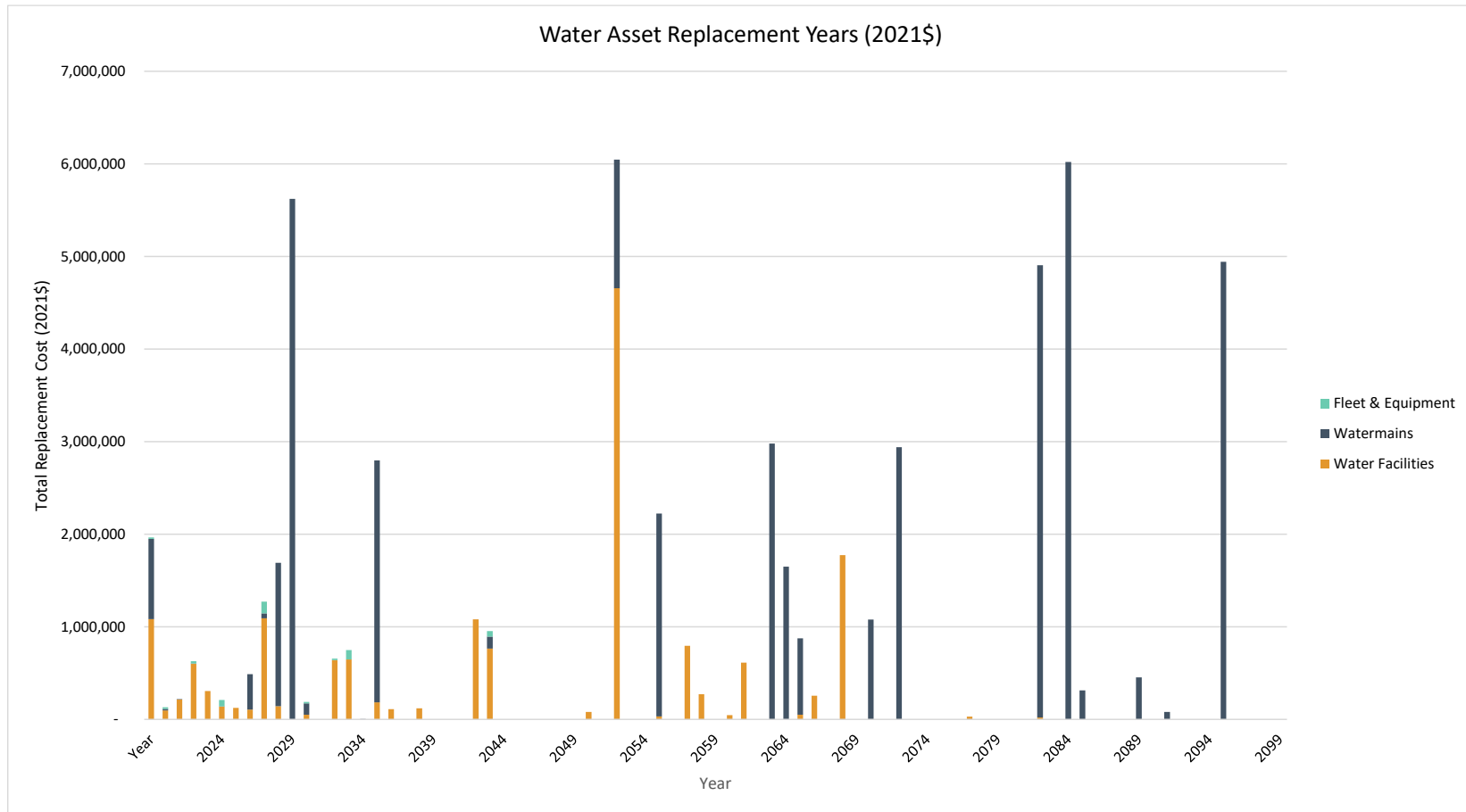
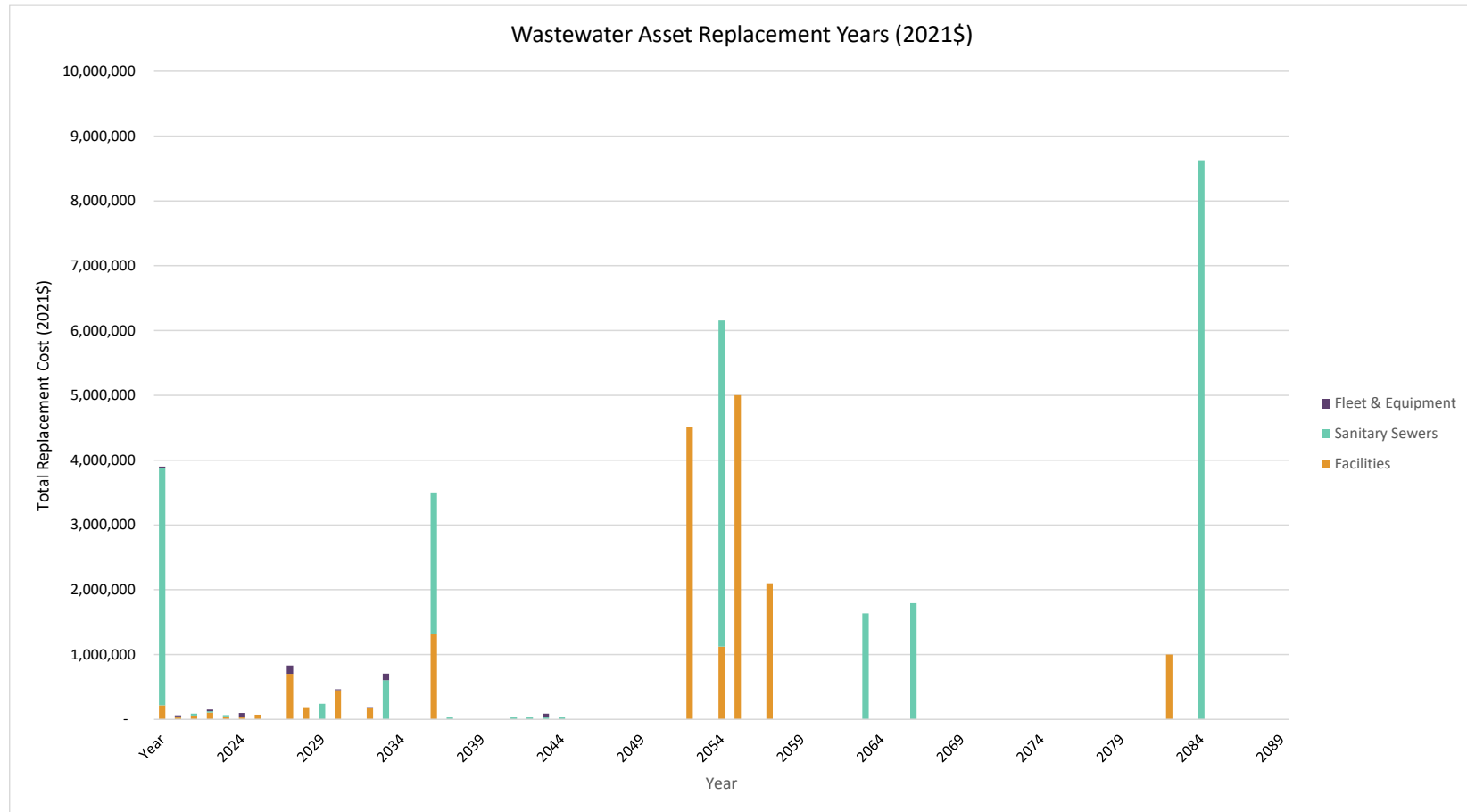




Figure 3-5  
Township of Severn  
Summary of Wastewater Infrastructure Replacement Years (2021 \$)





# Chapter 4

## Capital Cost Financing Options



## 4. Capital Cost Financing Options

### 4.1 Summary of Capital Cost Financing Alternatives

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Historically, the powers that municipalities had to raise alternative revenues to taxation to fund capital services have been restrictive. Over the past decade, legislative reforms have been introduced. Some of these have expanded municipal powers (e.g. Bill 26 introduced in 1996 to provide for expanded powers for imposing fees and charges), while others appear to restrict them (Bill 98 in 1997 providing amendments to the D.C.A. with additional amendments in effect as of 2020 which may further restricts revenues from growth as per Bills 108, 197, and 213).

The Province passed a new *Municipal Act* which came into force on January 1, 2003. Part XII of the Act and O.Reg. 584/06 govern a municipality's ability to impose fees and charges. In contrast to the previous *Municipal Act*, this Act provides municipalities with broadly defined powers and does not differentiate between fees for operating and capital purposes. It is anticipated that the powers to recover capital costs under the previous *Municipal Act* will continue within the new Statutes and Regulations, as indicated by s.9(2) and s.452 of the new *Municipal Act*.

Under s.484 of *Municipal Act, 2001*, the *Local Improvement Act* was repealed with the in-force date of the *Municipal Act* (January 1, 2003). The municipal powers granted under the *Local Improvement Act* now fall under the jurisdiction of the *Municipal Act*. To this end, on December 20, 2002, O.Reg. 390/02 was filed, which allowed for the *Local Improvement Act* to be deemed to remain in force until April 1, 2003. O.Reg. 119/03 was enacted on April 19, 2003, which restored many of the previous *Local Improvement Act* provisions; however, the authority is now provided under the *Municipal Act*.

The methods of capital cost recovery available to municipalities are provided as follows:



<b>Recovery Methods</b>	<b>Section Reference</b>
• <i>Development Charges Act, 1997</i>	4.2
• <i>Municipal Act</i>	4.3
○ Fees and Charges	
○ Sewer and Water Area Charges	
○ Connection Fees	
○ Local Improvements	
• Grant Funding Availability	4.4
• Existing Reserves/Reserve Funds	4.5
• Debenture Financing	4.6
• Infrastructure Ontario	4.7
• Recommended Capital Financing Approach	4.8

## **4.2 Development Charges Act, 1997**

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In November, 1996, the Ontario Government introduced Bill 98, a new *Development Charges Act*. The Province’s stated intentions were to “create new construction jobs and make home ownership more affordable” by reducing the charges and to “make municipal Council decisions more accountable and more cost effective.” The basis for this Act is to allow municipalities to recover the growth-related capital cost of infrastructure necessary to accommodate new growth within the municipality. Generally, the Act provided the following changes to the former Act:

- Replace those sections of the 1989 Act that govern municipal development charges;
- Limit services which can be financed from development charges, specifically excluding parkland acquisition, administration buildings, and cultural, entertainment, tourism, solid waste management and hospital facilities;
- Ensure that the level of service used in the calculation of capital costs will not exceed the average level of service over the previous decade. Level of service is to be measured from both a quality and quantity perspective;
- Provide that uncommitted excess capacity available in existing municipal facilities and benefits to existing residents are removed from the calculation of the charge;
- Ensure that the development charge revenues collected by municipalities are spent only on those capital costs identified in the calculation of the development charge;





- Require municipalities to contribute funds (e.g. taxes, user charges or other non-development charge revenues) to the financing of certain projects primarily funded from development charges. The municipal contribution is 10 percent for services such as recreation, parkland development, libraries, etc.;
- Permit (but apparently not require) municipalities to grant developers credits for the direct provision of services identified in the development charge calculation and, when credits are granted, require the municipality to reimburse the developer for the costs the municipality would have incurred if the project had been financed from the development charge reserve fund;
- Set out provisions for front-end financing capital projects (limited to essential services) required to service new development; and
- Set out provisions for appeals and complaints.

In late 2015, the Province approved further amendments to the D.C.A. With respect to water and wastewater, the only changes are for the municipality to provide an asset management calculation for the growth-related works and for the Council to consider (but not necessarily approve) area-specific rates.

Most recently, a number of amendments to the D.C.A. were made through the Bill 108 the *More Homes, More Choice Act, 2019*, Bill 138 the *Plan to Build Ontario Together Act, 2019*, Bill 197 the *COVID-19 Economic Recovery Act, 2020*, and Bill 213 the *Better for People, Smarter for Business Act, 2020*. With respect to water and wastewater, a few changes may impact D.C. revenue collections:

1. Timing of Collection:

- a. D.C. Rate Freeze – For developments proceeding through site plan or zoning by-law amendment, the D.C. rate is frozen at the time the application is submitted. The D.C. remains frozen for two years after the application is approved. Should the D.C. study be updated to increase water and wastewater D.C. rates during this period, the Township would not be able to collect for this increase.
- b. D.C. Installment Payments – For rental housing and institutional development D.C.s are paid over 5 years and for non-profit housing, D.C.s are paid over 20 years. This provides a delay in receipt of D.C. revenues which will need to be cash-flowed by the Township.



2. Mandatory Exemption (additional units) – For existing dwellings, one additional dwelling unit could be constructed within the existing dwelling. This additional dwelling unit is exempt from D.C.s. With the changes to the Act, one additional dwelling unit may be constructed within a new residential dwelling, which would be exempt from D.C.s. Further, one ancillary dwelling unit may be constructed on the same property as a new unit. This ancillary dwelling would be exempt from D.C.s. As these new additional units are exempt from D.C.s, no D.C. revenue may be collected for these units, however, each additional unit provides additional population which requires capacity in the water and wastewater treatment plants. As a result, consideration for these additional units should be made during the D.C. study process to ensure all capacity available to growth is allocated appropriately.
3. Mandatory Exemption (universities) – A new mandatory exemption has been introduced which exempts the payment of D.C.s for developments of land intended for use by a university that receives operating funds from the Government.

### 4.3 Municipal Act

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Part XII of the *Municipal Act* provides municipalities with broad powers to impose fees and charges via passage of a by-law. These powers, as presented in s.391(1), include imposing fees or charges:

- “for services or activities provided or done by or on behalf of it;
- for costs payable by it for services or activities provided or done by or on behalf of any other municipality or local board; and
- for the use of its property including property under its control.”

Restrictions are provided to ensure that the form of the charge is not akin to a poll tax. Any charges not paid under this authority may be added to the tax roll and collected in a like manner. The fees and charges imposed under this part are not appealable to the Local Planning Appeal Tribunal (LPAT, formerly known as the O.M.B.).

Section 221 of the previous *Municipal Act* permitted municipalities to impose charges, by by-law, on owners or occupants of land who would or might derive benefit from the



construction of sewage (storm and sanitary) or water works being authorized (in a specific benefit area). For a by-law imposed under this section of the previous Act:

- A variety of different means could be used to establish the rate and recovery of the costs and could be imposed by a number of methods at the discretion of Council (i.e. lot size, frontage, number of benefiting properties, etc.);
- Rates could be imposed with respect to costs of major capital works, even though an immediate benefit was not enjoyed;
- Non-abutting owners could be charged;
- Recovery was authorized against existing works, where a new water or sewer main was added to such works, "notwithstanding that the capital costs of existing works has in whole or in part been paid;"
- Charges on individual parcels could be deferred;
- Exemptions could be established;
- Repayment was secured; and
- LPAT approval was not required.

While under the new *Municipal Act* no provisions are provided specific to the previous s.221, the intent to allow capital cost recovery through fees and charges is embraced within s.391. The new *Municipal Act* also maintains the ability of municipalities to impose capital charges for water and sewer services on landowners not receiving an immediate benefit from the works. Under s.391(2) of the Act, "a fee or charge imposed under subsection (1) for capital costs related to sewage or water services or activities may be imposed on persons not receiving an immediate benefit from the services or activities but who will receive a benefit at some later point in time." Also, capital charges imposed under s.391 are not appealable to the LPAT on the grounds that the charges are "unfair or unjust."

Section 222 of the previous *Municipal Act* permitted municipalities to pass a by-law requiring buildings to connect to the municipality's sewer and water systems, charging the owner for the cost of constructing services from the mains to the property line. Under the new *Municipal Act*, this power still exists under Part II, General Municipal Powers (s.9 (3) b of the *Municipal Act*). Enforcement and penalties for this use of power are contained in s.427 (1) of the *Municipal Act*.

Under the previous *Local Improvement Act*:



- A variety of different types of works could be undertaken, such as watermain, storm and sanitary sewer projects, supply of electrical light or power, bridge construction, sidewalks, road widening and paving;
- Council could pass a by-law for undertaking such work on petition of a majority of benefiting taxpayers, on a 2/3 vote of Council and on sanitary grounds, based on the recommendation of the Minister of Health. The by-law was required to go to the LPAT, which might hold hearings and alter the by-law, particularly if there were objections;
- The entire cost of a work was assessed only upon the lots abutting directly on the work, according to the extent of their respective frontages, using an equal special rate per metre of frontage; and
- As noted, this Act was repealed as of April 1, 2003; however, O.Reg. 119/03 was enacted on April 19, 2003 which restores many of the previous *Local Improvement Act* provisions; however, the authority is now provided under the *Municipal Act*.

## 4.4 Grant Funding Availability

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### Federal Infrastructure Funding

#### Phase 1 (April 1, 2016 to March 31, 2018)

Funding was provided by the Government of Canada to expressly help municipalities with repair and rehabilitation projects. Funding was mainly provided through the Clean Water and Wastewater Fund (C.W.W.F.) and Public Transit Infrastructure Fund (P.T.I.F.) in Federal Phase 1 projects. The C.W.W.F. was announced in Ontario on September 15, 2016. The Fund is \$1.1 billion for water, wastewater, and storm water systems in Ontario. The federal government provided \$569 million and Ontario and municipal governments provided \$275 million each.

Over 1,300 water, wastewater, and storm water projects have been approved in Ontario through the C.W.W.F. In Ontario, P.T.I.F. accounted for nearly \$1.5 billion of the national total of \$3.4 billion. The program was allocated by ridership numbers from the Canadian Urban Transit Association. The Association of Municipalities of Ontario (A.M.O.) understands that \$1 billion of Ontario's share has been approved.



## Phase 2: Next Steps

The federal government announced Phase 2 of its infrastructure funding plan with a total of \$180 billion spent over 11 years. In addition to the balance of funding for previous green, social, and public transit infrastructure funds (\$20 billion each, including Phase 1), the government has added \$10.1 billion for trade and transportation infrastructure and \$2 billion for rural and northern communities. This funding must be implemented by agreements with each Province and Territory.

In Phase 2, Ontario will be eligible for \$11.8 billion including \$8.3 billion for transit, \$2.8 billion for green infrastructure, \$407 million for community, culture and recreation and \$250 million for rural and northern communities.

## Federal Gas Tax

The federal Gas Tax is a permanent source of funding provided up front, twice-a-year, to Provinces and Territories, who in turn flow this funding to their municipalities to support local infrastructure priorities. Municipalities can pool, bank and borrow against this funding, providing significant financial flexibility. Every year, the federal Gas Tax provides over \$2 billion and supports approximately 2,500 projects in communities across Canada. Each municipality selects how best to direct the funds with the flexibility provided to make strategic investments across 18 different project categories, which include other water and wastewater servicing.

## Ontario Government

The Province has taken steps to increase municipal infrastructure funding. The Ontario Community Infrastructure Fund (O.C.I.F.) was increased in 2016 with formula-based support growing to \$200 million, and application funding growing to \$100 million annually by 2018/2019. As well, \$15 million annually will go to the new Connecting Links program to help pay for the construction and repair costs of municipal roads that connect communities to provincial highways. This is on top of the Building Ontario Up investment of \$130 billion in public infrastructure over 10 years starting in 2015.

## Potential Grant Funding

From time to time, programs are made available by senior levels of government to assist municipalities in funding capital projects subsequent to major economic



downturns (funding for municipalities were available after the U.S. financial crisis in 2008 rippled into Canada). If major grant funding were to be available after COVID-19, the Township could revisit the proposed capital forecast and rates provided herein.

## 4.5 Existing Reserves/Reserve Funds

The Township has established reserves and reserve funds for water and wastewater costs. The following table summarizes the water and wastewater reserves utilized in this analysis and their respective (estimated) balances as of December 31, 2020:

Reserve	Dec. 31 2020 (Estimated)
<b>Water</b>	
Capital Reserve Fund	1,070,419
Development Charges Reserve Fund - Coldwater Water	11,795
Development Charges Reserve Fund - Westshore Water	(634,085)
Development Charges Reserve Fund - Bass Lake Water	36,731
Development Charges Reserve Fund - Severn Estates Water	27,178
Utilities Equipment/Vehicle Reserve	207,076
Westshore Upgrade & Maintenance Reserve Fund - Water Portion	280,652
<b>Wastewater</b>	
Capital Reserve Fund	435,308
Development Charges Reserve Fund - Coldwater Wastewater	(1,107,909)
Development Charges Reserve Fund - Westshore Wastewater	(311,757)
Westshore Upgrade & Maintenance Reserve Fund - Wastewater Portion	280,652
Utilities Equipment/Vehicle Reserve	207,076

## 4.6 Debenture Financing

Although it is not a direct method of minimizing the overall cost to the ratepayer, debentures are used by municipalities to assist in cash flowing large capital expenditures.

The Ministry of Municipal Affairs regulates the level of debt incurred by Ontario municipalities, through its powers established under the *Municipal Act*. Ontario Regulation 403/02 provides the current rules respecting municipal debt and financial obligations. Through the rules established under these regulations, a municipality's debt capacity is capped at a level where no more than 25% of the municipality's own purpose revenue may be allotted for servicing the debt (i.e. debt charges). The Township of Severn's 2018 calculation on Debt Capacity is shown on Schedule 81 of



the Township's most recent Financial Information Return (F.I.R.). This calculates to the Township's estimated annual repayment limit of approximately \$3.60 million. Based upon 20-year financing at an assumed rate of 4%, the available debt for the Township is approximately \$48.92 million.

## 4.7 Infrastructure Ontario

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Infrastructure Ontario (I.O.) is an arms-length crown corporation, which has been set up as a tool to offer low-cost and longer-term financing to assist municipalities in renewing their infrastructure (this corporation has merged the former O.S.I.F.A. into its operations). I.O. combines the infrastructure renewal needs of municipalities into an infrastructure investment "pool." I.O. will raise investment capital to finance loans to the public sector by selling a new investment product called Infrastructure Renewal Bonds to individual and institutional investors.

I.O. provides access to infrastructure capital that would not otherwise be available to smaller borrowers. Larger borrowers receive a longer term on their loans than they could obtain in the financial markets and can also benefit from significant savings on transaction costs such as legal costs and underwriting commissions. Under the I.O. approach, all borrowers receive the same low interest rate. I.O. will enter into a financial agreement with each municipality subject to technical and credit reviews, for a loan up to the maximum amount of the loan request.

The first round of the former O.S.I.F.A.'s 2004/2005 infrastructure renewal program was focused on municipal priorities of clean water infrastructure, sewage treatment facilities, municipal roads and bridges, public transit and waste management infrastructure. The focus of the program was expanded in 2005/2006 somewhat to include:

- clean water infrastructure;
- sewage infrastructure;
- waste management infrastructure;
- municipal roads and bridges;
- public transit;
- municipal long-term care homes;
- renewal of municipal social housing and culture; and
- tourism and recreation infrastructure.



With the merging of O.S.I.F.A. and I.O., the program was broadened in late 2006 to also include municipal administrative buildings, local police and fire stations, emergency vehicles and equipment, ferries, docks and municipal airports.

To be eligible to receive these loans, municipalities must submit a formal application along with pertinent financial information. Allotments are prioritized and distributed based upon the Province’s assessment of need.

The analysis provided herein assumes that the Township will require growth-related debt financing of \$5.08 million for the Westshore water treatment plant expansion beginning in 2027. For wastewater, debt needs are more significant. Non-growth-related debt financing of \$1.52 million is required from 2022 to 2024. In addition, \$10 million in growth-related debt will be required for the Westshore plant expansion, and \$1.81 million is required for various growth-related works in Coldwater.

## 4.8 Recommended Capital Financing Approach

Of the various funding alternatives provided in this section, the following are recommended for further consideration by the Township of Severn for the capital expenditures (inflated) provided in Chapter 2:

Description	Water 2021-2030	Wastewater 2021-2030
Provincial/Federal Grants	-	-
Development Charges Reserve Fund - Coldwater	-	67,443
Development Charges Reserve Fund - Westshore	12,500	4,072,500
Development Charges Reserve Fund - Severn Estates	71,833	-
Non-Growth Related Debenture Requirements	-	1,520,000
Growth Related Debenture Requirements - Coldwater	-	1,812,888
Growth Related Debenture Requirements - Westshore	5,082,000	10,000,000
Growth Related Debenture Requirements - Severn Estates	-	-
Operating Contributions	-	-
Westshore Upgrade & Maintenance Reserve Fund	280,765	280,652
Utilities Equipment/Vehicle Reserve	360,000	341,034
Water/Wastewater Capital Reserve Fund	4,523,602	2,698,483
<b>Total</b>	<b>10,330,700</b>	<b>20,793,000</b>

Tables 4-1 and 4-2 provide for the full capital expenditure and funding program by year for water and wastewater, respectively.





Table 4-1  
Township of Severn  
Capital Budget Forecast – Water (inflated \$)

Description	Budget 2021	Total	Forecast									
			2022	2023	2024	2025	2026	2027	2028	2029	2030	
<b>Capital Expenditures</b>												
<b>Westshore Water Treatment Plant</b>												
Distribution System Fire Flow Testing	20,000	-	-	-	-	-	-	-	-	-	-	-
Clearwell Cl2 Analyzer	-	12,000	6,000	6,000	-	-	-	-	-	-	-	-
New Air Scour Blower	-	5,000	5,000	-	-	-	-	-	-	-	-	-
New Chlorine Panels x 2	-	15,000	15,000	-	-	-	-	-	-	-	-	-
Swabbing	-	48,000	-	16,000	16,000	16,000	-	-	-	-	-	-
Low Lift Building Roof	-	6,000	-	-	-	-	-	-	6,000	-	-	-
Low Lift Building Paint Floor	-	6,000	-	-	-	-	-	-	6,000	-	-	-
Update Lab Equipment	-	46,000	-	-	-	-	-	-	-	46,000	-	-
Filter 1 Rehab	-	59,000	-	-	-	-	-	-	-	-	59,000	-
Plant Roof	-	119,000	-	-	-	-	-	-	-	-	59,000	60,000
Filter 2 Rehab	-	60,000	-	-	-	-	-	-	-	-	-	60,000
<b>Washago Water Treatment Plant</b>												
Distribution System Fire Flow Testing	2,200	-	-	-	-	-	-	-	-	-	-	-
Facility Air Conditioning	26,000	-	-	-	-	-	-	-	-	-	-	-
GAC Media	-	41,000	41,000	-	-	-	-	-	-	-	-	-
MCC Upgrade	-	166,000	-	166,000	-	-	-	-	-	-	-	-
Chlorine Dioxide Panel Upgrade	-	32,000	-	-	-	32,000	-	-	-	-	-	-
Distribution Header	-	27,000	-	-	-	27,000	-	-	-	-	-	-
Computer Upgrade	-	23,000	-	-	-	-	-	-	-	23,000	-	-
Upgrade Distribution System	-	237,000	-	-	-	-	-	-	-	-	117,000	120,000
<b>Severn Estates Water Treatment Plant</b>												
Pave Driveway	15,000	-	-	-	-	-	-	-	-	-	-	-
Install Clearwell Cell Cl2 Analyzer	-	6,000	6,000	-	-	-	-	-	-	-	-	-
PLC Upgrade	-	23,000	23,000	-	-	-	-	-	-	-	-	-
Reservoir Cleaning	-	6,000	-	-	-	-	6,000	-	-	-	-	-
Upgrade Distribution System	-	232,000	-	-	-	-	-	56,000	57,000	59,000	60,000	-
<b>Bass Lake Water Treatment Plant</b>												
Two New Drilled Wells (Installation)	100,000	-	-	-	-	-	-	-	-	-	-	-
Two New Drilled Wells (Design)	80,000	-	-	-	-	-	-	-	-	-	-	-
New Sample Station on Wainman Line	6,500	-	-	-	-	-	-	-	-	-	-	-
Indoor Piping Rehab	-	62,000	31,000	31,000	-	-	-	-	-	-	-	-
Paint Floor	-	6,000	-	-	-	-	6,000	-	-	-	-	-
Swabbing Launches	-	36,000	-	-	-	-	-	-	-	-	18,000	18,000
<b>Sandcastle Water Treatment Plant</b>												
New Chlorine Analyzer	12,000	-	-	-	-	-	-	-	-	-	-	-
Transfer Switch/ MCC	-	56,000	56,000	-	-	-	-	-	-	-	-	-
Low Lift Pump	-	17,000	-	-	-	-	-	-	-	17,000	-	-
<b>Coldwater Water Treatment Plant</b>												
New PLC and SCADA	62,000	-	-	-	-	-	-	-	-	-	-	-
Distribution System Fire Flow Testing	15,000	-	-	-	-	-	-	-	-	-	-	-
4 New GAC Valves	-	8,000	8,000	-	-	-	-	-	-	-	-	-
Reservoir Mitronics	-	9,000	9,000	-	-	-	-	-	-	-	-	-
4 New GAC Valves	-	8,000	8,000	-	-	-	-	-	-	-	-	-
Finish GAC Valves	-	4,000	-	4,000	-	-	-	-	-	-	-	-
Swabbing	-	44,000	-	-	11,000	11,000	-	-	-	-	11,000	11,000



Table 4-1 (Cont'd)

Description	Budget 2021	Total	Forecast									
			2022	2023	2024	2025	2026	2027	2028	2029	2030	
Repaint Floors/Building	-	16,000	-	-	-	16,000	-	-	-	-	-	-
Paint Floors/Building	-	18,000	-	-	-	-	-	-	-	-	18,000	-
<b>Lifecycle:</b>												
<b>Westshore Water Treatment Plant</b>												
U.V. Disinfection System Replacement	220,000	-	-	-	-	-	-	-	-	-	-	-
High Lift Rebuild	35,000	-	-	-	-	-	-	-	-	-	-	-
Replace Mitronics	-	24,000	12,000	12,000	-	-	-	-	-	-	-	-
Filter 1 Rehab/ Replacement	-	52,000	-	52,000	-	-	-	-	-	-	-	-
Polymer Pump Replacement	-	16,000	-	16,000	-	-	-	-	-	-	-	-
Alum Pump Replacement	-	17,000	-	17,000	-	-	-	-	-	-	-	-
Filter 2 Rehab/Replacement	-	53,000	-	-	53,000	-	-	-	-	-	-	-
GAC Replacement ( 1 of each)	-	218,000	-	-	-	108,000	110,000	-	-	-	-	-
Replace CL2 and pH Analyzer	-	6,000	-	-	-	6,000	-	-	-	-	-	-
Computer Replacement	-	11,000	-	-	-	-	-	11,000	-	-	-	-
Replace Sample Stations	-	57,000	-	-	-	-	-	-	-	-	28,000	29,000
<b>Washago Water Treatment Plant</b>												
Chlorine Dioxide Control Panel Replacement	60,000	-	-	-	-	-	-	-	-	-	-	-
Alum Dosing Panel Replacement	27,000	-	-	-	-	-	-	-	-	-	-	-
Stern Pac Pump Replacement	-	15,000	15,000	-	-	-	-	-	-	-	-	-
Replace Mitronics	-	6,000	6,000	-	-	-	-	-	-	-	-	-
VFD Install	-	51,000	51,000	-	-	-	-	-	-	-	-	-
Roof Replacement	-	89,000	-	-	-	-	44,000	45,000	-	-	-	-
Media Replacement	-	68,000	-	-	-	-	-	68,000	-	-	-	-
GAC Replacement	-	46,000	-	-	-	-	-	-	46,000	-	-	-
Replace Sample Stations	-	16,000	-	-	-	-	-	-	-	-	8,000	8,000
<b>Severn Estates Water Treatment Plant</b>												
Well Cleaning / Rehab	20,000	-	-	-	-	-	-	-	-	-	-	-
Reservoir Cleaning	-	5,000	5,000	-	-	-	-	-	-	-	-	-
Filter Media Replacement	6,500	-	-	-	-	-	-	-	-	-	-	-
Install Clearwell Cell Cl2 Analyzer	-	6,000	6,000	-	-	-	-	-	-	-	-	-
Media Replacement	-	4,000	-	-	-	-	4,000	-	-	-	-	-
Pressure Tank Replacement	-	6,000	-	-	-	-	-	6,000	-	-	-	-
Computer Replacement	-	23,000	-	-	-	-	-	23,000	-	-	-	-
Sample Station Replacement	-	8,000	-	-	-	-	-	-	-	-	-	8,000
<b>Bass Lake Water Treatment Plant</b>												
Stainless Piping Rehab (Indoor)	4,500	-	-	-	-	-	-	-	-	-	-	-
Well Pump Replacement	3,000	-	-	-	-	-	-	-	-	-	-	-
Roof Replacement	8,500	-	-	-	-	-	-	-	-	-	-	-
Replace Mitronics	-	6,000	6,000	-	-	-	-	-	-	-	-	-
Well Probe Replacement	-	3,000	-	-	3,000	-	-	-	-	-	-	-
Replace Computer	-	23,000	-	-	-	-	-	-	-	-	23,000	-
Replace Sample Stations	-	19,000	-	-	-	-	-	-	-	-	-	19,000
<b>Sandcastle Water Treatment Plant</b>												
Stern Pac Panel Replacement	26,500	-	-	-	-	-	-	-	-	-	-	-
Replace Mitronics	-	3,000	3,000	-	-	-	-	-	-	-	-	-
Replace alum board	-	31,000	31,000	-	-	-	-	-	-	-	-	-
Stern Pac Pump Replacement	-	16,000	-	-	16,000	-	-	-	-	-	-	-
Media Replacement Train 1	-	11,000	-	-	-	11,000	-	-	-	-	-	-
Media Replacement Train 2	-	11,000	-	-	-	-	11,000	-	-	-	-	-
Replace Computer	-	18,000	-	-	-	-	-	-	-	-	18,000	-
Replace pressure tank	-	1,000	-	-	-	-	-	-	-	-	1,000	-



Table 4-1 (Cont'd)

Description	Budget 2021	Total	Forecast								
			2022	2023	2024	2025	2026	2027	2028	2029	2030
<b>Coldwater Water Treatment Plant</b>	-	-	-	-	-	-	-	-	-	-	-
Reservoir Level Sensors Replacement	8,000	-	-	-	-	-	-	-	-	-	-
GAC Replacement	-	216,000	51,000	52,000	-	-	-	56,000	57,000	-	-
Replace Roof	-	62,000	-	62,000	-	-	-	-	-	-	-
Computer Replacement	-	17,000	-	-	-	-	17,000	-	-	-	-
Replace Water Softener	-	6,000	-	-	-	-	-	-	-	6,000	-
Replace Sample Stations	-	48,000	-	-	-	-	-	-	-	-	48,000
<b>Vehicle Replacement:</b>	-	-	-	-	-	-	-	-	-	-	-
GPS Handheld x 3	-	4,000	2,000	2,000	-	-	-	-	-	-	-
Two (2) Computers (Growth)	2,000	-	-	-	-	-	-	-	-	-	-
Laptops x 3/ hotspot	-	2,000	-	-	-	-	2,000	-	-	-	-
Truck U08	-	43,000	20,000	-	-	-	-	-	23,000	-	-
Laptops x 2/hotspot	-	2,000	1,000	-	-	-	-	1,000	-	-	-
Truck U05	-	44,000	-	21,000	-	-	-	-	-	23,000	-
New Crane Truck	-	52,000	-	52,000	-	-	-	-	-	-	-
Truck U06	-	45,000	-	-	21,000	-	-	-	-	-	24,000
Truck U01	-	45,000	-	-	21,000	-	-	-	-	-	24,000
Truck U02	-	22,000	-	-	-	22,000	-	-	-	-	-
Truck U03	-	22,000	-	-	-	22,000	-	-	-	-	-
Truck U04	-	22,000	-	-	-	-	22,000	-	-	-	-
Truck U07	-	55,000	-	-	-	-	55,000	-	-	-	-
<b>Studies and Inspections:</b>	-	-	-	-	-	-	-	-	-	-	-
<b>Westshore Water Treatment Plant</b>	-	-	-	-	-	-	-	-	-	-	-
Backwash Pump 1 Inspection	-	36,000	36,000	-	-	-	-	-	-	-	-
HL #2 Inspection	-	36,000	-	36,000	-	-	-	-	-	-	-
HL #3 Inspection	-	37,000	-	-	37,000	-	-	-	-	-	-
Backwash Pump 2 Inspection	-	38,000	-	-	-	38,000	-	-	-	-	-
HL #1 Inspection	-	40,000	-	-	-	-	-	-	40,000	-	-
Backwash Pump Inspection	-	42,000	-	-	-	-	-	-	-	-	42,000
<b>Washago Water Treatment Plant</b>	-	-	-	-	-	-	-	-	-	-	-
LL # 1 Inspection	-	31,000	31,000	-	-	-	-	-	-	-	-
HL # 1 Inspection	-	31,000	-	31,000	-	-	-	-	-	-	-
LL# 2 Inspection	-	32,000	-	-	32,000	-	-	-	-	-	-
HL#2 Inspection	-	32,000	-	-	-	32,000	-	-	-	-	-
HL#3 Inspection	-	33,000	-	-	-	-	33,000	-	-	-	-
LL#1 Inspection	-	35,000	-	-	-	-	-	-	-	35,000	-
HL#1 Inspection	-	36,000	-	-	-	-	-	-	-	-	36,000
<b>Seyern Estates Water Treatment Plant</b>	-	-	-	-	-	-	-	-	-	-	-
PLC Upgrade	-	33,000	-	-	-	-	33,000	-	-	-	-
HL#1 Inspection	-	5,000	-	-	5,000	-	-	-	-	-	-
HL#2 Inspection	-	5,000	-	-	-	5,000	-	-	-	-	-
<b>Bass Lake Water Treatment Plant</b>	-	-	-	-	-	-	-	-	-	-	-
HL#1 Inspection	-	35,000	-	-	-	-	35,000	-	-	-	-
HL#2 Inspection	-	36,000	-	-	-	-	-	36,000	-	-	-
Well 1 Inspection	-	17,000	-	-	-	-	-	17,000	-	-	-
Well 2 and 3 Inspections	-	34,000	-	-	-	-	-	-	34,000	-	-
HL#3 Inspection	-	37,000	-	-	-	-	-	-	37,000	-	-
<b>Sandcastle Water Treatment Plant</b>	-	-	-	-	-	-	-	-	-	-	-
HL#1 Inspection	-	33,000	-	-	-	-	33,000	-	-	-	-
HL#3 Inspection	-	34,000	-	-	-	-	-	34,000	-	-	-
HL#2 Inspection	-	34,000	-	-	-	-	-	-	34,000	-	-



Table 4-1 (Cont'd)

Description	Budget 2021	Total	Forecast									
			2022	2023	2024	2025	2026	2027	2028	2029	2030	
<b>Coldwater Water Treatment Plant</b>	-	-	-	-	-	-	-	-	-	-	-	-
HL#2 Inspection	-	35,000	-	-	-	-	35,000	-	-	-	-	-
HL#3 Inspection	-	36,000	-	-	-	-	-	36,000	-	-	-	-
Well Inpections	-	39,000	-	-	-	-	-	39,000	-	-	-	-
HL#1 Inspection	-	37,000	-	-	-	-	-	-	37,000	-	-	-
<b>Growth Related:</b>	-	-	-	-	-	-	-	-	-	-	-	-
<b>Westshore Water Treatment Plant</b>	-	-	-	-	-	-	-	-	-	-	-	-
Plant Expansion	-	5,082,000	-	-	-	-	-	743,000	2,148,000	2,191,000	-	-
New Fiber Line from Low Lift	50,000	-	-	-	-	-	-	-	-	-	-	-
<b>Severn Estates Water Treatment Plant</b>	-	-	-	-	-	-	-	-	-	-	-	-
Pump House Upgrade and New well	-	431,000	-	-	-	-	-	-	431,000	-	-	-
<b>Total Capital Expenditures</b>	<b>809,700</b>	<b>9,521,000</b>	<b>484,000</b>	<b>576,000</b>	<b>215,000</b>	<b>346,000</b>	<b>446,000</b>	<b>1,183,000</b>	<b>3,030,000</b>	<b>2,674,000</b>	<b>567,000</b>	
<b>Capital Financing</b>												
Provincial/Federal Grants	-	-	-	-	-	-	-	-	-	-	-	-
Development Charges Reserve Fund - Westshore	12,500	-	-	-	-	-	-	-	-	-	-	-
Development Charges Reserve Fund - Severn Estates	-	71,833	-	-	-	-	-	-	71,833	-	-	-
Non-Growth Related Debenture Requirements	-	-	-	-	-	-	-	-	-	-	-	-
Growth Related Debenture Requirements - Westshore	-	5,082,000	-	-	-	-	-	743,000	2,148,000	2,191,000	-	-
Growth Related Debenture Requirements - Severn Estates	-	-	-	-	-	-	-	-	-	-	-	-
Operating Contributions	-	-	-	-	-	-	-	-	-	-	-	-
Westshore Upgrade & Maintenance Reserve Fund	275,000	5,765	5,765	-	-	-	-	-	-	-	-	-
Utilities Equipment/Vehicle Reserve	2,000	358,000	23,000	75,000	42,000	44,000	79,000	1,000	23,000	23,000	48,000	
Water Reserve	520,200	4,003,402	455,235	501,000	173,000	302,000	367,000	439,000	787,167	460,000	519,000	
<b>Total Capital Financing</b>	<b>809,700</b>	<b>9,521,000</b>	<b>484,000</b>	<b>576,000</b>	<b>215,000</b>	<b>346,000</b>	<b>446,000</b>	<b>1,183,000</b>	<b>3,030,000</b>	<b>2,674,000</b>	<b>567,000</b>	



Table 4-2  
Township of Severn  
Capital Budget Forecast – Wastewater (inflated \$)

Description	Budget 2021	Total	Forecast									
			2022	2023	2024	2025	2026	2027	2028	2029	2030	
<b>Capital Expenditures</b>												
<b>Lifecycle:</b>												
<b>Coldwater Water Pollution Control Plant</b>												
MCC Room Climate Control	120,000	-	-	-	-	-	-	-	-	-	-	-
Community Centre SPS Add second pump, piping, rails and Generator	-	56,000	56,000	-	-	-	-	-	-	-	-	-
Hardware SPS panel upgrade	-	10,000	10,000	-	-	-	-	-	-	-	-	-
Donlands SPS Generator	-	36,000	36,000	-	-	-	-	-	-	-	-	-
New Effluent Sampler	-	12,000	-	12,000	-	-	-	-	-	-	-	-
Napier Reid MCC Improvement/Upgrade	-	106,000	-	-	106,000	-	-	-	-	-	-	-
Pipe air to NR Clarifier	-	6,000	-	-	-	6,000	-	-	-	-	-	-
Sludge Storage Panel Repair	-	168,000	-	-	-	-	55,000	56,000	57,000	-	-	-
Main SPS Reservoir	-	221,000	-	-	-	-	221,000	-	-	-	-	-
New Force main from Anderson Line	-	574,000	-	-	-	-	-	-	574,000	-	-	-
Collection System Upgrades	-	237,000	-	-	-	-	-	-	-	-	117,000	120,000
SPS Upgrades	-	142,000	-	-	-	-	-	-	-	-	70,000	72,000
<b>Westshore Waste Water Treatment Plant</b>												
Main Pump Station Valve Chamber Rebuild	22,000	-	-	-	-	-	-	-	-	-	-	-
Forcemain Valve Chamber (New)	40,000	-	-	-	-	-	-	-	-	-	-	-
Install MCC for spare air compressor (Parkson Filter)	-	15,000	15,000	-	-	-	-	-	-	-	-	-
Bramshott SPS Generator	-	52,000	-	52,000	-	-	-	-	-	-	-	-
Grayscott SPS Generator	-	52,000	-	52,000	-	-	-	-	-	-	-	-
Generator Aldershott SPS	-	53,000	-	-	53,000	-	-	-	-	-	-	-
Bramshott SPS Valve Chambers	-	43,000	-	-	-	43,000	-	-	-	-	-	-
Wood Ave SPS Valve Chamber	-	43,000	-	-	-	43,000	-	-	-	-	-	-
Grayscott SPS Valve Chambers	-	43,000	-	-	-	43,000	-	-	-	-	-	-
Collection System Upgrades	-	237,000	-	-	-	-	-	-	-	-	117,000	120,000
SPS Upgrades	-	142,000	-	-	-	-	-	-	-	-	70,000	72,000
<b>Washago Wastewater / Lagoon</b>												
SPS #3 Panel	-	36,000	36,000	-	-	-	-	-	-	-	-	-
SPS #1 Generator	-	51,000	51,000	-	-	-	-	-	-	-	-	-
SPS # 2 Generator	-	34,000	-	-	34,000	-	-	-	-	-	-	-
SPS #3 Generator	-	35,000	-	-	-	35,000	-	-	-	-	-	-
Desludge Lagoon	-	139,000	-	-	27,000	27,000	28,000	28,000	29,000	-	-	-
<b>Coldwater Water Pollution Control Plant</b>												
Roof Replacement on MCC, Sludge and Office	50,000	-	-	-	-	-	-	-	-	-	-	-
Napier Reed Skimmer Arm Rebuild	40,000	-	-	-	-	-	-	-	-	-	-	-
Replace Supernatant Lines	-	6,000	-	6,000	-	-	-	-	-	-	-	-
Replace SS Mixer pump	-	43,000	-	43,000	-	-	-	-	-	-	-	-
Replace SS Blower	-	13,000	-	-	13,000	-	-	-	-	-	-	-
Main building roof replacement	-	16,000	-	-	16,000	-	-	-	-	-	-	-
Replace NR Blowers	-	43,000	-	-	-	43,000	-	-	-	-	-	-
Replace SBR Blowers	-	11,000	-	-	-	11,000	-	-	-	-	-	-
<b>Westshore Waste Water Treatment Plant</b>												
Alum Pump Replacement	-	17,000	-	17,000	-	-	-	-	-	-	-	-
Computer Replacement	-	11,000	-	-	-	-	-	11,000	-	-	-	-
Parkson Media Replacement	-	86,000	-	-	-	-	-	-	86,000	-	-	-
UV Replacement	-	115,000	-	-	-	-	-	-	115,000	-	-	-
Replace Compressor	-	59,000	-	-	-	-	-	-	-	59,000	-	-
<b>Washago Wastewater / Lagoon</b>												
SPS #2 Electrical Panel	50,000	-	-	-	-	-	-	-	-	-	-	-
Pump Station #2 Rehabilitation	-	36,000	36,000	-	-	-	-	-	-	-	-	-



Table 4-2 (Cont'd)

Description	Budget 2021	Total	Forecast									
			2022	2023	2024	2025	2026	2027	2028	2029	2030	
<b>Vehicle Replacement:</b>												
Two (2) Computers (Growth)	2,000	-	-	-	-	-	-	-	-	-	-	-
GPS Handheld x 3	-	4,000	2,000	2,000	-	-	-	-	-	-	-	-
Laptops x 3/ hotspot	-	2,000	-	-	-	-	2,000	-	-	-	-	-
Truck U08	-	43,000	20,000	-	-	-	-	-	23,000	-	-	-
Laptops x 2/hotspot	-	2,000	1,000	-	-	-	-	-	1,000	-	-	-
Truck U05	-	44,000	-	21,000	-	-	-	-	-	23,000	-	-
New Crane Truck	-	52,000	-	52,000	-	-	-	-	-	-	-	-
Truck U06	-	45,000	-	-	21,000	-	-	-	-	-	-	24,000
Truck U01	-	45,000	-	-	21,000	-	-	-	-	-	-	24,000
Truck U02	-	22,000	-	-	-	22,000	-	-	-	-	-	-
Truck U03	-	22,000	-	-	-	22,000	-	-	-	-	-	-
Truck U04	-	22,000	-	-	-	-	22,000	-	-	-	-	-
Truck U07	-	55,000	-	-	-	-	55,000	-	-	-	-	-
<b>Washago Wastewater / Lagoon</b>												
Lagoon Study	-	50,000	-	16,000	-	-	17,000	-	17,000	-	-	-
<b>Growth Related:</b>												
<b>Coldwater Water Pollution Control Plant</b>												
Twin Feed Line to Treatment Plant Design	30,000	-	-	-	-	-	-	-	-	-	-	-
Twin feed line to plant	-	377,000	377,000	-	-	-	-	-	-	-	-	-
Plant Expansion Environmental Assessment	70,000	-	-	-	-	-	-	-	-	-	-	-
Plant Expansion	-	1,782,000	882,000	900,000	-	-	-	-	-	-	-	-
Sturgeon Bay Road PS Upgrade	-	225,000	-	-	-	-	-	225,000	-	-	-	-
<b>Westshore Waste Water Treatment Plant</b>												
Timberline Pump Station Panel Upgrade VFD and Pump Upgrades	55,000	-	-	-	-	-	-	-	-	-	-	-
Bayou SPS generator, reservoir and property	-	255,000	255,000	-	-	-	-	-	-	-	-	-
Main SPS Upgrade with reservoir	-	204,000	204,000	-	-	-	-	-	-	-	-	-
Wood Ave SPS Generators	-	52,000	-	52,000	-	-	-	-	-	-	-	-
Twin Feed Line to Plant and Valve Chamber	-	312,000	-	312,000	-	-	-	-	-	-	-	-
Lakeside Upgrade SPS	-	159,000	-	-	159,000	-	-	-	-	-	-	-
Engineering for Plant Upgrade	-	212,000	-	-	212,000	-	-	-	-	-	-	-
Plant Expansion	-	13,329,000	-	-	-	-	-	1,949,000	5,634,000	5,746,000	-	-
<b>Total Capital Expenditures</b>	<b>479,000</b>	<b>20,314,000</b>	<b>1,981,000</b>	<b>1,537,000</b>	<b>662,000</b>	<b>295,000</b>	<b>400,000</b>	<b>2,270,000</b>	<b>6,535,000</b>	<b>6,202,000</b>	<b>432,000</b>	
<b>Capital Financing</b>												
Provincial/Federal Grants	-	-	-	-	-	-	-	-	-	-	-	-
Development Charges Reserve Fund - Coldwater	67,443	-	-	-	-	-	-	-	-	-	-	-
Development Charges Reserve Fund - Westshore	13,750	4,058,750	267,750	91,000	371,000	-	-	1,949,000	634,000	746,000	-	-
Non-Growth Related Debenture Requirements	-	1,520,000	800,000	500,000	220,000	-	-	-	-	-	-	-
Growth Related Debenture Requirements - Coldwater	-	1,812,888	849,526	770,690	-	-	-	192,672	-	-	-	-
Growth Related Debenture Requirements - Westshore	-	10,000,000	-	-	-	-	-	-	5,000,000	5,000,000	-	-
Operating Contributions	-	-	-	-	-	-	-	-	-	-	-	-
Utilities Equipment/Vehicle Reserve	2,000	339,034	48,724	54,310	42,000	44,000	55,000	1,000	23,000	23,000	48,000	-
Westshore Upgrade & Maintenance Reserve Fund	117,000	163,652	15,000	121,000	27,652	-	-	-	-	-	-	-
Wastewater Reserve	278,807	2,419,676	-	-	1,348	251,000	345,000	127,328	878,000	433,000	384,000	-
<b>Total Capital Financing</b>	<b>479,000</b>	<b>20,314,000</b>	<b>1,981,000</b>	<b>1,537,000</b>	<b>662,000</b>	<b>295,000</b>	<b>400,000</b>	<b>2,270,000</b>	<b>6,535,000</b>	<b>6,202,000</b>	<b>432,000</b>	



# Chapter 5

## Overview of Expenditures and Revenues



## 5. Overview of Expenditures and Revenues

### 5.1 Water Operating Expenditures

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In this report, the forecast water budget figures (2022 to 2030) are based on the 2021 operating budgets. The costs for each component of the operating budget have been reviewed with staff to establish forecast inflationary adjustments. Most of the expenditures have been assumed to increase at a rate of 2.0% annually. Operating expenditures that involve fuels and chemicals have been inflated by 5.0% annually. It is anticipated an additional full-time staff member will be required for water and wastewater services by 2024. At this time, part-time staffing will no longer be required and has been removed from the forecast as of 2024. The salaries and benefits related to this additional staff member have been allocated 60% to water and 40% to wastewater. Note that annual contributions have been provided to the capital reserves in order to minimize the need for additional debt to finance the capital program. Also included are any debenture expenditures and contributions to reserve funds.

### 5.2 Water Operating Revenues

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The Township has minimum bill revenue and miscellaneous revenue sources to help contribute towards operating expenditures. These miscellaneous revenues, including rental revenue, late payment penalties, and connection charges have been assumed to remain constant each year over the forecast period. Note that the minimum charges for Ramara have been provided as a separate line item. Table 5-1 provides for the operating budget for the water system.





**Table 5-1  
Township of Severn  
Operating Budget Forecast – Water (inflated \$)**

Description	Budget	Forecast								
	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
<b>Expenditures</b>										
<b>Operating Costs</b>										
<b>Washago</b>										
G-410-431-1110 REGULAR SALARIES & WAGES	62,400	63,600	64,900	66,200	67,500	68,900	70,300	71,700	73,100	74,600
G-410-431-1120 PART-TIME SALARIES & WAGES	2,800	2,900	3,000	-	-	-	-	-	-	-
G-410-431-1130 OVERTIME-SHIFT-RECAL ETC.	5,200	5,300	5,400	5,500	5,600	5,700	5,800	5,900	6,000	6,100
G-410-431-1140 LOST TIME : SICK VACN ETC	6,200	6,300	6,400	6,500	6,600	6,700	6,800	6,900	7,000	7,100
G-410-431-1141 ON CALL	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
G-410-431-1155 NON TAXABLE - MEALS / UNIFORM PAY	250	260	270	280	290	300	310	320	330	340
G-410-431-1161 EMPLOYER HEALTH TAX	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500
G-410-431-1162 C.P.P.	2,700	2,800	2,900	3,000	3,100	3,200	3,300	3,400	3,500	3,600
G-410-431-1163 E.I.	900	920	940	960	980	1,000	1,020	1,040	1,060	1,080
G-410-431-1164 O.M.E.R.S.	8,200	8,400	8,600	8,800	9,000	9,200	9,400	9,600	9,800	10,000
G-410-431-1165 GROUP LIFE INSURANCE	8,900	9,100	9,300	9,500	9,700	9,900	10,100	10,300	10,500	10,700
G-410-431-1167 WORKPLACE SAFETY INSURANCE	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400
G-410-431-2220 BUILDING & PROPERTY MAINT	6,000	6,100	6,200	6,300	6,400	6,500	6,600	6,700	6,800	6,900
G-410-431-2418 SULPHATE	750	790	830	870	910	960	1,010	1,060	1,110	1,170
G-410-431-2419 CHEMICALS	15,000	15,800	16,600	17,400	18,300	19,200	20,200	21,200	22,300	23,400
G-410-431-2610 OFFICE SUPPLIES	500	510	520	530	540	550	560	570	580	590
G-410-431-2810 HYDRO	21,000	21,400	21,800	22,200	22,600	23,100	23,600	24,100	24,600	25,100
G-410-431-2835 PROPANE	1,000	1,100	1,200	1,300	1,400	1,500	1,600	1,700	1,800	1,900
G-410-431-2900 SAFETY EQUIPMENT	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
G-410-431-2910 UNIFORMS	360	370	380	390	400	410	420	430	440	450
G-410-431-3110 MILEAGE	100	102	104	106	108	110	112	114	116	118
G-410-431-3140 MEMBERSHIPS	500	510	520	530	540	550	560	570	580	590
G-410-431-3150 TRAINING COURSE EXPENSES	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700
G-410-431-3205 JOINT HEALTH & SAFETY	100	102	104	106	108	110	112	114	116	118
G-410-431-3220 TELEPHONE	3,800	3,900	4,000	4,100	4,200	4,300	4,400	4,500	4,600	4,700
G-410-431-3230 ADVERTISING	100	102	104	106	108	110	112	114	116	118
G-410-431-3360 CONSULTANTS	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
G-410-431-3392 M.O.E. TESTING	8,000	8,200	8,400	8,600	8,800	9,000	9,200	9,400	9,600	9,800
G-410-431-3420 EQUIPMENT REPAIR & MAINTENANCE	40,000	40,800	41,600	42,400	43,200	44,100	45,000	45,900	46,800	47,700
G-410-431-3579 SOURCE WATER PROTECTION	3,150	3,200	3,300	3,400	3,500	3,600	3,700	3,800	3,900	4,000
G-410-431-3910 INSURANCE PREMIUMS	7,930	8,100	8,300	8,500	8,700	8,900	9,100	9,300	9,500	9,700
G-410-431-3995 PIL - SEVERN PORTION	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
G-410-431-7970 INTERNAL DEPT EXPENDITURE TRSF	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
G-410-431-7981 TOWNSHIP VEHICLE RENTAL	15,000	15,300	15,600	15,900	16,200	16,500	16,800	17,100	17,400	17,700
<b>Bass Lake</b>										
G-410-432-1110 REGULAR SALARIES & WAGES	62,400	63,600	64,900	66,200	67,500	68,900	70,300	71,700	73,100	74,600
G-410-432-1120 PART-TIME SALARIES & WAGES	2,800	2,900	3,000	-	-	-	-	-	-	-
G-410-432-1130 OVERTIME-SHIFT-RECAL ETC.	3,900	4,000	4,100	4,200	4,300	4,400	4,500	4,600	4,700	4,800
G-410-432-1140 LOST TIME : SICK VACN ETC	3,500	3,600	3,700	3,800	3,900	4,000	4,100	4,200	4,300	4,400
G-410-432-1141 ON CALL	600	610	620	630	640	650	660	670	680	690
G-410-432-1155 NON TAXABLE - MEALS / UNIFORM PAY	150	153	156	159	162	165	168	171	174	177



Table 5-1 (Cont'd)

Description	Budget	Forecast								
	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
G-410-432-1161 EMPLOYER HEALTH TAX	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500
G-410-432-1162 C.P.P.	2,700	2,800	2,900	3,000	3,100	3,200	3,300	3,400	3,500	3,600
G-410-432-1163 E.I.	900	920	940	960	980	1,000	1,020	1,040	1,060	1,080
G-410-432-1164 O.M.E.R.S.	8,200	8,400	8,600	8,800	9,000	9,200	9,400	9,600	9,800	10,000
G-410-432-1165 GROUP LIFE INSURANCE	8,900	9,100	9,300	9,500	9,700	9,900	10,100	10,300	10,500	10,700
G-410-432-1167 WORKPLACE SAFETY INSURANCE	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400
G-410-432-2220 BUILDING & PROPERTY MAINT	6,000	6,100	6,200	6,300	6,400	6,500	6,600	6,700	6,800	6,900
G-410-432-2419 CHEMICALS	1,100	1,200	1,300	1,400	1,500	1,600	1,700	1,800	1,900	2,000
G-410-432-2610 OFFICE SUPPLIES	300	310	320	330	340	350	360	370	380	390
G-410-432-2810 HYDRO	10,000	10,200	10,400	10,600	10,800	11,000	11,200	11,400	11,600	11,800
G-410-432-2835 PROPANE	1,100	1,200	1,300	1,400	1,500	1,600	1,700	1,800	1,900	2,000
G-410-432-2900 SAFETY EQUIPMENT	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
G-410-432-2910 UNIFORMS	200	204	208	212	216	220	224	228	233	238
G-410-432-3110 MILEAGE	100	102	104	106	108	110	112	114	116	118
G-410-432-3140 MEMBERSHIPS	350	360	370	380	390	400	410	420	430	440
G-410-432-3150 TRAINING COURSE EXPENSES	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500
G-410-432-3205 JOINT HEALTH & SAFETY	100	100	100	100	100	100	100	100	100	100
G-410-432-3220 TELEPHONE	2,900	3,000	3,100	3,200	3,300	3,400	3,500	3,600	3,700	3,800
G-410-432-3230 ADVERTISING	50	51	52	53	54	55	56	57	58	59
G-410-432-3360 CONSULTANTS	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
G-410-432-3392 M.O.E. TESTING	6,000	6,100	6,200	6,300	6,400	6,500	6,600	6,700	6,800	6,900
G-410-432-3420 EQUIPMENT REPAIR & MAINTENANCE	27,900	28,500	29,100	29,700	30,300	30,900	31,500	32,100	32,700	33,400
G-410-432-3579 SOURCE WATER PROTECTION	630	640	650	660	670	680	690	700	710	720
G-410-432-3910 INSURANCE PREMIUMS	6,500	6,600	6,700	6,800	6,900	7,000	7,100	7,200	7,300	7,400
G-410-432-3995 PIL - SEVERN PORTION	900	920	940	960	980	1,000	1,020	1,040	1,060	1,080
G-410-432-7970 INTERNAL DEPT EXPENDITURE TRSF	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
G-410-432-7981 TOWNSHIP VEHICLE RENTAL	10,000	10,200	10,400	10,600	10,800	11,000	11,200	11,400	11,600	11,800
<b>Severn Estates</b>										
G-410-434-1110 REGULAR SALARIES & WAGES	31,200	31,800	32,400	33,000	33,700	34,400	35,100	35,800	36,500	37,200
G-410-434-1120 PART-TIME SALARIES & WAGES	1,400	1,400	1,400	-	-	-	-	-	-	-
G-410-434-1130 OVERTIME-SHIFT-RECAL ETC.	3,250	3,300	3,400	3,500	3,600	3,700	3,800	3,900	4,000	4,100
G-410-434-1140 LOST TIME : SICK VACN ETC	800	820	840	860	880	900	920	940	960	980
G-410-434-1141 ON CALL	100	100	100	100	100	100	100	100	100	100
G-410-434-1155 NON TAXABLE - MEALS / UNIFORM PAY	50	51	52	53	54	55	56	57	58	59
G-410-434-1161 EMPLOYER HEALTH TAX	700	710	720	730	740	750	770	790	810	830
G-410-434-1162 C.P.P.	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400
G-410-434-1163 E.I.	500	510	520	530	540	550	560	570	580	590
G-410-434-1164 O.M.E.R.S.	4,100	4,200	4,300	4,400	4,500	4,600	4,700	4,800	4,900	5,000
G-410-434-1165 GROUP LIFE INSURANCE	4,800	4,600	4,700	4,800	4,900	5,000	5,100	5,200	5,300	5,400
G-410-434-1167 WORKPLACE SAFETY INSURANCE	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200
G-410-434-2220 BUILDING & PROPERTY MAINT	2,500	2,600	2,700	2,800	2,900	3,000	3,100	3,200	3,300	3,400
G-410-434-2419 CHEMICALS	500	530	560	590	620	650	680	710	750	790
G-410-434-2610 OFFICE SUPPLIES	300	310	320	330	340	350	360	370	380	390
G-410-434-2810 HYDRO	2,500	2,600	2,700	2,800	2,900	3,000	3,100	3,200	3,300	3,400
G-410-434-2835 HEAT-PROPANE	500	530	560	590	620	650	680	710	750	790
G-410-434-2900 SAFETY EQUIPMENT	500	510	520	530	540	550	560	570	580	590
G-410-434-2910 UNIFORMS	40	41	42	43	44	45	46	47	48	49
G-410-434-3110 MILEAGE	100	102	104	106	108	110	112	114	116	118



Table 5-1 (Cont'd)

Description	Budget 2021	Forecast								
		2022	2023	2024	2025	2026	2027	2028	2029	2030
G-410-434-3140 MEMBERSHIPS	300	310	320	330	340	350	360	370	380	390
G-410-434-3150 TRAINING COURSE EXPENSES	600	610	620	630	640	650	660	670	680	690
G-410-434-3205 JOINT HEALTH & SAFETY	100	102	104	106	108	110	112	114	116	118
G-410-434-3220 TELEPHONE	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100
G-410-434-3230 ADVERTISING	100	102	104	106	108	110	112	114	116	118
G-410-434-3360 CONSULTANTS	500	510	520	530	540	550	560	570	580	590
G-410-434-3392 M.O.E. TESTING	7,000	7,100	7,200	7,300	7,400	7,500	7,700	7,900	8,100	8,300
G-410-434-3420 EQUIPMENT REPAIR & MAINTENANCE	29,200	29,800	30,400	31,000	31,600	32,200	32,800	33,500	34,200	34,900
G-410-434-3579 SOURCE WATER PROTECTION	420	430	440	450	460	470	480	490	500	510
G-410-434-3910 INSURANCE PREMIUMS	5,720	5,800	5,900	6,000	6,100	6,200	6,300	6,400	6,500	6,600
G-410-434-3995 PIL - SEVERN PORTION	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200
G-410-434-7970 INTERNAL DEPT EXPENDITURE TRSF	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
G-410-434-7981 TOWNSHIP VEHICLE RENTAL	10,000	10,200	10,400	10,600	10,800	11,000	11,200	11,400	11,600	11,800
<b>Sandcastle Estates</b>										
G-410-435-1110 REGULAR SALARIES & WAGES	37,440	38,200	39,000	39,800	40,600	41,400	42,200	43,000	43,900	44,800
G-410-435-1120 PART-TIME SALARIES & WAGES	1,680	1,700	1,700	-	-	-	-	-	-	-
G-410-435-1130 OVERTIME-SHIFT-RECAL ETC.	5,200	5,300	5,400	5,500	5,600	5,700	5,800	5,900	6,000	6,100
G-410-435-1140 LOST TIME : SICK VACN ETC	3,500	3,600	3,700	3,800	3,900	4,000	4,100	4,200	4,300	4,400
G-410-435-1141 ON CALL	600	610	620	630	640	650	660	670	680	690
G-410-435-1155 NON TAXABLE - MEALS / UNIFORM PAY	150	153	156	159	162	165	168	171	174	177
G-410-435-1161 EMPLOYER HEALTH TAX	900	920	940	960	980	1,000	1,020	1,040	1,060	1,080
G-410-435-1162 C.P.P.	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600
G-410-435-1163 E.I.	500	510	520	530	540	550	560	570	580	590
G-410-435-1164 O.M.E.R.S.	4,900	5,000	5,100	5,200	5,300	5,400	5,500	5,600	5,700	5,800
G-410-435-1165 GROUP LIFE INSURANCE	5,400	5,500	5,600	5,700	5,800	5,900	6,000	6,100	6,200	6,300
G-410-435-1167 WORKPLACE SAFETY INSURANCE	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400
G-410-435-2220 BUILDING & PROPERTY MAINT	5,000	5,100	5,200	5,300	5,400	5,500	5,600	5,700	5,800	5,900
G-410-435-2418 SULPHATE	500	510	520	530	540	550	560	570	580	590
G-410-435-2419 CHEMICALS	2,000	2,100	2,200	2,300	2,400	2,500	2,600	2,700	2,800	2,900
G-410-435-2610 OFFICE SUPPLIES	300	310	320	330	340	350	360	370	380	390
G-410-435-2810 HYDRO	9,000	9,200	9,400	9,600	9,800	10,000	10,200	10,400	10,600	10,800
G-410-435-2835 PROPANE	600	630	660	690	720	760	800	840	880	920
G-410-435-2900 SAFETY EQUIPMENT	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
G-410-435-2910 UNIFORMS	200	204	208	212	216	220	224	228	233	238
G-410-435-3110 MILEAGE	100	102	104	106	108	110	112	114	116	118
G-410-435-3140 MEMBERSHIPS	350	360	370	380	390	400	410	420	430	440
G-410-435-3150 TRAINING COURSE EXPENSES	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500
G-410-435-3205 JOINT HEALTH & SAFETY	100	102	104	106	108	110	112	114	116	118
G-410-435-3220 TELEPHONE	2,500	2,600	2,700	2,800	2,900	3,000	3,100	3,200	3,300	3,400
G-410-435-3230 ADVERTISING	100	102	104	106	108	110	112	114	116	118
G-410-435-3360 CONSULTANTS	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
G-410-435-3392 M.O.E. TESTING	4,500	4,600	4,700	4,800	4,900	5,000	5,100	5,200	5,300	5,400
G-410-435-3420 EQUIPMENT REPAIR & MAINTENANCE	35,900	36,600	37,300	38,000	38,800	39,600	40,400	41,200	42,000	42,800
G-410-435-3579 SOURCE WATER PROTECTION	1,050	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100
G-410-435-3910 INSURANCE PREMIUMS	7,280	7,400	7,500	7,700	7,900	8,100	8,300	8,500	8,700	8,900
G-410-435-3995 PIL - SEVERN PORTION	400	410	420	430	440	450	460	470	480	490
G-410-435-7970 INTERNAL DEPT EXPENDITURE TRSF	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
G-410-435-7981 TOWNSHIP VEHICLE RENTAL	10,000	10,200	10,400	10,600	10,800	11,000	11,200	11,400	11,600	11,800



Table 5-1 (Cont'd)

Description	Budget	Forecast								
	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
<b>Coldwater</b>										
G-410-437-1110 REGULAR SALARIES & WAGES	93,600	95,500	97,400	99,300	101,300	103,300	105,400	107,500	109,700	111,900
G-410-437-1120 PART-TIME SALARIES & WAGES	4,200	4,300	4,400	-	-	-	-	-	-	-
G-410-437-1130 OVERTIME-SHIFT-RECAL ETC.	8,450	8,600	8,800	9,000	9,200	9,400	9,600	9,800	10,000	10,200
G-410-437-1140 LOST TIME : SICK VACN ETC	10,400	10,600	10,800	11,000	11,200	11,400	11,600	11,800	12,000	12,200
G-410-437-1141 ON CALL	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700
G-410-437-1155 NON TAXABLE - MEALS / UNIFORM PAY	450	460	470	480	490	500	510	520	530	540
G-410-437-1161 EMPLOYER HEALTH TAX	2,200	2,200	2,200	2,200	2,200	2,200	2,200	2,200	2,200	2,200
G-410-437-1162 C.P.P.	4,100	4,200	4,300	4,400	4,500	4,600	4,700	4,800	4,900	5,000
G-410-437-1163 E.I.	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400
G-410-437-1164 O.M.E.R.S.	12,300	12,500	12,800	13,100	13,400	13,700	14,000	14,300	14,600	14,900
G-410-437-1165 GROUP LIFE INSURANCE	13,400	13,700	14,000	14,300	14,600	14,900	15,200	15,500	15,800	16,100
G-410-437-1167 WORKPLACE SAFETY INSURANCE	3,600	3,700	3,800	3,900	4,000	4,100	4,200	4,300	4,400	4,500
G-410-437-2220 BUILDING & PROPERTY MAINT	5,000	5,100	5,200	5,300	5,400	5,500	5,600	5,700	5,800	5,900
G-410-437-2310 FUEL - DIESEL	500	530	560	590	620	650	680	710	750	790
G-410-437-2416 SOFTENER SALT	3,000	3,100	3,200	3,300	3,400	3,500	3,600	3,700	3,800	3,900
G-410-437-2419 CHEMICALS	3,520	3,700	3,900	4,100	4,300	4,500	4,700	4,900	5,100	5,400
G-410-437-2610 OFFICE SUPPLIES	500	510	520	530	540	550	560	570	580	590
G-410-437-2810 HYDRO	50,000	51,000	52,000	53,000	54,100	55,200	56,300	57,400	58,500	59,700
G-410-437-2900 SAFETY EQUIPMENT	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
G-410-437-2910 UNIFORMS	600	610	620	630	640	650	660	670	680	690
G-410-437-3110 MILEAGE	200	204	208	212	216	220	224	228	233	238
G-410-437-3140 MEMBERSHIPS	800	820	840	860	880	900	920	940	960	980
G-410-437-3150 TRAINING COURSE EXPENSES	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500
G-410-437-3205 JOINT HEALTH & SAFETY	100	102	104	106	108	110	112	114	116	118
G-410-437-3220 TELEPHONE	4,800	4,900	5,000	5,100	5,200	5,300	5,400	5,500	5,600	5,700
G-410-437-3230 ADVERTISING	150	150	150	150	150	150	150	150	150	150
G-410-437-3360 CONSULTANTS	3,000	3,100	3,200	3,300	3,400	3,500	3,600	3,700	3,800	3,900
G-410-437-3392 M.O.E. TESTING	7,000	7,100	7,200	7,300	7,400	7,500	7,700	7,900	8,100	8,300
G-410-437-3420 EQUIPMENT REPAIR & MAINTENANCE	40,700	41,500	42,300	43,100	44,000	44,900	45,800	46,700	47,600	48,600
G-410-437-3579 SOURCE WATER PROTECTION	5,250	5,400	5,500	5,600	5,700	5,800	5,900	6,000	6,100	6,200
G-410-437-3910 INSURANCE PREMIUMS	9,490	9,700	9,900	10,100	10,300	10,500	10,700	10,900	11,100	11,300
G-410-437-3995 PIL - SEVERN PORTION	4,100	4,200	4,300	4,400	4,500	4,600	4,700	4,800	4,900	5,000
G-410-437-7970 INTERNAL DEPT EXPENDITURE TRSF	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
G-410-437-7981 TOWNSHIP VEHICLE RENTAL	22,000	22,400	22,800	23,300	23,800	24,300	24,800	25,300	25,800	26,300
<b>Westshore</b>										
G-410-439-1110 REGULAR SALARIES & WAGES	124,800	127,300	129,800	132,400	135,000	137,700	140,500	143,300	146,200	149,100
G-410-439-1120 PART-TIME SALARIES & WAGES	5,600	5,700	5,800	-	-	-	-	-	-	-
G-410-439-1130 OVERTIME-SHIFT-RECAL ETC.	14,300	14,600	14,900	15,200	15,500	15,800	16,100	16,400	16,700	17,000
G-410-439-1140 LOST TIME : SICK VACN ETC	17,400	17,700	18,100	18,500	18,900	19,300	19,700	20,100	20,500	20,900
G-410-439-1141 ON CALL	2,900	3,000	3,100	3,200	3,300	3,400	3,500	3,600	3,700	3,800
G-410-439-1155 NON TAXABLE - MEALS / UNIFORM PAY	750	765	780	796	812	828	845	862	879	897
G-410-439-1161 EMPLOYER HEALTH TAX	3,000	3,100	3,200	3,300	3,400	3,500	3,600	3,700	3,800	3,900
G-410-439-1162 C.P.P.	5,400	5,500	5,600	5,700	5,800	5,900	6,000	6,100	6,200	6,300
G-410-439-1163 E.I.	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800
G-410-439-1164 O.M.E.R.S.	16,400	16,700	17,000	17,300	17,600	18,000	18,400	18,800	19,200	19,600
G-410-439-1165 GROUP LIFE INSURANCE	17,900	18,300	18,700	19,100	19,500	19,900	20,300	20,700	21,100	21,500



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Description	Budget	Forecast								
	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
G-410-439-1167 WORKPLACE SAFETY INSURANCE	4,700	4,800	4,900	5,000	5,100	5,200	5,300	5,400	5,500	5,600
G-410-439-2220 BUILDING & PROPERTY MAINT	10,000	10,200	10,400	10,600	10,800	11,000	11,200	11,400	11,600	11,800
G-410-439-2310 FUEL - DIESEL	500	530	560	590	620	650	680	710	750	790
G-410-439-2418 SULPHATE	6,500	6,800	7,100	7,500	7,900	8,300	8,700	9,100	9,600	10,100
G-410-439-2419 CHEMICALS	13,275	13,900	14,600	15,300	16,100	16,900	17,700	18,600	19,500	20,500
G-410-439-2610 OFFICE SUPPLIES	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
G-410-439-2810 HYDRO	70,000	71,400	72,800	74,300	75,800	77,300	78,800	80,400	82,000	83,600
G-410-439-2830 HEAT - NATURAL GAS	7,600	7,800	8,000	8,200	8,400	8,600	8,800	9,000	9,200	9,400
G-410-439-2900 SAFETY EQUIPMENT	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
G-410-439-2910 UNIFORMS	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
G-410-439-3110 MILEAGE	250	260	270	280	290	300	310	320	330	340
G-410-439-3140 MEMBERSHIPS	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200
G-410-439-3150 TRAINING COURSE EXPENSES	3,500	3,600	3,700	3,800	3,900	4,000	4,100	4,200	4,300	4,400
G-410-439-3205 JOINT HEALTH & SAFETY	100	102	104	106	108	110	112	114	116	118
G-410-439-3220 TELEPHONE	3,300	3,400	3,500	3,600	3,700	3,800	3,900	4,000	4,100	4,200
G-410-439-3230 ADVERTISING	250	260	270	280	290	300	310	320	330	340
G-410-439-3360 CONSULTANTS	5,000	5,100	5,200	5,300	5,400	5,500	5,600	5,700	5,800	5,900
G-410-439-3392 M.O.E. TESTING	7,200	7,300	7,400	7,500	7,700	7,900	8,100	8,300	8,500	8,700
G-410-439-3420 EQUIPMENT REPAIR & MAINTENANCE	63,000	64,300	65,600	66,900	68,200	69,600	71,000	72,400	73,800	75,300
G-410-439-3579 SOURCE WATER PROTECTION	10,500	10,700	10,900	11,100	11,300	11,500	11,700	11,900	12,100	12,300
G-410-439-3910 INSURANCE PREMIUMS	3,770	3,800	3,900	4,000	4,100	4,200	4,300	4,400	4,500	4,600
G-410-439-3995 PIL - SEVERN PORTION	3,200	3,300	3,400	3,500	3,600	3,700	3,800	3,900	4,000	4,100
G-410-439-7970 INTERNAL DEPT EXPENDITURE TRSF	7,000	7,100	7,200	7,300	7,400	7,500	7,700	7,900	8,100	8,300
G-410-439-7981 TOWNSHIP VEHICLE RENTAL	40,000	40,800	41,600	42,400	43,200	44,100	45,000	45,900	46,800	47,700
Additional Staff Salaries & Benefits				49,000	50,000	51,000	52,000	53,000	54,100	55,200
<b>2010 GMC SIERRA 1/2 TON</b>										
G-410-U01-2311 FUEL - GASOLINE	1,600	1,700	1,800	1,900	2,000	2,100	2,200	2,300	2,400	2,500
G-410-U01-2312 PARTS	500	500	500	500	500	500	500	500	500	500
G-410-U01-2340 LICENSES	75	77	79	81	83	85	87	89	91	93
G-410-U01-3420 EQUIPMENT REPAIR & MAINTENANCE	250	260	270	280	290	300	310	320	330	340
G-410-U01-3910 INSURANCE PREMIUMS	325	330	340	350	360	370	380	390	400	410
<b>2011 CHEV 1/2 TON TRUCK</b>										
G-410-U02-2311 FUEL - GASOLINE	1,600	1,700	1,800	1,900	2,000	2,100	2,200	2,300	2,400	2,500
G-410-U02-2312 PARTS	1,250	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300
G-410-U02-2340 LICENSES	75	77	79	81	83	85	87	89	91	93
G-410-U02-3420 EQUIPMENT REPAIR & MAINTENANCE	750	770	790	810	830	850	870	890	910	930
G-410-U02-3910 INSURANCE PREMIUMS	325	330	340	350	360	370	380	390	400	410
<b>2011 CHEV SIERRA 1/2 TON TRUCK</b>										
G-410-U03-2311 FUEL - GASOLINE	1,600	1,700	1,800	1,900	2,000	2,100	2,200	2,300	2,400	2,500
G-410-U03-2312 PARTS	1,250	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300
G-410-U03-2340 LICENSES	75	77	79	81	83	85	87	89	91	93
G-410-U03-3420 EQUIPMENT REPAIR & MAINTENANCE	750	770	790	810	830	850	870	890	910	930
G-410-U03-3910 INSURANCE PREMIUMS	325	330	340	350	360	370	380	390	400	410



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Description	Budget	Forecast								
	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
<b>2011 GMC SAVANA G3500 UTILITIES VAN</b>										
G-410-U04-2311 FUEL - GASOLINE	2,000	2,100	2,200	2,300	2,400	2,500	2,600	2,700	2,800	2,900
G-410-U04-2312 PARTS	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500
G-410-U04-2340 LICENSES	205	209	213	217	221	225	230	235	240	245
G-410-U04-3420 EQUIPMENT REPAIR & MAINTENANCE	750	770	790	810	830	850	870	890	910	930
G-410-U04-3910 INSURANCE PREMIUMS	325	330	340	350	360	370	380	390	400	410
<b>2014 CHEV SILVERADO</b>										
G-410-U05-2311 FUEL - GASOLINE	1,200	1,300	1,400	1,500	1,600	1,700	1,800	1,900	2,000	2,100
G-410-U05-2312 PARTS	500	510	520	530	540	550	560	570	580	590
G-410-U05-2340 LICENSES	75	77	79	81	83	85	87	89	91	93
G-410-U05-3420 EQUIPMENT REPAIR & MAINTENANCE	500	510	520	530	540	550	560	570	580	590
G-410-U05-3910 INSURANCE PREMIUMS	325	330	340	350	360	370	380	390	400	410
<b>2010 GMC 1/2 TON TRUCK</b>										
G-410-U06-2311 FUEL - GASOLINE	1,600	1,700	1,800	1,900	2,000	2,100	2,200	2,300	2,400	2,500
G-410-U06-2312 PARTS	500	510	520	530	540	550	560	570	580	590
G-410-U06-2340 LICENSES	75	77	79	81	83	85	87	89	91	93
G-410-U06-2995 MISCELLANEOUS	250	260	270	280	290	300	310	320	330	340
G-410-U06-3420 EQUIPMENT REPAIR & MAINTENANCE	250	260	270	280	290	300	310	320	330	340
G-410-U06-3910 INSURANCE PREMIUMS	325	330	340	350	360	370	380	390	400	410
<b>2015 GMC SIERRA 3500</b>										
G-410-U07-2311 FUEL - GASOLINE	1,600	1,700	1,800	1,900	2,000	2,100	2,200	2,300	2,400	2,500
G-410-U07-2312 PARTS	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
G-410-U07-2340 LICENSES	185	190	190	190	190	190	190	190	190	190
G-410-U07-3420 EQUIPMENT REPAIR & MAINTENANCE	500	510	520	530	540	550	560	570	580	590
G-410-U07-3910 INSURANCE PREMIUMS	325	330	340	350	360	370	380	390	400	410
<b>2017 CHEV 4WD 3500 CREW CAB</b>										
G-410-U08-2311 FUEL - GASOLINE	1,600	1,700	1,800	1,900	2,000	2,100	2,200	2,300	2,400	2,500
G-410-U08-2312 PARTS	500	510	520	530	540	550	560	570	580	590
G-410-U08-2340 LICENSES	135	140	140	140	140	140	140	140	140	140
G-410-U08-3420 EQUIPMENT REPAIR & MAINTENANCE	500	510	520	530	540	550	560	570	580	590
G-410-U08-3910 INSURANCE PREMIUMS	520	530	540	550	560	570	580	590	600	610
<b>UTILITIES TRAILER/GENSET #2</b>										
G-410-UT2-3910 INSURANCE PREMIUMS	130	133	136	139	142	145	148	151	154	157
<b>UTILITIES TRAILER/GENSET #3</b>										
G-410-UT3-3420 EQUIPMENT REPAIR & MAINTENANCE	250	260	270	280	290	300	310	320	330	340
G-410-UT3-3910 INSURANCE PREMIUMS	130	130	130	130	130	130	130	130	130	130
<b>UTILITIES TRAILER/DISTRIBUTION TRAILER</b>										
G-410-UT4-2311 FUEL - GASOLINE	250	260	270	280	290	300	320	340	360	380
G-410-UT4-3420 EQUIPMENT REPAIR & MAINTENANCE	250	260	270	280	290	300	310	320	330	340
G-410-UT4-3910 INSURANCE PREMIUMS	325	330	340	350	360	370	380	390	400	410
<b>Sub Total Operating</b>	<b>1,500,485</b>	<b>1,532,127</b>	<b>1,564,354</b>	<b>1,626,382</b>	<b>1,660,510</b>	<b>1,695,458</b>	<b>1,731,028</b>	<b>1,766,898</b>	<b>1,803,411</b>	<b>1,840,735</b>



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Description	Budget	Forecast								
	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
<b>Capital-Related</b>										
Existing Debt (Principal) - Growth Related										
Existing Debt (Interest) - Growth Related										
New Growth Related Debt - Westshore (Principal)		-	-	-	-	-	-	24,951	100,968	184,589
New Growth Related Debt - Westshore (Interest)		-	-	-	-	-	-	29,720	111,757	189,354
New Growth Related Debt - Severn Estates (Principal)		-	-	-	-	-	-	-	-	-
New Growth Related Debt - Severn Estates (Interest)		-	-	-	-	-	-	-	-	-
Existing Debt (Principal) - Non-Growth Related	107,419	113,166	119,220	125,598	132,317	139,396	146,853	154,709	162,985	171,705
Existing Debt (Interest) - Non-Growth Related	136,654	130,907	124,853	118,475	111,756	104,678	97,220	89,364	81,088	72,368
New Non-Growth Related Debt (Principal)		-	-	-	-	-	-	-	-	-
New Non-Growth Related Debt (Interest)		-	-	-	-	-	-	-	-	-
Transfer to Capital		-	-	-	-	-	-	-	-	-
Transfer to Equipment/Vehicle Reserve	15,000	15,000	20,000	20,000	25,000	30,000	35,000	45,000	50,000	55,000
Transfer to Westshore Upgrade & Maintenance Reserve Fund		-	-	-	-	-	-	-	-	-
Transfer to Capital Reserve	65,525	177,261	296,362	393,302	503,840	613,971	729,181	848,967	979,431	1,081,478
<b>Sub Total Capital Related</b>	<b>324,598</b>	<b>436,334</b>	<b>560,435</b>	<b>657,375</b>	<b>772,913</b>	<b>888,044</b>	<b>1,008,254</b>	<b>1,192,711</b>	<b>1,486,229</b>	<b>1,754,493</b>
<b>Total Expenditures</b>	<b>1,825,083</b>	<b>1,968,461</b>	<b>2,124,789</b>	<b>2,283,757</b>	<b>2,433,423</b>	<b>2,583,502</b>	<b>2,739,282</b>	<b>2,959,609</b>	<b>3,289,640</b>	<b>3,595,228</b>
<b>Revenues</b>										
Minimum Bill Revenue	1,564,763	1,702,852	1,853,715	2,006,985	2,150,776	2,294,747	2,444,239	2,603,374	2,768,596	2,905,976
Minimum Bill Revenue - Ramara	13,287	13,752	14,234	14,732	15,247	15,781	16,333	16,905	17,497	18,109
<b>Washago</b>										
G-410-431-0849 PENALTY	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
<b>Bass Lake</b>										
G-410-432-0849 PENALTY	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
<b>Severn Estates</b>										
G-410-434-0849 PENALTY	100	100	100	100	100	100	100	100	100	100
<b>Sandcastle Estates</b>										
G-410-435-0849 PENALTY	100	100	100	100	100	100	100	100	100	100
<b>Coldwater</b>										
G-410-437-0849 PENALTY	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000
G-410-437-0887 WATER METER SALES	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
G-410-437-0890 MISCELLANEOUS	2,200	2,200	2,200	2,200	2,200	2,200	2,200	2,200	2,200	2,200
G-410-437-0981 WATER/SEWER CONNECTION CHARGE	250	250	250	250	250	250	250	250	250	250
<b>Westshore</b>										
G-410-439-0849 PENALTY	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000
G-410-439-0887 WATER METER SALES	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
G-410-439-0890 MISCELLANEOUS	100	100	100	100	100	100	100	100	100	100
G-410-439-0981 WATER/SEWER CONNECTION CHARGE	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
<b>Utility Vehicles</b>										
G-410-U01-0971 TOWNSHIP EQUIPMENT RENTALS	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
G-410-U02-0971 TOWNSHIP EQUIPMENT RENTALS	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
G-410-U03-0971 TOWNSHIP EQUIPMENT RENTALS	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
G-410-U04-0971 TOWNSHIP EQUIPMENT RENTALS	11,000	11,000	11,000	11,000	11,000	11,000	11,000	11,000	11,000	11,000



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Description	Budget	Forecast								
	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
G-410-U05-0971 TOWNSHIP EQUIPMENT RENTALS	7,500	7,500	7,500	7,500	7,500	7,500	7,500	7,500	7,500	7,500
G-410-U06-0971 TOWNSHIP EQUIPMENT RENTALS	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
G-410-U07-0971 TOWNSHIP EQUIPMENT RENTALS	11,000	11,000	11,000	11,000	11,000	11,000	11,000	11,000	11,000	11,000
G-410-U08-0971 TOWNSHIP EQUIPMENT RENTALS	12,500	12,500	12,500	12,500	12,500	12,500	12,500	12,500	12,500	12,500
Contributions from Development Charges Reserve Fund - Severn Estates	-	-	-	-	-	-	-	-	-	-
Contributions from Development Charges Reserve Fund - Westshore	-	-	-	-	-	-	-	54,671	212,725	373,942
Contributions from Reserves / Reserve Funds	-	-	-	-	-	-	-	-	-	-
<b>Total Operating Revenue</b>	<b>1,686,800</b>	<b>1,825,355</b>	<b>1,976,698</b>	<b>2,130,467</b>	<b>2,274,773</b>	<b>2,419,278</b>	<b>2,569,323</b>	<b>2,783,701</b>	<b>3,107,568</b>	<b>3,406,778</b>
<b>Water Billing Recovery - Operating</b>	<b>138,283</b>	<b>143,107</b>	<b>148,091</b>	<b>153,290</b>	<b>158,650</b>	<b>164,224</b>	<b>169,959</b>	<b>175,909</b>	<b>182,072</b>	<b>188,451</b>
<b>Water Billing Recovery - Total</b>	<b>138,283</b>	<b>143,107</b>	<b>148,091</b>	<b>153,290</b>	<b>158,650</b>	<b>164,224</b>	<b>169,959</b>	<b>175,909</b>	<b>182,072</b>	<b>188,451</b>





### **5.3 Wastewater Operating Expenditures**

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The wastewater operating expenditures have been adjusted over the forecast period by an annual inflationary factor of 2.0%. Operating expenditures that involve fuels, chemicals and other materials have been inflated by 5.0% annually. As mentioned in Section 5.1, an additional full-time staff member is anticipated in 2024 and has been included in the forecast in place of part time staff. Also included are contributions to the capital reserve.

### **5.4 Wastewater Operating Revenues**

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The operating revenue for the wastewater program comes mainly from the minimum bill charges along with volumetric revenue from customers with usage greater than 68 cu.m. per quarter. A small amount of revenue is also generated from late payment penalties and rental revenue. These miscellaneous revenue sources are assumed to remain constant over the forecast period. Table 5-2 outlines the operating budget for the Severn wastewater systems.



**Table 5-2  
Township of Severn  
Operating Budget Forecast – Wastewater (inflated \$)**

Description	Budget	Forecast								
	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
<b>Expenditures</b>										
<u>Operating Costs</u>										
<b>Washago:</b>										
G-410-411-1110 REGULAR SALARIES & WAGES	25,000	25,500	26,000	26,500	27,000	27,500	28,100	28,700	29,300	29,900
G-410-411-1130 OVERTIME-SHIFT-RECAL ETC.	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
G-410-411-1140 LOST TIME : SICK VACN ETC	5,000	5,100	5,200	5,300	5,400	5,500	5,600	5,700	5,800	5,900
G-410-411-1141 ON CALL	800	820	840	860	880	900	920	940	960	980
G-410-411-1155 NON TAXABLE - MEALS / UNIFORM PAY	200	204	208	212	216	220	224	228	233	238
G-410-411-1161 EMPLOYER HEALTH TAX	600	610	620	630	640	650	660	670	680	690
G-410-411-1162 C.P.P.	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100
G-410-411-1163 E.I.	400	410	420	430	440	450	460	470	480	490
G-410-411-1164 O.M.E.R.S.	3,300	3,400	3,500	3,600	3,700	3,800	3,900	4,000	4,100	4,200
G-410-411-1165 GROUP LIFE INSURANCE	3,600	3,700	3,800	3,900	4,000	4,100	4,200	4,300	4,400	4,500
G-410-411-1167 WORKPLACE SAFETY INSURANCE	900	900	900	900	900	900	900	900	900	900
G-410-411-2220 BUILDING & PROPERTY MAINT	3,000	3,100	3,200	3,300	3,400	3,500	3,600	3,700	3,800	3,900
G-410-411-2227 SEWER INFILTRATION LINES	5,000	5,100	5,200	5,300	5,400	5,500	5,600	5,700	5,800	5,900
G-410-411-2418 SULPHATE	5,000	5,300	5,600	5,900	6,200	6,500	6,800	7,100	7,500	7,900
G-410-411-2610 OFFICE SUPPLIES	500	510	520	530	540	550	560	570	580	590
G-410-411-2810 HYDRO	2,500	2,600	2,700	2,800	2,900	3,000	3,100	3,200	3,300	3,400
G-410-411-2900 SAFETY EQUIPMENT	500	510	520	530	540	550	560	570	580	590
G-410-411-2910 UNIFORMS	280	290	300	310	320	330	340	350	360	370
G-410-411-2995 MISCELLANEOUS	100	102	104	106	108	110	112	114	116	118
G-410-411-3110 MILEAGE	100	102	104	106	108	110	112	114	116	118
G-410-411-3140 MEMBERSHIPS	200	204	208	212	216	220	224	228	233	238
G-410-411-3150 TRAINING COURSE EXPENSES	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
G-410-411-3205 JOINT HEALTH & SAFETY	100	102	104	106	108	110	112	114	116	118
G-410-411-3220 TELEPHONE	4,200	4,300	4,400	4,500	4,600	4,700	4,800	4,900	5,000	5,100
G-410-411-3230 ADVERTISING	100	102	104	106	108	110	112	114	116	118
G-410-411-3360 CONSULTANTS	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500
G-410-411-3392 M.O.E. TESTING	3,000	3,100	3,200	3,300	3,400	3,500	3,600	3,700	3,800	3,900
G-410-411-3420 EQUIPMENT REPAIR & MAINTENANCE	47,500	48,500	49,500	50,500	51,500	52,500	53,600	54,700	55,800	56,900
G-410-411-3910 INSURANCE PREMIUMS	7,670	7,800	8,000	8,200	8,400	8,600	8,800	9,000	9,200	9,400
G-410-411-7970 INTERNAL DEPT EXPENDITURE TRSF	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
G-410-411-7981 TOWNSHIP VEHICLE RENTAL	7,000	7,100	7,200	7,300	7,400	7,500	7,700	7,900	8,100	8,300
<b>Coldwater</b>										
G-410-412-1110 REGULAR SALARIES & WAGES	93,600	95,500	97,400	99,300	101,300	103,300	105,400	107,500	109,700	111,900
G-410-412-1120 PART-TIME SALARIES & WAGES	4,200	4,300	4,400	-	-	-	-	-	-	-
G-410-412-1130 OVERTIME-SHIFT-RECAL ETC.	11,100	11,300	11,500	11,700	11,900	12,100	12,300	12,500	12,800	13,100
G-410-412-1140 LOST TIME : SICK VACN ETC	9,000	9,200	9,400	9,600	9,800	10,000	10,200	10,400	10,600	10,800
G-410-412-1141 ON CALL	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500
G-410-412-1155 NON TAXABLE - MEALS / UNIFORM PAY	400	410	420	430	440	450	460	470	480	490
G-410-412-1161 EMPLOYER HEALTH TAX	2,200	2,200	2,200	2,200	2,200	2,200	2,200	2,200	2,200	2,200
G-410-412-1162 C.P.P.	4,100	4,200	4,300	4,400	4,500	4,600	4,700	4,800	4,900	5,000
G-410-412-1163 E.I.	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400



Figure 5-2 (Cont'd)

Description	Budget	Forecast								
	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
G-410-412-1164 O.M.E.R.S.	12,300	12,500	12,800	13,100	13,400	13,700	14,000	14,300	14,600	14,900
G-410-412-1165 GROUP LIFE INSURANCE	13,400	13,700	14,000	14,300	14,600	14,900	15,200	15,500	15,800	16,100
G-410-412-1167 WORKPLACE SAFETY INSURANCE	3,600	3,700	3,800	3,900	4,000	4,100	4,200	4,300	4,400	4,500
G-410-412-2220 BUILDING & PROPERTY MAINT	15,000	15,300	15,600	15,900	16,200	16,500	16,800	17,100	17,400	17,700
G-410-412-2227 SEWER INFILTRATION LINES	25,000	25,500	26,000	26,500	27,000	27,500	28,100	28,700	29,300	29,900
G-410-412-2310 FUEL - DIESEL	500	530	560	590	620	650	680	710	750	790
G-410-412-2418 SULPHATE	24,000	25,200	26,500	27,800	29,200	30,700	32,200	33,800	35,500	37,300
G-410-412-2610 OFFICE SUPPLIES	500	510	520	530	540	550	560	570	580	590
G-410-412-2810 HYDRO	100,000	102,000	104,000	106,100	108,200	110,400	112,600	114,900	117,200	119,500
G-410-412-2830 HEAT - NATURAL GAS	2,100	2,200	2,300	2,400	2,500	2,600	2,700	2,800	2,900	3,000
G-410-412-2900 SAFETY EQUIPMENT	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
G-410-412-2910 UNIFORMS	520	530	540	550	560	570	580	590	600	610
G-410-412-3110 MILEAGE	100	102	104	106	108	110	112	114	116	118
G-410-412-3140 MEMBERSHIPS	300	310	320	330	340	350	360	370	380	390
G-410-412-3150 TRAINING COURSE EXPENSES	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500
G-410-412-3205 JOINT HEALTH & SAFETY	100	102	104	106	108	110	112	114	116	118
G-410-412-3220 TELEPHONE	9,400	9,600	9,800	10,000	10,200	10,400	10,600	10,800	11,000	11,200
G-410-412-3230 ADVERTISING	130	133	136	139	142	145	148	151	154	157
G-410-412-3326 SLUDGE	10,000	10,200	10,400	10,600	10,800	11,000	11,200	11,400	11,600	11,800
G-410-412-3360 CONSULTANTS	2,500	2,600	2,700	2,800	2,900	3,000	3,100	3,200	3,300	3,400
G-410-412-3392 M.O.E. TESTING	10,000	10,200	10,400	10,600	10,800	11,000	11,200	11,400	11,600	11,800
G-410-412-3420 EQUIPMENT REPAIR & MAINTENANCE	131,200	133,800	136,500	139,200	142,000	144,800	147,700	150,700	153,700	156,800
G-410-412-3995 PIL - SEVERN PORTION	11,000	11,200	11,400	11,600	11,800	12,000	12,200	12,400	12,600	12,900
G-410-412-7970 INTERNAL DEPT EXPENDITURE TRSF	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
G-410-412-7981 TOWNSHIP VEHICLE RENTAL	25,000	25,500	26,000	26,500	27,000	27,500	28,100	28,700	29,300	29,900
<b>Westshore</b>										
G-410-414-1110 REGULAR SALARIES & WAGES	93,600	95,500	97,400	99,300	101,300	103,300	105,400	107,500	109,700	111,900
G-410-414-1120 PART-TIME SALARIES & WAGES	4,200	4,300	4,400	-	-	-	-	-	-	-
G-410-414-1130 OVERTIME-SHIFT-RECAL ETC.	13,000	13,300	13,600	13,900	14,200	14,500	14,800	15,100	15,400	15,700
G-410-414-1140 LOST TIME : SICK VACN ETC	14,000	14,300	14,600	14,900	15,200	15,500	15,800	16,100	16,400	16,700
G-410-414-1141 ON CALL	2,300	2,300	2,300	2,300	2,300	2,300	2,300	2,300	2,300	2,300
G-410-414-1155 NON TAXABLE - MEALS / UNIFORM PAY	600	610	620	630	640	650	660	670	680	690
G-410-414-1161 EMPLOYER HEALTH TAX	2,200	2,200	2,200	2,200	2,200	2,200	2,200	2,200	2,200	2,200
G-410-414-1162 C.P.P.	4,100	4,200	4,300	4,400	4,500	4,600	4,700	4,800	4,900	5,000
G-410-414-1163 E.I.	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400
G-410-414-1164 O.M.E.R.S.	12,300	12,500	12,800	13,100	13,400	13,700	14,000	14,300	14,600	14,900
G-410-414-1165 GROUP LIFE INSURANCE	13,400	13,700	14,000	14,300	14,600	14,900	15,200	15,500	15,800	16,100
G-410-414-1167 WORKPLACE SAFETY INSURANCE	3,600	3,700	3,800	3,900	4,000	4,100	4,200	4,300	4,400	4,500
G-410-414-2220 BUILDING & PROPERTY MAINT	10,000	10,200	10,400	10,600	10,800	11,000	11,200	11,400	11,600	11,800
G-410-414-2227 SEWER INFILTRATION LINES	25,000	25,500	26,000	26,500	27,000	27,500	28,100	28,700	29,300	29,900
G-410-414-2310 FUEL - DIESEL	500	530	560	590	620	650	680	710	750	790
G-410-414-2418 SULPHATE	29,000	30,500	32,000	33,600	35,300	37,100	39,000	41,000	43,100	45,300
G-410-414-2419 CHEMICALS	2,500	2,600	2,700	2,800	2,900	3,000	3,200	3,400	3,600	3,800
G-410-414-2610 OFFICE SUPPLIES	500	510	520	530	540	550	560	570	580	590
G-410-414-2810 HYDRO	84,000	85,700	87,400	89,100	90,900	92,700	94,600	96,500	98,400	100,400
G-410-414-2830 HEAT - NATURAL GAS	7,600	8,000	8,400	8,800	9,200	9,700	10,200	10,700	11,200	11,800
G-410-414-2900 SAFETY EQUIPMENT	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000



Table 5-2 (Cont'd)

Description	Budget	Forecast								
	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
G-410-414-2910 UNIFORMS	800	820	840	860	880	900	920	940	960	980
G-410-414-3110 MILEAGE	200	204	208	212	216	220	224	228	233	238
G-410-414-3140 MEMBERSHIPS	600	610	620	630	640	650	660	670	680	690
G-410-414-3150 TRAINING COURSE EXPENSES	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700
G-410-414-3205 JOINT HEALTH & SAFETY	100	102	104	106	108	110	112	114	116	118
G-410-414-3220 TELEPHONE	14,500	14,800	15,100	15,400	15,700	16,000	16,300	16,600	16,900	17,200
G-410-414-3230 ADVERTISING	200	204	208	212	216	220	224	228	233	238
G-410-414-3320 LEGAL	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
G-410-414-3326 SLUDGE	40,000	40,800	41,600	42,400	43,200	44,100	45,000	45,900	46,800	47,700
G-410-414-3360 CONSULTANTS	3,500	3,600	3,700	3,800	3,900	4,000	4,100	4,200	4,300	4,400
G-410-414-3392 M.O.E. TESTING	10,200	10,400	10,600	10,800	11,000	11,200	11,400	11,600	11,800	12,000
G-410-414-3420 EQUIPMENT REPAIR & MAINTENANCE	158,000	161,200	164,400	167,700	171,100	174,500	178,000	181,600	185,200	188,900
G-410-414-3910 INSURANCE PREMIUMS	3,640	3,700	3,800	3,900	4,000	4,100	4,200	4,300	4,400	4,500
G-410-414-3995 PIL - SEVERN PORTION	3,000	3,100	3,200	3,300	3,400	3,500	3,600	3,700	3,800	3,900
G-410-414-7970 INTERNAL DEPT EXPENDITURE TRSF	7,000	7,100	7,200	7,300	7,400	7,500	7,700	7,900	8,100	8,300
G-410-414-7981 TOWNSHIP VEHICLE RENTAL	25,000	25,500	26,000	26,500	27,000	27,500	28,100	28,700	29,300	29,900
Additional Staff Salaries & Benefits				32,700	33,400	34,100	34,800	35,500	36,200	36,900
<b>2010 GMC SIERRA 1/2 TON</b>										
G-410-U01-2311 FUEL - GASOLINE	1,600	1,700	1,800	1,900	2,000	2,100	2,200	2,300	2,400	2,500
G-410-U01-2312 PARTS	500	510	520	530	540	550	560	570	580	590
G-410-U01-2340 LICENSES	75	77	79	81	83	85	87	89	91	93
G-410-U01-3420 EQUIPMENT REPAIR & MAINTENANCE	250	260	270	280	290	300	310	320	330	340
G-410-U01-3910 INSURANCE PREMIUMS	325	330	340	350	360	370	380	390	400	410
<b>2011 CHEV 1/2 TON TRUCK</b>										
G-410-U02-2311 FUEL - GASOLINE	1,600	1,700	1,800	1,900	2,000	2,100	2,200	2,300	2,400	2,500
G-410-U02-2312 PARTS	1,250	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300
G-410-U02-2340 LICENSES	75	77	79	81	83	85	87	89	91	93
G-410-U02-3420 EQUIPMENT REPAIR & MAINTENANCE	750	770	790	810	830	850	870	890	910	930
G-410-U02-3910 INSURANCE PREMIUMS	325	330	340	350	360	370	380	390	400	410
<b>2011 CHEV SIERRA 1/2 TON TRUCK</b>										
G-410-U03-2311 FUEL - GASOLINE	1,600	1,700	1,800	1,900	2,000	2,100	2,200	2,300	2,400	2,500
G-410-U03-2312 PARTS	1,250	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300
G-410-U03-2340 LICENSES	75	77	79	81	83	85	87	89	91	93
G-410-U03-3420 EQUIPMENT REPAIR & MAINTENANCE	750	770	790	810	830	850	870	890	910	930
G-410-U03-3910 INSURANCE PREMIUMS	325	330	340	350	360	370	380	390	400	410
<b>2011 GMC SAVANA G3500 UTILITIES VAN</b>										
G-410-U04-2311 FUEL - GASOLINE	2,000	2,100	2,200	2,300	2,400	2,500	2,600	2,700	2,800	2,900
G-410-U04-2312 PARTS	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500
G-410-U04-2340 LICENSES	205	209	213	217	221	225	230	235	240	245
G-410-U04-3420 EQUIPMENT REPAIR & MAINTENANCE	750	770	790	810	830	850	870	890	910	930
G-410-U04-3910 INSURANCE PREMIUMS	325	330	340	350	360	370	380	390	400	410



Table 5-2 (Cont'd)

Description	Budget	Forecast								
	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
<b>2014 CHEV SILVERADO</b>										
G-410-U05-2311 FUEL - GASOLINE	1,200	1,300	1,400	1,500	1,600	1,700	1,800	1,900	2,000	2,100
G-410-U05-2312 PARTS	500	510	520	530	541	552	563	574	585	597
G-410-U05-2340 LICENSES	75	77	79	81	83	85	87	89	91	93
G-410-U05-3420 EQUIPMENT REPAIR & MAINTENANCE	500	510	520	530	540	550	560	570	580	590
G-410-U05-3910 INSURANCE PREMIUMS	325	330	340	350	360	370	380	390	400	410
<b>2010 GMC 1/2 TON TRUCK</b>										
G-410-U06-2311 FUEL - GASOLINE	1,600	1,700	1,800	1,900	2,000	2,100	2,200	2,300	2,400	2,500
G-410-U06-2312 PARTS	500	510	520	530	541	552	563	574	585	597
G-410-U06-2340 LICENSES	75	77	79	81	83	85	87	89	91	93
G-410-U06-2995 MISCELLANEOUS	250	260	270	280	290	300	310	320	330	340
G-410-U06-3420 EQUIPMENT REPAIR & MAINTENANCE	250	260	270	280	290	300	310	320	330	340
G-410-U06-3910 INSURANCE PREMIUMS	325	330	340	350	360	370	380	390	400	410
<b>2015 GMC SIERRA 3500</b>										
G-410-U07-2311 FUEL - GASOLINE	1,600	1,700	1,800	1,900	2,000	2,100	2,200	2,300	2,400	2,500
G-410-U07-2312 PARTS	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
G-410-U07-2340 LICENSES	185	189	193	197	201	205	209	213	217	221
G-410-U07-3420 EQUIPMENT REPAIR & MAINTENANCE	500	510	520	530	540	550	560	570	580	590
G-410-U07-3910 INSURANCE PREMIUMS	325	330	340	350	360	370	380	390	400	410
<b>2017 CHEV 4WD 3500 CREW CAB</b>										
G-410-U08-2311 FUEL - GASOLINE	1,600	1,700	1,800	1,900	2,000	2,100	2,200	2,300	2,400	2,500
G-410-U08-2312 PARTS	500	510	520	530	541	552	563	574	585	597
G-410-U08-2340 LICENSES	135	138	141	144	147	150	153	156	159	162
G-410-U08-3420 EQUIPMENT REPAIR & MAINTENANCE	500	510	520	530	540	550	560	570	580	590
G-410-U08-3910 INSURANCE PREMIUMS	520	530	540	550	560	570	580	590	600	610
<b>UTILITIES TRAILER/GENSET #2</b>										
G-410-UT2-3910 INSURANCE PREMIUMS	130	133	136	139	142	145	148	151	154	157
<b>UTILITIES TRAILER/GENSET #3</b>										
G-410-UT3-3420 EQUIPMENT REPAIR & MAINTENANCE	250	260	270	280	290	300	310	320	330	340
G-410-UT3-3910 INSURANCE PREMIUMS	130	133	136	139	142	145	148	151	154	157
<b>UTILITIES TRAILER/DISTRIBUTION TRAILER</b>										
G-410-UT4-2311 FUEL - GASOLINE	250	260	270	280	290	300	320	340	360	380
G-410-UT4-3420 EQUIPMENT REPAIR & MAINTENANCE	250	260	270	280	290	300	310	320	330	340
G-410-UT4-3910 INSURANCE PREMIUMS	325	330	340	350	360	370	380	390	400	410
<b>Sub Total Operating</b>	<b>1,288,370</b>	<b>1,316,880</b>	<b>1,345,840</b>	<b>1,398,800</b>	<b>1,429,263</b>	<b>1,460,226</b>	<b>1,492,700</b>	<b>1,525,674</b>	<b>1,559,272</b>	<b>1,593,573</b>
<b>Capital-Related</b>										
Existing Debt (Principal) - Growth Related										
Existing Debt (Interest) - Growth Related										
New Growth Related Debt - Coldwater (Principal)	-		28,529	56,586	58,850	61,203	63,652	74,070	77,033	80,114
New Growth Related Debt - Coldwater (Interest)	-		33,981	62,632	60,369	58,015	55,567	59,326	56,363	53,282



Table 5-2 (Cont'd)

Description	Budget	Forecast								
	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
New Growth Related Debt - Westshore (Principal)		-	-	-	-	-	-	-	212,458	441,913
New Growth Related Debt - Westshore (Interest)		-	-	-	-	-	-	-	155,451	293,905
Existing Debt (Principal) - Non-Growth Related	161,129	169,749	178,830	188,397	198,476	209,094	220,280	232,064	244,479	257,557
Existing Debt (Interest) - Non-Growth Related	204,981	196,361	187,280	177,713	167,634	157,017	145,831	134,046	121,632	108,553
New Non-Growth Related Debt (Principal)		-	26,865	45,403	55,209	57,418	59,715	62,103	64,587	67,171
New Non-Growth Related Debt (Interest)		-	32,000	50,254	56,635	54,426	52,130	49,741	47,257	44,674
Transfer to Capital	-	-	-	-	-	-	-	-	-	-
Transfer to Westshore Upgrade & Maintenance Reserve Fund	-	-	-	-	-	-	-	-	-	-
Transfer to Equipment/Vehicle Reserve	15,000	-	-	35,000	40,000	40,000	40,000	45,000	50,000	50,000
Transfer to Capital Reserve			50,309	89,519	196,113	325,431	462,539	605,985	759,218	891,021
<b>Sub Total Capital Related</b>	<b>381,110</b>	<b>366,110</b>	<b>537,794</b>	<b>705,504</b>	<b>833,286</b>	<b>962,604</b>	<b>1,099,712</b>	<b>1,262,334</b>	<b>1,788,476</b>	<b>2,288,189</b>
<b>Total Expenditures</b>	<b>1,669,480</b>	<b>1,682,990</b>	<b>1,883,634</b>	<b>2,104,304</b>	<b>2,262,549</b>	<b>2,422,830</b>	<b>2,592,412</b>	<b>2,788,008</b>	<b>3,347,748</b>	<b>3,881,762</b>
<b>Revenues</b>										
Minimum Bill Revenue	1,284,728	1,422,296	1,575,363	1,732,494	1,883,624	2,036,456	2,198,253	2,371,507	2,554,838	2,712,060
<b>Washago</b>										
G-410-411-0849 PENALTY	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
<b>Coldwater</b>										
G-410-412-0849 PENALTY	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000
<b>Westshore</b>										
G-410-414-0849 PENALTY	7,000	7,000	7,000	7,000	7,000	7,000	7,000	7,000	7,000	7,000
<b>Utility Vehicles</b>										
G-410-U01-0971 TOWNSHIP EQUIPMENT RENTALS	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
G-410-U02-0971 TOWNSHIP EQUIPMENT RENTALS	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
G-410-U03-0971 TOWNSHIP EQUIPMENT RENTALS	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
G-410-U04-0971 TOWNSHIP EQUIPMENT RENTALS	11,000	11,000	11,000	11,000	11,000	11,000	11,000	11,000	11,000	11,000
G-410-U05-0971 TOWNSHIP EQUIPMENT RENTALS	7,500	7,500	7,500	7,500	7,500	7,500	7,500	7,500	7,500	7,500
G-410-U06-0971 TOWNSHIP EQUIPMENT RENTALS	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
G-410-U07-0971 TOWNSHIP EQUIPMENT RENTALS	11,000	11,000	11,000	11,000	11,000	11,000	11,000	11,000	11,000	11,000
G-410-U08-0971 TOWNSHIP EQUIPMENT RENTALS	12,500	12,500	12,500	12,500	12,500	12,500	12,500	12,500	12,500	12,500
Contributions from Development Charges Reserve Fund - Coldwater	-	-	62,510	119,218	119,218	119,218	119,218	133,395	133,395	133,395
Contributions from Development Charges Reserve Fund - Westshore	-	-	-	-	-	-	-	-	367,909	735,818
Contributions from Equipment/Vehicle Reserve	-	21,475	-	-	-	-	-	-	-	-
Contributions from Reserves / Reserve Funds	151,788	-	-	-	-	-	-	-	-	-
<b>Total Operating Revenue</b>	<b>1,530,516</b>	<b>1,537,770</b>	<b>1,731,872</b>	<b>1,945,713</b>	<b>2,096,843</b>	<b>2,249,674</b>	<b>2,411,472</b>	<b>2,598,903</b>	<b>3,150,142</b>	<b>3,675,273</b>
<b>Wastewater Billing Recovery - Operating</b>	<b>138,964</b>	<b>145,220</b>	<b>151,762</b>	<b>158,591</b>	<b>165,706</b>	<b>173,156</b>	<b>180,940</b>	<b>189,106</b>	<b>197,606</b>	<b>206,488</b>
<b>Wastewater Billing Recovery - Total</b>	<b>138,964</b>	<b>145,220</b>	<b>151,762</b>	<b>158,591</b>	<b>165,706</b>	<b>173,156</b>	<b>180,940</b>	<b>189,106</b>	<b>197,606</b>	<b>206,488</b>



# Chapter 6

## Pricing Structures

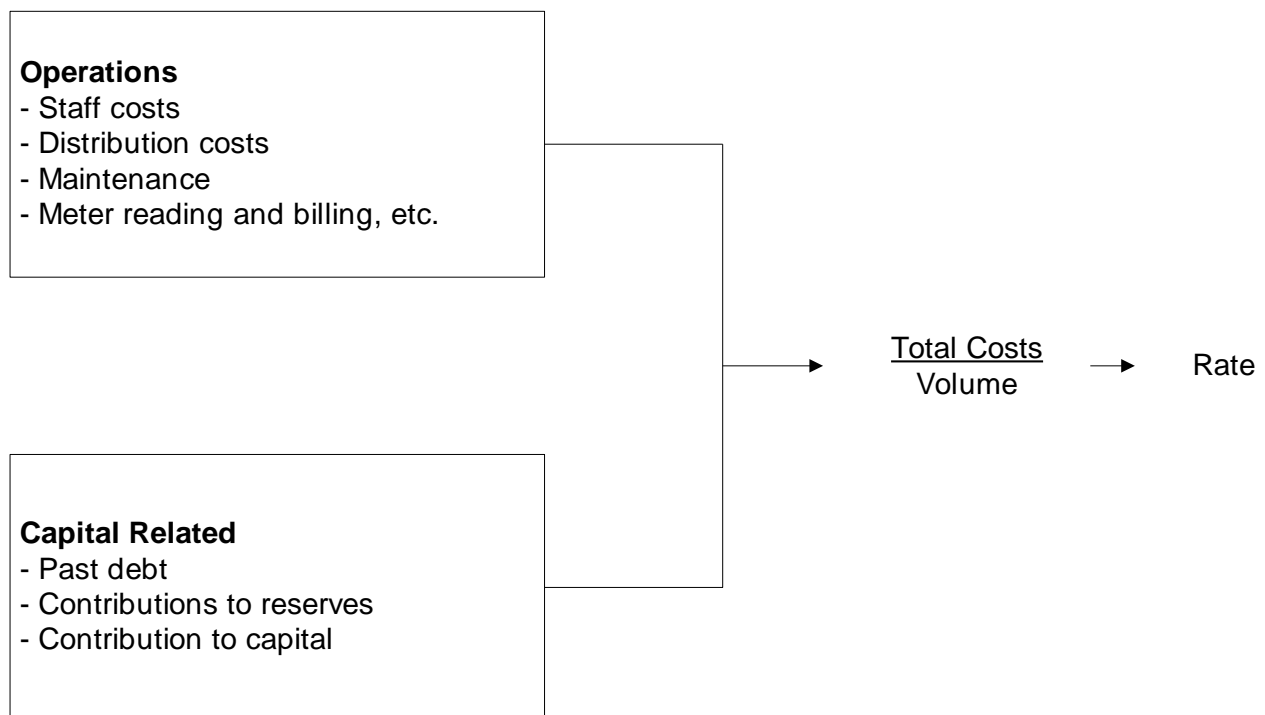


## 6. Pricing Structures

### 6.1 Introduction

Rates, in their simplest form, can be defined as total costs to maintain the utility function divided by the total expected volume to be generated for the period. Total costs are usually a combination of operating costs (e.g. staff costs, distribution costs, maintenance, administration, etc.) and capital-related costs (e.g. past debt to finance capital projects, transfers to reserves to finance future expenditures, etc.). The schematic below provides a simplified illustration of the rate calculation for water.

#### “Annual Costs”



These operating and capital expenditures will vary over time. Examples of factors that will affect the expenditures over time are provided below.

#### Operations

- Inflation;





- Increased maintenance as system ages; and
- Changes to provincial legislation.

### Capital Related

- New capital will be built as areas expand;
- Replacement capital needed as system ages; and
- Financing of capital costs are a function of policy regarding reserves and direct financing from rates (pay as you go), debt and user pay methods (development charges, *Municipal Act*).

## 6.2 Alternative Pricing Structures

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Throughout Ontario, and as well, Canada, the use of pricing mechanisms varies between municipalities. The use of a particular form of pricing depends upon numerous factors, including Council preference, administrative structure, surplus/deficit system capacities, economic/demographic conditions, to name a few.

Municipalities within Ontario have two basic forms of collecting revenues for water purposes, those being through incorporation of the costs within the tax rate charged on property assessment and/or through the establishment of a specific water rate billed to the customer. Within the rate methods, there are five basic rate structures employed along with other variations:

- Flat Rate (non-metered customers);
- Constant Rate;
- Declining Block Rate;
- Increasing (or Inverted) Block Rate;
- Hump Back Block Rate; and
- Base Charges.

The definitions and general application of the various methods are as follows:

**Property Assessment:** This method incorporates the total costs of providing water into the general requisition or the assessment base of the municipality. This form of collection is a "wealth tax," as payment increases directly with the value of property owned and bears no necessary relationship to actual consumption. This form is easy to



administer as the costs to be recovered are incorporated in the calculation for all general services, normally collected through property taxes.

**Flat Rate:** This rate is a constant charge applicable to all customers served. The charge is calculated by dividing the total number of user households and other entities (e.g. businesses) into the costs to be recovered. This method does not recognize differences in actual consumption but provides for a uniform spreading of costs across all users. Some municipalities define users into different classes of similar consumption patterns, that is, a commercial user, residential user and industrial user, and charge a flat rate by class. Each user is then billed on a periodic basis. No meters are required to facilitate this method, but an accurate estimate of the number of users is required. This method ensures set revenue for the collection period but is not sensitive to consumption, hence may cause a shortfall or surplus of revenues collected.

**Constant Rate:** This rate is a volume-based rate, in which the consumer pays the same price per unit consumed, regardless of the volume. The price per unit is calculated by dividing the total cost of the service by the total volume used by total consumers. The bill to the consumer climbs uniformly as the consumption increases. This form of rate requires the use of meters to record the volume consumed by each user. This method closely aligns the revenue recovery with consumption. Revenue collected varies directly with the consumption volume.

**Declining Block Rates:** This rate structure charges a successively lower price for set volumes, as consumption increases through a series of "blocks." That is to say that within set volume ranges, or blocks, the charge per unit is set at one rate. Within the next volume range, the charge per unit decreases to a lower rate, and so on. Typically, the first, or first and second blocks cover residential and light commercial uses. Subsequent blocks normally are used for heavier commercial and industrial uses. This rate structure requires the use of meters to record the volume consumed by each type of user. This method requires the collection and analysis of consumption patterns by user classification to establish rates at a level which does not over or under collect revenue from rate payers.

**Increasing or Inverted Block Rates:** The increasing block rate works essentially the same way as the declining block rate, except that the price of water in successive blocks increases rather than declines. Under this method the consumer's bill rises faster with higher volumes used. This rate structure also requires the use of meters to



record the volume consumed by each user. This method requires, as with the declining block structure, the collection and analysis of consumption patterns by user classification to establish rates at a level which does not over or under collect from rate payers.

**The Hump Back Rate:** The hump back rate is a combination of an increasing block rate and the declining block rate. Under this method the consumer's bill rises with higher volumes used up to a certain level and then begins to fall for volumes in excess of levels set for the increasing block rate.

## 6.3 Assessment of Alternative Pricing Structures

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The adoption by a municipality or utility of any one particular pricing structure is normally a function of a variety of administrative, social, demographic and financial factors. The number of factors, and the weighting each particular factor receives, can vary between municipalities. The following is a review of some of the more prevalent factors.

### Cost Recovery

Cost recovery is a prime factor in establishing a particular pricing structure. Costs can be loosely defined into different categories: operations, maintenance, capital, financing and administration. These costs often vary between municipalities and even within a municipality, based on consumption patterns, infrastructure age, economic growth, etc.

The pricing alternatives defined earlier can all achieve the cost recovery goal, but some do so more precisely than others. Fixed pricing structures, such as Property Assessment and Flat Rate, are established on the value of property or on the number of units present in the municipality, but do not adjust in accordance with consumption. Thus, if actual consumption for the year is greater than projected, the municipality incurs a higher cost of production, but the revenue base remains static (since it was determined at the beginning of the year), thus potentially providing a funding shortfall. Conversely, if the consumption level declines below projections, fixed pricing structures will produce more revenue than actual costs incurred.



The other pricing methods (declining block, constant rate, increasing block) are consumption-based and generally will generate revenues in proportion to actual consumption.

### Administration

Administration is defined herein as the staffing, equipment and supplies required to support the undertaking of a particular pricing strategy. This factor not only addresses the physical tangible requirements to support the collection of the revenues, but also the intangible requirements, such as policy development.

The easiest pricing structure to support is the Property Assessment structure. As municipalities undertake the process of calculating property tax bills and the collection process for their general services, the incorporation of the water costs into this calculation would have virtually no impact on the administrative process and structure.

The Flat Rate pricing structure is relatively easy to administer as well. It is normally calculated to collect a set amount, either on a monthly, quarterly, semi-annual or annual basis, and is billed directly to the customer. The impact on administration centres mostly on the accounts receivable or billing area of the municipality, but normally requires minor additional staff or operating costs to undertake.

The three remaining methods, those being Increasing Block Rate, Constant Rate and Declining Block Rate, have a more dramatic effect on administration. These methods are dependent upon actual consumption and hence involve a major structure in place to administer. First, meters must be installed in all existing units in the municipality, and units to be subsequently built must be required to include these meters. Second, meter readings must be undertaken periodically. Hence staff must be available for this purpose or a service contract must be negotiated. Third, the billings process must be expanded to accommodate this process. Billing must be done per a defined period, requiring staff to produce the bills. Lastly, either through increased staffing or by service contract, an annual maintenance program must be set up to ensure meters are working effectively in recording consumed volumes.

The benefit derived from the installation of meters is that information on consumption patterns becomes available. This information provides benefit to administration in calculating rates which will ensure revenue recovery. Additionally, when planning what services are to be constructed in future years, the municipality or utility has documented



consumption patterns distinctive to its own situation, which can be used to project sizing of growth-related works.

### Equity

Equity is always a consideration in the establishment of pricing structures, but its definition can vary depending on a municipality's circumstances and based on the subjective interpretation of those involved. For example: is the price charged to a particular class of rate payer consistent with those of a similar class in surrounding municipalities; through the pricing structure does one class of rate payer pay more than another class; should one pay based on ability to pay, or on the basis that a unit of water costs the same to supply no matter who consumes it; etc.? There are many interpretations. Equity therefore must be viewed broadly in light of many factors as part of achieving what is best for the municipality as a whole.

### Conservation

In today's society, conservation of natural resources is increasingly being more highly valued. Controversy continuously focuses on the preservation of non-renewable resources and on the proper management of renewable resources. Conservation is also a concept which applies to a municipality facing physical limitations in the amount of water which can be supplied to an area. As well, financial constraints can encourage conservation in a municipality where the cost of providing each additional unit is increasing.

Pricing structures such as property assessment and flat rate do not, in themselves, encourage conservation. In fact, depending on the price which is charged, they may even encourage resource "squandering," either because consumers, without the price discipline, consume water at will, or the customer wants to get his money's worth and hence adopts more liberal consumption patterns. The fundamental reason for this is that the price paid for the service bears no direct relationship to the volume consumed and hence is viewed as a "tax," instead of being viewed as the price of a purchased commodity.

The Declining Block Rate provides a decreasing incentive towards conservation. By creating awareness of volumes consumed, the consumer can reduce his total costs by restricting consumption; however, the incentive lessens as more water is consumed, because the marginal cost per unit declines as the consumer enters the next block



pricing range. Similarly, those whose consumption level is at the top end of a block have less incentive to reduce consumption.

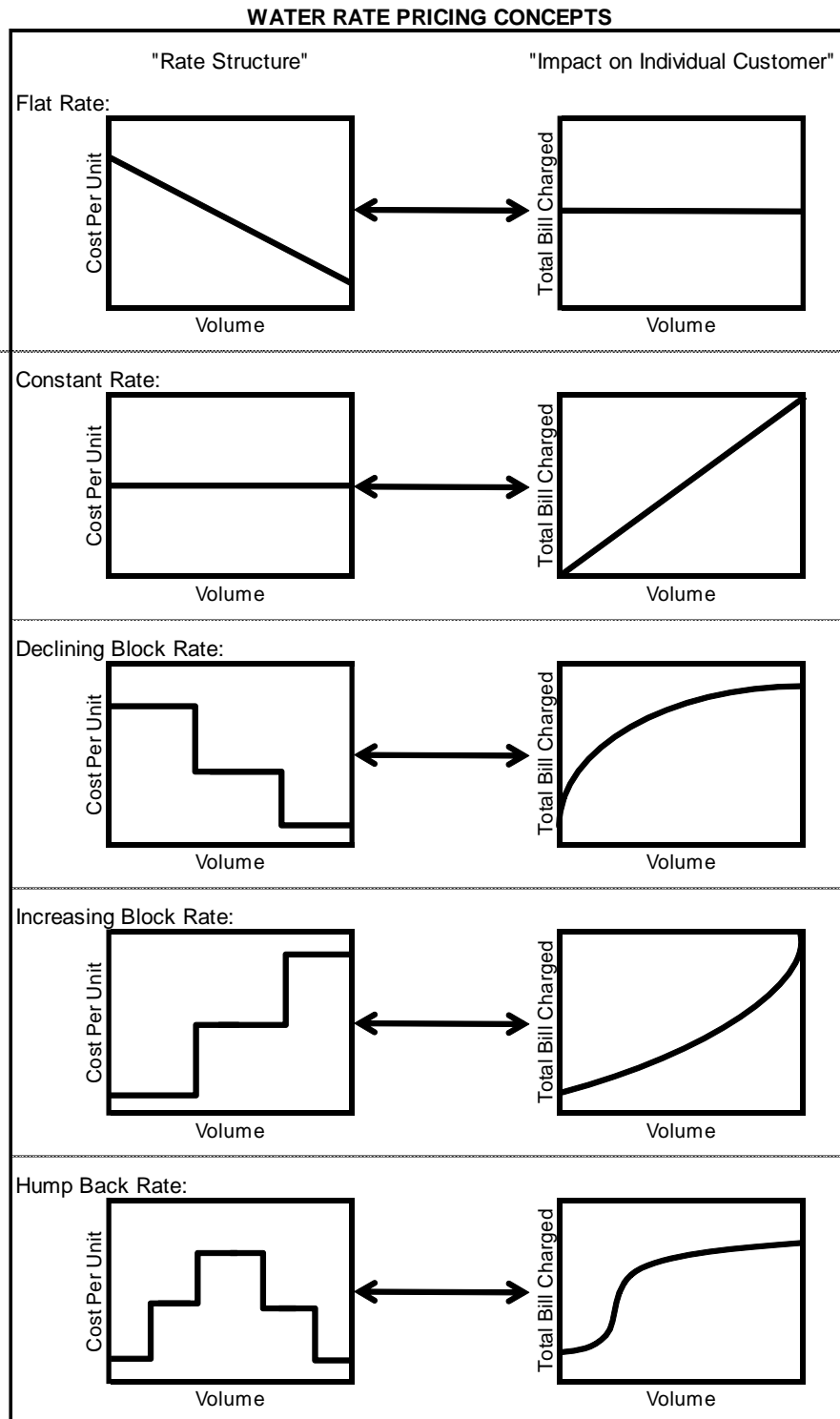
The Constant Rate structure presents the customer with a linear relationship between consumption and the cost thereof. As the consumer pays a fixed cost per unit, his bill will vary directly with the amount consumed. This method presents tangible incentive for consumers to conserve water. As metering provides direct feedback as to usage patterns and the consumer has direct control over the total amount paid for the commodity, the consumer is encouraged to use only those volumes that are reasonably required.

The Inverted Block method presents the most effective pricing method for encouraging conservation. Through this method, the price per unit consumed increases as total volumes consumed grow. The consumer becomes aware of consumption through metering with the charges increasing dramatically with usage. Hence, there normally is awareness that exercising control over usage can produce significant savings. This method not only encourages conservation methods but may also penalize legitimate high-volume users if not properly structured.

Figure 6-1 provides a schematic representation of the various rate structures (note property tax as a basis for revenue recovery has not been presented for comparison, as the proportion of taxes paid varies in direct proportion to the market value of the property). The graphs on the left-hand side of the figure present the cost per unit for each additional amount of water consumed. The right-hand side of the figure presents the impact on the customer's bill as the volume of water increases. Following the schematic is a table summarizing each rate structure.



Figure 6-1





RATE STRUCTURE	COST PER UNIT AS VOLUME CONSUMPTION INCREASES	IMPACT ON CUSTOMER BILL AS VOLUME CONSUMPTION INCREASES
Flat Rate	Cost per unit decreases as more volume consumed	Bill remains the same no matter how much volume is consumed
Constant Rate	Cost per unit remains the same	Bill increases in direct proportion to consumption
Declining Block	Cost per unit decreases as threshold targets are achieved	Bill increases at a slower rate as volumes increases
Increasing Block	Cost per unit increases as threshold targets are achieved	Bill increases at a faster rate as volumes increase
Hump Back Rate	Combination of an increasing block at the lower consumption volumes and then converts to a declining block for the high	Bill increases at a faster rate at the lower consumption amounts and then slows as volumes increase

## 6.4 Rate Structures in Ontario

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In a past survey of over 170 municipalities (approximately half of the municipalities who provide water and/or sewer), all forms of rate structures are in use by Ontario municipalities. The most common rate structure is the constant rate (for metered municipalities). Most municipalities (approximately 92%) who have volume rate structures also impose a base monthly charge.

Historically, the development of a base charge often reflected either the recovery of meter reading/billing/collection costs, plus administration or those costs plus certain fixed costs (such as capital contributions or reserve contributions). More recently, many municipalities have started to establish base charges based on ensuring a secure portion of the revenue stream which does not vary with volume consumption. Selection of the quantum of the base charge is a matter of policy selected by individual municipalities.





## 6.5 Recommended Rate Structures

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Based on the foregoing, it is recommended that the same rate structures be continued in the future.

In order to meet the needs for water, it is recommended that the water base charges be increased by 3.5% per year over the forecast period. The volume rates (as calculated in Chapter 7) are also anticipated to increase by 3.5% per year over the forecast period.

The rate provided to the Township of Ramara is equivalent to 17 times the minimum charge provided to customers within the Township of Severn. This equivalent rate for Ramara is also forecast to increase by 3.5%. The forecast minimum charges are presented in Table 6-1 for Severn and Ramara.

As for wastewater, it is recommended that wastewater minimum charges increase by 4.5% per year over the forecast period. The volume rates for usage in excess of the minimum bill (calculated in Chapter 7) are also anticipated to increase by 4.5% annually.

As noted, the combined impact of the water and wastewater rates above equal to an annual increase of 4% per year on the total water and wastewater bill for customers with an assumed usage of 130 cu.m. (only the minimum charge would apply to annual usage less than 272 cu.m.). The forecast minimum charges are provided in Table 6-2.

The above increases are recommended to ensure that the Township can fund the capital and operating costs while minimizing the need for debentures. The forecast minimum charges and corresponding revenue are provided in Tables 6-1 and 6-2 below.



**Table 6-1  
Township of Severn  
Minimum Charge Forecast – Water**

Water	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Existing	1,954	1,954	1,954	1,954	1,954	1,954	1,954	1,954	1,954	1,954
New	48	151	260	362	444	518	590	664	736	774
<b>Total Customers</b>	<b>2,002</b>	<b>2,105</b>	<b>2,214</b>	<b>2,316</b>	<b>2,398</b>	<b>2,472</b>	<b>2,544</b>	<b>2,618</b>	<b>2,690</b>	<b>2,728</b>
<b>Total Annual Revenue</b>	<b>\$1,564,763</b>	<b>\$1,702,852</b>	<b>\$1,853,715</b>	<b>\$2,006,985</b>	<b>\$2,150,776</b>	<b>\$2,294,747</b>	<b>\$2,444,239</b>	<b>\$2,603,374</b>	<b>\$2,768,596</b>	<b>\$2,905,976</b>

All Water Areas - Severn	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Existing	1,954	1,954	1,954	1,954	1,954	1,954	1,954	1,954	1,954	1,954
New	48	151	260	362	444	518	590	664	736	774
<b>Subtotal Customers</b>	<b>2,002</b>	<b>2,105</b>	<b>2,214</b>	<b>2,316</b>	<b>2,398</b>	<b>2,472</b>	<b>2,544</b>	<b>2,618</b>	<b>2,690</b>	<b>2,728</b>
Quarterly Minimum Bill Charge	\$195.40	\$202.24	\$209.32	\$216.64	\$224.23	\$232.07	\$240.20	\$248.60	\$257.30	\$266.31
Annual Minimum Bill Charge	\$781.60	\$808.96	\$837.27	\$866.57	\$896.90	\$928.30	\$960.79	\$994.41	\$1,029.22	\$1,065.24
<b>Total Annual Revenue</b>	<b>\$1,564,763</b>	<b>\$1,702,852</b>	<b>\$1,853,715</b>	<b>\$2,006,985</b>	<b>\$2,150,776</b>	<b>\$2,294,747</b>	<b>\$2,444,239</b>	<b>\$2,603,374</b>	<b>\$2,768,596</b>	<b>\$2,905,976</b>

Ramara	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Existing*	1	1	1	1	1	1	1	1	1	1
New	0	0	0	0	0	0	0	0	0	0
<b>Subtotal Customers</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>
Quarterly Minimum Bill Charge	\$3,321.80	\$3,438.06	\$3,558.40	\$3,682.94	\$3,811.84	\$3,945.26	\$4,083.34	\$4,226.26	\$4,374.18	\$4,527.27
Annual Minimum Bill Charge	\$13,287.20	\$13,752.25	\$14,233.58	\$14,731.76	\$15,247.37	\$15,781.03	\$16,333.36	\$16,905.03	\$17,496.71	\$18,109.09
<b>Total Annual Revenue</b>	<b>\$13,287</b>	<b>\$13,752</b>	<b>\$14,234</b>	<b>\$14,732</b>	<b>\$15,247</b>	<b>\$15,781</b>	<b>\$16,333</b>	<b>\$16,905</b>	<b>\$17,497</b>	<b>\$18,109</b>

\*Base charge is assumed to be 17 users within Ramara. 17 users are assumed to remain consistent over the forecast period.

**Table 6-2  
Township of Severn  
Minimum Charge Forecast – Wastewater**

Wastewater	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Existing	1,669	1,669	1,669	1,669	1,669	1,669	1,669	1,669	1,669	1,669
New	48	150	259	360	442	515	587	660	732	770
<b>Subtotal Customers</b>	<b>1,717</b>	<b>1,819</b>	<b>1,928</b>	<b>2,029</b>	<b>2,111</b>	<b>2,184</b>	<b>2,256</b>	<b>2,329</b>	<b>2,401</b>	<b>2,439</b>
<b>Total Annual Revenue</b>	<b>\$1,284,728</b>	<b>\$1,422,296</b>	<b>\$1,575,363</b>	<b>\$1,732,494</b>	<b>\$1,883,624</b>	<b>\$2,036,456</b>	<b>\$2,198,253</b>	<b>\$2,371,507</b>	<b>\$2,554,838</b>	<b>\$2,712,060</b>

All Wastewater Areas - Severn	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Existing	1,669	1,669	1,669	1,669	1,669	1,669	1,669	1,669	1,669	1,669
New	48	150	259	360	442	515	587	660	732	770
<b>Subtotal Customers</b>	<b>1,717</b>	<b>1,819</b>	<b>1,928</b>	<b>2,029</b>	<b>2,111</b>	<b>2,184</b>	<b>2,256</b>	<b>2,329</b>	<b>2,401</b>	<b>2,439</b>
Quarterly Minimum Bill Charge	\$187.06	\$195.48	\$204.27	\$213.47	\$223.07	\$233.11	\$243.60	\$254.56	\$266.02	\$277.99
Annual Minimum Bill Charge	\$748.24	\$781.91	\$817.10	\$853.87	\$892.29	\$932.44	\$974.40	\$1,018.25	\$1,064.07	\$1,111.96
<b>Total Annual Revenue</b>	<b>\$1,284,728</b>	<b>\$1,422,296</b>	<b>\$1,575,363</b>	<b>\$1,732,494</b>	<b>\$1,883,624</b>	<b>\$2,036,456</b>	<b>\$2,198,253</b>	<b>\$2,371,507</b>	<b>\$2,554,838</b>	<b>\$2,712,060</b>



# Chapter 7

## Analysis of Water and Wastewater Rates and Policy Matters



## 7. Analysis of Water and Wastewater Rates and Policy Matters

### 7.1 Introduction

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To summarize the analysis undertaken thus far, Chapter 2 reviewed capital-related issues and responds to the provincial directives to maintain and upgrade infrastructure to required levels. Chapter 4 provided a review of capital financing options to which water and wastewater reserve contributions will be the predominant basis for financing future capital replacement. Chapter 5 established the 10-year operating forecast of expenditures including an annual capital reserve contribution. The minimum charge revenues are to ensure that fixed costs are recovered regardless of the amount of volume used by customers. This chapter will provide for the calculation of the volume rates over the forecast period. These calculations will be based on the net operating expenditures (the variable costs) provided in Chapter 5, divided by the water consumption forecast and wastewater volumes provided in section 1.8.

### 7.2 Water Rates

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Based on the discussion of rate structures provided in section 6.5 and the recommendation to continue with the present structures, the rates are calculated by taking the net recoverable amounts from Table 5-1 (the product of total expenditures less non-rate revenues and deduct the minimum charge amounts provided in section 6.5) and completes the calculation by dividing them by the volumes resulting in the forecasted rates. As stated earlier, the needs for water are significant for the first half of the forecast period. While the bulk of the revenue required is being recovered through the minimum charges, the volume rates are anticipated to increase at 3.5% per year over the forecast period. The volume rates are presented in Table 7-1. Detailed calculations of the volume rates are provided in Appendix C. A summary of the recommended minimum charge and volume rates along with the total annual bill for an average residential user who consumes 140 cu.m. per year are shown below. Note that the volume rate does not apply to the average customer as their usage is less than 272 cu.m. per year.



Table 7-1  
Township of Severn  
Water Rate Summary  
Annual Customer Water Bill – Based on 140 cu.m. of usage

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Quarterly Minimum Bill	\$195.40	\$202.24	\$209.32	\$216.64	\$224.23	\$232.07	\$240.20	\$248.60	\$257.30	\$266.31
Constant Rate (after > 68 m <sup>3</sup> per quarter)	\$2.58	\$2.67	\$2.76	\$2.86	\$2.96	\$3.06	\$3.17	\$3.28	\$3.40	\$3.52
<b>Annual Minimum Charge Bill</b>	<b>\$781.60</b>	<b>\$808.96</b>	<b>\$837.27</b>	<b>\$866.57</b>	<b>\$896.90</b>	<b>\$928.30</b>	<b>\$960.79</b>	<b>\$994.41</b>	<b>\$1,029.22</b>	<b>\$1,065.24</b>
Volume	140	140	140	140	140	140	140	140	140	140
<b>Annual Volume Bill*</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>
<b>Total Annual Bill</b>	<b>\$781.60</b>	<b>\$808.96</b>	<b>\$837.27</b>	<b>\$866.57</b>	<b>\$896.90</b>	<b>\$928.30</b>	<b>\$960.79</b>	<b>\$994.41</b>	<b>\$1,029.22</b>	<b>\$1,065.24</b>
% Increase - Minimum Charge		3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%
% Increase - Volume Rate		3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%
% Increase - Total Annual Bill		3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%

\*Due to assumed usage of 140 cu.m. per year, the volume rates do not apply to the average residential customer.

## 7.3 Wastewater Rates

Similar to water, the calculation of the wastewater rates takes the net recoverable amounts from Table 5-2 and completes the calculation by dividing them by the volumes, resulting in the forecast rates. Detailed calculations are provided in Appendix D.

Based on the needs of the wastewater system, the volume rates are anticipated to increase by 3.5% per year over the forecast period, similar to the minimum charge rates.

The following summarizes the recommended rates for wastewater and provides the average annual bill for a residential customer who uses 140 cu.m. per year. Note for the average residential customer, the volume rate does not apply as their annual usage is included within the minimum bill. Only usage greater than 272 cu.m. per year is charged the volume rate.



Table 7-2  
Township of Severn  
Wastewater Rate Summary  
Annual Customer Wastewater Bill – Based on 140 cu.m. of usage

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Quarterly Minimum Bill	\$187.06	\$195.48	\$204.27	\$213.47	\$223.07	\$233.11	\$243.60	\$254.56	\$266.02	\$277.99
Constant Rate (after > 68 m <sup>3</sup> per quarter)	\$2.91	\$3.04	\$3.18	\$3.32	\$3.47	\$3.63	\$3.79	\$3.96	\$4.14	\$4.32
<b>Annual Minimum Charge Bill</b>	<b>\$748.24</b>	<b>\$781.91</b>	<b>\$817.10</b>	<b>\$853.87</b>	<b>\$892.29</b>	<b>\$932.44</b>	<b>\$974.40</b>	<b>\$1,018.25</b>	<b>\$1,064.07</b>	<b>\$1,111.96</b>
Volume	140	140	140	140	140	140	140	140	140	140
<b>Annual Volume Bill*</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>
<b>Total Annual Bill</b>	<b>\$748.24</b>	<b>\$781.91</b>	<b>\$817.10</b>	<b>\$853.87</b>	<b>\$892.29</b>	<b>\$932.44</b>	<b>\$974.40</b>	<b>\$1,018.25</b>	<b>\$1,064.07</b>	<b>\$1,111.96</b>
<b>% Increase - Minimum Charge</b>		4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%
<b>% Increase - Volume Rate</b>		4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%
<b>% Increase - Total Annual Bill</b>		4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%

\*Due to assumed usage of 140 cu.m. per year, the volume rates do not apply to the average residential customer.

## 7.4 Forecast of Combined Water and Wastewater Impact for the Average Residential Customer

Based on the foregoing information, the combined impact of the water and wastewater base charge and volume rate charges equal to 4% per year increases to the total annual bill for average residential customers. Table 7-3 presents the forecast combined annual bill. Note the volume rate does not apply to the average customer with usage of 140 cu.m. per year.



Table 7-3  
Township of Severn  
Average Annual Residential Water and Wastewater Bill (Based on an annual usage of 140 cu.m.)

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
<b>Water</b>										
Quarterly Minimum Bill	\$195.40	\$202.24	\$209.32	\$216.64	\$224.23	\$232.07	\$240.20	\$248.60	\$257.30	\$266.31
Constant Rate (after > 68 m <sup>3</sup> per quarter)	\$2.58	\$2.67	\$2.76	\$2.86	\$2.96	\$3.06	\$3.17	\$3.28	\$3.40	\$3.52
<b>Annual Minimum Charge Bill</b>	<b>\$781.60</b>	<b>\$808.96</b>	<b>\$837.27</b>	<b>\$866.57</b>	<b>\$896.90</b>	<b>\$928.30</b>	<b>\$960.79</b>	<b>\$994.41</b>	<b>\$1,029.22</b>	<b>\$1,065.24</b>
<b>Annual Volume Bill*</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>
<b>Total Water Bill</b>	<b>\$781.60</b>	<b>\$808.96</b>	<b>\$837.27</b>	<b>\$866.57</b>	<b>\$896.90</b>	<b>\$928.30</b>	<b>\$960.79</b>	<b>\$994.41</b>	<b>\$1,029.22</b>	<b>\$1,065.24</b>
<b>Wastewater</b>										
Quarterly Minimum Bill	\$187.06	\$195.48	\$204.27	\$213.47	\$223.07	\$233.11	\$243.60	\$254.56	\$266.02	\$277.99
Constant Rate (after > 68 m <sup>3</sup> per quarter)	\$2.91	\$3.04	\$3.18	\$3.32	\$3.47	\$3.63	\$3.79	\$3.96	\$4.14	\$4.32
<b>Annual Minimum Charge Bill</b>	<b>\$748.24</b>	<b>\$781.91</b>	<b>\$817.10</b>	<b>\$853.87</b>	<b>\$892.29</b>	<b>\$932.44</b>	<b>\$974.40</b>	<b>\$1,018.25</b>	<b>\$1,064.07</b>	<b>\$1,111.96</b>
<b>Annual Volume Bill*</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>
<b>Total Annual Bill</b>	<b>\$748.24</b>	<b>\$781.91</b>	<b>\$817.10</b>	<b>\$853.87</b>	<b>\$892.29</b>	<b>\$932.44</b>	<b>\$974.40</b>	<b>\$1,018.25</b>	<b>\$1,064.07</b>	<b>\$1,111.96</b>
<b>Total Water and Wastewater Bill</b>	<b>\$1,529.84</b>	<b>\$1,590.87</b>	<b>\$1,654.37</b>	<b>\$1,720.44</b>	<b>\$1,789.19</b>	<b>\$1,860.74</b>	<b>\$1,935.19</b>	<b>\$2,012.66</b>	<b>\$2,093.29</b>	<b>\$2,177.20</b>
<b>Annual % Increase</b>		<b>4.0%</b>	<b>4.0%</b>	<b>4.0%</b>	<b>4.0%</b>	<b>4.0%</b>	<b>4.0%</b>	<b>4.0%</b>	<b>4.0%</b>	<b>4.0%</b>

\*Due to assumed usage of 140 cu.m. per year, the volume rates do not apply to the average residential customer.



# Chapter 8

## Recommendations



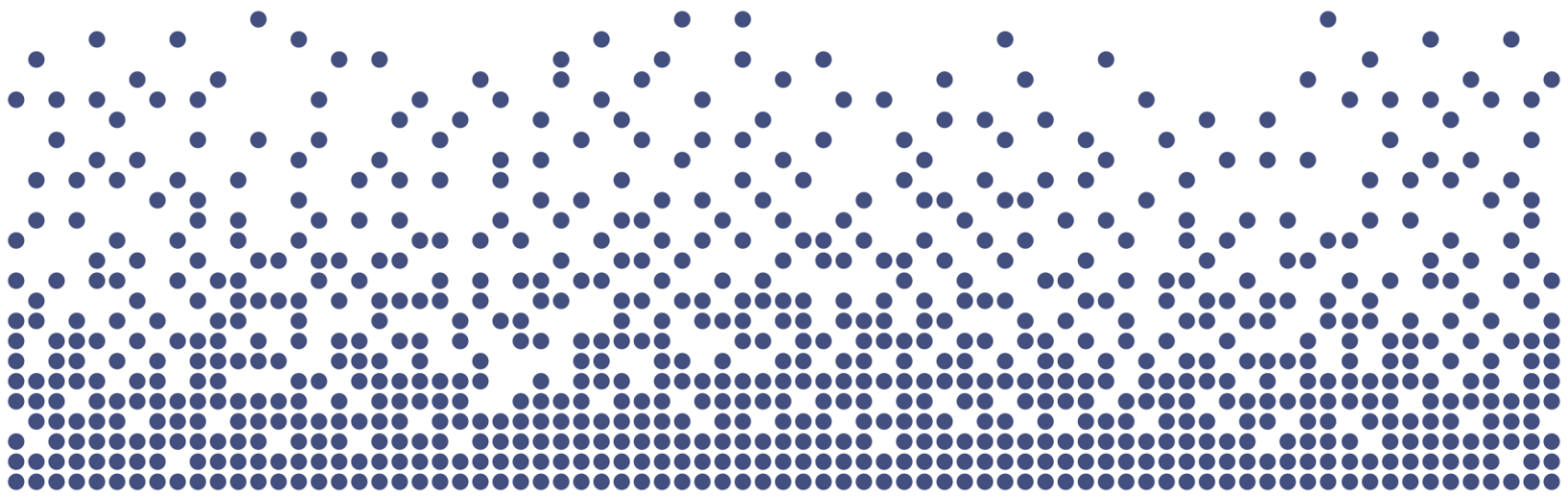


## 8. Recommendations

As presented within this report, capital and operating expenditures have been identified and forecast over a ten-year period for water and wastewater services.

Based upon the foregoing, the following recommendations are identified for consideration by Township's Council:

1. That Council provide for the recovery of all water and wastewater costs through full cost recovery rates.
2. That Council consider the Capital Plan for water and wastewater as provided in Tables 2-1 and 2-2 and the associated Capital Financing Plan as set out in Tables 4-1 and 4-2.
3. That Council consider the base charges provided in Table 6-1 for water and Table 6-2 for wastewater.
4. That Council consider the volume rates for water and wastewater as provided in Tables 7-1, 7-2 and 7-3 respectively.



# Appendices



# Appendix A

## Water System Inventory Data



# Appendix A: Water System Inventory Data

Table A-1  
Township of Severn  
Water Facilities Inventory

Item	Asset Name	Description	Diameter (mm)	Length (m)	Size	Year Installed	Estimated Life	Replacement Year	Replacement Cost 2021\$	Years until Replacement	Annual Lifecycle Contribution	Amount to be included in 10 year Forecast
<b>Washago System:</b>												
General:	Building	48ft x 27ft			1296ft 2	1984	50	2034	408,000	14	33,702	-
	Generator				75KW	2003	25	2028	30,600	8	suggested for 10 year capital forecast	30,600
Reservoirs:	Reservoir	296m3 capacity				1984	75	2059	271,700	39	10,099	-
	Contact Pipe (ClO2)		600	26		2012	25	2037	2,700	17	189	-
Chemical System:	Chemical Pump x 2	Sodium Hypochlorite				2018	10	2028	15,300	8	suggested for 10 year capital forecast	15,300
	Chemical Pump x 2	Stern PAC				2012	10	2022	15,300	2	suggested for 10 year capital forecast	15,300
	Chemical Panel	Chlorine Dioxide				2012	10	2022	30,600	2	suggested for 10 year capital forecast	30,600
Analytical Equipment:	DIC Analyzer (Chlorine and pH)	Final Treated Water				2003	10	2020	6,100	0	suggested for 10 year capital forecast	6,100
	DIC Analyzer (Chlorine )	Reservoir Chlorine				2012	10	2022	6,100	2	suggested for 10 year capital forecast	6,100
	DIC Analyzer (ORP)	Chlorine Dioxide				2012	10	2022	6,100	2	suggested for 10 year capital forecast	6,100
	Train 1 Turbidity	Train 1 Turbidity				2018	10	2028	4,600	8	suggested for 10 year capital forecast	4,600
	Train 2 Turbidity	Train 2 Turbidity				2018	10	2028	4,600	8	suggested for 10 year capital forecast	4,600
	Distribution Turbidity	Distribution Turbidity				2018	10	2028	4,600	8	suggested for 10 year capital forecast	4,600
Control Equipment:	Auto Dialer	Sensaphone Express II				2018	10	2028	3,100	8	suggested for 10 year capital forecast	3,100
	Computer	0				2019	6	2025	20,400	5	suggested for 10 year capital forecast	20,400
	PLC / SCADA	CompactLogix				2012	10	2022	51,000	2	suggested for 10 year capital forecast	51,000
	MCC					1984	50	2034	163,200	14	13,481	-
<b>Filters:</b>												
Train 1	Filters	2 tanks (Depth and Clarifer)				2012	50	2062	204,000	42	7,225	-
	Media					2012	10	2022	20,400	2	suggested for 10 year capital forecast	20,400
Train 2	Filters	2 tanks (Depth and Clarifer)				2012	50	2062	204,000	42	7,225	-
	Media					2012	10	2022	20,400	2	suggested for 10 year capital forecast	20,400



Table A-1 (Cont'd)

Item	Asset Name	Description	Diameter (mm)	Length (m)	Size	Year Installed	Estimated Life	Replacement Year	Replacement Cost 2021\$	Years until Replacement	Annual Lifecycle Contribution	Amount to be included in 10 year Forecast
GAC 1	Filter					2012	50	2062	102,000	42	3,613	-
	Media					2012	10	2022	10,200	2	suggested for 10 year capital forecast	10,200
GAC 2	Filter					2012	50	2062	102,000	42	3,613	-
	Media					2012	10	2022	10,200	2	suggested for 10 year capital forecast	10,200
Pumps:	Low Lift 1	Pump				2013	8	2021	12,800	1	suggested for 10 year capital forecast	12,800
		Motor				2013	8	2021	12,800	1	suggested for 10 year capital forecast	12,800
Valves:	Singer Valves x 6					2003	5	2020	30,600	0	suggested for 10 year capital forecast	30,600
	Singer Valve					2003	5	2020	5,100	0	suggested for 10 year capital forecast	5,100
Level Sensors:	Level Sensor					2003	5	2020	2,000	0	suggested for 10 year capital forecast	2,000
Indoor Piping Network:	Piping	PVC and stainless				2012	25	2037	76,500	17	5,353	-
<b>Sub-Total - Washago</b>									<b>1,980,500</b>		<b>84,499</b>	<b>446,400</b>
<b>Bass Lake System:</b>												
General	Building	21ft x 33.4ft			701ft 2	2003	50	2053	102,000	33	4,252	-
	Generator				75KW	2008	25	2033	30,600	13	2,696	-
Reservoirs:	Reservoir	136m3 capacity				1976	75	2051	81,600	31	3,557	-
	Chlorine Contact Tank	32m3 capacity				2008	75	2083	20,400	63	572	-
Wells	Well 1					1976	50	2026	30,600	6	suggested for 10 year capital forecast	30,600
	Well 2					1976	50	2026	30,600	6	suggested for 10 year capital forecast	30,600
	Well 3					1987	50	2037	30,600	17	2,141	-
<b>Chemical System:</b>										0		
Sodium Hypochlorite	Chemical Pump x 2	Qdos 20				2018	10	2028	15,300	8	suggested for 10 year capital forecast	15,300
Analytical Equipment:	DIC Analyzer	DIC Analyzer (Chlorine and pH)				2008	10	2020	6,100	0	suggested for 10 year capital forecast	6,100
	Turbidity Analyzer	Turbidity Analyzer				2008	10	2020	4,600	0	suggested for 10 year capital forecast	4,600
Control Equipment	Auto Dialer	Sensaphone Express II				2018	10	2028	3,100	8	suggested for 10 year capital forecast	3,100
	Computer					2017	6	2023	15,300	3	suggested for 10 year capital forecast	15,300
	PLC / SCADA	CompactLogix				2017	10	2027	45,900	7	suggested for 10 year capital forecast	45,900
	MCC					2008	50	2058	61,200	38	2,315	-



Table A-1 (Cont'd)

Item	Asset Name	Description	Diameter (mm)	Length (m)	Size	Year Installed	Estimated Life	Replacement Year	Replacement Cost 2021\$	Years until Replacement	Annual Lifecycle Contribution	Amount to be included in 10 year Forecast
<b>Coldwater System:</b>												
General:	Building	61ft x 40ft , 26ft x 30ft			3220ft2	1994	50	2044	765,000	24	40,446	-
	Generator				250kW	2003	25	2028	204,000	8	suggested for 10 year capital forecast	204,000
	Fuel Tank and Containment	Diesel Fuel for generator			1135L	2003	30	2033	4,100	13	361	-
Reservoirs:	Reservoir				1536m3 capacity	1994	75	2069	1,773,600	49	57,117	-
Wells:	Well 1					1993	50	2043	30,600	23	1,673	-
	Well 2					1989	50	2039	30,600	19	1,952	-
	Well 3					1993	50	2043	30,600	23	1,673	-
Backwash Tank:	Tank				32m3 capacity	2008	30	2038	1,000	18	67	-
Filters:	GAC 1	Filter				2008	50	2058	255,000	38	9,644	-
		Media				2017	50	2067	51,000	47	1,684	-
	GAC 2	Filter				2008	50	2058	255,000	38	9,644	-
		Media				2016	50	2066	51,000	46	1,706	-
	Water Softner	Softener				2008	20	2028	3,100	8	suggested for 10 year capital forecast	3,100
<b>Chemical System:</b>												
Sodium Hypochlorite	Chemical Pump x 2	Qdos 20				2018	10	2028	15,300	8	suggested for 10 year capital forecast	15,300
Sodium Silicate	Chemical Pump x 2					2008	10	2020	15,300	0	suggested for 10 year capital forecast	15,300
Analytical Equipment:	DIC Analyzer (Chlorine and pH)					2008	10	2020	6,100	0	suggested for 10 year capital forecast	6,100
	Turbidity Analyzer					2008	10	2020	4,600	0	suggested for 10 year capital forecast	4,600
Control Equipment:	Auto Dialer	Sensaphone Express II				2013	10	2023	3,100	3	suggested for 10 year capital forecast	3,100
	Computer					2013	6	2020	15,300	0	suggested for 10 year capital forecast	15,300
	PLC / SCADA	CompactLogix				2013	10	2023	61,200	3	suggested for 10 year capital forecast	61,200
	MCC					2008	50	2058	224,400	38	8,487	-



Table A-1 (Cont'd)

Item	Asset Name	Description	Diameter (mm)	Length (m)	Size	Year Installed	Estimated Life	Replacement Year	Replacement Cost 2021\$	Years until Replacement	Annual Lifecycle Contribution	Amount to be included in 10 year Forecast
Pumps:	Well #1	Pump				2015	5	2020	1,000	0	suggested for 10 year capital forecast	1,000
		Motor				2015	5	2020	1,000	0	suggested for 10 year capital forecast	1,000
	Well #2	Pump				1989	5	2020	1,000	0	suggested for 10 year capital forecast	1,000
		Motor				1989	5	2020	1,000	0	suggested for 10 year capital forecast	1,000
	Well #3	Pump				1993	5	2020	1,000	0	suggested for 10 year capital forecast	1,000
		Motor				1993	5	2020	1,000	0	suggested for 10 year capital forecast	1,000
	High Lift 1	Pump				2016	8	2024	15,300	4	suggested for 10 year capital forecast	15,300
		Motor				2016	8	2024	15,300	4	suggested for 10 year capital forecast	15,300
		VFD				2019	20	2039	4,100	19	262	-
	High Lift 2	Pump				2017	8	2025	15,300	5	suggested for 10 year capital forecast	15,300
		Motor				2017	8	2025	15,300	5	suggested for 10 year capital forecast	15,300
		VFD				2019	20	2039	4,100	19	262	-
	High Lift 3	Pump				2018	8	2026	15,300	6	suggested for 10 year capital forecast	15,300
		Motor				2018	8	2026	15,300	6	suggested for 10 year capital forecast	15,300
		VFD				2019	20	2039	4,100	19	262	-
	Fire Pump	Pump				2008	8	2020	20,400	0	suggested for 10 year capital forecast	20,400
		Motor				2008	8	2020	20,400	0	suggested for 10 year capital forecast	20,400
	Backwash Pump x 2	Pump				2008	20	2028	5,100	8	suggested for 10 year capital forecast	5,100
		Motor				2008	20	2028	5,100	8	suggested for 10 year capital forecast	5,100
	Backwash Tank Pump					2014	5	2020	1,000	0	suggested for 10 year capital forecast	1,000
Sewage Pump	Pump				2008	5	2020	1,000	0	suggested for 10 year capital forecast	1,000	
	Motor				2008	5	2020	1,000	0	suggested for 10 year capital forecast	1,000	
Flow Meters:	Well 1				100mm	2019	10	2029	2,600	9	suggested for 10 year capital forecast	2,600
	Well 2				75mm	2019	10	2029	2,600	9	suggested for 10 year capital forecast	2,600
	Well 3				75mm	2019	10	2029	2,600	9	suggested for 10 year capital forecast	2,600
	Backwash Line				100mm	2008	10	2020	2,600	0	suggested for 10 year capital forecast	2,600
	GAC Effluent				100mm	2008	10	2020	2,600	0	suggested for 10 year capital forecast	2,600
	Distribution				150mm	2019	10	2029	2,600	9	suggested for 10 year capital forecast	2,600



Table A-1 (Cont'd)

Item	Asset Name	Description	Diameter (mm)	Length (m)	Size	Year Installed	Estimated Life	Replacement Year	Replacement Cost 2021\$	Years until Replacement	Annual Lifecycle Contribution	Amount to be included in 10 year Forecast
Pressure Tanks:	Pressure Tanks x 5					2012	15	2027	1,200	7	suggested for 10 year capital forecast	1,200
Backflow Preventer:	Backflow				1/2"	2008	10	2020	400	0	suggested for 10 year capital forecast	400
	Backflow				1"	2008	10	2020	500	0	suggested for 10 year capital forecast	500
Valves:	Singer Valves x 2				4"	2008	10	2020	12,200	0	suggested for 10 year capital forecast	12,200
	Singer Valves x2				4"	2008	10	2020	6,100	0	suggested for 10 year capital forecast	6,100
	Singer Valve				3"	2008	10	2020	3,100	0	suggested for 10 year capital forecast	3,100
Level Sensors:	Level Sensors x2					2008	5	2020	4,100	0	suggested for 10 year capital forecast	4,100
Indoor Piping Network:	Piping	Stainless				2008	25	2033	255,000	13	22,470	-
<b>Sub-Total - Coldwater</b>									<b>4,262,200</b>		<b>157,709</b>	<b>523,000</b>
<b>Sandcastle Estates System:</b>												
General:	Building	28.9ft x 27.1ft			783ft2	1986	50	2036	102,000	16	7,512	-
	Generator				75 kW	2003	25	2028	30,600	8	suggested for 10 year capital forecast	30,600
Low Lift Chamber:	3183 Shoreview Drive	Chamber			2.4m diameter	1986	30	2020	30,600	0	suggested for 10 year capital forecast	30,600
Reservoir:	Reservoir	50m3 capacity				1986	75	2061	45,900	41	1,651	-
Backwash Tank:	Tank	11ft x 24.4ft			45.5m3 capacity	1986	30	2020	1,000	0	suggested for 10 year capital forecast	1,000
<b>Chemical System:</b>									0			
Sodium Hypochlorite	Chemical Pump x 2 Pre	Qdos 20				2018	10	2028	15,300	8	suggested for 10 year capital forecast	15,300
Sodium Hypochlorite	Chemical Pump x 2 Post	Qdos 20				2018	10	2028	15,300	8	suggested for 10 year capital forecast	15,300
Stern PAC	Chemical Pump x 2					2012	10	2022	15,300	2	suggested for 10 year capital forecast	15,300
Analytical Equipment:	DIC Analyzer	DIC Analyzer (Chlorine and pH)				2003	10	2020	6,100	0	suggested for 10 year capital forecast	6,100
Turbidity Analyzer	Train 1 Turbidity					2018	10	2028	4,600	8	suggested for 10 year capital forecast	4,600
	Train 2 Turbidity					2018	10	2028	4,600	8	suggested for 10 year capital forecast	4,600
	Distribution Turbidity					2018	10	2028	4,600	8	suggested for 10 year capital forecast	4,600





Table A-1 (Cont'd)

Item	Asset Name	Description	Diameter (mm)	Length (m)	Size	Year Installed	Estimated Life	Replacement Year	Replacement Cost 2021\$	Years until Replacement	Annual Lifecycle Contribution	Amount to be included in 10 year Forecast
Control Equipment:	Auto Dialer	Sensaphone Express II				2016	10	2026	3,100	6	suggested for 10 year capital forecast	3,100
	Computer	0				2017	6	2023	15,300	3	suggested for 10 year capital forecast	15,300
	PLC / SCADA	CompactLogix				2015	10	2025	45,900	5	suggested for 10 year capital forecast	45,900
	MCC	0				1986	50	2036	81,600	16	6,010	-
Filters:								0				
Train 1	Filters 2 tanks (Depth and Clarifer)	Omnifiltration System				2017	50	2067	102,000	47	3,368	-
	Media					2017	10	2027	10,200	7	suggested for 10 year capital forecast	10,200
Train 2	Filters 2 tanks (Depth and Clarifer)	Omnifiltration System				2017	50	2067	102,000	47	3,368	-
	Media					2017	10	2027	10,200	7	suggested for 10 year capital forecast	10,200
Pressure Tank:	Pressure Tank				450L	2014	10	2024	500	4	suggested for 10 year capital forecast	500
Pumps:	Low Lift 1	Pump				2005	8	2020	4,600	0	suggested for 10 year capital forecast	4,600
	Low Lift 2	Pump				2004	8	2020	4,600	0	suggested for 10 year capital forecast	4,600
	High Lift 1	Pump				2015	8	2023	12,800	3	suggested for 10 year capital forecast	12,800
		Motor				2015	8	2023	12,800	3	suggested for 10 year capital forecast	12,800
		VFD				2014	20	2034	5,100	14	421	-
	High Lift 2	Pump				2017	8	2025	12,800	5	suggested for 10 year capital forecast	12,800
		Motor				2017	8	2025	12,800	5	suggested for 10 year capital forecast	12,800
		VFD				2014	20	2034	5,100	14	421	-
	High Lift 3	Pump				2016	8	2024	12,800	4	suggested for 10 year capital forecast	12,800
		Motor				2016	8	2024	12,800	4	suggested for 10 year capital forecast	12,800
		VFD				2014	20	2034	5,100	14	421	-
Backwash Tank Pump					2017	5	2022	1,000	2	suggested for 10 year capital forecast	1,000	



Table A-1 (Cont'd)

Item	Asset Name	Description	Diameter (mm)	Length (m)	Size	Year Installed	Estimated Life	Replacement Year	Replacement Cost 2021\$	Years until Replacement	Annual Lifecycle Contribution	Amount to be included in 10 year Forecast
Flow Meters:	Train 1 Raw Water				37mm	2017	10	2027	2,600	7	suggested for 10 year capital forecast	2,600
	Train 2 Raw Water				37mm	2017	10	2027	2,600	7	suggested for 10 year capital forecast	2,600
	Filter Effluent				50mm	2017	10	2027	2,600	7	suggested for 10 year capital forecast	2,600
	Distribution				50mm	2014	10	2024	2,600	4	suggested for 10 year capital forecast	2,600
	Backwash				50mm	2017	10	2027	2,600	7	suggested for 10 year capital forecast	2,600
UV System:	UV 1 and UV 2					2019	15	2034	61,200	14	5,055	-
Backflow Preventer:	Backflow				1/2"	2018	10	2028	400	8	suggested for 10 year capital forecast	400
	Backflow				2"	2014	10	2024	3,100	4	suggested for 10 year capital forecast	3,100
Level Sensors:	Level Sensors					2003	5	2020	2,000	0	suggested for 10 year capital forecast	2,000
Indoor Piping Network:	Piping	PVC and stainless				2014	25	2039	76,500	19	4,879	-
<b>Sub-Total - Sandcastle Estates</b>									<b>905,200</b>		<b>33,107</b>	<b>318,700</b>
<b>Severn Estates System:</b>												
General:	Building	13.2ft x 27.2ft			359ft2	2006	25	2031	51,000	11	5,211	-
	Generator	0			16 kW	2006	20	2026	20,400	6	suggested for 10 year capital forecast	20,400
Well:	Well					1971	50	2021	30,600	1	suggested for 10 year capital forecast	30,600
Reservoir:	Reservoir	13.6m3 Capacity				2006	50	2056	12,500	36	490	-
Chemical System:									0			
Sodium Hypochlorite	Chemical Pump x2	Qdos 20				2017	10	2027	15,300	7	suggested for 10 year capital forecast	15,300
Analytical Equipment:	DIC Analyzer (Chlorine and pH)					2006	10	2020	6,100	0	suggested for 10 year capital forecast	6,100
	Turbidity Analyzer					2006	10	2020	4,600	0	suggested for 10 year capital forecast	4,600
Control Equipment:	Auto Dialer	Sensaphone Express II				2017	10	2027	3,100	7	suggested for 10 year capital forecast	3,100
	Computer	0				2018	6	2024	20,400	4	suggested for 10 year capital forecast	20,400
	PLC / SCADA	CompactLogix				2014	10	2024	20,400	4	suggested for 10 year capital forecast	20,400
	MCC	0				2006	50	2056	20,400	36	800	-



Table A-1 (Cont'd)

Item	Asset Name	Description	Diameter (mm)	Length (m)	Size	Year Installed	Estimated Life	Replacement Year	Replacement Cost 2021\$	Years until Replacement	Annual Lifecycle Contribution	Amount to be included in 10 year Forecast
Pumps:	Well Pump	Pump				2018	5	2023	1,000	3	suggested for 10 year capital forecast	1,000
		Motor				2018	5	2023	1,000	3	suggested for 10 year capital forecast	1,000
	High Lift 1	Pump				2018	5	2023	1,300	3	suggested for 10 year capital forecast	1,300
		Motor				2018	5	2023	1,300	3	suggested for 10 year capital forecast	1,300
	High Lift 2	Pump				2018	5	2023	1,300	3	suggested for 10 year capital forecast	1,300
		Motor				2018	5	2023	1,300	3	suggested for 10 year capital forecast	1,300
Filters:	Iron Filters x 4					2007	15	2022	12,200	2	suggested for 10 year capital forecast	12,200
	Media					2018	5	2023	8,200	3	suggested for 10 year capital forecast	8,200
	Filter Head x 2					2018	3	2021	1,000	1	suggested for 10 year capital forecast	1,000
Contact Tank:	Chlorine Contact Tank				450L	2014	15	2029	1,000	9	suggested for 10 year capital forecast	1,000
	Chlorine Contact Tank				450L	2007	15	2022	1,000	2	suggested for 10 year capital forecast	1,000
Flow Meters:	Well Flow				50mm	2016	10	2026	2,600	6	suggested for 10 year capital forecast	2,600
	Distribution				50mm	2016	10	2026	2,600	6	suggested for 10 year capital forecast	2,600
Valves:	Asco Valve x 3				2"	2016	5	2021	7,700	1	suggested for 10 year capital forecast	7,700
	Singer Valve				2"	2006	15	2021	1,000	1	suggested for 10 year capital forecast	1,000
Backflow Preventer:	Backflow x1					2006	10	2020	400	0	suggested for 10 year capital forecast	400
Pressure Tanks:	Pressure Tanks x 4					2006	15	2021	5,100	1	suggested for 10 year capital forecast	5,100
Level Sensor:	Level Sensor x 1					2006	10	2020	2,000	0	suggested for 10 year capital forecast	2,000
Indoor Piping Network:	Piping					2006	20	2026	5,100	6	suggested for 10 year capital forecast	5,100
<b>Sub-Total - Severn Estates:</b>									<b>261,900</b>		<b>6,502</b>	<b>178,000</b>
<b>Westshore System:</b>												
General:	Building (water side only)	82ft x 101ft			8282ft2	2003	50	2053	2,040,000	33	85,041	-
	Generator				500kW	2003	25	2028	204,000	8	suggested for 10 year capital forecast	204,000
	Fuel Tank and Containment					2003	30	2033	4,100	13	361	-



Table A-1 (Cont'd)

Item	Asset Name	Description	Diameter (mm)	Length (m)	Size	Year Installed	Estimated Life	Replacement Year	Replacement Cost 2021\$	Years until Replacement	Annual Lifecycle Contribution	Amount to be included in 10 year Forecast
Low Lift Building:												
3491 Hedgemere Landing	Building	30ft x 21ft			630ft2	2003	50	2053	510,000	33	21,260	-
	Wet Well					2003	50	2053	153,000	33	6,378	-
	Screens					2003	50	2053	2,000	33	83	-
Reservoir:	Reservoir - Storage	29.9m x 5.25m x 4.5m usable capacity 1860m3			1910m3	2003	50	2053	306,000	33	12,756	-
	High Lift Chambers					2003	30	2033	306,000	13	26,964	-
Filters:	Train 1	Filter				2003	40	2043	510,000	23	27,881	-
		Media				2018	5	2023	51,000	3	suggested for 10 year capital forecast	51,000
	Train 2	Filter				2003	40	2043	510,000	23	27,881	-
		Media				2018	5	2023	51,000	3	suggested for 10 year capital forecast	51,000
Surge Tank:	Tank				130m3	2003	10	2020	51,000	0	suggested for 10 year capital forecast	51,000
	Discharge Line					2003	75	2078	30,600	58	896	-
GAC Filters:												
GAC 1	Filter	Rated @ 1040 m3/day				2003	50	2053	255,000	33	10,630	-
	Media					2014	10	2024	51,000	4	suggested for 10 year capital forecast	51,000
GAC 2	Filter	Rated @ 1040 m3/day				2003	50	2053	255,000	33	10,630	-
	Media					2014	10	2024	51,000	4	suggested for 10 year capital forecast	51,000
GAC 3	Filter	Rated @ 1040 m3/day				2003	50	2053	255,000	33	10,630	-
	Media					2014	10	2024	51,000	4	suggested for 10 year capital forecast	51,000
GAC 4	Filter	Rated @ 1040 m3/day				2003	50	2053	255,000	33	10,630	-
	Media					2014	10	2024	51,000	4	suggested for 10 year capital forecast	51,000
Chemical Storage Tanks:	Sodium Hypochlorite	Chemical Pump x 2				2013	10	2023	15,300	3	suggested for 10 year capital forecast	15,300
	Alum	Chemical Pump x 2				2003	10	2020	16,300	0	suggested for 10 year capital forecast	16,300
	Polymer	Chemical Pump x 3				2003	10	2020	15,300	0	suggested for 10 year capital forecast	15,300
		Mixer				2003	10	2020	2,000	0	suggested for 10 year capital forecast	2,000
	Soda Ash	Chemical Pump x 2				2003	10	2020	15,300	0	suggested for 10 year capital forecast	15,300
		Mixer				2003	10	2020	2,000	0	suggested for 10 year capital forecast	2,000
	Trim Chlorine	Chemical Pump x 2				2003	10	2020	15,300	0	suggested for 10 year capital forecast	15,300
	Pre Chlorine (zebra mussel)	Chemical Pump x 2				2003	10	2020	15,300	0	suggested for 10 year capital forecast	15,300



Table A-1 (Cont'd)

Item	Asset Name	Description	Diameter (mm)	Length (m)	Size	Year Installed	Estimated Life	Replacement Year	Replacement Cost 2021\$	Years until Replacement	Annual Lifecycle Contribution	Amount to be included in 10 year Forecast
Chemical Storage Tanks:	Alum - Bulk Storage	Supplier Aco Containers			24000L	2003	50	2053	10,200	33	425	-
	Alum - Day Tank	Supplier Aco Containers			450L	2003	50	2053	500	33	21	-
	Polymer	Supplier Aco Containers			680L	2003	50	2053	500	33	21	-
	Soda Ash	Supplier Aco Containers			680L	2003	50	2053	500	33	21	-
	Sodium Hypochlorite	Supplier Aco Containers			2000L	2003	50	2053	2,000	33	83	-
	Sodium Hypochlorite - Zebra Mussel	Supplier Aco Containers			60L	2003	50	2053	200	33	8	-
Analytical Equipment:	Raw	DIC Analyzer (Temperature + pH)				2003	10	2020	6,100	0	suggested for 10 year capital forecast	6,100
	Final	DIC Analyzer (Chlorine, pH + Temperature)				2003	10	2020	6,100	0	suggested for 10 year capital forecast	6,100
	Turbidity Analyzer	Raw Turbidity				2013	10	2023	4,600	3	suggested for 10 year capital forecast	4,600
		Train 1 Turbidity				2018	10	2028	4,600	8	suggested for 10 year capital forecast	4,600
		Train 2 Turbidity				2018	10	2028	4,600	8	suggested for 10 year capital forecast	4,600
		Distribution Turbidity				2018	10	2028	4,600	8	suggested for 10 year capital forecast	4,600
Control Equipment:	Auto Dialer	Sensaphone Express II				2018	10	2028	3,100	8	suggested for 10 year capital forecast	3,100
	Computer					2019	6	2025	15,300	5	suggested for 10 year capital forecast	15,300
	PLC / SCADA	CompactLogix				2019	10	2029	122,400	9	suggested for 10 year capital forecast	122,400
	MCC					2003	50	2053	510,000	33	21,260	-
UV System:	UV1	Rated @ 4170m3/d with dose of 40mJ/cm2				2003	20	2023	102,000	3	suggested for 10 year capital forecast	102,000
	UV2	Rated @ 4170m3/d with dose of 40mJ/cm2				2003	20	2023	102,000	3	suggested for 10 year capital forecast	102,000
Pumps:	Low Lift 1	Pump				2003	10	2020	7,700	0	suggested for 10 year capital forecast	7,700
		Motor				2003	10	2020	7,700	0	suggested for 10 year capital forecast	7,700
		VFD				2003	20	2023	5,100	3	suggested for 10 year capital forecast	5,100
	Low Lift 2	Pump				2003	10	2020	7,700	0	suggested for 10 year capital forecast	7,700
		Motor				2003	10	2020	7,700	0	suggested for 10 year capital forecast	7,700
		VFD				2003	20	2023	5,100	3	suggested for 10 year capital forecast	5,100



Table A-1 (Cont'd)

Item	Asset Name	Description	Diameter (mm)	Length (m)	Size	Year Installed	Estimated Life	Replacement Year	Replacement Cost 2021\$	Years until Replacement	Annual Lifecycle Contribution	Amount to be included in 10 year Forecast	
Pumps:	Low Lift 3	Pump				2003	10	2020	7,700	0	suggested for 10 year capital forecast	7,700	
		Motor				2003	10	2020	0	0	suggested for 10 year capital forecast	-	
		VFD				2003	20	2023	5,100	3	suggested for 10 year capital forecast	5,100	
	High Lift 1	Pump				2003	8	2020	20,400	0	suggested for 10 year capital forecast	20,400	
		Motor				2003	8	2020	20,400	0	suggested for 10 year capital forecast	20,400	
		VFD				2003	20	2023	10,200	3	suggested for 10 year capital forecast	10,200	
	High Lift 2	Pump				2003	8	2020	20,400	0	suggested for 10 year capital forecast	20,400	
		Motor				2003	8	2020	20,400	0	suggested for 10 year capital forecast	20,400	
		VFD				2003	20	2023	10,200	3	suggested for 10 year capital forecast	10,200	
	High Lift 3	Pump				2003	8	2020	20,400	0	suggested for 10 year capital forecast	20,400	
		Motor				2003	8	2020	20,400	0	suggested for 10 year capital forecast	20,400	
		VFD				2003	20	2023	10,200	3	suggested for 10 year capital forecast	10,200	
	Backwash 1	Pump				2003	8	2020	12,800	0	suggested for 10 year capital forecast	12,800	
		Motor				2003	8	2020	12,800	0	suggested for 10 year capital forecast	12,800	
	Backwash 2	Pump				2003	8	2020	12,800	0	suggested for 10 year capital forecast	12,800	
		Motor				2003	8	2020	12,800	0	suggested for 10 year capital forecast	12,800	
	Surge Tank x 2		7 L/s @ TDH 9m				2003	10	2020	10,200	0	suggested for 10 year capital forecast	10,200
	GAC Feed x 3		24 L/s @ TDH 8m				2003	10	2020	5,100	0	suggested for 10 year capital forecast	5,100
	Alum Transfer Pump		Magnetic sealless centrifugal pump				2003	10	2020	1,000	0	suggested for 10 year capital forecast	1,000
Chlorine Transfer Pump		0				2017	3	2020	2,000	0	suggested for 10 year capital forecast	2,000	
Blower:	Air Scour	67L/s @ 4 PSI				2003	10	2020	5,100	0	suggested for 10 year capital forecast	5,100	



Table A-1 (Cont'd)

Item	Asset Name	Description	Diameter (mm)	Length (m)	Size	Year Installed	Estimated Life	Replacement Year	Replacement Cost 2021\$	Years until Replacement	Annual Lifecycle Contribution	Amount to be included in 10 year Forecast
Flow Meters:	Distribution					2003	10	2020	5,100	0	suggested for 10 year capital forecast	5,100
	Plant Water Usage					2012	10	2022	5,100	2	suggested for 10 year capital forecast	5,100
	Train 1 Raw					2003	10	2020	5,100	0	suggested for 10 year capital forecast	5,100
	Train 2 Raw					2019	10	2029	5,100	9	suggested for 10 year capital forecast	5,100
	Train 1 Effluent					2012	10	2022	5,100	2	suggested for 10 year capital forecast	5,100
	Train 2 Effluent					2012	10	2022	5,100	2	suggested for 10 year capital forecast	5,100
Backflow Preventers:	Backflow x 4				50mm	2003	10	2020	10,200	0	suggested for 10 year capital forecast	10,200
	Backflow				100mm	2003	10	2020	5,100	0	suggested for 10 year capital forecast	5,100
Valves:	Large Gate Valves x 12				0	2003	20	2023	91,800	3	suggested for 10 year capital forecast	91,800
	Singer Valves				6"	2003	10	2020	10,700	0	suggested for 10 year capital forecast	10,700
	Singer Valves				8"	2003	10	2020	11,700	0	suggested for 10 year capital forecast	11,700
	Bray Valves x 2				10"	2003	10	2020	15,300	0	suggested for 10 year capital forecast	15,300
	Bray Valves x 2				8"	2003	10	2020	15,300	0	suggested for 10 year capital forecast	15,300
	Bray Valves x 20				4"	2003	10	2020	112,200	0	suggested for 10 year capital forecast	112,200
	Cla Valves x 2				12"	2003	10	2020	24,500	0	suggested for 10 year capital forecast	24,500
	Cla Valves x 4				8"	2003	10	2020	38,800	0	suggested for 10 year capital forecast	38,800
Level Sensors:	Level Sensors x 8					2003	5	2020	27,700	0	suggested for 10 year capital forecast	27,700
Indoor Piping Network:	Piping					2003	25	2028	459,000	8	suggested for 10 year capital forecast	459,000
<b>Sub-Total - Westshore</b>									<b>8,083,100</b>		<b>273,861</b>	<b>2,167,500</b>
<b>Grand Total</b>									<b>16,134,400</b>		<b>574,807</b>	<b>3,907,900</b>



Table A-2  
Township of Severn  
Watermains

Asset Name	Location	Total #	Size	Length (m)	Material	Year Installed	Estimated Life	Replacement Year	Total Replacement Costs (2021\$)	Years until Replacement	Annual Lifecycle Contribution	Amount to be included in 10 year Forecast
<b>Washago System:</b>												
Connections		125				1984	80	2064	637,500	44	21,922	-
Raw Water Intake Line	Lake Couchiching to Plant		200mm	18	PE	1984	80	2064	11,900	44	409	-
Watermain	Quetton Street		200mm	106	PVC	1984	80	2064	32,400	44	1,114	-
Watermain	Quetton Street		150mm	161	PVC	1984	80	2064	49,300	44	1,695	-
Watermain	Quetton Street to Muskoka Street PS#1		200mm	120	PVC	1984	80	2064	36,700	44	1,262	-
Watermain	Muskoka Street		50mm	20	PVC	1984	80	2064	6,100	44	210	-
Watermain	Muskoka Street		200mm	829	PVC	1984	80	2064	253,700	44	8,724	-
Watermain	Muskoka Street		150mm	271	PVC	1984	80	2064	82,900	44	2,851	-
Watermain	Hamilton Street		150mm	112	PVC	1984	80	2064	34,300	44	1,180	-
Watermain	Hamilton Street		50mm	164	PVC	1984	80	2064	50,000	44	1,719	-
Watermain	Hepinstall Landing		50mm	142	PVC	1984	80	2064	43,500	44	1,496	-
Watermain	Hepinstall Landing		150mm	179	PVC	1984	80	2064	54,800	44	1,884	-
Watermain	Hendi Lane		50mm	80	PVC	1984	80	2064	24,500	44	843	-
Watermain	Albany Street		150mm	108	PVC	1984	80	2064	33,000	44	1,135	-
Watermain	Albany Street		50mm	101	PVC	1984	80	2064	30,900	44	1,063	-
Watermain	Edgar Street		50mm	97	PVC	1984	80	2064	29,700	44	1,021	-
Watermain	Ramsay Street		50mm	73	PVC	1984	80	2064	22,300	44	767	-
Watermain	County Road 169		150mm	404	PVC	1984	80	2064	123,600	44	4,250	-
Watermain	Easement to LCBO		150mm	547	PVC	1984	80	2064	167,400	44	5,757	-
Recirculation Line	Beside all watermain		19mm	3,514	0	1984	80	2064	1,075,100	44	36,970	-
Main Valve	Quetton Street	2	200mm			1984	80	2064	26,500	44	911	-
Main Valve	Muskoka Street	1	50mm			1984	80	2064	10,700	44	368	-
Main Valve	Muskoka Street	4	200mm			1984	80	2064	53,000	44	1,823	-
Main Valve	Muskoka Street	1	150mm			1984	80	2064	12,200	44	420	-
Main Valve	Hamilton Street	2	150mm			1984	80	2064	24,500	44	843	-
Main Valve	Hamilton Street	2	50mm			1984	80	2064	21,400	44	736	-
Main Valve	Hepinstall Landing	1	50mm			1984	80	2064	10,700	44	368	-
Main Valve	Hepinstall Landing @ Hendi Lane	1	50mm			1984	80	2064	10,700	44	368	-
Main Valve	Albany Street	1	50mm			1984	80	2064	10,700	44	368	-





Table A-2 (Cont'd)

Asset Name	Location	Total #	Size	Length (m)	Material	Year Installed	Estimated Life	Replacement Year	Total Replacement Costs (2021\$)	Years until Replacement	Annual Lifecycle Contribution	Amount to be included in 10 year Forecast
Main Valve	Albany Street	1	150mm			1984	80	2064	12,200	44	420	-
Main Valve	Edgar Street	1	50mm			1984	80	2064	10,700	44	368	-
Main Valve	Ramsay Street	1	50mm			1984	80	2064	10,700	44	368	-
Main Valve	County Road 169	1	150mm			1984	80	2064	12,200	44	420	-
Main Valve	Easement to LCBO	1	150mm			1984	80	2064	12,200	44	420	-
Sample Station	Muskoka Street	2			Blue - Test Tap	2018	10	2028	6,600	8	suggested for 10 year capital forecast	6,600
Sample Station	Hepinstall Landing	1			Blue - Test Tap	2018	10	2028	3,300	8	suggested for 10 year capital forecast	3,300
Sample Station	Easement to LCBO	1			Green - #88 Station	2012	10	2022	3,300	2	suggested for 10 year capital forecast	3,300
Fire Hydrant	Quetton Street	1				1984	60	2044	13,300	24	703	-
Fire Hydrant	County Road 169	1				1984	60	2044	13,300	24	703	-
Fire Hydrant	Muskoka Street	5				1984	60	2044	66,300	24	3,505	-
Fire Hydrant	Hamilton Street	1				1984	60	2044	13,300	24	703	-
Fire Hydrant	Hepinstall Landing	1				1984	60	2044	13,300	24	703	-
Fire Hydrant	Easement to LCBO	1				1984	60	2044	13,300	24	703	-
Box and Rod		125				1984	25	2020	72,700	0	suggested for 10 year capital forecast	72,700
Valve		125				1984	25	2020	484,500	0	suggested for 10 year capital forecast	484,500
Meter		125			SRII	2007	20	2027	126,200	7	suggested for 10 year capital forecast	126,200
<b>Sub-Total - Washago</b>									<b>3,867,400</b>		<b>111,492</b>	<b>696,600</b>
<b>Bass Lake System:</b>												
Connections		162				1976	80	2056	826,200	36	32,414	-
Watermain	Ridley Boulevard		150mm			1976	80	2056	269,600	36	10,577	-
Watermain	Glen Oak Lane		150mm			1976	80	2056	77,700	36	3,048	-
Watermain	Kensington Place		150mm			1976	80	2056	112,900	36	4,429	-
Watermain	Pine Avenue		150mm			1976	80	2056	78,300	36	3,072	-
Watermain	Wainman Line		150mm			1976	80	2056	132,200	36	5,187	-



Table A-2 (Cont'd)

Asset Name	Location	Total #	Size	Length (m)	Material	Year Installed	Estimated Life	Replacement Year	Total Replacement Costs (2021\$)	Years until Replacement	Annual Lifecycle Contribution	Amount to be included in 10 year Forecast
Watermain	Elana Drive		150mm			2010	80	2090	365,700	70	9,752	-
Watermain	Voyageur Circle		150mm			1976	80	2056	38,600	36	1,514	-
Watermain	Confederation Drive		150mm			1976	80	2056	257,300	36	10,095	-
Main Valve	Ridley Boulevard	9	150mm			1976	80	2056	110,200	36	4,323	-
Main Valve	Glen Oak Lane	2	150mm			1976	80	2056	24,500	36	961	-
Main Valve	Kensington Place	3	150mm			1976	80	2056	36,700	36	1,440	-
Main Valve	Pine Avenue	6	150mm			1976	80	2056	73,400	36	2,880	-
Main Valve	Wainman Line	5	150mm			1976	80	2056	61,200	36	2,401	-
Main Valve	Elana Drive	8	150mm			2010	80	2090	97,900	70	2,611	-
Main Valve	Voyageur Circle	1	150mm			1976	80	2056	12,200	36	479	-
Main Valve	Confederation Drive	9	150mm			1976	80	2056	110,200	36	4,323	-
Blow Off	Voyageur Circle	1	4"			1976	25	2020	4,600	0	suggested for 10 year capital forecast	4,600
Blow Off	Elana Drive	1	2"			2010	25	2035	2,600	15	202	-
Blow Off	Wainman Line	1	2"			2010	25	2035	2,600	15	202	-
Sample Station	Voyageur Circle	1				2013	10	2023	3,300	3	suggested for 10 year capital forecast	3,300
Sample Station	Wainman Line	1				2010	10	2020	3,300	0	suggested for 10 year capital forecast	3,300
Sample Station	Confederation Drive	1				2015	10	2025	3,300	5	suggested for 10 year capital forecast	3,300
Sample Station	Elana Drive	1				2018	10	2028	3,300	8	suggested for 10 year capital forecast	3,300
Curb Stop	Box and Rod	162				1976	25	2020	600	0	suggested for 10 year capital forecast	600
	Valve					1976	25	2020	3,900	0	suggested for 10 year capital forecast	3,900
Meter Package	Meter	162				2007	20	2027	163,600	7	suggested for 10 year capital forecast	163,600
<b>Total for Bass Lake</b>									<b>2,875,900</b>		<b>99,912</b>	<b>185,900</b>



Table A-2 (Cont'd)

Asset Name	Location	Total #	Size	Length (m)	Material	Year Installed	Estimated Life	Replacement Year	Total Replacement Costs (2021\$)	Years until Replacement	Annual Lifecycle Contribution	Amount to be included in 10 year Forecast
<b>Coldwater System:</b>												
Connections		588				1993	80	2073	2,998,800	53	92,285	-
Watermain	Sheridan Drive		300mm	453		2011	85	2096	138,500	76	3,560	-
Watermain	Sheridan Drive		200mm	227		2011	85	2096	69,500	76	1,787	-
Watermain	Sheridan Dr to Coldwater Rd Easement		250mm	314		2011	85	2096	96,100	76	2,470	-
Watermain	Sheridan Dr to Coldwater Rd Easement		200mm	39		2011	85	2096	11,900	76	306	-
Watermain	Shaw Street		300mm	110		2011	85	2096	33,700	76	866	-
Watermain	West Street		150mm	216		2011	85	2096	66,100	76	1,699	-
Watermain	Charles Street		150mm	153		2011	85	2096	46,800	76	1,203	-
Watermain	Bush Street		150mm	178		2011	85	2096	54,500	76	1,401	-
Watermain	Mill Street		150mm	176		2011	85	2096	53,700	76	1,380	-
Watermain	Eplett Street		250mm	392		2011	85	2096	120,000	76	3,085	-
Watermain	Sturgeon Bay Road		200mm	485		2011	85	2096	148,400	76	3,815	-
Watermain	Coldwater Road		200mm	1,411		2011	85	2096	431,800	76	11,101	-
Watermain	Southhorn Road		150mm	323		2011	85	2096	98,800	76	2,540	-
Watermain	Gill Street		150mm	330		2011	85	2096	101,000	76	2,596	-
Watermain	Sunset Crescent		150mm	261		2011	85	2096	79,900	76	2,054	-
Watermain	Community Centre Drive		150mm	264		2011	85	2096	80,800	76	2,077	-
Watermain	Robinson Street		150mm	69		2011	85	2096	21,100	76	542	-
Watermain	Michael Anne Drive		150mm	431		2011	85	2096	131,900	76	3,391	-
Watermain	Michael Anne Dr Easement to Firehall Ln		150mm	79		2011	85	2096	24,200	76	622	-
Watermain	Gray Street		150mm	888		2011	85	2096	271,700	76	6,985	-
Watermain	Firehall Lane		150mm	143		2011	85	2096	43,800	76	1,126	-
Watermain	George Street		150mm	211		2011	85	2096	64,600	76	1,661	-
Watermain	John Street		150mm	732		2011	85	2096	224,000	76	5,758	-
Watermain	Brick Pond Road		150mm	644		2011	85	2096	197,100	76	5,067	-
Watermain	Wyley Street		150mm	265		2011	85	2096	81,100	76	2,085	-
Watermain	River Street		200mm	1,002		2011	85	2096	306,600	76	7,882	-
Watermain	Earls Court		150mm	76		2011	85	2096	23,300	76	599	-
Watermain	Reinbird Street		150mm	112		2011	85	2096	34,300	76	882	-
Watermain	Lynch Street		150mm	182		2011	85	2096	55,700	76	1,432	-
Watermain	Harriet Street		150mm	243		2011	85	2096	74,400	76	1,913	-
Watermain	Cyril Martin Place		150mm	122		2011	85	2096	37,300	76	959	-



Table A-2 (Cont'd)

Asset Name	Location	Total #	Size	Length (m)	Material	Year Installed	Estimated Life	Replacement Year	Total Replacement Costs (2021\$)	Years until Replacement	Annual Lifecycle Contribution	Amount to be included in 10 year Forecast
Watermain	Craddock Street		150mm	217		2011	85	2096	66,400	76	1,707	-
Watermain	Sheppard Street		150mm	206		2011	85	2096	63,000	76	1,620	-
Watermain	Donlands Court		150mm	189		2011	85	2096	57,800	76	1,486	-
Watermain	Anderson Line		150mm	86		2011	85	2096	26,300	76	676	-
Watermain	Anderson Line		50mm	170		2011	85	2096	52,000	76	1,337	-
Watermain	Anderson Line		25mm	532		2011	85	2096	162,800	76	4,185	-
Main Valve	River Street	10	200mm			2011	85	2096	132,600	76	3,409	-
Main Valve	River Street	2	150mm			2011	85	2096	24,500	76	630	-
Main Valve	Reinbird Street	2	150mm			2011	85	2096	24,500	76	630	-
Main Valve	Lynch Street	1	150mm			2011	85	2096	12,200	76	314	-
Main Valve	Harriet Street	4	150mm			2011	85	2096	49,000	76	1,260	-
Main Valve	Cyril Martin Place	1	150mm			2011	85	2096	12,200	76	314	-
Main Valve	Craddock Street	3	150mm			2011	85	2096	36,700	76	943	-
Main Valve	Brick Pond Road	4	150mm			2011	85	2096	49,000	76	1,260	-
Main Valve	John Street	6	150mm			2011	85	2096	73,400	76	1,887	-
Main Valve	Earls Court	1	150mm			2011	85	2096	12,200	76	314	-
Main Valve	Wyley Street	4	150mm			2011	85	2096	49,000	76	1,260	-
Main Valve	Sheppard Street	2	150mm			2011	85	2096	24,500	76	630	-
Main Valve	Gray Street	10	150mm			2011	85	2096	122,400	76	3,147	-
Main Valve	Donlands Court	1	150mm			2011	85	2096	12,200	76	314	-
Main Valve	Anderson Line	1	50mm			2011	85	2096	10,700	76	275	-
Main Valve	George Street	1	150mm			2011	85	2096	12,200	76	314	-
Main Valve	Firehall Lane	3	150mm			2011	85	2096	36,700	76	943	-
Main Valve	Michael Anne Drive	3	150mm			2011	85	2096	36,700	76	943	-
Main Valve	Coldwater Road	13	200mm			2011	85	2096	172,400	76	4,432	-
Main Valve	Robinson Street	1	150mm			2011	85	2096	12,200	76	314	-
Main Valve	Community Centre Drive	3	150mm			2011	85	2096	36,700	76	943	-
Main Valve	Sunset Crescent	1	150mm			2011	85	2096	12,200	76	314	-
Main Valve	Gill Street	2	150mm			2011	85	2096	24,500	76	630	-
Main Valve	Southhorn Road	3	150mm			2011	85	2096	36,700	76	943	-
Main Valve	Sturgeon Bay Road	9	200mm			2011	85	2096	119,300	76	3,067	-
Main Valve	Charles Street	1	150mm			2011	85	2096	12,200	76	314	-
Main Valve	West Street	1	150mm			2011	85	2096	12,200	76	314	-
Main Valve	Bush Street	2	150mm			2011	85	2096	24,500	76	630	-



Table A-2 (Cont'd)

Asset Name	Location	Total #	Size	Length (m)	Material	Year Installed	Estimated Life	Replacement Year	Total Replacement Costs (2021\$)	Years until Replacement	Annual Lifecycle Contribution	Amount to be included in 10 year Forecast
Main Valve	Mill Street	2	150mm			2011	85	2096	24,500	76	630	-
Main Valve	Eplett Street	3	250mm			2011	85	2096	39,800	76	1,023	-
Main Valve	Shaw Street	1	250mm			2011	85	2096	13,300	76	342	-
Main Valve	Sheridan Street	4	300mm			2011	85	2096	69,400	76	1,784	-
Main Valve	Sheridan Street	1	200mm			2011	85	2096	13,300	76	342	-
Main Valve	Riverwalk Drive at Shaw/Eplett	1	200mm			2011	85	2096	13,300	76	342	-
Main Valve	Riverwalk Drive at Sheridan	1	150mm			2011	85	2096	12,200	76	314	-
Main Valve	Maple Court at Sheridan	1	150mm			2011	85	2096	12,200	76	314	-
Sample Station	Sturgeon Bay Road	1			Blue - Test Tap	2018	10	2028	3,300	8	suggested for 10 year capital forecast	3,300
Sample Station	West Street	1			Green - #88 Station	2011	10	2021	3,300	1	suggested for 10 year capital forecast	3,300
Sample Station	Charles Street	1			Green - #88 Station	2011	10	2021	3,300	1	suggested for 10 year capital forecast	3,300
Sample Station	Highway 12	1			Blue - Test Tap	2018	10	2028	3,300	8	suggested for 10 year capital forecast	3,300
Sample Station	Community Centre Drive	1			Green - #88 Station	2011	10	2021	3,300	1	suggested for 10 year capital forecast	3,300
Sample Station	Firehall Lane	1			Blue - Test Tap	2018	10	2028	3,300	8	suggested for 10 year capital forecast	3,300
Sample Station	Cyril Martin Place	1			Green - #88 Station	2011	10	2021	3,300	1	suggested for 10 year capital forecast	3,300
Sample Station	Lynch Street	1			Green - #88 Station	2011	10	2021	3,300	1	suggested for 10 year capital forecast	3,300
Sample Station	River Street	1			Blue - Test Tap	2018	10	2028	3,300	8	suggested for 10 year capital forecast	3,300



Table A-2 (Cont'd)

Asset Name	Location	Total #	Size	Length (m)	Material	Year Installed	Estimated Life	Replacement Year	Total Replacement Costs (2021\$)	Years until Replacement	Annual Lifecycle Contribution	Amount to be included in 10 year Forecast
Sample Station	Anderson Line	1			Blue - Test Tap	2018	10	2028	3,300	8	suggested for 10 year capital forecast	3,300
Fire Hydrant	River Street	8				2011	60	2071	106,100	51	3,338	-
Fire Hydrant	Reinbird Street	2				2011	60	2071	26,500	51	834	-
Fire Hydrant	Lynch Street	2				2011	60	2071	26,500	51	834	-
Fire Hydrant	Harriet Street	3				2011	60	2071	39,800	51	1,252	-
Fire Hydrant	Cyril Martin Place	1				2011	60	2071	13,300	51	418	-
Fire Hydrant	Craddock Street	2				2011	60	2071	26,500	51	834	-
Fire Hydrant	Brick Pond Road	4				2011	60	2071	53,000	51	1,667	-
Fire Hydrant	John Street	6				2011	60	2071	79,600	51	2,504	-
Fire Hydrant	Earls Court	1				2011	60	2071	13,300	51	418	-
Fire Hydrant	Wyley Street	1				2011	60	2071	13,300	51	418	-
Fire Hydrant	Gray Street	6				2011	60	2071	79,600	51	2,504	-
Fire Hydrant	Donlands Court	2				2011	60	2071	26,500	51	834	-
Fire Hydrant	Anderson Line	2				2011	60	2071	26,500	51	834	-
Fire Hydrant	George Street	1				2011	60	2071	13,300	51	418	-
Fire Hydrant	Firehall Lane	1				2011	60	2071	13,300	51	418	-
Fire Hydrant	Michael Anne Drive	3				2011	60	2071	39,800	51	1,252	-
Fire Hydrant	Coldwater Road	11				2011	60	2071	145,900	51	4,590	-
Fire Hydrant	Community Centre Drive	1				2011	60	2071	13,300	51	418	-
Fire Hydrant	Sunset Crescent	2				2011	60	2071	26,500	51	834	-
Fire Hydrant	Gill Street	3				2011	60	2071	39,800	51	1,252	-
Fire Hydrant	Southhorn Road	2				2011	60	2071	26,500	51	834	-
Fire Hydrant	Sturgeon Bay Road	4				2011	60	2071	53,000	51	1,667	-
Fire Hydrant	Charles Street	2				2011	60	2071	26,500	51	834	-
Fire Hydrant	West Street	2				2011	60	2071	26,500	51	834	-
Fire Hydrant	Bush Street	1				2011	60	2071	13,300	51	418	-
Fire Hydrant	Mill Street	2				2011	60	2071	26,500	51	834	-
Fire Hydrant	Eplett Street	3				2011	60	2071	39,800	51	1,252	-
Fire Hydrant	Shaw Street	1				2011	60	2071	13,300	51	418	-
Fire Hydrant	Sheridan Street	4				2011	60	2071	53,000	51	1,667	-
	Box and Rod					2011	25	2036	315,100	16	23,207	-
Curb Stop	Valve	542				2011	25	2036	2,100,800	16	154,724	-



Table A-2 (Cont'd)

Asset Name	Location	Total #	Size	Length (m)	Material	Year Installed	Estimated Life	Replacement Year	Total Replacement Costs (2021\$)	Years until Replacement	Annual Lifecycle Contribution	Amount to be included in 10 year Forecast
Meter Package	Meter				SRII	2009	20	2029	593,800	9	suggested for 10 year capital forecast	593,800
<b>Sub-Total - Coldwater</b>									<b>12,184,800</b>		<b>434,476</b>	<b>626,800</b>
<b>Sandcastle Estates System:</b>												
Connections		66				1986	80	2066	336,600	46	11,260	-
Raw Water Intake Line	Lake Couchiching to 3183 Shoreview Drive		100mm	378	PE	1986	50	2036	250,300	16	18,435	-
Raw Water Line to Plant	3183 Shoreview Drive to Plant		50mm	190	PVC	1986	80	2066	58,100	46	1,944	-
Backwash Tank Discharge Line	Plant to 3183 Shoreview Drive		50mm	200	PVC	1986	80	2066	61,200	46	2,047	-
Watermain	Shoreview Drive		150mm	613	PVC	1986	80	2066	187,600	46	6,276	-
Watermain	Sandcastle Court		50mm	205	PVC	1986	80	2066	62,700	46	2,098	-
Watermain	Treeline Drive		50mm	333	PVC	1986	80	2066	101,900	46	3,409	-
Main Valve	Shoreview Drive	4	100mm			2012	80	2092	49,000	72	1,290	-
Main Valve	Plant (3992 Sandcastle Court)	1	100mm			2012	80	2092	12,200	72	321	-
Main Valve	Sandcastle Court	2	50mm			2012	80	2092	21,400	72	563	-
Main Valve	Treeline Drive	2	50mm			1986	80	2066	21,400	46	716	-
Blow Off	Shoreview Drive	2	4"		PVC	1986	80	2066	9,200	46	308	-
Blow Off	Treeline Drive	1	2"		Galvanized Steel	1986	80	2066	2,600	46	87	-
Sample Station	Sandcastle Court	1			Blue - Test Tap	2018	10	2028	3,300	8	suggested for 10 year capital forecast	3,300
Sample Station	Treeline Drive	1			Blue - Test Tap	2017	10	2027	3,300	7	suggested for 10 year capital forecast	3,300
Box and Rod		66				1986	25	2020	38,400	0	suggested for 10 year capital forecast	38,400
Valve						1986	25	2020	255,800	0	suggested for 10 year capital forecast	255,800
Meter		66				2007	20	2027	66,600	7	suggested for 10 year capital forecast	66,600
<b>Sub-Total - Sandcastle Estates:</b>									<b>1,541,600</b>		<b>48,754</b>	<b>367,400</b>



Table A-2 (Cont'd)

Asset Name	Location	Total #	Size	Length (m)	Material	Year Installed	Estimated Life	Replacement Year	Total Replacement Costs (2021\$)	Years until Replacement	Annual Lifecycle Contribution	Amount to be included in 10 year Forecast
<b>Severn Estates System:</b>												
Connections		23				2006	80	2086	117,300	66	3,217	-
Watermain	Trent Trail		100mm	284	PVC	2006	80	2086	86,900	66	2,383	-
Watermain	Trent Trail		50mm	381	PVC	2006	80	2086	116,600	66	3,197	-
Main Valve	Trent Trail	4	100mm			2006	25	2031	16,300	11	1,666	-
Main Valve	Trent Trail	1	50mm			2006	25	2031	3,600	11	368	-
Blow Off	Trent Trail	3	4"		PVC	2006	50	2056	13,800	36	541	-
Blow Off	Trent Trail	1	2"		Galvanized Steel	2006	25	2031	2,600	11	266	-
Sample Station	Trent Trail	2			Blue - Test Tap	2017	10	2027	6,600	7	suggested for 10 year capital forecast	6,600
<b>Curb Stop</b>								2020	-		suggested for 10 year capital forecast	-
Box and Rod		23				2006	25	2031	13,400	11	1,369	-
Valve						2006	25	2031	89,100	11	9,104	-
<b>Meter Package</b>								2020	-		suggested for 10 year capital forecast	-
Meter					SRII	2007	20	2027	23,200	7	suggested for 10 year capital forecast	23,200
<b>Sub-Total - Severn Estates:</b>									<b>489,400</b>		<b>22,110</b>	<b>29,800</b>
<b>Westshore:</b>												
Connections		977				2003	80	2083	4,982,700	63	139,807	-
Raw Water Intake Line	Lake Couchiching to Hedgemere Landing		300mm	1,200		2003	50	2053	795,600	33	33,166	-
Raw Water Line to Plant	Low Lift Building to Plant		300mm	1,217		2003	50	2053	620,700	33	25,875	-
Watermain	New Brailey Line (Plant to Bayou)		300mm	540	PVC	2005	80	2085	165,200	65	4,564	-
Watermain	Bayou Road		300mm	1,430	PVC	2005	80	2085	437,600	65	12,089	-
Watermain	Bayou Road Easement to Amigo Drive		200mm	69	PVC	2005	80	2085	21,100	65	583	-
Watermain	Bayou Road		50mm	72	PVC	2005	80	2085	22,000	65	608	-
Watermain	Bell Avenue		150mm	97	PVC	2005	80	2085	29,700	65	820	-
Watermain	Hedgemere Landing		150mm	134	PVC	2005	80	2085	41,000	65	1,133	-
Watermain	Grand Tamarack		200mm	360	PVC	2005	80	2085	110,200	65	3,044	-





Table A-2 (Cont'd)

Asset Name	Location	Total #	Size	Length (m)	Material	Year Installed	Estimated Life	Replacement Year	Total Replacement Costs (2021\$)	Years until Replacement	Annual Lifecycle Contribution	Amount to be included in 10 year Forecast
Watermain	Easement to Webers via Grand Tamarack		200mm	405	PVC	2005	80	2085	123,900	65	3,423	-
Watermain	Shadow Creek		150mm	1,174	PVC	2005	80	2085	359,200	65	9,923	-
Watermain	Timberline Avenue		150mm	1,001	PVC	2005	80	2085	306,300	65	8,462	-
Watermain	Westshore Crescent		150mm	604	PVC	2005	80	2085	184,800	65	5,105	-
Watermain	Amigo Drive		200mm	656	PVC	2005	80	2085	200,700	65	5,545	-
Watermain	Amigo Easement to Wood Avenue		200mm	113	PVC	2005	80	2085	34,600	65	956	-
Watermain	Wood Avenue		200mm	697	PVC	2005	80	2085	213,300	65	5,893	-
Watermain	Wood Avenue		150mm	370	PVC	2005	80	2085	113,200	65	3,127	-
Watermain	Couchiching Avenue		150mm	206	PVC	2005	80	2085	63,000	65	1,740	-
Watermain	Point Corazza Vista		150mm	73	PVC	2005	80	2085	22,300	65	616	-
Watermain	Cumberland Road		300mm	691	PVC	2005	80	2085	211,400	65	5,840	-
Watermain	Lakeside Drive		300mm	940	PVC	2005	80	2085	287,600	65	7,945	-
Watermain	Lakeside Drive		150mm	729	PVC	2005	80	2085	223,100	65	6,163	-
Watermain	Beachview Avenue		150mm	425	PVC	2005	80	2085	130,100	65	3,594	-
Watermain	Coronation Avenue		150mm	374	PVC	2005	80	2085	114,400	65	3,160	-
Watermain	Lee Avenue		150mm	319	PVC	2005	80	2085	97,600	65	2,696	-
Watermain	Highview Avenue		150mm	453	PVC	2005	80	2085	138,600	65	3,829	-
Watermain	The Lane		150mm	303	PVC	2005	80	2085	92,700	65	2,561	-
Watermain	Azcona Avenue		150mm	310	PVC	2005	80	2085	94,900	65	2,622	-
Watermain	Buena Vista Drive		150mm	300	PVC	2005	80	2085	91,800	65	2,536	-
Watermain	Armand Avenue		150mm	253	PVC	2005	80	2085	77,400	65	2,138	-
Watermain	Highway 11		150mm	722	PVC	2005	80	2085	220,900	65	6,103	-
Watermain	Beckett Place		150mm	230	PVC	2005	80	2085	70,400	65	1,945	-
Watermain	Park Road		150mm	192	PVC	2005	80	2085	58,800	65	1,624	-
Watermain	Cleveland Avenue		150mm	193	PVC	2005	80	2085	59,100	65	1,633	-
Watermain	Pleasant Road		150mm	243	PVC	2005	80	2085	74,400	65	2,055	-
Watermain	Knight Avenue		150mm	292	PVC	2005	80	2085	89,400	65	2,470	-
Watermain	Bramshott Avenue		150mm	405	PVC	2005	80	2085	123,900	65	3,423	-
Watermain	First Street		150mm	156	PVC	2005	80	2085	47,700	65	1,318	-
Watermain	Second Street		150mm	169	PVC	2005	80	2085	51,700	65	1,428	-
Watermain	Third Street		150mm	180	PVC	2005	80	2085	55,100	65	1,522	-
Watermain	Turnbull Drive		150mm	491	PVC	2005	80	2085	150,200	65	4,149	-
Watermain	Grayshott Drive		200mm	1,560	PVC	2005	80	2085	477,400	65	13,189	-
Watermain	Beachclub Easement		300mm	93	PVC	2005	80	2085	28,500	65	787	-
Watermain	Brooks Lane		300mm	100	PVC	2005	80	2085	30,600	65	845	-



Table A-2 (Cont'd)

Asset Name	Location	Total #	Size	Length (m)	Material	Year Installed	Estimated Life	Replacement Year	Total Replacement Costs (2021\$)	Years until Replacement	Annual Lifecycle Contribution	Amount to be included in 10 year Forecast
Watermain	Aldershott at Easement from Grayshott		200mm	366	PVC	2005	80	2085	112,000	65	3,094	-
Watermain	Aldershott Place		150mm	182	PVC	2005	80	2085	55,700	65	1,539	-
Watermain	Goldstein Road		200mm	1,400	PVC	2005	80	2085	428,400	65	11,835	-
Main Valve	New Brailey Line	1	300mm			2005	25	2030	17,300	10	suggested for 10 year capital forecast	17,300
Main Valve	Bayou Road	8	300mm			2005	25	2030	138,700	10	suggested for 10 year capital forecast	138,700
Main Valve	Bayou Road	1	200mm			2005	25	2030	13,300	10	suggested for 10 year capital forecast	13,300
Main Valve	Bayou Road	2	50mm			2005	25	2030	21,400	10	suggested for 10 year capital forecast	21,400
Main Valve	Bell Avenue	2	150mm			2005	25	2030	24,500	10	suggested for 10 year capital forecast	24,500
Main Valve	Hedgemere Landing	1	150mm			2005	25	2030	12,200	10	suggested for 10 year capital forecast	12,200
Main Valve	Grand Tamarack	3	200mm			2005	25	2030	39,800	10	suggested for 10 year capital forecast	39,800
Main Valve	Easement to Webers via Grand Tamarack	1	200mm			2005	25	2030	13,300	10	suggested for 10 year capital forecast	13,300
Main Valve	Shadow Creek	5	150mm			2005	25	2030	61,200	10	suggested for 10 year capital forecast	61,200
Main Valve	Timberline Avenue	6	150mm			2005	25	2030	73,400	10	suggested for 10 year capital forecast	73,400
Main Valve	Westshore Crescent	3	150mm			2005	25	2030	36,700	10	suggested for 10 year capital forecast	36,700
Main Valve	Amigo Drive	2	200mm			2005	25	2030	26,500	10	suggested for 10 year capital forecast	26,500



Table A-2 (Cont'd)

Asset Name	Location	Total #	Size	Length (m)	Material	Year Installed	Estimated Life	Replacement Year	Total Replacement Costs (2021\$)	Years until Replacement	Annual Lifecycle Contribution	Amount to be included in 10 year Forecast
Main Valve	Wood Avenue	3	200mm			2005	25	2030	36,700	10	suggested for 10 year capital forecast	36,700
Main Valve	Wood Avenue	3	150mm			2005	25	2030	39,800	10	suggested for 10 year capital forecast	39,800
Main Valve	Cumberland Road	7	300mm			2005	25	2030	121,400	10	suggested for 10 year capital forecast	121,400
Main Valve	Lakeside Drive	8	300mm			2005	25	2030	138,700	10	suggested for 10 year capital forecast	138,700
Main Valve	Lakeside Drive	4	150mm			2005	25	2030	49,000	10	suggested for 10 year capital forecast	49,000
Main Valve	Beachview Avenue	3	150mm			2005	25	2030	36,700	10	suggested for 10 year capital forecast	36,700
Main Valve	Coronation Avenue	2	150mm			2005	25	2030	24,500	10	suggested for 10 year capital forecast	24,500
Main Valve	Lee Avenue	2	150mm			2005	25	2030	24,500	10	suggested for 10 year capital forecast	24,500
Main Valve	Highview Avenue	3	150mm			2005	25	2030	36,700	10	suggested for 10 year capital forecast	36,700
Main Valve	The Lane	3	150mm			2005	25	2030	36,700	10	suggested for 10 year capital forecast	36,700
Main Valve	Azcona Avenue	4	150mm			2005	25	2030	49,000	10	suggested for 10 year capital forecast	49,000
Main Valve	Buena Vista Drive	4	150mm			2005	25	2030	49,000	10	suggested for 10 year capital forecast	49,000
Main Valve	Armand Avenue	2	150mm			2005	25	2030	24,500	10	suggested for 10 year capital forecast	24,500



Table A-2 (Cont'd)

Asset Name	Location	Total #	Size	Length (m)	Material	Year Installed	Estimated Life	Replacement Year	Total Replacement Costs (2021\$)	Years until Replacement	Annual Lifecycle Contribution	Amount to be included in 10 year Forecast
Main Valve	Highway 11	6	150mm			2005	25	2030	73,400	10	suggested for 10 year capital forecast	73,400
Main Valve	Beckett Place	2	150mm			2005	25	2030	24,500	10	suggested for 10 year capital forecast	24,500
Main Valve	Park Road	2	150mm			2005	25	2030	24,500	10	suggested for 10 year capital forecast	24,500
Main Valve	Cleveland Avenue	2	150mm			2005	25	2030	24,500	10	suggested for 10 year capital forecast	24,500
Main Valve	Pleasant Road	2	150mm			2005	25	2030	24,500	10	suggested for 10 year capital forecast	24,500
Main Valve	Knight Avenue	1	150mm			2005	25	2030	12,200	10	suggested for 10 year capital forecast	12,200
Main Valve	Bramshott Avenue	3	150mm			2005	25	2030	36,700	10	suggested for 10 year capital forecast	36,700
Main Valve	First Street	2	150mm			2005	25	2030	24,500	10	suggested for 10 year capital forecast	24,500
Main Valve	Second Street	2	150mm			2005	25	2030	24,500	10	suggested for 10 year capital forecast	24,500
Main Valve	Third Street	2	150mm			2005	25	2030	24,500	10	suggested for 10 year capital forecast	24,500
Main Valve	Turnbull Drive	4	150mm			2005	25	2030	49,000	10	suggested for 10 year capital forecast	49,000
Main Valve	Grayshott Drive	8	200mm			2005	25	2030	106,100	10	suggested for 10 year capital forecast	106,100
Main Valve	Aldershott at Easement from Grayshott	1	200mm			2005	25	2030	13,300	10	suggested for 10 year capital forecast	13,300



Table A-2 (Cont'd)

Asset Name	Location	Total #	Size	Length (m)	Material	Year Installed	Estimated Life	Replacement Year	Total Replacement Costs (2021\$)	Years until Replacement	Annual Lifecycle Contribution	Amount to be included in 10 year Forecast
Main Valve	Aldershott at Easement from Grayshott	1	150mm			2005	25	2030	12,200	10	suggested for 10 year capital forecast	12,200
Main Valve	Goldstein Road	6	200mm			2005	25	2030	79,600	10	suggested for 10 year capital forecast	79,600
Main Valve	Summerhill at Third Street	1	150mm			2005	25	2030	12,200	10	suggested for 10 year capital forecast	12,200
Main Valve	Summerhill at Brooks Lane	1	150mm			2005	25	2030	12,200	10	suggested for 10 year capital forecast	12,200
Sample Station	Wood Avenue	1			Blue - Test Tap	2018	10	2028	3,300	8	suggested for 10 year capital forecast	3,300
Sample Station	Wood Avenue	1			Green - #88 Station	2005	10	2020	3,300	0	suggested for 10 year capital forecast	3,300
Sample Station	Grand Tamarack	1			Blue - Test Tap	2018	10	2028	3,300	8	suggested for 10 year capital forecast	3,300
Sample Station	Timberline Avenue	1			Blue - Test Tap	2018	10	2028	3,300	8	suggested for 10 year capital forecast	3,300
Sample Station	Westshore Crescent	1			Green - #88 Station	2005	10	2020	3,300	0	suggested for 10 year capital forecast	3,300
Sample Station	Cleveland Avenue	1			Blue - Test Tap	2018	10	2028	3,300	8	suggested for 10 year capital forecast	3,300
Sample Station	Grayshott Drive	1			Green - #88 Station	2005	10	2020	3,300	0	suggested for 10 year capital forecast	3,300
Sample Station	Aldershott Place	1			Blue - Test Tap	2018	10	2028	3,300	8	suggested for 10 year capital forecast	3,300
Sample Station	Turnbull Drive	1			Green - #88 Station	2005	10	2020	3,300	0	suggested for 10 year capital forecast	3,300



Table A-2 (Cont'd)

Asset Name	Location	Total #	Size	Length (m)	Material	Year Installed	Estimated Life	Replacement Year	Total Replacement Costs (2021\$)	Years until Replacement	Annual Lifecycle Contribution	Amount to be included in 10 year Forecast
Sample Station	Highway 11	2			Green - #88 Station	2005	10	2020	6,600	0	suggested for 10 year capital forecast	6,600
Sample Station	Highway 11	1			Blue - Test Tap	2018	10	2028	3,300	8	suggested for 10 year capital forecast	3,300
Fire Hydrant	New Brailey Line	2				2005	60	2065	26,500	45	899	-
Fire Hydrant	Bayou Road	9				2005	60	2065	119,300	45	4,045	-
Fire Hydrant	Hedgmere Landing	1				2005	60	2065	13,300	45	451	-
Fire Hydrant	Grand Tamarack	3				2005	60	2065	39,800	45	1,350	-
Fire Hydrant	Timberline Avenue	7				2005	60	2065	92,800	45	3,147	-
Fire Hydrant	Shadow Creek	8				2005	60	2065	106,100	45	3,598	-
Fire Hydrant	Westshore Crescent	5				2005	60	2065	66,300	45	2,248	-
Fire Hydrant	Amigo Drive	5				2005	60	2065	66,300	45	2,248	-
Fire Hydrant	Wood Avenue	8				2005	60	2065	106,100	45	3,598	-
Fire Hydrant	Couchiching Avenue	1				2005	60	2065	13,300	45	451	-
Fire Hydrant	Point Corazza Vista	1				2005	60	2065	13,300	45	451	-
Fire Hydrant	Highway 11	4				2005	60	2065	53,000	45	1,797	-
Fire Hydrant	Cumberland Road	4				2005	60	2065	53,000	45	1,797	-
Fire Hydrant	Beachview Avenue	2				2005	60	2065	26,500	45	899	-
Fire Hydrant	Coronation Avenue	2				2005	60	2065	26,500	45	899	-
Fire Hydrant	Lee Avenue	2				2005	60	2065	26,500	45	899	-
Fire Hydrant	Lakeside Drive	12				2005	60	2065	159,100	45	5,395	-
Fire Hydrant	Highview Avenue	2				2005	60	2065	26,500	45	899	-
Fire Hydrant	Buena Vista Drive	2				2005	60	2065	26,500	45	899	-
Fire Hydrant	Azcona Avenue	2				2005	60	2065	26,500	45	899	-
Fire Hydrant	Armand Avenue	1				2005	60	2065	13,300	45	451	-
Fire Hydrant	Beckett Place	2				2005	60	2065	26,500	45	899	-
Fire Hydrant	Park Road	2				2005	60	2065	26,500	45	899	-
Fire Hydrant	Cleveland Avenue	1				2005	60	2065	13,300	45	451	-
Fire Hydrant	Pleasant Road	2				2005	60	2065	26,500	45	899	-
Fire Hydrant	Knight Avenue	3				2005	60	2065	39,800	45	1,350	-
Fire Hydrant	Bramshott Avenue	3				2005	60	2065	39,800	45	1,350	-
Fire Hydrant	Third Street	1				2005	60	2065	13,300	45	451	-
Fire Hydrant	Second Street	1				2005	60	2065	13,300	45	451	-
Fire Hydrant	First Street	1				2005	60	2065	13,300	45	451	-
Fire Hydrant	Turnbull Drive	4				2005	60	2065	53,000	45	1,797	-
Fire Hydrant	Grayshott Drive	11				2005	60	2065	145,900	45	4,947	-



Table A-2 (Cont'd)

Asset Name	Location	Total #	Size	Length (m)	Material	Year Installed	Estimated Life	Replacement Year	Total Replacement Costs (2021\$)	Years until Replacement	Annual Lifecycle Contribution	Amount to be included in 10 year Forecast
Fire Hydrant	Brooks Lane	1				2005	60	2065	13,300	45	451	-
Fire Hydrant	Aldershott Place	2				2005	60	2065	26,500	45	899	-
Fire Hydrant	Goldstein Road	10				2005	60	2065	132,600	45	4,496	-
<b>Curb Stop</b>									-		suggested for 10 year capital forecast	-
Box and Rod		900				2005	25	2030	523,300	10	suggested for 10 year capital forecast	523,300
Valve		900				2005	25	2030	3,488,400	10	suggested for 10 year capital forecast	3,488,400
Meter Package	Meter	977			SRII	2009	20	2029	986,600	9	suggested for 10 year capital forecast	986,600
<b>Sub-Total - Westshore</b>									<b>20,986,800</b>		<b>425,632</b>	<b>6,761,800</b>
<b>Total</b>				<b>44,048</b>					<b>41,945,900</b>		<b>1,142,376</b>	<b>8,668,300</b>



Table A-3  
Township of Severn  
Water & Wastewater Fleet Inventory Listing

Asset Type	Asset Name	Description	Manufacturer	Year Installed	Estimated Life	Replacement Year	Total Replacement Costs (2021\$)	Years until Replacement	Annual Lifecycle Contribution	Amount to be included in 10 year Forecast
Trucks:	U01	2018 Colorado	Chevrolet	2018	5	2023	25,500	3	suggested for 10 year capital forecast	25,500
	U02	2020 Colorado	Chevrolet	2020	5	2025	25,500	5	suggested for 10 year capital forecast	25,500
	U03	2020 Colorado	Chevrolet	2020	5	2025	25,500	5	suggested for 10 year capital forecast	25,500
	U04	2,020	Chevrolet	2020	5	2025	35,700	5	suggested for 10 year capital forecast	35,700
	U05	2,014	Chevrolet	2014	5	2020	35,700	0	suggested for 10 year capital forecast	35,700
	U06	2018 Colorado	Chevrolet	2018	5	2023	25,500	3	suggested for 10 year capital forecast	25,500
	U07	0	0	2020	5	2025	51,000	5	suggested for 10 year capital forecast	51,000
	U08	0	0	2016	5	2021	35,700	1	suggested for 10 year capital forecast	35,700
Generators:	Generator 1	Fixed		2019	25	2044	117,300	24	6,202	-
	Generator 2	Fixed		2008	25	2033	30,600	13	2,696	-
	Generator 3	Fixed		2003	25	2028	204,000	8	suggested for 10 year capital forecast	204,000
	Generator 4	Fixed		2006	25	2031	30,600	11	3,127	-
	Generator 5	Fixed		2003	25	2028	20,400	8	suggested for 10 year capital forecast	20,400
	Generator 6	Fixed		2003	25	2028	30,600	8	suggested for 10 year capital forecast	30,600
Other Equipment:	Wachs Valve Trailer			2019	15	2034	204,000	14	16,851	-
<b>Total</b>							<b>897,600</b>		<b>28,876</b>	<b>515,100</b>





# Appendix B

## Wastewater System Inventory Data



# Appendix B: Wastewater System Inventory Data

Table B-1  
Township of Severn  
Wastewater Facilities Inventory Listing

Asset	Asset Name	Description	Capacity	Year Installed	Estimated Life	Replacement Year	Replacement Cost (2021\$)	Years until Replacement	Annual Lifecycle Contribution	Amount to be included in 10 year Forecast
<b>Washago System:</b>										
Lagoon:	Lagoon	3001 Brady Drive	0	1983	100	2083	1,020,000	63	28,620	-
	Manhole for Influent	0	0	1983	75	2058	12,200	38	461	-
	Influent Line	Manhole to Cell 2	0	1983	50	2033	25,500	13	2,247	-
	Cell 2 (small cell)	0	12800m3 total storage capacity	1983	75	2058	355,000	38	13,426	-
	Valve	Cell 2 to Cell 1	0	1983	20	2020	13,300	0	suggested for 10 year capital forecast	13,300
	Cell 1 (large cell)	0	65580m3 total storage capacity	1983	75	2058	1,773,800	38	67,086	-
	Valve	Discharge	0	1983	20	2020	13,300	0	suggested for 10 year capital forecast	13,300
	Discharge Line	0		1983	50	2033	43,400	13	3,824	-
	Discharge Flow Meter	0		2019	10	2029	8,200	9	suggested for 10 year capital forecast	8,200
<b>Sub-Total - Washago</b>							<b>3,264,700</b>		<b>115,665</b>	<b>34,800</b>
<b>Coldwater System:</b>										
General:	Building (Main)			1987	50	2037	408,000	17	28,548	-
	Building (UV)			2006	50	2056	510,000	36	20,009	-
	Building (Sludge)			2006	50	2056	2,040,000	36	80,035	-
	Generator			2006	25	2031	153,000	11	15,633	-
	Outfall			1987	50	2037	227,000	17	15,883	-
Analytical Equipment:	Computer			2019	6	2025	15,300	5	suggested for 10 year capital forecast	15,300
	SCADA / PLC			2019	10	2029	61,200	9	suggested for 10 year capital forecast	61,200
	Auto Dialer			2018	10	2028	3,100	8	suggested for 10 year capital forecast	3,100
	MCC - Napier			1987	50	2037	204,000	17	-	-
	MCC - SBR			2006	50	2056	510,000	36	20,009	-



Table B-1 (Cont'd)

Asset	Asset Name	Description	Capacity	Year Installed	Estimated Life	Replacement Year	Replacement Cost (2021\$)	Years until Replacement	Annual Lifecycle Contribution	Amount to be included in 10 year Forecast
Napier Reid Plant:	Tank			1987	50	2037	102,000	17	7,137	-
	Weir			1987	50	2037	102,000	17	7,137	-
	Scum Arm			1987	50	2037	102,000	17	7,137	-
	Grit Channel			1987	50	2037	102,000	17	7,137	-
	Comminutor			1987	50	2037	102,000	17	7,137	-
SBR Plant:	Anaerobic Tank			2006	50	2056	204,000	36	8,004	-
	SAM Tank			2006	50	2056	204,000	36	8,004	-
	Aerobic Tank			2006	50	2056	204,000	36	8,004	-
	Effluent Tank			2006	50	2056	204,000	36	8,004	-
	Screen Auger			2006	50	2056	204,000	36	8,004	-
Sludge Storage Tank	Tank			2006	50	2056	1,020,000	36	40,018	-
Chemical System:	Alum (Napier Reid)	Chemical Pump x 2		2019	10	2029	15,300	9	suggested for 10 year capital forecast	15,300
	Alum (SBR)	Chemical Pump x 2		2019	10	2029	15,300	9	suggested for 10 year capital forecast	15,300
	Alum	Tank x 2		2006	50	2056	4,100	36	161	-
Pumps:	SBR Jet Pump		Capacity: 70L/s @ 7.3m TDH	2018	5	2023	10,200	3	suggested for 10 year capital forecast	10,200
	SBR - Aspirator		Capacity: 25L/s @ 7.6m TDH	2015	5	2020	7,100	0	suggested for 10 year capital forecast	7,100
	SBR Sludge Pump		Capacity: 1L/s @ 7.7m TDH	2017	5	2022	10,200	2	suggested for 10 year capital forecast	10,200
	SBR Effluent x2		Capacity: 18L/s @ 10m TDH	2010	5	2020	20,400	0	suggested for 10 year capital forecast	20,400
	Sludge Storage Mixing		Capacity: 9.7L/s @ 7.8m TDH	2019	5	2024	30,600	4	suggested for 10 year capital forecast	30,600
	Sludge Storage Decant		Capacity: 11.3L/s @ 2.9m TDH	2015	5	2020	3,100	0	suggested for 10 year capital forecast	3,100
	Napier Reid Digester			2017	5	2022	10,200	2	suggested for 10 year capital forecast	10,200



Table B-1 (Cont'd)

Asset	Asset Name	Description	Capacity	Year Installed	Estimated Life	Replacement Year	Replacement Cost (2021\$)	Years until Replacement	Annual Lifecycle Contribution	Amount to be included in 10 year Forecast
Blowers:	Napier Reid x3		Capacity : 94 L/s @ 3.9m TDH	1987	20	2020	21,400	0	suggested for 10 year capital forecast	21,400
	SBR x 2		Capacity : 80-160 L/s @ 6.5 PSIG TDH	2006	20	2026	12,200	6	suggested for 10 year capital forecast	12,200
	Sludge Storage		Capacity : 110-220 L/s @ 13 PSIG TDH	2006	20	2026	12,200	6	suggested for 10 year capital forecast	12,200
Flow Meters:	Influent			2006	10	2020	2,600	0	suggested for 10 year capital forecast	2,600
	Effluent SBR			2006	10	2020	2,600	0	suggested for 10 year capital forecast	2,600
	Effluent Napier Read			1987	10	2020	3,600	0	suggested for 10 year capital forecast	3,600
	SBR Wasting			2006	10	2020	2,600	0	suggested for 10 year capital forecast	2,600
	SS Supernatant			2006	10	2020	2,600	0	suggested for 10 year capital forecast	2,600
UV System:	UV Treatment			2006	20	2026	51,000	6	suggested for 10 year capital forecast	51,000
Level Sensors:	Level Sensors x 3			2006	5	2020	6,100	0	suggested for 10 year capital forecast	6,100
Indoor Piping Network:	Piping			2006	25	2031	306,000	11	31,266	-
<b>Sub-Total - Coldwater</b>							<b>7,231,000</b>		<b>327,264</b>	<b>318,900</b>
<b>Westshore:</b>										
General:	Building (waste side only)	26ft x 101ft		2003	50	2053	1,020,000	33	42,520	-
	Generator	0		2003	25	2028	204,000	8	suggested for 10 year capital forecast	204,000
	Fuel Tank and Containment	0		2003	30	2033	4,100	13	361	-
Outfall:	Outfall	2245m		2005	50	2055	1,145,000	35	45,803	-
Analytical Equipment:	Auto Dialer	Sensaphone Express II		2018	10	2028	3,100	8	suggested for 10 year capital forecast	3,100
	Computer			2019	6	2025	15,300	5	suggested for 10 year capital forecast	15,300
	PLC / SCADA	CompactLogix		2019	10	2029	91,800	9	suggested for 10 year capital forecast	91,800
	MCC			2003	50	2053	510,000	33	21,260	-



Table B-1 (Cont'd)

Asset	Asset Name	Description	Capacity	Year Installed	Estimated Life	Replacement Year	Replacement Cost (2021\$)	Years until Replacement	Annual Lifecycle Contribution	Amount to be included in 10 year Forecast
SBR Plant:	SBR 1	16m x 8m x 6.11m = 782.08m <sup>3</sup>	700m <sup>3</sup> capacity	2003	50	2053	255,000	33	10,630	-
	SBR 2	16m x 8m x 6.11m = 782.08m <sup>3</sup>	700m <sup>3</sup> capacity	2003	50	2053	255,000	33	10,630	-
	Screen Auger	0		2003	30	2033	102,000	13	8,988	-
Tanks:	Equalization Tank	16.5m x 4.75m x 6.11m = 487.87m <sup>3</sup>	211m <sup>3</sup> working volume	2003	50	2053	408,000	33	17,008	-
	Final Effluent Chamber	3.46m x 2.1m x 4.98m = 36.18m <sup>3</sup>		2003	50	2053	204,000	33	8,504	-
	Reject Tank	2.16m x 2.16m x 4.98m = 23.23m <sup>3</sup>		2003	50	2053	204,000	33	8,504	-
	Supernatant Tank	3.67m x 1.3m x 7.705m = 36.76m <sup>3</sup>		2003	50	2053	102,000	33	4,252	-
	Sludge Transfer Tank	3.67m x 1.3m x 6.71m = 32.01m <sup>3</sup>		2003	50	2053	102,000	33	4,252	-
	Digesters x 2	8m x 3.67m x 6.11m = 179.39m <sup>3</sup>		2003	50	2053	408,000	33	17,008	-
	Sludge Storage x 2	17.65m x 8m x 6.11m = 862.73m <sup>3</sup>		2003	50	2053	714,000	33	29,764	-
Parkson Filters:	Filter Train x 2	4.32m x 2.16m x 5.96m = 55.61m <sup>3</sup>		2003	50	2053	408,000	33	17,008	-
	Media			2010	10	2020	30,600	0	suggested for 10 year capital forecast	30,600
	Air Lifts			2019	3	2022	8,200	2	suggested for 10 year capital forecast	8,200
Chemical System:	Alum - Bulk Storage	Chemical Pump x 2		2003	10	2020	15,300	0	suggested for 10 year capital forecast	15,300
Chemical Storage Tanks:	Alum - Bulk Storage	Supplier Aco Containers	24000L	2003	50	2053	10,200	33	425	-
	Alum - Day Tank	Supplier Aco Containers	450L	2003	50	2053	500	33	21	-



Table B-1 (Cont'd)

Asset	Asset Name	Description	Capacity	Year Installed	Estimated Life	Replacement Year	Replacement Cost (2021\$)	Years until Replacement	Annual Lifecycle Contribution	Amount to be included in 10 year Forecast
Pumps:	SBR 1 Jet	79 L/s	9.0kW, 575 V / 3.60 Hz	2017	5	2022	20,400	2	suggested for 10 year capital forecast	20,400
	SBR 2 Jet	79 L/s	9.0kW, 575 V / 3.60 Hz	2016	5	2021	20,400	1	suggested for 10 year capital forecast	20,400
	SBR 1 Waste	4.6 L/s @ 4m TDH	2.25 kW, 575 V / 3 / 60Hz	2017	5	2022	10,200	2	suggested for 10 year capital forecast	10,200
	SBR 2 Waste	4.6 L/s @ 4m TDH	2.25 kW, 575 V / 3 / 60Hz	2016	5	2021	10,200	1	suggested for 10 year capital forecast	10,200
	Equalization 1	25 L/s @ 6.5m TDH	3.5 kW, 575 V / 3 / 60Hz	2019	5	2024	8,200	4	suggested for 10 year capital forecast	8,200
	Equalization 2	26 L/s @ 6.5m TDH	3.5 kW, 575 V / 3 / 60Hz	2010	5	2020	8,200	0	suggested for 10 year capital forecast	8,200
	Reject 1	7.0 L/s @ 9m TDH	2.5 kW, 575 V / 3 / 60Hz	2019	5	2024	8,200	4	suggested for 10 year capital forecast	8,200
	Reject 2	7.0 L/s @ 9m TDH	2.5 kW, 575 V / 3 / 60Hz	2010	5	2020	8,200	0	suggested for 10 year capital forecast	8,200
	Effluent 1	44.2 L/s @ 5m TDH	3.5 kW, 575 V / 3 / 60Hz	2018	5	2023	10,200	3	suggested for 10 year capital forecast	10,200
	Effluent 2	44.2 L/s @ 5m TDH	3.5 kW, 575 V / 3 / 60Hz	2010	5	2020	10,200	0	suggested for 10 year capital forecast	10,200
	Supernatant	7.0 L/s @ 9m TDH	2.5 kW, 575 V / 3 / 60Hz	2013	5	2020	7,100	0	suggested for 10 year capital forecast	7,100
	Sludge Transfer	32.0 L/s @ 11.7m TDH	7.5 kW, 575 V / 3 / 60Hz	2012	5	2020	7,100	0	suggested for 10 year capital forecast	7,100
Blowers:	SBR 1			2003	20	2023	6,100	3	suggested for 10 year capital forecast	6,100
	SBR 2			2003	20	2023	6,100	3	suggested for 10 year capital forecast	6,100
	Digesters 1			2003	20	2023	6,100	3	suggested for 10 year capital forecast	6,100
	Digesters 2			2003	20	2023	6,100	3	suggested for 10 year capital forecast	6,100
	Sludge Storage			2003	20	2023	6,100	3	suggested for 10 year capital forecast	6,100
	Standby			2003	20	2023	6,100	3	suggested for 10 year capital forecast	6,100
Flow Meters:	Influent			2003	10	2020	6,100	0	suggested for 10 year capital forecast	6,100
	Effluent			2003	10	2020	5,100	0	suggested for 10 year capital forecast	5,100



Table B-1 (Cont'd)

Asset	Asset Name	Description	Capacity	Year Installed	Estimated Life	Replacement Year	Replacement Cost (2021\$)	Years until Replacement	Annual Lifecycle Contribution	Amount to be included in 10 year Forecast
UV System:	UV Treatment			2003	20	2023	51,000	3	suggested for 10 year capital forecast	51,000
DO Probes:	DO and Temperature Probes x 2			2003	10	2020	4,100	0	suggested for 10 year capital forecast	4,100
Level Sensors:	Level Sensors x 10			2003	5	2020	20,400	0	suggested for 10 year capital forecast	20,400
Indoor Piping Network:	Piping			2003	25	2028	510,000	8	suggested for 10 year capital forecast	510,000
<b>Sub-Total - Westshore</b>							<b>6,982,000</b>		<b>246,939</b>	<b>1,130,200</b>
<b>Total</b>							<b>17,477,700</b>		<b>689,867</b>	<b>1,483,900</b>



**Table B-2  
Township of Severn  
Sanitary Sewers Inventory**

Description	Asset Name	Location	Size	Length (km)	Length (m)	Diameter (mm)	Material	Year Installed	Estimated Life	Replacement Year	Total Main Replacement Costs (2021\$)	Years until Replacement	Annual Lifecycle Contribution	Amount to be included in 10 year Forecast
<b>Washago System:</b>														
	Connections							1984		2020	591,600	0	suggested for 10 year capital forecast	591,600
	Structure	3457 Muskoka Street	0			tba	0	1984	50	2034	51,000	14	4,213	-
	Panel		0			tba	0	2019	25	2044	30,600	24	1,618	-
	Pump 1	3457 Muskoka Street	3~ 60Hz / 600V / 10hp / 9.7FLA			tba	Flygt , Model: 3127	2017	5	2022	15,300	2	suggested for 10 year capital forecast	15,300
	Pump 2		3~ 60Hz / 600V / 10hp / 9.7FLA			tba	Flygt , Model: 3127.181-4358	2009	5	2020	15,300	0	suggested for 10 year capital forecast	15,300
	Structure	3337 Albany Street	0			tba	0	1984	50	2034	51,000	14	4,213	-
	Panel		0			tba	0	1984	25	2020	30,600	0	suggested for 10 year capital forecast	30,600
	Pump 1	3337 Albany Street	1~ 60Hz / 230V / 4hp /16FLA			tba	Flygt, Model: 3102	2017	5	2022	10,200	2	suggested for 10 year capital forecast	10,200
	Pump 2		1~ 60Hz / 230V / 4hp /16FLA			tba	Flygt, Model: 3102.160	2010	5	2020	10,200	0	suggested for 10 year capital forecast	10,200
	Structure	3233 Muskoka Street	0			tba	0	1984	50	2034	51,000	14	4,213	-
	Panel		0			tba	0	2009	25	2034	30,600	14	2,528	-
	Pump 1	3233 Muskoka Street	1~ 60Hz / 230V / 3.8hp /17FLA			tba	Flygt, Model: 3102.180	2009	5	2020	10,200	0	suggested for 10 year capital forecast	10,200
	Pump 2		1~ 60Hz / 230V / 3.8hp /17FLA			tba	Flygt, Model: 3102.180	2010	5	2020	10,200	0	suggested for 10 year capital forecast	10,200
	Sewer Main	Quetton Street	200mm		234	tba	PVC	1984	80	2064	59,700	44	2,053	-
	Sewer Main	Quetton Street to PS#1	200mm		123	tba	PVC	1984	80	2064	31,400	44	1,080	-
	Sewer Main	Muskoka Street	200mm		1,092	tba	PVC	1984	80	2064	278,500	44	9,577	-
	Sewer Main	County Road 169	200mm		249	tba	PVC	1984	80	2064	63,500	44	2,184	-
	Sewer Main	Easement to Hamilton Street	200mm		177	tba	PVC	1984	80	2064	45,100	44	1,551	-
	Sewer Main	Hepinstall Landing	200mm		295	tba	PVC	1984	80	2064	75,200	44	2,586	-





Table B-2 (Cont'd)

Description	Asset Name	Location	Size	Length (km)	Length (m)	Diameter (mm)	Material	Year Installed	Estimated Life	Replacement Year	Total Main Replacement Costs (2021\$)	Years until Replacement	Annual Lifecycle Contribution	Amount to be included in 10 year Forecast
	Sewer Main	Hendi Lane	200mm		80	tba	PVC	1984	80	2064	20,400	44	702	-
	Sewer Main	Albany Street	200mm		115	tba	PVC	1984	80	2064	29,300	44	1,008	-
	Sewer Main	Edgar Street	200mm		74	tba	PVC	1984	80	2064	18,900	44	650	-
	Sewer Main	Ramsay Street	200mm		78	tba	PVC	1984	80	2064	19,900	44	684	-
	Force Main	PS#1 to Lagoon	150mm		1,606	tba	PVC	1984	80	2064	819,100	44	28,167	-
	Force Main	PS#2 to MH 13	100mm		100	tba	PVC	1984	80	2064	51,000	44	1,754	-
	Force Main	PS#3 to MH 15	100mm		305	tba	PVC	1984	80	2064	155,600	44	5,351	-
	Manhole	Quetton Street				tba		1984	50	2034	49,000	14	4,047	-
	Manhole	County Road 169				tba		1984	50	2034	61,200	14	5,055	-
	Manhole	Easement to Hamilton Street				tba		1984	50	2034	24,500	14	2,024	-
	Manhole	Hepinstall Landing				tba		1984	50	2034	61,200	14	5,055	-
	Manhole	Hendi Lane				tba		1984	50	2034	12,200	14	1,008	-
	Manhole	Albany Street				tba		1984	50	2034	61,200	14	5,055	-
	Manhole	Edgar Street				tba		1984	50	2034	12,200	14	1,008	-
	Manhole	Ramsay Street				tba		1984	50	2034	12,200	14	1,008	-
	Manhole	Muskoka Street				tba		1984	50	2034	110,200	14	9,103	-
<b>Total for Washago</b>					<b>4,528</b>						<b>2,979,300</b>		<b>107,492</b>	<b>102,000</b>
<b>Coldwater System:</b>														
	Connections					tba		1987		2020	2,881,500	0	suggested for 10 year capital forecast	2,881,500
	Structure					tba		1987	50	2037	51,000	17	3,568	-
	Panel					tba		2013	25	2038	30,600	18	2,041	-
SPS #1 Main	Pump 1	74 River Street	3~60Hz / 575V / 10hp / 10.4FLA			tba		2010	5	2020	15,300	0	suggested for 10 year capital forecast	15,300
	Pump 2		3~60Hz / 575V / 10hp / 10.4FLA			tba		2010	5	2020	15,300	0	suggested for 10 year capital forecast	15,300
	Pump 3					tba		2016	5	2021	15,300	1	suggested for 10 year capital forecast	15,300
SPS#2 (Hardware)	Structure	2 River Street				tba		1987	50	2037	51,000	17	3,568	-
	Panel					tba		2009	25	2034	30,600	14	2,528	-
	Pump 1					tba		2009	5	2020	10,200	0	suggested for 10 year capital forecast	10,200
	Pump 2					tba		2009	5	2020	10,200	0	suggested for 10 year capital forecast	10,200



Table B-2 (Cont'd)

Description	Asset Name	Location	Size	Length (km)	Length (m)	Diameter (mm)	Material	Year Installed	Estimated Life	Replacement Year	Total Main Replacement Costs (2021\$)	Years until Replacement	Annual Lifecycle Contribution	Amount to be included in 10 year Forecast	
SPS#3 (Reinbird)	Structure	8 Reinbird Street				tba		1987	50	2037	51,000	17	3,568	-	
	Panel					tba		2017	25	2042	30,600	22	1,733	-	
	Pump 1		3-60Hz /230V / 5hp / 14FLA				Flygt, Model: 3102.160-1465		2017	5	2022	6,100	2	suggested for 10 year capital forecast	6,100
SPS#4 (Community Centre)	Structure	1 Community Centre Drive				tba		1987	50	2037	51,000	17	3,568	-	
	Panel					tba		2018	25	2043	30,600	23	1,673	-	
	Pump 1		3-60Hz /600V / 5hp / 5FLA				Flygt, Model: 3102.180-6001		2010	5	2020	10,200	0	suggested for 10 year capital forecast	10,200
SPS#5 (Donlands Court)	Structure	68 Donlands Court				tba		1987	50	2037	51,000	17	3,568	-	
	Panel					tba		2020	25	2045	30,600	25	1,567	-	
	Pump 1		3-60Hz /230V / 2hp / 10FLA				Flygt, Model: 3068.170-0249		2008	5	2020	3,100	0	suggested for 10 year capital forecast	3,100
	Pump 2		3-60Hz /230V / 2hp / 10FLA				Flygt, Model: 3068.170		2008	5	2020	3,100	0	suggested for 10 year capital forecast	3,100
Sewer Main	Anderson Line	200mm		77	tba	PVC	1987	50	2037	19,600	17	1,371	-		
Sewer Main	Brick Pond	200mm		625	tba	PVC	1987	50	2037	159,400	17	11,153	-		
Sewer Main	Brick Pond	250mm		73	tba	Asbestos Cement	1987	80	2067	18,600	47	614	-		
Sewer Main	Bush Street	200mm		159	tba	Asbestos Cement	1987	80	2067	40,500	47	1,337	-		
Sewer Main	Charles Street	200mm		148	tba	Asbestos Cement	1987	80	2067	37,700	47	1,245	-		
Sewer Main	Coldwater Road	200mm		48	tba	Asbestos Cement	1987	80	2067	12,200	47	403	-		
Sewer Main	Coldwater Road	300mm		525	tba	Asbestos Cement	1987	80	2067	133,900	47	4,421	-		
Sewer Main	Coldwater Road	375mm		192	tba	Asbestos Cement	1987	80	2067	49,000	47	1,618	-		
Sewer Main	Community Centre	200mm		190	tba	Asbestos Cement	1987	80	2067	48,500	47	1,601	-		
Sewer Main	Community Centre	200mm		49	tba	Concrete	1987	80	2067	12,500	47	413	-		
Sewer Main	Craddock Street	200mm		261	tba	Asbestos Cement	1987	80	2067	66,600	47	2,199	-		
Sewer Main	Cyril Martin Place	200mm		112	tba	Asbestos Cement	1987	80	2067	28,600	47	944	-		



Table B-2 (Cont'd)

Description	Asset Name	Location	Size	Length (km)	Length (m)	Diameter (mm)	Material	Year Installed	Estimated Life	Replacement Year	Total Main Replacement Costs (2021\$)	Years until Replacement	Annual Lifecycle Contribution	Amount to be included in 10 year Forecast
	Sewer Main	Donlands Court	200mm		170	tba	PVC	1987	80	2067	43,400	47	1,433	-
	Sewer Main	Earls Court	200mm		82	tba	PVC	1987	80	2067	20,900	47	690	-
	Sewer Main	Eplett Street	200mm		373	tba	Asbestos Cement	1987	80	2067	95,100	47	3,140	-
	Sewer Main	Firehall Lane	200mm		140	tba	Asbestos Cement	1987	80	2067	35,700	47	1,179	-
	Sewer Main	George Street	200mm		205	tba	Asbestos Cement	1987	80	2067	52,300	47	1,727	-
	Sewer Main	Gill Street	200mm		255	tba	Asbestos Cement	1987	80	2067	65,000	47	2,146	-
	Sewer Main	Gray Street	200mm		256	tba	Asbestos Cement	1987	80	2067	65,300	47	2,156	-
	Sewer Main	Gray Street	250mm		530	tba	Asbestos Cement	1987	80	2067	135,200	47	4,464	-
	Sewer Main	Harriet Street	200mm		242	tba	Asbestos Cement	1987	80	2067	61,700	47	2,037	-
	Sewer Main	John Street	200mm		330	tba	Asbestos Cement	1987	80	2067	84,200	47	2,780	-
	Sewer Main	John Street	200mm		374	tba	PVC	1987	80	2067	95,400	47	3,150	-
	Sewer Main	Lynch Street	200mm		195	tba	Asbestos Cement	1987	80	2067	49,700	47	1,641	-
	Sewer Main	Michael Anne Drive	200mm		162	tba	Asbestos Cement	1987	80	2067	41,300	47	1,364	-
	Sewer Main	Mill Street	200mm		62	tba	Asbestos Cement	1987	80	2067	15,800	47	522	-
	Sewer Main	Reinbird Street	200mm		135	tba	Asbestos Cement	1987	80	2067	34,400	47	1,136	-
	Sewer Main	River Street	300mm		124	tba	Asbestos Cement	1987	80	2067	31,600	47	1,043	-
	Sewer Main	River Street	375mm		791	tba	Asbestos Cement	1987	80	2067	201,700	47	6,660	-
	Sewer Main	Sheppard Street	200mm		155	tba	Asbestos Cement	1987	80	2067	39,500	47	1,304	-
	Sewer Main	Sturgeon Bay Road	375mm		89	tba	Concrete	1987	80	2067	22,700	47	750	-
	Sewer Main	Sturgeon Bay Road	250mm		262	tba	Asbestos Cement	1987	80	2067	66,800	47	2,206	-
	Sewer Main	Sunset Crescent	200mm		165	tba	Asbestos Cement	1987	80	2067	42,100	47	1,390	-
	Sewer Main	West Street	200mm		201	tba	Asbestos Cement	1987	80	2067	51,300	47	1,694	-
	Sewer Main	Wyley Street	200mm		128	tba	Asbestos Cement	1987	80	2067	32,600	47	1,076	-



Table B-2 (Cont'd)

Description	Asset Name	Location	Size	Length (km)	Length (m)	Diameter (mm)	Material	Year Installed	Estimated Life	Replacement Year	Total Main Replacement Costs (2021\$)	Years until Replacement	Annual Lifecycle Contribution	Amount to be included in 10 year Forecast
	Force Main	SPS #1 (Main) - WPCP Plant	150mm (6")		768	tba		1987	50	2037	391,700	17	27,407	-
	Force Main	SPS #3 (Reinbird) - MH #66	100mm (4")		31	tba		1987	50	2037	15,800	17	1,106	-
	Force Main	SPS #2 (Hardware) - MH #63	0		15	tba		1987	50	2037	7,700	17	539	-
	Force Main	SPS #4 (Community Centre) - MH #56	150mm (6")		128	tba		1987	50	2037	65,300	17	4,569	-
	Force Main	SPS #5 (Donlands Court) - MH #11	50mm		145	tba		1987	50	2037	74,000	17	5,178	-
	Manhole	River Street				tba		1987	50	2037	146,900	17	10,279	-
	Manhole	Reinbird Street				tba		1987	50	2037	36,700	17	2,568	-
	Manhole	Lynch Street				tba		1987	50	2037	24,500	17	1,714	-
	Manhole	Harriet Street				tba		1987	50	2037	24,500	17	1,714	-
	Manhole	Cyril Martin Place				tba		1987	50	2037	12,200	17	854	-
	Manhole	Craddock Street				tba		1987	50	2037	36,700	17	2,568	-
	Manhole	Brick Pond Road				tba		1987	50	2037	97,900	17	6,850	-
	Manhole	John Street				tba		1987	50	2037	110,200	17	7,711	-
	Manhole	Earls Court				tba		1987	50	2037	12,200	17	854	-
	Manhole	Wyley Street				tba		1987	50	2037	24,500	17	1,714	-
	Manhole	Gray Street				tba		1987	50	2037	122,400	17	8,564	-
	Manhole	Donlands Court				tba		1987	50	2037	36,700	17	2,568	-
	Manhole	George Street				tba		1987	50	2037	36,700	17	2,568	-
	Manhole	Firehall Lane				tba		1987	50	2037	12,200	17	854	-
	Manhole	Michael Anne Drive				tba		1987	50	2037	24,500	17	1,714	-
	Manhole	Coldwater Road				tba		1987	50	2037	134,600	17	9,418	-
	Manhole	Community Centre Drive				tba		1987	50	2037	36,700	17	2,568	-
	Manhole	Sunset Crescent				tba		1987	50	2037	24,500	17	1,714	-
	Manhole	Gill Street				tba		1987	50	2037	49,000	17	3,429	-
	Manhole	Sturgeon Bay Road				tba		1987	50	2037	85,700	17	5,996	-
	Manhole	Charles Street				tba		1987	50	2037	24,500	17	1,714	-
	Manhole	West Street				tba		1987	50	2037	12,200	17	854	-
	Manhole	Bush Street				tba		1987	50	2037	24,500	17	1,714	-
	Manhole	Mill Street				tba		1987	50	2037	12,200	17	854	-
	Manhole	Eplett Street				tba		1987	50	2037	49,000	17	3,429	-
	Manhole	Sheridan Street				tba		1987	50	2037	24,500	17	1,714	-
<b>Sub-Total - Coldwater</b>					<b>8,972</b>						<b>7,179,800</b>		<b>225,686</b>	<b>2,970,300</b>



Table B-2 (Cont'd)

Description	Asset Name	Location	Size	Length (km)	Length (m)	Diameter (mm)	Material	Year Installed	Estimated Life	Replacement Year	Total Main Replacement Costs (2021\$)	Years until Replacement	Annual Lifecycle Contribution	Amount to be included in 10 year Forecast
<b>Westshore:</b>														
	Connections					tba		2005	80	2085	4,982,700	65	137,653	-
Sewage Pump Stations														
Main SPS	Structure	2700 Cumberland Road				tba		2005	50	2055	51,000	35	2,040	-
	Panel					tba		2005	25	2030	30,600	10	suggested for 10 year capital forecast	30,600
	Pump 1		3-60Hz / 600V / 15hp / 15FLA			tba		2018	5	2023	20,400	3	suggested for 10 year capital forecast	20,400
	Pump 2		3-60Hz / 600V / 15hp / 15FLA			tba		2019	5	2024	20,400	4	suggested for 10 year capital forecast	20,400
Wood SPS	Structure	3739 Wood Avenue				tba		2005	50	2055	51,000	35	2,040	-
	Panel					tba		2005	25	2030	30,600	10	suggested for 10 year capital forecast	30,600
	Pump 1		1-60Hz / 230V / 4hp / 16FLA			tba		2005	5	2020	8,200	0	suggested for 10 year capital forecast	8,200
	Pump 2		1-60Hz / 230V / 4hp / 16FLA			tba		2005	5	2020	8,200	0	suggested for 10 year capital forecast	8,200
Timberline SPS	Structure	3530 Shadow Creek Road				tba		2005	50	2055	51,000	35	2,040	-
	Panel					tba		2005	25	2030	30,600	10	suggested for 10 year capital forecast	30,600
	Pump 1					tba		2005	5	2020	8,200	0	suggested for 10 year capital forecast	8,200
	Pump 2					tba		2005	5	2020	8,200	0	suggested for 10 year capital forecast	8,200
Bayou SPS	Structure	3576 Bayou Road				tba		2005	50	2055	51,000	35	2,040	-
	Panel					tba		2005	25	2030	30,600	10	suggested for 10 year capital forecast	30,600
	Pump 1		1-60Hz / 230V / 7.5hp / 30FLA			tba	Flygt, Model : 3127.181-5182	2005	5	2020	12,200	0	suggested for 10 year capital forecast	12,200
	Pump 2		1-60Hz / 230V / 7.5hp / 30FLA			tba	Flygt, Model : 3127.181-5182	2005	5	2020	12,200	0	suggested for 10 year capital forecast	12,200



Table B-2 (Cont'd)

Description	Asset Name	Location	Size	Length (km)	Length (m)	Diameter (mm)	Material	Year Installed	Estimated Life	Replacement Year	Total Main Replacement Costs (2021\$)	Years until Replacement	Annual Lifecycle Contribution	Amount to be included in 10 year Forecast	
Lakeside SPS	Structure	2779 Lakeside Drive				tba		2005	50	2055	51,000	35	2,040	-	
	Panel					tba		2005	25	2030	30,600	10	suggested for 10 year capital forecast	30,600	
	Pump 1		1-60Hz / 230V / 7.5hp / 30FLA			tba	Flygt, Model : 3127.180-6269	2005	5	2020	12,200	0	suggested for 10 year capital forecast	12,200	
	Pump 2		1-60Hz / 230V / 7.5hp / 30FLA			tba	Flygt, Model : 3127.180-6269	2005	5	2020	12,200	0	suggested for 10 year capital forecast	12,200	
	Structure					tba		2005	50	2055	51,000	35	2,040	-	
Bramshott SPS	Panel	3014 Lakeside Drive				tba		2005	25	2030	30,600	10	suggested for 10 year capital forecast	30,600	
	Pump 1		1-60Hz / 230V / 2.4hp / 10FLA			tba	Flygt, Model : 3085.183-1045	2005	5	2020	9,200	0	suggested for 10 year capital forecast	9,200	
	Pump 2		1-60Hz / 230V / 2.4hp / 10FLA			tba	Flygt, Model : 3085.183-1045	2005	5	2020	9,200	0	suggested for 10 year capital forecast	9,200	
	Structure					tba		2005	50	2055	51,000	35	2,040	-	
Grayshott SPS	Panel	410 Grayshott Drive				tba		2005	25	2030	30,600	10	suggested for 10 year capital forecast	30,600	
	Pump 1		1-60Hz / 230V / 7.5hp / 30FLA			tba	Flygt, Model : 3068.170-0746	2005	5	2020	9,200	0	suggested for 10 year capital forecast	9,200	
	Pump 2		1-60Hz / 230V / 7.5hp / 30FLA			tba	Flygt, Model : 3069.170-0355	2005	5	2020	9,200	0	suggested for 10 year capital forecast	9,200	
	Structure					tba		2005	50	2055	51,000	35	2,040	-	
Aldershott SPS	Panel	3314 Aldershott Place				tba		2005	25	2030	30,600	10	suggested for 10 year capital forecast	30,600	
	Pump 1		1-60Hz / 230V / 2.3hp / 10FLA			tba	Flygt, Model : 3068.170-0746	2005	5	2020	3,100	0	suggested for 10 year capital forecast	3,100	
	Pump 2		1-60Hz / 230V / 2.3hp / 10FLA			tba	Flygt, Model : 3069.170-0355	2005	5	2020	3,100	0	suggested for 10 year capital forecast	3,100	
	Sewer Main		Aldershott Place	200mm		172	tba	PVC	2005	80	2085	43,900	65	1,213	-
	Sewer Main		Armand Avenue	200mm		225	tba	PVC	2005	80	2085	57,400	65	1,586	-
Sewer Main	Azcona Avenue	200mm		269	tba	PVC	2005	80	2085	68,600	65	1,895	-		
Sewer Main	Bayou Road	200mm		531	tba	PVC	2005	80	2085	135,400	65	3,741	-		



Table B-2 (Cont'd)

Description	Asset Name	Location	Size	Length (km)	Length (m)	Diameter (mm)	Material	Year Installed	Estimated Life	Replacement Year	Total Main Replacement Costs (2021\$)	Years until Replacement	Annual Lifecycle Contribution	Amount to be included in 10 year Forecast
Sewer Main		Bayou Road	250mm		796	tba	PVC	2005	80	2085	203,100	65	5,611	-
Sewer Main		Beachview Avenue	200mm		383	tba	PVC	2005	80	2085	97,700	65	2,699	-
Sewer Main		Beckett Place	200mm		205	tba	PVC	2005	80	2085	52,300	65	1,445	-
Sewer Main		Bramshott Avenue	200mm		408	tba	PVC	2005	80	2085	104,000	65	2,873	-
Sewer Main		Brooks Lane	200mm		81	tba	PVC	2005	80	2085	20,700	65	572	-
Sewer Main		Buena Vista Drive	200mm		164	tba	PVC	2005	80	2085	41,800	65	1,155	-
Sewer Main		Cleveland Avenue	200mm		168	tba	PVC	2005	80	2085	42,800	65	1,182	-
Sewer Main		Coronation Avenue	200mm		478	tba	PVC	2005	80	2085	121,900	65	3,368	-
Sewer Main		Cumberland Avenue	250mm		622	tba	PVC	2005	80	2085	158,600	65	4,382	-
Sewer Main		First Street	200mm		147	tba	PVC	2005	80	2085	37,500	65	1,036	-
Sewer Main		Goldstein Road	200mm		1,404	tba	PVC	2005	80	2085	358,000	65	9,890	-
Sewer Main		Grand Tamarack Crescent	200mm		501	tba	PVC	2005	80	2085	127,800	65	3,531	-
Sewer Main		Grayshott Drive	200mm		882	tba	PVC	2005	80	2085	224,900	65	6,213	-
Sewer Main		Hedgemere Landing	200mm		61	tba	PVC	2005	80	2085	15,600	65	431	-
Sewer Main		Highview Avenue	200mm		390	tba	PVC	2005	80	2085	99,500	65	2,749	-
Sewer Main		Highway 11	200mm		251	tba	PVC	2005	80	2085	64,000	65	1,768	-
Sewer Main		Knight Avenue	200mm		258	tba	PVC	2005	80	2085	65,800	65	1,818	-
Sewer Main		Lakeside Drive	250mm		317	tba	PVC	2005	80	2085	80,800	65	2,232	-
Sewer Main		Lakeside Drive	200mm		1,175	tba	PVC	2005	80	2085	299,600	65	8,277	-
Sewer Main		Lee Avenue	200mm		252	tba	PVC	2005	80	2085	64,300	65	1,776	-
Sewer Main		Park Road	200mm		165	tba	PVC	2005	80	2085	42,100	65	1,163	-
Sewer Main		Pleasant Road	200mm		215	tba	PVC	2005	80	2085	54,800	65	1,514	-
Sewer Main		Point Corazza Drive	200mm		53	tba	PVC	2005	80	2085	13,500	65	373	-
Sewer Main		Second Street	200mm		103	tba	PVC	2005	80	2085	26,300	65	727	-
Sewer Main		Shadow Creek Road	200mm		1,143	tba	PVC	2005	80	2085	291,500	65	8,053	-
Sewer Main		The Lane	200mm		230	tba	PVC	2005	80	2085	58,700	65	1,622	-
Sewer Main		Third Street	200mm		133	tba	PVC	2005	80	2085	33,900	65	937	-
Sewer Main		Timberline Avenue	200mm		891	tba	PVC	2005	80	2085	227,200	65	6,277	-
Sewer Main		Turnbull Drive	200mm		423	tba	PVC	2005	80	2085	107,900	65	2,981	-
Sewer Main		Westshore Crescent	200mm		584	tba	PVC	2005	80	2085	148,900	65	4,114	-
Sewer Main		Wood Avenue	200mm		889	tba	PVC	2005	80	2085	226,700	65	6,263	-
Force Main		Aldershott	100mm		1,030			2005	50	2055	525,300	35	21,013	-
Force Main		Grayshott	150mm		500			2005	50	2055	255,000	35	10,201	-
Force Main		Bramshott	150mm		240			2005	50	2055	122,400	35	4,896	-
Force Main		Lakeside	150mm		420			2005	50	2055	214,200	35	8,568	-



Table B-2 (Cont'd)

Description	Asset Name	Location	Size	Length (km)	Length (m)	Diameter (mm)	Material	Year Installed	Estimated Life	Replace ment Year	Total Main Replacement Costs (2021\$)	Years until Replacement	Annual Lifecycle Contribution	Amount to be included in 10 year Forecast
	Force Main	Main	250mm		665			2005	50	2055	339,200	35	13,569	-
	Force Main	Bayou	150mm		496			2005	50	2055	253,000	35	10,121	-
	Force Main	Timberline	100mm		320			2005	50	2055	163,200	35	6,528	-
	Force Main	Wood	150mm		844			2005	50	2055	430,400	35	17,217	-
	Manhole	Aldershatt Place						2005	50	2055	12,200	35	488	-
	Manhole	Armand Avenue						2005	50	2055	24,500	35	980	-
	Manhole	Azcona Avenue						2005	50	2055	36,700	35	1,468	-
	Manhole	Bayou Road						2005	50	2055	244,800	35	9,793	-
	Manhole	Beachview Avenue						2005	50	2055	49,000	35	1,960	-
	Manhole	Beckett Place						2005	50	2055	24,500	35	980	-
	Manhole	Bramshott Avenue						2005	50	2055	49,000	35	1,960	-
	Manhole	Brooks Lane						2005	50	2055	12,200	35	488	-
	Manhole	Buena Vista Drive						2005	50	2055	24,500	35	980	-
	Manhole	Cleveland Avenue						2005	50	2055	24,500	35	980	-
	Manhole	Coronation Avenue						2005	50	2055	49,000	35	1,960	-
	Manhole	Cumberland Avenue						2005	50	2055	73,400	35	2,936	-
	Manhole	First Street						2005	50	2055	24,500	35	980	-
	Manhole	Goldstein Road						2005	50	2055	171,400	35	6,856	-
	Manhole	Grand Tamarack Crescent						2005	50	2055	85,700	35	3,428	-
	Manhole	Grayshott Drive						2005	50	2055	134,600	35	5,384	-
	Manhole	Highview Avenue						2005	50	2055	49,000	35	1,960	-
	Manhole	Highway 11						2005	50	2055	49,000	35	1,960	-
	Manhole	Knight Avenue						2005	50	2055	36,700	35	1,468	-
	Manhole	Lakeside Drive						2005	50	2055	293,800	35	11,753	-
	Manhole	Lee Avenue						2005	50	2055	49,000	35	1,960	-
	Manhole	Park Road						2005	50	2055	24,500	35	980	-
	Manhole	Pleasant Road						2005	50	2055	36,700	35	1,468	-
	Manhole	Point Corazza Drive						2005	50	2055	12,200	35	488	-
	Manhole	Second Street						2005	50	2055	24,500	35	980	-
	Manhole	Shadow Creek Road						2005	50	2055	171,400	35	6,856	-
	Manhole	The Lane						2005	50	2055	49,000	35	1,960	-
	Manhole	Third Street						2005	50	2055	24,500	35	980	-
	Manhole	Timberline Avenue						2005	50	2055	159,100	35	6,364	-
	Manhole	Turnbull Drive						2005	50	2055	73,400	35	2,936	-
	Manhole	Westshore Crescent						2005	50	2055	134,600	35	5,384	-
	Manhole	Wood Avenue						2005	50	2055	195,800	35	7,832	-
<b>Sub-Total - Westshore</b>					<b>19,484</b>						<b>14,344,800</b>		<b>300,650</b>	<b>134,800</b>
<b>Total</b>					<b>32,985</b>						<b>24,503,900</b>		<b>633,828</b>	<b>3,207,100</b>





# Appendix C

## Detailed Water Rate Calculations



# Appendix C: Detailed Water Rate Calculations

Table C-1  
Township of Severn  
Water Service  
Capital Budget Forecast (Uninflated \$)

Description	Budget 2021	Total	Forecast									
			2022	2023	2024	2025	2026	2027	2028	2029	2030	
<b>Capital Expenditures</b>												
<b>Westshore Water Treatment Plant</b>												
Distribution System Fire Flow Testing	20,000	-										
Clearwell Cl2 Analyzer		12,000	6,000	6,000								
New Air Scour Blower		5,000	5,000									
New Chlorine Panels x 2		15,000	15,000									
Swabbing		45,000		15,000	15,000	15,000						
Low Lift Building Roof		5,000							5,000			
Low Lift Building Paint Floor		5,000							5,000			
Update Lab Equipment		40,000								40,000		
Filter 1 Rehab		50,000									50,000	
Plant Roof		100,000									50,000	50,000
Filter 2 Rehab		50,000										50,000
<b>Washago Water Treatment Plant</b>		-										
Distribution System Fire Flow Testing	2,200	-										
Facility Air Conditioning	26,000	-										
GAC Media		40,000	40,000									
MCC Upgrade		160,000		160,000								
Chlorine Dioxide Panel Upgrade		30,000				30,000						
Distribution Header		25,000				25,000						
Computer Upgrade		20,000								20,000		
Upgrade Distribution System		200,000									100,000	100,000
<b>Severn Estates Water Treatment Plant</b>		-										
Pave Driveway	15,000	-										
Install Clearwell Cell Cl2 Analyzer		6,000	6,000									
PLC Upgrade		23,000	23,000									
Reservior Cleaning		5,000						5,000				
Upgrade Distribution System		200,000							50,000	50,000	50,000	50,000
<b>Bass Lake Water Treatment Plant</b>		-										
Two New Drilled Wells (Installation)	100,000	-										
Two New Drilled Wells (Design)	80,000	-										
New Sample Station on Wainman Line	6,500	-										
Indoor Piping Rehab		60,000	30,000	30,000								
Paint Floor		5,000						5,000				
Swabbing Launches		30,000									15,000	15,000



Table C-1 (Cont'd)

Description	Budget 2021	Total	Forecast									
			2022	2023	2024	2025	2026	2027	2028	2029	2030	
<b>Sandcastle Water Treatment Plant</b>		-										
New Chlorine Analyzer	12,000	-										
Transfer Switch/ MCC		55,000	55,000									
Low Lift Pump		15,000								15,000		
<b>Coldwater Water Treatment Plant</b>		-										
New PLC and SCADA	62,000	-										
Distribution System Fire Flow Testing	15,000	-										
4 New GAC Valves		8,000	8,000									
Reservoir Mitronics		9,000	9,000									
4 New GAC Valves		8,000	8,000									
Finish GAC Valves		4,000		4,000								
Swabbing		38,000			10,000	10,000					9,000	9,000
Repaint Floors/Building		15,000				15,000						
Paint Floors/Building		15,000									15,000	
<b>Lifecycle:</b>		-										
<b>Westshore Water Treatment Plant</b>		-										
U.V. Disinfection System Replacement	220,000	-										
High Lift Rebuild	35,000	-										
Replace Mitronics		24,000	12,000	12,000								
Filter 1 Rehab/ Replacement		50,000		50,000								
Polymer Pump Replacement		15,000		15,000								
Alum Pump Replacement		16,000		16,000								
Filter 2 Rehab/Replacement		50,000			50,000							
GAC Replacement ( 1 of each)		200,000				100,000	100,000					
Replace CL2 and pH Analyzer		6,000				6,000						
Computer Replacement		10,000						10,000				
Replace Sample Stations		48,000									24,000	24,000
<b>Washago Water Treatment Plant</b>		-										
Chlorine Dioxide Control Panel Replacement	60,000	-										
Alum Dosing Panel Replacement	27,000	-										
Stern Pac Pump Replacement		15,000	15,000									
Replace Mitronics		6,000	6,000									
VFD Install		50,000	50,000									
Roof Replacement		80,000					40,000	40,000				
Media Replacement		60,000						60,000				
GAC Replacement		40,000							40,000			
Replace Sample Stations		14,000									7,000	7,000
<b>Severn Estates Water Treatment Plant</b>		-										
Well Cleaning / Rehab	20,000	-										
Reservoir Cleaning		5,000	5,000									
Filter Media Replacement	6,500	-										
Replace Mitronics		3,000	3,000									
Install Clearwell Cell Cl2 Analyzer		6,000	6,000									



Table C-1 (Cont'd)

Description	Budget 2021	Total	Forecast								
			2022	2023	2024	2025	2026	2027	2028	2029	2030
Media Replacement		4,000					4,000				
Pressure Tank Replacement		5,000						5,000			
Computer Replacement		20,000						20,000			
Sample Station Replacement		7,000									7,000
<b>Bass Lake Water Treatment Plant</b>		-									
Stainless Piping Rehab (Indoor)	4,500	-									
Well Pump Replacement	3,000	-									
Roof Replacement	8,500	-									
Replace Miltronics		6,000	6,000								
Well Probe Replacement		3,000			3,000						
Replace Computer		20,000								20,000	
Replace Sample Stations		16,000									16,000
<b>Sandcastle Water Treatment Plant</b>		-									
Stern Pac Panel Replacement	26,500	-									
Replace Miltronics		3,000	3,000								
Replace alum board		30,000	30,000								
Stern Pac Pump Replacement		15,000			15,000						
Media Replacement Train 1		10,000				10,000					
Media Replacement Train 2		10,000					10,000				
Replace Computer		15,000								15,000	
Replace pressure tank		1,000								1,000	
<b>Coldwater Water Treatment Plant</b>		-									
Reservoir Level Sensors Replacement	8,000	-									
GAC Replacement		200,000	50,000	50,000				50,000	50,000		
Replace Roof		60,000		60,000							
Computer Replacement		15,000					15,000				
Replace Water Softener		5,000								5,000	
Replace Sample Stations		40,000									40,000
<b>Vehicle Replacement:</b>		-									
GPS Handheld x 3		3,000	1,500	1,500							
Two (2) Computers (Growth)	2,000	-									
Laptops x 3/ hotspot		1,500					1,500				
Truck U08		40,000	20,000						20,000		
Laptops x 2/hotspot		2,000	1,000						1,000		
Truck U05		40,000		20,000						20,000	
New Crane Truck		50,000		50,000							
Truck U06		40,000			20,000						20,000
Truck U01		40,000			20,000						20,000
Truck U02		20,000				20,000					
Truck U03		20,000				20,000					
Truck U04		20,000					20,000				
Truck U07		50,000						50,000			



Table C-1 (Cont'd)

Description	Budget 2021	Total	Forecast									
			2022	2023	2024	2025	2026	2027	2028	2029	2030	
<b>Studies and Inspections:</b>		-										
<b>Westshore Water Treatment Plant</b>		-										
Backwash Pump 1 Inspection		35,000	35,000									
HL #2 Inspection		35,000		35,000								
HL #3 Inspection		35,000			35,000							
Backwash Pump 2 Inspection		35,000				35,000						
HL #1 Inspection		35,000							35,000			
Backwash Pump Inspection		35,000										35,000
<b>Washago Water Treatment Plant</b>		-										
LL # 1 Inspection		30,000	30,000									
HL # 1 Inspection		30,000		30,000								
LL# 2 Inspection		30,000			30,000							
HL#2 Inspection		30,000				30,000						
HL#3 Inspection		30,000					30,000					
LL#1 Inspection		30,000								30,000		
HL#1 Inspection		30,000										30,000
<b>Severn Estates Water Treatment Plant</b>		-										
PLC Upgrade		30,000						30,000				
HL#1 Inspection		5,000			5,000							
HL#2 Inspection		5,000				5,000						
<b>Bass Lake Water Treatment Plant</b>		-										
HL#1 Inspection		32,000						32,000				
HL#2 Inspection		32,000							32,000			
Well 1 Inspection		15,000							15,000			
Well 2 and 3 Inspections		30,000								30,000		
HL#3 Inspection		32,000								32,000		
<b>Sandcastle Water Treatment Plant</b>		-										
HL#1 Inspection		30,000						30,000				
HL#3 Inspection		30,000							30,000			
HL#2 Inspection		30,000								30,000		
<b>Coldwater Water Treatment Plant</b>		-										
HL#2 Inspection		32,000						32,000				
HL#3 Inspection		32,000							32,000			
Well Inspections		35,000							35,000			
HL#1 Inspection		32,000								32,000		
<b>Growth Related:</b>		-										
<b>Westshore Water Treatment Plant</b>		-										
Plant Expansion		4,400,000							660,000	1,870,000	1,870,000	
New Fiber Line from Low Lift	50,000	-										
<b>Severn Estates Water Treatment Plant</b>		-										
Pump House Upgrade and New well		375,000								375,000		
<b>Total Capital Expenditures</b>	<b>809,700</b>	<b>8,404,500</b>	<b>478,500</b>	<b>554,500</b>	<b>203,000</b>	<b>321,000</b>	<b>404,500</b>	<b>1,050,000</b>	<b>2,639,000</b>	<b>2,281,000</b>	<b>473,000</b>	



**Table C-2  
Township of Severn  
Water Service  
Capital Budget Forecast (Inflated \$)**

Description	Budget 2021	Total	Forecast									
			2022	2023	2024	2025	2026	2027	2028	2029	2030	
<b>Capital Expenditures</b>												
<b>Westshore Water Treatment Plant</b>												
Distribution System Fire Flow Testing	20,000	-	-	-	-	-	-	-	-	-	-	-
Clearwell Cl2 Analyzer	-	12,000	6,000	6,000	-	-	-	-	-	-	-	-
New Air Scour Blower	-	5,000	5,000	-	-	-	-	-	-	-	-	-
New Chlorine Panels x 2	-	15,000	15,000	-	-	-	-	-	-	-	-	-
Swabbing	-	48,000	-	16,000	16,000	16,000	-	-	-	-	-	-
Low Lift Building Roof	-	6,000	-	-	-	-	-	6,000	-	-	-	-
Low Lift Building Paint Floor	-	6,000	-	-	-	-	-	6,000	-	-	-	-
Update Lab Equipment	-	46,000	-	-	-	-	-	-	46,000	-	-	-
Filter 1 Rehab	-	59,000	-	-	-	-	-	-	-	-	59,000	-
Plant Roof	-	119,000	-	-	-	-	-	-	-	-	59,000	60,000
Filter 2 Rehab	-	60,000	-	-	-	-	-	-	-	-	-	60,000
<b>Washago Water Treatment Plant</b>												
Distribution System Fire Flow Testing	2,200	-	-	-	-	-	-	-	-	-	-	-
Facility Air Conditioning	26,000	-	-	-	-	-	-	-	-	-	-	-
GAC Media	-	41,000	41,000	-	-	-	-	-	-	-	-	-
MCC Upgrade	-	166,000	-	166,000	-	-	-	-	-	-	-	-
Chlorine Dioxide Panel Upgrade	-	32,000	-	-	-	32,000	-	-	-	-	-	-
Distribution Header	-	27,000	-	-	-	27,000	-	-	-	-	-	-
Computer Upgrade	-	23,000	-	-	-	-	-	-	23,000	-	-	-
Upgrade Distribution System	-	237,000	-	-	-	-	-	-	-	-	117,000	120,000
<b>Severn Estates Water Treatment Plant</b>												
Pave Driveway	15,000	-	-	-	-	-	-	-	-	-	-	-
Install Clearwell Cell Cl2 Analyzer	-	6,000	6,000	-	-	-	-	-	-	-	-	-
PLC Upgrade	-	23,000	23,000	-	-	-	-	-	-	-	-	-
Reservoir Cleaning	-	6,000	-	-	-	-	6,000	-	-	-	-	-
Upgrade Distribution System	-	232,000	-	-	-	-	-	56,000	57,000	59,000	60,000	-
<b>Bass Lake Water Treatment Plant</b>												
Two New Drilled Wells (Installation)	100,000	-	-	-	-	-	-	-	-	-	-	-
Two New Drilled Wells (Design)	80,000	-	-	-	-	-	-	-	-	-	-	-
New Sample Station on Wainman Line	6,500	-	-	-	-	-	-	-	-	-	-	-
Indoor Piping Rehab	-	62,000	31,000	31,000	-	-	-	-	-	-	-	-
Paint Floor	-	6,000	-	-	-	-	6,000	-	-	-	-	-
Swabbing Launches	-	36,000	-	-	-	-	-	-	-	18,000	18,000	-
<b>Sandcastle Water Treatment Plant</b>												
New Chlorine Analyzer	12,000	-	-	-	-	-	-	-	-	-	-	-
Transfer Switch/ MCC	-	56,000	56,000	-	-	-	-	-	-	-	-	-
Low Lift Pump	-	17,000	-	-	-	-	-	-	17,000	-	-	-
<b>Coldwater Water Treatment Plant</b>												
New PLC and SCADA	62,000	-	-	-	-	-	-	-	-	-	-	-
Distribution System Fire Flow Testing	15,000	-	-	-	-	-	-	-	-	-	-	-
4 New GAC Valves	-	8,000	8,000	-	-	-	-	-	-	-	-	-
Reservoir Mitronics	-	9,000	9,000	-	-	-	-	-	-	-	-	-
4 New GAC Valves	-	8,000	8,000	-	-	-	-	-	-	-	-	-



Table C-2 (Cont'd)

Description	Budget 2021	Total	Forecast									
			2022	2023	2024	2025	2026	2027	2028	2029	2030	
Finish GAC Valves	-	4,000	-	4,000	-	-	-	-	-	-	-	-
Swabbing	-	44,000	-	-	11,000	11,000	-	-	-	-	11,000	11,000
Repaint Floors/Building	-	16,000	-	-	-	16,000	-	-	-	-	-	-
Paint Floors/Building	-	18,000	-	-	-	-	-	-	-	-	18,000	-
<b>Lifecycle:</b>												
<b>Westshore Water Treatment Plant</b>												
U.V. Disinfection System Replacement	220,000	-	-	-	-	-	-	-	-	-	-	-
High Lift Rebuild	35,000	-	-	-	-	-	-	-	-	-	-	-
Replace Miltronics	-	24,000	12,000	12,000	-	-	-	-	-	-	-	-
Filter 1 Rehab/ Replacement	-	52,000	-	52,000	-	-	-	-	-	-	-	-
Polymer Pump Replacement	-	16,000	-	16,000	-	-	-	-	-	-	-	-
Alum Pump Replacement	-	17,000	-	17,000	-	-	-	-	-	-	-	-
Filter 2 Rehab/Replacement	-	53,000	-	-	53,000	-	-	-	-	-	-	-
GAC Replacement ( 1 of each)	-	218,000	-	-	-	108,000	110,000	-	-	-	-	-
Replace CL2 and pH Analyzer	-	6,000	-	-	-	6,000	-	-	-	-	-	-
Computer Replacement	-	11,000	-	-	-	-	-	11,000	-	-	-	-
Replace Sample Stations	-	57,000	-	-	-	-	-	-	-	-	28,000	29,000
<b>Washago Water Treatment Plant</b>												
Chlorine Dioxide Control Panel Replacement	60,000	-	-	-	-	-	-	-	-	-	-	-
Alum Dosing Panel Replacement	27,000	-	-	-	-	-	-	-	-	-	-	-
Stern Pac Pump Replacement	-	15,000	15,000	-	-	-	-	-	-	-	-	-
Replace Miltronics	-	6,000	6,000	-	-	-	-	-	-	-	-	-
VFD Install	-	51,000	51,000	-	-	-	-	-	-	-	-	-
Roof Replacement	-	89,000	-	-	-	-	44,000	45,000	-	-	-	-
Media Replacement	-	68,000	-	-	-	-	-	68,000	-	-	-	-
GAC Replacement	-	46,000	-	-	-	-	-	-	46,000	-	-	-
Replace Sample Stations	-	16,000	-	-	-	-	-	-	-	-	8,000	8,000
<b>Seyvern Estates Water Treatment Plant</b>												
Well Cleaning / Rehab	20,000	-	-	-	-	-	-	-	-	-	-	-
Reservoir Cleaning	-	5,000	5,000	-	-	-	-	-	-	-	-	-
Filter Media Replacement	6,500	-	-	-	-	-	-	-	-	-	-	-
Install Clearwell Cell Cl2 Analyzer	-	6,000	6,000	-	-	-	-	-	-	-	-	-
Media Replacement	-	4,000	-	-	-	-	4,000	-	-	-	-	-
Pressure Tank Replacement	-	6,000	-	-	-	-	-	6,000	-	-	-	-
Computer Replacement	-	23,000	-	-	-	-	-	23,000	-	-	-	-
Sample Station Replacement	-	8,000	-	-	-	-	-	-	-	-	-	8,000
<b>Bass Lake Water Treatment Plant</b>												
Stainless Piping Rehab (Indoor)	4,500	-	-	-	-	-	-	-	-	-	-	-
Well Pump Replacement	3,000	-	-	-	-	-	-	-	-	-	-	-
Roof Replacement	8,500	-	-	-	-	-	-	-	-	-	-	-
Replace Miltronics	-	6,000	6,000	-	-	-	-	-	-	-	-	-
Well Probe Replacement	-	3,000	-	-	3,000	-	-	-	-	-	-	-
Replace Computer	-	23,000	-	-	-	-	-	-	-	-	23,000	-
Replace Sample Stations	-	19,000	-	-	-	-	-	-	-	-	-	19,000
<b>Sandcastle Water Treatment Plant</b>												
Stern Pac Panel Replacement	26,500	-	-	-	-	-	-	-	-	-	-	-
Replace Miltronics	-	3,000	3,000	-	-	-	-	-	-	-	-	-
Replace alum board	-	31,000	31,000	-	-	-	-	-	-	-	-	-
Stern Pac Pump Replacement	-	16,000	-	-	16,000	-	-	-	-	-	-	-
Media Replacement Train 1	-	11,000	-	-	-	11,000	-	-	-	-	-	-
Media Replacement Train 2	-	11,000	-	-	-	-	11,000	-	-	-	-	-



Table C-2 (Cont'd)

Description	Budget 2021	Total	Forecast										
			2022	2023	2024	2025	2026	2027	2028	2029	2030		
Replace Computer	-	18,000	-	-	-	-	-	-	-	-	-	18,000	-
Replace pressure tank	-	1,000	-	-	-	-	-	-	-	-	-	1,000	-
<b>Coldwater Water Treatment Plant</b>	-	-	-	-	-	-	-	-	-	-	-	-	-
Reservoir Level Sensors Replacement	8,000	-	-	-	-	-	-	-	-	-	-	-	-
GAC Replacement	-	216,000	51,000	52,000	-	-	-	-	56,000	57,000	-	-	-
Replace Roof	-	62,000	-	62,000	-	-	-	-	-	-	-	-	-
Computer Replacement	-	17,000	-	-	-	-	17,000	-	-	-	-	-	-
Replace Water Softener	-	6,000	-	-	-	-	-	-	-	-	-	6,000	-
Replace Sample Stations	-	48,000	-	-	-	-	-	-	-	-	-	-	48,000
<b>Vehicle Replacement:</b>	-	-	-	-	-	-	-	-	-	-	-	-	-
GPS Handheld x 3	-	4,000	2,000	2,000	-	-	-	-	-	-	-	-	-
Two (2) Computers (Growth)	2,000	-	-	-	-	-	-	-	-	-	-	-	-
Laptops x 3/ hotspot	-	2,000	-	-	-	-	-	2,000	-	-	-	-	-
Truck U08	-	43,000	20,000	-	-	-	-	-	-	23,000	-	-	-
Laptops x 2/hotspot	-	2,000	1,000	-	-	-	-	-	1,000	-	-	-	-
Truck U05	-	44,000	-	21,000	-	-	-	-	-	-	-	23,000	-
New Crane Truck	-	52,000	-	52,000	-	-	-	-	-	-	-	-	-
Truck U06	-	45,000	-	-	21,000	-	-	-	-	-	-	-	24,000
Truck U01	-	45,000	-	-	21,000	-	-	-	-	-	-	-	24,000
Truck U02	-	22,000	-	-	-	22,000	-	-	-	-	-	-	-
Truck U03	-	22,000	-	-	-	22,000	-	-	-	-	-	-	-
Truck U04	-	22,000	-	-	-	-	22,000	-	-	-	-	-	-
Truck U07	-	55,000	-	-	-	-	-	55,000	-	-	-	-	-
<b>Studies and Inspections:</b>	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Westshore Water Treatment Plant</b>	-	-	-	-	-	-	-	-	-	-	-	-	-
Backwash Pump 1 Inspection	-	36,000	36,000	-	-	-	-	-	-	-	-	-	-
HL #2 Inspection	-	36,000	-	36,000	-	-	-	-	-	-	-	-	-
HL #3 Inspection	-	37,000	-	-	37,000	-	-	-	-	-	-	-	-
Backwash Pump 2 Inspection	-	38,000	-	-	-	38,000	-	-	-	-	-	-	-
HL #1 Inspection	-	40,000	-	-	-	-	-	-	40,000	-	-	-	-
Backwash Pump Inspection	-	42,000	-	-	-	-	-	-	-	-	-	42,000	-
<b>Washago Water Treatment Plant</b>	-	-	-	-	-	-	-	-	-	-	-	-	-
LL # 1 Inspection	-	31,000	31,000	-	-	-	-	-	-	-	-	-	-
HL # 1 Inspection	-	31,000	-	31,000	-	-	-	-	-	-	-	-	-
LL# 2 Inspection	-	32,000	-	-	32,000	-	-	-	-	-	-	-	-
HL#2 Inspection	-	32,000	-	-	-	32,000	-	-	-	-	-	-	-
HL#3 Inspection	-	33,000	-	-	-	-	33,000	-	-	-	-	-	-
LL#1 Inspection	-	35,000	-	-	-	-	-	-	-	-	35,000	-	-
HL#1 Inspection	-	36,000	-	-	-	-	-	-	-	-	-	36,000	-
<b>Seyvern Estates Water Treatment Plant</b>	-	-	-	-	-	-	-	-	-	-	-	-	-
PLC Upgrade	-	33,000	-	-	-	-	-	33,000	-	-	-	-	-
HL#1 Inspection	-	5,000	-	-	5,000	-	-	-	-	-	-	-	-
HL#2 Inspection	-	5,000	-	-	-	5,000	-	-	-	-	-	-	-
<b>Bass Lake Water Treatment Plant</b>	-	-	-	-	-	-	-	-	-	-	-	-	-
HL#1 Inspection	-	35,000	-	-	-	-	-	35,000	-	-	-	-	-
HL#2 Inspection	-	36,000	-	-	-	-	-	-	36,000	-	-	-	-
Well 1 Inspection	-	17,000	-	-	-	-	-	-	17,000	-	-	-	-
Well 2 and 3 Inspections	-	34,000	-	-	-	-	-	-	-	34,000	-	-	-
HL#3 Inspection	-	37,000	-	-	-	-	-	-	-	37,000	-	-	-
<b>Sandcastle Water Treatment Plant</b>	-	-	-	-	-	-	-	-	-	-	-	-	-
HL#1 Inspection	-	33,000	-	-	-	-	-	33,000	-	-	-	-	-





Table C-2 (Cont'd)

Description	Budget 2021	Total	Forecast								
			2022	2023	2024	2025	2026	2027	2028	2029	2030
HL#3 Inspection	-	34,000	-	-	-	-	-	34,000	-	-	-
HL#2 Inspection	-	34,000	-	-	-	-	-	-	34,000	-	-
<b>Coldwater Water Treatment Plant</b>	-	-	-	-	-	-	-	-	-	-	-
HL#2 Inspection	-	35,000	-	-	-	-	35,000	-	-	-	-
HL#3 Inspection	-	36,000	-	-	-	-	-	36,000	-	-	-
Well Inspections	-	39,000	-	-	-	-	-	39,000	-	-	-
HL#1 Inspection	-	37,000	-	-	-	-	-	-	37,000	-	-
<b>Growth Related:</b>	-	-	-	-	-	-	-	-	-	-	-
<b>Westshore Water Treatment Plant</b>	-	-	-	-	-	-	-	-	-	-	-
Plant Expansion	-	5,082,000	-	-	-	-	-	743,000	2,148,000	2,191,000	-
New Fiber Line from Low Lift	50,000	-	-	-	-	-	-	-	-	-	-
<b>Severn Estates Water Treatment Plant</b>	-	-	-	-	-	-	-	-	-	-	-
Pump House Upgrade and New well	-	431,000	-	-	-	-	-	-	431,000	-	-
<b>Total Capital Expenditures</b>	<b>809,700</b>	<b>9,521,000</b>	<b>484,000</b>	<b>576,000</b>	<b>215,000</b>	<b>346,000</b>	<b>446,000</b>	<b>1,183,000</b>	<b>3,030,000</b>	<b>2,674,000</b>	<b>567,000</b>
<b>Capital Financing</b>	-	-	-	-	-	-	-	-	-	-	-
Provincial/Federal Grants	-	-	-	-	-	-	-	-	-	-	-
Development Charges Reserve Fund - Westshore	12,500	-	-	-	-	-	-	-	-	-	-
Development Charges Reserve Fund - Severn Estates	-	71,833	-	-	-	-	-	-	71,833	-	-
<b>Non-Growth Related Debenture Requirements</b>	-	-	-	-	-	-	-	-	-	-	-
Growth Related Debenture Requirements - Westshore	-	5,082,000	-	-	-	-	-	743,000	2,148,000	2,191,000	-
Growth Related Debenture Requirements - Severn Estates	-	-	-	-	-	-	-	-	-	-	-
Operating Contributions	-	-	-	-	-	-	-	-	-	-	-
Westshore Upgrade & Maintenance Reserve Fund	275,000	5,765	5,765	-	-	-	-	-	-	-	-
Utilities Equipment/Vehicle Reserve	2,000	358,000	23,000	75,000	42,000	44,000	79,000	1,000	23,000	23,000	48,000
Water Reserve	520,200	4,003,402	455,235	501,000	173,000	302,000	367,000	439,000	787,167	460,000	519,000
<b>Total Capital Financing</b>	<b>809,700</b>	<b>9,521,000</b>	<b>484,000</b>	<b>576,000</b>	<b>215,000</b>	<b>346,000</b>	<b>446,000</b>	<b>1,183,000</b>	<b>3,030,000</b>	<b>2,674,000</b>	<b>567,000</b>

Table C-3  
Township of Severn  
Water Service  
Schedule of Non-Growth Related Debenture Repayments (Inflated \$)

Debenture Year	2021	Principal (Inflated)	Forecast								
			2022	2023	2024	2025	2026	2027	2028	2029	2030
2022	-	-	-	-	-	-	-	-	-	-	-
2023	-	-	-	-	-	-	-	-	-	-	-
2024	-	-	-	-	-	-	-	-	-	-	-
2025	-	-	-	-	-	-	-	-	-	-	-
2026	-	-	-	-	-	-	-	-	-	-	-
2027	-	-	-	-	-	-	-	-	-	-	-
2028	-	-	-	-	-	-	-	-	-	-	-
2029	-	-	-	-	-	-	-	-	-	-	-
2030	-	-	-	-	-	-	-	-	-	-	-
<b>Total Annual Debt Charges</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>



Table C-4  
Township of Severn  
Water Service  
Schedule of Growth-Related Debenture Repayments – Westshore (Inflated \$)

Debenture Year	2021	Principal (Inflated)	Forecast									
			2022	2023	2024	2025	2026	2027	2028	2029	2030	
2022		-		-	-	-	-	-	-	-	-	
2023		-										
2024		-										
2025		-										
2026		-										
2027		743,000							54,671	54,671	54,671	
2028		2,148,000								158,054	158,054	
2029		2,191,000									161,218	
2030		-										
2031		-										
<b>Total Annual Debt Charges</b>	-	<b>5,082,000</b>	-	-	-	-	-	-	-	54,671	212,725	373,942

Table C-5  
Township of Severn  
Water Service  
Schedule of Growth-Related Debenture Repayments – Severn Estates (Inflated \$)

Debenture Year	2021	Principal (Inflated)	Forecast									
			2022	2023	2024	2025	2026	2027	2028	2029	2030	
2022		-		-	-	-	-	-	-	-	-	
2023		-										
2024		-										
2025		-										
2026		-										
2027		-										
2028		-										
2029		-										
2030		-										
2031		-										
<b>Total Annual Debt Charges</b>	-	-	-	-	-	-	-	-	-	-	-	-



Table C-6  
Township of Severn  
Water Service  
Water Capital Reserve Fund Continuity (Inflated \$)

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Opening Balance	1,070,419	628,059	357,087	155,498	383,316	596,859	860,707	1,173,906	1,260,420	1,815,448
Transfer from Operating	65,525	177,261	296,362	393,302	503,840	613,971	729,181	848,967	979,431	1,081,478
Transfer to Capital	520,200	455,235	501,000	173,000	302,000	367,000	439,000	787,167	460,000	519,000
Transfer to Operating	-	-	-	-	-	-	-	-	-	-
<b>Closing Balance</b>	<b>615,744</b>	<b>350,085</b>	<b>152,449</b>	<b>375,800</b>	<b>585,156</b>	<b>843,830</b>	<b>1,150,888</b>	<b>1,235,706</b>	<b>1,779,851</b>	<b>2,377,926</b>
Interest	12,315	7,002	3,049	7,516	11,703	16,877	23,018	24,714	35,597	47,559

Table C-7  
Township of Severn  
Water Service  
Water Development Charges Reserve Fund Continuity – Coldwater (Inflated \$)

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Opening Balance	11,795	12,031	12,272	12,517	12,768	13,023	13,284	13,549	13,820	14,097
Development Charge Proceeds	-	-	-	-	-	-	-	-	-	-
Transfer to Capital	-	-	-	-	-	-	-	-	-	-
Transfer to Operating	-	-	-	-	-	-	-	-	-	-
<b>Closing Balance</b>	<b>11,795</b>	<b>12,031</b>	<b>12,272</b>	<b>12,517</b>	<b>12,768</b>	<b>13,023</b>	<b>13,284</b>	<b>13,549</b>	<b>13,820</b>	<b>14,097</b>
Interest	236	241	245	250	255	260	266	271	276	282
Required from Development Charges	-	-	-	-	-	-	-	-	-	-

Table C-8  
Township of Severn  
Water Service  
Water Development Charges Reserve Fund Continuity – Westshore (Inflated \$)

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Opening Balance	(634,085)	(616,055)	(577,182)	(536,543)	(501,180)	(464,186)	(425,530)	(385,116)	(398,675)	(572,730)
Development Charge Proceeds	42,610	50,190	51,160	45,190	46,095	47,000	47,965	48,930	49,900	50,870
Transfer to Capital	12,500	-	-	-	-	-	-	-	-	-
Transfer to Operating	-	-	-	-	-	-	-	54,671	212,725	373,942
<b>Closing Balance</b>	<b>(603,975)</b>	<b>(565,865)</b>	<b>(526,022)</b>	<b>(491,353)</b>	<b>(455,085)</b>	<b>(417,186)</b>	<b>(377,565)</b>	<b>(390,858)</b>	<b>(561,500)</b>	<b>(895,802)</b>
Interest	(12,080)	(11,317)	(10,520)	(9,827)	(9,102)	(8,344)	(7,551)	(7,817)	(11,230)	(17,916)
Required from Development Charges	12,500	-	-	-	-	-	743,000	2,148,000	2,191,000	-



Table C-9  
Township of Severn  
Water Service  
Water Development Charges Reserve Fund Continuity – Bass Lake (Inflated \$)

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Opening Balance	36,731	37,465	38,214	38,979	39,758	40,553	41,365	42,192	43,036	43,896
Development Charge Proceeds	-	-	-	-	-	-	-	-	-	-
Transfer to Capital	-	-	-	-	-	-	-	-	-	-
Transfer to Operating	-	-	-	-	-	-	-	-	-	-
<b>Closing Balance</b>	<b>36,731</b>	<b>37,465</b>	<b>38,214</b>	<b>38,979</b>	<b>39,758</b>	<b>40,553</b>	<b>41,365</b>	<b>42,192</b>	<b>43,036</b>	<b>43,896</b>
Interest	735	749	764	780	795	811	827	844	861	878
Required from Development Charges	-	-	-	-	-	-	-	-	-	-

Table C-10  
Township of Severn  
Water Service  
Water Development Charges Reserve Fund Continuity – Severn Estates (Inflated \$)

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Opening Balance	27,178	27,722	41,703	42,537	57,358	58,505	74,209	75,694	19,059	19,440
Development Charge Proceeds	-	13,164	-	13,696	-	14,249	-	14,825	-	-
Transfer to Capital	-	-	-	-	-	-	-	71,833	-	-
Transfer to Operating	-	-	-	-	-	-	-	-	-	-
<b>Closing Balance</b>	<b>27,178</b>	<b>40,886</b>	<b>41,703</b>	<b>56,233</b>	<b>57,358</b>	<b>72,754</b>	<b>74,209</b>	<b>18,685</b>	<b>19,059</b>	<b>19,440</b>
Interest	544	818	834	1,125	1,147	1,455	1,484	374	381	389
Required from Development Charges	-	-	-	-	-	-	-	71,833	-	-

Table C-11  
Township of Severn  
Water Service  
Utilities Equipment/Vehicle Reserve Continuity – Water Portion (Inflated \$)

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Opening Balance	207,076	220,076	212,076	157,076	135,076	116,076	67,076	101,076	123,076	150,076
Transfer from Operating	15,000	15,000	20,000	20,000	25,000	30,000	35,000	45,000	50,000	55,000
Transfer to Capital	2,000	23,000	75,000	42,000	44,000	79,000	1,000	23,000	23,000	48,000
Transfer to Operating	-	-	-	-	-	-	-	-	-	-
<b>Closing Balance</b>	<b>220,076</b>	<b>212,076</b>	<b>157,076</b>	<b>135,076</b>	<b>116,076</b>	<b>67,076</b>	<b>101,076</b>	<b>123,076</b>	<b>150,076</b>	<b>157,076</b>



Table C-12  
Township of Severn  
Water Service  
Westshore Upgrade & Maintenance Reserve Fund Continuity – Water Portion (Inflated \$)

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Opening Balance	280,652	5,765	0	0	0	0	0	0	0	0
Transfer from Operating	-	-	-	-	-	-	-	-	-	-
Transfer to Capital	275,000	5,765	-	-	-	-	-	-	-	-
Transfer to Operating	-	-	-	-	-	-	-	-	-	-
<b>Closing Balance</b>	<b>5,652</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
Interest	113	0	0	0	0	0	0	0	0	0



**Table C-13**  
**Township of Severn**  
**Water Services**  
**Operating Budget Forecast (Inflated \$)**

Description	Budget	Forecast								
	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
<b>Expenditures</b>										
<b>Operating Costs</b>										
<b>Washago</b>										
G-410-431-1110 REGULAR SALARIES & WAGES	62,400	63,600	64,900	66,200	67,500	68,900	70,300	71,700	73,100	74,600
G-410-431-1120 PART-TIME SALARIES & WAGES	2,800	2,900	3,000	-	-	-	-	-	-	-
G-410-431-1130 OVERTIME-SHIFT-RECAL ETC.	5,200	5,300	5,400	5,500	5,600	5,700	5,800	5,900	6,000	6,100
G-410-431-1140 LOST TIME : SICK VACN ETC	6,200	6,300	6,400	6,500	6,600	6,700	6,800	6,900	7,000	7,100
G-410-431-1141 ON CALL	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
G-410-431-1155 NON TAXABLE - MEALS / UNIFORM PAY	250	260	270	280	290	300	310	320	330	340
G-410-431-1161 EMPLOYER HEALTH TAX	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500
G-410-431-1162 C.P.P.	2,700	2,800	2,900	3,000	3,100	3,200	3,300	3,400	3,500	3,600
G-410-431-1163 E.I.	900	920	940	960	980	1,000	1,020	1,040	1,060	1,080
G-410-431-1164 O.M.E.R.S.	8,200	8,400	8,600	8,800	9,000	9,200	9,400	9,600	9,800	10,000
G-410-431-1165 GROUP LIFE INSURANCE	8,900	9,100	9,300	9,500	9,700	9,900	10,100	10,300	10,500	10,700
G-410-431-1167 WORKPLACE SAFETY INSURANCE	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400
G-410-431-2220 BUILDING & PROPERTY MAINT	6,000	6,100	6,200	6,300	6,400	6,500	6,600	6,700	6,800	6,900
G-410-431-2418 SULPHATE	750	790	830	870	910	960	1,010	1,060	1,110	1,170
G-410-431-2419 CHEMICALS	15,000	15,800	16,600	17,400	18,300	19,200	20,200	21,200	22,300	23,400
G-410-431-2610 OFFICE SUPPLIES	500	510	520	530	540	550	560	570	580	590
G-410-431-2810 HYDRO	21,000	21,400	21,800	22,200	22,600	23,100	23,600	24,100	24,600	25,100
G-410-431-2835 PROPANE	1,000	1,100	1,200	1,300	1,400	1,500	1,600	1,700	1,800	1,900
G-410-431-2900 SAFETY EQUIPMENT	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
G-410-431-2910 UNIFORMS	360	370	380	390	400	410	420	430	440	450
G-410-431-3110 MILEAGE	100	102	104	106	108	110	112	114	116	118
G-410-431-3140 MEMBERSHIPS	500	510	520	530	540	550	560	570	580	590
G-410-431-3150 TRAINING COURSE EXPENSES	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700
G-410-431-3205 JOINT HEALTH & SAFETY	100	102	104	106	108	110	112	114	116	118



Table C-13 (Cont'd)

Description	Budget	Forecast								
	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
G-410-431-3220 TELEPHONE	3,800	3,900	4,000	4,100	4,200	4,300	4,400	4,500	4,600	4,700
G-410-431-3230 ADVERTISING	100	102	104	106	108	110	112	114	116	118
G-410-431-3360 CONSULTANTS	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
G-410-431-3392 M.O.E. TESTING	8,000	8,200	8,400	8,600	8,800	9,000	9,200	9,400	9,600	9,800
G-410-431-3420 EQUIPMENT REPAIR & MAINTENANCE	40,000	40,800	41,600	42,400	43,200	44,100	45,000	45,900	46,800	47,700
G-410-431-3579 SOURCE WATER PROTECTION	3,150	3,200	3,300	3,400	3,500	3,600	3,700	3,800	3,900	4,000
G-410-431-3910 INSURANCE PREMIUMS	7,930	8,100	8,300	8,500	8,700	8,900	9,100	9,300	9,500	9,700
G-410-431-3995 PIL - SEVERN PORTION	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
G-410-431-7970 INTERNAL DEPT EXPENDITURE TRSF	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
G-410-431-7981 TOWNSHIP VEHICLE RENTAL	15,000	15,300	15,600	15,900	16,200	16,500	16,800	17,100	17,400	17,700
<b>Bass Lake</b>										
G-410-432-1110 REGULAR SALARIES & WAGES	62,400	63,600	64,900	66,200	67,500	68,900	70,300	71,700	73,100	74,600
G-410-432-1120 PART-TIME SALARIES & WAGES	2,800	2,900	3,000	-	-	-	-	-	-	-
G-410-432-1130 OVERTIME-SHIFT-RECAL ETC.	3,900	4,000	4,100	4,200	4,300	4,400	4,500	4,600	4,700	4,800
G-410-432-1140 LOST TIME : SICK VACN ETC	3,500	3,600	3,700	3,800	3,900	4,000	4,100	4,200	4,300	4,400
G-410-432-1141 ON CALL	600	610	620	630	640	650	660	670	680	690
G-410-432-1155 NON TAXABLE - MEALS / UNIFORM PAY	150	153	156	159	162	165	168	171	174	177
G-410-432-1161 EMPLOYER HEALTH TAX	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500
G-410-432-1162 C.P.P.	2,700	2,800	2,900	3,000	3,100	3,200	3,300	3,400	3,500	3,600
G-410-432-1163 E.I.	900	920	940	960	980	1,000	1,020	1,040	1,060	1,080
G-410-432-1164 O.M.E.R.S.	8,200	8,400	8,600	8,800	9,000	9,200	9,400	9,600	9,800	10,000
G-410-432-1165 GROUP LIFE INSURANCE	8,900	9,100	9,300	9,500	9,700	9,900	10,100	10,300	10,500	10,700
G-410-432-1167 WORKPLACE SAFETY INSURANCE	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400
G-410-432-2220 BUILDING & PROPERTY MAINT	6,000	6,100	6,200	6,300	6,400	6,500	6,600	6,700	6,800	6,900
G-410-432-2419 CHEMICALS	1,100	1,200	1,300	1,400	1,500	1,600	1,700	1,800	1,900	2,000
G-410-432-2610 OFFICE SUPPLIES	300	310	320	330	340	350	360	370	380	390
G-410-432-2810 HYDRO	10,000	10,200	10,400	10,600	10,800	11,000	11,200	11,400	11,600	11,800
G-410-432-2835 PROPANE	1,100	1,200	1,300	1,400	1,500	1,600	1,700	1,800	1,900	2,000
G-410-432-2900 SAFETY EQUIPMENT	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
G-410-432-2910 UNIFORMS	200	204	208	212	216	220	224	228	233	238
G-410-432-3110 MILEAGE	100	102	104	106	108	110	112	114	116	118
G-410-432-3140 MEMBERSHIPS	350	360	370	380	390	400	410	420	430	440
G-410-432-3150 TRAINING COURSE EXPENSES	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500
G-410-432-3205 JOINT HEALTH & SAFETY	100	100	100	100	100	100	100	100	100	100
G-410-432-3220 TELEPHONE	2,900	3,000	3,100	3,200	3,300	3,400	3,500	3,600	3,700	3,800
G-410-432-3230 ADVERTISING	50	51	52	53	54	55	56	57	58	59
G-410-432-3360 CONSULTANTS	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
G-410-432-3392 M.O.E. TESTING	6,000	6,100	6,200	6,300	6,400	6,500	6,600	6,700	6,800	6,900
G-410-432-3420 EQUIPMENT REPAIR & MAINTENANCE	27,900	28,500	29,100	29,700	30,300	30,900	31,500	32,100	32,700	33,400
G-410-432-3579 SOURCE WATER PROTECTION	630	640	650	660	670	680	690	700	710	720
G-410-432-3910 INSURANCE PREMIUMS	6,500	6,600	6,700	6,800	6,900	7,000	7,100	7,200	7,300	7,400
G-410-432-3995 PIL - SEVERN PORTION	900	920	940	960	980	1,000	1,020	1,040	1,060	1,080
G-410-432-7970 INTERNAL DEPT EXPENDITURE TRSF	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
G-410-432-7981 TOWNSHIP VEHICLE RENTAL	10,000	10,200	10,400	10,600	10,800	11,000	11,200	11,400	11,600	11,800



Table C-13 (Cont'd)

Description	Budget	Forecast								
	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
<b>Severn Estates</b>										
G-410-434-1110 REGULAR SALARIES & WAGES	31,200	31,800	32,400	33,000	33,700	34,400	35,100	35,800	36,500	37,200
G-410-434-1120 PART-TIME SALARIES & WAGES	1,400	1,400	1,400	-	-	-	-	-	-	-
G-410-434-1130 OVERTIME-SHIFT-RECAL ETC.	3,250	3,300	3,400	3,500	3,600	3,700	3,800	3,900	4,000	4,100
G-410-434-1140 LOST TIME : SICK VACN ETC	800	820	840	860	880	900	920	940	960	980
G-410-434-1141 ON CALL	100	100	100	100	100	100	100	100	100	100
G-410-434-1155 NON TAXABLE - MEALS / UNIFORM PAY	50	51	52	53	54	55	56	57	58	59
G-410-434-1161 EMPLOYER HEALTH TAX	700	710	720	730	740	750	770	790	810	830
G-410-434-1162 C.P.P.	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400
G-410-434-1163 E.I.	500	510	520	530	540	550	560	570	580	590
G-410-434-1164 O.M.E.R.S.	4,100	4,200	4,300	4,400	4,500	4,600	4,700	4,800	4,900	5,000
G-410-434-1165 GROUP LIFE INSURANCE	4,500	4,600	4,700	4,800	4,900	5,000	5,100	5,200	5,300	5,400
G-410-434-1167 WORKPLACE SAFETY INSURANCE	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200
G-410-434-2220 BUILDING & PROPERTY MAINT	2,500	2,600	2,700	2,800	2,900	3,000	3,100	3,200	3,300	3,400
G-410-434-2419 CHEMICALS	500	530	560	590	620	650	680	710	750	790
G-410-434-2610 OFFICE SUPPLIES	300	310	320	330	340	350	360	370	380	390
G-410-434-2810 HYDRO	2,500	2,600	2,700	2,800	2,900	3,000	3,100	3,200	3,300	3,400
G-410-434-2835 HEAT-PROPANE	500	530	560	590	620	650	680	710	750	790
G-410-434-2900 SAFETY EQUIPMENT	500	510	520	530	540	550	560	570	580	590
G-410-434-2910 UNIFORMS	40	41	42	43	44	45	46	47	48	49
G-410-434-3110 MILEAGE	100	102	104	106	108	110	112	114	116	118
G-410-434-3140 MEMBERSHIPS	300	310	320	330	340	350	360	370	380	390
G-410-434-3150 TRAINING COURSE EXPENSES	600	610	620	630	640	650	660	670	680	690
G-410-434-3205 JOINT HEALTH & SAFETY	100	102	104	106	108	110	112	114	116	118
G-410-434-3220 TELEPHONE	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100
G-410-434-3230 ADVERTISING	100	102	104	106	108	110	112	114	116	118
G-410-434-3360 CONSULTANTS	500	510	520	530	540	550	560	570	580	590
G-410-434-3392 M.O.E. TESTING	7,000	7,100	7,200	7,300	7,400	7,500	7,700	7,900	8,100	8,300
G-410-434-3420 EQUIPMENT REPAIR & MAINTENANCE	29,200	29,800	30,400	31,000	31,600	32,200	32,800	33,500	34,200	34,900
G-410-434-3579 SOURCE WATER PROTECTION	420	430	440	450	460	470	480	490	500	510
G-410-434-3910 INSURANCE PREMIUMS	5,720	5,800	5,900	6,000	6,100	6,200	6,300	6,400	6,500	6,600
G-410-434-3995 PIL - SEVERN PORTION	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200
G-410-434-7970 INTERNAL DEPT EXPENDITURE TRSF	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
G-410-434-7981 TOWNSHIP VEHICLE RENTAL	10,000	10,200	10,400	10,600	10,800	11,000	11,200	11,400	11,600	11,800
<b>Sandcastle Estates</b>										
G-410-435-1110 REGULAR SALARIES & WAGES	37,440	38,200	39,000	39,800	40,600	41,400	42,200	43,000	43,900	44,800
G-410-435-1120 PART-TIME SALARIES & WAGES	1,680	1,700	1,700	-	-	-	-	-	-	-
G-410-435-1130 OVERTIME-SHIFT-RECAL ETC.	5,200	5,300	5,400	5,500	5,600	5,700	5,800	5,900	6,000	6,100
G-410-435-1140 LOST TIME : SICK VACN ETC	3,500	3,600	3,700	3,800	3,900	4,000	4,100	4,200	4,300	4,400
G-410-435-1141 ON CALL	600	610	620	630	640	650	660	670	680	690
G-410-435-1155 NON TAXABLE - MEALS / UNIFORM PAY	150	153	156	159	162	165	168	171	174	177
G-410-435-1161 EMPLOYER HEALTH TAX	900	920	940	960	980	1,000	1,020	1,040	1,060	1,080
G-410-435-1162 C.P.P.	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600	1,600
G-410-435-1163 E.I.	500	510	520	530	540	550	560	570	580	590
G-410-435-1164 O.M.E.R.S.	4,900	5,000	5,100	5,200	5,300	5,400	5,500	5,600	5,700	5,800
G-410-435-1165 GROUP LIFE INSURANCE	5,400	5,500	5,600	5,700	5,800	5,900	6,000	6,100	6,200	6,300
G-410-435-1167 WORKPLACE SAFETY INSURANCE	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400
G-410-435-2220 BUILDING & PROPERTY MAINT	5,000	5,100	5,200	5,300	5,400	5,500	5,600	5,700	5,800	5,900





Table C-13 (Cont'd)

Description	Budget	Forecast								
	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
G-410-435-2418 SULPHATE	500	510	520	530	540	550	560	570	580	590
G-410-435-2419 CHEMICALS	2,000	2,100	2,200	2,300	2,400	2,500	2,600	2,700	2,800	2,900
G-410-435-2610 OFFICE SUPPLIES	300	310	320	330	340	350	360	370	380	390
G-410-435-2810 HYDRO	9,000	9,200	9,400	9,600	9,800	10,000	10,200	10,400	10,600	10,800
G-410-435-2835 PROPANE	600	630	660	690	720	760	800	840	880	920
G-410-435-2900 SAFETY EQUIPMENT	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
G-410-435-2910 UNIFORMS	200	204	208	212	216	220	224	228	233	238
G-410-435-3110 MILEAGE	100	102	104	106	108	110	112	114	116	118
G-410-435-3140 MEMBERSHIPS	350	360	370	380	390	400	410	420	430	440
G-410-435-3150 TRAINING COURSE EXPENSES	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500
G-410-435-3205 JOINT HEALTH & SAFETY	100	102	104	106	108	110	112	114	116	118
G-410-435-3220 TELEPHONE	2,500	2,600	2,700	2,800	2,900	3,000	3,100	3,200	3,300	3,400
G-410-435-3230 ADVERTISING	100	102	104	106	108	110	112	114	116	118
G-410-435-3360 CONSULTANTS	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
G-410-435-3392 M.O.E. TESTING	4,500	4,600	4,700	4,800	4,900	5,000	5,100	5,200	5,300	5,400
G-410-435-3420 EQUIPMENT REPAIR & MAINTENANCE	35,900	36,600	37,300	38,000	38,800	39,600	40,400	41,200	42,000	42,800
G-410-435-3579 SOURCE WATER PROTECTION	1,050	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100
G-410-435-3910 INSURANCE PREMIUMS	7,280	7,400	7,500	7,700	7,900	8,100	8,300	8,500	8,700	8,900
G-410-435-3995 PIL - SEVERN PORTION	400	410	420	430	440	450	460	470	480	490
G-410-435-7970 INTERNAL DEPT EXPENDITURE TRSF	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
G-410-435-7981 TOWNSHIP VEHICLE RENTAL	10,000	10,200	10,400	10,600	10,800	11,000	11,200	11,400	11,600	11,800
<b>Coldwater</b>										
G-410-437-1110 REGULAR SALARIES & WAGES	93,600	95,500	97,400	99,300	101,300	103,300	105,400	107,500	109,700	111,900
G-410-437-1120 PART-TIME SALARIES & WAGES	4,200	4,300	4,400	-	-	-	-	-	-	-
G-410-437-1130 OVERTIME-SHIFT-RECAL ETC.	8,450	8,600	8,800	9,000	9,200	9,400	9,600	9,800	10,000	10,200
G-410-437-1140 LOST TIME : SICK VACN ETC	10,400	10,600	10,800	11,000	11,200	11,400	11,600	11,800	12,000	12,200
G-410-437-1141 ON CALL	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700
G-410-437-1155 NON TAXABLE - MEALS / UNIFORM PAY	450	460	470	480	490	500	510	520	530	540
G-410-437-1161 EMPLOYER HEALTH TAX	2,200	2,200	2,200	2,200	2,200	2,200	2,200	2,200	2,200	2,200
G-410-437-1162 C.P.P.	4,100	4,200	4,300	4,400	4,500	4,600	4,700	4,800	4,900	5,000
G-410-437-1163 E.I.	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400
G-410-437-1164 O.M.E.R.S.	12,300	12,500	12,800	13,100	13,400	13,700	14,000	14,300	14,600	14,900
G-410-437-1165 GROUP LIFE INSURANCE	13,400	13,700	14,000	14,300	14,600	14,900	15,200	15,500	15,800	16,100
G-410-437-1167 WORKPLACE SAFETY INSURANCE	3,600	3,700	3,800	3,900	4,000	4,100	4,200	4,300	4,400	4,500
G-410-437-2220 BUILDING & PROPERTY MAINT	5,000	5,100	5,200	5,300	5,400	5,500	5,600	5,700	5,800	5,900
G-410-437-2310 FUEL - DIESEL	500	530	560	590	620	650	680	710	750	790
G-410-437-2416 SOFTENER SALT	3,000	3,100	3,200	3,300	3,400	3,500	3,600	3,700	3,800	3,900
G-410-437-2419 CHEMICALS	3,520	3,700	3,900	4,100	4,300	4,500	4,700	4,900	5,100	5,400
G-410-437-2610 OFFICE SUPPLIES	500	510	520	530	540	550	560	570	580	590
G-410-437-2810 HYDRO	50,000	51,000	52,000	53,000	54,100	55,200	56,300	57,400	58,500	59,700
G-410-437-2900 SAFETY EQUIPMENT	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
G-410-437-2910 UNIFORMS	600	610	620	630	640	650	660	670	680	690
G-410-437-3110 MILEAGE	200	204	208	212	216	220	224	228	233	238
G-410-437-3140 MEMBERSHIPS	800	820	840	860	880	900	920	940	960	980
G-410-437-3150 TRAINING COURSE EXPENSES	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500
G-410-437-3205 JOINT HEALTH & SAFETY	100	102	104	106	108	110	112	114	116	118
G-410-437-3220 TELEPHONE	4,800	4,900	5,000	5,100	5,200	5,300	5,400	5,500	5,600	5,700



Table C-13 (Cont'd)

Description	Budget	Forecast								
	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
G-410-437-3230 ADVERTISING	150	150	150	150	150	150	150	150	150	150
G-410-437-3360 CONSULTANTS	3,000	3,100	3,200	3,300	3,400	3,500	3,600	3,700	3,800	3,900
G-410-437-3392 M.O.E. TESTING	7,000	7,100	7,200	7,300	7,400	7,500	7,700	7,900	8,100	8,300
G-410-437-3420 EQUIPMENT REPAIR & MAINTENANCE	40,700	41,500	42,300	43,100	44,000	44,900	45,800	46,700	47,600	48,600
G-410-437-3579 SOURCE WATER PROTECTION	5,250	5,400	5,500	5,600	5,700	5,800	5,900	6,000	6,100	6,200
G-410-437-3910 INSURANCE PREMIUMS	9,490	9,700	9,900	10,100	10,300	10,500	10,700	10,900	11,100	11,300
G-410-437-3995 PIL - SEVERN PORTION	4,100	4,200	4,300	4,400	4,500	4,600	4,700	4,800	4,900	5,000
G-410-437-7970 INTERNAL DEPT EXPENDITURE TRSF	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
G-410-437-7981 TOWNSHIP VEHICLE RENTAL	22,000	22,400	22,800	23,300	23,800	24,300	24,800	25,300	25,800	26,300
<b>Westshore</b>										
G-410-439-1110 REGULAR SALARIES & WAGES	124,800	127,300	129,800	132,400	135,000	137,700	140,500	143,300	146,200	149,100
G-410-439-1120 PART-TIME SALARIES & WAGES	5,600	5,700	5,800	-	-	-	-	-	-	-
G-410-439-1130 OVERTIME-SHIFT-RECAL ETC.	14,300	14,600	14,900	15,200	15,500	15,800	16,100	16,400	16,700	17,000
G-410-439-1140 LOST TIME : SICK VACN ETC	17,400	17,700	18,100	18,500	18,900	19,300	19,700	20,100	20,500	20,900
G-410-439-1141 ON CALL	2,900	3,000	3,100	3,200	3,300	3,400	3,500	3,600	3,700	3,800
G-410-439-1155 NON TAXABLE - MEALS / UNIFORM PAY	750	765	780	796	812	828	845	862	879	897
G-410-439-1161 EMPLOYER HEALTH TAX	3,000	3,100	3,200	3,300	3,400	3,500	3,600	3,700	3,800	3,900
G-410-439-1162 C.P.P.	5,400	5,500	5,600	5,700	5,800	5,900	6,000	6,100	6,200	6,300
G-410-439-1163 E.I.	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800
G-410-439-1164 O.M.E.R.S.	16,400	16,700	17,000	17,300	17,600	18,000	18,400	18,800	19,200	19,600
G-410-439-1165 GROUP LIFE INSURANCE	17,900	18,300	18,700	19,100	19,500	19,900	20,300	20,700	21,100	21,500
G-410-439-1167 WORKPLACE SAFETY INSURANCE	4,700	4,800	4,900	5,000	5,100	5,200	5,300	5,400	5,500	5,600
G-410-439-2220 BUILDING & PROPERTY MAINT	10,000	10,200	10,400	10,600	10,800	11,000	11,200	11,400	11,600	11,800
G-410-439-2310 FUEL - DIESEL	500	530	560	590	620	650	680	710	750	790
G-410-439-2418 SULPHATE	6,500	6,800	7,100	7,500	7,900	8,300	8,700	9,100	9,600	10,100
G-410-439-2419 CHEMICALS	13,275	13,900	14,600	15,300	16,100	16,900	17,700	18,600	19,500	20,500
G-410-439-2610 OFFICE SUPPLIES	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
G-410-439-2810 HYDRO	70,000	71,400	72,800	74,300	75,800	77,300	78,800	80,400	82,000	83,600
G-410-439-2830 HEAT - NATURAL GAS	7,600	7,800	8,000	8,200	8,400	8,600	8,800	9,000	9,200	9,400
G-410-439-2900 SAFETY EQUIPMENT	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
G-410-439-2910 UNIFORMS	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
G-410-439-3110 MILEAGE	250	260	270	280	290	300	310	320	330	340
G-410-439-3140 MEMBERSHIPS	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200
G-410-439-3150 TRAINING COURSE EXPENSES	3,500	3,600	3,700	3,800	3,900	4,000	4,100	4,200	4,300	4,400
G-410-439-3205 JOINT HEALTH & SAFETY	100	102	104	106	108	110	112	114	116	118
G-410-439-3215 COURIER AND DELIVERY CHARGES	-	-	-	-	-	-	-	-	-	-
G-410-439-3220 TELEPHONE	3,300	3,400	3,500	3,600	3,700	3,800	3,900	4,000	4,100	4,200
G-410-439-3230 ADVERTISING	250	260	270	280	290	300	310	320	330	340
G-410-439-3340 ENGINEERING	-	-	-	-	-	-	-	-	-	-
G-410-439-3360 CONSULTANTS	5,000	5,100	5,200	5,300	5,400	5,500	5,600	5,700	5,800	5,900
G-410-439-3392 M.O.E. TESTING	7,200	7,300	7,400	7,500	7,600	7,700	7,900	8,100	8,300	8,500
G-410-439-3420 EQUIPMENT REPAIR & MAINTENANCE	63,000	64,300	65,600	66,900	68,200	69,600	71,000	72,400	73,800	75,300
G-410-439-3579 SOURCE WATER PROTECTION	10,500	10,700	10,900	11,100	11,300	11,500	11,700	11,900	12,100	12,300
G-410-439-3910 INSURANCE PREMIUMS	3,770	3,800	3,900	4,000	4,100	4,200	4,300	4,400	4,500	4,600
G-410-439-3995 PIL - SEVERN PORTION	3,200	3,300	3,400	3,500	3,600	3,700	3,800	3,900	4,000	4,100
G-410-439-7970 INTERNAL DEPT EXPENDITURE TRSF	7,000	7,100	7,200	7,300	7,400	7,500	7,700	7,900	8,100	8,300



Table C-13 (Cont'd)

Description	Budget	Forecast								
	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
G-410-439-7981 TOWNSHIP VEHICLE RENTAL	40,000	40,800	41,600	42,400	43,200	44,100	45,000	45,900	46,800	47,700
Additional Staff Salaries & Benefits				49,000	50,000	51,000	52,000	53,000	54,100	55,200
<b>2010 GMC SIERRA 1/2 TON</b>										
G-410-U01-2311 FUEL - GASOLINE	1,600	1,700	1,800	1,900	2,000	2,100	2,200	2,300	2,400	2,500
G-410-U01-2312 PARTS	500	500	500	500	500	500	500	500	500	500
G-410-U01-2340 LICENSES	75	77	79	81	83	85	87	89	91	93
G-410-U01-3420 EQUIPMENT REPAIR & MAINTENANCE	250	260	270	280	290	300	310	320	330	340
G-410-U01-3910 INSURANCE PREMIUMS	325	330	340	350	360	370	380	390	400	410
<b>2011 CHEV 1/2 TON TRUCK</b>										
G-410-U02-2311 FUEL - GASOLINE	1,600	1,700	1,800	1,900	2,000	2,100	2,200	2,300	2,400	2,500
G-410-U02-2312 PARTS	1,250	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300
G-410-U02-2340 LICENSES	75	77	79	81	83	85	87	89	91	93
G-410-U02-3420 EQUIPMENT REPAIR & MAINTENANCE	750	770	790	810	830	850	870	890	910	930
G-410-U02-3910 INSURANCE PREMIUMS	325	330	340	350	360	370	380	390	400	410
<b>2011 CHEV SIERRA 1/2 TON TRUCK</b>										
G-410-U03-2311 FUEL - GASOLINE	1,600	1,700	1,800	1,900	2,000	2,100	2,200	2,300	2,400	2,500
G-410-U03-2312 PARTS	1,250	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300
G-410-U03-2340 LICENSES	75	77	79	81	83	85	87	89	91	93
G-410-U03-3420 EQUIPMENT REPAIR & MAINTENANCE	750	770	790	810	830	850	870	890	910	930
G-410-U03-3910 INSURANCE PREMIUMS	325	330	340	350	360	370	380	390	400	410
<b>2011 GMC SAVANA G3500 UTILITIES VAN</b>										
G-410-U04-2311 FUEL - GASOLINE	2,000	2,100	2,200	2,300	2,400	2,500	2,600	2,700	2,800	2,900
G-410-U04-2312 PARTS	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500
G-410-U04-2340 LICENSES	205	209	213	217	221	225	230	235	240	245
G-410-U04-3420 EQUIPMENT REPAIR & MAINTENANCE	750	770	790	810	830	850	870	890	910	930
G-410-U04-3910 INSURANCE PREMIUMS	325	330	340	350	360	370	380	390	400	410
<b>2014 CHEV SILVERADO</b>										
G-410-U05-2311 FUEL - GASOLINE	1,200	1,300	1,400	1,500	1,600	1,700	1,800	1,900	2,000	2,100
G-410-U05-2312 PARTS	500	510	520	530	540	550	560	570	580	590
G-410-U05-2340 LICENSES	75	77	79	81	83	85	87	89	91	93
G-410-U05-3420 EQUIPMENT REPAIR & MAINTENANCE	500	510	520	530	540	550	560	570	580	590
G-410-U05-3910 INSURANCE PREMIUMS	325	330	340	350	360	370	380	390	400	410
<b>2010 GMC 1/2 TON TRUCK</b>										
G-410-U06-2311 FUEL - GASOLINE	1,600	1,700	1,800	1,900	2,000	2,100	2,200	2,300	2,400	2,500
G-410-U06-2312 PARTS	500	510	520	530	540	550	560	570	580	590
G-410-U06-2340 LICENSES	75	77	79	81	83	85	87	89	91	93
G-410-U06-2995 MISCELLANEOUS	250	260	270	280	290	300	310	320	330	340
G-410-U06-3420 EQUIPMENT REPAIR & MAINTENANCE	250	260	270	280	290	300	310	320	330	340
G-410-U06-3910 INSURANCE PREMIUMS	325	330	340	350	360	370	380	390	400	410



Table C-13 (Cont'd)

Description	Budget	Forecast								
	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
<b>2015 GMC SIERRA 3500</b>										
G-410-U07-2311 FUEL - GASOLINE	1,600	1,700	1,800	1,900	2,000	2,100	2,200	2,300	2,400	2,500
G-410-U07-2312 PARTS	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
G-410-U07-2340 LICENSES	185	190	190	190	190	190	190	190	190	190
G-410-U07-3420 EQUIPMENT REPAIR & MAINTENANCE	500	510	520	530	540	550	560	570	580	590
G-410-U07-3910 INSURANCE PREMIUMS	325	330	340	350	360	370	380	390	400	410
<b>2017 CHEV 4WD 3500 CREW CAB</b>										
G-410-U08-2311 FUEL - GASOLINE	1,600	1,700	1,800	1,900	2,000	2,100	2,200	2,300	2,400	2,500
G-410-U08-2312 PARTS	500	510	520	530	540	550	560	570	580	590
G-410-U08-2340 LICENSES	135	140	140	140	140	140	140	140	140	140
G-410-U08-3420 EQUIPMENT REPAIR & MAINTENANCE	500	510	520	530	540	550	560	570	580	590
G-410-U08-3910 INSURANCE PREMIUMS	520	530	540	550	560	570	580	590	600	610
<b>UTILITIES TRAILER/GENSET #2</b>										
G-410-UT2-3910 INSURANCE PREMIUMS	130	133	136	139	142	145	148	151	154	157
<b>UTILITIES TRAILER/GENSET #3</b>										
G-410-UT3-3420 EQUIPMENT REPAIR & MAINTENANCE	250	260	270	280	290	300	310	320	330	340
G-410-UT3-3910 INSURANCE PREMIUMS	130	130	130	130	130	130	130	130	130	130
<b>UTILITIES TRAILER/DISTRIBUTION TRAILER</b>										
G-410-UT4-2311 FUEL - GASOLINE	250	260	270	280	290	300	320	340	360	380
G-410-UT4-3420 EQUIPMENT REPAIR & MAINTENANCE	250	260	270	280	290	300	310	320	330	340
G-410-UT4-3910 INSURANCE PREMIUMS	325	330	340	350	360	370	380	390	400	410
<b>Sub Total Operating</b>	<b>1,500,485</b>	<b>1,532,127</b>	<b>1,564,354</b>	<b>1,626,382</b>	<b>1,660,510</b>	<b>1,695,458</b>	<b>1,731,028</b>	<b>1,766,898</b>	<b>1,803,411</b>	<b>1,840,735</b>
<b>Capital-Related</b>										
Existing Debt (Principal) - Growth Related										
Existing Debt (Interest) - Growth Related										
New Growth Related Debt - Westshore (Principal)		-	-	-	-	-	-	24,951	100,968	184,589
New Growth Related Debt - Westshore (Interest)		-	-	-	-	-	-	29,720	111,757	189,354
New Growth Related Debt - Severn Estates (Principal)		-	-	-	-	-	-	-	-	-
New Growth Related Debt - Severn Estates (Interest)		-	-	-	-	-	-	-	-	-
Existing Debt (Principal) - Non-Growth Related	107,419	113,166	119,220	125,598	132,317	139,396	146,853	154,709	162,985	171,705
Existing Debt (Interest) - Non-Growth Related	136,654	130,907	124,853	118,475	111,756	104,678	97,220	89,364	81,088	72,368
New Non-Growth Related Debt (Principal)		-	-	-	-	-	-	-	-	-
New Non-Growth Related Debt (Interest)		-	-	-	-	-	-	-	-	-
Transfer to Capital		-	-	-	-	-	-	-	-	-
Transfer to Equipment/Vehicle Reserve	15,000	15,000	20,000	20,000	25,000	30,000	35,000	45,000	50,000	55,000
Transfer to Westshore Upgrade & Maintenance Reserve Fund		-	-	-	-	-	-	-	-	-
Transfer to Capital Reserve	65,525	177,261	296,362	393,302	503,840	613,971	729,181	848,967	979,431	1,081,478
<b>Sub Total Capital Related</b>	<b>324,598</b>	<b>436,334</b>	<b>560,435</b>	<b>657,375</b>	<b>772,913</b>	<b>888,044</b>	<b>1,008,254</b>	<b>1,192,711</b>	<b>1,486,229</b>	<b>1,754,493</b>
<b>Total Expenditures</b>	<b>1,825,083</b>	<b>1,968,461</b>	<b>2,124,789</b>	<b>2,283,757</b>	<b>2,433,423</b>	<b>2,583,502</b>	<b>2,739,282</b>	<b>2,959,609</b>	<b>3,289,640</b>	<b>3,595,228</b>



Table C-13 (Cont'd)

Description	Budget 2021	Forecast								
		2022	2023	2024	2025	2026	2027	2028	2029	2030
<b>Revenues</b>										
Minimum Bill Revenue	1,564,763	1,702,852	1,853,715	2,006,985	2,150,776	2,294,747	2,444,239	2,603,374	2,768,596	2,905,976
Minimum Bill Revenue - Ramara	13,287	13,752	14,234	14,732	15,247	15,781	16,333	16,905	17,497	18,109
<b>Washago</b>										
G-410-431-0849 PENALTY	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
<b>Bass Lake</b>										
G-410-432-0849 PENALTY	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
<b>Severn Estates</b>										
G-410-434-0849 PENALTY	100	100	100	100	100	100	100	100	100	100
<b>Sandcastle Estates</b>										
G-410-435-0849 PENALTY	100	100	100	100	100	100	100	100	100	100
<b>Coldwater</b>										
G-410-437-0849 PENALTY	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000
G-410-437-0887 WATER METER SALES	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
G-410-437-0890 MISCELLANEOUS	2,200	2,200	2,200	2,200	2,200	2,200	2,200	2,200	2,200	2,200
G-410-437-0981 WATER/SEWER CONNECTION CHARGE	250	250	250	250	250	250	250	250	250	250
<b>Westshore</b>										
G-410-439-0849 PENALTY	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000
G-410-439-0887 WATER METER SALES	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
G-410-439-0890 MISCELLANEOUS	100	100	100	100	100	100	100	100	100	100
G-410-439-0981 WATER/SEWER CONNECTION CHARGE	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
<b>Utility Vehicles</b>										
G-410-U01-0971 TOWNSHIP EQUIPMENT RENTALS	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
G-410-U02-0971 TOWNSHIP EQUIPMENT RENTALS	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
G-410-U03-0971 TOWNSHIP EQUIPMENT RENTALS	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
G-410-U04-0971 TOWNSHIP EQUIPMENT RENTALS	11,000	11,000	11,000	11,000	11,000	11,000	11,000	11,000	11,000	11,000
G-410-U05-0971 TOWNSHIP EQUIPMENT RENTALS	7,500	7,500	7,500	7,500	7,500	7,500	7,500	7,500	7,500	7,500
G-410-U06-0971 TOWNSHIP EQUIPMENT RENTALS	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
G-410-U07-0971 TOWNSHIP EQUIPMENT RENTALS	11,000	11,000	11,000	11,000	11,000	11,000	11,000	11,000	11,000	11,000
G-410-U08-0971 TOWNSHIP EQUIPMENT RENTALS	12,500	12,500	12,500	12,500	12,500	12,500	12,500	12,500	12,500	12,500
Contributions from Development Charges Reserve Fund - Severn Estates	-	-	-	-	-	-	-	-	-	-
Contributions from Development Charges Reserve Fund - Westshore	-	-	-	-	-	-	-	54,671	212,725	373,942
Contributions from Reserves / Reserve Funds	-	-	-	-	-	-	-	-	-	-
<b>Total Operating Revenue</b>	<b>1,686,800</b>	<b>1,825,355</b>	<b>1,976,698</b>	<b>2,130,467</b>	<b>2,274,773</b>	<b>2,419,278</b>	<b>2,569,323</b>	<b>2,783,701</b>	<b>3,107,568</b>	<b>3,406,778</b>
<b>Water Billing Recovery - Operating</b>	<b>138,283</b>	<b>143,107</b>	<b>148,091</b>	<b>153,290</b>	<b>158,650</b>	<b>164,224</b>	<b>169,959</b>	<b>175,909</b>	<b>182,072</b>	<b>188,451</b>
<b>Water Billing Recovery - Total</b>	<b>138,283</b>	<b>143,107</b>	<b>148,091</b>	<b>153,290</b>	<b>158,650</b>	<b>164,224</b>	<b>169,959</b>	<b>175,909</b>	<b>182,072</b>	<b>188,451</b>



Table C-14  
Township of Severn  
Water Services  
Water Rate Forecast (Inflated \$)

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Total Water Billing Recovery	138,283	143,107	148,091	153,290	158,650	164,224	169,959	175,909	182,072	188,451
Total Volume (Over 272 m <sup>3</sup> per year)	53,598	53,598	53,598	53,598	53,598	53,598	53,598	53,598	53,598	53,598
<b>Constant Rate</b>	<b>2.58</b>	<b>2.67</b>	<b>2.76</b>	<b>2.86</b>	<b>2.96</b>	<b>3.06</b>	<b>3.17</b>	<b>3.28</b>	<b>3.40</b>	<b>3.52</b>
<b>Annual Percentage Change</b>		<b>3.5%</b>	<b>3.5%</b>	<b>3.5%</b>	<b>3.5%</b>	<b>3.5%</b>	<b>3.5%</b>	<b>3.5%</b>	<b>3.5%</b>	<b>3.5%</b>



# Appendix D

## Detailed Wastewater Rate Calculations



# Appendix D: Detailed Wastewater Rate Calculations

Table D-1  
Township of Severn  
Wastewater Service  
Capital Budget Forecast (Uninflated \$)

Description	Budget 2021	Total	Forecast									
			2022	2023	2024	2025	2026	2027	2028	2029	2030	
<b>Capital Expenditures</b>												
<b>Coldwater Water Pollution Control Plant</b>												
MCC Room Climate Control	120,000	-										
Community Centre SPS Add second pump, piping, rails and Generator		55,000	55,000									
Hardware SPS panel upgrade		10,000	10,000									
Donlands SPS Generator		35,000	35,000									
New Effluent Sampler		12,000		12,000								
Napier Reid MCC Improvement/Upgrade		100,000			100,000							
Pipe air to NR Clarifier		6,000				6,000						
Sludge Storage Panel Repair		150,000					50,000	50,000	50,000			
Main SPS Reservoir		200,000					200,000					
New Force main from Anderson Line		500,000							500,000			
Collection System Upgrades		200,000									100,000	100,000
SPS Upgrades		120,000									60,000	60,000
<b>Westshore Waste Water Treatment Plant</b>												
Main Pump Station Valve Chamber Rebuild	22,000	-										
Forcemain Valve Chamber (New)	40,000	-										
Install MCC for spare air compressor (Parkson Filter)		15,000	15,000									
Bramshott SPS Generator		50,000		50,000								
Grayshott SPS Generator		50,000		50,000								
Generator Aldershott SPS		50,000			50,000							
Bramshott SPS Valve Chambers		40,000				40,000						
Wood Ave SPS Valve Chamber		40,000				40,000						
Grayshott SPS Valve Chambers		40,000				40,000						
Collection System Upgrades		200,000									100,000	100,000
SPS Upgrades		120,000									60,000	60,000
<b>Washago Wastewater / Lagoon</b>												
SPS #3 Panel		35,000	35,000									
SPS #1 Generator		50,000	50,000									
SPS # 2 Generator		32,000		32,000								
SPS #3 Generator		32,000			32,000							
Desludge Lagoon		125,000			25,000	25,000	25,000	25,000	25,000			





Table D-1 (Cont'd)

Description	Budget 2021	Total	Forecast								
			2022	2023	2024	2025	2026	2027	2028	2029	2030
<b>Coldwater Water Pollution Control Plant</b>											
Roof Replacement on MCC, Sludge and Office	50,000	-									
Napier Reed Skimmer Arm Rebuild	40,000	-									
Replace Supernatant Lines		5,500		5,500							
Replace SS Mixer pump		41,000		41,000							
Replace SS Blower		12,000			12,000						
Main building roof replacement		15,000			15,000						
Replace NR Blowers		40,000				40,000					
Replace SBR Blowers		10,000				10,000					
<b>Westshore Waste Water Treatment Plant</b>											
Alum Pump Replacement		16,000		16,000							
Computer Replacement		10,000					10,000				
Parkson Media Replacement		75,000							75,000		
UV Replacement		100,000							100,000		
Replace Compressor		50,000								50,000	
<b>Washago Wastewater / Lagoon</b>											
SPS #2 Electrical Panel	50,000	-									
Pump Station #2 Rehabilitation		35,000	35,000								
<b>Vehicle Replacement:</b>											
Two (2) Computers (Growth)	2,000	-									
GPS Handheld x 3		3,000	1,500	1,500							
Laptops x 3/ hotspot		1,500				1,500					
Truck U08		40,000	20,000						20,000		
Laptops x 2/hotspot		2,000	1,000						1,000		
Truck U05		40,000		20,000						20,000	
New Crane Truck		50,000		50,000							
Truck U06		40,000			20,000						20,000
Truck U01		40,000			20,000						20,000
Truck U02		20,000				20,000					
Truck U03		20,000				20,000					
Truck U04		20,000					20,000				
Truck U07		50,000					50,000				
<b>Washago Wastewater / Lagoon</b>											
Lagoon Study		45,000		15,000			15,000		15,000		
<b>Growth Related:</b>											
<b>Coldwater Water Pollution Control Plant</b>											
Twin Feed Line to Treatment Plant Design	30,000	-									
Twin feed line to plant		370,000	370,000								
Plant Expansion Environmental Assessment	70,000	-									
Plant Expansion		1,730,000	865,000	865,000							
Sturgeon Bay Road PS Upgrade		200,000						200,000			
<b>Westshore Waste Water Treatment Plant</b>											
Timberline Pump Station Panel Upgrade VFD and Pump Upgrades	55,000	-									



Table D-1 (Cont'd)

Description	Budget 2021	Total	Forecast									
			2022	2023	2024	2025	2026	2027	2028	2029	2030	
Bayou SPS generator, reservoir and property		250,000	250,000									
Main SPS Upgrade with reservoir		200,000	200,000									
Wood Ave SPS Generators		50,000		50,000								
Twin Feed Line to Plant and Valve Chamber		300,000		300,000								
Lakeside Upgrade SPS		150,000			150,000							
Engineering for Plant Upgrade		200,000			200,000							
Plant Expansion		11,540,000						1,731,000	4,904,500	4,904,500		
<b>Total Capital Expenditures</b>	<b>479,000</b>	<b>18,038,000</b>	<b>1,942,500</b>	<b>1,476,000</b>	<b>624,000</b>	<b>273,000</b>	<b>361,500</b>	<b>2,017,000</b>	<b>5,689,500</b>	<b>5,294,500</b>	<b>360,000</b>	



Table D-2  
Township of Severn  
Wastewater Service  
Capital Budget Forecast (Inflated \$)

Description	Budget 2021	Total	Forecast									
			2022	2023	2024	2025	2026	2027	2028	2029	2030	
<b>Capital Expenditures</b>												
<b>Lifecycle:</b>												
<b>Coldwater Water Pollution Control Plant</b>												
MCC Room Climate Control	120,000	-	-	-	-	-	-	-	-	-	-	-
Community Centre SPS Add second pump, piping, rails and Generator	-	56,000	56,000	-	-	-	-	-	-	-	-	-
Hardware SPS panel upgrade	-	10,000	10,000	-	-	-	-	-	-	-	-	-
Donlands SPS Generator	-	36,000	36,000	-	-	-	-	-	-	-	-	-
New Effluent Sampler	-	12,000	-	12,000	-	-	-	-	-	-	-	-
Napier Reid MCC Improvement/Upgrade	-	106,000	-	-	106,000	-	-	-	-	-	-	-
Pipe air to NR Clarifier	-	6,000	-	-	-	6,000	-	-	-	-	-	-
Sludge Storage Panel Repair	-	168,000	-	-	-	-	55,000	56,000	57,000	-	-	-
Main SPS Reservoir	-	221,000	-	-	-	-	221,000	-	-	-	-	-
New Force main from Anderson Line	-	574,000	-	-	-	-	-	-	574,000	-	-	-
Collection System Upgrades	-	237,000	-	-	-	-	-	-	-	117,000	120,000	-
SPS Upgrades	-	142,000	-	-	-	-	-	-	-	70,000	72,000	-
<b>Westshore Waste Water Treatment Plant</b>												
Main Pump Station Valve Chamber Rebuild	22,000	-	-	-	-	-	-	-	-	-	-	-
Forcemain Valve Chamber (New)	40,000	-	-	-	-	-	-	-	-	-	-	-
Install MCC for spare air compressor (Parkson Filter)	-	15,000	15,000	-	-	-	-	-	-	-	-	-
Bramshott SPS Generator	-	52,000	-	52,000	-	-	-	-	-	-	-	-
Grayscott SPS Generator	-	52,000	-	52,000	-	-	-	-	-	-	-	-
Generator Aldershott SPS	-	53,000	-	-	53,000	-	-	-	-	-	-	-
Bramshott SPS Valve Chambers	-	43,000	-	-	-	43,000	-	-	-	-	-	-
Wood Ave SPS Valve Chamber	-	43,000	-	-	-	43,000	-	-	-	-	-	-
Grayscott SPS Valve Chambers	-	43,000	-	-	-	43,000	-	-	-	-	-	-
Collection System Upgrades	-	237,000	-	-	-	-	-	-	-	117,000	120,000	-
SPS Upgrades	-	142,000	-	-	-	-	-	-	-	70,000	72,000	-
<b>Washago Wastewater / Lagoon</b>												
SPS #3 Panel	-	36,000	36,000	-	-	-	-	-	-	-	-	-
SPS #1 Generator	-	51,000	51,000	-	-	-	-	-	-	-	-	-
SPS # 2 Generator	-	34,000	-	-	34,000	-	-	-	-	-	-	-
SPS #3 Generator	-	35,000	-	-	-	35,000	-	-	-	-	-	-
Desludge Lagoon	-	139,000	-	-	27,000	27,000	28,000	28,000	29,000	-	-	-
<b>Coldwater Water Pollution Control Plant</b>												
Roof Replacement on MCC, Sludge and Office	50,000	-	-	-	-	-	-	-	-	-	-	-
Napier Reed Skimmer Arm Rebuild	40,000	-	-	-	-	-	-	-	-	-	-	-
Replace Supernatant Lines	-	6,000	-	6,000	-	-	-	-	-	-	-	-
Replace SS Mixer pump	-	43,000	-	43,000	-	-	-	-	-	-	-	-
Replace SS Blower	-	13,000	-	-	13,000	-	-	-	-	-	-	-
Main building roof replacement	-	16,000	-	-	16,000	-	-	-	-	-	-	-
Replace NR Blowers	-	43,000	-	-	-	43,000	-	-	-	-	-	-
Replace SBR Blowers	-	11,000	-	-	-	11,000	-	-	-	-	-	-
<b>Westshore Waste Water Treatment Plant</b>												
Alum Pump Replacement	-	17,000	-	17,000	-	-	-	-	-	-	-	-
Computer Replacement	-	11,000	-	-	-	-	-	11,000	-	-	-	-
Parkson Media Replacement	-	86,000	-	-	-	-	-	-	86,000	-	-	-
UV Replacement	-	115,000	-	-	-	-	-	-	115,000	-	-	-



Table D-2 (Cont'd)

Description	Budget 2021	Total	Forecast									
			2022	2023	2024	2025	2026	2027	2028	2029	2030	
Replace Compressor	-	59,000	-	-	-	-	-	-	-	-	59,000	-
<b>Washago Wastewater / Lagoon</b>												
SPS #2 Electrical Panel	50,000	-	-	-	-	-	-	-	-	-	-	-
Pump Station #2 Rehabilitation	-	36,000	36,000	-	-	-	-	-	-	-	-	-
<b>Vehicle Replacement:</b>												
Two (2) Computers (Growth)	2,000	-	-	-	-	-	-	-	-	-	-	-
GPS Handheld x 3	-	4,000	2,000	2,000	-	-	-	-	-	-	-	-
Laptops x 3/ hotspot	-	2,000	-	-	-	-	2,000	-	-	-	-	-
Truck U08	-	43,000	20,000	-	-	-	-	-	-	23,000	-	-
Laptops x 2/hotspot	-	2,000	1,000	-	-	-	-	-	1,000	-	-	-
Truck U05	-	44,000	-	21,000	-	-	-	-	-	-	23,000	-
New Crane Truck	-	52,000	-	52,000	-	-	-	-	-	-	-	-
Truck U06	-	45,000	-	-	21,000	-	-	-	-	-	-	24,000
Truck U01	-	45,000	-	-	21,000	-	-	-	-	-	-	24,000
Truck U02	-	22,000	-	-	-	22,000	-	-	-	-	-	-
Truck U03	-	22,000	-	-	-	22,000	-	-	-	-	-	-
Truck U04	-	22,000	-	-	-	-	22,000	-	-	-	-	-
Truck U07	-	55,000	-	-	-	-	55,000	-	-	-	-	-
<b>Washago Wastewater / Lagoon</b>												
Lagoon Study	-	50,000	-	16,000	-	-	17,000	-	-	17,000	-	-
<b>Growth Related:</b>												
<b>Coldwater Water Pollution Control Plant</b>												
Twin Feed Line to Treatment Plant Design	30,000	-	-	-	-	-	-	-	-	-	-	-
Twin feed line to plant	-	377,000	377,000	-	-	-	-	-	-	-	-	-
Plant Expansion Environmental Assessment	70,000	-	-	-	-	-	-	-	-	-	-	-
Plant Expansion	-	1,782,000	882,000	900,000	-	-	-	-	-	-	-	-
Sturgeon Bay Road PS Upgrade	-	225,000	-	-	-	-	-	225,000	-	-	-	-
<b>Westshore Waste Water Treatment Plant</b>												
Timberline Pump Station Panel Upgrade VFD and Pump Upgrades	55,000	-	-	-	-	-	-	-	-	-	-	-
Bayou SPS generator, reservoir and property	-	255,000	255,000	-	-	-	-	-	-	-	-	-
Main SPS Upgrade with reservoir	-	204,000	204,000	-	-	-	-	-	-	-	-	-
Wood Ave SPS Generators	-	52,000	-	52,000	-	-	-	-	-	-	-	-
Twin Feed Line to Plant and Valve Chamber	-	312,000	-	312,000	-	-	-	-	-	-	-	-
Lakeside Upgrade SPS	-	159,000	-	-	159,000	-	-	-	-	-	-	-
Engineering for Plant Upgrade	-	212,000	-	-	212,000	-	-	-	-	-	-	-
Plant Expansion	-	13,329,000	-	-	-	-	-	1,949,000	5,634,000	5,746,000	-	-
<b>Total Capital Expenditures</b>	<b>479,000</b>	<b>20,314,000</b>	<b>1,981,000</b>	<b>1,537,000</b>	<b>662,000</b>	<b>295,000</b>	<b>400,000</b>	<b>2,270,000</b>	<b>6,535,000</b>	<b>6,202,000</b>	<b>432,000</b>	
<b>Capital Financing</b>												
Provincial/Federal Grants	-	-	-	-	-	-	-	-	-	-	-	-
Development Charges Reserve Fund - Coldwater	67,443	-	-	-	-	-	-	-	-	-	-	-
Development Charges Reserve Fund - Westshore	13,750	4,058,750	267,750	91,000	371,000	-	-	1,949,000	634,000	746,000	-	-
Non-Growth Related Debenture Requirements	-	1,520,000	800,000	500,000	220,000	-	-	-	-	-	-	-
Growth Related Debenture Requirements - Coldwater	-	1,812,888	849,526	770,690	-	-	-	192,672	-	-	-	-
Growth Related Debenture Requirements - Westshore	-	10,000,000	-	-	-	-	-	-	5,000,000	5,000,000	-	-
Operating Contributions	-	-	-	-	-	-	-	-	-	-	-	-
Utilities Equipment/Vehicle Reserve	2,000	339,034	48,724	54,310	42,000	44,000	55,000	1,000	23,000	23,000	48,000	-
Westshore Upgrade & Maintenance Reserve Fund	117,000	163,652	15,000	121,000	27,652	-	-	-	-	-	-	-
Wastewater Reserve	278,807	2,419,676	-	-	1,348	251,000	345,000	127,328	878,000	433,000	384,000	-
<b>Total Capital Financing</b>	<b>479,000</b>	<b>20,314,000</b>	<b>1,981,000</b>	<b>1,537,000</b>	<b>662,000</b>	<b>295,000</b>	<b>400,000</b>	<b>2,270,000</b>	<b>6,535,000</b>	<b>6,202,000</b>	<b>432,000</b>	



Table D-3  
Township of Severn  
Wastewater Services  
Schedule of Non-Growth-Related Debenture Repayments (Inflated \$)

Debenture Year	2021	Principal (Inflated)	Forecast									
			2022	2023	2024	2025	2026	2027	2028	2029	2030	
2022		800,000		58,865	58,865	58,865	58,865	58,865	58,865	58,865	58,865	58,865
2023		500,000			36,791	36,791	36,791	36,791	36,791	36,791	36,791	36,791
2024		220,000				16,188	16,188	16,188	16,188	16,188	16,188	16,188
2025		-					-	-	-	-	-	-
2026		-						-	-	-	-	-
2027		-							-	-	-	-
2028		-								-	-	-
2029		-									-	-
2030		-										-
<b>Total Annual Debt Charges</b>	-	<b>1,520,000</b>	-	58,865	95,656	111,844	111,844	111,844	111,844	111,844	111,844	111,844

Table D-4  
Township of Severn  
Wastewater Services  
Schedule of Growth-Related Debenture Repayments – Coldwater (Inflated \$)

Debenture Year	2021	Principal (Inflated)	Forecast									
			2022	2023	2024	2025	2026	2027	2028	2029	2030	
2022		849,526		62,510	62,510	62,510	62,510	62,510	62,510	62,510	62,510	62,510
2023		770,690			56,709	56,709	56,709	56,709	56,709	56,709	56,709	56,709
2024		-										
2025		-										
2026		-										
2027		192,672							14,177	14,177	14,177	14,177
2028		-										
2029		-										
2030		-										
<b>Total Annual Debt Charges</b>	-	<b>1,812,888</b>	-	62,510	119,218	119,218	119,218	119,218	119,218	133,395	133,395	133,395



Table D-5  
Township of Severn  
Wastewater Services  
Schedule of Growth-Related Debenture Repayments – Westshore (Inflated \$)

Debenture Year	2021	Principal (Inflated)	Forecast								
			2022	2023	2024	2025	2026	2027	2028	2029	2030
2022		-		-	-	-	-	-	-	-	-
2023		-			-	-	-	-	-	-	-
2024		-				-	-	-	-	-	-
2025		-					-	-	-	-	-
2026		-						-	-	-	-
2027		-							-	-	-
2028		5,000,000								367,909	367,909
2029		5,000,000									367,909
2030		-									
<b>Total Annual Debt Charges</b>	-	<b>10,000,000</b>	-	-	-	-	-	-	-	367,909	735,818

Table D-6  
Township of Severn  
Wastewater Services  
Wastewater Capital Reserve Fund Continuity (Inflated \$)

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Opening Balance	435,308	4,807	4,903	56,316	147,377	94,340	76,267	419,708	150,646	486,401
Transfer from Operating	-	-	50,309	89,519	196,113	325,431	462,539	605,985	759,218	891,021
Transfer to Capital	278,807			1,348	251,000	345,000	127,328	878,000	433,000	384,000
Transfer to Operating	151,788	-	-	-	-	-	-	-	-	-
<b>Closing Balance</b>	<b>4,713</b>	<b>4,807</b>	<b>55,212</b>	<b>144,487</b>	<b>92,490</b>	<b>74,772</b>	<b>411,478</b>	<b>147,692</b>	<b>476,864</b>	<b>993,422</b>
Interest	94	96	1,104	2,890	1,850	1,495	8,230	2,954	9,537	19,868



Table D-7  
Township of Severn  
Wastewater Services  
Wastewater Development Charges Reserve Fund Continuity – Coldwater (Inflated \$)

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Opening Balance	(1,107,909)	(848,581)	(498,140)	(175,421)	17,108	(28,320)	(38,621)	(82,097)	(103,413)	(159,457)
Development Charge Proceeds	343,410	360,208	388,668	311,412	74,346	109,674	77,352	114,108	80,478	118,716
Transfer to Capital	67,443	-	62,510	119,218	119,218	119,218	119,218	133,395	133,395	133,395
Transfer to Operating	-	-	-	-	-	-	-	-	-	-
<b>Closing Balance</b>	<b>(831,942)</b>	<b>(488,373)</b>	<b>(171,982)</b>	<b>16,772</b>	<b>(27,764)</b>	<b>(37,864)</b>	<b>(80,488)</b>	<b>(101,385)</b>	<b>(156,330)</b>	<b>(174,136)</b>
Interest	(16,639)	(9,767)	(3,440)	335	(555)	(757)	(1,610)	(2,028)	(3,127)	(3,483)
Required from Development Charges	67,443	849,526	770,690	-	-	-	192,672	-	-	-

Table D-8  
Township of Severn  
Wastewater Services  
Wastewater Development Charges Reserve Fund Continuity – Westshore (Inflated \$)

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Opening Balance	(311,757)	150,993	450,012	946,690	1,099,799	1,644,647	2,210,847	811,045	735,400	179,848
Development Charge Proceeds	473,540	557,945	569,115	502,545	512,600	522,850	533,295	543,935	554,830	565,920
Transfer to Capital	13,750	267,750	91,000	371,000	-	-	1,949,000	634,000	746,000	-
Transfer to Operating	-	-	-	-	-	-	-	-	367,909	735,818
<b>Closing Balance</b>	<b>148,033</b>	<b>441,188</b>	<b>928,127</b>	<b>1,078,235</b>	<b>1,612,399</b>	<b>2,167,497</b>	<b>795,142</b>	<b>720,980</b>	<b>176,321</b>	<b>9,950</b>
Interest	2,961	8,824	18,563	21,565	32,248	43,350	15,903	14,420	3,526	199
Required from Development Charges	13,750	267,750	91,000	371,000	-	-	1,949,000	5,634,000	5,746,000	-

Table D-9  
Township of Severn  
Wastewater Services  
Utilities Equipment/Vehicle Reserve Continuity – Wastewater Portion (Inflated \$)

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Opening Balance	207,076	220,076	149,877	95,567	88,567	84,567	69,567	108,567	130,567	157,567
Transfer from Operating	15,000	-	-	35,000	40,000	40,000	40,000	45,000	50,000	50,000
Transfer to Capital	2,000	48,724	54,310	42,000	44,000	55,000	1,000	23,000	23,000	48,000
Transfer to Operating	-	21,475	-	-	-	-	-	-	-	-
<b>Closing Balance</b>	<b>220,076</b>	<b>149,877</b>	<b>95,567</b>	<b>88,567</b>	<b>84,567</b>	<b>69,567</b>	<b>108,567</b>	<b>130,567</b>	<b>157,567</b>	<b>159,567</b>



Table D-10  
Township of Severn  
Wastewater Services  
Westshore Upgrade & Maintenance Reserve Fund – Wastewater Portion (Inflated \$)

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Opening Balance	280,652	163,652	148,652	27,652	-	-	-	-	-	-
Transfer from Operating	-	-	-	-	-	-	-	-	-	-
Transfer to Capital	117,000	15,000	121,000	27,652	-	-	-	-	-	-
Transfer to Operating	-	-	-	-	-	-	-	-	-	-
<b>Closing Balance</b>	<b>163,652</b>	<b>148,652</b>	<b>27,652</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>





**Table D-11**  
**Township of Severn**  
**Wastewater Services**  
**Operating Budget Forecast (Inflated \$)**

Description	Budget 2021	Forecast								
		2022	2023	2024	2025	2026	2027	2028	2029	2030
<b>Expenditures</b>										
<u>Operating Costs</u>										
<b>Washago:</b>										
G-410-411-1110 REGULAR SALARIES & WAGES	25,000	25,500	26,000	26,500	27,000	27,500	28,100	28,700	29,300	29,900
G-410-411-1130 OVERTIME-SHIFT-RECAL ETC.	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
G-410-411-1140 LOST TIME : SICK VACN ETC	5,000	5,100	5,200	5,300	5,400	5,500	5,600	5,700	5,800	5,900
G-410-411-1141 ON CALL	800	820	840	860	880	900	920	940	960	980
G-410-411-1155 NON TAXABLE - MEALS / UNIFORM PAY	200	204	208	212	216	220	224	228	233	238
G-410-411-1161 EMPLOYER HEALTH TAX	600	610	620	630	640	650	660	670	680	690
G-410-411-1162 C.P.P.	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100
G-410-411-1163 E.I.	400	410	420	430	440	450	460	470	480	490
G-410-411-1164 O.M.E.R.S.	3,300	3,400	3,500	3,600	3,700	3,800	3,900	4,000	4,100	4,200
G-410-411-1165 GROUP LIFE INSURANCE	3,600	3,700	3,800	3,900	4,000	4,100	4,200	4,300	4,400	4,500
G-410-411-1167 WORKPLACE SAFETY INSURANCE	900	900	900	900	900	900	900	900	900	900
G-410-411-2220 BUILDING & PROPERTY MAINT	3,000	3,100	3,200	3,300	3,400	3,500	3,600	3,700	3,800	3,900
G-410-411-2227 SEWER INFILTRATION LINES	5,000	5,100	5,200	5,300	5,400	5,500	5,600	5,700	5,800	5,900
G-410-411-2418 SULPHATE	5,000	5,300	5,600	5,900	6,200	6,500	6,800	7,100	7,500	7,900
G-410-411-2610 OFFICE SUPPLIES	500	510	520	530	540	550	560	570	580	590
G-410-411-2810 HYDRO	2,500	2,600	2,700	2,800	2,900	3,000	3,100	3,200	3,300	3,400
G-410-411-2900 SAFETY EQUIPMENT	500	510	520	530	540	550	560	570	580	590
G-410-411-2910 UNIFORMS	280	290	300	310	320	330	340	350	360	370
G-410-411-2995 MISCELLANEOUS	100	102	104	106	108	110	112	114	116	118
G-410-411-3110 MILEAGE	100	102	104	106	108	110	112	114	116	118
G-410-411-3140 MEMBERSHIPS	200	204	208	212	216	220	224	228	233	238
G-410-411-3150 TRAINING COURSE EXPENSES	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
G-410-411-3205 JOINT HEALTH & SAFETY	100	102	104	106	108	110	112	114	116	118
G-410-411-3220 TELEPHONE	4,200	4,300	4,400	4,500	4,600	4,700	4,800	4,900	5,000	5,100
G-410-411-3230 ADVERTISING	100	102	104	106	108	110	112	114	116	118
G-410-411-3360 CONSULTANTS	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500
G-410-411-3392 M.O.E. TESTING	3,000	3,100	3,200	3,300	3,400	3,500	3,600	3,700	3,800	3,900
G-410-411-3420 EQUIPMENT REPAIR & MAINTENANCE	47,500	48,500	49,500	50,500	51,500	52,500	53,600	54,700	55,800	56,900
G-410-411-3910 INSURANCE PREMIUMS	7,670	7,800	8,000	8,200	8,400	8,600	8,800	9,000	9,200	9,400
G-410-411-7970 INTERNAL DEPT EXPENDITURE TRSF	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
G-410-411-7981 TOWNSHIP VEHICLE RENTAL	7,000	7,100	7,200	7,300	7,400	7,500	7,700	7,900	8,100	8,300
<b>Coldwater</b>										
G-410-412-1110 REGULAR SALARIES & WAGES	93,600	95,500	97,400	99,300	101,300	103,300	105,400	107,500	109,700	111,900
G-410-412-1120 PART-TIME SALARIES & WAGES	4,200	4,300	4,400	-	-	-	-	-	-	-
G-410-412-1130 OVERTIME-SHIFT-RECAL ETC.	11,100	11,300	11,500	11,700	11,900	12,100	12,300	12,500	12,800	13,100
G-410-412-1140 LOST TIME : SICK VACN ETC	9,000	9,200	9,400	9,600	9,800	10,000	10,200	10,400	10,600	10,800
G-410-412-1141 ON CALL	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500
G-410-412-1155 NON TAXABLE - MEALS / UNIFORM PAY	400	410	420	430	440	450	460	470	480	490
G-410-412-1161 EMPLOYER HEALTH TAX	2,200	2,200	2,200	2,200	2,200	2,200	2,200	2,200	2,200	2,200
G-410-412-1162 C.P.P.	4,100	4,200	4,300	4,400	4,500	4,600	4,700	4,800	4,900	5,000
G-410-412-1163 E.I.	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400
G-410-412-1164 O.M.E.R.S.	12,300	12,500	12,800	13,100	13,400	13,700	14,000	14,300	14,600	14,900



Table D-11 (Cont'd)

Description	Budget	Forecast								
	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
G-410-412-1165 GROUP LIFE INSURANCE	13,400	13,700	14,000	14,300	14,600	14,900	15,200	15,500	15,800	16,100
G-410-412-1167 WORKPLACE SAFETY INSURANCE	3,600	3,700	3,800	3,900	4,000	4,100	4,200	4,300	4,400	4,500
G-410-412-2220 BUILDING & PROPERTY MAINT	15,000	15,300	15,600	15,900	16,200	16,500	16,800	17,100	17,400	17,700
G-410-412-2227 SEWER INFILTRATION LINES	25,000	25,500	26,000	26,500	27,000	27,500	28,100	28,700	29,300	29,900
G-410-412-2310 FUEL - DIESEL	500	530	560	590	620	650	680	710	750	790
G-410-412-2418 SULPHATE	24,000	25,200	26,500	27,800	29,200	30,700	32,200	33,800	35,500	37,300
G-410-412-2610 OFFICE SUPPLIES	500	510	520	530	540	550	560	570	580	590
G-410-412-2810 HYDRO	100,000	102,000	104,000	106,100	108,200	110,400	112,600	114,900	117,200	119,500
G-410-412-2830 HEAT - NATURAL GAS	2,100	2,200	2,300	2,400	2,500	2,600	2,700	2,800	2,900	3,000
G-410-412-2900 SAFETY EQUIPMENT	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
G-410-412-2910 UNIFORMS	520	530	540	550	560	570	580	590	600	610
G-410-412-3110 MILEAGE	100	102	104	106	108	110	112	114	116	118
G-410-412-3140 MEMBERSHIPS	300	310	320	330	340	350	360	370	380	390
G-410-412-3150 TRAINING COURSE EXPENSES	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500
G-410-412-3205 JOINT HEALTH & SAFETY	100	102	104	106	108	110	112	114	116	118
G-410-412-3220 TELEPHONE	9,400	9,600	9,800	10,000	10,200	10,400	10,600	10,800	11,000	11,200
G-410-412-3230 ADVERTISING	130	133	136	139	142	145	148	151	154	157
G-410-412-3326 SLUDGE	10,000	10,200	10,400	10,600	10,800	11,000	11,200	11,400	11,600	11,800
G-410-412-3360 CONSULTANTS	2,500	2,600	2,700	2,800	2,900	3,000	3,100	3,200	3,300	3,400
G-410-412-3392 M.O.E. TESTING	10,000	10,200	10,400	10,600	10,800	11,000	11,200	11,400	11,600	11,800
G-410-412-3420 EQUIPMENT REPAIR & MAINTENANCE	131,200	133,800	136,500	139,200	142,000	144,800	147,700	150,700	153,700	156,800
G-410-412-3995 PIL - SEVERN PORTION	11,000	11,200	11,400	11,600	11,800	12,000	12,200	12,400	12,600	12,900
G-410-412-7970 INTERNAL DEPT EXPENDITURE TRSF	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
G-410-412-7981 TOWNSHIP VEHICLE RENTAL	25,000	25,500	26,000	26,500	27,000	27,500	28,100	28,700	29,300	29,900
<b>Westshore</b>										
G-410-414-1110 REGULAR SALARIES & WAGES	93,600	95,500	97,400	99,300	101,300	103,300	105,400	107,500	109,700	111,900
G-410-414-1120 PART-TIME SALARIES & WAGES	4,200	4,300	4,400	-	-	-	-	-	-	-
G-410-414-1130 OVERTIME-SHIFT-RECAL ETC.	13,000	13,300	13,600	13,900	14,200	14,500	14,800	15,100	15,400	15,700
G-410-414-1140 LOST TIME : SICK VACN ETC	14,000	14,300	14,600	14,900	15,200	15,500	15,800	16,100	16,400	16,700
G-410-414-1141 ON CALL	2,300	2,300	2,300	2,300	2,300	2,300	2,300	2,300	2,300	2,300
G-410-414-1155 NON TAXABLE - MEALS / UNIFORM PAY	600	610	620	630	640	650	660	670	680	690
G-410-414-1161 EMPLOYER HEALTH TAX	2,200	2,200	2,200	2,200	2,200	2,200	2,200	2,200	2,200	2,200
G-410-414-1162 C.P.P.	4,100	4,200	4,300	4,400	4,500	4,600	4,700	4,800	4,900	5,000
G-410-414-1163 E.I.	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400
G-410-414-1164 O.M.E.R.S.	12,300	12,500	12,800	13,100	13,400	13,700	14,000	14,300	14,600	14,900
G-410-414-1165 GROUP LIFE INSURANCE	13,400	13,700	14,000	14,300	14,600	14,900	15,200	15,500	15,800	16,100
G-410-414-1167 WORKPLACE SAFETY INSURANCE	3,600	3,700	3,800	3,900	4,000	4,100	4,200	4,300	4,400	4,500
G-410-414-2220 BUILDING & PROPERTY MAINT	10,000	10,200	10,400	10,600	10,800	11,000	11,200	11,400	11,600	11,800
G-410-414-2227 SEWER INFILTRATION LINES	25,000	25,500	26,000	26,500	27,000	27,500	28,100	28,700	29,300	29,900
G-410-414-2310 FUEL - DIESEL	500	530	560	590	620	650	680	710	750	790
G-410-414-2418 SULPHATE	29,000	30,500	32,000	33,600	35,300	37,100	39,000	41,000	43,100	45,300
G-410-414-2419 CHEMICALS	2,500	2,600	2,700	2,800	2,900	3,000	3,200	3,400	3,600	3,800
G-410-414-2610 OFFICE SUPPLIES	500	510	520	530	540	550	560	570	580	590
G-410-414-2810 HYDRO	84,000	85,700	87,400	89,100	90,900	92,700	94,600	96,500	98,400	100,400
G-410-414-2830 HEAT - NATURAL GAS	7,600	8,000	8,400	8,800	9,200	9,700	10,200	10,700	11,200	11,800
G-410-414-2900 SAFETY EQUIPMENT	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
G-410-414-2910 UNIFORMS	800	820	840	860	880	900	920	940	960	980



Table D-11 (Cont'd)

Description	Budget	Forecast								
	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
G-410-414-3110 MILEAGE	200	204	208	212	216	220	224	228	233	238
G-410-414-3140 MEMBERSHIPS	600	610	620	630	640	650	660	670	680	690
G-410-414-3150 TRAINING COURSE EXPENSES	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700
G-410-414-3205 JOINT HEALTH & SAFETY	100	102	104	106	108	110	112	114	116	118
G-410-414-3220 TELEPHONE	14,500	14,800	15,100	15,400	15,700	16,000	16,300	16,600	16,900	17,200
G-410-414-3230 ADVERTISING	200	204	208	212	216	220	224	228	233	238
G-410-414-3320 LEGAL	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
G-410-414-3326 SLUDGE	40,000	40,800	41,600	42,400	43,200	44,100	45,000	45,900	46,800	47,700
G-410-414-3360 CONSULTANTS	3,500	3,600	3,700	3,800	3,900	4,000	4,100	4,200	4,300	4,400
G-410-414-3392 M.O.E. TESTING	10,200	10,400	10,600	10,800	11,000	11,200	11,400	11,600	11,800	12,000
G-410-414-3420 EQUIPMENT REPAIR & MAINTENANCE	158,000	161,200	164,400	167,700	171,100	174,500	178,000	181,600	185,200	188,900
G-410-414-3910 INSURANCE PREMIUMS	3,640	3,700	3,800	3,900	4,000	4,100	4,200	4,300	4,400	4,500
G-410-414-3995 PIL - SEVERN PORTION	3,000	3,100	3,200	3,300	3,400	3,500	3,600	3,700	3,800	3,900
G-410-414-7970 INTERNAL DEPT EXPENDITURE TRSF	7,000	7,100	7,200	7,300	7,400	7,500	7,700	7,900	8,100	8,300
G-410-414-7981 TOWNSHIP VEHICLE RENTAL	25,000	25,500	26,000	26,500	27,000	27,500	28,100	28,700	29,300	29,900
Additional Staff Salaries & Benefits				32,700	33,400	34,100	34,800	35,500	36,200	36,900
<b>2010 GMC SIERRA 1/2 TON</b>										
G-410-U01-2311 FUEL - GASOLINE	1,600	1,700	1,800	1,900	2,000	2,100	2,200	2,300	2,400	2,500
G-410-U01-2312 PARTS	500	510	520	530	540	550	560	570	580	590
G-410-U01-2340 LICENSES	75	77	79	81	83	85	87	89	91	93
G-410-U01-3420 EQUIPMENT REPAIR & MAINTENANCE	250	260	270	280	290	300	310	320	330	340
G-410-U01-3910 INSURANCE PREMIUMS	325	330	340	350	360	370	380	390	400	410
<b>2011 CHEV 1/2 TON TRUCK</b>										
G-410-U02-2311 FUEL - GASOLINE	1,600	1,700	1,800	1,900	2,000	2,100	2,200	2,300	2,400	2,500
G-410-U02-2312 PARTS	1,250	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300
G-410-U02-2340 LICENSES	75	77	79	81	83	85	87	89	91	93
G-410-U02-3420 EQUIPMENT REPAIR & MAINTENANCE	750	770	790	810	830	850	870	890	910	930
G-410-U02-3910 INSURANCE PREMIUMS	325	330	340	350	360	370	380	390	400	410
<b>2011 CHEV SIERRA 1/2 TON TRUCK</b>										
G-410-U03-2311 FUEL - GASOLINE	1,600	1,700	1,800	1,900	2,000	2,100	2,200	2,300	2,400	2,500
G-410-U03-2312 PARTS	1,250	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300
G-410-U03-2340 LICENSES	75	77	79	81	83	85	87	89	91	93
G-410-U03-3420 EQUIPMENT REPAIR & MAINTENANCE	750	770	790	810	830	850	870	890	910	930
G-410-U03-3910 INSURANCE PREMIUMS	325	330	340	350	360	370	380	390	400	410
<b>2011 GMC SAVANA G3500 UTILITIES VAN</b>										
G-410-U04-2311 FUEL - GASOLINE	2,000	2,100	2,200	2,300	2,400	2,500	2,600	2,700	2,800	2,900
G-410-U04-2312 PARTS	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500
G-410-U04-2340 LICENSES	205	209	213	217	221	225	230	235	240	245
G-410-U04-3420 EQUIPMENT REPAIR & MAINTENANCE	750	770	790	810	830	850	870	890	910	930
G-410-U04-3910 INSURANCE PREMIUMS	325	330	340	350	360	370	380	390	400	410
<b>2014 CHEV SILVERADO</b>										
G-410-U05-2311 FUEL - GASOLINE	1,200	1,300	1,400	1,500	1,600	1,700	1,800	1,900	2,000	2,100



Table D-11 (Cont'd)

Description	Budget	Forecast								
	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
G-410-U05-2312 PARTS	500	510	520	530	541	552	563	574	585	597
G-410-U05-2340 LICENSES	75	77	79	81	83	85	87	89	91	93
G-410-U05-3420 EQUIPMENT REPAIR & MAINTENANCE	500	510	520	530	540	550	560	570	580	590
G-410-U05-3910 INSURANCE PREMIUMS	325	330	340	350	360	370	380	390	400	410
<b>2010 GMC 1/2 TON TRUCK</b>										
G-410-U06-2311 FUEL - GASOLINE	1,600	1,700	1,800	1,900	2,000	2,100	2,200	2,300	2,400	2,500
G-410-U06-2312 PARTS	500	510	520	530	541	552	563	574	585	597
G-410-U06-2340 LICENSES	75	77	79	81	83	85	87	89	91	93
G-410-U06-2995 MISCELLANEOUS	250	260	270	280	290	300	310	320	330	340
G-410-U06-3420 EQUIPMENT REPAIR & MAINTENANCE	250	260	270	280	290	300	310	320	330	340
G-410-U06-3910 INSURANCE PREMIUMS	325	330	340	350	360	370	380	390	400	410
<b>2015 GMC SIERRA 3500</b>										
G-410-U07-2311 FUEL - GASOLINE	1,600	1,700	1,800	1,900	2,000	2,100	2,200	2,300	2,400	2,500
G-410-U07-2312 PARTS	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
G-410-U07-2340 LICENSES	185	189	193	197	201	205	209	213	217	221
G-410-U07-3420 EQUIPMENT REPAIR & MAINTENANCE	500	510	520	530	540	550	560	570	580	590
G-410-U07-3910 INSURANCE PREMIUMS	325	330	340	350	360	370	380	390	400	410
<b>2017 CHEV 4WD 3500 CREW CAB</b>										
G-410-U08-2311 FUEL - GASOLINE	1,600	1,700	1,800	1,900	2,000	2,100	2,200	2,300	2,400	2,500
G-410-U08-2312 PARTS	500	510	520	530	541	552	563	574	585	597
G-410-U08-2340 LICENSES	135	138	141	144	147	150	153	156	159	162
G-410-U08-3420 EQUIPMENT REPAIR & MAINTENANCE	500	510	520	530	540	550	560	570	580	590
G-410-U08-3910 INSURANCE PREMIUMS	520	530	540	550	560	570	580	590	600	610
<b>UTILITIES TRAILER/GENSET #2</b>										
G-410-UT2-3910 INSURANCE PREMIUMS	130	133	136	139	142	145	148	151	154	157
<b>UTILITIES TRAILER/GENSET #3</b>										
G-410-UT3-3420 EQUIPMENT REPAIR & MAINTENANCE	250	260	270	280	290	300	310	320	330	340
G-410-UT3-3910 INSURANCE PREMIUMS	130	133	136	139	142	145	148	151	154	157
<b>UTILITIES TRAILER/DISTRIBUTION TRAILER</b>										
G-410-UT4-2311 FUEL - GASOLINE	250	260	270	280	290	300	320	340	360	380
G-410-UT4-3420 EQUIPMENT REPAIR & MAINTENANCE	250	260	270	280	290	300	310	320	330	340
G-410-UT4-3910 INSURANCE PREMIUMS	325	330	340	350	360	370	380	390	400	410
<b>Sub Total Operating</b>	<b>1,288,370</b>	<b>1,316,880</b>	<b>1,345,840</b>	<b>1,398,800</b>	<b>1,429,263</b>	<b>1,460,226</b>	<b>1,492,700</b>	<b>1,525,674</b>	<b>1,559,272</b>	<b>1,593,573</b>
<b>Capital-Related</b>										
Existing Debt (Principal) - Growth Related										
Existing Debt (Interest) - Growth Related										
New Growth Related Debt - Coldwater (Principal)		-	28,529	56,586	58,850	61,203	63,652	74,070	77,033	80,114
New Growth Related Debt - Coldwater (Interest)		-	33,981	62,632	60,369	58,015	55,567	59,326	56,363	53,282
New Growth Related Debt - Westshore (Principal)		-	-	-	-	-	-	-	212,458	441,913
New Growth Related Debt - Westshore (Interest)		-	-	-	-	-	-	-	155,451	293,905



Table D-11 (Cont'd)

Description	Budget	Forecast								
	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Existing Debt (Principal) - Non-Growth Related	161,129	169,749	178,830	188,397	198,476	209,094	220,280	232,064	244,479	257,557
Existing Debt (Interest) - Non-Growth Related	204,981	196,361	187,280	177,713	167,634	157,017	145,831	134,046	121,632	108,553
New Non-Growth Related Debt (Principal)	-	-	26,865	45,403	55,209	57,418	59,715	62,103	64,587	67,171
New Non-Growth Related Debt (Interest)	-	-	32,000	50,254	56,635	54,426	52,130	49,741	47,257	44,674
Transfer to Capital	-	-	-	-	-	-	-	-	-	-
Transfer to Westshore Upgrade & Maintenance Reserve Fund	-	-	-	-	-	-	-	-	-	-
Transfer to Equipment/Vehicle Reserve	15,000	-	-	35,000	40,000	40,000	40,000	45,000	50,000	50,000
Transfer to Capital Reserve	-	-	50,309	89,519	196,113	325,431	462,539	605,985	759,218	891,021
<b>Sub Total Capital Related</b>	<b>381,110</b>	<b>366,110</b>	<b>537,794</b>	<b>705,504</b>	<b>833,286</b>	<b>962,604</b>	<b>1,099,712</b>	<b>1,262,334</b>	<b>1,788,476</b>	<b>2,288,189</b>
<b>Total Expenditures</b>	<b>1,669,480</b>	<b>1,682,990</b>	<b>1,883,634</b>	<b>2,104,304</b>	<b>2,262,549</b>	<b>2,422,830</b>	<b>2,592,412</b>	<b>2,788,008</b>	<b>3,347,748</b>	<b>3,881,762</b>
<b>Revenues</b>										
Minimum Bill Revenue	1,284,728	1,422,296	1,575,363	1,732,494	1,883,624	2,036,456	2,198,253	2,371,507	2,554,838	2,712,060
<b>Washago</b>										
G-410-411-0849 PENALTY	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
<b>Coldwater</b>										
G-410-412-0849 PENALTY	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000
<b>Westshore</b>										
G-410-414-0849 PENALTY	7,000	7,000	7,000	7,000	7,000	7,000	7,000	7,000	7,000	7,000
<b>Utility Vehicles</b>										
G-410-U01-0971 TOWNSHIP EQUIPMENT RENTALS	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
G-410-U02-0971 TOWNSHIP EQUIPMENT RENTALS	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
G-410-U03-0971 TOWNSHIP EQUIPMENT RENTALS	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
G-410-U04-0971 TOWNSHIP EQUIPMENT RENTALS	11,000	11,000	11,000	11,000	11,000	11,000	11,000	11,000	11,000	11,000
G-410-U05-0971 TOWNSHIP EQUIPMENT RENTALS	7,500	7,500	7,500	7,500	7,500	7,500	7,500	7,500	7,500	7,500
G-410-U06-0971 TOWNSHIP EQUIPMENT RENTALS	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
G-410-U07-0971 TOWNSHIP EQUIPMENT RENTALS	11,000	11,000	11,000	11,000	11,000	11,000	11,000	11,000	11,000	11,000
G-410-U08-0971 TOWNSHIP EQUIPMENT RENTALS	12,500	12,500	12,500	12,500	12,500	12,500	12,500	12,500	12,500	12,500
Contributions from Development Charges Reserve Fund - Coldwater	-	-	62,510	119,218	119,218	119,218	119,218	133,395	133,395	133,395
Contributions from Development Charges Reserve Fund - Westshore	-	-	-	-	-	-	-	-	367,909	735,818
Contributions from Equipment/Vehicle Reserve	-	21,475	-	-	-	-	-	-	-	-
Contributions from Reserves / Reserve Funds	151,788	-	-	-	-	-	-	-	-	-
<b>Total Operating Revenue</b>	<b>1,530,516</b>	<b>1,537,770</b>	<b>1,731,872</b>	<b>1,945,713</b>	<b>2,096,843</b>	<b>2,249,674</b>	<b>2,411,472</b>	<b>2,598,903</b>	<b>3,150,142</b>	<b>3,675,273</b>
<b>Wastewater Billing Recovery - Operating</b>	<b>138,964</b>	<b>145,220</b>	<b>151,762</b>	<b>158,591</b>	<b>165,706</b>	<b>173,156</b>	<b>180,940</b>	<b>189,106</b>	<b>197,606</b>	<b>206,488</b>
<b>Wastewater Billing Recovery - Total</b>	<b>138,964</b>	<b>145,220</b>	<b>151,762</b>	<b>158,591</b>	<b>165,706</b>	<b>173,156</b>	<b>180,940</b>	<b>189,106</b>	<b>197,606</b>	<b>206,488</b>



Table D-12  
Township of Severn  
Wastewater Services  
Wastewater Rate Forecast – Inflated \$

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Total Wastewater Billing Recovery	138,964	145,220	151,762	158,591	165,706	173,156	180,940	189,106	197,606	206,488
Total Volume (Over 272 m <sup>3</sup> per year)	47,754	47,754	47,754	47,754	47,754	47,754	47,754	47,754	47,754	47,754
<b>Constant Rate</b>	<b>2.91</b>	<b>3.04</b>	<b>3.18</b>	<b>3.32</b>	<b>3.47</b>	<b>3.63</b>	<b>3.79</b>	<b>3.96</b>	<b>4.14</b>	<b>4.32</b>
<b>Annual Percentage Change</b>		<b>4.5%</b>	<b>4.5%</b>	<b>4.5%</b>	<b>4.5%</b>	<b>4.5%</b>	<b>4.5%</b>	<b>4.5%</b>	<b>4.5%</b>	<b>4.5%</b>