Water Rate Study

Township of East Garafraxa

Final Report

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Water Rate Study Report

Chapter 1
Introduction

1. Introduction

1.1 Background

The Township of East Garafraxa (Township) has an approximate population of 2,600 people and contains approximately 875 households. The Marsville Subdivision Drinking Water Supply System currently provides water services to 33 households.

Current customers are being charged an annual flat rate of $1,401 for water, which is billed monthly.

1.2 Study Process

Watson & Associates Economists Ltd (Watson) was retained by the Township to undertake a comprehensive water rate study (Rate Study) and to prepare a Water Financial Plan as part of the five year submission requirements for the purposes of obtaining a municipal drinking water license as per the Safe Drinking Water Act, 2002. The Water Financial Plan, meeting the requirements of Ontario Regulation (O.Reg). 453/07, is included as Appendix B to this report.

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

- Build a capital program that blends lifecycle needs arising from the Township's Asset Management Plan with specific needs identified in the water capital needs forecast;
- Identify potential methods of cost recovery from the capital needs listing, as an offset to recovery through the water rates;
- Forecast annual operating costs and rate-based funding requirements;
- Assess adequacy of forecast water rates in addressing long-term financial plan needs; and
- Develop a long-term water rate forecast and present findings to Township staff and Council for their consideration.

In approaching this study, the following analysis is provided herein:

Chapter 1 – Introduction

Chapter 2 – Forecast Growth and Service Demands

Chapter 3 – Capital Infrastructure Needs

Chapter 4 – Capital Cost Financing Options

Chapter 5 – Operating Expenditure Forecast

Chapter 6 – Forecast Water Rates

1.3 Regulatory Changes in Ontario

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

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

The following sections describe significant applicable regulatory areas.

1.4 Sustainable Water and Sewage Systems Act

The *Sustainable Water and Sewage Systems Act* 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 the wastewater services. In total, there were 40 areas within the Act to which the Minister may make Regulations, however regulations were never issued. On December 31, 2012, the *Sustainable Water and Sewage Systems Act* was repealed.

1.5 Safe Drinking Water Act

The *Safe Drinking Water Act* was passed in December 2002. *The Safe Drinking Water Act* provides for 50 of the 93 Walkerton Part II recommendations. It focuses on the administrative and operational aspects of the provision of water.

The purposes of the *Safe Drinking Water Act* are to "recognize that the people of Ontario are entitled to expect their drinking water to be safe and to provide for the protection of human health and the prevention of drinking water health hazards through the control and regulation of drinking water systems and drinking water testing. 2002, c. 32, s. 1."

The following is a brief summary of the key elements included in the Safe Drinking Water Act:

- Mandatory licensing and accreditation of testing laboratories;
- New standards for treatment, distribution quality and testing;
- Mandatory operator training and certification;
- Mandatory licensing of municipal water providers;
- Stronger enforcement and compliance provisions; and
- "Standard of care" requirements for municipalities.

This legislation impacts the costs of operating a water system with the need for higher skilled operators including increased training costs, increased reporting protocols and requirements, continuing enhancements to quality standards and the costs to licence +each water system.

1.6 Financial Plans Regulation

On August 16, 2007, the Ministry of Environment introduced O.Reg. 453/07 which requires the preparation of financial plans for water systems (and municipalities are encouraged to prepare plans for wastewater systems). The Ministry of Environment has also provided a Financial Plan Guideline to assist municipalities with 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 to obtain a Drinking Water License.
- The plan is to be completed, approved by Council Resolution and submitted to the Ministry of Municipal Affairs and Housing as part of the application for receiving approval of a water license.
- 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*, the preparation of the plan is mandatory for water services and encouraged for wastewater services.
- The plan is considered a living document (i.e. can be updated if there are significant changes to budgets) 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, and providing detailed capital inventories. In addition, Public Sector Accounting Board full accrual 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, net debt, etc.).
- The financial plans must be made available to the public (at no charge) upon request and be available on the municipality's web site. The availability of this information must also be advertised.

In general, the financial principles of this regulation follow the intent of the *Sustainable Water and Sewage Systems Act*, 2002 to move municipalities towards financial sustainability for water services. However, many of the prescriptive requirements have been removed (e.g. preparation of two separate documents for provincial approval, auditor opinions, engineer certifications, etc.).

A guideline ("Towards Financially Sustainable Drinking-Water and Wastewater Systems") has been developed to assist municipalities in understanding the Province's direction and provides 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 storm water systems is desirable given the inherent relationship among these services.

Principle #3: Revenues collected for the provision of water and wastewater services should ultimately be used to meet the needs of those services.

Principle #4: 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.

1.7 Water Opportunities Act

The *Water Opportunities Act* received Royal Assent on November 29, 2010. The Act provides for the following elements:

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

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

With regard to the sustainability plans:

- The Bill extends from the water financial plan and requires a more detailed review of the water financial plan and requires a full plan for wastewater and stormwater services;
- Regulations (when issued) 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;
- Financial Plan;
- For water, a water conservation plan;
- 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;
- 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:

- May relate to the financing, operation or maintenance of a municipal service or to any other matter in respect of which 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.

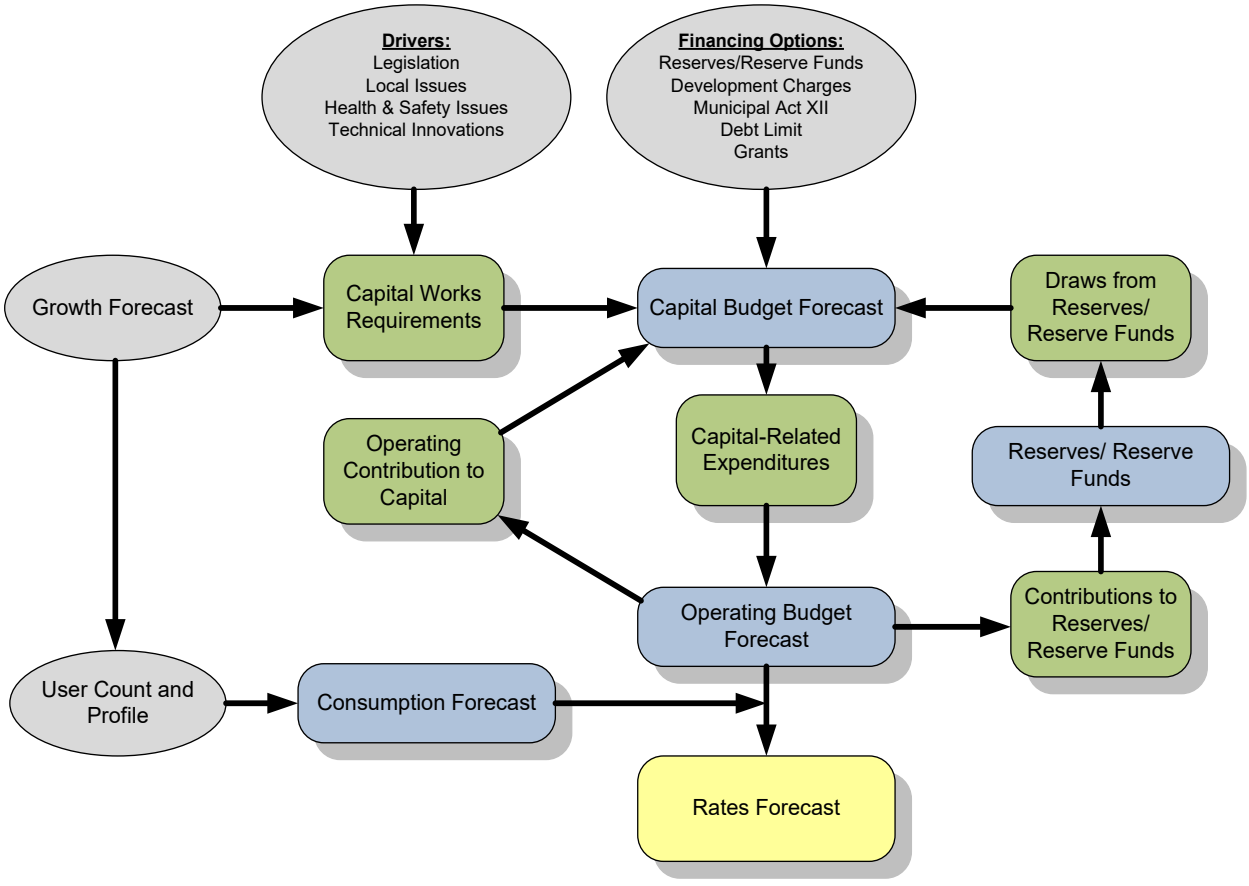
Regulations will prescribe:

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

1.8 Water Rate Calculation Methodology

Figure 1-1 illustrates the general methodology used in determining the full cost recovery water rate forecast.

Figure 1-1
Water Rate Calculation Methodology



The methodology employed generally consists of 5 major elements:

1. **Customer Demands and Consumption Forecast**

   The water customer forecast is prepared by considering potential new water users connecting to the system. Through discussions with Township staff, projected total water users over the forecast have been included within the rate study calculations.

2. **Capital Needs Forecast**

   The capital needs forecast is developed to measure program/service level adjustments, lifecycle requirements and growth-related needs. The Township's long-term capital plan provided the base capital forecast with adjustments made by Township staff for specific projects within the forecast period. Capital expenditures are forecast with inflationary adjustments based on capital costs indices.

3. **Capital Funding Plan**

   The capital funding plan considers the potential funding sources available to address the capital needs forecast. The sources of capital funding include rate-based support, reserves/reserve funds and debt for program/service level improvements. The use of rate-based funding is measured against the revenue projections and affordability impacts. The reserve/reserve fund sources are measured against the sustainability of these funds, relative to lifecycle demands, revenue projections and affordability impacts. Debt financing is typically considered for significant capital expenditures, where funding is required beyond long-term lifecycle needs or to facilitate rate transition policies. Debt financing, when required, is measured in against the Township's debt policies and annual repayment limits to ensure a practical and sustainable funding mix.

4. **Operating Budget Forecast**

   The operating budget forecast considers adjustments to the Township's base budget reflecting program/service level changes, operating fund impacts associated with infrastructure and financing for capital needs. The operating expenditures are forecast with inflationary adjustments and growth in service

demand, based on fixed and variable cost characteristics. The operating budget forecast ties the capital funding plan and reserve/reserve fund continuity forecast to the rate-based revenue projections. This ensures sufficient funding for both the ongoing annual operation and maintenance of water services, as well as the capital cost requirements to ensure service sustainability. Operating revenues are projected to identify the rate components net of anticipated operating revenues, such as other miscellaneous revenues.

5. Rate Forecast and Structure

The rate forecast and structure component of the analysis considers various rate structures to recover the forecast rate-based revenue from the projected customer demands. At this stage in the analysis the full costs of service are measured against the customer growth and consumption demands to determine full cost recovery rates. The analysis may consider alternative structures for base charge and consumptive components of the rates, consistent with municipal policies/strategies, industry practice and customer affordability. Providing context to the rate forecast, the results are quantified to measure the impacts on a range of customer types and in relation to other municipalities.

Chapter 2
Forecast Growth and Service Demands

2. Forecast Growth and Service Demands

2.1 Current Service Demands

In preparing the demand forecast for water, a summary of customer accounts was obtained from Township staff. There are currently 33 water customers within the Township's water system.

2.2 Forecast Service Demands

For the purpose of calculating future water rates, users were forecast for the period of 2020-2030. The Township is anticipating the 30 additional connections to the water system over the forecast period based on current development applications. The additional 30 units have been forecast to connect to the water system over the 2022 to 2027 period based on the pace of development identified in the Township's 2019 Development Charges Background Study. This results in an increase from the current 30 customers to a total of 63 customers in 2030. Table 2-1 provides the detailed growth forecast for the period.

Table 2-1
Water Customer Forecast 2020-2030

Water Customer Forecast	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Existing	33	33	33	33	33	33	33	33	33	33	33
New - Growth	-	-	3	9	15	21	27	30	30	30	30
Total	**33**	**33**	**36**	**42**	**48**	**54**	**60**	**63**	**63**	**63**	**63**

Chapter 3
Capital Infrastructure Needs

3. Capital Infrastructure Needs

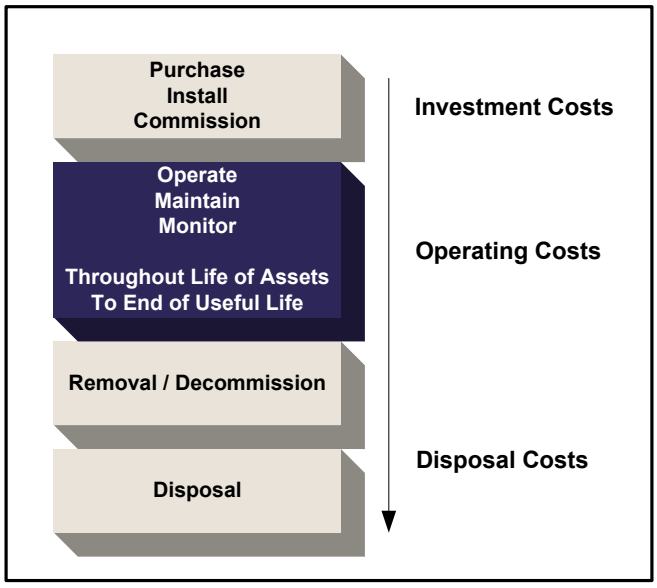
3.1 Overview of Lifecycle Costing

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), installation, commissioning, operation, maintenance and disposal. Figure 3-1 depicts these stages in a schematic form.

Figure 3-1
Lifecycle Costing



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 municipality. Over the past few decades, new financing techniques such as development charges and *Municipal Act* capital 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, the most common being operating budget contributions, development charges, reserves, developer contributions and debentures.

New construction related to growth could produce development charges, capital 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 municipality to continue. As well, debentures could be used to fund such works, with the debt charge carrying costs recouped from taxpayers in the future.

However, capital construction to replace existing infrastructure 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.

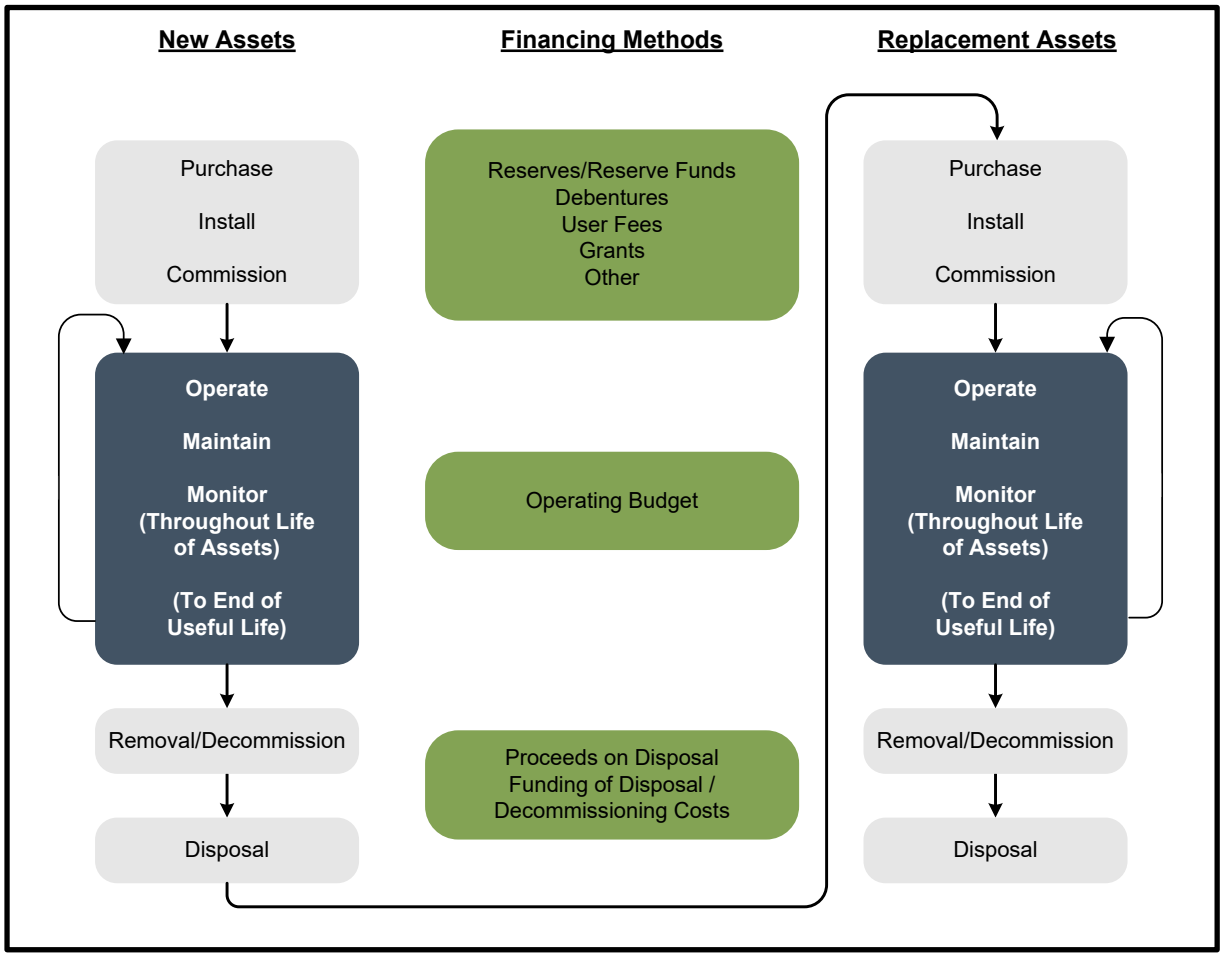
Figure 3-2 depicts the costs of an asset from its initial conception through to replacement and then continues to follow the associated costs through to the next replacement.

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; 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 they 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.

Figure 3-2
Financing Lifecycle Costs



Charging for the cost of using up of an asset is the fundamental concept behind amortization 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 amortization. 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.

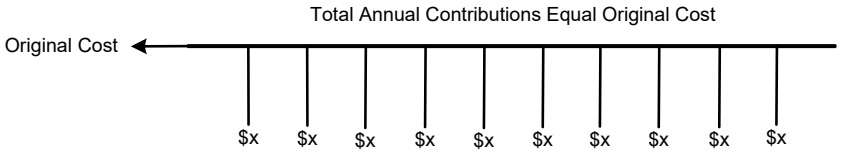
3.1.3 Costing Methods

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 Amortization 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 amortization: the straight-line method and the sinking fund method.

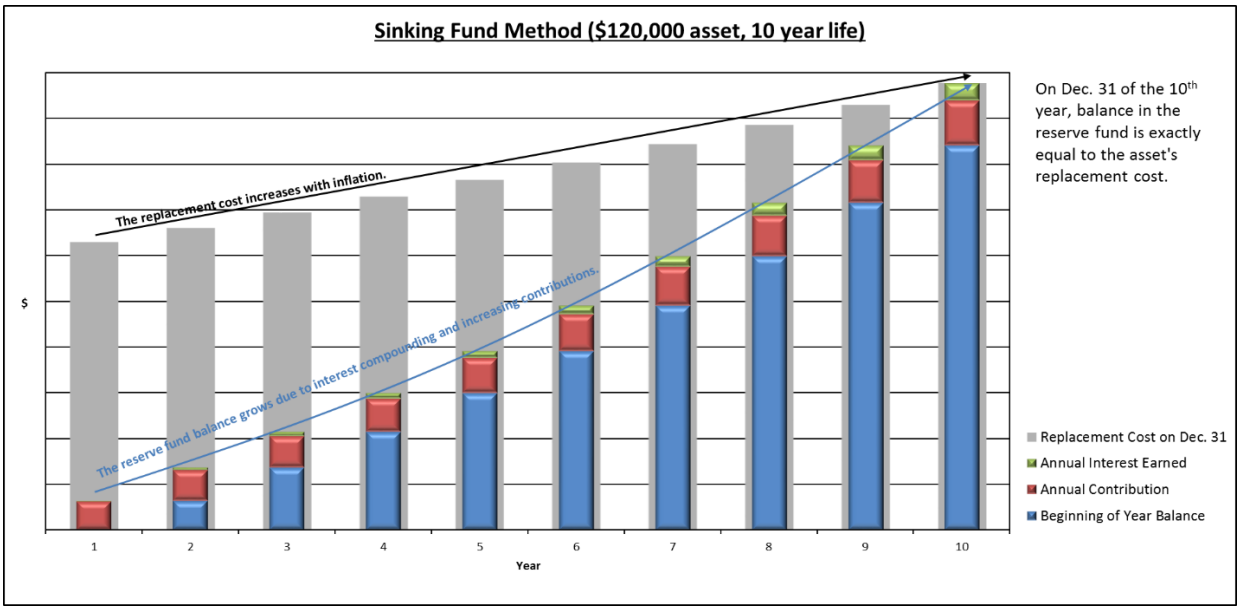
The straight-line method is calculated by taking the original cost of the asset, subtracting its estimated salvage value (estimated value of the asset at the time it is disposed of) and dividing this by the estimated number of years of useful life. The reducing balance method is calculated by utilizing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

Straight-line Amortization



Formula: $\frac{\text{Original Cost – Salvage Cost}}{\text{Number of Years of Useful Life}}$

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 is the sinking fund method of lifecycle costing.

3.2 Asset Inventory

Lifecycle "sinking fund" contribution amounts for the infrastructure have been calculated to determine the level of capital investment that should ultimately be included in the full cost assessment and rate forecast. Table 3-1 summarizes the current asset replacement value and long-term annual lifecycle replacement needs, in 2020$ values. These values were calculated based on detailed water capital asset inventory information obtained from the Township's 2016 Asset Management Plan.

Table 3-1
Summary of Water Infrastructure and Replacement Cost (2020$)[1]

Township of East Garafraxa Water Replacement Costs Summary		
Asset Type	Asset Management Plan	
	Replacement Cost (2020 Dollars)	Annual Lifecycle Replacement Cost
Facilities & Components	701,346	19,024
Water Mains	458,008	8,822
Water Hydrants	29,198	832
Wells	263,427	10,885
TOTAL	**1,451,978**	**39,563**

3.3 Capital Forecast

A ten-year capital forecast has been developed for the water system to address capital needs across all areas for the system. The capital needs that have been identified have been initially based on the Township's 10-year capital needs forecast.

The water capital forecast is summarized in Table 3-2. These capital needs are forecast in current year dollars (i.e. 2020$). The water capital plan totals $144,800. For rate determination purposes, the capital needs forecast has been indexed by 2.5% annually.

[1] Facilities and Components assets include $250,000 for the costs associated with the installation of a reservoir to service the growth on the system.

Table 3-2
Water Service
Capital Budget Forecast – Uninflated$

Description	Budget 2020	Total	Forecast									
			2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Capital Expenditures												
Well One - Camera inspection of well casing	-	6,000	-	3,000	-	-	-	-	-	3,000	-	-
Well One - Submersible pump replacement	-	7,000	-	-	-	7,000	-	-	-	-	-	-
Well One - Transmission main repairs	-	2,500	-	-	-	2,500	-	-	-	-	-	-
Pumphouse Raw - Replace pressure gauges	200	-	-	-	-	-	-	-	-	-	-	-
Water Piping - Service flow control valves	-	3,000	3,000	-	-	-	-	-	-	-	-	-
Water Piping - Process piping repairs	-	5,000	-	2,500	-	-	-	-	-	2,500	-	-
Water Piping - Replace raw water meters	-	5,000	-	-	-	5,000	-	-	-	-	-	-
Pumphouse - Chemical metering pumps	-	3,000	3,000	-	-	-	-	-	-	-	-	-
Treatment - Discharge piping/valves	-	4,500	-	1,500	-	1,500	-	-	-	1,500	-	-
Equipment - Centreline Injectors	300	2,700	300	300	300	300	300	300	300	300	300	-
Treated Water - Replace pressure gauges	-	200	-	-	-	-	-	-	-	200	-	-
Process - Replace pressure tanks	3,000	-	-	-	-	-	-	-	-	-	-	-
Process - Replace treated water meters	-	-	-	-	-	-	-	-	-	-	-	-
Instrumentation and SCADA - Replace free chlorine analyz	-	7,000	-	-	-	7,000	-	-	-	-	-	-
Instrumentation and SCADA - Replace laptop	2,000	-	-	-	-	-	-	-	-	-	-	-
Instrumentation and SCADA - Replace datalogger	-	5,000	-	-	-	2,500	-	-	-	2,500	-	-
Building Services - Electrical	500	4,500	500	500	500	500	500	500	500	500	500	-
Building Services - Heating	1,500	-	-	-	-	-	-	-	-	-	-	-
Building Services - Lighting	100	600	-	100	-	200	100	-	100	-	100	-
Treated Water - Distribution mains leak repairs	-	2,500	-	-	-	2,500	-	-	-	-	-	-
Distribution - Valve repair	-	3,000	1,500	-	-	1,500	-	-	-	-	-	-
Distribution - Hydrant repair	-	5,000	2,500	-	-	2,500	-	-	-	-	-	-
Distribution - Service repairs	-	3,000	1,500	-	-	1,500	-	-	-	-	-	-
Provision	-	7,722	-	-	-	-	-	-	-	-	-	7,722
Studies												
Rate Studies and Financial Plan	20,000	40,000	-	-	-	-	20,000	-	-	-	-	20,000
Total Capital Expenditures	**27,600**	**117,222**	**12,300**	**7,900**	**800**	**34,500**	**20,900**	**800**	**900**	**10,500**	**900**	**27,722**

Chapter 4
Capital Cost Financing Options

4. Capital Cost Financing Options

4.1 Summary of Capital Cost Financing Alternatives

Historically, the powers that municipalities have had to raise alternative revenues to taxation to fund capital services have been restrictive. Over the past number of years, legislative reforms have been introduced. Some of these have expanded municipal powers (e.g. Bill 130 providing for natural person powers for fees and charges bylaws); while others appear to restrict them (Bill 98 in 1997 providing amendments to the *Development Charges Act* (D.C.A.)).

The most recent *Municipal Act* came into force on January 1, 2003, with significant amendments in 2006 through the *Municipal Statute Law Amendment Act*. Part XII of the Act and O.Reg. 584/06, govern a Township's ability to impose fees and charges. This Act provides municipalities with broadly defined powers and provides the ability to impose fees for both operating and capital purposes. Under s.484 of the *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*.

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

Recovery Methods	Section Reference
• D.C.A., 1997	4.2

• *Municipal Act*
  ○ Fees and Charge
  ○ Local Improvements
	4.3

• Grant Funding	4.4
• Reserves/Reserve Funds	4.5
• Debenture Financing	4.6

4.2 Development Charges Act, 1997

The D.C.A. received royal asset on December 8, 1997, replacing the previous act, which had been in-force since November 23, 1989.

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. The D.C.A. provides for limitations and ceilings on services that can be included in the charges.

The Township does not currently impose D.C.s on new development for water services and as such D.C.s have not been included as a source of capital financing in the financial plan.

4.3 Municipal Act

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 Ontario Municipal Board.

s. 391 (2) of the *Municipal Act* permits municipalities to impose charges to recover capital costs, by by-law, from owners or occupants of land who receive an immediate benefit or a benefit at some later point in time. For a by-law imposed under this section of the Act:

- A variety of different means could be used to establish the rate, and recovery of the costs 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 in respect to costs of major capital works, even though an immediate benefit is not enjoyed;
- Non-abutting owners could be charged;
- Recovery could be authorized against existing works, where new infrastructure 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; and
- Ontario Municipal Board approval is not required.

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 Ontario Municipal Board, 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, Ontario 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

In August 2012, the Province of Ontario initiated the Municipal Infrastructure Investment Initiative. In supporting the efforts of communities to restore and revitalize their public infrastructure, this initiative provides one-time provincial funding to improve asset

management planning in small municipalities and local service boards. In addition, funding will be made available for municipal infrastructure projects under this initiative. Any municipality or local service board seeking capital funding in the future must demonstrate how its proposed project fits within a detailed asset management plan. To assist in defining the components of an asset management plan, the Province produced a document entitled, "Building Together: Guide for Municipal Asset Management Plans." This guide documents the components, information and analysis that are required to be included in a municipality's asset management plan under this initiative.

The Township does not anticipate receiving grant funding during the forecast period. To the extent that the Township is successful in achieving grant funding for future infrastructure needs and the financial impacts are material, the rate forecast may be revisited.

4.5 Existing Reserves/Reserve Funds

The Township has established a reserve for water capital costs. The established reserve has been used in the capital funding forecast for rate-based needs.

The year-end 2019 Water Reserve balance is $209,741.

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 Regulations 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 has no outstanding external debt for water services.

4.7 Recommended Approach

It is recommended that the capital program be funded by water capital reserves. Table 4-1 summarizes the recommended capital funding sources supporting the capital needs forecast, for consideration by the Township. Table 4-2 provides for the capital expenditure and funding program summary by year for water services. The capital funding plan is provided in inflated dollars.

Table 4-1
Township of East Garafraxa
2020-2030 Water Capital Funding Program (Inflated $)

Capital Financing	2020-2030
Provincial/Federal Grants	-
Non-Growth Related Debenture Requirements	-
Water Reserve	168,600
Total Capital Financing	**168,600**

Based on the capital funding plan identified in Table 4-1 and the 2020 estimated water reserve balance in Section 4.5, the water reserve continuity schedule are presented in Table 4-3. By 2030, water reserves are anticipated to increase from $209,741 to $448,749.

Table 4-2
Water Service
Capital Budget Forecast – Inflated $

Description	Budget 2020	Total	Forecast									
			2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Capital Expenditures												
Well One - Camera inspection of well casing	-	7,000	-	3,000	-	-	-	-	-	4,000	-	-
Well One - Submersible pump replacement	-	8,000	-	-	-	8,000	-	-	-	-	-	-
Well One - Transmission main repairs	-	3,000	-	-	-	3,000	-	-	-	-	-	-
Pumphouse Raw - Replace pressure gauges	200	-	-	-	-	-	-	-	-	-	-	-
Water Piping - Service flow control valves	-	3,000	3,000	-	-	-	-	-	-	-	-	-
Water Piping - Process piping repairs	-	6,000	-	3,000	-	-	-	-	-	3,000	-	-
Water Piping - Replace raw water meters	-	6,000	-	-	-	6,000	-	-	-	-	-	-
Pumphouse - Chemical metering pumps	-	3,000	3,000	-	-	-	-	-	-	-	-	-
Treatment - Discharge piping/valves	-	6,000	-	2,000	-	2,000	-	-	-	2,000	-	-
Equipment - Centreline Injectors	300	-	-	-	-	-	-	-	-	-	-	-
Treated Water - Replace pressure gauges	-	-	-	-	-	-	-	-	-	-	-	-
Process - Replace pressure tanks	3,000	-	-	-	-	-	-	-	-	-	-	-
Process - Replace treated water meters	-	-	-	-	-	-	-	-	-	-	-	-
Instrumentation and SCADA - Replace free chlorine analyzer	-	8,000	-	-	-	8,000	-	-	-	-	-	-
Instrumentation and SCADA - Replace laptop	2,000	-	-	-	-	-	-	-	-	-	-	-
Instrumentation and SCADA - Replace datalogger	-	6,000	-	-	-	3,000	-	-	-	3,000	-	-
Building Services - Electrical	500	9,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	-
Building Services - Heating	1,500	-	-	-	-	-	-	-	-	-	-	-
Building Services - Lighting	100	-	-	-	-	-	-	-	-	-	-	-
Treated Water - Distribution mains leak repairs	-	3,000	-	-	-	3,000	-	-	-	-	-	-
Distribution - Valve repair	-	4,000	2,000	-	-	2,000	-	-	-	-	-	-
Distribution - Hydrant repair	-	6,000	3,000	-	-	3,000	-	-	-	-	-	-
Distribution - Service repairs	-	4,000	2,000	-	-	2,000	-	-	-	-	-	-
Provision	-	10,000	-	-	-	-	-	-	-	-	-	10,000
Studies												
Rate Studies and Financial Plan	20,000	49,000	-	-	-	-	23,000	-	-	-	-	26,000
Total Capital Expenditures	**27,600**	**141,000**	**14,000**	**9,000**	**1,000**	**41,000**	**24,000**	**1,000**	**1,000**	**13,000**	**1,000**	**36,000**
Capital Financing												
Provincial/Federal Grants		-										
Non-Growth Related Debenture Requirements	-	-	-	-	-	-	-	-	-	-	-	-
Water Reserve	27,600	141,000	14,000	9,000	1,000	41,000	24,000	1,000	1,000	13,000	1,000	36,000
Total Capital Financing	**27,600**	**141,000**	**14,000**	**9,000**	**1,000**	**41,000**	**24,000**	**1,000**	**1,000**	**13,000**	**1,000**	**36,000**

Table 4-3
Water Service
Water Reserve Continuity - Inflated $

Description	2020		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Opening Balance	209,741		202,304	207,937	221,371	249,062	242,950	259,975	306,077	354,770	390,613	437,606
Transfer from Operating	20,163		19,633	22,434	28,691	34,888	41,025	47,102	49,693	48,843	47,993	47,143
Transfer to Capital	27,600		14,000	9,000	1,000	41,000	24,000	1,000	1,000	13,000	1,000	36,000
Transfer to Operating				-	-	-	-	-	-	-	-	-
Closing Balance	**202,304**		**207,937**	**221,371**	**249,062**	**242,950**	**259,975**	**306,077**	**354,770**	**390,613**	**437,606**	**448,749**

Chapter 5
Operating Expenditure Forecast

5. Operating Expenditure Forecast

5.1 Operating Expenditures

The forecasted operating budget figures for water services are based on the Township's 2019 operating budget. The expenditures for each component of the operating budget have been reviewed with staff to establish any revisions and inflationary adjustments. General operating costs are expected to increase by 52% over the forecast period from $29,100 in 2020 to $44,100 in 2030. The increase in operating costs is related to inflationary adjustments to the current operating budget as well as incremental operating costs associated with servicing the anticipated additional units. The additional operating costs attributed to this growth have been phased in based on the anticipated pace of the development.

Capital-related annual expenditures in the forecast include contributions to reserve to support the capital forecast and future capital needs. While operating aspects identified above generally increase with inflation over the period (i.e. 2% annually), the capital-related aspects tend to increase more specifically with the increase in capital funding requirements. Annual transfers to reserves for future lifecycle replacement of water assets are forecast to increase from $20,100 currently to $47,100 by 2030 moving the Township towards a sustainable lifecycle funding position.

As a result of the operating, inflationary, and capital-related expenditure increases, the water operating expenditures are anticipated to increase over the forecast period. Gross operating expenditures for water services are anticipated to increase from $49,200 in 2020 to $91,300 by 2030.

5.2 Operating Revenues

The Township's current annual water revenues of $49,200 are sufficient to fund current annual operating costs of $29,100. As such, no transfers from water reserves or non-rate-based reserves (i.e. general taxation) are required.

Water rate revenues are forecast to increase from $46,200 to $88,300 over the forecast period based on the anticipated development summarized in Chapter 2 and the proposed continuation of current water rates, which are discussed further in Chapter 6.

The total annual operating revenues (including other miscellaneous revenue) are forecast to increase from $49,200 in 2020 to $91,300 by 2030.

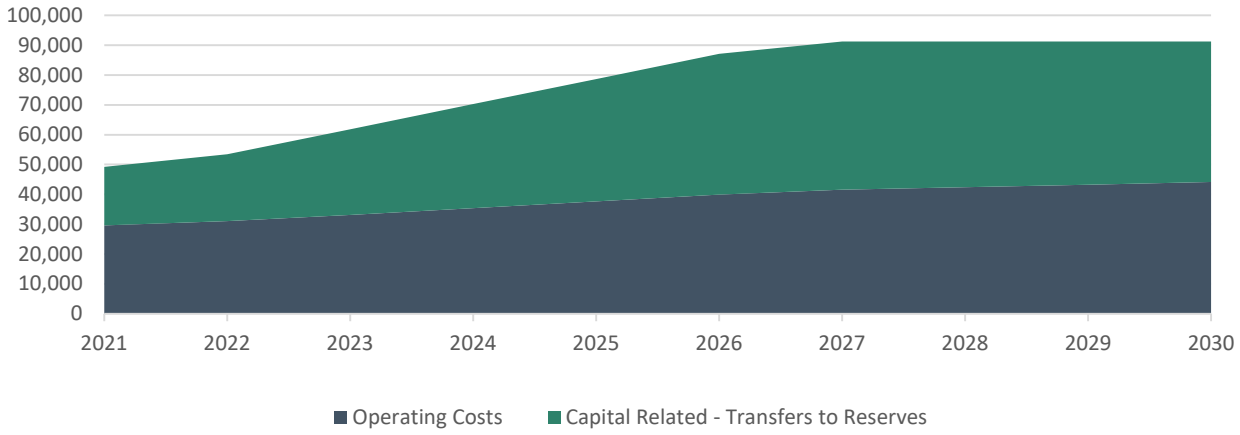
Table 5-1 provides the water operating budget forecasts which is presented in inflated dollars.

Table 5-1
Water Service
Operating Budget Forecast – Inflated$

Description	Budget 2020	Forecast 2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Expenditures											
Operating Costs		-	-	-	-	-	-	-	-	-	-
Base Operating - Dufferin Water	22,440	22,900	23,400	23,900	24,400	24,900	25,400	25,900	26,400	26,900	27,400
Operating - Emergencies/Special Testing	3,060	3,100	3,200	3,300	3,400	3,500	3,600	3,700	3,800	3,900	4,000
Operating - Hydro/Phone/Security Monitoring	3,570	3,600	3,700	3,800	3,900	4,000	4,100	4,200	4,300	4,400	4,500
Growth Related Operating Costs		-	702	2,151	3,660	5,229	6,858	7,770	7,920	8,070	8,220
Sub Total Operating	**29,070**	**29,600**	**31,002**	**33,151**	**35,360**	**37,629**	**39,958**	**41,570**	**42,420**	**43,270**	**44,120**
Capital-Related											
New Non-Growth Related Debt (Principal)		-	-	-	-	-	-	-	-	-	-
New Non-Growth Related Debt (Interest)		-	-	-	-	-	-	-	-	-	-
Transfer to Capital Reserve	20,163	19,633	22,434	28,691	34,888	41,025	47,102	49,693	48,843	47,993	47,143
Sub Total Capital Related	**20,163**	**19,633**	**22,434**	**28,691**	**34,888**	**41,025**	**47,102**	**49,693**	**48,843**	**47,993**	**47,143**
Total Expenditures	**49,233**	**49,233**	**53,436**	**61,842**	**70,248**	**78,654**	**87,060**	**91,263**	**91,263**	**91,263**	**91,263**
Revenues											
Base Charge	46,233	46,233	50,436	58,842	67,248	75,654	84,060	88,263	88,263	88,263	88,263
Other Revenue	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000
Contributions from Reserves	-	-	-	-	-	-	-	-	-	-	-
Total Operating Revenue	**49,233**	**49,233**	**53,436**	**61,842**	**70,248**	**78,654**	**87,060**	**91,263**	**91,263**	**91,263**	**91,263**

Figure 5-1 illustrates the annual net operating budget increase for water service over the forecast period by component, illustrating the increase in annual revenues for increased capital funding purposes (transfers to reserves).

Figure 5-1
Water Service
2021-2030 Annual Net Operating Forecast by Major Component



Chapter 6
Forecast Water Rates

6. Forecast Water Rates

6.1 Introduction

To summarize the analysis undertaken thus far, Chapter 3 reviewed capital-related investment for all customers within the water system and responds to the lifecycle needs of the Township. Chapter 4 provided a review of capital financing options of which transfers from reserves will be the basis for financing future capital needs. Chapter 5 established the 10-year operating forecast of expenditures for the Township's water system. The following calculations will be based on the annual water billing revenue provided in Chapter 5.

6.2 Water Rates

In maintaining the Township's current rate structure, the billing revenue requirement is divided by the number of customers to calculate a monthly flat rate fee to be paid by each water customer. The resultant rate forecast for water services is presented in Tables 6-1. New customers are expected to join the water system over the 2022 to 2027 period.

The annual flat rate for water services is forecast to remain constant $1,401. The detailed financial plan and rate calculations for water services are provided in Appendix A to this report.

Table 6-1
Township of East Garafraxa
Water Rate Forecast – Inflated

Description	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Monthly Flat Rate	$116.75	$116.75	$116.75	$116.75	$116.75	$116.75	$116.75	$116.75	$116.75	$116.75	$116.75
Total Annual Bill	**$1,401**	**$1,401**	**$1,401**	**$1,401**	**$1,401**	**$1,401**	**$1,401**	**$1,401**	**$1,401**	**$1,401**	**$1,401**
% Increase - Total Annual Bill		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
$ Increase - Total Annual Bill		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0

6.3 Recommendations

Based upon the above analysis, the following recommendations are put forth for Council's consideration:

1. That Council provide for the recovery of all water costs through full cost recovery rates;
2. That Council approve the 2020 water and rates as shown in Chapter 6; and
3. That Council direct staff to consider the results of the Rate Study in future amendments to the Township's asset management plan

Appendices

Appendix A
Water Services

Table 1
Township of East Garafraxa
Water Service
Capital Budget Forecast
Inflated $

Description	Budget 2020	Total	Forecast									
			2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Capital Expenditures												
Well One - Camera inspection of well casing	-	7,000	-	3,000	-	-	-	-	-	4,000	-	-
Well One - Submersible pump replacement	-	8,000	-	-	-	8,000	-	-	-	-	-	-
Well One - Transmission main repairs	-	3,000	-	-	-	3,000	-	-	-	-	-	-
Pumphouse Raw - Replace pressure gauges	200	-	-	-	-	-	-	-	-	-	-	-
Water Piping - Service flow control valves	-	3,000	3,000	-	-	-	-	-	-	-	-	-
Water Piping - Service pressure relief valve	-	-	-	-	-	-	-	-	-	-	-	-
Water Piping - Process piping repairs	-	6,000	-	3,000	-	-	-	-	-	3,000	-	-
Water Piping - Replace raw water meters	-	6,000	-	-	-	6,000	-	-	-	-	-	-
Pumphouse - Chemical metering pumps	-	3,000	3,000	-	-	-	-	-	-	-	-	-
Treatment - Discharge piping/valves	-	6,000	-	2,000	-	2,000	-	-	-	2,000	-	-
Equipment - Centreline Injectors	300	-	-	-	-	-	-	-	-	-	-	-
Treated Water - Replace pressure gauges	-	-	-	-	-	-	-	-	-	-	-	-
Process - Service flow control valves	-	-	-	-	-	-	-	-	-	-	-	-
Process - Service pressure relief valve	-	-	-	-	-	-	-	-	-	-	-	-
Process - Rebuild high lift pumps	-	-	-	-	-	-	-	-	-	-	-	-
Process - Replace pressure tanks	3,000	-	-	-	-	-	-	-	-	-	-	-
Process - Replace treated water meters	-	-	-	-	-	-	-	-	-	-	-	-
Instrumentation and SCADA - Replace free chlorine analyzer	-	8,000	-	-	-	8,000	-	-	-	-	-	-
Instrumentation and SCADA - Replace laptop	2,000	-	-	-	-	-	-	-	-	-	-	-
Instrumentation and SCADA - Replace datalogger	-	6,000	-	-	-	3,000	-	-	-	3,000	-	-
Instrumentation and SCADA - Replace well level tansducers	-	-	-	-	-	-	-	-	-	-	-	-
Instrumentation and SCADA - Replace wireless link	-	-	-	-	-	-	-	-	-	-	-	-
Building Services - Electrical	500	9,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	-
Building Services - Heating	1,500	-	-	-	-	-	-	-	-	-	-	-
Building Services - Lighting	100	-	-	-	-	-	-	-	-	-	-	-
Building Services - Gnerator Service	-	-	-	-	-	-	-	-	-	-	-	-
Treated Water - Distribution mains leak repairs	-	3,000	-	-	-	3,000	-	-	-	-	-	-
Distribution - Valve repair	-	4,000	2,000	-	-	2,000	-	-	-	-	-	-
Distribution - Hydrant repair	-	6,000	3,000	-	-	3,000	-	-	-	-	-	-
Distribution - Service repairs	-	4,000	2,000	-	-	2,000	-	-	-	-	-	-
Provision	-	10,000	-	-	-	-	-	-	-	-	-	10,000
Studies												
Rate Studies and Financial Plan	20,000	49,000	-	-	-	-	23,000	-	-	-	-	26,000
Total Capital Expenditures	**27,600**	**141,000**	**14,000**	**9,000**	**1,000**	**41,000**	**24,000**	**1,000**	**1,000**	**13,000**	**1,000**	**36,000**
Capital Financing												
Provincial/Federal Grants		-										
Non-Growth Related Debenture Requirements	-	-	-	-	-	-	-	-	-	-	-	-
Water Reserve	27,600	141,000	14,000	9,000	1,000	41,000	24,000	1,000	1,000	13,000	1,000	36,000
Total Capital Financing	**27,600**	**141,000**	**14,000**	**9,000**	**1,000**	**41,000**	**24,000**	**1,000**	**1,000**	**13,000**	**1,000**	**36,000**

Table 2
Township of East Garafraxa
Water Service
Schedule of Non-Growth Related Debenture Repayments
Inflated $

Debenture Year	2020	Principal (Inflated)	Forecast									
			2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
2021		-		-	-	-	-	-	-	-	-	-
2022		-			-	-	-	-	-	-	-	-
2023		-				-	-	-	-	-	-	-
2024		-					-	-	-	-	-	-
2025		-						-	-	-	-	-
2026		-							-	-	-	-
2027		-								-	-	-
2028		-									-	-
2029		-										-
2030		-										
Total Annual Debt Charges	-	-	-	-	-	-	-	-	-	-	-	-

Table 3
Township of East Garafraxa
Water Service
Water Reserves/ Reserve Funds Continuity
Inflated $

Description	2020		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Opening Balance	209,741		202,304	207,937	221,371	249,062	242,950	259,975	306,077	354,770	390,613	437,606
Transfer from Operating	20,163		19,633	22,434	28,691	34,888	41,025	47,102	49,693	48,843	47,993	47,143
Transfer to Capital	27,600		14,000	9,000	1,000	41,000	24,000	1,000	1,000	13,000	1,000	36,000
Transfer to Operating				-	-	-	-	-	-	-	-	-
Closing Balance	**202,304**		**207,937**	**221,371**	**249,062**	**242,950**	**259,975**	**306,077**	**354,770**	**390,613**	**437,606**	**448,749**
Interest												

Table 4
Township of East Garafraxa
Water Services
Operating Budget Forecast
Inflated $

Description	Budget 2020		Forecast 2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Expenditures												
Operating Costs			-	-	-	-	-	-	-	-	-	-
Base Operating - Dufferin Water	22,440		22,900	23,400	23,900	24,400	24,900	25,400	25,900	26,400	26,900	27,400
Operating - Emergencies/Special Testing	3,060		3,100	3,200	3,300	3,400	3,500	3,600	3,700	3,800	3,900	4,000
Operating - Hydro/Phone/Security Monitoring	3,570		3,600	3,700	3,800	3,900	4,000	4,100	4,200	4,300	4,400	4,500
Growth Related Operating Costs			-	702	2,151	3,660	5,229	6,858	7,770	7,920	8,070	8,220
Sub Total Operating	**29,070**		**29,600**	**31,002**	**33,151**	**35,360**	**37,629**	**39,958**	**41,570**	**42,420**	**43,270**	**44,120**
Capital-Related												
New Non-Growth Related Debt (Principal)			-	-	-	-	-	-	-	-	-	-
New Non-Growth Related Debt (Interest)			-	-	-	-	-	-	-	-	-	-
Transfer to Capital Reserve	20,163		19,633	22,434	28,691	34,888	41,025	47,102	49,693	48,843	47,993	47,143
Sub Total Capital Related	**20,163**		**19,633**	**22,434**	**28,691**	**34,888**	**41,025**	**47,102**	**49,693**	**48,843**	**47,993**	**47,143**
Total Expenditures	**49,233**		**49,233**	**53,436**	**61,842**	**70,248**	**78,654**	**87,060**	**91,263**	**91,263**	**91,263**	**91,263**
Revenues												
Base Charge	46,233		46,233	50,436	58,842	67,248	75,654	84,060	88,263	88,263	88,263	88,263
Other Revenue	3,000		3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000
Contributions from Reserves	-		-	-	-	-	-	-	-	-	-	-
Total Operating Revenue	**49,233**		**49,233**	**53,436**	**61,842**	**70,248**	**78,654**	**87,060**	**91,263**	**91,263**	**91,263**	**91,263**
Water Billing Recovery - Operating	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**

Appendix B
Township of East Garafraxa – Ontario Regulation 453/07 Water Financial Plan

Water Ontario Regulation 453/07 Financial Plan

Township of East Garafraxa

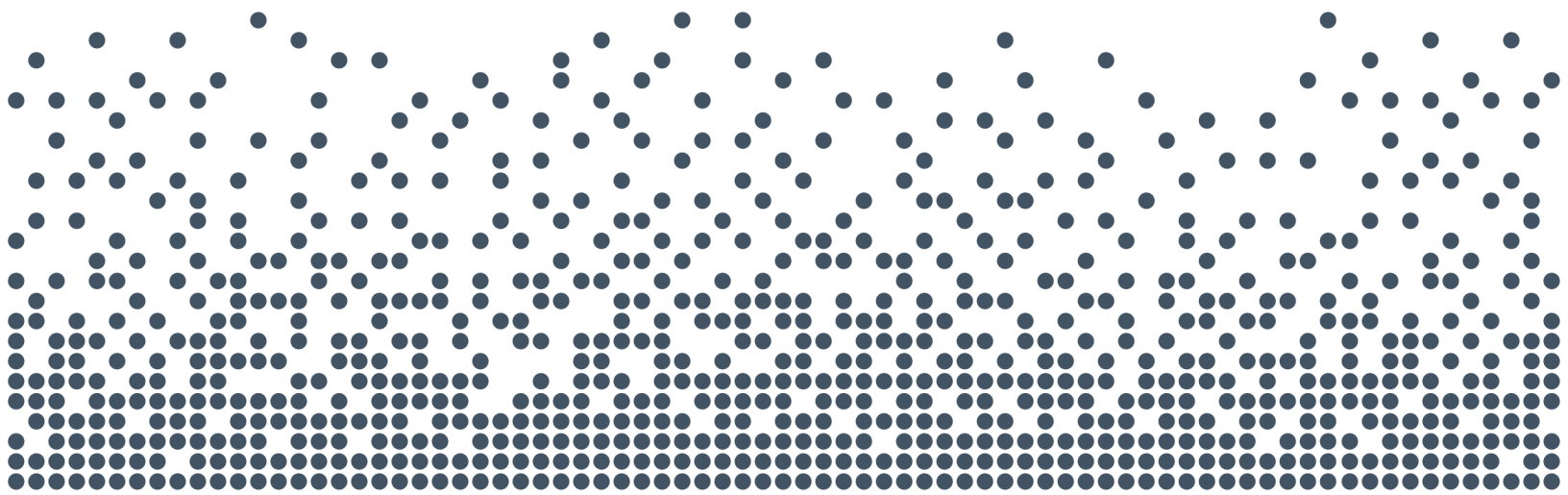
Financial Plan #243-301

Watson & Associates Economists Ltd.
905-272-3600
info@watsonecon.ca

May 20, 2020

Table of Contents

List of Acronyms and Abbreviations (Cont'd)



Report

Chapter 1
Introduction

1. Introduction

1.1 Study Purpose

The Township of East Garafraxa (the Township) retained Watson & Associates Economists Ltd. (Watson) to prepare a water financial plan as part of the five submission requirements for the purposes of obtaining a municipal drinking water license as per the *Safe Drinking Water Act, 2002*. In general, a financial plan requires an in-depth analysis of capital and operating needs, a review of current and future demand versus supply, and consideration of available funding sources. The detailed financial planning and forecasting regarding the Township's water systems has been completed based on the Township's 2020 Water and Wastewater Rate Study, dated May 20,2020 (2020 Rate Study). The objective of the report provided herein is to convert the findings of the 2020 Rate Study into the prescribed reporting requirements for a financial plan as defined by Ontario Regulation 453/07 (O. Reg. 453/07).

1.2 Background

The Safe Drinking Water Act (S.D.W.A.), "the Act," was passed in December 2002 in order to address the recommendations made by the Walkerton Inquiry Part II report. Note that S.D.W.A. has been amended several times since 2002. One of the main requirements of the Act is the mandatory licensing of municipal water providers. Section 31 (1) specifically states:

> "No person shall,
>
> a) establish a new municipal drinking water system or replace or carry out an alteration to a municipal drinking water system except under the authority of and in accordance with an approval under this Part or a drinking water works permit; or
>
> b) use or operate a municipal drinking water system that was established before or after this section comes into force except under the authority of and in accordance with an approval under this Part or municipal drinking water licence."

In order to become licensed, a municipality must satisfy five key requirements as per section 44(1):

1. Obtain a drinking water works permit.

2. Acceptance of the operational plan for the system based on the Drinking Water Quality Management Standard.

3. Accreditation of the Operating Authority.

4. Prepare and provide a financial plan.

5. Obtain permit to take water.

For licence renewals, the application must be accompanied by proof that the financial plan meets the prescribed requirements as per the Act s. 32 (5) 2.ii.

The preparation of a financial plan is a key requirement for licensing and as such, must be undertaken by all municipal water providers.

1.2.1 Financial Plan Defined

Subsection 30 of the Act provides the following definition of financial plans:

> "financial plans" means financial plans that satisfy the requirements prescribed by the Minister. 2017, c. 2, Sched. 11, s. 6 (3).

As of time of writing, the Sustainable Water and Sewage Systems Act, 2002 has been repealed (see section 2.2 of this report); however, the standards that it directs underpin the specific requirements of s. 30 as they are outlined in O. Reg. 453/07 and which will be examined in detail below.

1.2.2 Financial Plan Requirements – Existing System

The O. Reg. 453/07 provides details with regards to the financial plans for ***existing*** water systems. The requirements for existing systems are summarized as follows:

- Financial plans must be approved by resolution of Council (or governing body);
- Financial plans must include a statement that the financial impacts have been considered and apply for a minimum six-year period (commencing in the year of licence expiry);
- Financial plans must include detail regarding proposed or projected financial operations itemized by total revenues, total expenses, annual surplus/deficit and

accumulated surplus/deficit (i.e. the components of a "Statement of Operations" as per the PSAB) for each year in which the financial plans apply;

- Financial plans must present financial position itemized by total financial assets, total liabilities, net debt, non-financial assets, and tangible capital assets (i.e. the components of a "Statement of Financial Position" as per PSAB) for each year in which the financial plans apply;
- Gross cash receipts/payments itemized by operating transactions, capital transactions, investing transactions and financial transactions (i.e. the components of a "Statement of Cash Flow" as per PSAB) for each year in which the financial plans apply;
- Financial plans applicable to two or more solely-owned drinking water systems can be prepared as if they are for one drinking water system;
- Financial plans are to be made available to the public upon request and at no charge;
- If a website is maintained, financial plans are to be made available to the public through publication on the Internet at no charge;
- Notice of the availability of the financial plans is to be given to the public;
- Financial plan is to be submitted to the Ministry of Municipal Affairs and Housing; and
- The resolution of Council approving the Financial Plan be submitted to the Ministry of the Environment, Conservation and Parks (MECP).

1.2.3 Financial Plan Requirements – General

Given that the requirements for a financial plan is legislated under the Act, a financial plan is ***mandatory*** for water systems. The financial plans shall be for a forecast period of at least six years but longer planning horizons are encouraged. The ten-year forecast goes above and beyond the minimum requirement. The financial plan is to be completed and approved by resolution of Council or the governing body in accordance with subsection 3(1)1 of O. Reg. 453/07. Confirmation of approval of the financial plan must be submitted at the time of municipal drinking water license renewal (i.e. six months prior to license expiry).

A copy of the financial plan will be submitted to the Ministry of Municipal Affairs and Housing (MMAH) and not the MECP; however, MECP may request it in the course of review of the licence renewal. Financial plans may be amended and additional

information beyond what is prescribed can be included if deemed necessary. The financial plan must contain on the front page, the appropriate financial plan number as set out in Schedule A of the Municipal Drinking Water Licence.

1.2.4 Public Sector Accounting Board (PSAB) Requirements

The components of the financial plans indicated by the regulation are consistent with the requirements for financial statement presentation as set out in section PS1200 of the Canadian Institute of Chartered Accountants Public Sector Accounting Handbook:

"Financial statements should include a Statement of Financial Position, a Statement of Operations, a Statement of Change in Net Debt, and a Statement of Cash Flow."

The format required is to conform to the requirements of PS1200 and PS3150. The financial statements are to be reported on a full accrual accounting basis. The accrual accounting method recognizes revenues and expenses in the same period as the activities that give rise to them regardless of when they are actually paid for. Since an exchange of cash is not necessary to report a financial transaction, the accrual method is meant to provide a more accurate picture of financial position.

The accounting treatment of tangible capital assets is prescribed under section PS3150. Tangible capital assets are to be capitalized to ensure an inventory of the assets owned are recorded and to account for their ability to provide future benefits.

The Statement of Cash Flow and the Statement of Change in Net Financial Assets/Debt are required statements. The Statement of Change in Net Financial Assets/Debt reports on whether enough revenue was generated in a period to cover the expenses in the period and whether sufficient resources have been generated to support current and future activities. The Statement of Cash Flow reports on how activities were financed for a given period providing a measure of the changes in cash for that period.

1.2.5 The Township's Financial Plan

The Township is currently in the process of renewing the drinking water license (243-01 for the Marsville Water Supply System) and the previous version of the financial plan no longer meets the requirements as it must apply to a period of a least six years beginning in the year that the licenses would otherwise expire. Although the Act requires at least

six years to be included, this financial plan provides for a ten-year forecast period 2020 to 2029. The Township's application renewal deadline is July 13, 2020.

Chapter 2
Sustainable Financial Planning

2. Sustainable Financial Planning

2.1 Introduction

In general, sustainability refers to the ability to maintain a certain position over time. While the Act requires a declaration of the financial plan's sustainability, it does not give a clear definition of what would be considered sustainable. Instead, MECP released a guideline ("Towards Financially Sustainable Drinking-Water and Wastewater Systems") that provides possible approaches to achieving 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 storm water systems is desirable given the inherent relationship among these services.

Principle #3: Revenues collected for the provision of water and wastewater services should ultimately be used to meet the needs of those services.

Principle #4: Life-cycle planning with mid-course corrections is preferable to planning over the short-term, or not planning at all.

Principle #5: An asset management plan is a key input to the development of a financial plan.

Principle #6: A sustainable level of revenue allows for reliable service that meets or exceeds environmental protection standards, while providing sufficient resources for future rehabilitation and replacement needs.

Principle #7: Ensuring users pay for the services they are provided leads to equitable outcomes and can improve conservation. In general, metering and the use of rates can help ensure users pay for services received.

Principle #8: Financial plans are "living" documents that require continuous improvement. Comparing the accuracy of financial projections with actual results can lead to improved planning in the future.

Principle #9: Financial plans benefit from the close collaboration of various groups, including engineers, accountants, auditors, utility staff, and municipal Council.

2.2 Sustainable Water and Sewage Systems Act

The *Sustainable Water and Sewage Systems Act* (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 the wastewater services. In total, there were 40 areas within the Act to which the Minister could have made Regulations. It is noted that, the regulations, which accompany the Act, were not issued and the Act was repealed on December 31, 2012.

2.3 Water Opportunities Act, 2010

Since the passage of the *Safe Drinking Water Act,* changes and refinements to the legislation have been introduced, including the *Water Opportunities Act* (W.O.A). W.O.A. was introduced into legislation on May 18, 2010 and received Royal Assent on November 29, 2010, as the *Water Opportunities Act*.

The purposes of the *Water Opportunities Act* are to: foster innovative water, wastewater and storm water technologies, services and practices; create opportunities for economic development and clean-technology jobs; and conserve and sustain water resources. To achieve this W.O.A. provides for the creation of performance targets (financial, operational and maintenance related), which will vary by service type and location and the required submission of conservation and sustainability plans for water, wastewater and stormwater.

The sustainability plan in W.O.A. expands on interim legislation for financial plans included in O. Reg. 453/07, to include the following:

- an asset management plan for the physical infrastructure;
- financial plan;
- water conservation plan (for water service only);
- a risk assessment;
- a strategy for maintaining and improving the services; and

- additional information considered advisable.

Where a Board has jurisdiction over a service, the plan (and any plan amendments) must be approved by the municipality in which the municipal service is provided, before submission to the Minister. The Minister may also direct preparation of joint or partially joint plans.

Regulations (still forthcoming) will prescribe details in regard to any time periods or time limits, contents of the plans, identifying which portions of the plan will require certification, the public consultation process (if required), limitations updates and refinements.

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

On June 4, 2015, the Province passed the Infrastructure for Jobs and Prosperity Act (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 of Ontario released Ontario Regulation 588/17 under I.J.P.A. which has 3 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 (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;
- 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, the Township will need to consider the impacts during the annual budget and forecast process.

2.5 Water Forecast

As noted earlier, the Township has already completed their 2020 Rate Study in May of 2020. The 2020 Rate Study process is designed to address "full cost" principles and reflect the guiding principles toward sustainable financial planning.

As a result of employing this process, the 2020 water budget and ten-year forecast (2021 to 2030), included in the 2020 Rate Study, provides the basis for a sound financial plan for the Township's water system by assessing:

- A detailed assessment of current and future capital needs including an analysis of potential funding sources*;*

- An analysis of operating costs in order to determine how they will be impacted by evolving infrastructure needs*;*
- A review and recommendation on rates that ensure revenues are equitable and sufficient to meet system needs*;* and
- A public process that involved consultation with the main stakeholders including the Township's staff, Council, the general public (specifically the users of the system) and others with the aim of gaining input and collaboration on the sustainability of the water systems*.*

Chapter 3
Approach

3. Approach

3.1 Overview

The 2020 Rate Study (along with additional detailed information provided by Municipal Staff) has been used as a starting point to prepare the water financial plan. The Water Rate Study forecast is prepared on a modified cash basis; therefore, a conversion is required in order to present a full accrual financial plan for the purposes of this report. The conversion process used will help to establish the structure of the financial plan along with the opening balances that will underpin the forecast. This chapter outlines the conversion process utilized and summarizes the adjustments made to prepare the water financial plan.

3.2 Conversion Process

The conversion from the existing modified cash basis found in the 2020 Rate Study to the full accrual reporting format required under O. Reg. 453/07 can be summarized in the following steps:

1. Calculate Tangible Capital Asset Balances
2. Convert Statement of Operations
3. Convert Statement of Financial Position
4. Convert Statement of Cash Flow and Net Assets/Debt
5. Verification and Note Preparation

3.2.1 Calculate Tangible Capital Asset Balances

In calculating tangible capital asset balances, existing and future purchased, developed, and/or contributed assets will need to be considered. For existing water assets, an inventory has already been compiled and summarized by the Township for the purposes of their annual PSAB 3150 compliance process. As required, for PSAB 3150 reporting purposes, the asset inventory listing included historical cost (which is the original cost to purchase, develop, or construct each asset) along with an estimated

useful life for each asset and any anticipated salvage value is recorded. The following calculations are made to determine net book value:

- Accumulated amortization up to the year prior to the first forecast year.
- Amortization expense on existing assets for each year of the forecast period.
- Acquisition of new assets for each year of the forecast period.
- Disposals and related gains or losses for each year of forecast period.

Future water capital needs have also been determined and summarized within the 2020 Rate Study. These estimates, however, only represent future assets that the Township anticipates purchasing or constructing without consideration for future assets that are contributed by developers and other parties (at no or partial cost to the Township). These contributed assets will form part of the infrastructure going forward in terms of the sustainability of the system and despite their non-monetary nature; future financial plans may need to be adjusted in order to properly account for these transactions. Once the sequence and total asset acquisition has been determined for the forecast period, annual amortization of these assets for each year is calculated in a similar manner as that used for existing assets.

Once the historical cost, accumulated amortization, and amortization expenses are calculated as described above, the total net book value of the tangible capital assets can be determined and recorded on the Statement of Financial Position.

3.2.2 Convert Statement of Operations

A wide range of adjustments will be considered, dependent on the size and complexity of the systems, in order to convert from the cash to full accrual basis (see Figure 3-1). For example, debt repayment costs relating to the principal payment portion only needs to be removed under the accrual basis, as they no longer qualify as an expense for reporting purposes. Principal payments are reported as a decrease in debt liability on the Statement of Financial Position. Transfers to and from reserves are removed as these transactions are represented by changes in cash and accumulated surplus. Finally, expenses relating to tangible capital assets, such as amortization, write-offs, and (gain)/loss on disposal of assets are reported on the Statement of Operations in order to capture the allocation of the cost of these assets to operating activities over their useful lives and therefore are added in under the accrual basis.

Table 3-1
Conversion Adjustments
Statement of Operations

Modified Cash Basis	Budget 2020	Adjustments DR	Adjustments CR	Full Accrual Budget 2020	Accrual Basis
Revenues					**Revenues**
Base Charge Revenue	46,233			46,233	Base Charge Revenue
Rate Based Revenue	-			-	Rate Based Revenue
Transfers from Reserves	-	-			
			-	-	Earned Development Charges and Gas Tax Revenue
			-	-	Developer Contributions
Other Revenue	3,000		-	3,000	Other Revenue
Total Revenues	**49,233**			**49,233**	**Total Revenues**
Expenditures					**Expenses**
Operating	29,070	22,100		51,170	Operating Expenses
Capital					
Transfers to Reserves	20,163		20,163		
Transfers to Capital	-		-		
Debt Repayment (Principal & Interest)	-		-	-	Interest on Debt
		7,073		7,073	Amortization
		-		-	Loss on Disposal of Tangible Capital Assets
Total Expenditures	**49,233**			**58,243**	**Total Expenses**
Net Expenditures	**-**			**(9,010)**	**Annual Surplus/(Deficit)**
Increase (decrease) in amounts to be recovered	-			365,092	Accumulated Surplus/(Deficit), beginning of year
Change in Fund Balances	**-**	**-**	**9,010**	**356,082**	**Accumulated Surplus/(Deficit), end of year**

TOTAL ADJUSTMENTS	**29,173**	**29,173**

3.2.3 Convert Statement of Financial Position

Once the Statement of Operations has been converted and the net book value of tangible capital assets has been recorded, balances for the remaining items on the Statement of Financial Position are determined and recorded (see Figure 3-2). The opening/actual balances for the remaining accounts such as accounts receivable, inventory, accounts payable, outstanding debt (principal only), are recorded and classified according to the structure of the Statement of Financial Position as outlined in PS1200.

It is acknowledged that some of the balances required on the Statement of Financial Position will be consolidated across the Township and as such, will be difficult to isolate the information that is relevant to water. An example of this is accounts receivable, which may be administered centrally by the Finance Department. Ontario Regulation 453/07 allows for the exclusion of these numbers if they are not known at the time of preparing the financial plan. Please refer to the Financial Plan Notes in Chapter 4 for more details.

3.2.4 Convert Statement of Cash Flow and Net Financial Assets/Debt

The Statement of Cash Flow summarizes how the Township financed its activities or in other words, how the costs of providing services were recovered. The statement is derived using comparative Statement of Financial Position, the current Statement of Operations and other available transaction data.

The Statement of Change in Net Financial Assets/Debt is a statement which reconciles the difference between the surplus or deficit from current operations and the change in net financial assets/debt for the year. This is significant, as net debt provides an indication of future revenue requirements. In order to complete the Statement of Net Financial Assets/Debt, information regarding any gains/losses on disposals of assets, asset write-downs, acquisition/use of supplies inventory, and the acquisition use of prepaid expenses is necessary, (if applicable). Although the Statement of Change in Net Financial Assets/Debt is not required under O. Reg. 453/07, it has been included in this report as a further indicator of financial viability.

Table 3-2
Conversion Adjustments
Statement of Financial Position

Modified Cash Basis	Budget 2020	Adjustments DR	Adjustments CR	Full Accrual Budget 2020	Accrual Basis
ASSETS					**ASSETS**
Financial Assets					**Financial Assets**
Cash	180,200			180,200	Cash
Accounts Receivable	29,589			29,589	Accounts Receivable
				-	Investments
				-	Inventory for resale
Total Financial Assets	**209,789**			**209,789**	**Total Financial Assets**
Non-Financial Assets					
Inventory of Supplies	-		-		
Prepaid Expenses	-		-		
Total Non-Financial Assets	-				
LIABILITIES					**Liabilities**
Accounts Payable & Accrued Liabilities	7,485			7,485	Accounts Payable & Accrued Liabilities
Gross Long-term Liabilities	-			-	Debt (Principal only)
Deferred Revenue	-			-	Deferred Revenue
Other	-			-	Other
Total Liabilities	**7,485**			**7,485**	**Total Liabilities**
Net Assets/(Debt)	**202,304**			**202,304**	**Net Financial Assets/(Debt)**
					Non-Financial Assets
		175,878	22,100	153,778	Tangible Capital Assets
		-		-	Inventory of Supplies
		-		-	Prepaid Expenses
				153,778	**Total Non-Financial Assets**
Municipal Position					
Water Reserves	202,304	202,304	-		
Gas Tax Reserve Fund	-	-	-		
Development Charge Reserve Fund	-	-	-		
Amounts to be Recovered	-	-	-		
Total Municipal Position	**202,304**		356,082	**356,082**	**Accumulated Surplus/(Deficit), end of year**
TOTAL ADJUSTMENTS		**378,182**	**378,182**		

3.2.5 Verification and Note Preparation

The final step in the conversion process is to ensure that all the statements created by the previous steps are in balance. The Statement of Financial Position summarizes the resources and obligations of the Township at a set point in time. The Statement of Operations summarizes how these resources and obligations changed over the reporting period. To this end, the accumulated surplus/deficit reported on the Statement of Financial Position should equal the accumulated surplus/deficit reported on the Statement of Operations.

The Statement of Change in Net Financial Assets/Debt and the Statement of Financial Position are also linked in terms of reporting on net financial assets/debt. On the Statement of Financial Position, net financial assets/debt is equal to the difference between financial assets and liabilities and should equal net financial assets/debt as calculated on the Statement of Net Financial Assets/Debt.

While not part of the financial plan, the accompanying notes are important to summarize the assumptions and estimates made in preparing the financial plan. Some of the significant assumptions that need to be addressed within the financial plan are as follows:

a) Opening cash balances – Opening cash balances are necessary to complete the Statement of Cash Flows and balance the Statement of Financial Position. Preferably, opening cash balances should be derived from actual information contained within the Township's ledgers. It may not be possible, however, to extract this information from the ledgers for water alone; therefore, a reasonable proxy will be needed. One approach is to assume that opening cash balances equal ending reserve and reserve fund balances from the previous year adjusted for accrual-based transactions reflected by accounts receivable/payable balances. The following equation outlines this approach:

Ending Reserve/Reserve Fund Balance
Plus: Ending Accounts Payable Balance
Less: Ending Accounts Receivable Balance
Equals: Approximate Ending Cash Balance

b) Amortization Expense – The method and timing of amortization should be based on the Township's amortization policy.

c) Accumulated Amortization – Will be based on the culmination of accumulated amortization expenses throughout the life of each asset however derived, along with information on construction/acquisition date and useful life obtained from the 2020 Rate Study.

d) Contributed Assets – As noted earlier, contributed assets could represent a significant part of the Township's infrastructure acquisitions. As such, a reasonable estimate of value and timing of acquisition/donation may be required in order to adequately capture these assets. In the case where contributed assets are deemed to be insignificant or unknown, an assumption of "no contributed assets within the forecast period" will be made.

e) Accumulated Surplus – The magnitude of the surplus in this area may precipitate the need for additional explanation especially in the first year of reporting. This Accumulated Surplus captures the historical infrastructure investment which has not been reported in the past but has accumulated to significant levels. It also includes all water reserve and reserve fund balances.

f) Other Revenues – Will represent the recognition of revenues previously deferred (i.e. development charge revenues) and/or accrued revenues (developer contributions), and/or other minor miscellaneous revenues.

Chapter 4
Financial Plan

4. Financial Plan

4.1 Introduction

The following tables provide the complete financial plan for the Township's water system. A brief description and analysis of each table is provided below. It is important to note that the financial plan that follows is a forward look at the financial position of the Township's water system. It is not an audited document[1] and it contains various estimates as detailed in the "Notes to the Financial Plan" section below.

4.2 Water Financial Plan

4.2.1 Statement of Financial Position (Table 4-1)

The Statement of Financial Position provides information that describes the assets, liabilities, and accumulated surplus of the Township's water system. The first important indicator is net financial assets/(debt), which is defined as the difference between financial assets and liabilities. This indicator provides an indication of the system's "future revenue requirement." A net financial asset position is where financial assets are greater than liabilities and implies that the system has the resources to finance future operations. Conversely, a net debt position implies that the future revenues generated by the system will be needed to finance past transactions, as well as future operations. Table 4-1 indicates that in 2020, the Township's water system was in a net financial asset position of $202,304. The financial plan forecasts a net financial asset position for each year of the forecast period, increasing to a net financial asset position of $437,606 by 2030.

Another important indicator on the Statement of Financial Position is the tangible capital asset balance under section PS3150. As noted earlier, providing this information is a requirement for municipalities as part of PS3150 compliance and is significant from a financial planning perspective for the following reasons:

- Tangible capital assets such as watermains and treatment facilities are imperative to water service delivery.

[1] O. Reg. 453/07 does not require an audited financial plan.

- These assets represent significant economic resources in terms of their historical and replacement costs. Therefore, ongoing capital asset management is essential to managing significant replacements and repairs.
- The annual maintenance required by these assets has an enduring impact on water operational budgets.

In general terms, an increase in the tangible capital asset balance indicates that assets may have been acquired either through purchase by the municipality or donation/ contribution by a third party. A decrease in the tangible capital asset balance can indicate a disposal, write down, or use of assets. A use of assets is usually represented by an increase in accumulated amortization due to annual amortization expenses arising as a result of allocating the cost of the asset to operations over the asset's useful life. Table 4-1 shows tangible capital assets net book value is expected to grow to approximately $358,000 over the 10-year forecast period. This indicates that the Township is anticipating receiving contributed assets in excess of the anticipated use of existing assets over the forecast period

4.2.2 Statement of Operations (Table 4-2)

The Statement of Operations summarizes the revenues and expenses generated by the water system for a given period. The annual surplus/deficit measures whether the revenues generated were sufficient to cover the expenses incurred and in turn, whether net financial assets have been maintained or depleted. Table 4-2 illustrates the ratio of expenses to revenues decreasing from 118% to 58% over the forecast period. As a result, annual surplus/(deficit) decreases from a deficit of $9,010 to a surplus of $38,178 over the forecast period. It is important to note that an annual surplus is beneficial to ensure funding is available to non-expense costs such as tangible capital asset acquisitions and reserve/reserve fund transfers.

Another important indicator on this statement is accumulated surplus/deficit. An accumulated surplus indicates that the available net resources are sufficient to provide future capital water services. An accumulated deficit indicates that resources are insufficient to provide future services and that borrowing or rate increases are required to finance annual deficits. From Table 4-2, the financial plan proposes to add approximately $430,000 over the forecast period to a 2020 accumulated surplus of $365,000. The accumulated surplus, as indicated in Table 4-2, is predominantly made up of reserve balances as well as developer contributed assets.

4.2.3 Statement of Change in Net Financial Assets/Debt (Table 4-3)

The Statement of Change in Net Financial Assets/Debt indicates whether revenue generated was sufficient to cover operating and non-financial asset costs (i.e. inventory supplies, prepaid expenses, tangible capital assets, etc.) and in so doing, explains the difference between the annual surplus/deficit and the change in net financial assets/ debt for the period. Table 4-3 indicates that forecasted tangible capital asset acquisitions (net of amortization for the year) exceed the forecasted annual surplus for 2020 and 2024, resulting in a decrease in net financial assets. In all other years, the forecasted annual surplus exceeds forecasted tangible capital asset acquisitions (net of amortization for the year), resulting in increases in the net financial asset balance. Therefore, an overall increase to net financial assets is anticipated over the forecast period. This allows for a long-term plan of funding capital through accumulated surplus (i.e. reserves and reserve funds). This is evidenced by the ratio of cumulative annual surplus before amortization to cumulative tangible capital asset acquisitions improving from a negative value of 0.35 to 1.78 over the forecast period.[1]

4.2.4 Statement of Cash Flow (Table 4-4)

The Statement of Cash Flow summarizes how water systems are expected to generate and use cash resources during the forecast period. The transactions that provide/use cash are classified as operating, capital, investing, and financing activities as shown in Table 4-4. This statement focuses on the cash aspect of these transactions and thus is the link between cash-based and accrual-based reporting. Table 4-4 indicates that cash from operations will be used to fund capital transactions (i.e. tangible capital asset acquisitions) and build internal reserves and reserve funds over the forecast period. The financial plan projects the cash position of the Township's water systems to improve from a balance of approximately $188,000 at the beginning of 2020, to just under $394,000 by the end of 2029. For further discussions, on projected cash balances please refer to the Notes to the Financial Plan.

[1] A desirable ratio is 1:1 or better.

Table 4-1
Statement of Financial Position: Water Services
UNAUDITED: For Financial Planning Purposes Only
2020-2029

	Notes	Forecast									
		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Financial Assets											
Cash	1	180,200	185,969	197,238	220,431	209,835	222,393	264,042	310,624	346,686	393,898
Accounts Receivable	1	29,589	29,589	32,115	37,167	42,219	47,271	52,323	54,849	54,849	54,849
Total Financial Assets		**209,789**	**215,558**	**229,353**	**257,598**	**252,054**	**269,664**	**316,365**	**365,473**	**401,535**	**448,747**
Liabilities											
Bank Indebtedness		-	-	-	-	-	-	-	-	-	-
Accounts Payable & Accrued Liabilities	1	7,485	7,621	7,982	8,536	9,104	9,689	10,288	10,703	10,922	11,141
Debt (Principal only)	2	-	-	-	-	-	-	-	-	-	-
Deferred Revenue	3	-	-	-	-	-	-	-	-	-	-
Total Liabilities		**7,485**	**7,621**	**7,982**	**8,536**	**9,104**	**9,689**	**10,288**	**10,703**	**10,922**	**11,141**
Net Financial Assets/(Debt)		**202,304**	**207,937**	**221,371**	**249,062**	**242,950**	**259,975**	**306,077**	**354,770**	**390,613**	**437,606**
Non-Financial Assets											
Tangible Capital Assets	4	153,778	150,091	395,352	384,268	400,184	389,656	380,404	371,152	366,900	358,085
Total Non-Financial Assets		**153,778**	**150,091**	**395,352**	**384,268**	**400,184**	**389,656**	**380,404**	**371,152**	**366,900**	**358,085**
Accumulated Surplus/(Deficit)	5	**356,082**	**358,028**	**616,723**	**633,330**	**643,134**	**649,631**	**686,481**	**725,922**	**757,513**	**795,691**

Financial Indicators	Total Change	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
1) Increase/(Decrease) in Net Financial Assets	227,865	(7,437)	5,633	13,434	27,691	(6,112)	17,025	46,102	48,693	35,843	46,993
2) Increase/(Decrease) in Tangible Capital Assets	202,734	(1,573)	(3,687)	245,261	(11,084)	15,916	(10,528)	(9,252)	(9,252)	(4,252)	(8,815)
3) Increase/(Decrease) in Accumulated Surplus	430,599	(9,010)	1,946	258,695	16,607	9,804	6,497	36,850	39,441	31,591	38,178

Table 4-2
Statement of Operations: Water Services
UNAUDITED: For Financial Planning Purposes Only
2020-2029

	Notes	Forecast									
		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Water Revenue											
Base Charge Revenue		46,233	46,233	50,436	58,842	67,248	75,654	84,060	88,263	88,263	88,263
Developer Contributions	4	-	-	250,000	-	-	-	-	-	-	-
Other Revenue	6	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000
Total Revenues		**49,233**	**49,233**	**303,436**	**61,842**	**70,248**	**78,654**	**87,060**	**91,263**	**91,263**	**91,263**
Water Expenses											
Operating Expenses	Sch. 4-1	51,170	40,600	38,002	34,151	49,360	61,629	40,958	42,570	50,420	44,270
Interest on Debt	2	-	-	-	-	-	-	-	-	-	-
Amortization	4	7,073	6,687	6,739	11,084	11,084	10,528	9,252	9,252	9,252	8,815
Loss on Disposal of Tangible Capital Assets		-	-	-	-	-	-	-	-	-	-
Total Expenses		**58,243**	**47,287**	**44,741**	**45,235**	**60,444**	**72,157**	**50,210**	**51,822**	**59,672**	**53,085**
Annual Surplus/(Deficit)		**(9,010)**	**1,946**	**258,695**	**16,607**	**9,804**	**6,497**	**36,850**	**39,441**	**31,591**	**38,178**
Accumulated Surplus/(Deficit), beginning of year	5	365,092	356,082	358,028	616,723	633,330	643,134	649,631	686,481	725,922	757,513
Accumulated Surplus/(Deficit), end of year		356,082	358,028	616,723	633,330	643,134	649,631	686,481	725,922	757,513	795,691
Note 5:											
Accumulated Surplus/(Deficit) Reconciliation:		**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**
Reserve Balances											
Reserves: Development Charges		-	-	-	-	-	-	-	-	-	-
Reserves: Gas Tax		-	-	-	-	-	-	-	-	-	-
Reserves: Capital/Other		202,304	207,937	221,371	249,062	242,950	259,975	306,077	354,770	390,613	437,606
Total Reserves Balance		**202,304**	**207,937**	**221,371**	**249,062**	**242,950**	**259,975**	**306,077**	**354,770**	**390,613**	**437,606**
Less: Debt Obligations and Deferred Revenue		-	-	-	-	-	-	-	-	-	-
Add: Tangible Capital Assets	4	153,778	150,091	395,352	384,268	400,184	389,656	380,404	371,152	366,900	358,085
Total Ending Balance		**356,082**	**358,028**	**616,723**	**633,330**	**643,134**	**649,631**	**686,481**	**725,922**	**757,513**	**795,691**

Financial Indicators	**Total Change**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**
1) Expense to Revenue Ratio		118%	96%	15%	73%	86%	92%	58%	57%	65%	58%
2) Increase/(Decrease) in Accumulated Surplus	430,599	(9,010)	1,946	258,695	16,607	9,804	6,497	36,850	39,441	31,591	38,178

Schedule 4-1
Statement of Operating Expenses: Water Services
UNAUDITED: For Financial Planning Purposes Only
2020-2029

	Notes	Forecast									
		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Operating Expenses											
Base Operating - Dufferin Water		22,440	22,900	23,400	23,900	24,400	24,900	25,400	25,900	26,400	26,900
Operating - Emergencies/Special Testing		3,060	3,100	3,200	3,300	3,400	3,500	3,600	3,700	3,800	3,900
Operating - Hydro/Phone/Security Monitoring		3,570	3,600	3,700	3,800	3,900	4,000	4,100	4,200	4,300	4,400
Growth Related Operating Costs		-	-	702	2,151	3,660	5,229	6,858	7,770	7,920	8,070
Non TCA - Expenses from Capital Budget	7	22,100	11,000	7,000	1,000	14,000	24,000	1,000	1,000	8,000	1,000
TOTAL OPERATING EXPENSES		**51,170**	**40,600**	**38,002**	**34,151**	**49,360**	**61,629**	**40,958**	**42,570**	**50,420**	**44,270**

Table 4-3
Statement of Changes in Net Financial Assets/Debt: Water Services
UNAUDITED: For Financial Planning Purposes Only
2020-2029

	Notes	Forecast									
		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Annual Surplus/(Deficit)		(9,010)	1,946	258,695	16,607	9,804	6,497	36,850	39,441	31,591	38,178
Less: Acquisition of Tangible Capital Assets	4	(5,500)	(3,000)	(252,000)	-	(27,000)	-	-	-	(5,000)	-
Add: Amortization of Tangible Capital Assets	4	7,073	6,687	6,739	11,084	11,084	10,528	9,252	9,252	9,252	8,815
(Gain)/Loss on disposal of Tangible Capital Assets		-	-	-	-	-	-	-	-	-	-
Add: Proceeds on Sale of Tangible Capital Assets		-	-	-	-	-	-	-	-	-	-
Add: Write-downs of Tangible Capital Assets		-	-	-	-	-	-	-	-	-	-
		1,573	3,687	(245,261)	11,084	(15,916)	10,528	9,252	9,252	4,252	8,815
Less: Acquisition of Supplies Inventory		-	-	-	-	-	-	-	-	-	-
Less: Acquisition of Prepaid Expenses		-	-	-	-	-	-	-	-	-	-
Add: Consumption of Supplies Inventory		-	-	-	-	-	-	-	-	-	-
Add: Use of Prepaid Expenses		-	-	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	-	-
Increase/(Decrease) in Net Financial Assets/(Net Debt)		**(7,437)**	**5,633**	**13,434**	**27,691**	**(6,112)**	**17,025**	**46,102**	**48,693**	**35,843**	**46,993**
Net Financial Assets/(Net Debt), beginning of year		209,741	202,304	207,937	221,371	249,062	242,950	259,975	306,077	354,770	390,613
Net Financial Assets/(Net Debt), end of year		**202,304**	**207,937**	**221,371**	**249,062**	**242,950**	**259,975**	**306,077**	**354,770**	**390,613**	**437,606**

Financial Indicators		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
1) Acquisition of Tangible Capital Assets (Cumulative)		5,500	8,500	260,500	260,500	287,500	287,500	287,500	287,500	292,500	292,500
2) Annual Surplus/Deficit before Amortization (Cumulative)		(1,937)	6,696	272,130	299,821	320,709	337,734	383,836	432,529	473,372	520,365
3) Ratio of Annual Surplus before Amortization to Acquisition of TCA's (Cumulative)		(0.35)	0.79	1.04	1.15	1.12	1.17	1.34	1.50	1.62	1.78

Table 4-4
Statement of Cash Flow – Indirect Method: Water Services
UNAUDITED: For Financial Planning Purposes Only
2020-2029

	Notes	Forecast									
		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Operating Transactions											
Annual Surplus/Deficit		(9,010)	1,946	258,695	16,607	9,804	6,497	36,850	39,441	31,591	38,178
Add: Amortization of TCA's	4	7,073	6,687	6,739	11,084	11,084	10,528	9,252	9,252	9,252	8,815
(Gain)/Loss on disposal of Tangible Capital Assets		-	-	-	-	-	-	-	-	-	-
Less: Earned Deferred Revenue	3	-	-	-	-	-	-	-	-	-	-
Less: Developer Contributions		-	-	(250,000)	-	-	-	-	-	-	-
Add: Deferred Revenue Proceeds		-	-	-	-	-	-	-	-	-	-
Change in A/R (Increase)/Decrease		-	-	(2,526)	(5,052)	(5,052)	(5,052)	(5,052)	(2,526)	-	-
Change in A/P Increase/(Decrease)		-	136	361	554	568	585	599	415	219	219
Less: Interest Proceeds		-	-	-	-	-	-	-	-	-	-
Cash Provided by Operating Transactions		**(1,937)**	**8,769**	**13,269**	**23,193**	**16,404**	**12,558**	**41,649**	**46,582**	**41,062**	**47,212**
Capital Transactions											
Proceeds on sale of Tangible Capital Assets		-	-	-	-	-	-	-	-	-	-
Less: Cash Used to acquire Tangible Capital Assets	4	(5,500)	(3,000)	(2,000)	-	(27,000)	-	-	-	(5,000)	-
Cash Applied to Capital Transactions		**(5,500)**	**(3,000)**	**(2,000)**	**-**	**(27,000)**	**-**	**-**	**-**	**(5,000)**	**-**
Investing Transactions											
Proceeds from Investments		-	-	-	-	-	-	-	-	-	-
Less: Cash Used to Acquire Investments		-	-	-	-	-	-	-	-	-	-
Cash Provided by (applied to) Investing Transactions		**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Financing Transactions											
Proceeds from Debt Issue	2	-	-	-	-	-	-	-	-	-	-
Less: Debt Repayment (Principal only)	2	-	-	-	-	-	-	-	-	-	-
Cash Applied to Financing Transactions		**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Increase in Cash and Cash Equivalents		(7,437)	5,769	11,269	23,193	(10,596)	12,558	41,649	46,582	36,062	47,212
Cash and Cash Equivalents, beginning of year	1	187,637	180,200	185,969	197,238	220,431	209,835	222,393	264,042	310,624	346,686
Cash and Cash Equivalents, end of year	1	**180,200**	**185,969**	**197,238**	**220,431**	**209,835**	**222,393**	**264,042**	**310,624**	**346,686**	**393,898**

Notes to Financial Plan

The financial plan format as outlined in Chapter 4 closely approximates the full accrual format used by municipalities on their audited financial statements. However, the financial plan is not an audited document and contains various estimates. In this regard, section 3 (2) of O. Reg. 453/07 states the following:

> "Each of the following sub-subparagraphs applies only if the information referred to in the sub-subparagraph is known to the owner at the time the financial plans are prepared:
>
> 1. Sub-subparagraphs 4 i A, B and C of subsection (1)
> 2. Sub-subparagraphs 4 iii A, C, E and F of subsection (1)."

The information referred to in sub-subparagraphs 4 i A, B and C of subsection (1) includes:

A. Total financial assets (i.e. cash and receivables);

B. Total liabilities (i.e. payables, debt and deferred revenue);

C. Net debt (i.e. the difference between A and B above).

The information referred to in sub-subparagraphs 4 iii A, C, E and F of subsection (1) includes:

A. Operating transactions that are cash received from revenues, cash paid for operating expenses and finance charges

B. Investing transactions that are acquisitions and disposal of investments

C. Change in cash and cash equivalents during the year

D. Cash and cash equivalents at the beginning and end of the year

In order to show a balanced financial plan in a full accrual format for the Township, some of the items listed above have been estimated given that the Township does not maintain all financial asset and liability data separately for water. Usually, this type of data is combined with the financial assets and liabilities of other departments and

services given that there is not a current obligation to disclose this data separately (as there is with revenue and expenses).

The assumptions used have been documented below:

1. **Cash, Receivables and Payables**

   It is assumed that the opening cash balances required to complete the financial plan are equal to:

   Ending Reserve/Reserve Fund Balance
   Plus: Ending Accounts Payable Balance
   Less: Ending Accounts Receivable Balance
   Equals: Approximate Ending Cash Balance

   Receivable and payable balances were estimated for each year of the forecast based on the following factors:

   a) Receivables: Based on historical levels of receivables as a percentage of annual revenue earned (source: 2016-2018 audited financial statements); and

   b) Payables: Based on historical levels of payables as a percentage of annual expenses incurred (source: 2016-2018 audited financial statements).

2. **Debt**

   Currently there is no outstanding water related debt and the municipality is not anticipating the need to issue debt over the forecast period.

3. **Deferred Revenue**

   Deferred revenue is typically made up of water development charge reserve fund and gas tax balances which are considered to be a liability for financial reporting purposes until the funds are used to emplace the works for which they have been collected.

The Township of East Garafraxa does not collect water development charges currently, therefore deferred revenue is assumed to be zero over the forecast period.

4. Tangible Capital Assets

- Opening net book value of tangible capital assets includes water related assets in the following categories:
    i. Infrastructure (water mains, lateral lines, water fitting, water valves, and water hydrants)
    ii. Facilities

- Amortization is calculated based on using the straight-line approach with no amortization in the year of acquisition or construction.
- Given the planned asset replacement forecast in the 2020 Rate Study, useful life on acquisitions is assumed to be equal to the weighted average useful life for all assets on hand in each respective asset category.
- Write-offs are assumed to equal $0 for each year in the forecast period.
- Tangible capital assets are shown on a net basis. It is assumed that disposals occur when the asset is being replaced, unless the asset is documented as a new asset. The value of each asset disposal is calculated by estimating the original purchase/construction date and deflating current replacement cost values to those estimated dates in order to calculate original historical cost.
- Gains/losses on disposal are assumed to be $0 (it is assumed that historical cost is equal to accumulated amortization for all disposals).
- Residual value is assumed to be $0 for all assets contained within the forecast period.
- Contributed Assets, as described in Section 3.2.1, are deemed to be $250,000 in 2022.
- The Township is unaware of any specific lead service piping in the municipal water system.

The balance of tangible capital assets is summarized as follows:

Asset Historical Cost	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Opening Tangible Capital Asset Balance	350,299	355,407	358,187	610,034	610,034	634,773	634,773	634,773	634,773	639,241
Acquisitions	5,500	3,000	252,000	-	27,000	-	-	-	5,000	-
Disposals	392	220	153	-	2,261	-	-	-	532	-
Closing Tangible Capital Asset Balance	**355,407**	**358,187**	**610,034**	**610,034**	**634,773**	**634,773**	**634,773**	**634,773**	**639,241**	**639,241**
Opening Accumulated Amortization	194,948	201,629	208,096	214,682	225,766	234,589	245,117	254,369	263,621	272,341
Amortization Expense	7,073	6,687	6,739	11,084	11,084	10,528	9,252	9,252	9,252	8,815
Amortization on Disposal	392	220	153	-	2,261	-	-	-	532	-
Ending Accumulated Amortization	**201,629**	**208,096**	**214,682**	**225,766**	**234,589**	**245,117**	**254,369**	**263,621**	**272,341**	**281,156**
Net Book Value	**153,778**	**150,091**	**395,352**	**384,268**	**400,184**	**389,656**	**380,404**	**371,152**	**366,900**	**358,085**

5. Accumulated Surplus

Opening accumulated surplus for the forecast period is reconciled as follows:

Water	2020 Opening Accumulated Surplus
Reserve Balances	
Reserves: Development Charges	-
Reserves: Capital/Other	209,741
Total Reserves Balance	**209,741**
Less: Debt Obligations and Deferred Revenue	-
Less: Unfinanced Capital	-
Add: Tangible Capital Assets	155,351
Total Opening Balance	**365,092**

The accumulated surplus reconciliation for all years within the forecast period is contained in Table 4-2.

6. Other Revenue

Other revenues include penalties and interest payments

7. Operating Expenses

Capital expenditures for items not meeting the definition of tangible capital assets have been reclassified as operating expenses and have been expensed in the year in which they occur.

Chapter 5
Process for Financial Plan Approval and Submission to the Province

5. Process for Financial Plan Approval and Submission to the Province

As mentioned in section 1.2, preparation of and approval of a financial plan for water assets that meets the requirements of the Act is mandatory for municipal water providers. Proof of the plan preparation and approval is a key submission requirement for municipal drinking water licensing and, upon completion, must be submitted to the MECP. The process established for plan approval, public circulation and filing is set out in O. Reg. 453/07 and can be summarized as follows:

1. The financial plan must be approved by resolution of Council of the municipality who owns the drinking water system or the governing body of the owner. (O. Reg. 453/07, section 3 (1) 1.)

2. The owner of the drinking water system must provide notice advertising the availability of the financial plan. The plans will be made available to the public upon request and without charge. The plans must also be made available to the public on the municipality's website. (O. Reg. 453/07, section 3 (1) 5.)

3. The owner of the drinking water system must provide a copy of the financial plan to the Director of Policy Branch, Ministry of Municipal Affairs and Housing. (O. Reg. 453/07, section 3 (1) 6.)

4. The owner of the drinking water system must provide proof satisfactory to the Director that the financial plans for the system satisfy the requirements under the Safe Drinking Water Act. (S.D.W.A. section 32 (5) 2.ii.)

Chapter 6
Recommendations

6. Recommendations

This report presents the water financial plan for the Township of East Garafraxa in accordance with the mandatory reporting formats for water systems as detailed in O. Reg. 453/07. It is important to note that while mandatory, the financial plan is provided for Council's interest and approval however, for decision making purposes, it may be more informative to rely on the information contained within the 2020 Water, dated May 20, 2020. Nevertheless, Council is required to pass certain resolutions with regard to this plan and regulations and it is recommended that:

1. The Township of East Garafraxa's Water Financial Plan prepared by Watson & Associates Economists Ltd. dated May 20, 2020 be approved.

2. Notice of availability of the Financial Plan be advertised.

3. The Financial Plan dated May 20, 2020 be submitted to the Ministry of Municipal Affairs and Housing. (O. Reg. 453/07, section 3 (1) 6).

4. The resolution of Council approving the Financial Plan be submitted to the MECP, satisfying the requirements under the Safe Drinking Water Act. (S.D.W.A. section 32 (5) 2.ii.).[1]

[1] Note: The Ministry of the Environment does not require the Council Resolution for the initial financial plan submission. We encourage the municipality to contact the Ministry of the Environment to verify all requirements have been met.

Appendices

Appendix A
2020 Water Rate Study – Water Summary Tables

Table 1
Township of East Garafraxa
Water Service
Capital Budget Forecast
Inflated $

Description	Budget	Total	Forecast									
	2020		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Capital Expenditures												
Well One - Camera inspection of well casing	-	7,000	-	3,000	-	-	-	-	-	4,000	-	-
Well One - Submersible pump replacement	-	8,000	-	-	-	8,000	-	-	-	-	-	-
Well One - Transmission main repairs	-	3,000	-	-	-	3,000	-	-	-	-	-	-
Pumphouse Raw - Replace pressure gauges	200	-	-	-	-	-	-	-	-	-	-	-
Water Piping - Service flow control valves	-	3,000	3,000	-	-	-	-	-	-	-	-	-
Water Piping - Process piping repairs	-	6,000	-	3,000	-	-	-	-	-	3,000	-	-
Water Piping - Replace raw water meters	-	6,000	-	-	-	6,000	-	-	-	-	-	-
Pumphouse - Chemical metering pumps	-	3,000	3,000	-	-	-	-	-	-	-	-	-
Treatment - Discharge piping/valves	-	6,000	-	2,000	-	2,000	-	-	-	2,000	-	-
Equipment - Centreline Injectors	300	-	-	-	-	-	-	-	-	-	-	-
Treated Water - Replace pressure gauges	-	-	-	-	-	-	-	-	-	-	-	-
Process - Replace pressure tanks	3,000	-	-	-	-	-	-	-	-	-	-	-
Process - Replace treated water meters	-	-	-	-	-	-	-	-	-	-	-	-
Instrumentation and SCADA - Replace free chlorine analyzer	-	8,000	-	-	-	8,000	-	-	-	-	-	-
Instrumentation and SCADA - Replace laptop	2,000	-	-	-	-	-	-	-	-	-	-	-
Instrumentation and SCADA - Replace datalogger	-	6,000	-	-	-	3,000	-	-	-	3,000	-	-
Building Services - Electrical	500	9,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	-
Building Services - Heating	1,500	-	-	-	-	-	-	-	-	-	-	-
Building Services - Lighting	100	-	-	-	-	-	-	-	-	-	-	-
Treated Water - Distribution mains leak repairs	-	3,000	-	-	-	3,000	-	-	-	-	-	-
Distribution - Valve repair	-	4,000	2,000	-	-	2,000	-	-	-	-	-	-
Distribution - Hydrant repair	-	6,000	3,000	-	-	3,000	-	-	-	-	-	-
Distribution - Service repairs	-	4,000	2,000	-	-	2,000	-	-	-	-	-	-
Provision	-	10,000	-	-	-	-	-	-	-	-	-	10,000
Studies												
Rate Studies and Financial Plan	20,000	49,000	-	-	-	-	23,000	-	-	-	-	26,000
Total Capital Expenditures	**27,600**	**141,000**	**14,000**	**9,000**	**1,000**	**41,000**	**24,000**	**1,000**	**1,000**	**13,000**	**1,000**	**36,000**
Capital Financing												
Provincial/Federal Grants		-										
Non-Growth Related Debenture Requirements	-	-	-	-	-	-	-	-	-	-	-	-
Water Reserve	27,600	141,000	14,000	9,000	1,000	41,000	24,000	1,000	1,000	13,000	1,000	36,000
Total Capital Financing	**27,600**	**141,000**	**14,000**	**9,000**	**1,000**	**41,000**	**24,000**	**1,000**	**1,000**	**13,000**	**1,000**	**36,000**

Table 2
Township of East Garafraxa
Water Service
Schedule of Non-Growth Related Debenture Repayments
Inflated $

Debenture Year	2020	Principal (Inflated)	Forecast									
			2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
2021		-		-	-	-	-	-	-	-	-	-
2022		-			-	-	-	-	-	-	-	-
2023		-				-	-	-	-	-	-	-
2024		-					-	-	-	-	-	-
2025		-						-	-	-	-	-
2026		-							-	-	-	-
2027		-								-	-	-
2028		-									-	-
2029		-										-
2030		-										
Total Annual Debt Charges	-	-	-	-	-	-	-	-	-	-	-	-

Table 3
Township of East Garafraxa
Water Service
Water Reserves/ Reserve Funds Continuity
Inflated $

Description	2020		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Opening Balance	209,741		202,304	207,937	221,371	249,062	242,950	259,975	306,077	354,770	390,613	437,606
Transfer from Operating	20,163		19,633	22,434	28,691	34,888	41,025	47,102	49,693	48,843	47,993	47,143
Transfer to Capital	27,600		14,000	9,000	1,000	41,000	24,000	1,000	1,000	13,000	1,000	36,000
Transfer to Operating				-	-	-	-	-	-	-	-	-
Closing Balance	**202,304**		**207,937**	**221,371**	**249,062**	**242,950**	**259,975**	**306,077**	**354,770**	**390,613**	**437,606**	**448,749**
Interest												

Table 4
Township of East Garafraxa
Water Services
Operating Budget Forecast
Inflated $

Description	Budget 2020		Forecast 2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Expenditures												
Operating Costs			-	-	-	-	-	-	-	-	-	-
Base Operating - Dufferin Water	22,440		22,900	23,400	23,900	24,400	24,900	25,400	25,900	26,400	26,900	27,400
Operating - Emergencies/Special Testing	3,060		3,100	3,200	3,300	3,400	3,500	3,600	3,700	3,800	3,900	4,000
Operating - Hydro/Phone/Security Monitoring	3,570		3,600	3,700	3,800	3,900	4,000	4,100	4,200	4,300	4,400	4,500
Growth Related Operating Costs			-	702	2,151	3,660	5,229	6,858	7,770	7,920	8,070	8,220
Sub Total Operating	**29,070**		**29,600**	**31,002**	**33,151**	**35,360**	**37,629**	**39,958**	**41,570**	**42,420**	**43,270**	**44,120**
Capital-Related												
New Non-Growth Related Debt (Principal)			-	-	-	-	-	-	-	-	-	-
New Non-Growth Related Debt (Interest)			-	-	-	-	-	-	-	-	-	-
Transfer to Capital Reserve	20,163		19,633	22,434	28,691	34,888	41,025	47,102	49,693	48,843	47,993	47,143
Sub Total Capital Related	**20,163**		**19,633**	**22,434**	**28,691**	**34,888**	**41,025**	**47,102**	**49,693**	**48,843**	**47,993**	**47,143**
Total Expenditures	**49,233**		**49,233**	**53,436**	**61,842**	**70,248**	**78,654**	**87,060**	**91,263**	**91,263**	**91,263**	**91,263**
Revenues												
Base Charge	46,233		46,233	50,436	58,842	67,248	75,654	84,060	88,263	88,263	88,263	88,263
Other Revenue	3,000		3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000
Contributions from Reserves	-		-	-	-	-	-	-	-	-	-	-
Total Operating Revenue	**49,233**		**49,233**	**53,436**	**61,842**	**70,248**	**78,654**	**87,060**	**91,263**	**91,263**	**91,263**	**91,263**
Water Billing Recovery - Operating	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**