Water and Wastewater Rate Study & Ontario Regulation 453/07 Water Financial Plan

Township of Southwold

Final Report

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Water and Wastewater Rate Study Report

Chapter 1
Introduction

1. Introduction

1.1 Background

The Township of Southwold (Township) currently provides water services to 1,529 households and wastewater services to 276 households. The Township also supplies water to the Tri-County Water System for the Municipality of Dutton Dunwich and for a bulk water filling station. The Township purchases its water from the St. Thomas Area Secondary Water Supply System

The Township currently imposes water rates through a quarterly base charge plus a metered consumptive charge. The Township imposes volumetric rates on the Tri-County Water Syster and for the bulk water filling station based on the volume of water consumed.

Wastewater rates are imposed on serviced customers in Talbotville through a monthly base charge plus a volumetric charge per cubic metre of water consumption. Wastewater customers in Lynhurst and Ferndale contirubte flows to the City of St. Thomas wasteater system. As such, they currently pay a monthly capital charge to the Township and the remainder of their fee is deteremined by the City of St. Thomas. Current 2020 water and wastewater rates in the Township are presented in Table 1-1

Table 1-1
2020 Water and Wastewater Rates

Water Rates			
Description	**Township Customers**	**Water Filling Station Rate**	**Tri-County Rate**
Per m^3	$2.6100	$3.1720	$1.6709
Quartely Base Charge	$40.52	n/a	n/a
Wastewater Rates			
Description	**Talbotville**	**Lynhurst**	**Ferndale**
Per m3	$ 2.270	n/a	n/a
Monthly Base Charge	$ 15.20	$ 15.20	$ 15.20

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 is required to submit their water licence renewal application prior to the deadline in 2020.

1.2 Study Process

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

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

- Update water and wastewater service demand assumptions based on analysis of historical consumption and recent trends;
- Estimate future consumption levels by applying revised demand assumptions to forecast growth identified in the Township's Official Plan and adjusted to reflect the actual historical growth experienced in recent years;
- Identify all current and future water and wastewater system capital needs to assess the immediate and longer-term implications;
- Build a capital program that blends lifecycle needs arising from the Township's Asset Management Plan with specific needs identified in the water and wastewater capital needs forecasts;
- Identify potential methods of cost recovery from the capital needs listing, as an offset to recovery through the water and wastewater rates;
- Forecast annual operating costs and rate-based funding requirements;
- Assess adequacy of forecast water and wastewater rates in addressing long-term financial plan needs; and

- Develop long-term water and wastewater rate forecasts 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 and Wastewater Rates

1.3 Regulatory Changes in Ontario

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

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

The following sections describe significant applicable regulatory areas.

1.4 Sustainable Water and Sewage Systems Act

The *Sustainable Water and Sewage Systems Act* was passed on December 13, 2002. The intent of the Act was to introduce the requirement for municipalities to undertake an assessment of the "full cost" of providing their water and the wastewater services. In total, there were 40 areas within the Act to which the Minister may make Regulations, however regulations were never issued. On December 31, 2012, the *Sustainable Water and Sewage Systems Act* was repealed.

1.5 Safe Drinking Water Act

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

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

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

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

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

1.6 Financial Plans Regulation

On August 16, 2007, the Ministry of Environment introduced O.Reg. 453/07 which requires the preparation of financial plans for water systems (and municipalities are encouraged to prepare plans for wastewater systems). The Ministry of Environment has also provided a Financial Plan Guideline to assist municipalities with preparing the plans. A brief summary of the key elements of the regulation is provided below:

- The financial plan will represent one of the key elements to obtain a Drinking Water License.
- The plan is to be completed, approved by Council Resolution and submitted to the Ministry of Municipal Affairs and Housing as part of the application for receiving approval of a water license.
- The financial plans shall be for a period of at least six years but longer planning horizons are encouraged.
- As the regulation is under the *Safe Drinking Water Act*, the preparation of the plan is mandatory for water services and encouraged for wastewater services.
- The plan is considered a living document (i.e. can be updated if there are significant changes to budgets) but will need to be undertaken at a minimum every five years.
- The plans generally require the forecasting of capital, operating and reserve fund positions, and providing detailed capital inventories. In addition, Public Sector Accounting Board full accrual information on the system must be provided for each year of the forecast (i.e. total non-financial assets, tangible capital asset acquisitions, tangible capital asset construction, betterments, write-downs, disposals, total liabilities, net debt, etc.).
- The financial plans must be made available to the public (at no charge) upon request and be available on the municipality's web site. The availability of this information must also be advertised.

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

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

Principle #1: Ongoing public engagement and transparency can build support for, and confidence in, financial plans and the system(s) to which they relate.

Principle #2: An integrated approach to planning among water, wastewater, and storm water systems is desirable given the inherent relationship among these services.

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

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

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

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

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

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

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

1.7 Water Opportunities Act

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

- Foster innovative water, wastewater and stormwater technologies, services and practices in the private and public sectors;
- Prepare water conservation plans to achieve water conservation targets established by the regulations;
- Prepare sustainability plans for municipal water services, municipal wastewater services and municipal stormwater services.

With regard to the sustainability plans:

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

The Financial Plan shall include:

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

Performance indicators will be established by service:

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

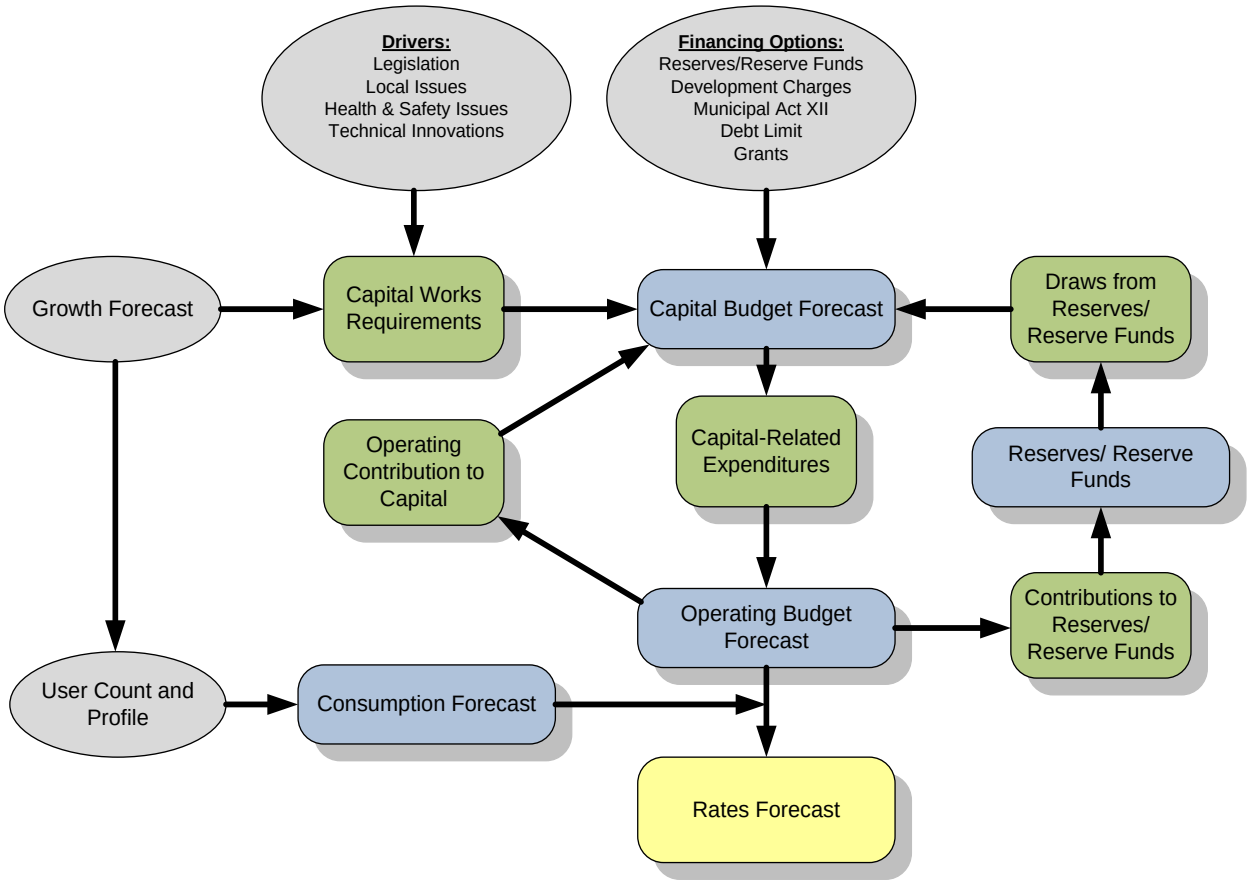
Regulations will prescribe:

- 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 and wastewater rate forecasts.

Figure 1-1
Water and Wastewater Rate Calculation Methodology



The methodology employed generally consists of 5 major elements:

1. **Customer Demands and Consumption Forecast**

   The water and wastewater customer forecasts are prepared by considering potential new water and wastewater users connecting to the system. Through discussions with Township staff, projected total water and wastewater 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 capital budget, and OCWA recommendations provided the base capital forecast

within the forecast period. Capital expenditures are forecast with inflationary adjustments based on capital costs indices.

3. Capital Funding Plan

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

4. Operating Budget Forecast

The operating budget forecast considers adjustments to the Township's base budget reflecting program/service level changes, operating fund impacts associated with infrastructure and financing for capital needs. The operating expenditures are forecast with inflationary adjustments and growth in service demand, based on fixed and variable cost characteristics. The operating budget forecast ties the capital funding plan and reserve/reserve fund continuity forecast to the rate-based revenue projections. This ensures sufficient funding for both the ongoing annual operation and maintenance of water services, as well as the capital cost requirements to ensure service sustainability. Operating revenues are projected to identify the rate components net of anticipated operating revenues, such as other miscellaneous revenues.

5. Rate Forecast and Structure

The rate forecast and structure component of the analysis considers various rate structures to recover the forecast rate-based revenue from the projected customer demands. At this stage in the analysis, the full costs of service are measured against the customer growth and consumption demands to determine

full cost recovery rates. The analysis may consider alternative structures for base charge and consumptive components of the rates, consistent with municipal policies/strategies, industry practice and customer affordability. Providing context to the rate forecast, the results are quantified to measure the impacts on a range of customer types and in relation to other municipalities.

Chapter 2
Forecast Growth and Service Demands

2. Forecast Growth and Service Demands

2.1 Current Service Demands

In preparing the demand forecasts for water and wastewater services, information on the number of customers and water consumption volumes was obtained from the Township for the period 2015-2019. As of 2019, the number of metered water customers in the Township was 1,529. The number of wastewater customers in Talbotville, Lynhurst and Ferndale was 67, 47 and 167 respectively, reflecting a majority of privately serviced sewer customers with municipal water services.

Within the Township's current water rate structure, customers in Southwold are charged a quarterly base charge plus a consumptive rate while usage within the Tri-County Water System and the bulk water filling station are charged only a consumptive rate per cubic metre of water consumption. Each of these customer types' water usage is estimated separately resulting in a total consumption for customers within Southwold of 370,000 m^3, for the Tri-County Water System of 214,000 m^3 and for the bulk water filling station of 3,000 m^3 based on 2019 billed water volumes.

Existing wastewater flows in Talbotville of 11,000 m^3 have been estimated based on the number of serviced customers and average water usage per customer in the Township

2.2 Forecast Service Demands

The growth forecast estimates are based on the Township's draft 2019 Official Plan Review – Policy Background Report and 2020 Development Charges (D.C.) Background Study growth forecast. In total, water system customers are anticipated to increase by 443 customers by 2030. Wastewater customers are projected to increase by 446 over the forecast period, including an estimate of existing homes with private wastewater services that will connect to the municipal system in Talbotville. This results in an increase from 1,529 customers currently to 1,972 for the water system and from 67 currently to 513 for the wastewater system.

Average water consumption per customer for 2019 (168 m^3) has been used as an estimate of the expected future water consumption. As a result, the 2019 consumption levels were applied to the Township's growth projections to forecast future service

demands. No increases in annual water consumption for the Tri-County water system or the Bulk filling station have been accounted for.

Applying the average annual consumption estimate to new customers in Southwold results in an estimated increase in total water consumption from approximately 590,000 m^3 currently to 662,000 m^3 by 2030 (+12.7%). Total wastewater flows in Talbotville are anticipated to increase from 11,000 m^3 currently to 86,000 m^3 by 2030 (+765.2%).

Tables 2-1 and 2-2 provide the detailed customer growth and service demand forecast for water and wastewater services respectively over the forecast period.

Table 2-1
Township of Southwold
Water Customer and Consumption Forecasts

Water Customer Forecast	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Existing	1,529	1,529	1,529	1,529	1,529	1,529	1,529	1,529	1,529	1,529	1,529
New - Growth	-	23	70	116	163	210	257	303	350	397	443
Total	**1,529**	**1,552**	**1,599**	**1,645**	**1,692**	**1,739**	**1,786**	**1,832**	**1,879**	**1,926**	**1,972**

Water Volume Forecast (m^3)	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Metered Consumption											
Existing	370,855	370,855	370,855	370,855	370,855	370,855	370,855	370,855	370,855	370,855	370,855
New	-	3,869	11,725	19,581	27,437	35,293	43,149	51,005	58,861	66,717	74,572
Subtotal Metered Consumption	**370,855**	**374,724**	**382,580**	**390,436**	**398,292**	**406,148**	**414,004**	**421,860**	**429,716**	**437,572**	**445,427**
Tri-County Water System											
Existing	214,060	214,060	214,060	214,060	214,060	214,060	214,060	214,060	214,060	214,060	214,060
New	-	-	-	-	-	-	-	-	-	-	-
Subtotal Tri-County System	**214,060**	**214,060**	**214,060**	**214,060**	**214,060**	**214,060**	**214,060**	**214,060**	**214,060**	**214,060**	**214,060**
Water Filling Station											
Existing	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000
New	-	-	-	-	-	-	-	-	-	-	-
Subtotal Water Filling Station	**3,000**	**3,000**	**3,000**	**3,000**	**3,000**	**3,000**	**3,000**	**3,000**	**3,000**	**3,000**	**3,000**
Total	**587,915**	**591,784**	**599,640**	**607,496**	**615,352**	**623,208**	**631,064**	**638,920**	**646,776**	**654,632**	**662,487**

Table 2-2
Township of Southwold
Wastewater Customer and Wastewater Flow Forecasts

Wastewater Customer Forecast	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Existing	67	67	67	67	67	67	67	67	67	67	67
New - Growth	-	29	80	131	180	224	269	313	357	401	446
Total	**67**	**96**	**147**	**198**	**247**	**291**	**336**	**380**	**424**	**468**	**513**

Wastewater Flows Forecast (m^3)	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Existing	11,271	11,271	11,271	11,271	11,271	11,271	11,271	11,271	11,271	11,271	11,271
New	-	4,878	13,508	21,970	30,263	37,715	45,167	52,620	60,072	67,524	74,976
Total	**11,271**	**16,149**	**24,779**	**33,241**	**41,534**	**48,986**	**56,438**	**63,890**	**71,343**	**78,795**	**86,247**

Chapter 3
Capital Infrastructure Needs

3. Capital Infrastructure Needs

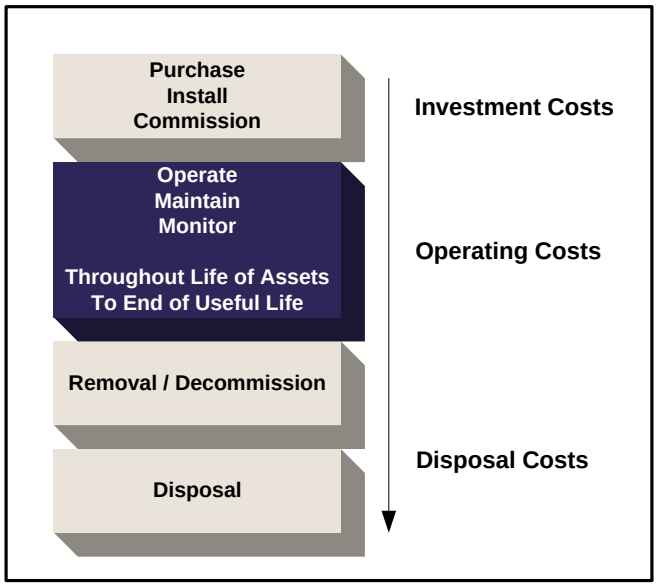
3.1 Overview of Lifecycle Costing

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.

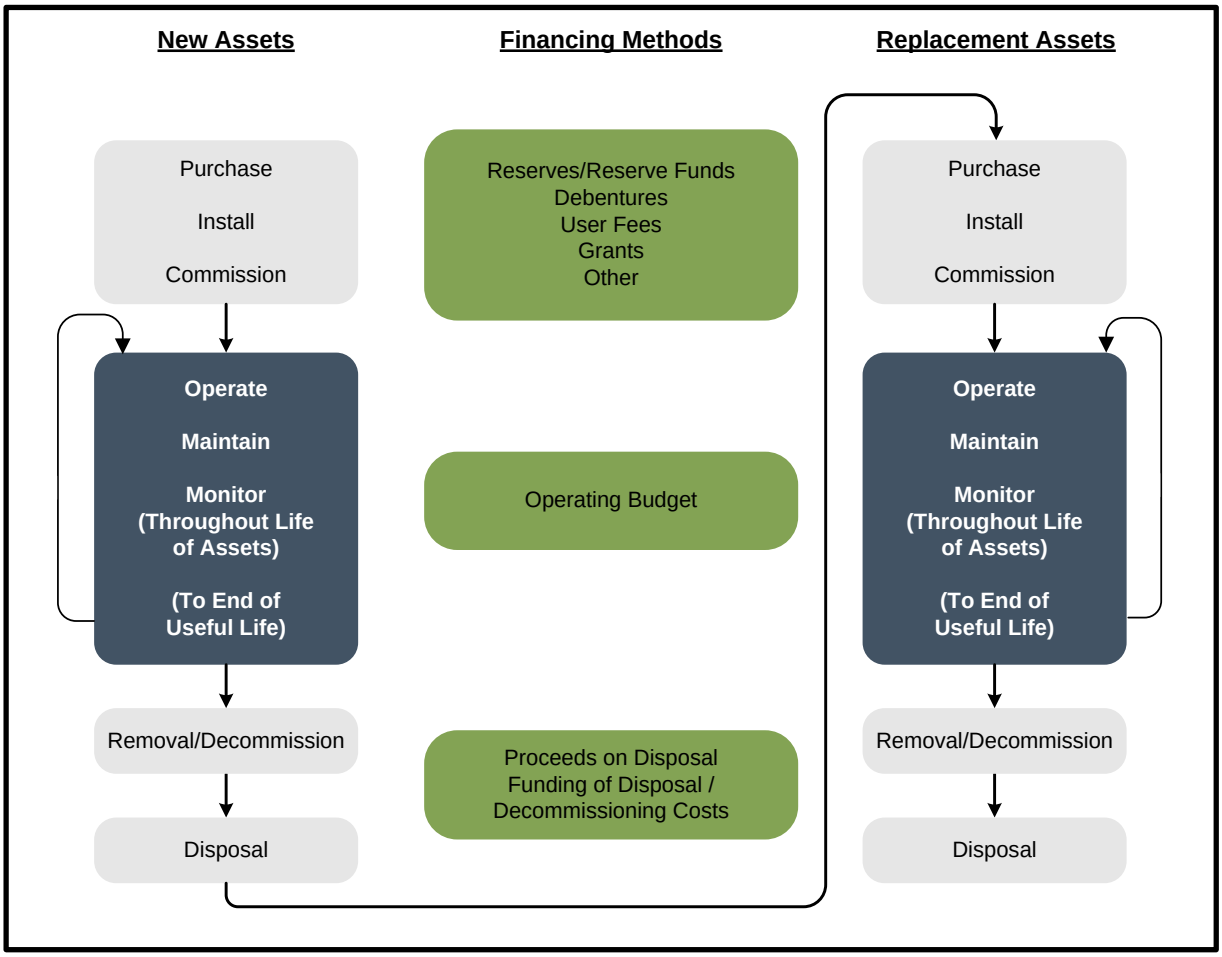
Figure 3-2 depicts the costs of an asset from its initial conception through to replacement and then continues to follow the associated costs through to the next replacement.

As referred to earlier, growth-related financing methods such as development charges, connection 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.

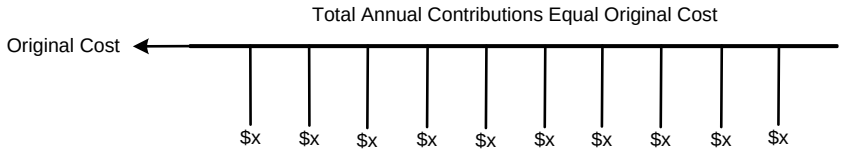
3.1.3 Costing Methods

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.

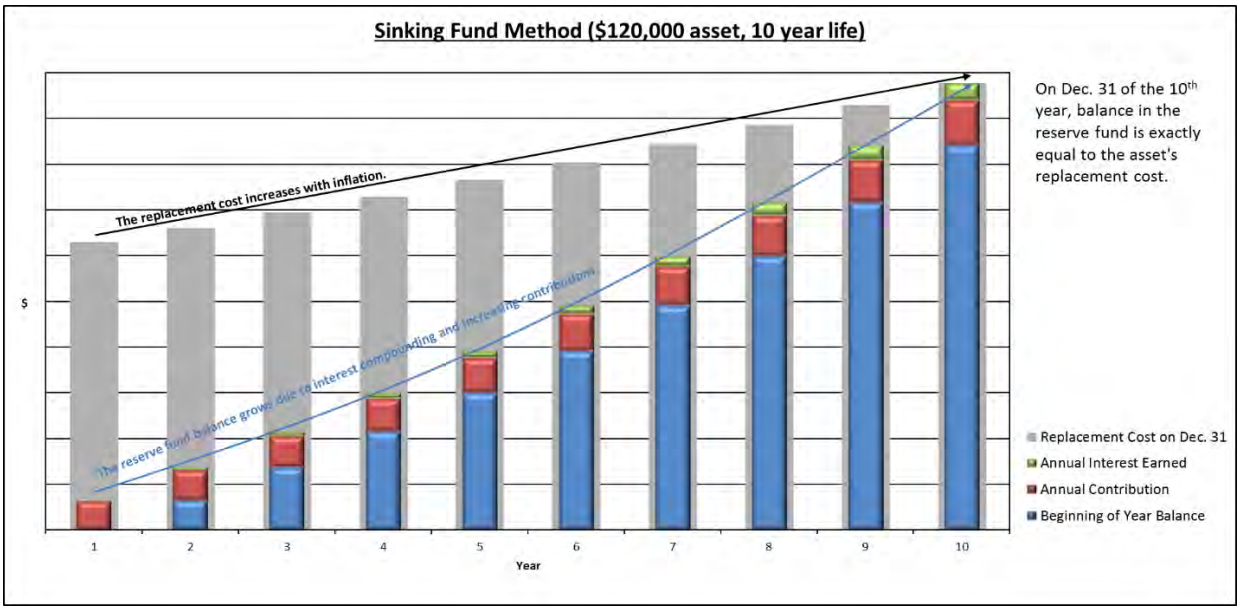
The straight-line method is calculated by taking the original cost of the asset, subtracting its estimated salvage value (estimated value of the asset at the time it is disposed of) and dividing this by the estimated number of years of useful life. The reducing balance method is calculated by utilizing 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 Asset Management Plan.

Table 3-1
Summary of Water and Wastewater Infrastructure and Replacement Costs (2020$)

Asset Type	2019 Asset Management Plan Update	
	Replacement Cost (2020 Dollars)	Annual Lifecycle Replacement Cost
Water Facilities	$ 224,575	$ 5,408
Water Distribution	$ 38,625,725	$ 730,694
Total Water	**$ 38,625,725**	**$ 736,102**
Wastewater Collection (Lynhurst & Ferndale)	$ 651,272	$ 11,804
Talbotville Capital	$ 20,251,027	$ 380,828
Total Wastewater	**$ 20,902,300**	**$ 392,633**
Total	**$ 59,528,025**	**$ 1,128,735**

* Includes estiamte of local service mains in new development areas in 10-year forecast

3.3 Capital Forecast

A ten-year capital forecast has been developed for the water and wastewater systems to address capital needs across all areas for the systems. The capital needs that have been identified are based on the Township's 3-year capital budget, OCWA recommendations to 2025, and provisions for the remainder of the forecast period to 2030. In addition, the costs of the growth-related infrastructure to expand the Talbotville wastewater system have also been included.

The capital forecasts for the 2020 to 2030 period are summarized in Tables 3-2 and 3-3 for the water and wastewater services respectively. These capital needs are forecast in 2020$ valuations. The water capital plan totals $913,000. For wastewater services, the capital plan totals $10.5 million for the forecast period. For rate determination purposes, the capital needs forecast have been indexed by 2.5% annually.

Table 3-2
Township of Southwold
Water Service
Capital Budget Forecast – Uninflated (2020$)

Description	Budget	Total	Forecast									
	2020		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Capital Expenditures												
Talbot Meadows Subdivision - Engineering	25,000	-										
Lynhurst Reconstruction	386,293	-										
Talbot Meadows Reconstruction		250,000	250,000									
OCWA Recommendations		-										
Shedden Re-Chlorination Facility		-										
Purchase chlorine pump rebuild kit for spare parts inventory		500				500						
Chlorine analyzer (s) parts: inlet and outlet (membrane caps, pH standards, cl2 probe replacement, pH probe replacement, electrolyte)	1,500	12,500	1,500	1,500	4,000	4,000	1,500					
Chemical Feed Panel: upgrade and replace chemical fee panel	22,500	-										
Chlorine Injector: Replace injector and purchase one spare for stock inventory	2,500	-										
Distribution System		-										
Fire flow testing		15,000		5,000	5,000	5,000						
Hydrant maintenance and repairs	5,000	25,000	5,000	5,000	5,000	5,000	5,000					
Distribution System: undertake evaluation of system due to impacts of Ford water tower being taken offline	15,000	-										
Sample station maintenance/repairs/rebuilt kits	2,000	10,000	2,000	2,000	2,000	2,000	2,000					
Auto flusher maintenance: replace controllers, lids, etc.	2,500	12,500	2,500	2,500	2,500	2,500	2,500					
OCWA Provision		105,417						21,083	21,083	21,083	21,083	21,083
Studies:		-										
Water Storage Assessment		20,000	20,000									
Total Capital Expenditures	**462,293**	**450,917**	**281,000**	**16,000**	**18,500**	**19,000**	**11,000**	**21,083**	**21,083**	**21,083**	**21,083**	**21,083**

Table 3-2
Township of Southwold
Wastewater Service
Capital Budget Forecast – Uninflated (2020)$

Description	Budget 2020	Total	Forecast									
			2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Capital Expenditures												
Talbot Meadows Subdivision - Engineering	25,000	-										
OCWA Recommendations	38,500	19,000	13,500	5,500								
Acoustic Audit	5,000	-										
OCWA Recommendations		-										
Total (net of budgeted recommendations above)	13,200	79,750	14,150	14,100	15,050	15,000	21,450					
OCWA Provision		77,458						15,492	15,492	15,492	15,492	15,492
Growth Related:		-										
Forcemain	1,300,000	-										
Talbot Meadows Subdivision - Install Sewers		920,000	920,000									
Install Sewers - Remaining Private Service Connection		998,750		998,750								
Future WWTF Costs		-										
Add'l Membranes Only (500 m3/day)		156,000				156,000						
WWTF (1,000 m3/day)		-										
Collection System Costs		6,940,242			6,940,242							
		-										
Total Capital Expenditures	**1,381,700**	**9,191,200**	**947,650**	**1,018,350**	**6,955,292**	**171,000**	**21,450**	**15,492**	**15,492**	**15,492**	**15,492**	**15,492**

Chapter 4
Capital Cost Financing Options

4. Capital Cost Financing Options

4.1 Summary of Capital Cost Financing Alternatives

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

The most recent *Municipal Act* came into force on January 1, 2003, with significant amendments in 2006 through the *Municipal Statute Law Amendment Act*. Part XII of the Act and O.Reg. 584/06, govern a Township's ability to impose fees and charges. This Act provides municipalities with broadly defined powers and provides the ability to impose fees for both operating and capital purposes. Under s.484 of the *Municipal Act*, 2001, the *Local Improvement Act* was repealed with the in-force date of the *Municipal Act* (January 1, 2003). The municipal powers granted under the *Local Improvement Act* now fall under the jurisdiction of the *Municipal Act*.

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

Recovery Methods	Section Reference
• D.C.A., 1997	4.2
• *Municipal Act* o Fees and Charge o Local Improvements	4.3
• Grant Funding	4.4
• Reserves/Reserve Funds	4.5
• Debenture Financing	4.6

4.2 Development Charges Act, 1997

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

The Province's stated intentions were to "create new construction jobs and make home ownership more affordable" by reducing the charges and to "make municipal Council decisions more accountable and more cost effective." The basis for this Act is to allow municipalities to recover the growth-related capital cost of infrastructure necessary to accommodate new growth within the municipality. The D.C.A. provides for limitations and ceilings on services that can be included in the charges.

The Township does not currently impose or have the intention to impose D.C.s on new development for water and wastewater 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*.

The Township currently imposes *Municipal Act* connection charges on all new connections to the water and wastewater systems and the projected revenues associated with these fees have been included as source of capital funding in the capital funding plan.

4.4 Grant Funding Availability

In August 2012, the Province of Ontario initiated the Municipal Infrastructure Investment Initiative. In supporting the efforts of communities to restore and revitalize their public infrastructure, this initiative provides one-time provincial funding to improve asset management planning in small municipalities and local service boards. In addition, funding will be made available for municipal infrastructure projects under this initiative. Any municipality or local service board seeking capital funding in the future must demonstrate how its proposed project fits within a detailed asset management plan. To assist in defining the components of an asset management plan, the Province produced a document entitled, "Building Together: Guide for Municipal Asset Management Plans." This guide documents the components, information and analysis that are required to be included in a municipality's asset management plan under this initiative.

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

4.5 Existing Reserves/Reserve Funds

The Township has established reserves and reserve funds for water and wastewater capital costs. The established water and wastewater reserves have been used in the capital funding forecast for rate-based needs.

The estimated 2020 water and wastewater reserve balances are estimated at $6.7 million the water system and $1.2 million for the wastewater system. Wastewater reserves include prepaid connection charges to the end of 2020.

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 outstanding external debt for water and wastewater services. In total the outstanding principal balance is $1.79 million for wastewater and $12,000 for water as at January 1, 2019. Some of the current outstanding debt balance is scheduled to be fully paid off during the forecast period.

The capital financing plan anticipates the issuance of $10.6 million between 2020 and 2024 primarily related to collection system servicing costs. Based on the Township's 2018 Financial Information Return, the Township is currently utilizing 3% 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 and growth in the Township more generally, the anticipated debt for the wastewater systems would increase the Township's debt capacity utilization from 3% of own source revenues currently to 8% by the end of the forecast period. This would place the Township well within the legislated limit of 25% of own source revenues and preserve debt funding capacity for other municipal services.

4.7 Recommended Approach

It is recommended that the capital program be funded by water and wastewater capital reserves (including connection charge proceeds) and debentures. Table 4-1 summarizes the recommended capital funding sources supporting the capital needs forecast, for consideration by the Township. Tables 4-2 and 4-3 provides for the capital expenditure and funding program summary by year for water and wastewater services respectively. The capital funding plan is provided in inflated dollars.

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

Capital Financing	Water	Wastewater
Provincial/Federal Grants	-	-
Non-Growth Related Debenture Requirements	-	10,638,000
Water Reserve	950,293	582,700
Total Capital Financing	950,293	11,220,700

Based on the capital funding plan identified in Table 4-1 and the 2020 estimated water reserve balance in Section 4.5, the water and wastewater reserve continuity schedules are presented in Tables 4-3 and 4-4. By 2030, water reserves are anticipated to increase from $6.7 million to $14.8 million. Wastewater reserves would reach an end of year balance of $262,700 in 2030.

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

Description	Budget 2020	Total	Forecast									
			2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Capital Expenditures												
Talbot Meadows Subdivision - Engineering	25,000	-	-	-	-	-	-	-	-	-	-	-
Lynhurst Reconstruction	386,293	-	-	-	-	-	-	-	-	-	-	-
Talbot Meadows Reconstruction	-	256,000	256,000	-	-	-	-	-	-	-	-	-
OCWA Recommendations	-	-	-	-	-	-	-	-	-	-	-	-
Shedden Re-Chlorination Facility	-	-	-	-	-	-	-	-	-	-	-	-
Purchase chlorine pump rebuild kit for spare parts inventory	-	1,000	-	-	-	1,000	-	-	-	-	-	-
Chlorine analyzer (s) parts: inlet and outlet (membrane caps, pH standards, cl2 probe replacement, pH probe replacement, electrolyte)	1,500	14,000	2,000	2,000	4,000	4,000	2,000	-	-	-	-	-
Chemical Feed Panel: upgrade and replace chemical fee panel	22,500	-	-	-	-	-	-	-	-	-	-	-
Chlorine Injector: Replace injector and purchase one spare for stock inventory	2,500	-	-	-	-	-	-	-	-	-	-	-
Distribution System	-	-	-	-	-	-	-	-	-	-	-	-
Fire flow testing	-	16,000	-	5,000	5,000	6,000	-	-	-	-	-	-
Hydrant maintenance and repairs	5,000	27,000	5,000	5,000	5,000	6,000	6,000	-	-	-	-	-
Distribution System: undertake evaluation of system due to impacts of Ford water tower being taken offline	15,000	-	-	-	-	-	-	-	-	-	-	-
Sample station maintenance/repairs/rebuilt kits	2,000	10,000	2,000	2,000	2,000	2,000	2,000	-	-	-	-	-
Auto flusher maintenance: replace controllers, lids, etc.	2,500	15,000	3,000	3,000	3,000	3,000	3,000	-	-	-	-	-
OCWA Provision	-	128,000	-	-	-	-	-	24,000	25,000	26,000	26,000	27,000
Studies:	-	-	-	-	-	-	-	-	-	-	-	-
Water Storage Assessment	-	21,000	21,000	-	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	-	-	-
Total Capital Expenditures	**462,293**	**488,000**	**289,000**	**17,000**	**19,000**	**22,000**	**13,000**	**24,000**	**25,000**	**26,000**	**26,000**	**27,000**
Capital Financing												
Non-Growth Related Debenture Requirements	-	-	-	-	-	-	-	-	-	-	-	-
Growth Related Debenture Requirements	-	-	-	-	-	-	-	-	-	-	-	-
Water Reserve	462,293	488,000	289,000	17,000	19,000	22,000	13,000	24,000	25,000	26,000	26,000	27,000
Total Capital Financing	**462,293**	**488,000**	**289,000**	**17,000**	**19,000**	**22,000**	**13,000**	**24,000**	**25,000**	**26,000**	**26,000**	**27,000**

Table 4-3
Township of Southwold
Wastewater Service
Capital Budget Forecast – Inflated $

Description	Budget 2020	Total	Forecast									
			2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Capital Expenditures												
Talbot Meadows Subdivision - Engineering	25,000	-	-	-	-	-	-	-	-	-	-	-
OCWA Recommendations	38,500	20,000	14,000	6,000	-	-	-	-	-	-	-	-
Acoustic Audit	5,000	-	-	-	-	-	-	-	-	-	-	-
OCWA Recommendations	-	-	-	-	-	-	-	-	-	-	-	-
Total (net of budgeted recommendations above)	13,200	87,000	15,000	15,000	16,000	17,000	24,000	-	-	-	-	-
OCWA Provision	-	94,000	-	-	-	-	-	18,000	18,000	19,000	19,000	20,000
Growth Related:	-	-	-	-	-	-	-	-	-	-	-	-
Forcemain	1,300,000	-	-	-	-	-	-	-	-	-	-	-
Talbot Meadows Subdivision - Install Sewers	-	943,000	943,000	-	-	-	-	-	-	-	-	-
Install Sewers - Remaining Private Service Connection	-	1,049,000	-	1,049,000	-	-	-	-	-	-	-	-
Future WWTF Costs	-	-	-	-	-	-	-	-	-	-	-	-
Add'l Membranes Only (500 m3/day)	-	172,000	-	-	-	172,000	-	-	-	-	-	-
WWTF (1,000 m3/day)	-	-	-	-	-	-	-	-	-	-	-	-
Collection System Costs	-	7,474,000	-	-	7,474,000	-	-	-	-	-	-	-
Total Capital Expenditures	**1,381,700**	**9,839,000**	**972,000**	**1,070,000**	**7,490,000**	**189,000**	**24,000**	**18,000**	**18,000**	**19,000**	**19,000**	**20,000**
Capital Financing												
Non-Growth Related Debenture Requirements	1,000,000	9,638,000	943,000	1,049,000	7,474,000	172,000	-	-	-	-	-	-
Growth Related Debenture Requirements	-	-	-	-	-	-	-	-	-	-	-	-
Wastewater Reserve	381,700	201,000	29,000	21,000	16,000	17,000	24,000	18,000	18,000	19,000	19,000	20,000
Total Capital Financing	**1,381,700**	**9,839,000**	**972,000**	**1,070,000**	**7,490,000**	**189,000**	**24,000**	**18,000**	**18,000**	**19,000**	**19,000**	**20,000**

Table 4-4
Township of Southwold
Water Reserve Continuity– Inflated $

Description	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Opening Balance	6,696,181	6,754,807	7,130,776	7,816,776	8,544,174	9,315,184	10,038,010	10,863,511	11,799,563	12,855,121	13,966,115
Transfer from Operating	420,919	559,588	587,482	620,129	655,347	678,048	733,401	786,674	891,581	930,598	910,656
Transfer to Capital	462,293	289,000	17,000	19,000	22,000	13,000	24,000	25,000	26,000	26,000	27,000
Transfer to Operating						90,567	44,445				
Closing Balance	**6,654,807**	**7,025,395**	**7,701,258**	**8,417,905**	**9,177,521**	**9,889,665**	**10,702,967**	**11,625,185**	**12,665,144**	**13,759,719**	**14,849,770**
Interest	100,000	105,381	115,519	126,269	137,663	148,345	160,545	174,378	189,977	206,396	222,747

Table 4-5
Township of Southwold
Wastewater Reserve Continuity– Inflated $

Description	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Opening Balance	1,236,654	1,310,214	1,085,850	825,718	566,916	25,035	-	-	-	-	77,489
Transfer from Operating	435,897	-	-	-	-	24,000	18,000	18,000	19,000	95,344	205,167
Transfer to Capital	381,700	29,000	21,000	16,000	17,000	24,000	18,000	18,000	19,000	19,000	20,000
Transfer to Operating		211,411	251,334	251,180	525,251	25,035					
Closing Balance	**1,290,851**	**1,069,802**	**813,515**	**558,538**	**24,665**	**-**	**-**	**-**	**-**	**76,344**	**262,656**
Interest	19,363	16,047	12,203	8,378	370	-	-	-	-	1,145	3,940

Chapter 5
Operating Expenditure Forecast

5. Operating Expenditure Forecast

5.1 Operating Expenditures

In this report the forecasted operating budget figures for water and wastewater services are based on the Township's 2020 operating budgets with additional operating costs identified for the expansion of the Talbotville wastewater system. The expenditures for each component of the operating budget have been reviewed with staff to establish inflationary adjustments.

Capital-related annual expenditures in the forecast include annual debt repayments and contributions to reserves and reserve funds to support the capital forecast and future needs. While operating aspects identified above generally increase with inflation over the period (i.e. 3% annually), the capital-related aspects tend to increase more specifically with the increase in capital funding requirements.

As a result of the inflationary and capital-related expenditure increases, the water and wastewater operating expenditures are anticipated to increase over the forecast period.

5.1.1 Water Services

Debt repayment costs are expected to decrease from $5,000 in 2020 to $0 by the end of the forecast period. Reserve transfers are projected to increase from $421,000 to $836,000 over the same period. Other operating expenditures are also expected to increase from $1.3 million in 2020 to $1.8 million by the end of the forecast period based on 3% annual inflation as identified in the Township's operating budget forecast.

Overall, gross operating expenditures for water services are anticipated to increase from $1.7 million in 2020 to $2.7 million by 2030.

5.1.2 Wastewater Services

For wastewater services, debt repayment costs are expected to increase from $130,000 in 2020 to $882,000 by 2030 due to the issuance of new debt. Reserve transfers are projected to decrease from $435,000 to $205,000 over the same period. Other operating expenditures are expected to increase from $135,000 in 2020 to $213,000 by the end of the forecast period. Operating costs forecast have incorporated the incremental operating costs of for the expansion of the Talbotville Wastewater

Treatment Plant and 3% annual inflation as per the Township's operating budget forecast.

Overall, gross operating expenditures for wastewater services are anticipated to increase from $701,000 to $1.3 million in the 2020 to 2030 period.

5.2 Operating Revenues

5.2.1 Water Services

The Township's non-rate revenues are collected through water meter and other miscellaneous fees and penalties and interest payments which are forecast to increase with inflation. The Township's non-rate revenues are forecast to increase from $55,000 in 2020 to $74,000 in 2030.

The greatest source of revenue is secured from the base charges and consumptive water rates (i.e. $/m^3 of water consumption) for the Tri-County Water System, bulk water filling station, and Township customers. The rate revenues have been forecast based on the underlying service demand assumptions summarized in Chapter 2 and the Township's forecast water rates for the 2020-2030 period. Rate based revenues are forecast to increase from $1.5 million in 2030 to $2.4 million in 2030.

Water connection fees are also included within the operating revenue forecast at approximately $206,000 annually. These revenues form part of the transfers to reserve for capital purposes described in Section 5.1.1.

The total annual operating revenues are forecast to increase from $1.7 million in 2020 to $2.7 million by 2030.

5.2.2 Wastewater Services

The Township's wastewater service revenue is collected from the consumptive wastewater rates (i.e. $/m^3 of water consumption) and wastewater base charges. Wastewater connection charge revenue is also included within the forecast operating revenues and is utilized towards capital related operating expenditures such as debt repayment and transfers to reserves. The consumptive rate revenues have been forecast based on the underlying service demand assumptions and the Township's forecast wastewater rates described in Chapter 6.

Rate based revenues are forecast to increase from $75,000 in 2020 to $490,000 by 2030. Transfers from water reserves of $135,000 are also anticipated to support operations (including debt repayment) between 2025-2026 before being repaid by the end of the forecast period.

In total, operating revenues (including wastewater connection fee revenues) are forecast to increase from $700,000 in 2020 to $1.3 million by 2030.

Tables 5-1 to 5-2 provide the water and wastewater operating budget forecasts which are presented in inflated dollars.

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

Description	Budget 2020		Forecast 2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Expenditures												
Operating Costs			-	-	-	-	-	-	-	-	-	-
Salaries and Wages	115,017		118,500	122,100	125,800	129,600	133,500	137,500	141,600	145,800	150,200	154,700
Roads Wages Allocated	10,043		10,300	10,600	10,900	11,200	11,500	11,800	12,200	12,600	13,000	13,400
Wage recoveries Dutton	-		-	-	-	-	-	-	-	-	-	-
Canada Pension Plan	2,831		2,900	3,000	3,100	3,200	3,300	3,400	3,500	3,600	3,700	3,800
Employment Insurance	1,240		1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300
OMERS	6,163		6,300	6,500	6,700	6,900	7,100	7,300	7,500	7,700	7,900	8,100
Employer Health Tax	1,225		1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300
Workplace Safety Insurance	685		700	700	700	700	700	700	700	700	700	700
Group Insurance	5,244		5,500	5,800	6,100	6,400	6,700	7,000	7,400	7,800	8,200	8,600
Training & mileage	2,575		2,700	2,800	2,900	3,000	3,100	3,200	3,300	3,400	3,500	3,600
Utilities	8,961		9,200	9,500	9,800	10,100	10,400	10,700	11,000	11,300	11,600	11,900
Materials and Supplies	10,243		10,695	11,000	11,300	11,600	11,900	12,300	12,700	13,100	13,500	13,900
- alloc office supplies and postage	5,555		5,700	5,900	6,100	6,300	6,500	6,700	6,900	7,100	7,300	7,500
Property maintenance	2,575		2,700	2,800	2,900	3,000	3,100	3,200	3,300	3,400	3,500	3,600
Roads equipment time	20,000		25,000	27,000	27,800	28,600	29,500	30,400	31,300	32,200	33,200	34,200
Telephone & internet	4,738		4,900	5,000	5,200	5,400	5,600	5,800	6,000	6,200	6,400	6,600
Legal and Audit fees	2,652		2,700	2,800	2,900	3,000	3,100	3,200	3,300	3,400	3,500	3,600
Insurance	20,343		21,000	21,600	22,200	22,900	23,600	24,300	25,000	25,800	26,600	27,400
System Maintenance	10,300		10,600	10,900	11,200	11,500	11,800	12,200	12,600	13,000	13,400	13,800
Equipment Costs	40,000		41,200	42,400	43,700	45,000	46,400	47,800	49,200	50,700	52,200	53,800
Memberships & subscriptions	670		700	700	700	700	700	700	700	700	700	700
Water truck fuel and maintenance	4,120		4,200	4,300	4,400	4,500	4,600	4,700	4,800	4,900	5,000	5,200
Contracted Services	112,985		116,659	120,200	123,800	127,500	131,300	135,200	139,300	143,500	147,800	152,200
Water Testing	-		-	-	-	-	-	-	-	-	-	-
Studies, standards	13,500						15,000					18,000
Water Costs	888,954		908,544	950,087	993,608	1,029,513	1,062,714	1,097,130	1,132,762	1,169,616	1,207,816	1,247,368
Miscellaneous	15,141		15,600	16,100	16,600	17,100	17,600	18,100	18,600	19,200	19,800	20,400
Sub Total Operating	**1,305,760**		**1,328,899**	**1,384,387**	**1,441,008**	**1,490,313**	**1,552,314**	**1,585,930**	**1,636,262**	**1,688,316**	**1,742,116**	**1,815,668**
Capital-Related												
Existing Debt (Principal) - Growth Related												
Existing Debt (Interest) - Growth Related												
New Growth Related Debt (Principal)			-	-	-	-	-	-	-	-	-	-
New Growth Related Debt (Interest)			-	-	-	-	-	-	-	-	-	-
Existing Debt (Principal) - Non-Growth Related	5,278		5,598	977	-	-	-	-	-	-	-	-
Existing Debt (Interest) - Non-Growth Related	-		-	-	-	-	-	-	-	-	-	-
New Non-Growth Related Debt (Principal)			-	-	-	-	-	-	-	-	-	-
New Non-Growth Related Debt (Interest)			-	-	-	-	-	-	-	-	-	-
Transfer to Capital	-		-	-	-	-	-	-	-	-	-	-
Transfers to Wastewater Operating							90,567	44,445				
Transfer to Capital Reserve	420,919		559,588	587,482	620,129	655,347	678,048	733,401	786,674	891,581	930,598	910,656
Sub Total Capital Related	**426,197**		**565,186**	**588,459**	**620,129**	**655,347**	**768,615**	**777,846**	**786,674**	**891,581**	**930,598**	**910,656**
Total Expenditures	**1,731,957**		**1,894,085**	**1,972,846**	**2,061,137**	**2,145,660**	**2,320,929**	**2,363,776**	**2,422,936**	**2,579,897**	**2,672,714**	**2,726,323**

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

Description	Budget 2020		Forecast 2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Revenues												
Base Charge	247,820		251,548	259,117	266,686	274,256	281,825	289,394	296,963	304,532	312,101	319,670
Tri-County Water System Revenue	243,949		380,846	404,798	430,806	455,756	481,567	509,848	540,893	575,038	612,710	654,347
Water Filling Station Revenue	9,517		9,723	9,924	10,134	10,308	10,469	10,635	10,807	10,986	11,170	11,362
Other Revenue (Construction, meter fees, misc, penalties)	55,125		56,800	58,500	60,300	62,100	64,000	65,900	67,900	69,900	72,000	74,200
Water Connection Fees	200,701		184,386	188,995	193,712	198,568	203,519	208,609	213,839	219,163	224,627	230,231
Internal Debentures	6,913		6,914	977								
Contributions from Wastewater Operating	-		-	-	-	-	-	-	9,930	68,269	56,812	-
Contributions from Reserves / Reserve Funds	-		-	-	-	-	90,567	44,445	-	-	-	-
Total Operating Revenue	**764,025**		**890,217**	**922,311**	**961,639**	**1,000,988**	**1,131,945**	**1,128,830**	**1,140,333**	**1,247,888**	**1,289,421**	**1,289,811**
Water Billing Recovery - Operating	**967,932**		**1,003,868**	**1,050,535**	**1,099,499**	**1,144,672**	**1,188,984**	**1,234,945**	**1,282,604**	**1,332,008**	**1,383,293**	**1,436,513**

Table 5-2
Wastewater Service
Operating Budget Forecast – Inflated$

Description	Budget 2020		Forecast 2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Expenditures												
Operating Costs												
Rds Wages	1,500		1,500	1,600	1,600	1,700	1,700	1,800	1,800	1,900	2,000	2,000
Training	500		500	500	500	600	600	600	600	600	700	700
Utilities	32,000		33,900	36,500	39,200	42,100	44,900	47,800	50,900	54,100	57,400	60,900
Materials Supplies	15,000		15,700	16,600	17,600	18,600	19,600	20,600	21,700	22,800	23,900	25,200
Property maintenance	1,500		1,600	1,600	1,700	1,800	1,800	1,900	2,000	2,100	2,100	2,200
Rds Machine Time to Talbotville Sewer	1,000		1,000	1,100	1,100	1,200	1,200	1,300	1,300	1,400	1,400	1,500
Insurance	2,500		2,600	2,700	2,800	2,900	3,100	3,200	3,300	3,400	3,600	3,700
System Maintenance	20,000		20,700	21,600	22,500	23,500	24,400	25,400	26,500	27,500	28,600	29,800
Contracted Services	38,000		39,400	41,200	43,000	44,900	46,700	48,700	50,700	52,800	55,000	57,200
Wastewater Testing	9,000		9,300	9,500	9,800	10,100	10,400	10,700	11,100	11,400	11,700	12,100
Plans and studies	13,500			-	-	-	15,000					18,000
Sub Total Operating	**134,500**		**126,200**	**132,900**	**139,800**	**147,400**	**169,400**	**162,000**	**169,900**	**178,000**	**186,400**	**213,300**
Capital-Related												
Existing Debt (Principal) - Growth Related	67,482		105,078	108,831	112,717	116,742	120,911	125,229	129,700	134,332	139,129	144,097
Existing Debt (Interest) - Growth Related	63,048		96,132	92,379	88,493	84,468	80,299	75,981	71,510	66,878	62,081	57,113
New Non-Growth Related Debt (Principal)			-	33,175	71,256	336,719	354,724	367,316	380,356	393,859	407,841	422,319
New Non-Growth Related Debt (Interest)			-	33,477	69,538	332,336	326,488	313,896	300,856	287,353	273,371	258,893
Transfer to Capital	-		-	-	-	-	-	-	-	-	-	-
Transfer to Water Operating									9,930	68,269	56,812	
Transfer to Capital Reserve	435,897						24,000	18,000	18,000	19,000	95,344	205,167
Sub Total Capital Related	**566,427**		**201,210**	**267,861**	**342,004**	**870,265**	**906,422**	**900,422**	**910,352**	**969,691**	**1,034,578**	**1,087,589**
Total Expenditures	**700,927**		**327,410**	**400,761**	**481,804**	**1,017,665**	**1,075,822**	**1,062,422**	**1,080,252**	**1,147,691**	**1,220,978**	**1,300,889**
Revenues												
Base Charge	50,342		57,487	70,983	86,875	105,493	125,999	150,094	178,308	211,244	249,584	294,106
Other Revenue				-	-	-	-	-	-	-	-	-
Wastewater Connection Fees	625,000		21,853	22,195	68,292	292,639	723,023	739,768	756,912	774,499	792,529	811,002
Contributions to From Water Operating	-		-	-	-	-	90,567	44,445	-	-	-	-
Contributions from Reserves / Reserve Funds	-		211,411	251,334	251,180	525,251	25,035	-	-	-	-	-
Total Operating Revenue	**675,342**		**290,751**	**344,513**	**406,348**	**923,383**	**964,623**	**934,307**	**935,221**	**985,743**	**1,042,114**	**1,105,108**
Wastewater Billing Recovery - Operating	**25,585**		**36,659**	**56,248**	**75,456**	**94,282**	**111,198**	**128,115**	**145,031**	**161,948**	**178,864**	**195,781**

Figures 5-1 and 5-2 illustrate the annual net operating budget increases for water and wastewater services over the forecast period by component, illustrating the increase in annual revenues for increased capital funding purposes (transfers to reserves).

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

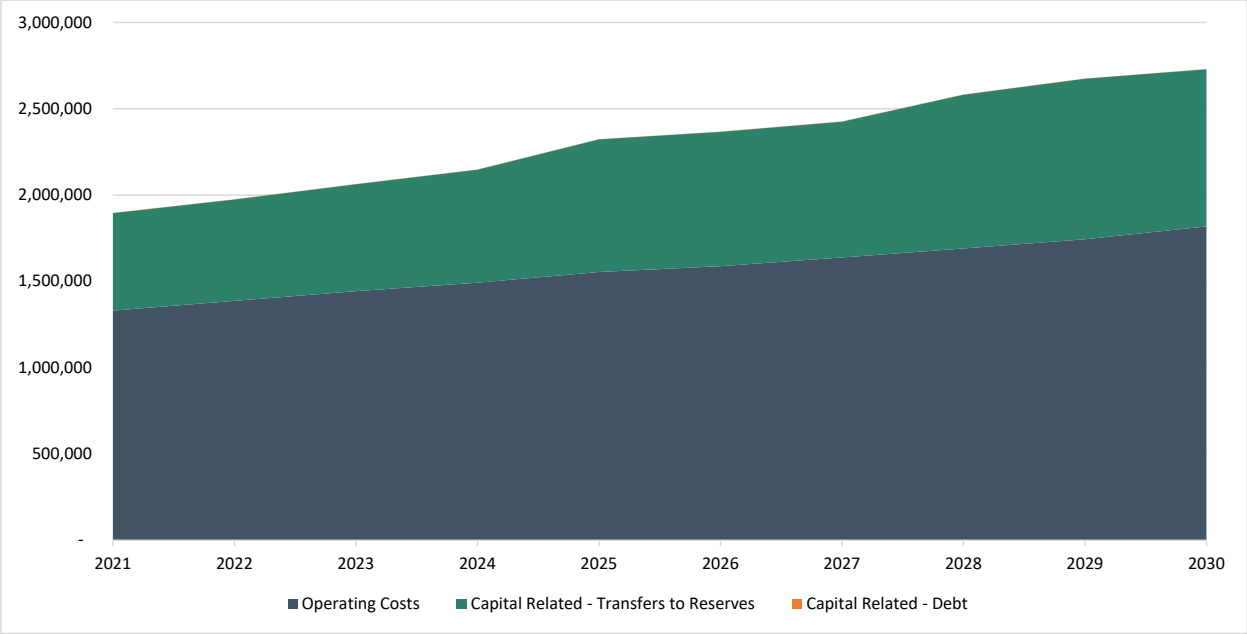
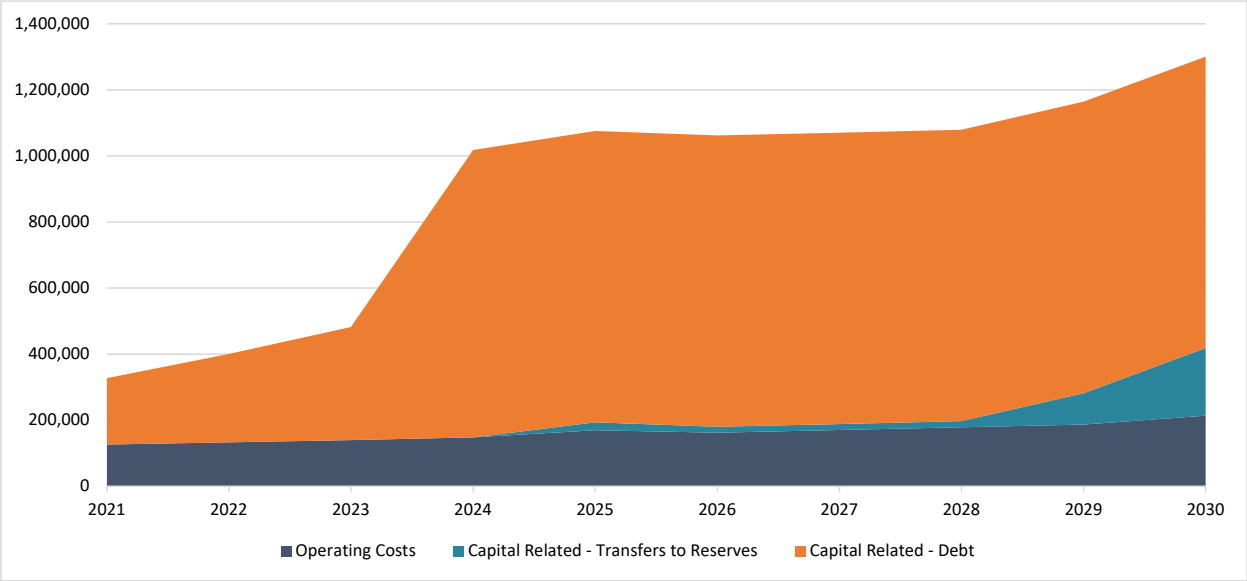


Figure 5-2
Wastewater Service
2021-2030 Annual Net Operating Forecast by Major Component



Chapter 6
Forecast Water and Wastewater Rates

6. Forecast Water and Wastewater Rates

6.1 Introduction

To summarize the analysis undertaken thus far, Chapter 3 reviewed capital infrastructure needs within the water and wastewater systems and responds to the lifecycle needs of the Township. Chapter 4 provided a review of capital financing options of which internal sources (i.e. reserve fund transfers) will be the predominant basis for financing future capital needs. Chapter 5 established the 10-year operating forecast of expenditures for the water and wastewater systems. The following calculations will be based on the net operating expenditures provided in Chapter 5, divided by the customers and volumes forecast provided in Chapter 2.

The water and wastewater rates have been forecast such that they will be sufficient to fund the long-term capital needs of the systems by 2030, providing for the sustainable replacement of infrastructure and ongoing operation and maintenance of the systems.

The forecast water and wastewater rates are discussed in Section 6.2 and 6.3, while the customer impacts are discussed in Section 6.4.

6.2 Water Rates

It is proposed that the Township's current rate structure is maintained such that customers are paying a quarterly base charge plus a consumptive rate and the Tri-County Water System and bulk water filling station customers continue to pay only the consumptive rate.

The Township constant rate that is imposed per cubic meter of water consumption is comprised of the primary and secondary rates for the purchase of water as well as the Township rates. The primary and secondary rate increases are forecast based on the draft rate forecasts established by the primary and secondary systems. No increases are proposed to the Township's quarterly base charges or constant rate over the forecast period.

Rates for the Tri-County system have been increased over the period by approximately 6.2% annually such that they reflect the average operating costs of the water system

and the replacement of major distribution capital infrastructure (i.e. excluding local service distribution mains with Southwold) from which the Tri-County system benefits.

The resultant rate forecast for water services is presented in Table 6-1.

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

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

Description	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Residential Water Rates											
Monthly Base Rate	$13.51	$13.51	$13.51	$13.51	$13.51	$13.51	$13.51	$13.51	$13.51	$13.51	$13.51
Primary Rate	$0.87	$0.91	$0.94	$0.98	$1.02	$1.06	$1.10	$1.15	$1.19	$1.24	$1.29
Secondary Rate	$0.53	$0.56	$0.59	$0.62	$0.64	$0.65	$0.67	$0.68	$0.69	$0.71	$0.72
Tertiary Rate	$1.21	$1.21	$1.21	$1.21	$1.21	$1.21	$1.21	$1.21	$1.21	$1.21	$1.21
Total Constant Rate	**$2.61**	**$2.68**	**$2.75**	**$2.82**	**$2.87**	**$2.93**	**$2.98**	**$3.04**	**$3.10**	**$3.16**	**$3.23**
% Increase - Base Rate		**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
% Increase - Volume Rate		**2.6%**	**2.5%**	**2.6%**	**2.1%**	**1.9%**	**1.9%**	**1.9%**	**2.0%**	**2.0%**	**2.0%**
Tri-County Water Rates											
Primary Rate	$0.87	$0.91	$0.94	$0.98	$1.02	$1.06	$1.10	$1.15	$1.19	$1.24	$1.29
Secondary Rate	$0.53	$0.56	$0.59	$0.62	$0.64	$0.65	$0.67	$0.68	$0.69	$0.71	$0.72
Tertiary Rate	$0.28	$0.31	$0.36	$0.41	$0.47	$0.54	$0.61	$0.70	$0.80	$0.91	$1.05
Total Rate	$1.67	$1.78	$1.89	$2.01	$2.13	$2.25	$2.38	$2.53	$2.69	$2.86	$3.06
% Increase		**6.5%**	**6.3%**	**6.4%**	**5.8%**	**5.7%**	**5.9%**	**6.1%**	**6.3%**	**6.6%**	**6.8%**
Water Filling Station Rates											
Primary Rate	$0.87	$0.91	$0.94	$0.98	$1.02	$1.06	$1.10	$1.15	$1.19	$1.24	$1.29
Secondary Rate	$0.53	$0.56	$0.59	$0.62	$0.64	$0.65	$0.67	$0.68	$0.69	$0.71	$0.72
Tertiary Rate	$1.78	$1.78	$1.78	$1.78	$1.78	$1.78	$1.78	$1.78	$1.78	$1.78	$1.78
Total Rate	$3.17	$3.24	$3.31	$3.38	$3.44	$3.49	$3.55	$3.60	$3.66	$3.72	$3.79
% Increase		**2.2%**	**2.1%**	**2.1%**	**1.7%**	**1.6%**	**1.6%**	**1.6%**	**1.6%**	**1.7%**	**1.7%**

6.3 Wastewater Rates

It is proposed that the Township's current rate structure is maintained such that residential customers are paying a base charge plus a consumptive rate. Base charges have been increased by 10.6% annually over the forecast period such that the base charge revenue approximates the long-term capital costs of the system. The resultant rate forecast for wastewater services is presented in Table 6-2. No changes have been recommended to the monthly capital charge impose on residents in the Lynhurst and Ferndale wastewater service areas.

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

Table 6-2
Township of Southwold
Wastewater Rate Forecast – Inflated

Description	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Monthly Base Rate	$15.20	$16.81	$18.59	$20.56	$22.74	$25.15	$27.81	$30.76	$34.02	$37.62	$41.61
Constant Rate	$2.27	$2.27	$2.27	$2.27	$2.27	$2.27	$2.27	$2.27	$2.27	$2.27	$2.27
%Increase - Base Rate		10.6%	10.6%	10.6%	10.6%	10.6%	10.6%	10.6%	10.6%	10.6%	10.6%
%Increase - Volume Rate		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

6.4 Customer Impacts

The annual water and wastewater customer bill impacts for the average residential customer (i.e. 168 m^3 of water consumption annually) are shown in Tables 6-3 and 6-4 respectively. Annual customer water bills would increase by 1.6% annually over the forecast period or $10 per year. Annual wastewater bills would increase by 4.6% annually over the forecast period or an increase of $32 per year (i.e. less than $3 per month).

Table 6-3
Township of Southwold
Annual Customer Water Bill – Based on 168 m^3 of usage

Description	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Monthly Base Rate	$13.51	$13.51	$13.51	$13.51	$13.51	$13.51	$13.51	$13.51	$13.51	$13.51	$13.51
Constant Rate	$2.61	$2.68	$2.75	$2.82	$2.87	$2.93	$2.98	$3.04	$3.10	$3.16	$3.23
Annual Base Rate Bill	**$162**	**$162**	**$162**	**$162**	**$162**	**$162**	**$162**	**$162**	**$162**	**$162**	**$162**
Volume	168	168	168	168	168	168	168	168	168	168	168
Annual Volume Bill	**$439**	**$451**	**$462**	**$474**	**$483**	**$492**	**$502**	**$511**	**$521**	**$532**	**$543**
Total Annual Bill	**$601**	**$613**	**$624**	**$636**	**$646**	**$655**	**$664**	**$674**	**$684**	**$694**	**$705**
% Increase - Base Rate		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
% Increase - Volume Rate		2.6%	2.5%	2.6%	2.1%	1.9%	1.9%	1.9%	2.0%	2.0%	2.0%
% Increase - Total Annual Bill		1.9%	1.8%	1.9%	1.5%	1.4%	1.4%	1.5%	1.5%	1.5%	1.5%

Table 6-4
Township of Southwold
Annual Customer Wastewater Bill – Based on 168 m^3 of usage

Description	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Monthly Base Rate	$15.20	$16.81	$18.59	$20.56	$22.74	$25.15	$27.81	$30.76	$34.02	$37.62	$41.61
Constant Rate	$2.27	$2.27	$2.27	$2.27	$2.27	$2.27	$2.27	$2.27	$2.27	$2.27	$2.27
Annual Base Rate Bill	**182**	**202**	**223**	**247**	**273**	**302**	**334**	**369**	**408**	**451**	**499**
Volume	168	168	168	168	168	168	168	168	168	168	168
Annual Volume Bill	**382**	**382**	**382**	**382**	**382**	**382**	**382**	**382**	**382**	**382**	**382**
Total Annual Bill	**564**	**584**	**605**	**629**	**655**	**684**	**716**	**751**	**790**	**833**	**881**
% Increase - Base Rate		10.6%	10.6%	10.6%	10.6%	10.6%	10.6%	10.6%	10.6%	10.6%	10.6%
% Increase - Volume Rate		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
% Increase - Total Annual Bill		3.4%	3.7%	3.9%	4.2%	4.4%	4.7%	4.9%	5.2%	5.5%	5.7%

6.5 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 and wastewater costs through full cost recovery rates;

2. That Council consider the recommended water and wastewater rates as shown in Chapter 6 for adoption;

3. That Council maintain the Capital (lifecycle) Reserve Funds for water and wastewater services as discussed in section 4.5; and

4. That Council direct staff to consider the results of the Rate Study in future amendments to the Township's asset management plan.

Appendices

Appendix A
Water Service

Table 1
Township of Southwold
Water Service
Capital Budget Forecast
Inflated $

Description	Budget	Total	Forecast									
	2020		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Capital Expenditures												
Talbot Meadows Subdivision - Engineering	25,000	-	-	-	-	-	-	-	-	-	-	-
Lynhurst Reconstruction	386,293	-	-	-	-	-	-	-	-	-	-	-
Talbot Meadows Reconstruction	-	256,000	256,000	-	-	-	-	-	-	-	-	-
OCWA Recommendations	-	-	-	-	-	-	-	-	-	-	-	-
Shedden Re-Chlorination Facility	-	-	-	-	-	-	-	-	-	-	-	-
Purchase chlorine pump rebuild kit for spare parts inventory	-	1,000	-	-	-	1,000	-	-	-	-	-	-
Chlorine analyzer (s) parts: inlet and outlet (membrane caps, pH standards, cl2 probe replacement, pH probe replacement, electrolyte)	1,500	14,000	2,000	2,000	4,000	4,000	2,000	-	-	-	-	-
Chemical Feed Panel: upgrade and replace chemical fee panel	22,500	-	-	-	-	-	-	-	-	-	-	-
Chlorine Injector: Replace injector and purchase one spare for stock inventory	2,500	-	-	-	-	-	-	-	-	-	-	-
Distribution System	-	-	-	-	-	-	-	-	-	-	-	-
Fire flow testing	-	16,000	-	5,000	5,000	6,000	-	-	-	-	-	-
Hydrant maintenance and repairs	5,000	27,000	5,000	5,000	5,000	6,000	6,000	-	-	-	-	-
Distribution System: undertake evaluation of system due to impacts of Ford water tower being taken offline	15,000	-	-	-	-	-	-	-	-	-	-	-
Sample station maintenance/repairs/rebuilt kits	2,000	10,000	2,000	2,000	2,000	2,000	2,000	-	-	-	-	-
Auto flusher maintenance: replace controllers, lids, etc.	2,500	15,000	3,000	3,000	3,000	3,000	3,000	-	-	-	-	-
OCWA Provision	-	128,000	-	-	-	-	-	24,000	25,000	26,000	26,000	27,000
Studies:	-	-	-	-	-	-	-	-	-	-	-	-
Water Storage Assessment	-	21,000	21,000	-	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	-	-	-
Total Capital Expenditures	**462,293**	**488,000**	**289,000**	**17,000**	**19,000**	**22,000**	**13,000**	**24,000**	**25,000**	**26,000**	**26,000**	**27,000**
Capital Financing												
Provincial/Federal Grants		-										
Development Charges Reserve Fund	-	-	-	-	-	-	-	-	-	-	-	-
Non-Growth Related Debenture Requirements	-	-	-	-	-	-	-	-	-	-	-	-
Growth Related Debenture Requirements	-	-	-	-	-	-	-	-	-	-	-	-
Operating Contributions	-	-	-	-	-	-	-	-	-	-	-	-
Lifecycle Reserve Fund	-	-	-	-	-	-	-	-	-	-	-	-
Water Reserve	462,293	488,000	289,000	17,000	19,000	22,000	13,000	24,000	25,000	26,000	26,000	27,000
Total Capital Financing	**462,293**	**488,000**	**289,000**	**17,000**	**19,000**	**22,000**	**13,000**	**24,000**	**25,000**	**26,000**	**26,000**	**27,000**

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

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

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

Description	2020		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Opening Balance	6,696,181		6,754,807	7,130,776	7,816,776	8,544,174	9,315,184	10,038,010	10,863,511	11,798,610	12,853,378	13,963,752
Transfer from Operating	420,919		559,588	587,482	620,129	655,347	678,048	733,401	785,735	890,816	930,014	910,259
Transfer to Capital	462,293		289,000	17,000	19,000	22,000	13,000	24,000	25,000	26,000	26,000	27,000
Transfer to Operating							90,567	44,445				
Closing Balance	**6,654,807**		**7,025,395**	**7,701,258**	**8,417,905**	**9,177,521**	**9,889,665**	**10,702,967**	**11,624,247**	**12,663,426**	**13,757,392**	**14,847,012**
Interest	100,000		105,381	115,519	126,269	137,663	148,345	160,545	174,364	189,951	206,361	222,705

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

Description	Budget 2020		Forecast 2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Expenditures												
Operating Costs			-	-	-	-	-	-	-	-	-	-
Salaries and Wages	115,017		118,500	122,100	125,800	129,600	133,500	137,500	141,600	145,800	150,200	154,700
Roads Wages Allocated	10,043		10,300	10,600	10,900	11,200	11,500	11,800	12,200	12,600	13,000	13,400
Wage recoveries Dutton	-		-	-	-	-	-	-	-	-	-	-
Canada Pension Plan	2,831		2,900	3,000	3,100	3,200	3,300	3,400	3,500	3,600	3,700	3,800
Employment Insurance	1,240		1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300
OMERS	6,163		6,300	6,500	6,700	6,900	7,100	7,300	7,500	7,700	7,900	8,100
Employer Health Tax	1,225		1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300
Workplace Safety Insurance	685		700	700	700	700	700	700	700	700	700	700
Group Insurance	5,244		5,500	5,800	6,100	6,400	6,700	7,000	7,400	7,800	8,200	8,600
Training & mileage	2,575		2,700	2,800	2,900	3,000	3,100	3,200	3,300	3,400	3,500	3,600
Utilities	8,961		9,200	9,500	9,800	10,100	10,400	10,700	11,000	11,300	11,600	11,900
Materials and Supplies	10,243		10,695	11,000	11,300	11,600	11,900	12,300	12,700	13,100	13,500	13,900
- alloc office supplies and postage	5,555		5,700	5,900	6,100	6,300	6,500	6,700	6,900	7,100	7,300	7,500
Property maintenance	2,575		2,700	2,800	2,900	3,000	3,100	3,200	3,300	3,400	3,500	3,600
Roads equipment time	20,000		25,000	27,000	27,800	28,600	29,500	30,400	31,300	32,200	33,200	34,200
Telephone & internet	4,738		4,900	5,000	5,200	5,400	5,600	5,800	6,000	6,200	6,400	6,600
Legal and Audit fees	2,652		2,700	2,800	2,900	3,000	3,100	3,200	3,300	3,400	3,500	3,600
Insurance	20,343		21,000	21,600	22,200	22,900	23,600	24,300	25,000	25,800	26,600	27,400
System Maintenance	10,300		10,600	10,900	11,200	11,500	11,800	12,200	12,600	13,000	13,400	13,800
Equipment Costs	40,000		41,200	42,400	43,700	45,000	46,400	47,800	49,200	50,700	52,200	53,800
Memberships & subscriptions	670		700	700	700	700	700	700	700	700	700	700
Water truck fuel and maintenance	4,120		4,200	4,300	4,400	4,500	4,600	4,700	4,800	4,900	5,000	5,200
Contracted Services	112,985		116,659	120,200	123,800	127,500	131,300	135,200	139,300	143,500	147,800	152,200
Water Testing	-		-	-	-	-	-	-	-	-	-	-
Studies, standards	13,500						15,000					18,000
Water Costs	888,954		908,544	950,087	993,608	1,029,513	1,062,714	1,097,130	1,132,762	1,169,616	1,207,816	1,247,368
Miscellaneous	15,141		15,600	16,100	16,600	17,100	17,600	18,100	18,600	19,200	19,800	20,400
Sub Total Operating	**1,305,760**		**1,328,899**	**1,384,387**	**1,441,008**	**1,490,313**	**1,552,314**	**1,585,930**	**1,636,262**	**1,688,316**	**1,742,116**	**1,815,668**
Capital-Related												
Existing Debt (Principal) - Non-Growth Related	5,278		5,598	977	-	-	-	-	-	-	-	-
Existing Debt (Interest) - Non-Growth Related	-		-	-	-	-	-	-	-	-	-	-
Transfer to Capital	-		-	-	-	-	-	-	-	-	-	-
Transfers to Wastewater Operating							90,567	44,445				
Transfer to Capital Reserve	420,919		559,588	587,482	620,129	655,347	678,048	733,401	785,735	890,816	930,014	910,259
Sub Total Capital Related	**426,197**		**565,186**	**588,459**	**620,129**	**655,347**	**768,615**	**777,846**	**785,735**	**890,816**	**930,014**	**910,259**
Total Expenditures	**1,731,957**		**1,894,085**	**1,972,846**	**2,061,137**	**2,145,660**	**2,320,929**	**2,363,776**	**2,421,998**	**2,579,132**	**2,672,130**	**2,725,927**
Revenues												
Base Charge	247,820		251,548	259,117	266,686	274,256	281,825	289,394	296,963	304,532	312,101	319,670
Tri-County Water System Revenue	243,949		380,843	404,791	430,794	455,737	481,540	509,812	540,845	574,976	612,629	654,245
Water Filling Station Revenue	9,517		9,723	9,924	10,134	10,308	10,469	10,635	9,869	10,221	10,586	10,965
Other Revenue (Construction, meter fees, misc, penalties)	55,125		56,800	58,500	60,300	62,100	64,000	65,900	67,900	69,900	72,000	74,200
Water Connection Fees	200,701		184,386	188,995	193,712	198,568	203,519	208,609	213,839	219,163	224,627	230,231
Internal Debentures	6,913		6,914	977								
Contributions from Wastewater Operating	-		-	-	-	-	-	-	9,930	68,269	56,812	-
Contributions from Reserves / Reserve Funds	-		-	-	-	-	90,567	44,445	-	-	-	-
Total Operating Revenue	**764,025**		**890,214**	**922,304**	**961,626**	**1,000,969**	**1,131,919**	**1,128,794**	**1,139,346**	**1,247,061**	**1,288,756**	**1,289,312**
Water Billing Recovery - Operating	**967,932**		**1,003,871**	**1,050,542**	**1,099,511**	**1,144,691**	**1,189,010**	**1,234,981**	**1,282,652**	**1,332,071**	**1,383,374**	**1,436,615**

Table 5
Township of Southwold
Water Services
Water Rate Forecast
Inflated $

Description	2020		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Total Water Billing Recovery	967,932		1,003,871	1,050,542	1,099,511	1,144,691	1,189,010	1,234,981	1,282,652	1,332,071	1,383,374	1,436,615
Total Volume (m^3)	370,855		374,724	382,580	390,436	398,292	406,148	414,004	421,860	429,716	437,572	445,427
Conumptive Rate												
Primary Rate	0.8704		0.9052	0.9414	0.9791	1.0183	1.0590	1.1014	1.1455	1.1913	1.2390	1.2886
Secondary Rate	0.5255		0.5597	0.5904	0.6229	0.6416	0.6544	0.6675	0.6809	0.6945	0.7084	0.7226
Southwold Rate	1.2141		1.2141	1.2141	1.2141	1.2141	1.2141	1.2141	1.2141	1.2141	1.2141	1.2141
Total Consumptive Rate	**2.61**		**2.68**	**2.75**	**2.82**	**2.87**	**2.93**	**2.98**	**3.04**	**3.10**	**3.16**	**3.23**

Table 7
Township of Southwold
Water Services
Tri-County Water System Water Rate Forecast
Inflated $

Description	2020		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Total Volume (m^3)	214,060		214,060	214,060	214,060	214,060	214,060	214,060	214,060	214,060	214,060	214,060
Rate			-	-	-	-	-	-	-	-	-	-
Primary Rate	0.8704		0.905	0.941	0.979	1.018	1.059	1.101	1.146	1.191	1.239	1.289
Secondary Rate	0.5255		0.560	0.590	0.623	0.642	0.654	0.668	0.681	0.694	0.708	0.723
Tertiary Rate	0.2750		0.314	0.359	0.410	0.469	0.536	0.613	0.700	0.800	0.915	1.045
Total	**1.6709**		**1.7791**	**1.8910**	**2.0125**	**2.1290**	**2.2496**	**2.3816**	**2.5266**	**2.6860**	**2.8620**	**3.0564**
Annual Revenue - Tri-County Water	**357,673**		**380,843**	**404,791**	**430,794**	**455,737**	**481,540**	**509,812**	**540,845**	**574,976**	**612,629**	**654,245**

Table 8
Township of Southwold
Water Services
Water Filling Station Water Rate Forecast
Inflated $

Description	2020		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Total Volume (m^3)	3,000		3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000
Rate			-	-	-	-	22	44	44	44	44	44
Primary Rate	0.8704		0.905	0.941	0.979	1.018	1.059	1.101	1.146	1.191	1.239	1.289
Secondary Rate	0.5255		0.560	0.590	0.623	0.642	0.654	0.668	0.681	0.694	0.708	0.723
Constant Rate	1.7761		1.776	1.776	1.776	1.776	1.776	1.776	1.463	1.521	1.581	1.644
Total	**3.1720**		**3.2410**	**3.3079**	**3.3781**	**3.4360**	**3.4895**	**3.5450**	**3.2896**	**3.4069**	**3.5288**	**3.6552**
Annual Revenue - Water Filling Station			**9,723**	**9,924**	**10,134**	**10,308**	**10,469**	**10,635**	**9,869**	**10,221**	**10,586**	**10,965**

Appendix B
Wastewater Services

Table 1
Township of Southwold
Wastewater Service
Capital Budget Forecast
Inflated $

Description	Budget	Total	Forecast									
	2020		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Capital Expenditures												
Talbot Meadows Subdivision - Engineering	25,000	-	-	-	-	-	-	-	-	-	-	-
OCWA Recommendations	38,500	20,000	14,000	6,000	-	-	-	-	-	-	-	-
Acoustic Audit	5,000	-	-	-	-	-	-	-	-	-	-	-
OCWA Recommendations	-	-	-	-	-	-	-	-	-	-	-	-
Total (net of budgeted recommendations above)	13,200	87,000	15,000	15,000	16,000	17,000	24,000	-	-	-	-	-
OCWA Provision	-	94,000	-	-	-	-	-	18,000	18,000	19,000	19,000	20,000
Growth Related:	-	-	-	-	-	-	-	-	-	-	-	-
Forcemain	1,300,000	-	-	-	-	-	-	-	-	-	-	-
Talbot Meadows Subdivision - Install Sewers	-	943,000	943,000	-	-	-	-	-	-	-	-	-
Install Sewers - Remaining Private Service Connection	-	1,049,000	-	1,049,000	-	-	-	-	-	-	-	-
Future WWTF Costs	-	-	-	-	-	-	-	-	-	-	-	-
Add'l Membranes Only (500 m3/day)	-	172,000	-	-	-	172,000	-	-	-	-	-	-
WWTF (1,000 m3/day)	-	-	-	-	-	-	-	-	-	-	-	-
Collection System Costs	-	7,474,000	-	-	7,474,000	-	-	-	-	-	-	-
Total Capital Expenditures	**1,381,700**	**9,839,000**	**972,000**	**1,070,000**	**7,490,000**	**189,000**	**24,000**	**18,000**	**18,000**	**19,000**	**19,000**	**20,000**
Capital Financing												
Provincial/Federal Grants		-										
Development Charges Reserve Fund	-	-	-	-	-	-	-	-	-	-	-	-
Non-Growth Related Debenture Requirements	1,000,000	9,638,000	943,000	1,049,000	7,474,000	172,000	-	-	-	-	-	-
Growth Related Debenture Requirements	-	-	-	-	-	-	-	-	-	-	-	-
Wastewater Reserve	381,700	201,000	29,000	21,000	16,000	17,000	24,000	18,000	18,000	19,000	19,000	20,000
Total Capital Financing	**1,381,700**	**9,839,000**	**972,000**	**1,070,000**	**7,490,000**	**189,000**	**24,000**	**18,000**	**18,000**	**19,000**	**19,000**	**20,000**

Table 2
Township of Southwold
Wastewater Service
Schedule of Non-Growth Related Debenture Repayments
Inflated $

Debenture Year		Principal (Inflated)	Forecast									
			2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
2021		943,000		66,651	66,651	66,651	66,651	66,651	66,651	66,651	66,651	66,651
2022		1,049,000			74,143	74,143	74,143	74,143	74,143	74,143	74,143	74,143
2023		7,474,000				528,261	528,261	528,261	528,261	528,261	528,261	528,261
2024		172,000					12,157	12,157	12,157	12,157	12,157	12,157
2025		-						-	-	-	-	-
2026		-							-	-	-	-
2027		-								-	-	-
2028		-									-	-
2029		-										-
2030		-										
Total Annual Debt Charges	-	**9,638,000**	-	66,651	140,794	669,055	681,212	681,212	681,212	681,212	681,212	681,212

Table 3
Township of Southwold
Wastewater Service
Wastewater Reserves/ Reserve Funds Continuity
Inflated $

Description	2020		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Opening Balance	1,236,654		1,310,214	1,085,850	825,718	566,916	25,035	-	-	-	-	77,489
Transfer from Operating	435,897		-	-	-	-	24,000	18,000	18,000	19,000	95,344	205,167
Transfer to Capital	381,700		29,000	21,000	16,000	17,000	24,000	18,000	18,000	19,000	19,000	20,000
Transfer to Operating			211,411	251,334	251,180	525,251	25,035					
Closing Balance	**1,290,851**		**1,069,802**	**813,515**	**558,538**	**24,665**	**-**	**-**	**-**	**-**	**76,344**	**262,656**
Interest	19,363		16,047	12,203	8,378	370	-	-	-	-	1,145	3,940

Table 4
Township of Southwold
Wastewater Services
Operating Budget Forecast
Inflated $

Description	Budget 2020		Forecast 2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Expenditures												
Operating Costs												
Rds Wages	1,500		1,500	1,600	1,600	1,700	1,700	1,800	1,800	1,900	2,000	2,000
Training	500		500	500	500	600	600	600	600	600	700	700
Utilities	32,000		33,900	36,500	39,200	42,100	44,900	47,800	50,900	54,100	57,400	60,900
Materials Supplies	15,000		15,700	16,600	17,600	18,600	19,600	20,600	21,700	22,800	23,900	25,200
Property maintenance	1,500		1,600	1,600	1,700	1,800	1,800	1,900	2,000	2,100	2,100	2,200
Rds Machine Time to Talbotville Sewer	1,000		1,000	1,100	1,100	1,200	1,200	1,300	1,300	1,400	1,400	1,500
Insurance	2,500		2,600	2,700	2,800	2,900	3,100	3,200	3,300	3,400	3,600	3,700
System Maintenance	20,000		20,700	21,600	22,500	23,500	24,400	25,400	26,500	27,500	28,600	29,800
Contracted Services	38,000		39,400	41,200	43,000	44,900	46,700	48,700	50,700	52,800	55,000	57,200
Wastewater Testing	9,000		9,300	9,500	9,800	10,100	10,400	10,700	11,100	11,400	11,700	12,100
Plans and studies	13,500		-	-	-	-	15,000					18,000
Sub Total Operating	**134,500**		**126,200**	**132,900**	**139,800**	**147,400**	**169,400**	**162,000**	**169,900**	**178,000**	**186,400**	**213,300**
Capital-Related												
Existing Debt (Principal) - Growth Related	67,482		105,078	108,831	112,717	116,742	120,911	125,229	129,700	134,332	139,129	144,097
Existing Debt (Interest) - Growth Related	63,048		96,132	92,379	88,493	84,468	80,299	75,981	71,510	66,878	62,081	57,113
New Non-Growth Related Debt (Principal)			-	33,175	71,256	336,719	354,724	367,316	380,356	393,859	407,841	422,319
New Non-Growth Related Debt (Interest)			-	33,477	69,538	332,336	326,488	313,896	300,856	287,353	273,371	258,893
Transfer to Capital	-		-	-	-	-	-	-	-	-	-	-
Transfer to Water Operating									9,930	68,269	56,812	
Transfer to Capital Reserve	435,897						24,000	18,000	18,000	19,000	95,344	205,167
Sub Total Capital Related	**566,427**		**201,210**	**267,861**	**342,004**	**870,265**	**906,422**	**900,422**	**910,352**	**969,691**	**1,034,578**	**1,087,589**
Total Expenditures	**700,927**		**327,410**	**400,761**	**481,804**	**1,017,665**	**1,075,822**	**1,062,422**	**1,080,252**	**1,147,691**	**1,220,978**	**1,300,889**
Revenues												
Base Charge	50,342		57,487	70,983	86,875	105,493	125,999	150,094	178,308	211,244	249,584	294,106
Other Revenue				-	-	-	-	-	-	-	-	-
Wastewater Connection Fees	625,000		21,853	22,195	68,292	292,639	723,023	739,768	756,912	774,499	792,529	811,002
Contributions to From Water Operating	-		-	-	-	-	90,567	44,445	-	-	-	-
Contributions from Reserves / Reserve Funds	-		211,411	251,334	251,180	525,251	25,035	-	-	-	-	-
Total Operating Revenue	**675,342**		**290,751**	**344,513**	**406,348**	**923,383**	**964,623**	**934,307**	**935,221**	**985,743**	**1,042,114**	**1,105,108**
Wastewater Billing Recovery - Operating	**25,585**		**36,659**	**56,248**	**75,456**	**94,282**	**111,198**	**128,115**	**145,031**	**161,948**	**178,864**	**195,781**
Lifecycle Reserve Contribution ($)												
Wastewater Billing Recovery - Total	**25,585**		**36,659**	**56,248**	**75,456**	**94,282**	**111,198**	**128,115**	**145,031**	**161,948**	**178,864**	**195,781**

Table 5
Township of Southwold
Wastewater Services
Wastewater Rate Forecast
Inflated $

Description	2020		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Total Wastewater Billing Recovery	25,585		36,659	56,248	75,456	94,282	111,198	128,115	145,031	161,948	178,864	195,781
Total Volume (m^3)	11,271		16,149	24,779	33,241	41,534	48,986	56,438	63,890	71,343	78,795	86,247
Constant Rate	**2.27**		**2.27**	**2.27**	**2.27**	**2.27**	**2.27**	**2.27**	**2.27**	**2.27**	**2.27**	**2.27**
Annual Percentage Change			**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**

Appendix C
Township of Southwold – Ontario Regulation 453/07 Water Financial Plan

Water Ontario Regulation 453/07 Financial Plan

Township of Southwold

Financial Plan #055-302

September 23,2020

Watson & Associates Economists Ltd.
905-272-3600
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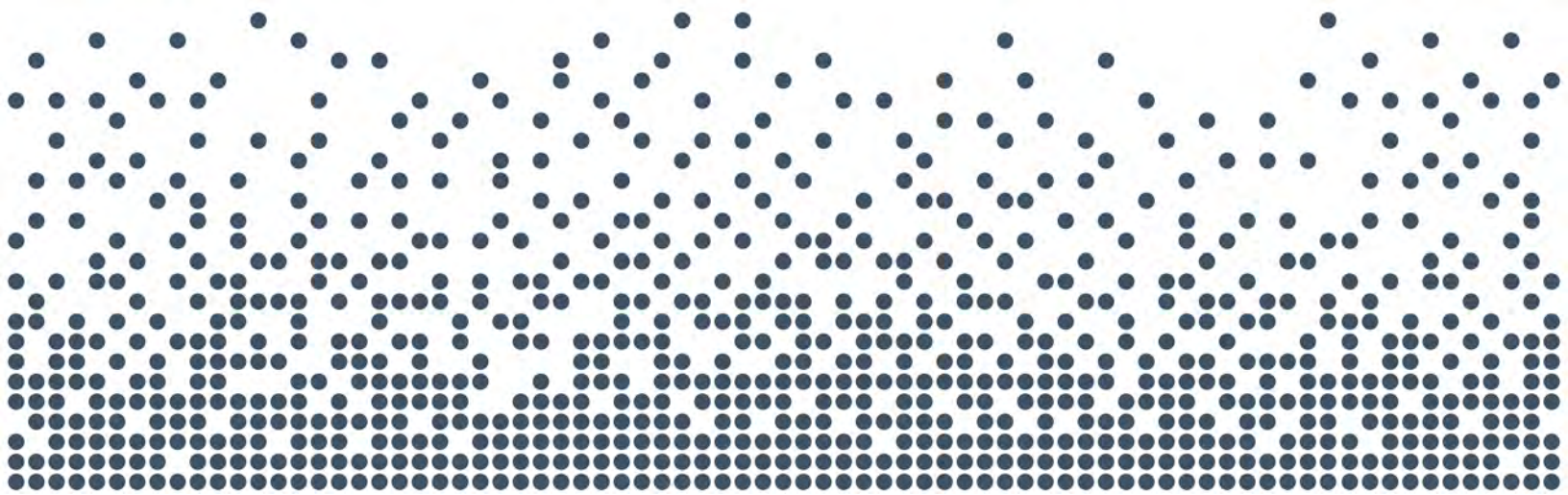
List of Acronyms and Abbreviations

Acronym	Full Description of Acronym
MECP	Ministry of the Environment, Conservation and Parks
MMAH	Ministry of Municipal Affairs and Housing
O. Reg.	Ontario Regulation
PSAB	Public Sector Accounting Board
S.D.W.A.	Safe Drinking Water Act
T.C.A.	Tangible Capital Assets
W.O.A.	Water Opportunities Act



Report

Chapter 1
Introduction

1. Introduction

1.1 Study Purpose

The Township of Southwold (Township) retained Watson & Associates Economists Ltd. (Watson) to prepare a water financial plan as part of the five submission requirements for the purposes of obtaining a municipal drinking water license as per the *Safe Drinking Water Act, 2002*. In general, a financial plan requires an in-depth analysis of capital and operating needs, a review of current and future demand versus supply, and consideration of available funding sources. The detailed financial planning and forecasting regarding the Township's water systems has been completed based on the Township's 2020 Water and Wastewater Rate Study, dated September 23, 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).

1.1 Background

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

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

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

1. Obtain a drinking water works permit.

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

3. Accreditation of the Operating Authority.

4. Prepare and provide a financial plan.

5. Obtain permit to take water.

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

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

1.1.1 Financial Plan Defined

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

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

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

1.1.2 Financial Plan Requirements – Existing System

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

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

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

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

1.1.3 Financial Plan Requirements – General

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

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

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

1.1.4 Public Sector Accounting Board (PSAB) Requirements

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

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

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

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

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

1.1.5 The Township's Financial Plan

The Township is currently in the process of renewing their drinking water license (055-302) and the previous version of the financial plan no longer meets the requirements as it must apply to a period of a least six years beginning in the year that the licenses would otherwise expire. Although the Act requires at least six years to be included, this financial plan provides for a ten-year forecast period 2020 to 2029

Chapter 2
Sustainable Financial Planning

2. Sustainable Financial Planning

2.1 Introduction

In general, sustainability refers to the ability to maintain a certain position over time. While the Act requires a declaration of the financial plan's sustainability, it does not give a clear definition of what would be considered sustainable. Instead, MECP released a guideline ("Towards Financially Sustainable Drinking-Water and Wastewater Systems") that provides possible approaches to achieving sustainability. The Province's Principles of Financially Sustainable Water and Wastewater Services are provided below:

Principle #1: Ongoing public engagement and transparency can build support for, and confidence in, financial plans and the system(s) to which they relate.

Principle #2: An integrated approach to planning among water, wastewater, and storm water systems is desirable given the inherent relationship among these services.

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

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

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

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

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

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

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

2.2 Sustainable Water and Sewage Systems Act

The *Sustainable Water and Sewage Systems Act* (S.W.S.S.A.) was passed on December 13, 2002. The intent of the Act was to introduce the requirement for municipalities to undertake an assessment of the "full cost" of providing their water and the wastewater services. In total, there were 40 areas within the Act to which the Minister could have made Regulations. It is noted that, the regulations, which accompany the Act, were not issued and the Act was repealed on December 31, 2012.

2.3 Water Opportunities Act, 2010

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

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

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

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

- additional information considered advisable.

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

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

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

On June 4, 2015, the Province passed the Infrastructure for Jobs and Prosperity Act (I.J.P.A.) which, over time, will require municipalities to undertake and implement asset management plans for all infrastructure they own. On December 27, 2017, the Province of Ontario released Ontario Regulation 588/17 under I.J.P.A. which has 3 phases that municipalities must meet.

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

- Phase 1 – Asset Management Plan (by July 1, 2021):
    - For core assets – Municipalities must have the following:
        - Inventory of assets;
        - Current levels of service measured by standard metrics; and
        - Costs to maintain levels of service.
- Phase 2 – Asset Management Plan (by July 1, 2023):
    - Same steps as Phase 1 but for all assets.
- Phase 3 – Asset Management Plan (by July 1, 2024):
    - Builds on Phase 1 and 2 by adding:
        - Proposed levels of service; and
        - Lifecycle management and Financial strategy.

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

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

Upon completion of the asset management plan for water, the Township will need to consider the impacts during the annual budget and forecast process.

2.5 Water Forecast

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

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

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

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

Chapter 3
Approach

3. Approach

3.1 Overview

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

3.2 Conversion Process

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

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

3.2.1 Calculate Tangible Capital Asset Balances

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

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

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

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

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

3.2.2 Convert Statement of Operations

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

Table 3-1
Conversion Adjustments
Statement of Operations

Modified Cash Basis	Budget 2020	Adjustments DR	Adjustments CR	Full Accrual Budget 2020	Accrual Basis
Revenues					**Revenues**
Base Charge Revenue	247,820			247,820	Base Charge Revenue
Rate Based Revenue	1,221,398			1,221,398	Rate Based Revenue
Transfers from Reserves	-	-			
			-	-	Earned Development Charges and Gas Tax Revenue
			-	-	Developer Contributions
Contributions from Ratepayers	-	-		-	Interest Earned on Long-term Accounts Receivable
Other Revenue	262,739		100,000	362,739	Other Revenue
Total Revenues	**1,731,957**			**1,831,957**	**Total Revenues**
Expenditures					**Expenses**
Operating	1,305,760	24,500		1,330,260	Operating Expenses
Capital					
Transfers to Reserves	420,919		420,919		
Transfers to Capital	-		-		
Debt Repayment (Principal & Interest)	5,278		5,278	-	Interest on Debt
		446,946		446,946	Amortization
		-		-	Loss on Disposal of Tangible Capital Assets
Total Expenditures	**1,731,957**			**1,777,206**	**Total Expenses**
Net Expenditures	**0**			**54,751**	**Annual Surplus/(Deficit)**
Increase (decrease) in amounts to be recovered	**-**			32,873,143	Accumulated Surplus/(Deficit), beginning of year
Change in Fund Balances	**-**	**54,751**	**-**	**32,927,894**	**Accumulated Surplus/(Deficit), end of year**

TOTAL ADJUSTMENTS	**526,197**	**526,197**

3.2.3 Convert Statement of Financial Position

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

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

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

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

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

Table 3-2
Conversion Adjustments
Statement of Financial Position

Modified Cash Basis	Budget 2020	Adjustments DR	Adjustments CR	Full Accrual Budget 2020	Accrual Basis
ASSETS					**ASSETS**
Financial Assets					**Financial Assets**
Cash	6,142,260			6,142,260	Cash
Accounts Receivable	777,812			777,812	Accounts Receivable
Long-term Accounts Receivable	-			-	Long-term Accounts Receivable
				-	Investments
				-	Inventory for resale
Total Financial Assets	**6,920,072**			**6,920,072**	**Total Financial Assets**
Non-Financial Assets					
Inventory of Supplies	-		-		
Prepaid Expenses	-		-		
Total Non-Financial Assets	-				
LIABILITIES					**Liabilities**
Accounts Payable & Accrued Liabilities	165,265			165,265	Accounts Payable & Accrued Liabilities
Gross Long-term Liabilities	6,575			6,575	Debt (Principal only)
Deferred Revenue	-			-	Deferred Revenue
Other	-			-	Other
Total Liabilities	**171,840**			**171,840**	**Total Liabilities**
Net Assets/(Debt)	**6,748,232**			**6,748,232**	**Net Financial Assets/(Debt)**
					Non-Financial Assets
		26,204,162	24,500	26,179,662	Tangible Capital Assets
		-		-	Inventory of Supplies
		-		-	Prepaid Expenses
				26,179,662	**Total Non-Financial Assets**
Municipal Position					
Water Reserves	6,754,807	6,754,807	-		
Gas Tax Reserve Fund	-	-	-		
Development Charge Reserve Fund	-	-	-		
Amounts to be Recovered	(6,575)	-	6,575		
Total Municipal Position	**6,748,232**		32,927,894	**32,927,894**	**Accumulated Surplus/(Deficit), end of year**
TOTAL ADJUSTMENTS		**32,958,969**	**32,958,969**		

3.2.5 Verification and Note Preparation

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

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

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

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

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

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

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

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 systems. 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 systems. It is not an audited document[1] and it contains various estimates as detailed in the "Notes to the Financial Plan" section below.

4.2 Water Financial Plan

4.2.1 Statement of Financial Position (Table 4-1)

The Statement of Financial Position provides information that describes the assets, liabilities, and accumulated surplus of the Township's water systems. The first important indicator is net financial assets/(debt), which is defined as the difference between financial assets and liabilities. This indicator provides an indication of the system's "future revenue requirement." A net financial asset position is where financial assets are greater than liabilities and implies that the system has the resources to finance future operations. Conversely, a net debt position implies that the future revenues generated by the system will be needed to finance past transactions, as well as future operations. Table 4-1 indicates that in 2020, the Township's water system was in a net financial asset position of $6,748,000. The financial plan forecasts a net financial asset position for the entire forecast period, increasing to a net financial asset position of $13.96 million by 2029.

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

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

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

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

In general terms, an increase in the tangible capital asset balance indicates that assets may have been acquired either through purchase by the municipality or donation/ contribution by a third party. A decrease in the tangible capital asset balance can indicate a disposal, write down, or use of assets. A use of assets is usually represented by an increase in accumulated amortization due to annual amortization expenses arising as a result of allocating the cost of the asset to operations over the asset's useful life. Table 4-1 shows tangible capital assets net book value is expected to decrease over the forecast period to approximately $23,694,000. This indicates that the Township continues to write down and continue to use the 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 97% to 77% over the forecast period. As a result, annual surplus/(deficit) improves from a surplus of $54,700 in 2020 to a surplus of $669,100 over the forecast period. It is important to note that an annual surplus is beneficial to ensure funding is available to non-expense costs such as tangible capital asset acquisitions and reserve/reserve fund transfers.

Another important indicator on this statement is accumulated surplus/deficit. An accumulated surplus indicates that the available net resources are sufficient to provide future capital water services. An accumulated deficit indicates that resources are insufficient to provide future services and that borrowing or rate increases are required to finance annual deficits. From Table 4-2, the financial plan proposes to add approximately $4,786,800 over the forecast period to a 2020 accumulated surplus of $32.9 million. The accumulated surplus, as indicated in Table 4-2, is predominantly made up of reserve balances as well as developer contributed assets.

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

The Statement of Change in Net Financial Assets/Debt indicates whether revenue generated was sufficient to cover operating and non-financial asset costs (i.e. inventory supplies, prepaid expenses, tangible capital assets, etc.) and in so doing, explains the difference between the annual surplus/deficit and the change in net financial assets/ debt for the period. In all years of the forecast, the forecasted annual surplus exceeds forecasted tangible capital asset acquisitions (net of amortization for the year), resulting in increases in the net financial asset balance. Therefore, an overall increase to net financial assets is anticipated over the forecast period. This allows for a long-term plan of funding capital through accumulated surplus (i.e. reserves and reserve funds). This is evidenced by the ratio of cumulative annual surplus before amortization to cumulative tangible capital asset acquisitions improving from 1.15 to 4.40 over the forecast period.[1]

4.2.4 Statement of Cash Flow (Table 4-4)

The Statement of Cash Flow summarizes how water systems are expected to generate and use cash resources during the forecast period. The transactions that provide/use cash are classified as operating, capital, investing, and financing activities as shown in Table 4-4. This statement focuses on the cash aspect of these transactions and thus is the link between cash-based and accrual-based reporting. Table 4-4 indicates that cash from operations will be used to fund capital transactions (i.e. tangible capital asset acquisitions) and build internal reserves and reserve funds over the forecast period. The financial plan projects the cash position of the Township's water systems to improve from a balance of $6,079,000 at the beginning of 2020, to just under $13.1 million by the end of 2029. For further discussions, on projected cash balances please refer to the Notes to the Financial Plan.

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

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

	Notes	Forecast									
		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Financial Assets											
Cash	1	6,142,260	6,508,675	7,168,837	7,866,563	8,608,545	9,266,089	10,077,969	10,995,706	11,992,361	13,071,438
Accounts Receivable	1	777,812	790,294	823,156	859,995	895,262	968,392	986,269	1,010,953	1,076,444	1,115,171
Total Financial Assets		**6,920,072**	**7,298,969**	**7,991,993**	**8,726,558**	**9,503,807**	**10,234,481**	**11,064,238**	**12,006,659**	**13,068,805**	**14,186,609**
Liabilities											
Bank Indebtedness		-	-	-	-	-	-	-	-	-	-
Accounts Payable & Accrued Liabilities	1	165,265	168,193	175,216	182,383	188,623	196,470	200,725	207,095	213,683	220,493
Debt (Principal only)	2	6,575	977	-	-	-	-	-	-	-	-
Deferred Revenue	3	-	-	-	-	-	-	-	-	-	-
Total Liabilities		**171,840**	**169,170**	**175,216**	**182,383**	**188,623**	**196,470**	**200,725**	**207,095**	**213,683**	**220,493**
Net Financial Assets/(Debt)		**6,748,232**	**7,129,799**	**7,816,777**	**8,544,175**	**9,315,184**	**10,038,011**	**10,863,513**	**11,799,564**	**12,855,122**	**13,966,116**
Non-Financial Assets											
Tangible Capital Assets	4	26,179,662	26,149,702	26,863,121	26,395,946	25,931,026	25,464,295	25,019,524	24,577,281	24,135,704	23,693,781
Total Non-Financial Assets		**26,179,662**	**26,149,702**	**26,863,121**	**26,395,946**	**25,931,026**	**25,464,295**	**25,019,524**	**24,577,281**	**24,135,704**	**23,693,781**
Accumulated Surplus/(Deficit)	5	**32,927,894**	**33,279,501**	**34,679,898**	**34,940,121**	**35,246,210**	**35,502,306**	**35,883,037**	**36,376,845**	**36,990,826**	**37,659,897**

Financial Indicators	Total Change	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
1) Increase/(Decrease) in Net Financial Assets	7,281,788	63,904	381,567	686,978	727,398	771,009	722,827	825,502	936,051	1,055,558	1,110,994
2) Increase/(Decrease) in Tangible Capital Assets	(2,495,034)	(9,153)	(29,960)	713,419	(467,175)	(464,920)	(466,731)	(444,771)	(442,243)	(441,577)	(441,923)
3) Increase/(Decrease) in Accumulated Surplus	4,786,754	54,751	351,607	1,400,397	260,223	306,089	256,096	380,731	493,808	613,981	669,071

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		247,820	251,548	259,117	266,686	274,256	281,825	289,394	296,963	304,532	312,101
Rate Based Revenue		1,221,398	1,394,437	1,465,256	1,540,439	1,610,736	1,681,019	1,755,429	1,834,304	1,918,032	2,007,173
Earned Development Charges Revenue	3	-	-	-	-	-	-	-	-	-	-
Developer Contributions	4	-	165,000	1,168,480	-	-	-	-	-	-	-
Other Revenue	6	362,739	353,481	363,992	380,281	398,330	415,864	435,054	466,046	547,310	559,836
Total Revenues		**1,831,957**	**2,164,466**	**3,256,845**	**2,187,406**	**2,283,322**	**2,378,708**	**2,479,877**	**2,597,313**	**2,769,874**	**2,879,110**
Water Expenses											
Operating Expenses	Sch. 4-1	1,330,260	1,359,899	1,399,387	1,456,008	1,507,313	1,653,881	1,630,375	1,636,262	1,688,316	1,742,116
Interest on Debt	2	-	-	-	-	-	-	-	-	-	-
Amortization	4	446,946	452,960	457,061	471,175	469,920	468,731	468,771	467,243	467,577	467,923
Loss on Disposal of Tangible Capital Assets		-	-	-	-	-	-	-	-	-	-
Total Expenses		**1,777,206**	**1,812,859**	**1,856,448**	**1,927,183**	**1,977,233**	**2,122,612**	**2,099,146**	**2,103,505**	**2,155,893**	**2,210,039**
Annual Surplus/(Deficit)		**54,751**	**351,607**	**1,400,397**	**260,223**	**306,089**	**256,096**	**380,731**	**493,808**	**613,981**	**669,071**
Accumulated Surplus/(Deficit), beginning of year	5	32,873,143	32,927,894	33,279,501	34,679,898	34,940,121	35,246,210	35,502,306	35,883,037	36,376,845	36,990,826
Accumulated Surplus/(Deficit), end of year		32,927,894	33,279,501	34,679,898	34,940,121	35,246,210	35,502,306	35,883,037	36,376,845	36,990,826	37,659,897
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		6,754,807	7,130,776	7,816,777	8,544,175	9,315,184	10,038,011	10,863,513	11,799,564	12,855,122	13,966,116
Total Reserves Balance		**6,754,807**	**7,130,776**	**7,816,777**	**8,544,175**	**9,315,184**	**10,038,011**	**10,863,513**	**11,799,564**	**12,855,122**	**13,966,116**
Less: Debt Obligations and Deferred Revenue		(6,575)	(977)	-	-	-	-	-	-	-	-
Add: Tangible Capital Assets	4	26,179,662	26,149,702	26,863,121	26,395,946	25,931,026	25,464,295	25,019,524	24,577,281	24,135,704	23,693,781
Total Ending Balance		**32,927,894**	**33,279,501**	**34,679,898**	**34,940,121**	**35,246,210**	**35,502,306**	**35,883,037**	**36,376,845**	**36,990,826**	**37,659,897**

Financial Indicators	Total Change	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
1) Expense to Revenue Ratio		97%	84%	57%	88%	87%	89%	85%	81%	78%	77%
2) Increase/(Decrease) in Accumulated Surplus	4,786,754	54,751	351,607	1,400,397	260,223	306,089	256,096	380,731	493,808	613,981	669,071

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											
Salaries and Wages		115,017	118,500	122,100	125,800	129,600	133,500	137,500	141,600	145,800	150,200
Roads Wages Allocated		10,043	10,300	10,600	10,900	11,200	11,500	11,800	12,200	12,600	13,000
Wage recoveries Dutton		-	-	-	-	-	-	-	-	-	-
Canada Pension Plan		2,831	2,900	3,000	3,100	3,200	3,300	3,400	3,500	3,600	3,700
Employment Insurance		1,240	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300
OMERS		6,163	6,300	6,500	6,700	6,900	7,100	7,300	7,500	7,700	7,900
Employer Health Tax		1,225	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300
Workplace Safety Insurance		685	700	700	700	700	700	700	700	700	700
Group Insurance		5,244	5,500	5,800	6,100	6,400	6,700	7,000	7,400	7,800	8,200
Training & mileage		2,575	2,700	2,800	2,900	3,000	3,100	3,200	3,300	3,400	3,500
Utilities		8,961	9,200	9,500	9,800	10,100	10,400	10,700	11,000	11,300	11,600
Materials and Supplies		10,243	10,695	11,000	11,300	11,600	11,900	12,300	12,700	13,100	13,500
- alloc office supplies and postage		5,555	5,700	5,900	6,100	6,300	6,500	6,700	6,900	7,100	7,300
Property maintenance		2,575	2,700	2,800	2,900	3,000	3,100	3,200	3,300	3,400	3,500
Roads equipment time		20,000	25,000	27,000	27,800	28,600	29,500	30,400	31,300	32,200	33,200
Telephone & internet		4,738	4,900	5,000	5,200	5,400	5,600	5,800	6,000	6,200	6,400
Legal and Audit fees		2,652	2,700	2,800	2,900	3,000	3,100	3,200	3,300	3,400	3,500
Insurance		20,343	21,000	21,600	22,200	22,900	23,600	24,300	25,000	25,800	26,600
System Maintenance		10,300	10,600	10,900	11,200	11,500	11,800	12,200	12,600	13,000	13,400
Equipment Costs		40,000	41,200	42,400	43,700	45,000	46,400	47,800	49,200	50,700	52,200
Memberships & subscriptions		670	700	700	700	700	700	700	700	700	700
Water truck fuel and maintenance		4,120	4,200	4,300	4,400	4,500	4,600	4,700	4,800	4,900	5,000
Contracted Services		112,985	116,659	120,200	123,800	127,500	131,300	135,200	139,300	143,500	147,800
Water Testing		-	-	-	-	-	-	-	-	-	-
Studies, standards		13,500	-	-	-	-	15,000	-	-	-	-
Water Costs		888,954	908,544	950,087	993,608	1,029,513	1,062,714	1,097,130	1,132,762	1,169,616	1,207,816
Miscellaneous		15,141	15,600	16,100	16,600	17,100	17,600	18,100	18,600	19,200	19,800
Transfers to Wastewater Operating		-	-	-	-	-	90,567	44,445	-	-	-
Non TCA - Expenses from Capital Budget	**7**	24,500	31,000	15,000	15,000	17,000	11,000	-	-	-	-
TOTAL OPERATING EXPENSES		**1,330,260**	**1,359,899**	**1,399,387**	**1,456,008**	**1,507,313**	**1,653,881**	**1,630,375**	**1,636,262**	**1,688,316**	**1,742,116**

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)		54,751	351,607	1,400,397	260,223	306,089	256,096	380,731	493,808	613,981	669,071
Less: Acquisition of Tangible Capital Assets	4	(437,793)	(423,000)	(1,170,480)	(4,000)	(5,000)	(2,000)	(24,000)	(25,000)	(26,000)	(26,000)
Add: Amortization of Tangible Capital Assets	4	446,946	452,960	457,061	471,175	469,920	468,731	468,771	467,243	467,577	467,923
(Gain)/Loss on disposal of Tangible Capital Assets		-	-	-	-	-	-	-	-	-	-
Add: Proceeds on Sale of Tangible Capital Assets		-	-	-	-	-	-	-	-	-	-
Add: Write-downs of Tangible Capital Assets		-	-	-	-	-	-	-	-	-	-
		9,153	29,960	(713,419)	467,175	464,920	466,731	444,771	442,243	441,577	441,923
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)		**63,904**	**381,567**	**686,978**	**727,398**	**771,009**	**722,827**	**825,502**	**936,051**	**1,055,558**	**1,110,994**
Net Financial Assets/(Net Debt), beginning of year		6,684,328	6,748,232	7,129,799	7,816,777	8,544,175	9,315,184	10,038,011	10,863,513	11,799,564	12,855,122
Net Financial Assets/(Net Debt), end of year		**6,748,232**	**7,129,799**	**7,816,777**	**8,544,175**	**9,315,184**	**10,038,011**	**10,863,513**	**11,799,564**	**12,855,122**	**13,966,116**

Financial Indicators		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
1) Acquisition of Tangible Capital Assets (Cumulative)		437,793	860,793	2,031,273	2,035,273	2,040,273	2,042,273	2,066,273	2,091,273	2,117,273	2,143,273
2) Annual Surplus/Deficit before Amortization (Cumulative)		501,697	1,306,264	3,163,722	3,895,120	4,671,129	5,395,956	6,245,458	7,206,509	8,288,067	9,425,061
3) Ratio of Annual Surplus before Amortization to Acquisition of TCA's (Cumulative)		1.15	1.52	1.56	1.91	2.29	2.64	3.02	3.45	3.91	4.40

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		54,751	351,607	1,400,397	260,223	306,089	256,096	380,731	493,808	613,981	669,071
Add: Amortization of TCA's	4	446,946	452,960	457,061	471,175	469,920	468,731	468,771	467,243	467,577	467,923
(Gain)/Loss on disposal of Tangible Capital Assets		-	-	-	-	-	-	-	-	-	-
Less: Earned Deferred Revenue	3	-	-	-	-	-	-	-	-	-	-
Less: Developer Contributions		-	(165,000)	(1,168,480)	-	-	-	-	-	-	-
Add: Deferred Revenue Proceeds		-	-	-	-	-	-	-	-	-	-
Change in A/R (Increase)/Decrease		-	(12,482)	(32,862)	(36,839)	(35,267)	(73,130)	(17,877)	(24,684)	(65,491)	(38,727)
Change in A/P Increase/(Decrease)		4,503	2,928	7,023	7,167	6,240	7,847	4,255	6,370	6,588	6,810
Less: Interest Proceeds		(100,000)	(105,381)	(115,519)	(126,269)	(137,663)	(148,345)	(160,545)	(174,378)	(189,977)	(206,396)
Cash Provided by Operating Transactions		**406,200**	**524,632**	**547,620**	**575,457**	**609,319**	**511,199**	**675,335**	**768,359**	**832,678**	**898,681**
Capital Transactions											
Proceeds on sale of Tangible Capital Assets		-	-	-	-	-	-	-	-	-	-
Less: Cash Used to acquire Tangible Capital Assets	4	(437,793)	(258,000)	(2,000)	(4,000)	(5,000)	(2,000)	(24,000)	(25,000)	(26,000)	(26,000)
Cash Applied to Capital Transactions		**(437,793)**	**(258,000)**	**(2,000)**	**(4,000)**	**(5,000)**	**(2,000)**	**(24,000)**	**(25,000)**	**(26,000)**	**(26,000)**
Investing Transactions											
Proceeds from Investments		100,000	105,381	115,519	126,269	137,663	148,345	160,545	174,378	189,977	206,396
Less: Cash Used to Acquire Investments		-	-	-	-	-	-	-	-	-	-
Cash Provided by (applied to) Investing Transactions		**100,000**	**105,381**	**115,519**	**126,269**	**137,663**	**148,345**	**160,545**	**174,378**	**189,977**	**206,396**
Financing Transactions											
Proceeds from Debt Issue	2	-	-	-	-	-	-	-	-	-	-
Less: Debt Repayment (Principal only)	2	(5,278)	(5,598)	(977)	-	-	-	-	-	-	-
Cash Applied to Financing Transactions		**(5,278)**	**(5,598)**	**(977)**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
Increase in Cash and Cash Equivalents		63,129	366,415	660,162	697,726	741,982	657,544	811,880	917,737	996,655	1,079,077
Cash and Cash Equivalents, beginning of year	1	6,079,131	6,142,260	6,508,675	7,168,837	7,866,563	8,608,545	9,266,089	10,077,969	10,995,706	11,992,361
Cash and Cash Equivalents, end of year	1	**6,142,260**	**6,508,675**	**7,168,837**	**7,866,563**	**8,608,545**	**9,266,089**	**10,077,969**	**10,995,706**	**11,992,361**	**13,071,438**

Notes to Financial Plan

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

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

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

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

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

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

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

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

B. Investing transactions that are acquisitions and disposal of investments

C. Change in cash and cash equivalents during the year

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

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

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

The assumptions used have been documented below:

1. **Cash, Receivables and Payables**

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

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

   For the Township, receivable and payable balances were estimated for each year of the forecast based on the following factors:

   a) Receivables: Based on the historical levels of receivables as a percentage of annual revenue earned; and

   b) Payables: Based on historical levels payables as a percentage of annual water expenses.

2. **Debt**

   Outstanding water related debt at the end of 2019 was $11,800, with no additional debt proceeds anticipated throughout the forecast period. *Principal* repayments for existing debt over the forecast period are scheduled as follows:

Year	Principal Payments
2020	5,278
2021	5,598
2022	977
2023	-
2024	-
2025	-
2026	-
2027	-
2028	-
2029	-
Total	**11,853**

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 Southwold does not collect water development charges currently, therefore deferred revenue is assumed to be zero over the forecast period.

4. Tangible Capital Assets

- Opening net book value of tangible capital assets includes water related assets in the following categories:
  i. Infrastructure (equipment and watermains); and
  ii. Facilities and land improvements.

- Amortization is calculated based on using the straight-line approach with no amortization in the year of acquisition or construction.
- Given the planned asset replacement forecast in the 2020 Rate Study, useful life on acquisitions is assumed to be equal to the weighted average useful life for all assets on hand in each respective asset category.

- Write-offs are assumed to equal $0 for each year in the forecast period.
- Tangible capital assets are shown on a net basis. It is assumed that disposals occur when the asset is being replaced, unless the asset is documented as a new asset. The value of each asset disposal is calculated by estimating the original purchase/construction date and deflating current replacement cost values to those estimated dates in order to calculate original historical cost.
- Gains/losses on disposal are assumed to be $0 (it is assumed that historical cost is equal to accumulated amortization for all disposals).
- Residual value is assumed to be $0 for all assets contained within the forecast period.
- Contributed Assets, as described in Section 3.2.1, are deemed to be $165,000 in 2021 and $1,168,000 in 2022.
- The Township is unaware of any specific lead service piping in the municipal water system.

- The balance of tangible capital assets is summarized as follows:

Asset Historical Cost	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Opening Tangible Capital Asset Balance	32,893,839	33,315,866	33,729,475	34,899,691	34,903,116	34,907,257	34,908,893	34,931,578	34,955,156	34,979,642
Acquisitions	437,793	423,000	1,170,480	4,000	5,000	2,000	24,000	25,000	26,000	26,000
Disposals	15,766	9,391	264	575	859	364	1,315	1,422	1,514	1,517
Closing Tangible Capital Asset Balance	**33,315,866**	**33,729,475**	**34,899,691**	**34,903,116**	**34,907,257**	**34,908,893**	**34,931,578**	**34,955,156**	**34,979,642**	**35,004,125**
Opening Accumulated Amortization	6,705,024	7,136,204	7,579,773	8,036,570	8,507,170	8,976,231	9,444,598	9,912,054	10,377,875	10,843,938
Amortization Expense	446,946	452,960	457,061	471,175	469,920	468,731	468,771	467,243	467,577	467,923
Amortization on Disposal	15,766	9,391	264	575	859	364	1,315	1,422	1,514	1,517
Ending Accumulated Amortization	**7,136,204**	**7,579,773**	**8,036,570**	**8,507,170**	**8,976,231**	**9,444,598**	**9,912,054**	**10,377,875**	**10,843,938**	**11,310,344**
Net Book Value	**26,179,662**	**26,149,702**	**26,863,121**	**26,395,946**	**25,931,026**	**25,464,295**	**25,019,524**	**24,577,281**	**24,135,704**	**23,693,781**

5. Accumulated Surplus

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

Wastewater	2020 Opening Accumulated Surplus
Reserve Balances	
Reserves: Development Charges	-
Reserves: Capital/Other	6,696,181
Total Reserves Balance	**6,696,181**
Less: Debt Obligations and Deferred Revenue	(11,853)
Less: Unfinanced Capital	-
Add: Tangible Capital Assets	26,188,815
Total Opening Balance	**32,873,143**

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

6. Other Revenue

Other revenues include meter fees, penalties, water connection fees, and internal debentures.

7. Operating Expenses

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

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

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

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

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

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

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

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

Chapter 6
Recommendations

6. Recommendations

This report presents the water financial plan for the Township in accordance with the mandatory reporting formats for water systems as detailed in O. Reg. 453/07. It is important to note that while mandatory, the financial plan is provided for Council's interest and approval, however, for decision making purposes, it may be more informative to rely on the information contained within the 2020 Water and Wastewater Rate Study, dated September 23, 2020. Nevertheless, Council is required to pass certain resolutions with regard to this plan and regulations and it is recommended that:

1. The Township of Southwold's Water Financial Plan prepared by Watson & Associates Economists Ltd. dated September 23, 2020 be approved.

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

3. The Financial Plan dated September 23, 2020 be submitted to the Ministry of Municipal Affairs and Housing. (O. Reg. 453/07, section 3 (1) 6).

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

Appendices

Appendix A
2020 Water and Wastewater Rate Study – Water Summary Tables

Table 1
Township of Southwold
Water Service
Capital Budget Forecast
Inflated $

Description	Budget 2020	Total	Forecast									
			2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Capital Expenditures												
Talbot Meadows Subdivision - Engineering	25,000	-	-	-	-	-	-	-	-	-	-	-
Lynhurst Reconstruction	386,293	-	-	-	-	-	-	-	-	-	-	-
Talbot Meadows Reconstruction	-	256,000	256,000	-	-	-	-	-	-	-	-	-
OCWA Recommendations	-	-	-	-	-	-	-	-	-	-	-	-
Shedden Re-Chlorination Facility	-	-	-	-	-	-	-	-	-	-	-	-
Purchase chlorine pump rebuild kit for spare parts inventory	-	1,000	-	-	-	1,000	-	-	-	-	-	-
Chlorine analyzer (s) parts: inlet and outlet (membrane caps, pH standards, cl2 probe replacement, pH probe replacement, electrolyte)	1,500	14,000	2,000	2,000	4,000	4,000	2,000	-	-	-	-	-
Chemical Feed Panel: upgrade and replace chemical fee panel	22,500	-	-	-	-	-	-	-	-	-	-	-
Chlorine Injector: Replace injector and purchase one spare for stock inventory	2,500	-	-	-	-	-	-	-	-	-	-	-
Distribution System	-	-	-	-	-	-	-	-	-	-	-	-
Fire flow testing	-	16,000	-	5,000	5,000	6,000	-	-	-	-	-	-
Hydrant maintenance and repairs	5,000	27,000	5,000	5,000	5,000	6,000	6,000	-	-	-	-	-
Distribution System: undertake evaluation of system due to impacts of Ford water tower being taken offline	15,000	-	-	-	-	-	-	-	-	-	-	-
Sample station maintenance/repairs/rebuilt kits	2,000	10,000	2,000	2,000	2,000	2,000	2,000	-	-	-	-	-
Auto flusher maintenance: replace controllers, lids, etc.	2,500	15,000	3,000	3,000	3,000	3,000	3,000	-	-	-	-	-
OCWA Provision	-	128,000	-	-	-	-	-	24,000	25,000	26,000	26,000	27,000
Studies:	-	-	-	-	-	-	-	-	-	-	-	-
Water Storage Assessment	-	21,000	21,000	-	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	-	-	-
Total Capital Expenditures	**462,293**	**488,000**	**289,000**	**17,000**	**19,000**	**22,000**	**13,000**	**24,000**	**25,000**	**26,000**	**26,000**	**27,000**
Capital Financing												
Non-Growth Related Debenture Requirements	-	-	-	-	-	-	-	-	-	-	-	-
Growth Related Debenture Requirements	-	-	-	-	-	-	-	-	-	-	-	-
Water Reserve	462,293	488,000	289,000	17,000	19,000	22,000	13,000	24,000	25,000	26,000	26,000	27,000
Total Capital Financing	**462,293**	**488,000**	**289,000**	**17,000**	**19,000**	**22,000**	**13,000**	**24,000**	**25,000**	**26,000**	**26,000**	**27,000**

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

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

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

Description	2020		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Opening Balance	6,696,181		6,754,807	7,130,776	7,816,776	8,544,174	9,315,184	10,038,010	10,863,511	11,799,563	12,855,121	13,966,115
Transfer from Operating	420,919		559,588	587,482	620,129	655,347	678,048	733,401	786,674	891,581	930,598	910,656
Transfer to Capital	462,293		289,000	17,000	19,000	22,000	13,000	24,000	25,000	26,000	26,000	27,000
Transfer to Operating							90,567	44,445				
Closing Balance	**6,654,807**		**7,025,395**	**7,701,258**	**8,417,905**	**9,177,521**	**9,889,665**	**10,702,967**	**11,625,185**	**12,665,144**	**13,759,719**	**14,849,770**
Interest	100,000		105,381	115,519	126,269	137,663	148,345	160,545	174,378	189,977	206,396	222,747

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

Description	Budget 2020		Forecast 2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Expenditures												
Operating Costs			-	-	-	-	-	-	-	-	-	-
Salaries and Wages	115,017		118,500	122,100	125,800	129,600	133,500	137,500	141,600	145,800	150,200	154,700
Roads Wages Allocated	10,043		10,300	10,600	10,900	11,200	11,500	11,800	12,200	12,600	13,000	13,400
Wage recoveries Dutton	-		-	-	-	-	-	-	-	-	-	-
Canada Pension Plan	2,831		2,900	3,000	3,100	3,200	3,300	3,400	3,500	3,600	3,700	3,800
Employment Insurance	1,240		1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300
OMERS	6,163		6,300	6,500	6,700	6,900	7,100	7,300	7,500	7,700	7,900	8,100
Employer Health Tax	1,225		1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300
Workplace Safety Insurance	685		700	700	700	700	700	700	700	700	700	700
Group Insurance	5,244		5,500	5,800	6,100	6,400	6,700	7,000	7,400	7,800	8,200	8,600
Training & mileage	2,575		2,700	2,800	2,900	3,000	3,100	3,200	3,300	3,400	3,500	3,600
Utilities	8,961		9,200	9,500	9,800	10,100	10,400	10,700	11,000	11,300	11,600	11,900
Materials and Supplies	10,243		10,695	11,000	11,300	11,600	11,900	12,300	12,700	13,100	13,500	13,900
- alloc office supplies and postage	5,555		5,700	5,900	6,100	6,300	6,500	6,700	6,900	7,100	7,300	7,500
Property maintenance	2,575		2,700	2,800	2,900	3,000	3,100	3,200	3,300	3,400	3,500	3,600
Roads equipment time	20,000		25,000	27,000	27,800	28,600	29,500	30,400	31,300	32,200	33,200	34,200
Telephone & internet	4,738		4,900	5,000	5,200	5,400	5,600	5,800	6,000	6,200	6,400	6,600
Legal and Audit fees	2,652		2,700	2,800	2,900	3,000	3,100	3,200	3,300	3,400	3,500	3,600
Insurance	20,343		21,000	21,600	22,200	22,900	23,600	24,300	25,000	25,800	26,600	27,400
System Maintenance	10,300		10,600	10,900	11,200	11,500	11,800	12,200	12,600	13,000	13,400	13,800
Equipment Costs	40,000		41,200	42,400	43,700	45,000	46,400	47,800	49,200	50,700	52,200	53,800
Memberships & subscriptions	670		700	700	700	700	700	700	700	700	700	700
Water truck fuel and maintenance	4,120		4,200	4,300	4,400	4,500	4,600	4,700	4,800	4,900	5,000	5,200
Contracted Services	112,985		116,659	120,200	123,800	127,500	131,300	135,200	139,300	143,500	147,800	152,200
Water Testing	-		-	-	-	-	-	-	-	-	-	-
Studies, standards	13,500						15,000					18,000
Water Costs	888,954		908,544	950,087	993,608	1,029,513	1,062,714	1,097,130	1,132,762	1,169,616	1,207,816	1,247,368
Miscellaneous	15,141		15,600	16,100	16,600	17,100	17,600	18,100	18,600	19,200	19,800	20,400
Sub Total Operating	**1,305,760**		**1,328,899**	**1,384,387**	**1,441,008**	**1,490,313**	**1,552,314**	**1,585,930**	**1,636,262**	**1,688,316**	**1,742,116**	**1,815,668**
Capital-Related												
Existing Debt (Principal) - Growth Related												
Existing Debt (Interest) - Growth Related												
New Growth Related Debt (Principal)			-	-	-	-	-	-	-	-	-	-
New Growth Related Debt (Interest)			-	-	-	-	-	-	-	-	-	-
Existing Debt (Principal) - Non-Growth Related	5,278		5,598	977	-	-	-	-	-	-	-	-
Existing Debt (Interest) - Non-Growth Related	-		-	-	-	-	-	-	-	-	-	-
New Non-Growth Related Debt (Principal)			-	-	-	-	-	-	-	-	-	-
New Non-Growth Related Debt (Interest)			-	-	-	-	-	-	-	-	-	-
Transfer to Capital	-		-	-	-	-	-	-	-	-	-	-
Transfers to Wastewater Operating							90,567	44,445				
Transfer to Capital Reserve	420,919		559,588	587,482	620,129	655,347	678,048	733,401	786,674	891,581	930,598	910,656
Sub Total Capital Related	**426,197**		**565,186**	**588,459**	**620,129**	**655,347**	**768,615**	**777,846**	**786,674**	**891,581**	**930,598**	**910,656**
Total Expenditures	**1,731,957**		**1,894,085**	**1,972,846**	**2,061,137**	**2,145,660**	**2,320,929**	**2,363,776**	**2,422,936**	**2,579,897**	**2,672,714**	**2,726,323**
Revenues												
Base Charge	247,820		251,548	259,117	266,686	274,256	281,825	289,394	296,963	304,532	312,101	319,670
Tri-County Water System Revenue	243,949		380,846	404,798	430,806	455,756	481,567	509,848	540,893	575,038	612,710	654,347
Water Filling Station Revenue	9,517		9,723	9,924	10,134	10,308	10,469	10,635	10,807	10,986	11,170	11,362
Other Revenue (Construction, meter fees, misc, penalties)	55,125		56,800	58,500	60,300	62,100	64,000	65,900	67,900	69,900	72,000	74,200
Water Connection Fees	200,701		184,386	188,995	193,712	198,568	203,519	208,609	213,839	219,163	224,627	230,231
Internal Debentures	6,913		6,914	977								
Contributions from Wastewater Operating	-		-	-	-	-	-	-	9,930	68,269	56,812	-
Contributions from Reserves / Reserve Funds	-		-	-	-	-	90,567	44,445	-	-	-	-
Total Operating Revenue	**764,025**		**890,217**	**922,311**	**961,639**	**1,000,988**	**1,131,945**	**1,128,830**	**1,140,333**	**1,247,888**	**1,289,421**	**1,289,811**
Water Billing Recovery - Operating	**967,932**		**1,003,868**	**1,050,535**	**1,099,499**	**1,144,672**	**1,188,984**	**1,234,945**	**1,282,604**	**1,332,008**	**1,383,293**	**1,436,513**

Table 5
Township of Southwold
Water Services
Water Rate Forecast
Inflated $

Description	2020		2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Total Water Billing Recovery	967,932		1,003,868	1,050,535	1,099,499	1,144,672	1,188,984	1,234,945	1,282,604	1,332,008	1,383,293	1,436,513
Total Volume (m^3)	370,855		374,724	382,580	390,436	398,292	406,148	414,004	421,860	429,716	437,572	445,427
Conumptive Rate												
Primary Rate	0.8704		0.9052	0.9414	0.9791	1.0183	1.0590	1.1014	1.1455	1.1913	1.2390	1.2886
Secondary Rate	0.5255		0.5597	0.5904	0.6229	0.6416	0.6544	0.6675	0.6809	0.6945	0.7084	0.7226
Southwold Rate	1.2141		1.2141	1.2141	1.2141	1.2141	1.2140	1.2140	1.2140	1.2140	1.2139	1.2139
Total Consumptive Rate	**2.61**		**2.68**	**2.75**	**2.82**	**2.87**	**2.93**	**2.98**	**3.04**	**3.10**	**3.16**	**3.23**