



# The Township of Essa Drinking Water System

Financial Plan

December 7, 2020



**Sharratt Water Management Ltd.**  
Sustainable Water Management Specialists

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## 1.0 Introduction

The Township of Essa has authorized Sharratt Water Management Ltd. (SWML) to develop the Financial Plan for the Township's drinking water system. A renewal of the drinking water system is now required and a financial plan must be prepared, approved by Council, and submitted to the provincial Ministry of Municipal Affairs and Housing in order to obtain a licence renewal.

This Financial Plan has been prepared in accordance with the Financial Plan regulation (O. Reg. 453/07) made under the Safe Drinking Water Act, shown in appendix 1, as well as the provisions of the financial planning guidelines published by the Ministry of the Environment (MOE) in August 2007 entitled "Toward Financially Sustainable Drinking-Water and Wastewater Systems".

In order to develop this financial plan, water system capital needs, have been projected in current dollars and then inflated to the year 2099. In addition, operating costs have been inflated and projected to 2030. The revenue needed to support the operating and capital plan is laid out in a funding plan that relies on user fees based on rates, capital levies, connection charges and some other sundry sources of revenue. Development charges are used to fund projects that accommodated growth. User fees from rates are set so that adequate reserves are developed in order to fund future capital and major maintenance expenses to at least 2030 and to maintain reserves at a sustainable level well into the future. This projection is based on the planning assumptions concerning asset lifetimes, the future inflation and interest rates as well as the level of ongoing asset maintenance.

The Financial Plan is also based on the 2019 tangible capital asset information that the Township generated in accordance with the Public Sector Accounting Board (PSAB) standard PS 3150 requirements. The Financial Plan includes a projection of financial and non-financial tangible capital assets to the year 2026 that is the six-year planning horizon required by Reg. 453/07. Capital renewal costs were projected to 2099 to determine the long run sustainability of the user fees at current levels of annual increase and to determine what user fee increase levels would be fully life cycle sustainable to 2099.

### 1.1 Legislative Context to Financial Planning

There have been a number of legislative initiatives affecting water system management and operations over the past decade. These initiatives were a result of the water borne illness tragedy in Walkerton in 2000. Following this event, the Government of Ontario established a public inquiry chaired by the Honourable Dennis O'Connor to look into the tragedy. The Inquiry Report recommended a comprehensive approach to the delivery of safe drinking water in Ontario.

The MOE has responded to the Inquiry recommendations by making legislative changes. One change directly related to the development of this Financial Plan was the passage of the Safe Drinking Water Act, 2002 (SDWA). It requires owners of a municipal drinking water system to apply for and initially obtain a Municipal Drinking Water Licence and to renew the licence at preset times. Five elements must be in place in order for the owner of a drinking water system to obtain a licence:

- 1) A Drinking Water Works Permit to establish or alter a drinking-water system;
- 2) An accepted Operational Plan. The Drinking Water Quality Management Standard (DWQMS) is the standard upon which operational plans are based. The plan documents an operating authority's quality management system (QMS).
- 3) An Accredited Operating Authority. A third party audit of an operating authority's QMS will be the basis for accreditation.
- 4) A Permit to Take Water.
- 5) A Financial Plan that must be prepared and approved in accordance with the prescribed requirements in the Financial Plans Regulation.

Regulation 453/07 of the Safe Drinking Water Act was passed in 2007 and contains several provisions affecting the preparation of Financial Plans pertaining to the licencing of a water system:

- A person who makes an application under the Act for a municipal drinking water licence shall, before making the application, prepare and approve financial plans for the system that satisfy the requirements of O. Reg. 453/07, S. 1(1).
- The Financial Plan must be approved by a resolution that is passed by the Council of the municipality
- The Financial Plan must apply to a period of at least six years with the first year to which the financial plans must apply must be the year in which the drinking water system's existing municipal drinking water licence would otherwise expire.
- Once a system is licensed, the municipality's Financial Plan is required to be updated every 5 years, in conjunction with every application for license renewal.

## 1.2 Recent Accounting and Policy Changes

In June 2006, the Public Sector Accounting Board (PSAB) of the Canadian Institute of Chartered accountants approved new municipal financial accounting and reporting standards requiring that tangible capital assets (TCA), including components of the water

system, be included in municipal financial statements. The new accounting standard PS 3150 came into effect on January 1, 2009. This provides for a sharper focus on the depreciation of the capital asset base of the water system and the need to plan for renewal and replacement on a timely basis. This data is an integral component of the financial statements included in this Financial Plan.

The Clean Water Act 2006 targets the protection of drinking water supplies through the development of collaborative, locally driven, science and watershed based source protection plans. According to the MOE financial planning guidelines, Financial Plans should include source water protection costs related to the provision of water services. Utilities are encouraged to have, at minimum, estimates of any current source protection costs as a separate cost item by the time that their Financial Plans are required in order to effectively align with the anticipated approval timelines for source protection plans.

In June 2007, the government of Ontario proposed a lead action plan. The Financial Plans regulation contains requirements for municipalities to include in their Financial Plans, the costs associated with replacing lead service pipes that are part of the drinking water system.

### 1.3 Township of Essa Water System

The Township of Essa water system serves customers in the communities of Baxter, Thornton and Angus. Nearly all users are metered.

In December 31, 2019 the system served 4,766 residential and industrial, commercial and institutional users.

The Township uses a two-part rate structure with a fixed or basic charge that increases for larger meter sizes. It also includes a volumetric charge that applies to all water used. The water rates for 2020 are as set out in Table 1:

**Table 1 Township of Essa Water Rates (2020)**

Water		Wastewater
<b>Fixed Portion of the Rate</b>	<b>Per Annum</b>	<b>Wastewater Surcharge</b>
<b>Meter Size</b>		
5/8x3/4 inch	\$ 63.07	95%
1 inch	\$ 88.31	95%
1.5 inch	\$ 113.54	95%
2 inch	\$ 182.93	95%
3 inch	\$ 705.09	95%
<b>Volumetric Portion of the Rate</b>		
Cost per Cubic Metre (M3) for all Water Used	\$ 1.43	95%
Rate Calculation - apply fixed charge adjusted for the number of months billed and add the cost for all water used. For example, someone with a 5/8x3/4 in. meter billed for 3 months using 100 m3, and , would pay \$63.07 divided by 4 or \$15.02 plus 100 x 1.43 or \$143 for a total of \$158.02 for three months. The wastewater bill would be \$158.02 multiplied by .95 or \$150.12		

## 2.0 Operating Plan

The operating plan details the recurring minor maintenance as well as the capital renewal and major maintenance investment costs required to sustain the drinking water system. These costs are detailed in the Essa Drinking Water and Wastewater System Rate Report dated December 7, 2020. Some key assumptions are set out below.

### 2.1 Operations Expenses

Operating costs such as labour, chemicals, insurance and other costs are projected to increase at 2.0% per annum, system operator costs at 1.5% for the 2021-2030 periods.

### 2.2 Capital Renewal and Major Maintenance Expenses

Capital renewal and major maintenance costs have been projected to 2099 and funding needs for these costs have been included in the user fee revenue estimates for 2021-2030. The combined system is expected to add 66 new connections for each year for 2021-2030 and a major development in Baxter will increase the number of water connections from 53 at present to 381 in 2025. A Thornton reservoir expansion is projected for 2021 to meet growth needs and will be funded partially by development charges. The intent of the operating plan is to ensure that funding will be available, when needed, at least for the projected capital and major maintenance costs between 2021 and 2030, and a substantial time beyond. Capital costs are projected to increase at 3.0% per year and major maintenance at 2% to 2099. The capital renewal and major maintenance needs are set out in the Essa Drinking Water and Wastewater System Rate Report dated

December 7, 2020. It was determined that the proposed plan with revenues from user fees increased at 3.5%, or .7% above projected capital renewal inflation of 2.8% per annum is sustainable. The plan will be able to cover, with a loan likely in the 2080s, all major maintenance and projected capital replacement costs to 2099.

### 2.3 Debt Servicing Costs

The Township currently has one water loan outstanding and none are projected: This is a \$1.9 million 15-year loan taken out in 2009 at 2.49%. The principal remaining as of December 31, 2019 was \$645,701.01.

### 2.4 Lead Replacement Costs

There is no lead present in the system and as a result, no funds have been set aside for lead abatement. There is only a requirement to check for lead in the distribution system every third year, and then only under the Ministry of the Environment's "reduced sampling" protocol.

### 2.5 Source Water Protection Costs

Extensive background assessment work has been carried out to evaluate and alleviate the threats to the water sources in Angus and Thornton. In July 2010, Golder Associates submitted a report to the Township detailing their findings from a threat assessment. The report was entitled Source Water Protection Assessment - #07 1140 0014 (2000). The Nottawasaga Valley Source Protection Authority, in 2017, carried out a further assessment of water source threats in a report Nottawasaga Valley Source Protection Area Approved Assessment Report. The Provincial government has provided the Township with a grant to establish a Risk Management Office, and to implement the source protection plan requirements. The Township refers all risky development applications to the Nottawasaga Valley Conservation Authority for a full risk assessment. This costs about \$10,000 per year and is budgeted.

## 3.0 Funding Plan

The funding plan lays out a plan on how the Township will generate the required funds to meet the expenditure requirements detailed in the operating plan. The funding plan is detailed in the Essa Drinking Water and Wastewater System Rate Report dated December 7, 2020. The funding plan proposed will rely primarily on user fees, capital levies, connection fees and various sundry charges. Development charges will fund projects that accommodate growth. Some key assumptions and results are presented below.

### 3.1 Government Grants

No allowance has been made for government grants in the 2021-2030 periods. Should grants be obtained, the funds would be used to renew designated assets.

### 3.2 Debt

The current debt will be serviced and the loan will be fully paid off in the first half of 2024. No additional debt is foreseen at this time.

### 3.3 Required User Fees

Based on this funding plan set out in the Essa Drinking Water and Wastewater System Rate Report dated December 7, 2020, user fees and water rates are projected to increase at 3.5% in inflated dollars or about .7% per annum above projected capital inflation for the 2021-30 periods and beyond to 2099. This is based on the need to generate adequate revenue to cover capital renewal and major maintenance along with an assumption that most operating as well as capital and major maintenance costs will inflate at 2.0% and capital renewal costs at 3% per annum.

## 4.0 Continuous Improvement

Provincial regulation 453/07 requires that the Financial Plans be updated every 5 years, along with the request for the renewal of the Drinking Water Licence. This on-going update will assist in revisiting the assumptions made to develop the operating and funding plans as well as re-assessing the need for capital renewal and major maintenance expenditures.

## 5.0 Financial Plan Summary

This section provides a summary of principal features concerning the current and future state of the water system contained in the projected Financial Statements over 7 years (2020-2026) in compliance with O. Reg. 453. The detailed financial statements are set out in tabular form in Section 6. The notes regarding the various line entries in financial statements are presented at the end of the financial statement section.

### 5.1 Statement of Financial Position (Table 6.1)

One important feature of a water system is a statement of its net financial assets/debt. A positive number indicates that the system has the resources to deal with future capital and other needs. A negative number indicates that past capital and other investments must be financed from future revenues. The Essa water system's net financial assets are shown in Figure 5.1:

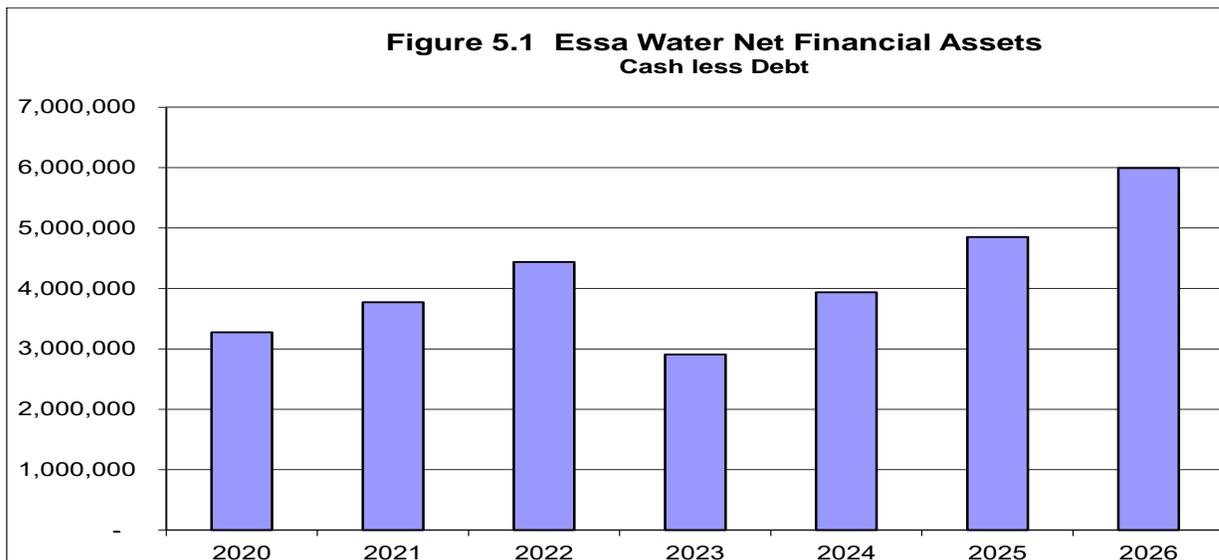
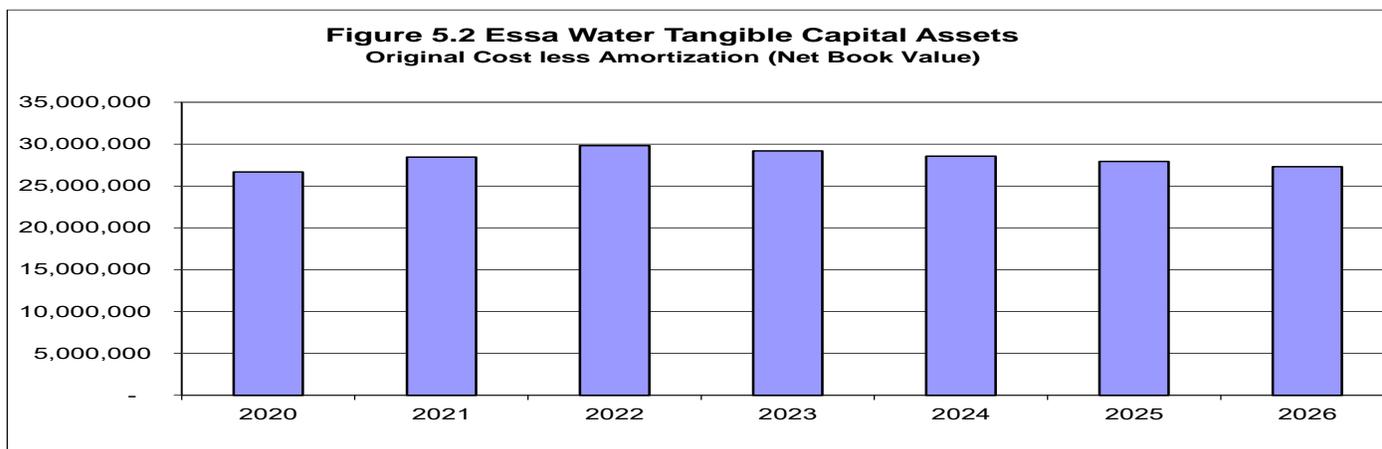


Figure 5.1 shows that the system is projected to have a surplus in 2020, and this is projected to grow through 2022. It then declines in 2023 due to the reserve drawdown to fund water main renewal and rehabilitation projects in Thornton and Angus and the Baxter water pumping station project. The net financial assets, cash, then increase through 2026. In fact, based on figure 5.4 in the Essa Drinking Water and Wastewater System Rate Report dated December 7, 2020, this substantial surplus will remain until 2085, based on the current estimated lifetimes of a number of assets. The projected water

system capital reserve, set out in the above rate report, will be drawn down in the 2080s and a loan required for a few years, assuming that the revenue from user fees increases at .7% above the current projected rate of inflation. All assets forming the basis for figure 5.1 are priced in inflated dollars. About half of the financial assets set out above are in the development charges reserve and earmarked exclusively for growth-oriented projects. This proportion varies by year depending on capital renewal and growth expenditure. This is discussed in notes 1 and 2 in table 6.1 and the projected funds in the development charges reserve from 2020-2030 are shown in appendix 3.

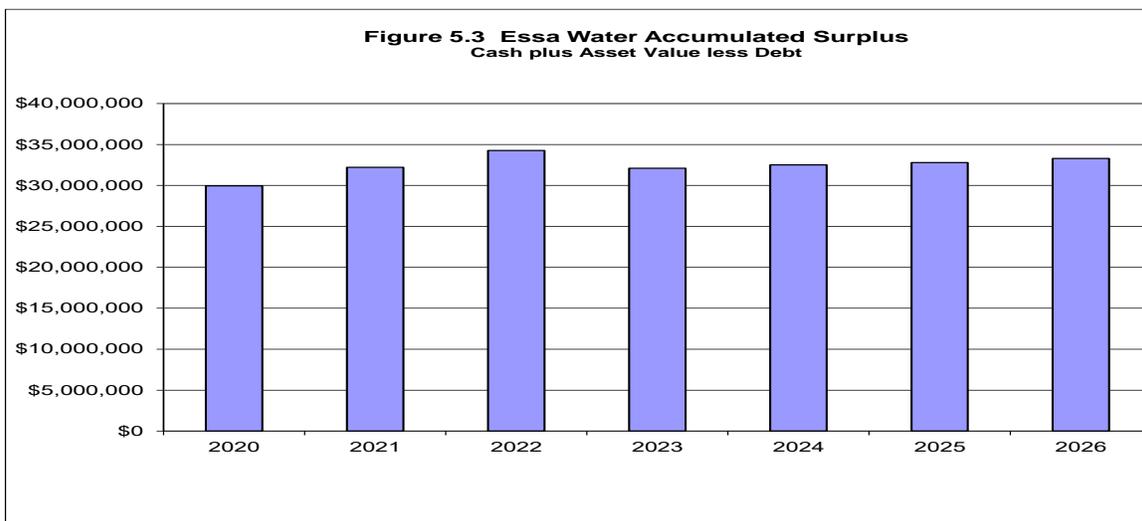
A second feature is the total value of the water system's tangible capital assets such as wells, water towers, reservoirs and water lines. The current value of the capital assets is termed net book value (NBV). It is the original cost of an asset less the accumulated amortization. Tangible capital assets, once installed, are being used, and are immediately decreasing in value. Annual amortization is determined by dividing the original (historic) cost of an asset by its expected lifetime in years. Amortization is accumulated as the asset wears out so that by the last year of the expected life of the asset, amortization equals the original value of the asset. At that time, at least from an accounting point of view, the asset has no net book value. The asset may operate and provide water service for several years with no book value, however, at some point; they will need to be replaced. Sometimes, the asset fails before its expected life value.

Water systems have a great deal of resources tied up in tangible capital assets and managing these assets is critical to maintaining current and future levels of service. Essa's water assets are estimated to have a replacement cost of \$60 million as of December 31, 2019. As has been noted above, tangible capital assets, once installed, are being used and decrease in value due to amortization. An increase in tangible capital asset value is an indication that assets have been renewed faster than they are used. A decrease indicates that assets are being used, or amortized, faster than they are renewed. The net present value of the Township's water system assets is set out in Figure 5.2.



The net book value increases substantially in 2021 and 2022 as the Thornton and particularly the Baxter capital projects come on line. The net book value of the assets then declines slowly but is higher in 2026 than in 2020. This is consistent with the Essa system being quite new and growing. It is apparent from figure 5.1 of the December 7, 2020 Water and Wastewater Rate Report, that major renewal investments will be needed in the 2040s and by the 2060s to the end of the century, very substantial capital renewal and replacement will be required. The planned undertaking of an asset masterplan in the near future will greatly clarify the future asset renewal needs.

A third feature is the accumulated surplus set out in Figure 5.3. It represents cash on hand plus the net book value of tangible capital assets less debt.



From 2020 until 2026, the accumulated surplus is positive, and growing, indicating that the combination of reserves and the net book value of the capital assets increasingly exceed amortization. The bulge in 2021 and 2022 is due to the addition of assets funded by the developer in the Baxter pumping station project. This and the large reserve of financial assets, shown in Figure 5.5, indicate that the Township's proposed financial plan is sustainable and in a good position.

## 5.2 Statement of Operations (Table 6.2)

This statement summarizes the yearly operating revenues and expenditures. The expenditures include ongoing operating costs plus asset amortization. It provides an indication about the maintenance of the system assets are being maintained on a yearly

basis.

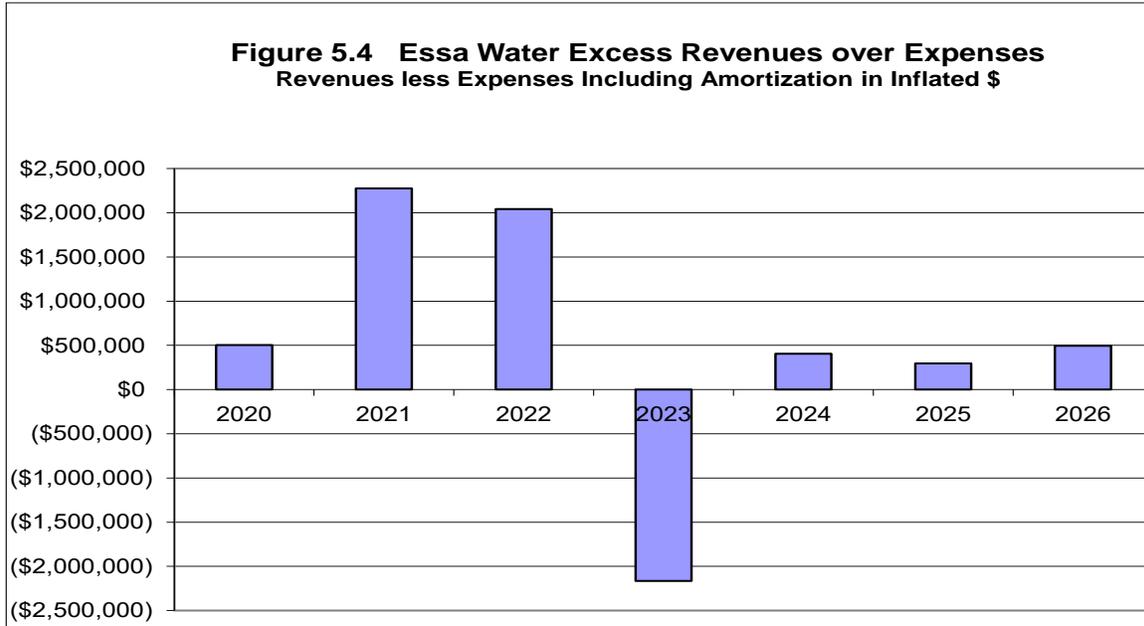


Figure 5.4 indicates that more is being spent on renewal than the decline in the value of the tangible capital assets on a yearly basis. The projected increase in 2021 is due to the funds being withdrawn from the development charges reserve, and added to revenue, to finance the Thornton reservoir expansion. The funds flowing into the Baxter project from the developer and the connection charges inflated the 2021 and 2022 numbers. The decline in 2023 is due to the major water main renewal projects in Thornton and Angus. Apart from this one year, the revenues exceed all costs including the total amortization of all assets. The Financial Plan has been designed to account for all foreseeable expenditures to 2026 and, in fact, well beyond. The financial asset capital and major maintenance reserves are projected to be maintained at a sustainable level to 2099. In the meantime, there is a substantial reserve to handle unexpected emergencies such as assets failing before the projected end of their projected life, or capital expenditures to deal with future new regulations. Consequently, the system is in good shape.

### 5.3 Statement of Cash Flow (Table 6.3)

This fifth feature shows how revenues are generated and spent over the study period. The revenues include user fees primarily assisted by some sundry revenues. Development charges finance growth projects. The expenditures include operating expenses and capital acquisitions. These are shown in Table 6.3 and set out in Figure 5.5.

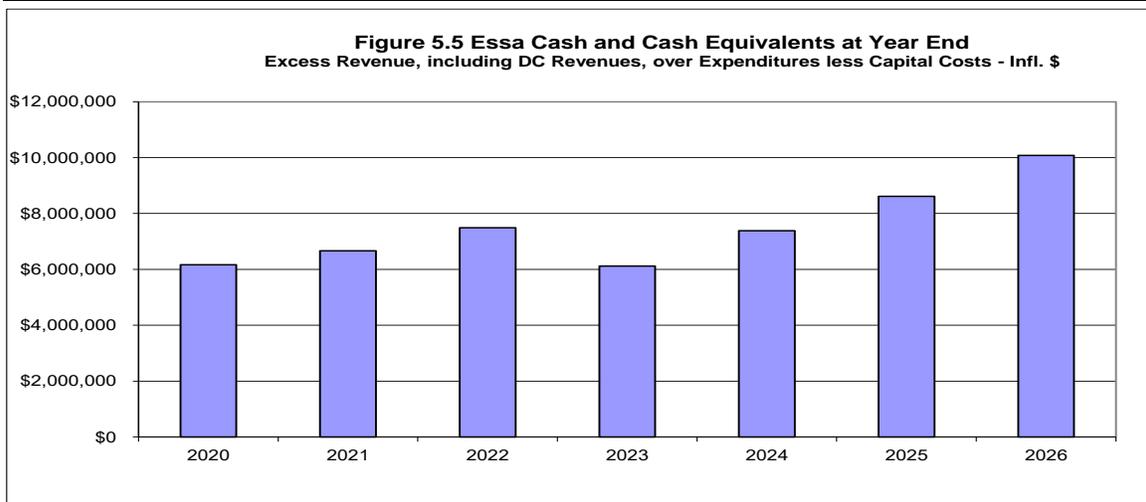


Figure 5.5 indicates that the cash equivalents, in inflated dollars, are positive throughout the study period. This includes the funds held in infrastructure renewal reserves, rate stabilization reserves and the development charge reserves. The cash levels decline in 2023 as the reserve is drawn down to fund water main renewal work in Thornton and Angus. The overall cash balance puts the Township in a position to fund projected needed capital renewal, growth or major maintenance projects into the future, if user fee revenues are increased at .7% above capital inflation each year. It also has the capability to withstand wet years when water fee revenue growth is below expectations.

The projected rates under this recommended approach, in inflated dollars, is set out in table 2 below:

**Table 2 Essa Water Rates 2020-2026 Inflated \$**

Annual Fixed Cost	2020	2021	2022	2023	2024	2025
Meter Size (inches)						
0.62	63.07	65.21	65.08	65.60	66.15	67.66
0.75	63.07	65.21	65.08	65.60	66.15	67.66
1	88.31	91.29	91.11	91.84	92.62	94.72
1.5	113.54	117.37	117.14	118.09	119.08	121.78
2	182.93	189.10	188.72	190.25	191.85	196.20
2.5		456.44	455.54	459.22	463.08	473.59
3	705.09	717.26	715.84	721.63	727.69	744.21
4	-	912.88	911.07	918.44	926.16	947.18
<b>Variable Rate</b>						
Cost per M3 Infl. \$	1.43	1.47	1.48	1.51	1.53	1.58
Cost per M3 2020\$	1.43	1.44	1.41	1.40	1.39	1.39

#### 5.4 Conclusion

The Essa water system has been growing due to an increase in population in Angus and to a lesser extent in Thornton. A new development that will add over 300 connections to the system is projected for Baxter over the next four years. Growth is projected to continue to the end of the decade. A reservoir expansion is projected for 2021 will be funded mostly from development charges. The system has a good financial capital reserve and is undertaking a good level of maintenance and small capital renewal. An asset master plan is being undertaken that will provide a roadmap for future renewal and replacement. This current regime is projected to be sustainable to 2099 based on the plans assumptions about system assets, inflation and interest rates as well as annual user fee increases of .7% per annum over capital inflation. The detailed financial statements, set out in tabular form, that were the basis for the above summary charts follow in Section 6.

## 6.0 Financial Statements

The detailed financial statements are set out in the following tables followed by the notes that correspond to the numbers in the tables.

### 6.1 Statement of Financial Position

	2020	2021	2022	2023	2024	2025	2026	Notes
<b>Financial Assets</b>								
Cash and Cash Equivalents	3,781,792	4,139,235	4,662,445	2,984,345	3,936,576	4,851,915	5,991,967	1
Development Charge Reserve	2,384,354	2,522,404	2,827,200	3,135,852	3,448,409	3,764,919	4,085,433	2
Long Term Accounts Receivable	-	-	-	-	-	-	-	
Deposits	-	-	-	-	-	-	-	
<b>Total Financial Assets</b>	<b>6,166,147</b>	<b>6,661,639</b>	<b>7,489,646</b>	<b>6,120,197</b>	<b>7,384,985</b>	<b>8,616,834</b>	<b>10,077,400</b>	
<b>Liabilities</b>								
Accounts Payable (Capital)	-	-	-	-	-	-	-	
Debt Principal Outstanding	508,361	367,579	223,271	75,346	(0)	-	-	3
Deferred Revenue (Dev Charge Reserve Bal.)	2,384,354	2,522,404	2,827,200	3,135,852	3,448,409	3,764,919	4,085,433	4
Government Grant	-	-	-	-	-	-	-	
Other liabilities	-	-	-	-	-	-	-	
<b>Total Liabilities</b>	<b>2,892,715</b>	<b>2,889,984</b>	<b>3,050,471</b>	<b>3,211,199</b>	<b>3,448,409</b>	<b>3,764,919</b>	<b>4,085,433</b>	
<b>Net Financial Assets (Debt)</b>	<b>3,273,432</b>	<b>3,771,655</b>	<b>4,439,175</b>	<b>2,908,998</b>	<b>3,936,576</b>	<b>4,851,915</b>	<b>5,991,967</b>	
<b>Non Financial Assets</b>								
Tangible Capital Asset Cost	34,727,914	34,847,245	37,093,371	39,068,559	38,849,472	38,817,272	38,762,069	5
Additions to Tangible Capital Assets - Cost	149,350	2,374,706	2,021,392	28,138	28,982	29,851	-	6
Accumulated Amortization incl. Addition	8,209,252	8,776,088	9,294,177	9,910,098	10,315,929	10,905,429	11,464,922	7
<b>Total Non Financial Assets</b>	<b>26,668,012</b>	<b>28,445,863</b>	<b>29,820,586</b>	<b>29,186,599</b>	<b>28,562,524</b>	<b>27,941,694</b>	<b>27,297,147</b>	
<b>Accumulated Surplus/(deficit)</b>	<b>\$29,941,444</b>	<b>\$32,217,519</b>	<b>\$34,259,761</b>	<b>\$32,095,597</b>	<b>\$32,499,101</b>	<b>\$32,793,609</b>	<b>\$33,289,113</b>	

**Note: Unaudited for Planning Purposes Only - Actual results will differ from the above and these differences could be material.**

6.2 Statement of Financial Operations

<b>Table 6.2 Statement of Financial Operations - Township of Essa Water System</b>								
	2020	2021	2022	2023	2024	2025	2026	Notes
<b>Revenues</b>								
User Fees	\$1,757,153	\$1,818,654	\$1,882,307	\$1,948,187	\$2,016,374	\$2,086,947	\$2,159,990	8
Other Revenues	\$36,000	\$36,720	\$37,454	\$38,203	\$38,968	\$39,747	\$40,542	9
Developer Contribution		\$1,204,571	\$1,204,571					10
Connection Charges		\$467,032	\$467,032					11
Interest on Reserves	\$0	\$0	\$0	\$0	\$0	\$0	\$0	12
Repayment of Reserve Loan	\$157,233	\$155,505	\$153,777	\$152,049	\$150,322	\$148,594	\$146,866	13
Earned Dev Charge Revenues	\$118,656	\$283,656	\$118,656	\$118,656	\$59,328	\$0	\$0	14
<b>Total Revenues</b>	<b>\$2,069,042</b>	<b>\$3,966,138</b>	<b>\$3,863,797</b>	<b>\$2,257,096</b>	<b>\$2,264,991</b>	<b>\$2,275,287</b>	<b>\$2,347,398</b>	
<b>Expenses</b>								
Day to Day Operating Expenses	\$770,400	\$805,134	\$861,590	\$918,337	\$947,090	\$1,059,794	\$1,018,310	15
Major Maintenance (non capital)	\$203,425	\$266,286	\$295,036	\$2,826,153	\$250,403	\$260,303	\$179,036	16
Debt Interest	\$15,228	\$11,787	\$8,260	\$4,644	\$938	\$0	\$0	17
Amortization	\$565,445	\$596,855	\$646,669	\$662,125	\$652,381	\$650,681	\$644,547	18
Lead Abatement	\$0	\$0	\$0	\$0	\$0	\$0	\$0	19
Source Water Protection	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	20
<b>Total Expenses</b>	<b>\$1,564,499</b>	<b>\$1,690,062</b>	<b>\$1,821,555</b>	<b>\$4,421,259</b>	<b>\$1,860,812</b>	<b>\$1,980,779</b>	<b>\$1,851,894</b>	
Excess (Deficit) of Revenues over Expenses	\$504,543	\$2,276,075	\$2,042,242	(\$2,164,163)	\$404,179	\$294,509	\$495,504	
<b>Other</b>								
Working Capital	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Government Transfers	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Miscellaneous	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Excess (Deficit) of Revenues over Expenses	\$504,543	\$2,276,075	\$2,042,242	(\$2,164,163)	\$404,179	\$294,509	\$495,504	
Accumulated Surplus (Deficit) Beginning of year	\$29,436,901	\$29,941,444	\$32,217,519	\$34,259,761	\$32,095,598	\$32,499,777	\$32,794,286	
Accumulated Surplus (Deficit) End of Year	\$29,941,444	\$32,217,519	\$34,259,761	\$32,095,598	\$32,499,777	\$32,794,286	\$33,289,790	
<b>Note: Unaudited for Planning Purposes Only - Actual results will differ from the above and these differences could be material.</b>								
<b>2020 Beginning Accumulated Surplus/(Deficit) is made up of</b>								
Working Surplus (Deficit)								
Capital Reserve Opening	2,392,149							
Rate Stabilization Reserve opening	606,345							
Development Charge Reserve opening	2,085,090							
Total Cash	5,083,585							
Less								
Debt start of year	645,701							
Dev Charge Res Opening	2,085,090							
Total Debt/Liabilities	2,730,791							
Add								
Tangible Capital Assets Adj Opening for 2020	27,084,107							
Accounting Adjustment	-							
Opening Balance for 2020	29,436,901							

6.3 Statement of Cash Flow

<b>Table 6.3 Statements of Change in Cash Flow - Township of Essa Water System</b>								
	2020	2021	2022	2023	2024	2025	2026	Notes
<b>Operating Transactions</b>								
Total Operating Revenues	\$1,911,809	\$3,810,633	\$3,710,020	\$2,105,046	\$2,114,669	\$2,126,694	\$2,200,532	21
Homeowner Loan Repayment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Total Cash for Operating Expenses	\$1,564,499	\$1,690,062.45	\$1,821,555	\$4,421,259	\$1,860,812	\$1,980,779	\$1,851,894	22
Interest from Cash Reserves (Excl DC Reserve)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Development Charge Proceeds (Net)	\$299,264	\$138,050	\$304,796	\$308,652	\$312,556	\$316,510	\$320,514	23
Excess of Revenues Over Expenses	\$646,575	\$2,258,620	\$2,193,261	(\$2,007,561)	\$566,414	\$462,425	\$669,152	
<b>Deduct Non Cash Charges to Operations</b>								
Amortization	\$565,445	\$596,855	\$646,669	\$662,125	\$652,381	\$650,681	\$644,547	24
Loss on the Disposal of Assets	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Total	\$565,445	\$596,855	\$646,669	\$662,125	\$652,381	\$650,681	\$644,547	
<b>Working Capital Items</b>								
Accounts Receivable	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Working Capital Items	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Capital Work in Progress	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Cash provided/used in Operating Transactions	\$1,212,020	\$2,855,475	\$2,839,930	(\$1,345,436)	\$1,218,795	\$1,113,107	\$1,313,700	
<b>Capital Transactions</b>								
Acquisition of TCAs	\$149,350	\$2,374,706	\$2,021,392	\$28,138	\$28,982	\$29,851	\$0	
Proceeds on Disposal of TCA	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Cash provided/used in Capital Transactions	\$149,350	\$2,374,706	\$2,021,392	\$28,138	\$28,982	\$29,851	\$0	
<b>Investing Transactions</b>								
Proceeds from Investments	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Cash (used in) Provided by Investing Activities	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Cash Provided/used in Investing Transactions	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
<b>Financing Transactions</b>								
Other	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Proceeds from Debentures/Loans	\$157,233	\$155,505	\$153,777	\$152,049	\$150,322	\$148,594	\$146,866	
Debt Principal Repayment	\$137,340	\$140,781	\$144,309	\$147,924	\$75,346	\$0	\$0	
Proceeds from Government Grants	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Working Surplus	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
Cash Provided by/(used) in Financing Activities	\$19,893	\$14,724	\$9,469	\$4,125	\$74,975	\$148,594	\$146,866	
Increase (decrease) in Cash Equivalents	\$1,082,562	\$495,492	\$828,007	(\$1,369,449)	\$1,264,788	\$1,231,849	\$1,460,565	
Cash and Cash Equivalents at the beginning of the Year	\$5,083,585	\$6,166,147	\$6,661,639	\$7,489,646	\$6,120,198	\$7,384,986	\$8,616,835	
Cash and Cash Equivalents at the End of the Year	\$6,166,147	\$6,661,639	\$7,489,646	\$6,120,198	\$7,384,986	\$8,616,835	\$10,077,400	
<b>Note: Unaudited for Planning Purposes Only - Actual results will differ from the above and these differences could be material.</b>								
<b>2020 Cash and Cash Beginning of Year</b>								
Opening Capital Reserve	\$2,392,149							
Opening Rate Stabilization Reserve	\$606,345							
Opening Dev Charge Reserve Angus	\$1,909,773							
Opening Dev Charge Reserve Thornton	\$175,317							
Working Capital Surplus from 2014	\$0							
Total	\$5,083,585							

#### 6.4 Notes on the Essa Water System Financial Plan

1. Cash and cash equivalent is represented by the funds in short-term bank investments drawn from the capital and major maintenance reserve and the rate stabilization reserve. The interest from the capital and rate stabilization reserves goes to general Township revenue.
2. The development charges revenue arises from charges placed on new residential and commercial/industrial and institutional developments. The fees are shown in appendix 2. They are based on the development charges study carried out for the Township in 2018. The interest on the funds in the development charge reserve are shown within the reserve and are set out in appendix 3.
3. The system has one 15-year loan outstanding in as of December 31, 2019. This loan with an interest rate of 2.49% was commenced in 2009 and will be paid off in early 2024. The principal outstanding as of December 31, 2019 was \$645,701.
4. Deferred revenue is considered a liability for accounting purposes and represents funding that is held in cash reserve pending events that gave rise to the payment of these funds. The Township is often receiving development charge funds in advance of building facilities to accommodate growth or to pay debt charges on past growth oriented projects. The funds will be considered as expenditures in the year when a liability that facilitates growth is incurred, such as the year that a new reservoir is built, or the years when the Township is searching for a new well site to accommodate growth. The Township has two accounts for development charge funds. One is the Angus water system development charges reserve. As of December 31, 2019, it had a surplus of \$1,909,773. The second is the Thornton development charge reserve. As of December 31, 2019, it had a balance of \$175,317. The projected reserve transactions for 2020 to 2030 for both reserves are set out in appendix 3.
5. The Township valued tangible capital assets acquired to the end of 2019. This project has extended the valuation of new capital assets and capital asset replacement to 2026. Capital works are assumed to have no residual value when they have reached the end of their projected life. Current capital works costs, based on historic cost, and are inflated to future cost at an inflation rate of 3% per annum for the 2020-2026 period. Amortization was determined using the straight-line method. All works are assumed to have been constructed or disposed of on July 1.
6. These are capital projects according to the PSAB definition of capital meaning that they recur at long intervals and include reservoir expansion, new generators, large pump replacement, a new SCADA system etc. The full list, to 2026, is shown in appendix A of Essa Drinking Water and Wastewater System Rate Report dated December 7, 2020.
7. Amortization was determined using the straight-line method. Almost all works are assumed to have been constructed or disposed of on July 1. A half year of amortization was provided for in the first year for those with a start date of July 1. The cumulative amortization of each asset was summed to produce this total. The original historic costs, additions to the system, amortization and closing net present values is set out in appendix 4.
8. This user fee revenue is from the fixed and variable portion of the water charges paid by the systems users.
9. This revenue comes from connection fees, final reading charges, sale of water permits, late payment penalties and miscellaneous revenues.

10. The funds are the developer's contribution to the Baxter pumping station project spread over 2021 and 2022.
11. These are fees raised from the connection charges that are proposed to be charged to the water system users that are outside the major development in Baxter but have access to the water system.
12. No interest is attributed to the capital renewal reserve.
13. This represents the loan repayment to the water capital reserve. In 2015, the Township passed by law 2015-34 to withdraw \$2,073,400 in funds from the water reserve and repay these funds, with 1.25% interest, over 15 years. The principal balance owing as of December 31, 2019 was \$1,658,720. This loan will be fully repaid in 2030.
14. Earned development charge revenues are funds taken from the DC reserve to pay for principal and interest on past projects that facilitated growth, and for current projects that support growth. Part of the loan described in note #3 above was undertaken to fund growth. \$118,656 per year is included in earned revenues. This will cease 2024 when the loan is paid off. In 2021, funding was drawn from the DC reserve to fund the Thornton water reservoir expansion.
15. Day to day operating costs cover wages, office supplies, chemicals, energy and other features needed to run a water system. Most are projected to increase at 2.0% per annum.
16. Major maintenance represent substantial one-time regularly recurring preventive maintenance repair projects that will maintain the life of an asset, but did not meet the Township's PSAB definition of capital. Examples include line flushing, hydrant maintenance, generator upkeep, water main lining, tank inspections etc. For a full listing see appendix, A of the Essa Drinking Water and Wastewater System Rate Report dated December 7, 2020.
17. Debt interest is on the debt set out in note 3 above.
18. This is the annual amortization of each water system asset determined by dividing original (historic) acquisition value of the asset by the number of years it is expected to be in service. The amortization of each asset is summed to yield an annual figure that is shown here as a non-financial expense.
19. There is no lead present in the system and as a result, no funds have been set aside for lead abatement, and only limited testing is required every three years.
20. Extensive background assessment work has been carried out to evaluate and alleviate the threats to the water sources in Angus and Thornton. In July 2010, Golder Associates submitted a report to the Township detailing their findings from a threat assessment. The report was entitled Source Water Protection Assessment - #07 1140 0014 (2000). The Nottawasaga Valley Source Protection Authority, in 2017, carried out a further assessment of water source threats in a report Nottawasaga Valley Source Protection Area Approved Assessment Report. The Provincial government has provided the Township with a grant to establish a Risk Management Office, and to implement the source protection plan requirements. The Township refers all risky development applications to the Nottawasaga Valley Conservation Authority for a full risk assessment. This costs about \$10,000 per year and is budgeted.
21. Revenues from user fees and miscellaneous sources are summarized on this line.
22. Operating expenses on this line include amortization.
23. These are net yearly increases in development charge reserves. Net revenue is the total revenue including interest on the balance less expenditures that facilitate

growth undertaken during the year. The fees are shown in appendix 2 and the reserve is shown in appendix 3.

24. Amortization, a non-financial cost, was included in the operating expenses set out in line 20, above, and therefore this line shows the addition of amortization to total system cash flows.

## Appendix 1 Ontario Regulation 453/07

### ONTARIO REGULATION 453/07 FINANCIAL PLANS

**Consolidation Period:** From April 1, 2008 to the [e-Laws currency date](#).

Last amendment: O. Reg. 69/08.

*This is the English version of a bilingual regulation.*

#### Requirement to prepare financial plans

**1. (1)** A person who makes an application under clause 32 (1) (b) of the Act for a municipal drinking water licence shall, before making the application, prepare and approve financial plans for the system that satisfy the requirements prescribed under section 2. O. Reg. 453/07, s. 1 (1).

**(2)** A person who makes an application under subsection 32 (4) of the Act for the renewal of a municipal drinking water licence shall, before making the application, prepare and approve financial plans for the system that satisfy the requirements prescribed under section 3. O. Reg. 453/07, s. 1 (2).

**(3)** As a condition in a municipal drinking water licence that is issued in response to an application made under section 33 of the Act for a municipal drinking water licence, the Director shall include a requirement that the owner of the drinking water system, by the later of July 1, 2010 and the date that is six months after the date the first licence for the system is issued, prepare and approve financial plans for the system that satisfy the requirements prescribed under section 3. O. Reg. 453/07, s. 1 (3).

**(4)** The Director shall include, as a condition in a municipal drinking water licence, the requirement set out in subsection (3) in any amendments to a license made after the application, if the condition is not satisfied at the time when the amendment is made. O. Reg. 453/07, s. 1 (4).

#### Financial plan requirements; new systems

**2.** For the purposes of clause (b) of the definition of “financial plans” in subsection 30 (1) of the Act, the following requirements are prescribed for financial plans that are required by subsection 1 (1) to satisfy the requirements of this section:

1. The financial plans must be approved by a resolution that indicates that the drinking water system is financially viable and that is passed by,
  - i. the council of the municipality, if the owner of the drinking water system is a municipality, or
  - ii. the governing body of the owner, if the owner of the drinking water system has a governing body and is not a municipality.
2. The financial plans,
  - i. must include a statement that the financial impacts of the drinking water system have been considered, and
  - ii. must apply for a period of at least six years.
3. The first year to which the financial plan must apply is the year in which the drinking water system is expected to first serve the public.
4. For each year in which the financial plans apply, the financial plans must include details of the proposed or projected financial operations of the drinking water system itemized by,
  - i. total revenues, further itemized by water rates, user charges and other revenues,
  - ii. total expenses, further itemized by amortization expenses, interest expenses and other expenses,
  - iii. annual surplus or deficit, and
  - iv. accumulated surplus or deficit.
5. The owner of the drinking water system must,
  - i. make the financial plans available, on request, to members of the public who are served by the drinking water system without charge,

- ii. make the financial plans available to members of the public without charge through publication on the Internet, if the owner maintains a website on the Internet, and
  - iii. provide notice advising the public of the availability of the financial plans under subparagraphs i and ii, if applicable, in a manner that, in the opinion of the owner, will bring the notice to the attention of members of the public who are served by the drinking water system.
6. The owner of the drinking water system must give a copy of the financial plans to the Ministry of Municipal Affairs and Housing. O. Reg. 453/07, s. 2.

**Financial plan requirements; licence renewal**

**3. (1)** For the purposes of clause (b) of the definition of “financial plans” in subsection 30 (1) of the Act, the following requirements are prescribed for financial plans that are required by subsection 1 (2) or a condition that is included in a municipal drinking water licence under subsection 1 (3) to satisfy the requirements of this section:

1. The financial plans must be approved by a resolution that is passed by,
  - i. the council of the municipality, if the owner of the drinking water system is a municipality, or
  - ii. the governing body of the owner, if the owner of the drinking water system has a governing body and is not a municipality.
2. The financial plans must apply to a period of at least six years.
3. The first year to which the financial plans must apply must be the year determined in accordance with the following rules:
  - i. If the financial plans are required by subsection 1 (2), the first year to which the financial plans must apply must be the year in which the drinking water system’s existing municipal drinking water licence would otherwise expire.
  - ii. If the financial plans are required by a condition that was included in a municipal drinking water licence under subsection 1 (3), the first year to which the financial plans must apply must be the later of 2010 and the year in which the first licence for the system was issued.
4. Subject to subsection (2), for each year to which the financial plans apply, the financial plans must include the following:
  - i. Details of the proposed or projected financial position of the drinking water system itemized by,
    - A. total financial assets,
    - B. total liabilities,
    - C. net debt,
    - D. non-financial assets that are tangible capital assets, tangible capital assets under construction, inventories of supplies and prepaid expenses, and
    - E. changes in tangible capital assets that are additions, donations, write downs and disposals.
  - ii. Details of the proposed or projected financial operations of the drinking water system itemized by,
    - A. total revenues, further itemized by water rates, user charges and other revenues,
    - B. total expenses, further itemized by amortization expenses, interest expenses and other expenses,
    - C. annual surplus or deficit, and
    - D. accumulated surplus or deficit.
  - iii. Details of the drinking water system’s proposed or projected gross cash receipts and gross cash payments itemized by,
    - A. operating transactions that are cash received from revenues, cash paid for operating expenses and finance charges,
    - B. capital transactions that are proceeds on the sale of tangible capital assets and cash used to acquire capital assets,
    - C. investing transactions that are acquisitions and disposal of investments,
    - D. financing transactions that are proceeds from the issuance of debt and debt repayment,

- E. changes in cash and cash equivalents during the year, and
  - F. cash and cash equivalents at the beginning and end of the year.
  - iv. Details of the extent to which the information described in subparagraphs i, ii and iii relates directly to the replacement of lead service pipes as defined in section 15.1- 3 of Schedule 15.1 to Ontario Regulation 170/03 (Drinking Water Systems), made under the Act.
  - 5. The owner of the drinking water system must,
    - i. make the financial plans available, on request, to members of the public who are served by the drinking water system without charge,
    - ii. make the financial plans available to members of the public without charge through publication on the Internet, if the owner maintains a website on the Internet, and
    - iii. provide notice advising the public of the availability of the financial plans under subparagraphs i and ii, if applicable, in a manner that, in the opinion of the owner, will bring the notice to the attention of members of the public who are served by the drinking water system.
  - 6. The owner of the drinking water system must give a copy of the financial plans to the Ministry of Municipal Affairs and Housing. O. Reg. 453/07, s. 3 (1).
- (2)** 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). O. Reg. 453/07, s. 3 (2).

**Alternative requirements for two or more drinking water systems**

**4.** If section 3 applies to the financial plans of two or more drinking water systems that are solely owned by the same owner, the requirements prescribed by the section may, as an alternative, be satisfied by financial plans that comply with the section but treat those systems as if they were one drinking water system. O. Reg. 453/07, s. 4.

**Amendment of financial plans**

**5.** Sections 2 and 3 do not prevent financial plans from being amended. O. Reg. 453/07, s. 5.

**Additional information**

**6.** The requirements of this Regulation do not prevent a person from providing additional information in financial plans prepared for the purpose of meeting the requirements of the Act. O. Reg. 453/07, s.

## Appendix 2 Development Charges for Essa

<b>Development Charges for Essa</b>				
<b>Residential</b>				
	<b>Singles and Semis</b>	<b>Rows and Multiples</b>	<b>Apartments 2 plus bedrooms</b>	<b>Apartment, bachelor or bedroom</b>
Angus	\$ 2,154.00	\$1,927.00	\$ 1,308.00	\$ 964.00
Thornton	\$ 8,794.00	\$7,867.00	\$ 5,338.00	\$ 3,933.00
<b>Non Residential Charge per Square Metre</b>				
Angus	\$ 12.13			
Thornton	\$ 126.14			

from the April 2018 Development Charges Study

### Appendix 3 Development Charges Reserve Transactions Inflated \$

<b>Angus Service Area</b>												
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Opening Value		1,909,773	2,161,439	2,416,288	2,674,361	2,935,699	3,200,343	3,468,334	3,739,716	4,014,530	4,292,821	4,574,632
DC Charges Collected		227,507	227,507	227,507	227,507	227,507	227,507	227,507	227,507	227,507	227,507	227,507
Capital/Major Maint. Exp.		0	0	0	0	0	0	0	0	0	0	0
Transfer to Current Fund		0	0	0	0	0	0	0	0	0	0	0
Interest on Opening Bal.		24,159	27,342	30,566	33,831	37,137	40,484	43,874	47,307	50,784	54,304	57,869
<b>Close in Inflated \$</b>	<b>1,909,773</b>	<b>2,161,439</b>	<b>2,416,288</b>	<b>2,674,361</b>	<b>2,935,699</b>	<b>3,200,343</b>	<b>3,468,334</b>	<b>3,739,716</b>	<b>4,014,530</b>	<b>4,292,821</b>	<b>4,574,632</b>	<b>4,860,008</b>
<b>Thornton Service Area</b>												
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Opening Value		175,317	222,916	85,407	131,868	178,917	226,561	274,808	323,665	373,140	423,241	473,976
DC Charges Collected		45,381	45,381	45,381	45,381	45,381	45,381	45,381	45,381	45,381	45,381	45,381
Capital/Major Maint. Exp.		0	185,709	0	0	0	0	0	0	0	0	0
Transfer to Current Fund		0			-	-	-	-	-	-	-	-
Interest on Opening Bal.		2,218	2,820	1,080	1,668	2,263	2,866	3,476	4,094	4,720	5,354	5,996
<b>Close in Inflated \$</b>	<b>175,317</b>	<b>222,916</b>	<b>85,407</b>	<b>131,868</b>	<b>178,917</b>	<b>226,561</b>	<b>274,808</b>	<b>323,665</b>	<b>373,140</b>	<b>423,241</b>	<b>473,976</b>	<b>525,352</b>
<b>Total Close in Inflated \$</b>	<b>2,085,090</b>	<b>2,384,354</b>	<b>2,501,695</b>	<b>2,806,230</b>	<b>3,114,616</b>	<b>3,426,904</b>	<b>3,743,142</b>	<b>4,063,381</b>	<b>4,387,670</b>	<b>4,716,062</b>	<b>5,048,608</b>	<b>5,385,361</b>
<b>Yearly Increase over Previous Year</b>		<b>299,264</b>	<b>117,341</b>	<b>304,534</b>	<b>308,387</b>	<b>312,288</b>	<b>316,238</b>	<b>320,239</b>	<b>324,290</b>	<b>328,392</b>	<b>332,546</b>	<b>336,753</b>

Appendix 4 Essa Tangible Capital Assets 2020-2026 Inflated \$

	2020	2021	2022	2023	2024	2025	2026
Opening NBV	\$27,084,107	26,668,012	28,445,863	29,820,586	29,186,599	28,562,524	27,941,694
Original Cost	34,727,914	34,847,245	37,093,371	39,068,559	38,849,472	38,817,272	38,762,069
Additions	149,350	2,374,706	2,021,391.96	28,137.72	28,982	29,851	-
Disposal	-	0	\$0	\$0	0	0	0
Closing Cost	34,877,264	37,221,951	39,114,763	39,096,697	38,878,454	38,847,123	38,762,069
Annual Amortization	565,445	596,855	646,669	662,125	652,381	650,681	644,547
Accumulated Amortization	8,209,252	8,776,088	9,294,177	9,910,098	10,315,929	10,905,429	11,464,922
Closing NBV	26,668,012	28,445,863	29,820,586	29,186,599	28,562,524	27,941,694	27,297,147