Water Rate Study and Ontario Regulation 453/07 Financial Plan

Township of Amaranth

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Water Rate Study Report

Chapter 1
Introduction

1. Introduction

1.1 Background

The Township of Amaranth (Township) currently provides water services to 116 households on the Waldemar Heights Water Supply System.

Current customers are being charged an annual flat rate of $680 for water, which is billed monthly. In addition to this monthly charge, customers have been paying a capital charge over either 10 or 20-year terms in relation to previously constructed water assets. Those customers who elected to pay their capital charge over a 20-year term will continue to do so until 2026 while those customers who elected to pay the capital charge over 10-years have no further annual payments remaining.

Owners of municipal drinking water systems in Ontario are required to have a municipal drinking water licence. Municipalities are required to submit their water licence renewal application to the Province every five years. One of the mandatory licencing requirements under the Safe Drinking Water Act is for a financial plan to be prepared and submitted to the Province. Ontario Regulation (O.reg.) 453/07 outlines the required information, reporting structure and deadlines for the financial plan. Regarding the deadlines, municipalities are mandated to finalize, approve and submit these financial plans six months prior to their water licence expiry (along with all other water licence application requirements). As such, the Township was required to submit their water licence renewal application prior to the deadline of April 18, 2020. Prior to the April 18, 2020 deadline, the Township received approval to submit their water licence renewal application without the water financial plan, provided that the water financial plan is submitted prior the expiry of the current water licence.

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 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 entitles 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 Plan 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 Township'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; and
- 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; and
- 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; and
- Strategies for maintaining and improving the municipal service, including strategies to ensure the municipal service can satisfy future demand, consider technologies, services and practices that promote the efficient use of water and reduce negative impacts on Ontario's water resources, and increase co-operation with other municipal service providers.

Performance indicators will be established by service:

- 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; and
- May be different for different municipal service providers or for municipal services in different areas of the Province.

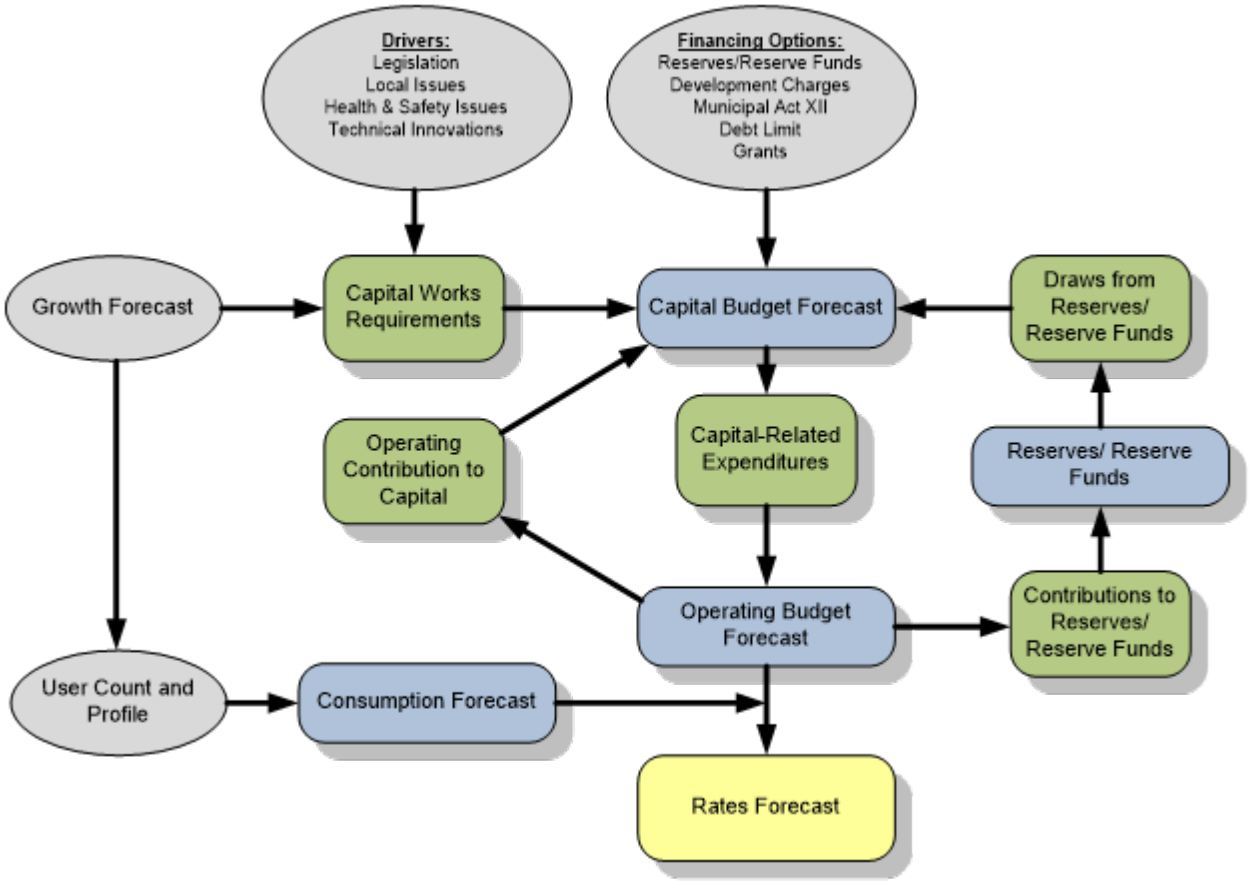
Regulations will prescribe:

- 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. Growth-related sources of funding include water capital levies and debt. 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 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 capital levies, fees and penalties, and 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 minimum bill 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 116 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 Waldemar Water Storage Municipal Class Environmental Assessment, dated August 2019 (Waldemar EA) identifies water storage needs to provide service to 137 additional units within future developments (i.e. Centurian, Sarah Properties, South of Centurian). Of the additional 137 units, 76 units have been forecast to develop and connect to the water system over the 2024-2030 period based on the Township's 2019 Development Charges Background Study and discussions with Township Staff. This results in an increase from 116 current customers to a total of 192 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	116	116	116	116	116	116	116	116	116	116	116
New - Growth	-	-	-	-	8	22	33	44	55	66	76
Total	**116**	**116**	**116**	**116**	**124**	**138**	**149**	**160**	**171**	**182**	**192**

The actual timing of when future growth on the Waldemar water system occurs will have implications on the capital funding plan and water rate forecast. Potential delays in the timing of the anticipated development will reduce the anticipated water rate revenue resulting in budgetary shortfalls. These potential impacts are discussed further in Chapters 4 trough 6.

Chapter 3
Capital Infrastructure Needs

3. Capital Infrastructure Needs

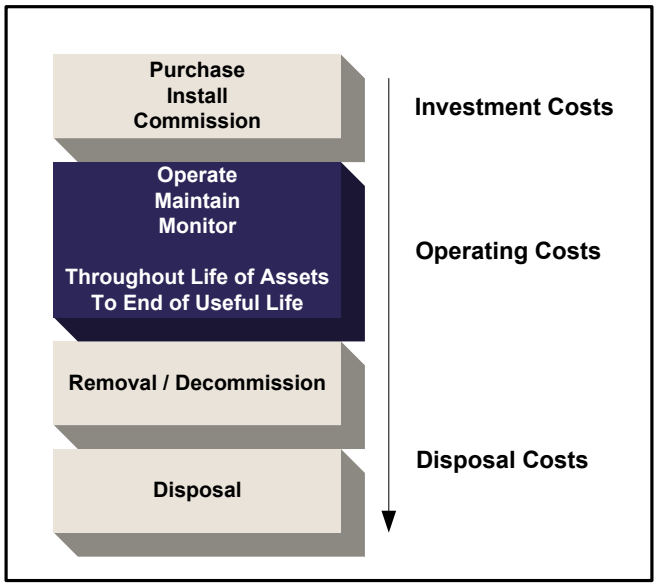
3.1 Overview of Lifecycle Costing

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.

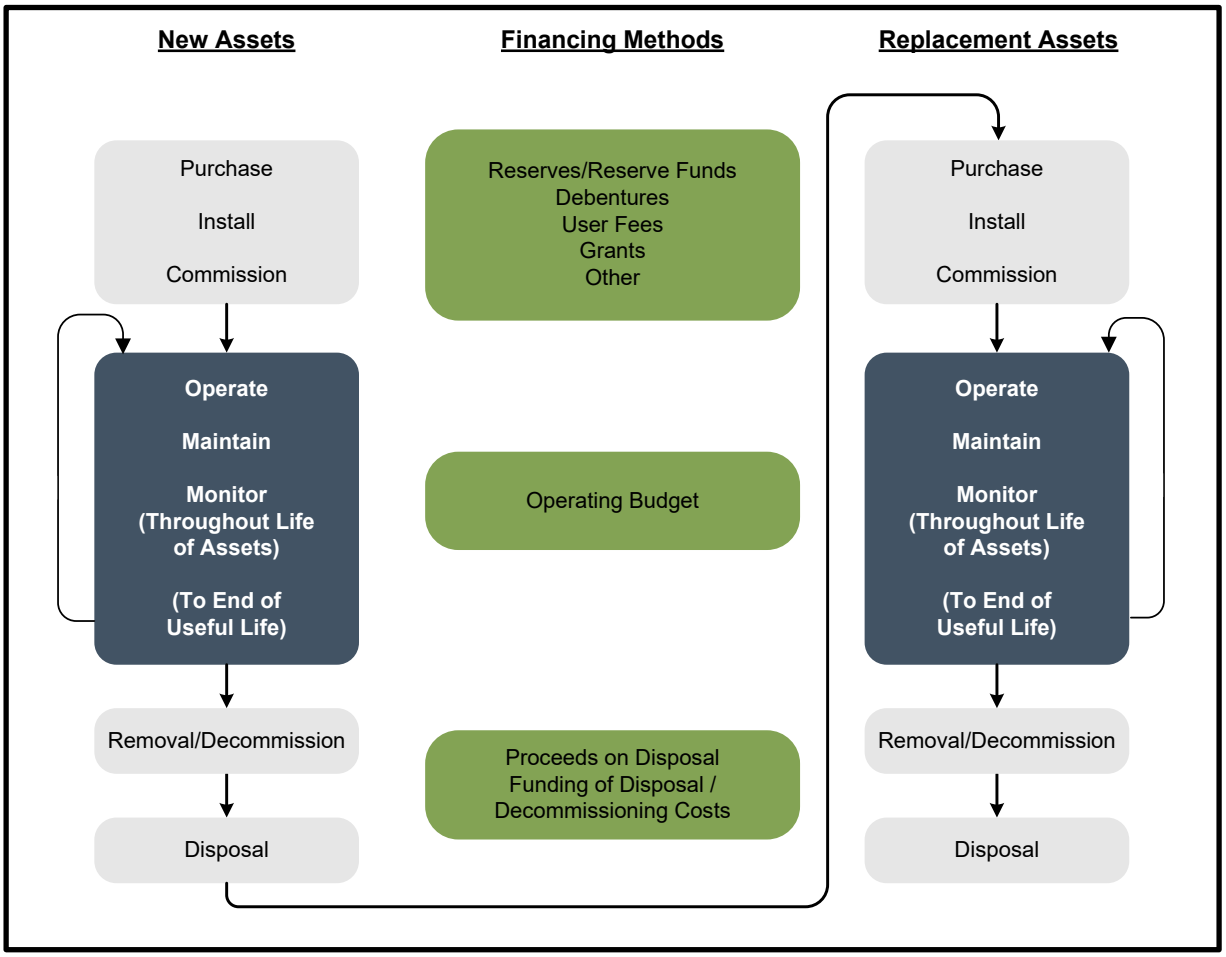
Figure 3-2 depicts the costs of an asset from its initial conception through to replacement and then continues to follow the associated costs through to the next replacement.

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.

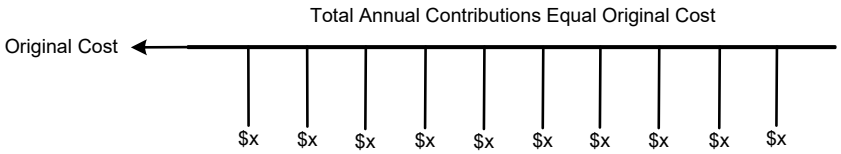
3.1.3 Costing Methods

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.

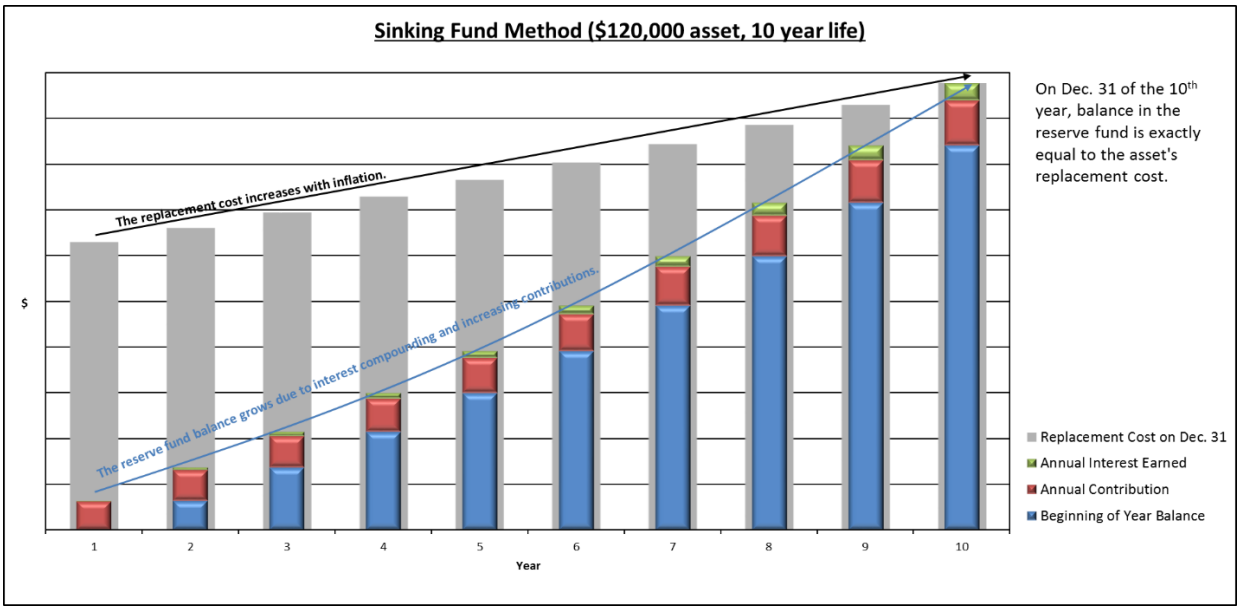
The straight-line method is calculated by taking the original cost of the asset, subtracting its estimated salvage value (estimated value of the asset at the time it is disposed of) and dividing this by the estimated number of years of useful life. The reducing balance method is calculated by utilizing 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 Amaranth Water Asset Replacement Costs Summary		
Asset Type	**Replacement Cost (2020$)**	**Annual Lifecycle Replacement Cost**
Facilities & Components	3,488,368	86,381
Water Mains	5,214,517	100,439
Lateral Lines	34,567	666
Water Fittings	360,681	8,007
Water Valves	500,373	11,108
Water Hydrants	247,324	5,490
Wells	137,402	6,620
TOTAL	9,983,233	218,711

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 2019 to 2029 capital needs forecast.

The Waldemar EA was prepared to evaluate water storage alternatives to meet the demands of future development. The preferred alternative of the Waldemar EA is for the construction of an in-ground reservoir at the existing Waldemar pumphouse for $1.78 million. These costs will be a direct developer responsibility and have not been included in the capital needs forecast.

The Township has also identified the need for $250,000 in costs related to process piping improvements that would be required in the short-term. Through discussions with the Township, it is understood that these improvements would not be required if the construction of the in-ground reservoir were to occur. As the anticipated development requiring the construction of the in-ground reservoir is anticipated to commence in 2024, the process piping costs identified above have not been included in the forecast. Should there be delays in the timing of the construction of the in-ground reservoir and subsequent development or the process piping improvements are required prior to 2024, it is understood that the process piping improvements would be undertaken by

[1] Facilities and Components assets include $1.78 million for the costs associated with the preferred servicing option identified in the Waldemar EA (i.e. In-ground reservoir)

the Township. Should this be the case, it is recommended that they Township re-examine the Water Rate Study to ensure sufficient funding is in place for process piping improvements and water system needs.

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 $239,700. For rate determination purposes, the capital needs forecast will be indexed by 2.5% annually.

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	-	3,000	-	-	-	-	-	-	-	3,000	-	-
Well One - Submersible pump replacement	-	7,000	-	-	-	7,000	-	-	-	-	-	-
Well One - Transmission main repairs	-	2,500	-	-	-	2,500	-	-	-	-	-	-
Well Two - Camera inspection of well casing	-	3,000	-	-	-	-	-	-	-	3,000	-	-
Well Two - Submersible pump replacement	-	7,000	-	-	-	7,000	-	-	-	-	-	-
Well Two - Transmission main repairs	-	3,000	-	-	-	-	-	-	-	3,000	-	-
Well Three - Camera inspection of well casing	-	3,000	-	-	-	-	-	-	-	3,000	-	-
Well Three - Submersible pump replacement	-	7,000	-	-	-	7,000	-	-	-	-	-	-
Well Three - Transmission main repairs	-	2,500	-	-	-	2,500	-	-	-	-	-	-
Pumphouse Raw - Replace pressure gauges	-	1,500	1,500	-	-	-	-	-	-	-	-	-
Water Piping - Service pressure relief valve	5,000	-	-	-	-	-	-	-	-	-	-	-
Water Piping - Replace raw water meters	-	10,000	-	-	-	10,000	-	-	-	-	-	-
Pumphouse Treatment Equipment - Chemical metering pumps	-	15,000	15,000	-	-	-	-	-	-	-	-	-
Pumphouse Treatment Equipment - Centreline Injectors	500	4,500	500	500	500	500	500	500	500	500	500	-
Treated Water Process - Replace pressure gauges	-	2,000	-	-	-	-	-	-	-	2,000	-	-
Treated Water Process - Service flow control valves	-	5,000	-	-	-	-	-	-	-	5,000	-	-
Treated Water Process - Service pressure relief valve	-	5,000	-	-	-	-	-	-	-	5,000	-	-
Treated Water Process - Rebuild high lift pumps	5,000	10,000	-	-	-	10,000	-	-	-	-	-	-
Treated Water Process - Service emergency pump	-	5,500	-	-	-	3,000	-	-	-	2,500	-	-
Treated Water Process - Replace treated w ater meters	-	4,000	-	-	-	-	-	-	-	-	4,000	-
Instrumentation and SCADA - Replace free chlorine analyzer	-	7,000	-	-	-	7,000	-	-	-	-	-	-
Instrumentation and SCADA - Replace laptop	-	3,000	-	-	-	3,000	-	-	-	-	-	-
Instrumentation and SCADA - Replace datalogger	-	5,000	-	-	-	2,500	2,500	-	-	-	-	-
Building Services - Electrical	-	10,000	2,500	-	-	2,500	-	2,500	-	2,500	-	-
Building Services - Heating	500	4,500	500	500	500	500	500	500	500	500	500	-
Building Services - Lighting	500	2,500	-	500	-	500	500	-	500	-	500	-
Building Services - Generator Service	1,000	5,000	-	1,000	-	1,000	1,000	-	1,000	-	1,000	-
Treated Water Distribution - Distribution mains leak repairs	-	10,500	-	5,000	-	5,000	-	-	500	-	-	-
Treated Water Distribution - Valve repair	-	3,000	-	-	-	1,500	-	-	1,500	-	-	-
Treated Water Distribution - Hydrant repair	-	10,000	-	2,500	-	5,000	-	-	-	2,500	-	-
Treated Water Distribution - Service repairs	-	7,500	-	1,500	-	3,000	1,500	-	-	1,500	-	-
Provision		18,722										18,722
Studies:		-										
Rate Studies and Financial Plan		40,000					20,000					20,000
Total Capital Expenditures	**12,500**	**227,222**	**20,000**	**11,500**	**1,000**	**81,000**	**26,500**	**3,500**	**4,500**	**34,000**	**6,500**	**38,722**

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 Ontario 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 assent 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 impost 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 Township'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 fund has been used in the capital funding forecast for rate-based needs.

The year-end 2019 Water Reserve balance is $9,566.

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 Reg. 403/02 provides the current rules respecting municipal debt and financial obligations. Through the rules established under these regulations, a Township's debt capacity is capped at a level where no more than 25% of the Township's own source revenue may be allotted for servicing the debt (i.e. annual debt charges).

The Township has an instalment bank loan which was secured in 2006 to pay for capital works in that year. The principal and interest costs of the bank loan have been identified in capital related expenses as a Part XII Repayment and have been offset by

operating revenue amounts noted as Municipal Act Capital Charge Recovery, discussed in section 5.2.

4.7 Recommended Approach

It is recommended that the capital program be funded by water capital reserves and the issuance of external debt. 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 Amaranth
2020-20230 Water Capital Funding Program (Inflated $)

Capital Financing (Inflated)	2020-2030
Non-Growth Related Debenture Requirements	139,920
Water Reserve	149,580
Total Capital Financing	**289,500**

The capital financing plan anticipates the issuance of $140,100 debt between 2020 and 2025. Based on the Township's 2018 Financial Information Return, the Township is currently utilizing 2.4% of their legislated debt servicing capacity (i.e. 0.6% of net own source revenues) for outstanding municipal debt payments (rate and non-rate based). With forecast growth in own source revenues based on the rate forecast presented herein, the anticipated debt for the water system would marginally increase the Township's debt capacity utilization from 0.6% of own source revenues to 0.7% by 2030. As such, the forecast issuance of debt would not materially impact the Township's indebtedness with regard to the legislated limit of 25% of own source revenues and would preserve debt funding capacity for other municipal services.

Based on the capital funding plans identified in Table 4-1 and the 2020 estimated water reserve balance in Section 4.5, the water reserve continuity schedules are presented in Table 4-3. By 2030, water reserves are anticipated to increase from $9,600 to $86,000.

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	-	4,000	-	-	-	-	-	-	-	4,000	-	-
Well One - Submersible pump replacement	-	8,000	-	-	-	8,000	-	-	-	-	-	-
Well One - Transmission main repairs	-	3,000	-	-	-	3,000	-	-	-	-	-	-
Well Two - Camera inspection of well casing	-	4,000	-	-	-	-	-	-	-	4,000	-	-
Well Two - Submersible pump replacement	-	8,000	-	-	-	8,000	-	-	-	-	-	-
Well Two - Transmission main repairs	-	4,000	-	-	-	-	-	-	-	4,000	-	-
Well Three - Camera inspection of well casing	-	4,000	-	-	-	-	-	-	-	4,000	-	-
Well Three - Submersible pump replacement	-	8,000	-	-	-	8,000	-	-	-	-	-	-
Well Three - Transmission main repairs	-	3,000	-	-	-	3,000	-	-	-	-	-	-
Pumphouse Raw - Replace pressure gauges	-	2,000	2,000	-	-	-	-	-	-	-	-	-
Water Piping - Service pressure relief valve	5,000	-	-	-	-	-	-	-	-	-	-	-
Water Piping - Replace raw water meters	-	11,000	-	-	-	11,000	-	-	-	-	-	-
Pumphouse Treatment Equipment - Chemical metering pumps	-	15,000	15,000	-	-	-	-	-	-	-	-	-
Pumphouse Treatment Equipment - Centreline Injectors	500	9,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	-
Treated Water Process - Replace pressure gauges	-	2,000	-	-	-	-	-	-	-	2,000	-	-
Treated Water Process - Service flow control valves	-	6,000	-	-	-	-	-	-	-	6,000	-	-
Treated Water Process - Service pressure relief valve	-	6,000	-	-	-	-	-	-	-	6,000	-	-
Treated Water Process - Rebuild high lift pumps	5,000	11,000	-	-	-	11,000	-	-	-	-	-	-
Treated Water Process - Service emergency pump	-	6,000	-	-	-	3,000	-	-	-	3,000	-	-
Treated Water Process - Replace treated w ater meters	-	5,000	-	-	-	-	-	-	-	-	5,000	-
Instrumentation and SCADA - Replace free chlorine analyzer	-	8,000	-	-	-	8,000	-	-	-	-	-	-
Instrumentation and SCADA - Replace laptop	-	3,000	-	-	-	3,000	-	-	-	-	-	-
Instrumentation and SCADA - Replace datalogger	-	6,000	-	-	-	3,000	3,000	-	-	-	-	-
Building Services - Electrical	-	12,000	3,000	-	-	3,000	-	3,000	-	3,000	-	-
Building Services - Heating	500	9,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	-
Building Services - Lighting	500	5,000	-	1,000	-	1,000	1,000	-	1,000	-	1,000	-
Building Services - Generator Service	1,000	5,000	-	1,000	-	1,000	1,000	-	1,000	-	1,000	-
Treated Water Distribution - Distribution mains leak repairs	-	12,000	-	5,000	-	6,000	-	-	1,000	-	-	-
Treated Water Distribution - Valve repair	-	4,000	-	-	-	2,000	-	-	2,000	-	-	-
Treated Water Distribution - Hydrant repair	-	12,000	-	3,000	-	6,000	-	-	-	3,000	-	-
Treated Water Distribution - Service repairs	-	9,000	-	2,000	-	3,000	2,000	-	-	2,000	-	-
Provision	-	24,000	-	-	-	-	-	-	-	-	-	24,000
Studies:		-	-	-	-	-	-	-	-	-	-	-
Rate Studies and Financial Plan	-	49,000	-	-	-	-	23,000	-	-	-	-	26,000
Total Capital Expenditures	**12,500**	**277,000**	**22,000**	**14,000**	**2,000**	**93,000**	**32,000**	**5,000**	**7,000**	**43,000**	**9,000**	**50,000**
Capital Financing												
Provincial/Federal Grants		-										
Developer Contributions	-	-	-	-	-	-	-	-	-	-	-	-
Non-Growth Related Debenture Requirements	2,934	136,986	22,000	13,554	424	83,954	17,054	-	-	-	-	-
Water Reserve	9,566	140,014	-	446	1,576	9,046	14,946	5,000	7,000	43,000	9,000	50,000
Total Capital Financing	**12,500**	**277,000**	**22,000**	**14,000**	**2,000**	**93,000**	**32,000**	**5,000**	**7,000**	**43,000**	**9,000**	**50,000**

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

Description	2020		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Opening Balance	9,566		-	-	-	-	-	-	-	-	506	56,713
Transfer from Operating			-	446	1,576	9,046	14,946	5,000	7,000	43,501	64,645	79,279
Transfer to Capital	9,566			446	1,576	9,046	14,946	5,000	7,000	43,000	9,000	50,000
Transfer to Operating				-	-	-	-	-	-	-	-	-
Closing Balance	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**-**	**501**	**56,151**	**85,991**
Interest	-		-	-	-	-	-	-	-	5	562	860

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 50% over the forecast period from $99,400 in 2020 to $149,400 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 the operation of the new in-ground reservoir. The in-ground reservoir operating costs have been phased-in based on the pace of the anticipated development to $28,500 by 2030.

Capital-related annual expenditures in the forecast include annual debt repayments and contributions to reserve to support the capital forecast and other future 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 $0 currently to $89,600 by 2030 moving the Township towards a sustainable lifecycle funding position.

Forecast operating expenditures also include transfers to general reserves of $56,800 over the 2026-2028 period. These transfers are required to repay the estimated tax based funding support that was required over the 2016-2020 period.

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 $105,400 in 2020 to $239,000 by 2030.

5.2 Operating Revenues

The Township has a Municipal Act capital charge recovery which was initiated in 2007 to recover the capital costs associated with specific capital works in 2006. These operating revenues have been forecast over the period in accordance with payment

recovery schedules and are offset by the cost of debt payments discussed in section 4.6. At the time the capital charge was imposed, customers had the option of paying their capital charge over 10 or 20-years. The remaining capital charge recovery payments are for customers who opted for the twenty-year repayment option. These customers payments will continue until 2026. The annual operating revenues for water services, representing the capital charge recovery amounts, are forecast at $6,000 for the 2020 to 2026 period.

The Township's current annual water billing revenues of $78,900 are insufficient to fund current annual operating costs of $99,400. As such, transfers from water reserves and non-rate based reserves (i.e. general taxation) have been relied upon to fund the water system operations. Additional transfers from general reserves of $20,500 are required in 2020 before water billing revenue is increased in 2021 to fully fund annual operating costs (including annual debt payments related to the issuance of new debt over the forecast period).

Water billing revenues are forecast to increase from $78,900 to $239,000 over the forecast period based on the anticipated development summarized in Chapter 2 and the proposed increases to the water rates, which are discussed further in Chapter 6.

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

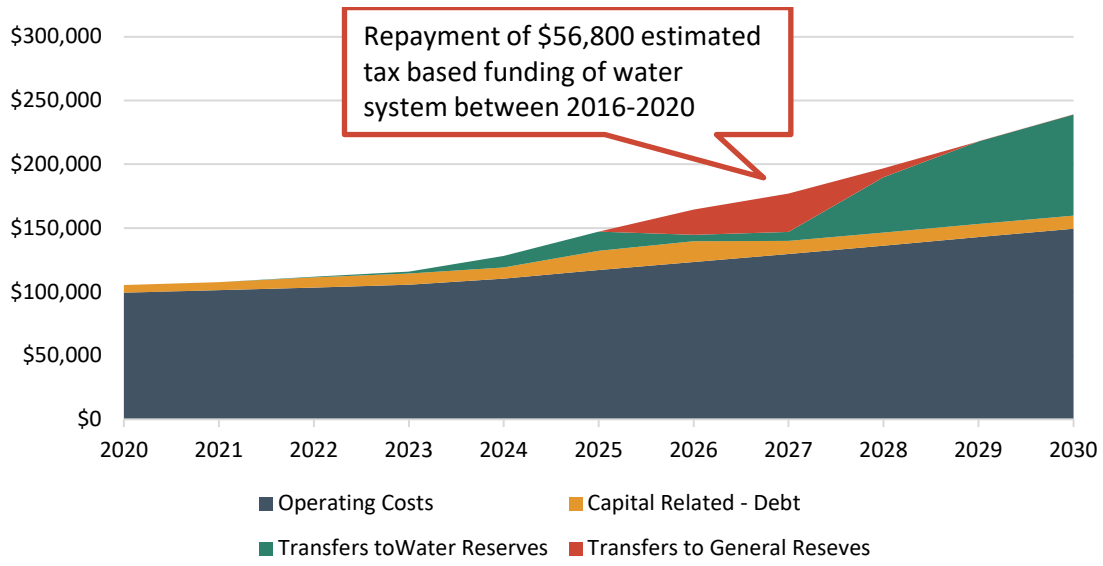
Table 5-1
Water Services
Operating Budget Forecast – Inflated $

Description	Budget 2020		Forecast 2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Expenditures												
Operating Costs			-	-	-	-	-	-	-	-	-	-
Bell Canada	1,900		1,900	1,900	1,900	1,900	1,900	1,900	1,900	1,900	1,900	1,900
Hydro	12,800		13,100	13,400	13,700	14,000	14,300	14,600	14,900	15,200	15,500	15,800
General[1]	84,700		86,400	88,100	89,900	91,700	93,500	95,400	97,300	99,200	101,200	103,200
Growth Related Operating Costs			-	-	-	2,677	7,394	11,374	15,506	19,792	24,254	28,499
Sub Total Operating	**99,400**		**101,400**	**103,400**	**105,500**	**110,277**	**117,094**	**123,274**	**129,606**	**136,092**	**142,854**	**149,399**
Capital-Related												
Existing Debt (Principal) - Part XII Repayment	3,620		3,892	4,183	4,497	4,834	5,197	5,872				
Existing Debt (Interest) - Part XII Repayment	2,407		2,135	1,844	1,530	1,193	830	155				
New Non-Growth Related Debt (Principal)			99	841	1,330	1,398	4,273	5,016	5,217	5,426	5,643	5,868
New Non-Growth Related Debt (Interest)			117	993	1,502	1,466	4,768	5,279	5,079	4,870	4,653	4,427
Transfer to General Reserves	-		-	-	-	-	-	19,878	30,075	6,848		-
Transfer to Capital Reserve				446	1,576	9,046	14,946	5,000	7,000	43,501	64,645	79,279
Sub Total Capital Related	**6,027**		**6,243**	**8,307**	**10,435**	**17,937**	**30,014**	**41,200**	**47,371**	**60,645**	**74,940**	**89,574**
Total Expenditures	**105,427**		**107,643**	**111,707**	**115,935**	**128,214**	**147,107**	**164,474**	**176,977**	**196,737**	**217,794**	**238,974**
Revenues												
Base Charge	78,880		101,616	105,680	109,908	122,187	141,080	158,447	176,977	196,737	217,794	238,974
Part XII Capital Charge Recovery	6,027		6,027	6,027	6,027	6,027	6,027	6,027	-	-	-	-
Contributions from General Reserves	20,520					-	-	-	-	-	-	-
Contributions from Reserves / Reserve Funds	-		-	-	-	-	-	-	-	-	-	-
Total Operating Revenue	**105,427**		**107,643**	**111,707**	**115,935**	**128,214**	**147,107**	**164,474**	**176,977**	**196,737**	**217,794**	**238,974**
Water Billing Recovery - Operating	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**

[1] Includes the operating contract, NSF Audits, Meter Calibrations, and emegency contingency

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, debt, and repayment of tax based funding support).

Figure 5-1
Water Service
2020-2030 Annual Net Operating Forecast by Major Component



As noted previously, should customer growth not occur as presented in Chapter 2, budgetary shortfalls will occur from the decrease in annual water rate revenue and the potential addition of costs related to process piping improvements ($250,000). As such, further rate increases and/or continued/increased tax-based funding support will be required to offset the loss in revenue and support the anticipated funding needs of the system.

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 external debt will be the predominant 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 are presented in Tables 6-1 for 10-year and 20-year capital charge customers. As was noted in Chapter 5, the capital recovery charge of $287 per year will be retired for all 20-year capital charge customers in 2026. In addition, new customers are expected to join the water system starting in 2024 through the remainder of the forecast period.

The annual flat rate is forecast to increase by 28.8% in 2021, followed by 4.0% annual increases for the remainder of the forecast period. The annual bill for 10-year capital charge customers will increase from $680 to $876 in 2021 (+$196), further increasing to $1,247 by 2030. The total annual bill for 20-year capital charge customers will increase from $967 (including the $287 capital charge) to $1,163 in 2021 before peaking at $1,352 by 2026. The total annual bill for 20-year capital charge customers will then decrease to $1,108 in 2027 with 4.0% annual increases thereafter.

The detailed financial forecast and rate calculations for water services are provided in Appendix A to this report.

Table 6-1
Township of Amaranth
Water Rate Forecast – Inflated

Description	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Water Rates											
10-Year Replacement											
Captial Charge - 10-year	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Annual Flat Rate	$680.00	$876.00	$911.04	$947.48	$985.38	$1,024.79	$1,065.79	$1,108.42	$1,152.75	$1,198.86	$1,246.82
Total Annual Bill	**$680.00**	**$876.00**	**$911.04**	**$947.48**	**$985.38**	**$1,024.79**	**$1,065.79**	**$1,108.42**	**$1,152.75**	**$1,198.86**	**$1,246.82**
% Increase - Annual Bill		28.8%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
$ Increase - Annual Bill		$196.00	$35.04	$36.44	$37.90	$39.42	$40.99	$42.63	$44.34	$46.11	$47.95
20-Year Replacement											
Captial Charge - 20-year	$287.00	$287.00	$287.00	$287.00	$287.00	$287.00	$287.00	$0.00	$0.00	$0.00	$0.00
Annual Flat Rate	$680.00	$876.00	$911.04	$947.48	$985.38	$1,024.79	$1,065.79	$1,108.42	$1,152.75	$1,198.86	$1,246.82
Total Annual Bill	**$967.00**	**$1,163.00**	**$1,198.04**	**$1,234.48**	**$1,272.38**	**$1,311.79**	**$1,352.79**	**$1,108.42**	**$1,152.75**	**$1,198.86**	**$1,246.82**
% Increase - Annual Bill		20.3%	3.0%	3.0%	3.1%	3.1%	3.1%	-18.1%	4.0%	4.0%	4.0%
$ Increase - Annual Bill		$196.00	$35.04	$36.44	$37.90	$39.42	$40.99	-$244.37	$44.34	$46.11	$47.95

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 rates as shown in Chapter 6;

3. That Council direct staff to consider the results of the Rate Study in future amendments to the Town's asset management plan; and

4. That Council consider transitioning current water reserve to reserve funds.

Appendices

Appendix A
Water Services

Table 1
Township of Amaranth
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	-	4,000	-	-	-	-	-	-	-	4,000	-	-
Well One - Submersible pump replacement	-	8,000	-	-	-	8,000	-	-	-	-	-	-
Well One - Transmission main repairs	-	3,000	-	-	-	3,000	-	-	-	-	-	-
Well Two - Camera inspection of well casing	-	4,000	-	-	-	-	-	-	-	4,000	-	-
Well Two - Submersible pump replacement	-	8,000	-	-	-	8,000	-	-	-	-	-	-
Well Two - Transmission main repairs	-	4,000	-	-	-	-	-	-	-	4,000	-	-
Well Three - Camera inspection of well casing	-	4,000	-	-	-	-	-	-	-	4,000	-	-
Well Three - Submersible pump replacement	-	8,000	-	-	-	8,000	-	-	-	-	-	-
Well Three - Transmission main repairs	-	3,000	-	-	-	3,000	-	-	-	-	-	-
Pumphouse Raw - Replace pressure gauges	-	2,000	2,000	-	-	-	-	-	-	-	-	-
Water Piping - Service pressure relief valve	5,000	-	-	-	-	-	-	-	-	-	-	-
Water Piping - Replace raw water meters	-	11,000	-	-	-	11,000	-	-	-	-	-	-
Pumphouse Treatment Equipment - Chemical metering pumps	-	15,000	15,000	-	-	-	-	-	-	-	-	-
Pumphouse Treatment Equipment - Centreline Injectors	500	9,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	-
Treated Water Process - Replace pressure gauges	-	2,000	-	-	-	-	-	-	-	2,000	-	-
Treated Water Process - Service flow control valves	-	6,000	-	-	-	-	-	-	-	6,000	-	-
Treated Water Process - Service pressure relief valve	-	6,000	-	-	-	-	-	-	-	6,000	-	-
Treated Water Process - Rebuild high lift pumps	5,000	11,000	-	-	-	11,000	-	-	-	-	-	-
Treated Water Process - Service emergency pump	-	6,000	-	-	-	3,000	-	-	-	3,000	-	-
Treated Water Process - Replace treated w ater meters	-	5,000	-	-	-	-	-	-	-	-	5,000	-
Instrumentation and SCADA - Replace free chlorine analyzer	-	8,000	-	-	-	8,000	-	-	-	-	-	-
Instrumentation and SCADA - Replace laptop	-	3,000	-	-	-	3,000	-	-	-	-	-	-
Instrumentation and SCADA - Replace datalogger	-	6,000	-	-	-	3,000	3,000	-	-	-	-	-
Building Services - Electrical	-	12,000	3,000	-	-	3,000	-	3,000	-	3,000	-	-
Building Services - Heating	500	9,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	-
Building Services - Lighting	500	5,000	-	1,000	-	1,000	1,000	-	1,000	-	1,000	-
Building Services - Generator Service	1,000	5,000	-	1,000	-	1,000	1,000	-	1,000	-	1,000	-
Treated Water Distribution - Distribution mains leak repairs	-	12,000	-	5,000	-	6,000	-	-	1,000	-	-	-
Treated Water Distribution - Valve repair	-	4,000	-	-	-	2,000	-	-	2,000	-	-	-
Treated Water Distribution - Hydrant repair	-	12,000	-	3,000	-	6,000	-	-	-	3,000	-	-
Treated Water Distribution - Service repairs	-	9,000	-	2,000	-	3,000	2,000	-	-	2,000	-	-
Provision	-	24,000	-	-	-	-	-	-	-	-	-	24,000
Studies:		-	-	-	-	-	-	-	-	-	-	-
Rate Studies and Financial Plan	-	49,000	-	-	-	-	23,000	-	-	-	-	26,000
Total Capital Expenditures	**12,500**	**277,000**	**22,000**	**14,000**	**2,000**	**93,000**	**32,000**	**5,000**	**7,000**	**43,000**	**9,000**	**50,000**
Capital Financing												
Provincial/Federal Grants		-										
Developer Contributions	-	-	-	-	-	-	-	-	-	-	-	-
Non-Growth Related Debenture Requirements	2,934	136,986	22,000	13,554	424	83,954	17,054	-	-	-	-	-
Water Reserve	9,566	140,014	-	446	1,576	9,046	14,946	5,000	7,000	43,000	9,000	50,000
Total Capital Financing	**12,500**	**277,000**	**22,000**	**14,000**	**2,000**	**93,000**	**32,000**	**5,000**	**7,000**	**43,000**	**9,000**	**50,000**

Table 2
Township of Amaranth
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
2020		2,934	216	216	216	216	216	216	216	216	216	216
2021		22,000		1,619	1,619	1,619	1,619	1,619	1,619	1,619	1,619	1,619
2022		13,554			997	997	997	997	997	997	997	997
2023		424				31	31	31	31	31	31	31
2024		83,954					6,177	6,177	6,177	6,177	6,177	6,177
2025		17,054						1,255	1,255	1,255	1,255	1,255
2026		-							-	-	-	-
2027		-								-	-	-
2028		-									-	-
2029		-										-
2030		-										
Total Annual Debt Charges	-	**139,920**	216	1,835	2,832	2,863	9,041	10,296	10,296	10,296	10,296	10,296

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

Description	2020		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Opening Balance	9,566		-	-	-	-	-	-	-	-	506	56,713
Transfer from Operating			-	446	1,576	9,046	14,946	5,000	7,000	43,501	64,645	79,279
Transfer to Capital	9,566			446	1,576	9,046	14,946	5,000	7,000	43,000	9,000	50,000
Transfer to Operating				-	-	-	-	-	-	-	-	-
Closing Balance	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**-**	**501**	**56,151**	**85,991**
Interest	-		-	-	-	-	-	-	-	5	562	860

Table 4
Township of Amaranth
Water Services
Operating Budget Forecast
Inflated $

Description	Budget 2020		Forecast 2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Expenditures												
Operating Costs			-	-	-	-	-	-	-	-	-	-
Bell Canada	1,900		1,900	1,900	1,900	1,900	1,900	1,900	1,900	1,900	1,900	1,900
Hydro	12,800		13,100	13,400	13,700	14,000	14,300	14,600	14,900	15,200	15,500	15,800
General[1]	84,700		86,400	88,100	89,900	91,700	93,500	95,400	97,300	99,200	101,200	103,200
Growth Related Operating Costs			-	-	-	2,677	7,394	11,374	15,506	19,792	24,254	28,499
Sub Total Operating	**99,400**		**101,400**	**103,400**	**105,500**	**110,277**	**117,094**	**123,274**	**129,606**	**136,092**	**142,854**	**149,399**
Capital-Related												
Existing Debt (Principal) - Part XII Repayment	3,620		3,892	4,183	4,497	4,834	5,197	5,872				
Existing Debt (Interest) - Part XII Repayment	2,407		2,135	1,844	1,530	1,193	830	155				
New Non-Growth Related Debt (Principal)			99	841	1,330	1,398	4,273	5,016	5,217	5,426	5,643	5,868
New Non-Growth Related Debt (Interest)			117	993	1,502	1,466	4,768	5,279	5,079	4,870	4,653	4,427
Transfer to General Reserves	-		-	-	-	-	-	19,878	30,075	6,848		-
Transfer to Capital Reserve				446	1,576	9,046	14,946	5,000	7,000	43,501	64,645	79,279
Sub Total Capital Related	**6,027**		**6,243**	**8,307**	**10,435**	**17,937**	**30,014**	**41,200**	**47,371**	**60,645**	**74,940**	**89,574**
Total Expenditures	**105,427**		**107,643**	**111,707**	**115,935**	**128,214**	**147,107**	**164,474**	**176,977**	**196,737**	**217,794**	**238,974**
Revenues												
Base Charge	78,880		101,616	105,680	109,908	122,187	141,080	158,447	176,977	196,737	217,794	238,974
Part XII Capital Charge Recovery	6,027		6,027	6,027	6,027	6,027	6,027	6,027	-	-	-	-
Contributions from General Reserves	20,520					-	-	-	-	-	-	-
Contributions from Reserves / Reserve Funds	-		-	-	-	-	-	-	-	-	-	-
Total Operating Revenue	**105,427**		**107,643**	**111,707**	**115,935**	**128,214**	**147,107**	**164,474**	**176,977**	**196,737**	**217,794**	**238,974**
Water Billing Recovery - Operating	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**

[1] Includes the operating contract, NSF Audits, Meter Calibrations, and emegency contingency

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

Water Ontario Regulation 453/07 Financial Plan

Township of Amaranth

Financial Plan #239-301

Watson & Associates Economists Ltd.
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June 29, 2020

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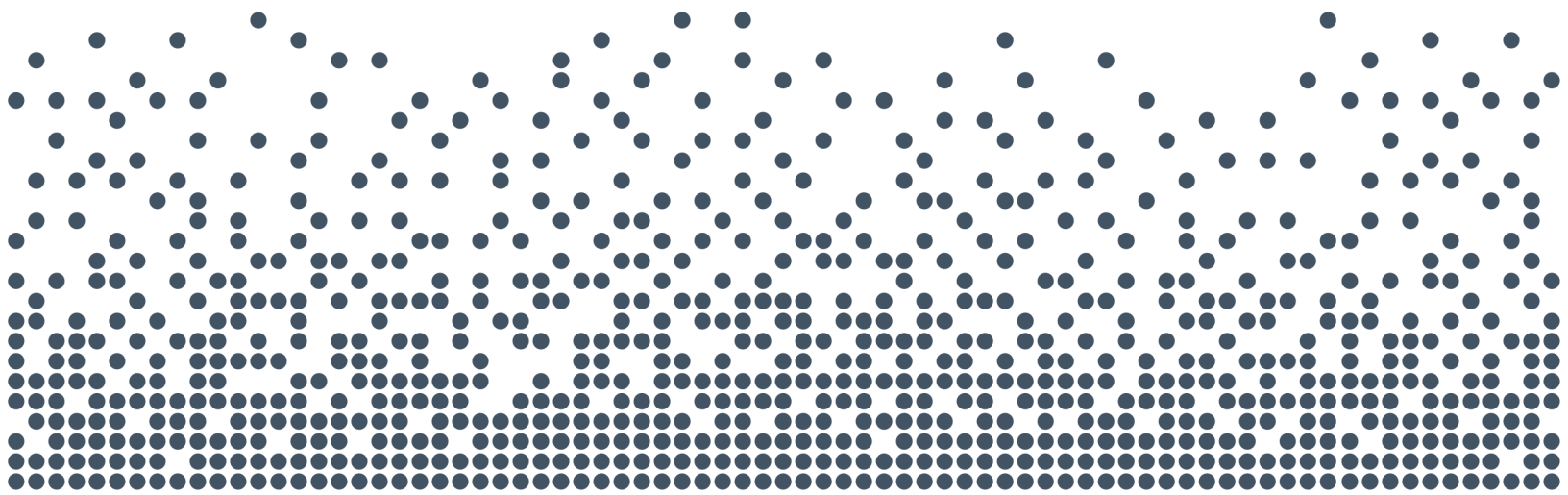
List of Acronyms and Abbreviations

Acronym	Full Description of Acronym
O.Reg.	Ontario Regulation
P.S.A.B.	Public Sector Accounting Board
S.D.W.A.	Safe Drinking Water Act



Report

Chapter 1
Introduction

1. Introduction

1.1 Study Purpose

Watson & Associates Economists Ltd. (Watson) was retained by the Township of Amaranth (Township) 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. This detailed financial planning and forecasting in regard to the Township's water systems has been completed and documented by Watson within the "Township of Amaranth Water Rate Study, June 29, 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.) was passed in December 2002 in order to address some of the recommendations made by the Walkerton Inquiry Part II report. 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.

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

1.2.1 Financial Plan Defined

Section 30 (1) of the S.D.W.A. provides the following definition of financial plans:

> "financial plans" means,
>
> a) financial plans that satisfy the requirements of subsection (2), but only if,
>
> (i) Bill 175 (Sustainable Water and Sewage Systems Act, 2002, introduced on September 23, 2002) receives Royal Assent, and
>
> (ii) sections 3 and 9 of Bill 175 (Sustainable Water and Sewage Systems Act, 2002) are in force, or
>
> b) financial plans that satisfy the requirements prescribed by the Minister, in any other case. 2002, c. 32, s. 30 (1).

As of time of writing, the Sustainable Water and Sewage Systems Act, 2002 cited above has been repealed (see Section 2.2 of this report) however, the standards that it directs underpin the specific requirements of s.30 (1) part b as they are outlined in O.Reg. 453/07 and which will be examined in detail below.

1.2.2 Financial Plan Requirements – New System

O.Reg. 453/07 provides the following parameters with regards to s.30 (1) part b of the S.D.W.A. for ***new*** water systems:

- Financial plans must be approved by Council resolution (or governing body) indicating that the drinking water system is financially viable;
- Financial plans must include a statement that the financial impacts have been considered and apply for a minimum six-year period (commencing when the system first serves the public);
- 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 Public Sector Accounting Board (P.S.A.B.) 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; and
- Financial plan is to be submitted to the Ministry of Municipal Affairs and Housing.

1.2.3 Financial Plan Requirements – Existing System

O.Reg. 453/07 also provides details with regards to s.30 (1) part b of the S.D.W.A. for *existing* water systems. The requirements for existing systems are summarized as follows:

- Financial plans must be approved by Council resolution (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 P.S.A.B.) 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 P.S.A.B.) 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 P.S.A.B.) 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; and
- Financial plan is to be submitted to the Ministry of Municipal Affairs and Housing.

1.2.4 Financial Plan Requirements – General

Given that the legislation falls under the S.D.W.A., a financial plan is ***mandatory*** for water systems and ***encouraged*** for wastewater systems. The financial plans shall be for a forecast period of at least six years but longer planning horizons are encouraged. The financial plan is to be completed, approved and submitted at the time of licence renewal (i.e. six months prior to licence expiry). 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 document.

1.2.5 Public Sector Accounting Board (P.S.A.B.) 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.”

Both the Statement of Financial Position and the Statement of Operations were required for financial reporting purposes in pre-2009 reporting years. However, the format changed in 2009 to conform to the requirements of PS1200 and PS3150 (see Figures 1-1 and 1-2). Financial statements are now reported on a full accrual accounting basis, which will continue in future years. 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. Before 2009, financial results were reported on a modified cash basis of accounting whereby revenues and expenses are recognized when cash is paid or received and only certain accrual-type items such as payables and receivables are recognized at year-end. The difference between the methods is in the timing of when transactions are reported. This timing difference has impacted the presentation of the statements in that various accounts have been added or deleted in order to properly report the transactions.

Moreover, since the 2009 fiscal year, additional information relating to the accounting treatment of tangible capital assets is included in annual reporting, as indicated by the requirements under section PS3150. Pre-2009, the costs to acquire, develop and/or construct capital assets were expensed in the year in which they occur. Going forward, tangible capital assets will be capitalized so as to create an inventory of the assets owned and to account for their ability to provide future benefits. The reporting of tangible capital assets requires further changes to the format of existing financial statements. From a financial planning perspective, this change is significant for water assets as they can represent a significant portion of the Township's total assets.

The Statement of Cash Flow and the Statement of Change in Net Financial Assets/Debt (which is a new statement as of 2009) are required statements going forward. 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 (see Figure 1-3). 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 (see Figure 1-4).

It should be noted that the Statement of Reserves and Reserve Funds and the Statement of Capital, as used by the public sector pre-2009, have now been eliminated

by the new reporting format. The balances and transactions that make up these two statements have been transferred to either the Statement of Operations or the Statement of Financial Position depending on the nature of the account.

Figure 1-1
Statement of Financial Position

OLD FORMAT (PRE-2009)	2009 AND FUTURE
Assets	**Financial Assets**
Financial Assets	
Cash	Cash
Accounts Receivable	Accounts Receivable
Investments	Investments
Inventory for resale	Inventory for resale
Other Assets	Other Assets
Total Financial Assets	Total Financial Assets
Non-Financial Assets	
Inventory of Supplies	
Prepaid Expenses	
Total Non-Financial Assets	
Liabilities	**Liabilities**
Accounts Payable & Accrued Liabilities	Accounts Payable & Accrued Liabilities
Debt (Principal only)	Debt (Principal only)
Other (DC Reserves-Deferred Revenue)	Other (DC Reserves-Deferred Revenue)
Total Liabilities	Total Liabilities
NET ASSETS	**NET FINANCIAL ASSETS/(DEBT)**
Municipal Position	**Non-Financial Assets**
Fund Balances	Tangible Capital Assets
Current Fund	Inventory of Supplies
Capital Fund	Prepaid Expenses
Reserves and Reserve Funds	Total Non-Financial Assets
Amounts to be Recovered	
From Future Revenues	
From Reserves & Reserve Funds	
TOTAL MUNICIPAL POSITION	**ACCUMULATED SURPLUS/(DEFICIT)**

Figure 1-2
Statement of Operations

OLD FORMAT (PRE-2009)	2009 AND FUTURE
Revenues	**Revenue**
Base Charge Revenue	Base Charge Revenue
Rate Based Revenue	Rate Based Revenue
Transfers from Reserves	Earned DC Revenue
Other Revenue	Other Revenue
Total Revenues	**Total Revenue**
Expenditures	**Expenses**
Operating Expenses	Operating Expenses
	Interest on Debt
	Amortization
Capital	Other
Total Expenditures	**Total Expenses**
Net Revenues for the year	**Annual Surplus/(Deficit)**
Increase (decrease) in amounts to be recovered	**Accum. Surplus/(Deficit), beg. of year**
Change in fund balances	**Accum. Surplus/(Deficit), end of year**

Figure 1-3
Statement of Change in Net Financial Assets/Debt

2009 AND FUTURE

Annual Surplus/(Deficit) Less: Acquisition of tangible capital assets Add: Amortization of tangible capital assets (Gain)/Loss on disposal of tangible capital assets Add: Proceeds on sale of tangible capital assets Add: Write-downs of tangible capital assets
Sub-total
Less: Acquisition of supplies inventory Less: Acquisition of prepaid expenses Add: Consumption of supplies inventory Add: Use of prepaid expenses
Sub-total
(Increase)/Decrease in net financial assets/net debt
Net financial assets/(net debt), beginning of year
Net financial assets/(net debt), end of year

Figure 1-4
Statement of Cash Flow[1]

DIRECT METHOD	INDIRECT METHOD
Operating Transactions	**Operating Transactions**
Cash received from:	Annual Surplus/(Deficit)
Water Operations	Add: Amortization of Tangible Capital Assets
Less: Cash paid for:	Loss/(Gain) on sale of Tangible Capital Assets
Operating expenses	Decrease/(Increase) in Accounts Receivable
Finance charges	Increase/(Decrease) in Accounts Payable
	Decrease/(Increase) in Inventories for sale
	Other items
Cash provided by operating transactions	**Cash provided by operating transactions**
Capital Transactions	**Capital Transactions**
Proceeds on sale of tangible capital assets	Proceeds on sale of tangible capital assets
Less: Cash used to acquire tangible capital assets	Less: Cash used to acquire tangible capital assets
Cash applied to capital transactions	**Cash applied to capital transactions**
Investing Transactions	**Investing Transactions**
Proceeds from investments	Proceeds from investments
Less: Cash used to acquire investments	Less: Cash used to acquire investments
Cash provided by (applied to) investing transactions	**Cash provided by (applied to) investing transactions**
Financing Transactions	**Financing Transactions**
Proceeds from debt issue	Proceeds from debt issue
Less: Debt repayment (Principal only)	Less: Debt repayment (Principal only)
Cash applied to financing transactions	**Cash applied to financing transactions**
Increase in cash and cash equivalents	**Increase in cash and cash equivalents**
Cash and cash equivalents, beginning of year	**Cash and cash equivalents, beginning of year**
Cash and cash equivalents, end of year	**Cash and cash equivalents, end of year**

[1] The statement of cash flow can be prepared using either the direct or indirect methods. The indirect method derives cash flow by making adjustments to the net surplus/deficit reported on the statement of operations. The direct method calculates cash flow identifying the direct sources and uses of cash.

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 S.D.W.A. requires a declaration of the financial plan's sustainability, it does not give a clear definition of what would be considered sustainable. Instead, the Ministry of the Environment 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, 2010 (W.O.A.). The W.O.A. was introduced into legislation on May 18, 2010 and received Royal Assent on November 29, 2010.

The purposes of the W.O.A. 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, the 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 the 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.

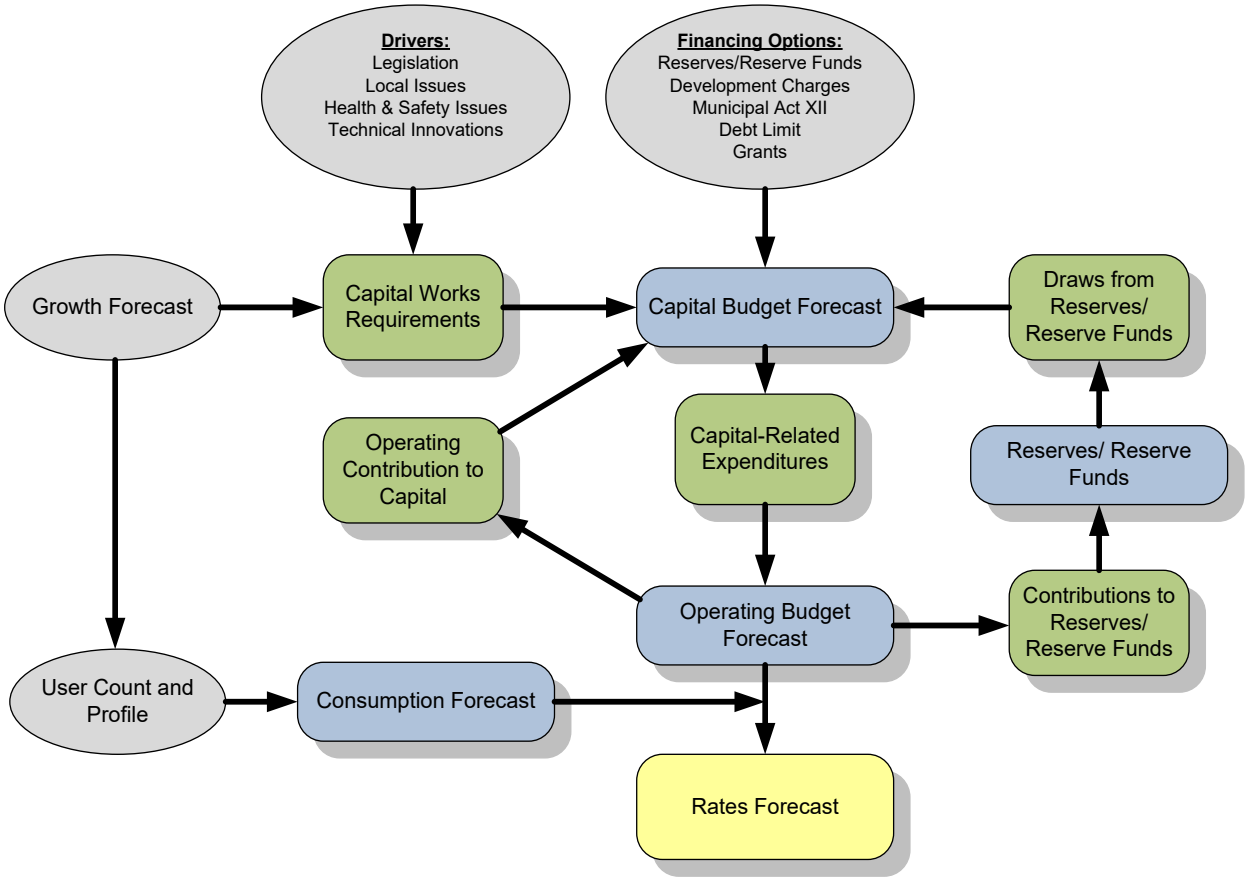
Where a Board has jurisdiction over a service, the plan (and any plan amendments) must be approved by the municipality in which the municipal service is provided, before submission to the Minister. The Minister may also direct preparation of joint or partially joint plans.

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 Water Rate Study

As noted above, Watson has already completed extensive financial planning as documented in the 2020 Rate Study conducted on behalf of the Township. The study process was designed to address "full cost" principles and reflect the guiding principles toward sustainable financial planning. Figure 2-1 below summarizes the process.

Figure 2-1
Water Rate Calculation Process



As a result of employing this process, the 2020 Rate Study provides a sound financial plan for the Township's water system by providing:

- A detailed assessment of current and future capital needs including an analysis of potential funding sources;
- An analysis of fixed and variable operating costs in order to determine how they will be impacted by evolving infrastructure needs and system growth;
- A review and recommendation on rate structures that ensure revenues are equitable and sufficient to meet system needs; and
- An ongoing public process that involves ongoing consultation with the main stakeholders including the Township 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 financial plan.

The details of the financial plan arising from the 2020 Rate Study are contained in Appendix A. A summary of the water rates projected for the Township are as follows:

Table 2-1
Township of Amaranth
Water Rate Forecast – Inflated

Description	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Water Rates											
10-Year Replacement											
Captial Charge - 10-year	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Annual Flat Rate	$680.00	$876.00	$911.04	$947.48	$985.38	$1,024.79	$1,065.79	$1,108.42	$1,152.75	$1,198.86	$1,246.82
Total Annual Bill	**$680.00**	**$876.00**	**$911.04**	**$947.48**	**$985.38**	**$1,024.79**	**$1,065.79**	**$1,108.42**	**$1,152.75**	**$1,198.86**	**$1,246.82**
% Increase - Annual Bill		28.8%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
$ Increase - Annual Bill		$196.00	$35.04	$36.44	$37.90	$39.42	$40.99	$42.63	$44.34	$46.11	$47.95
20-Year Replacement											
Captial Charge - 20-year	$287.00	$287.00	$287.00	$287.00	$287.00	$287.00	$287.00	$0.00	$0.00	$0.00	$0.00
Annual Flat Rate	$680.00	$876.00	$911.04	$947.48	$985.38	$1,024.79	$1,065.79	$1,108.42	$1,152.75	$1,198.86	$1,246.82
Total Annual Bill	**$967.00**	**$1,163.00**	**$1,198.04**	**$1,234.48**	**$1,272.38**	**$1,311.79**	**$1,352.79**	**$1,108.42**	**$1,152.75**	**$1,198.86**	**$1,246.82**
% Increase - Annual Bill		20.3%	3.0%	3.0%	3.1%	3.1%	3.1%	-18.1%	4.0%	4.0%	4.0%
$ Increase - Annual Bill		$196.00	$35.04	$36.44	$37.90	$39.42	$40.99	-$244.37	$44.34	$46.11	$47.95

Chapter 3
Approach

3. Approach

3.1 Overview

The 2020 Rate Study has been prepared on a modified cash basis; therefore, a conversion was 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 financial plan.

3.2 Conversion Process

The conversion from the existing modified cash basis financial plan 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 as part of the Township's 2016 Asset Management Plan as well as part of the Township's annual P.S.A.B. 3150 compliance processes. Given the prospective nature of the 2020 Rate Study, replacement costs for each asset are the basis for the annual lifecycle replacement costs calculations. However, historical cost (which is the original cost to purchase, develop, or construct

each asset) is required for financial reporting purposes. Once historical cost is established, 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. However, these estimates only represent future assets that the Township anticipates purchasing or constructing without consideration for assets that are contributed by developers and other parties (at no or partial cost to the Township). These contributed assets could form a significant part of the infrastructure going forward in terms of the sustainability of the system as a whole and despite their non-monetary nature; the financial plan 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. The financial plan contained herein, accounts for contributed assets of $1.78 million in 2022.

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

As per section 1.2.5 above, the new Statement of Operations eliminates and/or adds certain transactions that have been reported differently by municipalities since 2009 (see Figure 3-1). A wide range of adjustments will be considered and will depend on the size and complexity of the system. For example, the revenues and expenses associated with the now obsolete Statement of Capital and Statement of Reserves and Reserve Funds (see section 1.2.5) will need to be adjusted for and included within the Statement of Operations. This includes all non-tangible capital asset costs previously included in the capital statement (i.e. expenses related to various studies) while at the

same time eliminating all expenditures incurred to acquire tangible capital assets which will now form part of the tangible capital asset balance discussed in section 3.2.1. Transfers to and from reserves are no longer explicitly reported on the Statement of Operations. Instead, these transactions are represented by changes in cash and accumulated surplus. Also, debt repayment costs relating to the principal payment portion only need to be removed, as they no longer qualify as an expense for reporting purposes. Principal payments will now be reported as a decrease in debt liability on the Statement of Financial Position. Finally, expenses relating to tangible capital assets, such as amortization, write-offs, and (gain)/loss on disposal of assets will be 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.

Table 3-1
Conversion Adjustments
Statement of Operations (Water)

Modified Cash Basis	Budget 2020	Adjustments DR	Adjustments CR	Full Accrual Budget 2020	Accrual Basis
Revenues					**Revenues**
Base Charge Revenue	78,880			78,880	Base Charge Revenue
Rate Based Revenue	-			-	Rate Based Revenue
Transfers from Reserves	20,520	20,520			
			-	-	Developer Contributions
Other Revenue	6,027		-	6,026	Other Revenue
Total Revenues	**105,427**			**84,906**	**Total Revenues**
Expenditures					**Expenses**
Operating	99,400	7,000		106,400	Operating Expenses
Capital					
Transfers to Reserves	-		-		
Transfers to Capital	-		-		
Debt Repayment (Principal & Interest)	6,027		3,620	2,407	Interest on Debt
		66,508		66,508	Amortization
		-		-	Loss on Disposal of Tangible Capital Assets
Total Expenditures	**105,427**			**175,315**	**Total Expenses**
Net Expenditures	**-**			**(90,409)**	**Annual Surplus/(Deficit)**
Increase (decrease) in amounts to be recovered	-			3,144,527	Accumulated Surplus/(Deficit), beginning of year
Change in Fund Balances	**-**	**-**	**90,409**	**3,054,118**	**Accumulated Surplus/(Deficit), end of year**
TOTAL ADJUSTMENTS		**94,028**	**94,029**		

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). As noted earlier, the applicable balances from the Statement of Capital and the Statement of Reserve and Reserve Funds will need to be transferred to this statement. 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 new 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, additional 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
Statements of Financial Position (Water)

Modified Cash Basis	Budget 2020	Adjustments DR	Adjustments CR	Full Accrual Budget 2020	Accrual Basis
ASSETS					**ASSETS**
Financial Assets					**Financial Assets**
Cash	(72,210)			(72,210)	Cash
Accounts Receivable	39,815			39,815	Accounts Receivable
Total Financial Assets	**(32,395)**			**(32,395)**	**Total Financial Assets**
Non-Financial Assets					
Total Non-Financial Assets	-				
LIABILITIES					**Liabilities**
Accounts Payable & Accrued Liabilities	24,406			24,406	Accounts Payable & Accrued Liabilities
Gross Long-term Liabilities	31,408			31,408	Debt (Principal only)
Total Liabilities	**55,814**			**55,814**	**Total Liabilities**
Net Assets/(Debt)	**(88,209)**			**(88,209)**	**Net Financial Assets/(Debt)**
		3,149,327	7,000	3,142,327	**Non-Financial Assets** Tangible Capital Assets
				3,142,327	**Total Non-Financial Assets**
Municipal Position					
Water Reserves	(56,801)	-	56,801		
Amounts to be Recovered	(31,408)	-	31,408		
Total Municipal Position	**(88,209)**		3,054,118	**3,054,118**	**Accumulated Surplus/(Deficit), end of year**
TOTAL ADJUSTMENTS		**3,149,327**	**3,149,327**		

3.2.5 Verification and Note Preparation

The final step in the conversion process is to ensure that all of 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. However, it may not be possible 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. Otherwise, an assumption will need to be made and applied consistently throughout the financial plan.

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 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 will be in a net financial position of $3,054,118. After 2020, the financial plan forecasts an improving net financial asset position by 2024 of $4.6 million followed by decreases in the financial asset position in each subsequent year of the forecast period. Net financial assets are projected to be $4.2 million by the end of 2029.

Another important indicator on the Statement of Financial Position is the tangible capital asset balance. 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:

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

- Tangible capital assets such as water mains and treatment plants are imperative to water service delivery.
- 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 are expected to grow over $4.2 million 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 206% to 110% over the forecast period and as a result, annual deficits decrease from $90,400 to $21,400 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, reserve/reserve fund transfers and debt principal payments.

Another important indicator on this statement is accumulated surplus/deficit. An accumulated surplus indicates that the available net resources are sufficient to provide future 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 $1.1

million over the forecast period to a 2020 accumulated surplus of $3.1 million. This accumulated surplus, as indicated in Table 4-2, is entirely made up contributed assets as annual deficits occur in all other years of the forecast.

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) are less than the forecasted annual deficit for 2020, resulting in a decrease in net financial assets. This is due to the planned use of debt to construct tangible capital assets in 2020. With the exception of 2023 in which there is a small increase in net financial assets, each year between 2021 and 2025 results in a further decrease in the net financial assets due to the planned use of debt. In each of the subsequent years (2026 – 2029), forecasted net annual tangible capital asset acquisitions exceed annual deficits. 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 4.35 to 1.00 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- 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 system to improve from a deficit balance of approximately $42,100 at the beginning of 2020, to just under

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

$9,500 by the end of 2029. For further discussions, on projected cash balances please refer to the Notes to the Financial Plan.

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	-	-	-	-	-	-	-	-	-	9,536
Accounts Receivable	1	39,815	40,652	42,187	43,783	48,421	55,556	62,114	66,836	74,299	82,251
Total Financial Assets		**39,815**	**40,652**	**42,187**	**43,783**	**48,421**	**55,556**	**62,114**	**66,836**	**74,299**	**91,787**
Liabilities											
Bank Indebtedness		72,210	72,557	73,600	74,681	78,146	83,607	68,770	41,862	40,379	-
Accounts Payable & Accrued Liabilities	1	24,406	24,896	25,388	25,903	27,076	28,750	30,267	31,822	33,414	35,074
Debt (Principal only)	2	31,408	49,418	57,948	52,545	130,267	137,851	126,963	121,746	116,321	110,678
Deferred Revenue	3	-	-	-	-	-	-	-	-	-	-
Total Liabilities		**128,024**	**146,871**	**156,936**	**153,129**	**235,489**	**250,208**	**226,000**	**195,430**	**190,114**	**145,752**
Net Financial Assets/(Debt)		**(88,209)**	**(106,219)**	**(114,749)**	**(109,346)**	**(187,068)**	**(194,652)**	**(163,886)**	**(128,594)**	**(115,815)**	**(53,965)**
Non-Financial Assets											
Tangible Capital Assets	4	3,142,327	3,093,709	3,027,731	2,961,733	4,735,715	4,635,877	4,534,724	4,436,732	4,349,654	4,266,372
Total Non-Financial Assets		**3,142,327**	**3,093,709**	**3,027,731**	**2,961,733**	**4,735,715**	**4,635,877**	**4,534,724**	**4,436,732**	**4,349,654**	**4,266,372**
Accumulated Surplus/(Deficit)	5	**3,054,118**	**2,987,490**	**2,912,982**	**2,852,387**	**4,548,647**	**4,441,225**	**4,370,838**	**4,308,138**	**4,233,839**	**4,212,407**

Financial Indicators	Total Change	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
1) Increase/(Decrease) in Net Financial Assets	4,843	(29,401)	(18,010)	(8,530)	5,403	(77,722)	(7,584)	30,766	35,292	12,779	61,850
2) Increase/(Decrease) in Tangible Capital Assets	1,063,037	(61,008)	(48,618)	(65,978)	(65,998)	1,773,982	(99,838)	(101,153)	(97,992)	(87,078)	(83,282)
3) Increase/(Decrease) in Accumulated Surplus	1,067,880	(90,409)	(66,628)	(74,508)	(60,595)	1,696,260	(107,422)	(70,387)	(62,700)	(74,299)	(21,432)

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		78,880	101,616	105,680	109,908	122,187	141,080	158,447	176,977	196,737	217,794
Developer Contributions	4	-	-	-	-	1,780,000	-	-	-	-	-
Other Revenue	6	6,026	6,027	6,027	6,027	6,026	6,028	6,028	-	4	563
Total Revenues		**84,906**	**107,643**	**111,707**	**115,935**	**1,908,213**	**147,108**	**164,475**	**176,977**	**196,741**	**218,357**
Water Expenses											
Operating Expenses	Sch. 4-1	106,400	105,400	116,400	106,500	142,277	145,094	127,274	135,606	172,092	145,854
Interest on Debt	2	2,407	2,253	2,837	3,032	2,658	5,598	5,435	5,079	4,870	4,653
Amortization	4	66,508	66,618	66,978	66,998	67,018	103,838	102,153	98,992	94,078	89,282
Loss on Disposal of Tangible Capital Assets		-	-	-	-	-	-	-	-	-	-
Total Expenses		**175,315**	**174,271**	**186,215**	**176,530**	**211,953**	**254,530**	**234,862**	**239,677**	**271,040**	**239,789**
Annual Surplus/(Deficit)		**(90,409)**	**(66,628)**	**(74,508)**	**(60,595)**	**1,696,260**	**(107,422)**	**(70,387)**	**(62,700)**	**(74,299)**	**(21,432)**
Accumulated Surplus/(Deficit), beginning of year	5	3,144,527	3,054,118	2,987,490	2,912,982	2,852,387	4,548,647	4,441,225	4,370,838	4,308,138	4,233,839
Accumulated Surplus/(Deficit), end of year		3,054,118	2,987,490	2,912,982	2,852,387	4,548,647	4,441,225	4,370,838	4,308,138	4,233,839	4,212,407
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		(56,801)	(56,801)	(56,801)	(56,801)	(56,801)	(56,801)	(36,923)	(6,848)	506	56,713
Total Reserves Balance		**(56,801)**	**(56,801)**	**(56,801)**	**(56,801)**	**(56,801)**	**(56,801)**	**(36,923)**	**(6,848)**	**506**	**56,713**
Less: Debt Obligations and Deferred Revenue		(31,408)	(49,418)	(57,948)	(52,545)	(130,267)	(137,851)	(126,963)	(121,746)	(116,321)	(110,678)
Add: Tangible Capital Assets	4	3,142,327	3,093,709	3,027,731	2,961,733	4,735,715	4,635,877	4,534,724	4,436,732	4,349,654	4,266,372
Total Ending Balance		**3,054,118**	**2,987,490**	**2,912,982**	**2,852,387**	**4,548,647**	**4,441,225**	**4,370,838**	**4,308,138**	**4,233,839**	**4,212,407**

Financial Indicators	Total Change	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
1) Expense to Revenue Ratio		206%	162%	167%	152%	11%	173%	143%	135%	138%	110%
2) Increase/(Decrease) in Accumulated Surplus	1,067,880	(90,409)	(66,628)	(74,508)	(60,595)	1,696,260	(107,422)	(70,387)	(62,700)	(74,299)	(21,432)

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											
Bell Canada		1,900	1,900	1,900	1,900	1,900	1,900	1,900	1,900	1,900	1,900
Hydro		12,800	13,100	13,400	13,700	14,000	14,300	14,600	14,900	15,200	15,500
General1		84,700	86,400	88,100	89,900	91,700	93,500	95,400	97,300	99,200	101,200
Growth Related Operating Costs		-	-	-	-	2,677	7,394	11,374	15,506	19,792	24,254
Non TCA - Expenses from Capital Budget	7	7,000	4,000	13,000	1,000	32,000	28,000	4,000	6,000	36,000	3,000
TOTAL OPERATING EXPENSES		**106,400**	**105,400**	**116,400**	**106,500**	**142,277**	**145,094**	**127,274**	**135,606**	**172,092**	**145,854**

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)		(90,409)	(66,628)	(74,508)	(60,595)	1,696,260	(107,422)	(70,387)	(62,700)	(74,299)	(21,432)
Less: Acquisition of Tangible Capital Assets	4	(5,500)	(18,000)	(1,000)	(1,000)	(1,841,000)	(4,000)	(1,000)	(1,000)	(7,000)	(6,000)
Add: Amortization of Tangible Capital Assets	4	66,508	66,618	66,978	66,998	67,018	103,838	102,153	98,992	94,078	89,282
(Gain)/Loss on disposal of Tangible Capital Assets		-	-	-	-	-	-	-	-	-	-
Add: Proceeds on Sale of Tangible Capital Assets		-	-	-	-	-	-	-	-	-	-
Add: Write-downs of Tangible Capital Assets		-	-	-	-	-	-	-	-	-	-
		61,008	48,618	65,978	65,998	(1,773,982)	99,838	101,153	97,992	87,078	83,282
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)		**(29,401)**	**(18,010)**	**(8,530)**	**5,403**	**(77,722)**	**(7,584)**	**30,766**	**35,292**	**12,779**	**61,850**
Net Financial Assets/(Net Debt), beginning of year		(58,808)	(88,209)	(106,219)	(114,749)	(109,346)	(187,068)	(194,652)	(163,886)	(128,594)	(115,815)
Net Financial Assets/(Net Debt), end of year		**(88,209)**	**(106,219)**	**(114,749)**	**(109,346)**	**(187,068)**	**(194,652)**	**(163,886)**	**(128,594)**	**(115,815)**	**(53,965)**

Financial Indicators		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
1) Acquisition of Tangible Capital Assets (Cumulative)		5,500	23,500	24,500	25,500	1,866,500	1,870,500	1,871,500	1,872,500	1,879,500	1,885,500
2) Annual Surplus/Deficit before Amortization (Cumulative)		(23,901)	(23,911)	(31,441)	(25,038)	1,738,240	1,734,656	1,766,422	1,802,714	1,822,493	1,890,343
3) Ratio of Annual Surplus before Amortization to Acquisition of TCA's (Cumulative)		(4.35)	(1.02)	(1.28)	(0.98)	0.93	0.93	0.94	0.96	0.97	1.00

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		(90,409)	(66,628)	(74,508)	(60,595)	1,696,260	(107,422)	(70,387)	(62,700)	(74,299)	(21,432)
Add: Amortization of TCA's	4	66,508	66,618	66,978	66,998	67,018	103,838	102,153	98,992	94,078	89,282
(Gain)/Loss on disposal of Tangible Capital Assets		-	-	-	-	-	-	-	-	-	-
Less: Earned Deferred Revenue	3	-	-	-	-	-	-	-	-	-	-
Less: Developer Contributions		-	-	-	-	(1,780,000)	-	-	-	-	-
Add: Deferred Revenue Proceeds		-	-	-	-	-	-	-	-	-	-
Change in A/R (Increase)/Decrease		-	(837)	(1,535)	(1,596)	(4,638)	(7,135)	(6,558)	(4,722)	(7,462)	(7,952)
Change in A/P Increase/(Decrease)		-	490	492	515	1,173	1,674	1,517	1,555	1,592	1,660
Less: Interest Proceeds		-	-	-	-	-	-	-	-	(5)	(562)
Cash Provided by Operating Transactions		**(23,901)**	**(357)**	**(8,573)**	**5,322**	**(20,187)**	**(9,045)**	**26,725**	**33,125**	**13,904**	**60,996**
Capital Transactions											
Proceeds on sale of Tangible Capital Assets		-	-	-	-	-	-	-	-	-	-
Less: Cash Used to acquire Tangible Capital Assets	4	(5,500)	(18,000)	(1,000)	(1,000)	(61,000)	(4,000)	(1,000)	(1,000)	(7,000)	(6,000)
Cash Applied to Capital Transactions		**(5,500)**	**(18,000)**	**(1,000)**	**(1,000)**	**(61,000)**	**(4,000)**	**(1,000)**	**(1,000)**	**(7,000)**	**(6,000)**
Investing Transactions											
Proceeds from Investments		-	-	-	-	-	-	-	-	5	562
Less: Cash Used to Acquire Investments		-	-	-	-	-	-	-	-	-	-
Cash Provided by (applied to) Investing Transactions		**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**5**	**562**
Financing Transactions											
Proceeds from Debt Issue	2	2,934	22,000	13,554	424	83,954	17,054	-	-	-	-
Less: Debt Repayment (Principal only)	2	(3,620)	(3,990)	(5,024)	(5,827)	(6,232)	(9,470)	(10,888)	(5,217)	(5,426)	(5,643)
Cash Applied to Financing Transactions		**(686)**	**18,010**	**8,530**	**(5,403)**	**77,722**	**7,584**	**(10,888)**	**(5,217)**	**(5,426)**	**(5,643)**
Increase in Cash and Cash Equivalents		(30,087)	(347)	(1,043)	(1,081)	(3,465)	(5,461)	14,837	26,908	1,483	49,915
Cash and Cash Equivalents, beginning of year	1	(42,123)	(72,210)	(72,557)	(73,600)	(74,681)	(78,146)	(83,607)	(68,770)	(41,862)	(40,379)
Cash and Cash Equivalents, end of year	1	**(72,210)**	**(72,557)**	**(73,600)**	**(74,681)**	**(78,146)**	**(83,607)**	**(68,770)**	**(41,862)**	**(40,379)**	**9,536**

Water

Notes to Financial Plan

The financial plan format as outlined in Chapter 4 closely approximates the full accrual format used by municipalities (2009 onward) 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 of Amaranth, 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**

   Outstanding water related debt at the end of 2019 was $32,094, with additional debt proceeds anticipated throughout the forecast period. *Principal* repayments for existing and new debt over the forecast period are scheduled as follows:

Year	Principal Payments
2020	3,620
2021	3,990
2022	5,024
2023	5,827
2024	6,232
2025	9,470
2026	10,888
2027	5,217
2028	5,426
2029	5,643
Total	**61,337**

For financial reporting purposes, debt principal payments represent a decrease in debt liability and the interest payments represent a current year operating expense.

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 Amaranth does not collect water development charges, 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 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 $1.78 million in 2024.
- 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	5,420,314	5,425,229	5,441,156	5,442,032	5,442,898	7,274,099	7,277,419	7,278,254	7,279,090	7,284,869
Acquisitions	5,500	18,000	1,000	1,000	1,841,000	4,000	1,000	1,000	7,000	6,000
Disposals	585	2,073	124	134	9,799	680	165	164	1,221	1,137
Closing Tangible Capital Asset Balance	**5,425,229**	**5,441,156**	**5,442,032**	**5,442,898**	**7,274,099**	**7,277,419**	**7,278,254**	**7,279,090**	**7,284,869**	**7,289,732**
Opening Accumulated Amortization	2,216,979	2,282,902	2,347,447	2,414,301	2,481,165	2,538,384	2,641,542	2,743,530	2,842,358	2,935,215
Amortization Expense	66,508	66,618	66,978	66,998	67,018	103,838	102,153	98,992	94,078	89,282
Amortization on Disposal	585	2,073	124	134	9,799	680	165	164	1,221	1,137
Ending Accumulated Amortization	**2,282,902**	**2,347,447**	**2,414,301**	**2,481,165**	**2,538,384**	**2,641,542**	**2,743,530**	**2,842,358**	**2,935,215**	**3,023,360**
Net Book Value	**3,142,327**	**3,093,709**	**3,027,731**	**2,961,733**	**4,735,715**	**4,635,877**	**4,534,724**	**4,436,732**	**4,349,654**	**4,266,372**

5. Accumulated Surplus

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

Water	2020 Opening Accumulated Surplus
Reserve Balances	
Reserves: Capital/Other	(26,714)
Total Reserves Balance	**(26,714)**
Less: Debt Obligations and Deferred Revenue	(32,094)
Less: Unfinanced Capital	-
Add: Long-term Accounts Receivable	-
Add: Tangible Capital Assets	3,203,335
Total Opening Balance	**3,144,527**

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

6. Other Revenue

Other revenue includes capital charge recovery payments and transfers from general taxation reserves.

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, the requirement to prepare the financial plan is provided in Section 32 (5) 2 ii of the S.D.W.A. Proof of the preparation of a financial plan is one of the submission requirements for municipal drinking water licensing and upon completion, must be submitted to the Ministry of the Environment. As part of O.Reg. 453/07, the process established for plan approval, public circulation and filing is set out as follows:

1. The financial plan must be approved by resolution 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 Ministry of the Environment 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 Amaranth 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 Rate Study. Nevertheless, Council is required to pass certain resolutions with regard to this plan and regulations and it is recommended that:

1. The Township of Amaranth Water Financial Plan prepared by Watson & Associates Economists Ltd. dated June 29, 2020 be approved.

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

3. The Financial Plan, the Council Resolution approving the Financial Plan, and the Water Rate Study underpinning the Financial Plan be submitted to the Ministry of Municipal Affairs and Housing. (O.Reg. 453/07, Section 3 (1) 6)

4. The Council Resolution approving the Financial Plan be submitted to the Ministry of the Environment, 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 Amaranth
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	-	4,000	-	-	-	-	-	-	-	4,000	-	-
Well One - Submersible pump replacement	-	8,000	-	-	-	8,000	-	-	-	-	-	-
Well One - Transmission main repairs	-	3,000	-	-	-	3,000	-	-	-	-	-	-
Well Two - Camera inspection of well casing	-	4,000	-	-	-	-	-	-	-	4,000	-	-
Well Two - Submersible pump replacement	-	8,000	-	-	-	8,000	-	-	-	-	-	-
Well Two - Transmission main repairs	-	4,000	-	-	-	-	-	-	-	4,000	-	-
Well Three - Camera inspection of well casing	-	4,000	-	-	-	-	-	-	-	4,000	-	-
Well Three - Submersible pump replacement	-	8,000	-	-	-	8,000	-	-	-	-	-	-
Well Three - Transmission main repairs	-	3,000	-	-	-	3,000	-	-	-	-	-	-
Pumphouse Raw - Replace pressure gauges	-	2,000	2,000	-	-	-	-	-	-	-	-	-
Water Piping - Service pressure relief valve	5,000	-	-	-	-	-	-	-	-	-	-	-
Water Piping - Replace raw water meters	-	11,000	-	-	-	11,000	-	-	-	-	-	-
Pumphouse Treatment Equipment - Chemical metering pumps	-	15,000	15,000	-	-	-	-	-	-	-	-	-
Pumphouse Treatment Equipment - Centreline Injectors	500	9,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	-
Treated Water Process - Replace pressure gauges	-	2,000	-	-	-	-	-	-	-	2,000	-	-
Treated Water Process - Service flow control valves	-	6,000	-	-	-	-	-	-	-	6,000	-	-
Treated Water Process - Service pressure relief valve	-	6,000	-	-	-	-	-	-	-	6,000	-	-
Treated Water Process - Rebuild high lift pumps	5,000	11,000	-	-	-	11,000	-	-	-	-	-	-
Treated Water Process - Service emergency pump	-	6,000	-	-	-	3,000	-	-	-	3,000	-	-
Treated Water Process - Replace treated w ater meters	-	5,000	-	-	-	-	-	-	-	-	5,000	-
Instrumentation and SCADA - Replace free chlorine analyzer	-	8,000	-	-	-	8,000	-	-	-	-	-	-
Instrumentation and SCADA - Replace laptop	-	3,000	-	-	-	3,000	-	-	-	-	-	-
Instrumentation and SCADA - Replace datalogger	-	6,000	-	-	-	3,000	3,000	-	-	-	-	-
Building Services - Electrical	-	12,000	3,000	-	-	3,000	-	3,000	-	3,000	-	-
Building Services - Heating	500	9,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	-
Building Services - Lighting	500	5,000	-	1,000	-	1,000	1,000	-	1,000	-	1,000	-
Building Services - Generator Service	1,000	5,000	-	1,000	-	1,000	1,000	-	1,000	-	1,000	-
Treated Water Distribution - Distribution mains leak repairs	-	12,000	-	5,000	-	6,000	-	-	1,000	-	-	-
Treated Water Distribution - Valve repair	-	4,000	-	-	-	2,000	-	-	2,000	-	-	-
Treated Water Distribution - Hydrant repair	-	12,000	-	3,000	-	6,000	-	-	-	3,000	-	-
Treated Water Distribution - Service repairs	-	9,000	-	2,000	-	3,000	2,000	-	-	2,000	-	-
Provision	-	24,000	-	-	-	-	-	-	-	-	-	24,000
Studies:		-	-	-	-	-	-	-	-	-	-	-
Rate Studies and Financial Plan	-	49,000	-	-	-	-	23,000	-	-	-	-	26,000
Total Capital Expenditures	**12,500**	**277,000**	**22,000**	**14,000**	**2,000**	**93,000**	**32,000**	**5,000**	**7,000**	**43,000**	**9,000**	**50,000**
Capital Financing												
Provincial/Federal Grants		-										
Developer Contributions	-	-	-	-	-	-	-	-	-	-	-	-
Non-Growth Related Debenture Requirements	2,934	136,986	22,000	13,554	424	83,954	17,054	-	-	-	-	-
Water Reserve	9,566	140,014	-	446	1,576	9,046	14,946	5,000	7,000	43,000	9,000	50,000
Total Capital Financing	**12,500**	**277,000**	**22,000**	**14,000**	**2,000**	**93,000**	**32,000**	**5,000**	**7,000**	**43,000**	**9,000**	**50,000**

Table 2
Township of Amaranth
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
2020		2,934	216	216	216	216	216	216	216	216	216	216
2021		22,000		1,619	1,619	1,619	1,619	1,619	1,619	1,619	1,619	1,619
2022		13,554			997	997	997	997	997	997	997	997
2023		424				31	31	31	31	31	31	31
2024		83,954					6,177	6,177	6,177	6,177	6,177	6,177
2025		17,054						1,255	1,255	1,255	1,255	1,255
2026		-							-	-	-	-
2027		-								-	-	-
2028		-									-	-
2029		-										-
2030		-										
Total Annual Debt Charges	-	**139,920**	216	1,835	2,832	2,863	9,041	10,296	10,296	10,296	10,296	10,296

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

Description	2020		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Opening Balance	9,566		-	-	-	-	-	-	-	-	506	56,713
Transfer from Operating			-	446	1,576	9,046	14,946	5,000	7,000	43,501	64,645	79,279
Transfer to Capital	9,566			446	1,576	9,046	14,946	5,000	7,000	43,000	9,000	50,000
Transfer to Operating				-	-	-	-	-	-	-	-	-
Closing Balance	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**-**	**501**	**56,151**	**85,991**
Interest	-		-	-	-	-	-	-	-	5	562	860

Table 4
Township of Amaranth
Water Services
Operating Budget Forecast
Inflated $

Description	Budget 2020		Forecast 2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Expenditures												
Operating Costs			-	-	-	-	-	-	-	-	-	-
Bell Canada	1,900		1,900	1,900	1,900	1,900	1,900	1,900	1,900	1,900	1,900	1,900
Hydro	12,800		13,100	13,400	13,700	14,000	14,300	14,600	14,900	15,200	15,500	15,800
General[1]	84,700		86,400	88,100	89,900	91,700	93,500	95,400	97,300	99,200	101,200	103,200
Growth Related Operating Costs			-	-	-	2,677	7,394	11,374	15,506	19,792	24,254	28,499
Sub Total Operating	**99,400**		**101,400**	**103,400**	**105,500**	**110,277**	**117,094**	**123,274**	**129,606**	**136,092**	**142,854**	**149,399**
Capital-Related												
Existing Debt (Principal) - Part XII Repayment	3,620		3,892	4,183	4,497	4,834	5,197	5,872				
Existing Debt (Interest) - Part XII Repayment	2,407		2,135	1,844	1,530	1,193	830	155				
New Non-Growth Related Debt (Principal)			99	841	1,330	1,398	4,273	5,016	5,217	5,426	5,643	5,868
New Non-Growth Related Debt (Interest)			117	993	1,502	1,466	4,768	5,279	5,079	4,870	4,653	4,427
Transfer to General Reserves	-		-	-	-	-	-	19,878	30,075	6,848		-
Transfer to Capital Reserve				446	1,576	9,046	14,946	5,000	7,000	43,501	64,645	79,279
Sub Total Capital Related	**6,027**		**6,243**	**8,307**	**10,435**	**17,937**	**30,014**	**41,200**	**47,371**	**60,645**	**74,940**	**89,574**
Total Expenditures	**105,427**		**107,643**	**111,707**	**115,935**	**128,214**	**147,107**	**164,474**	**176,977**	**196,737**	**217,794**	**238,974**
Revenues												
Base Charge	78,880		101,616	105,680	109,908	122,187	141,080	158,447	176,977	196,737	217,794	238,974
Part XII Capital Charge Recovery	6,027		6,027	6,027	6,027	6,027	6,027	6,027	-	-	-	-
Contributions from General Reserves	20,520					-	-	-	-	-	-	-
Contributions from Reserves / Reserve Funds	-		-	-	-	-	-	-	-	-	-	-
Total Operating Revenue	**105,427**		**107,643**	**111,707**	**115,935**	**128,214**	**147,107**	**164,474**	**176,977**	**196,737**	**217,794**	**238,974**
Water Billing Recovery - Operating	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**

[1] Includes the operating contract, NSF Audits, Meter Calibrations, and emegency contingency