## THE MUNICIPALITY OF SOUTH BRUCE Water and Sanitary Financial Plan

2016

THE PUBLIC SECTOR DIGEST INC.

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## **Executive Summary**

The Municipality of South Bruce provides water and sanitary services to its residents through two distinct systems: Mildmay and Teeswater. These systems implement a different fee structure for their respective residents. This rate study establishes a uniform fee for the municipality's water services and one for its sanitary services. The financial plans provided for each of water and sanitary services are produced in accordance with Ontario Regulation 453/07. While the municipality's existing fee structure for both water and sanitary are sufficient to meet operating expenses, a rate increase is needed to allow the municipality to meets its long-term infrastructure needs.

In 2016, the municipality is forecasted to incur \$522,874 in combined operating expenses for Mildmay and Teeswater water services. With a revenue forecast of \$608,480, the municipality will generate a surplus of \$85,606. However, upon incorporating its annual amortization expenses, the municipality falls into a deficit position of \$1,547. Further, if we use the municipality's annual requirements, which are based on current replacement cost of assets rather than their historical cost, this deficit increases to \$96,958. As such, the municipality is underfunding the long-term needs associated with its water services.

In order to meet the annual amortization expense for its water services, we recommend the municipality increase its fees by 0.95% for Mildmay and 0.53% for Teeswater. This will produce a uniform fee of \$509 in 2029 and generate a surplus of \$25,108. If existing fees are maintained, the municipality will produce a deficit of \$40,494 in 2029. After 2029, we recommend the municipality increase its fees by 0.75% annually.

Higher increases are needed to meet the municipality's annual requirements for its water services. We recommend the municipality increase its fees by 2.34% annually for Mildmay and 1.92% annually for Teeswater. This will produce a uniform fee of \$608 for both systems by 2029, and a surplus of \$30,241. If existing fees are maintained, the municipality will produce a deficit of \$173,446 when accounting for its annual requirements.

Our recommendations are similar for South Bruce's sanitary services. In 2016, the municipality is forecasted to incur \$1,514,084 in combined operating expenses for Mildmay and Teeswater/Formosa sanitary services. With a revenue forecast of \$1,689,629, the municipality will generate a surplus of \$175,545. However, upon incorporating its annual amortization expense, the municipality falls into a deficit position of \$453,539. This deficit increases to \$706,210 if annual requirements are used rather than amortization. As such, the municipality is significantly underfunding the long-term needs associated with its sanitary services.

In order to meet the annual amortization expense for its sanitary services, we recommend the municipality increase its fees by 2.0% annually for both systems until 2024. Beginning 2025, we recommend the municipality implement an annual rate increase of 2.49% for Mildmay and 13.18% for Teeswater/Formosa. This will produce a uniform fee of \$795 by 2029 and a surplus of \$22,084. If existing fees are maintained, the municipality will run a deficit of \$477,700.

As with water services, higher increases are needed to fully fund the municipality's annual requirements for its sanitary services. The municipality should implement a 2% annual increase until 2024 for both systems. Beginning 2025, we recommend an increase of 7.69% for Mildmay and 18.92% for Teeswater. This will produce a uniform fee of \$1,018 and generate sufficient revenues

to meet the municipality's sanitary annual requirements. Beginning 2030, we recommend the municipality implement a 4.35% annual increase on this uniform fee. This will allow the municipality to continue to full fund its long-term infrastructure requirements and establish a foundation for major expenditures without the use of debt.

## I. Objective of the Rate Study and Financial Plan

In May 2002, Justice Dennis O'Connor delivered a two-part report detailing the Walkerton water systems contamination of 2000. While Part 1 of the submission provided a critical analysis of the events, Part 2 focused on the future, and contained policy recommendations designed to safeguard Ontario's water systems. A total of 93 recommendations were made in Part 2; recommendation 67 of the report suggested that the province enact a *Safe Drinking Water Act (SDWA)* "to deal with matters related to the treatment and distribution of drinking water."

Justice O'Connor proposed "requiring each municipality to have a financial plan that provides for full cost recovery and for proper asset management in accordance with provincially established standards." Ontario Regulation 453/07 of *SDWA* details the requirements of the financial plans related to water systems. For municipalities which are renewing their license, these requirements are:

- The financial plans must be approved by a council resolution which indicates that the drinking water system is financially viable;
- The financial plans must apply to a period of at least six years.
- Financial statements must be prepared in accordance with PSAB standards.
- For each year in which the financial plans apply, the financial plans must include details of the proposed or projected financial operations, current financial position, capital plan, and revenues
- Municipalities operating multiple water systems may satisfy the requirements of the *SDWA* financial plans by treating such systems as one.
- The financial plans must be made public upon request and free of charge. Further, they must also be published on the municipality's website (if maintained) at no charge.
- The financial plans must be submitted to the Ministry of Municipal Affairs and Housing.

The Municipality of South Bruce has two distinct water systems, Mildmay and Teeswater, that each provide water services to residents. Sanitary services to residents (including those of Formosa) are delivered through the municipality's Mildmay and Teeswater/Formosa systems. These systems have disparate water and sanitary fees for their respective customers.

In this study, we provide an analysis of the municipality's existing fee structures and then develop a uniform target fee for the municipality's water and sanitary services so that customers currently serviced by either system will pay identical annual fees.

Given the disparity in rates between the two systems, customers will experience different rate increases. Finally, in accordance with O.Reg. 453/07, an individual financial plan for water services is presented; while not required under the regulation, a financial plan for sanitary services is within the scope of this report and is presented as well. These financial plans provided herein account for the full-cost of providing water and wastewater services to the residents of South Bruce.

## II. Data and Methodology

In order to develop a uniform target fee for the municipality's customers, we combine the individual financial data from Mildmay and Teeswater for most projections and forecasts. We use 2016 budget figures supplied by the municipality for both expenses and revenues; these figures are then used as the foundation for all analysis, projections and recommendations.

The municipality also supplied a list of capital projects. Through discussion with municipal staff, only those projects deemed critical were included in the financial plan and rate analysis. Additional projects that have been deferred are identified in this study; however, they are not included in the financial plan or rate analysis.

The municipality's water and sanitary infrastructure data, including replacement values, amortization schedules, and annual requirements, etc. was extracted from CityWide® Tangible Assets, which serves as the town's asset registry and TCA module.

For both water and sanitary services, we present two scenarios for rate analysis and financial plans. Scenario 1 provides analysis and recommendations to account for the annual amortization expense related to existing and new assets. This approach relies on the historical cost of infrastructure to inform future requirements. In Scenario 2, we provide analysis and recommendations using the municipality's annual requirements. This approach relies on the current replacement cost of assets rather than historical cost for long-term planning purposes.

## III. Municipal Profile

The Municipality of South Bruce is located in the southeast corner of Bruce County, with Mildmay and Teeswater serving as its two urban centres. A rural community, South Bruce had a total population of 5,685 based on the 2011 census. This represents a 6.2% decrease for the municipality since 2001, whereas the county experienced a population increase of 3.5%. Furthermore, this steady decline is expected to continue to 2021, when the municipality will see its population reduce to 5,479.<sup>1</sup>

A healthy infrastructure portfolio is inextricably linked to a community's economic and social wellbeing. Declining population can compromise a municipality's financial capacity to maintain acceptable levels of service. In this regard, South Bruce faces an important, delicate challenge in configuring an optimal infrastructure portfolio without exceeding the ability of a declining revenue base to fund it.

<sup>&</sup>lt;sup>1</sup> SHS Consulting, Bruce County Census Update, 2009, pg.81.

## **IV.** Water Services

### 1. Current Fee Structure

Table 1 illustrates the current fee structure for the municipality's two water systems and the total number of customers serviced by each system. The municipality implements only a fixed annual fee, with no volumetric charge imposed on users based on consumption levels.

Grantiana	2016 Americal France	Number of Users		
System	2016 Annual Fee	Residential	Non-residential	Total
Mildmay	\$450	564	87	651
Teeswater	\$475	489	83	572
	Total	1053	170	1223

Table 1 Existing Fee Structure – Water Services

We reviewed 13 water systems in eight municipalities in Bruce County to assess the comparability of South Bruce's water rates relative to a demographically and geographically similar peer group. The average total annual cost per user in Bruce County was \$499. With the exception of South Bruce, the fee structure for all municipalities contained both a fixed and consumption-based component. In Northern Bruce Peninsula, volumetric charges can account for nearly 80% of a customer's annual water bill. On average, volumetric charges comprise 31% of the charges incurred by customers for water service delivery in Bruce County. Figure 1 illustrates the total annual water charges for the municipalities in our sample set.

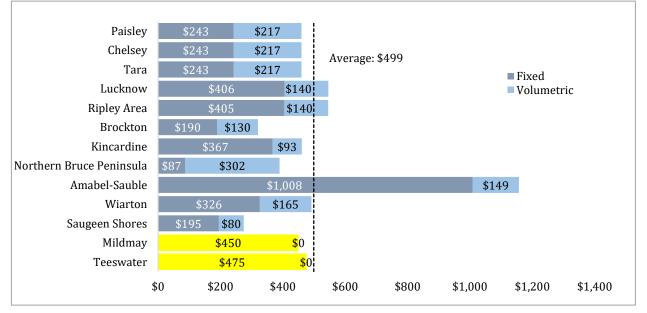


Figure 1 Comparing Annual Water Charges in Bruce County

Table 2 illustrates the fixed and volumetric rates across the eight municipalities in Bruce County. We use an annual water consumption rate of 100m<sup>3</sup> to estimate the annual volumetric charge. This figure is based on a 2011 Environment Canada study on household water consumption.<sup>2</sup>

	Annual Cost				
Water System	Fixed	Volumetric	Total	Volumetric Charge as a Percentage of Total Annual Cost	
South Bruce					
Teeswater	\$475	\$0	\$475	0%	
Mildmay	\$450	\$0	\$450	0%	
Saugeen Shores	\$195	\$80	\$275	29%	
South Bruce Peninsula					
Wiarton	\$326	\$165	\$492	34%	
Amabel-Sauble	\$1,008	\$149	\$1,157	13%	
NB Peninsula	\$87	\$302	\$389	78%	
Kincardine	\$367	\$93	\$461	20%	
Brockton	\$190	\$130	\$320	41%	
Huron-Kinloss					
Ripley Area	\$405	\$140	\$545	26%	
Lucknow	\$406	\$140	\$546	26%	
Arran-Elderslie					
Tara	\$243	\$217	\$459	47%	
Chelsey	\$243	\$217	\$459	47%	
Paisley	\$243	\$217	\$459	47%	
Average	\$357	\$142	\$499	31%	

Table 2 Volumetric Cost as Percentage of Total Annual Costs: Water Services

## 2. Water Meter Feasibility

Water meters allow for different fee structuring, based on level of water consumption, and are designed to facilitate equitable billing and encourage conservation. In this regard, municipalities face a catch-22: with increased conservation, while the demand on its water and sanitary infrastructure will decline, prolonging its useful life and reducing the overall annual requirements, the municipality will generate lower revenues to finance its infrastructure programs. However, meters do provide water consumption data, which municipalities can use to more accurately map and forecast replacement and rehabilitation needs. Perhaps the most integral argument in support of meters is equity.

Based on its 2015 estimates, South Bruce has determined its water meter installation project will cost the municipality approximately \$800,000, more than 80% of which will be allocated for materials and construction. In addition to the initial acquisition costs, conversion to a metering system also imposes new administration costs, requiring new billing system and added personnel costs. The water meter installation project has been deferred by South Bruce Council, and its progress remains contingent on funding from senior governments.

<sup>&</sup>lt;sup>2</sup> Residential Water Use in Canada, https://www.ec.gc.ca/indicateurs-indicators/default.asp?lang=en&n=7E808512-1

## 3. Expense Analysis

In order to determine the suitability of the municipality's existing fees, we summarize all expenditures and revenues related to the municipality's two water systems. A comprehensive list of all expenditures and revenues is enumerated in Appendix 2. In total, the two systems will incur \$522,874 in expenses in 2016.

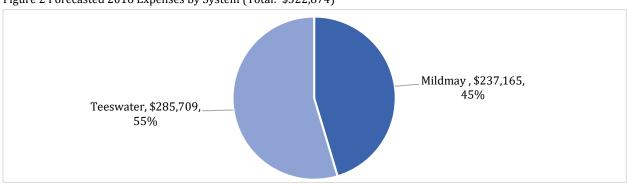


Figure 2 Forecasted 2016 Expenses by System (Total: \$522,874)

Figure 3 Forecasted 2016 Expenses: Mildmay Water Services (Total: \$237,165)

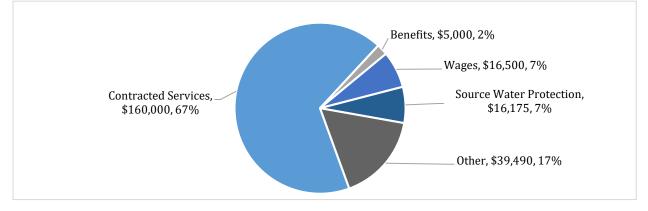
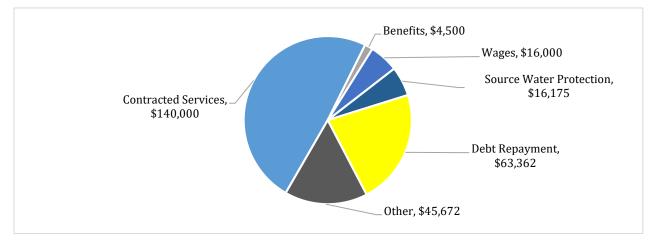
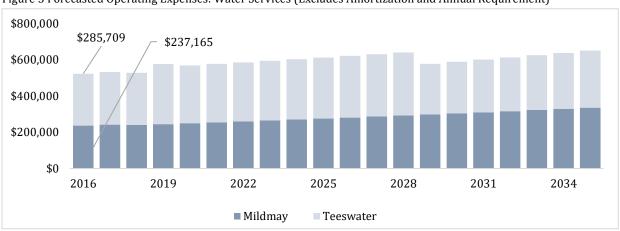


Figure 4 Forecasted 2016 Expenses: Teeswater Water Services (Total: \$285,709)



While these expenses include principal and interest payments (P&I), they do not account for noncash outlays, such as amortization or annual requirements (lifecycle). Allocating the annual amortization expense for capital assets is a critical first step in building a sustainable asset management program. However, as this approach is based on the historical cost of assets, it does not produce sufficient funds to meet replacement needs. Instead, we recommend the municipality build its financial strategies around on the annual requirements for its infrastructure. Using a 2% inflation rate, the chart below illustrates the operating costs at the two systems over the course of the projection period.





#### **Debt Repayment**

In 2016, the Teeswater system had \$63,362 in P&I payments for its 5-year debenture. Upon the issuance of a 10-year debenture of \$725,000 for the construction of a second water well, these debt repayments will increase to \$102,841 in 2019. By 2029, the 10-year debenture will be fully repaid. There were no debt repayments related to the municipality's Mildmay system. Figure 5 illustrates the changes in P&I payments for Teeswater water.

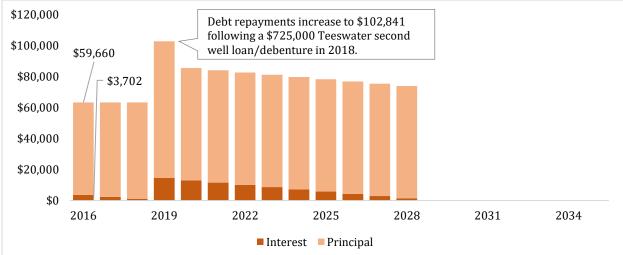


Figure 6 Teeswater Water Debt Repayment

#### **Amortization and Annual Requirements**

In addition to day-to-day operational expenses and debt repayments, below, we outline the amortization and annual requirements for the municipality's existing asset portfolio.

	2016 Amortization	2016 Annual Requirements
Mildmay	\$41,368	\$82,495
Teeswater	\$45,785	\$100,069
Total	\$87,153	\$182,564

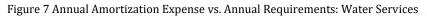
Table 3 Comparing Amortization and Annual Requirements for Existing Assets: Water Services

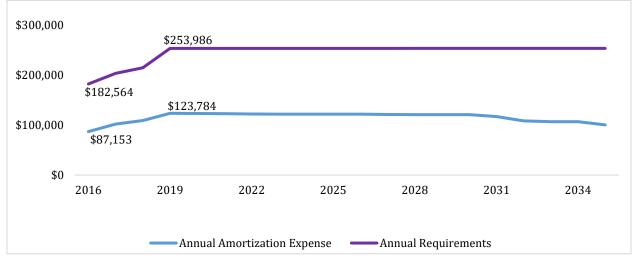
When planning around the current replacement cost of the assets rather than its historical cost, the municipality's annual allocation more than doubles. While this is a substantial challenge, over the long term, it can be pivotal in mitigating perpetual infrastructure deficits. Through the projection period in this study, the amortization will fluctuate with asset acquisition and disposals. The table below shows the planned expenditures identified by the municipality for Mildmay and Teeswater, and the additional amortization expense associated with each project.

Expenditure	Estimated Cost	Estimated Useful Life	Annual Amortization Expense	Year
Mildmay				
Water tower Liner and Overcoat	\$286,000	20	\$14,300	2016
Water main leak detection survey	\$5,000	-	\$0	2016
Well 2 rehabilitation	\$10,250	23	\$446	2016
Driveway pavement	\$11,000	25	\$440	2016
SCADA	\$150,000	20	\$7,500	2017
New locator	\$1,250	-	\$0	2016
Teeswater				
Water main leak detection survey	\$5,000	2016	\$0	2016
Rear yard water main decommission	\$7,500	2016	\$0	2016
New locator	\$1,250	2017	\$0	2017
Second well	\$725,000	2018	\$14,500	2018

Table 4 Planned Expenditures: Water Services

In addition to deferring the installation of water meters for Mildmay and Teeswater, the completion of a storage facility for Teeswater water (\$1,500,000) will also be contingent on grant availability. As these projects are completed, the annual amortization expense, and the annual requirements, will increase further. The chart below illustrates how the combined annual amortization expenses for Teeswater and Mildmay, and their annual requirements, will evolve over the projection period.





As a result of acquisition and construction of new capital assets, the annual amortization expense increases to \$123,784 in 2019; the annual requirements increases from \$182,564 in 2016 to \$253,986.

#### **Total Expenses**

In 2016, the municipality's forecasted expenses total \$610,027, including \$87,153 in amortization expense. If annual requirements, totalling \$182,564, are used in place of amortization for long-term planning, the forecasted expense will increase to \$705,438. The chart below shows how the combined expenses for the municipality's water services will evolve over the projection period depending on the municipality's planning strategy. An annual inflation rate of 2% is used for projections.

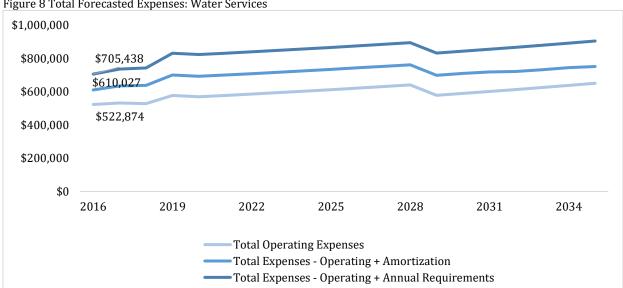


Figure 8 Total Forecasted Expenses: Water Services

## 4. Revenue Analysis: Existing Fees

In this section, we detail the municipality's 2016 forecasted revenues for Mildmay and Teeswater water services. The municipality estimates it will generate \$608,480 in 2016.

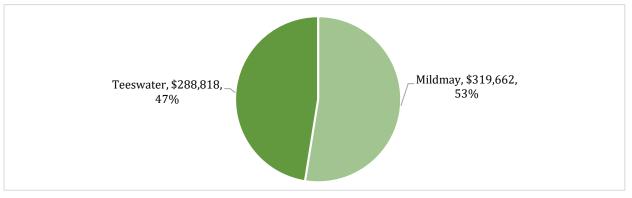


Figure 9 Forecasted 2016 Water Services Revenue by System (Total: \$608,480)

Figure 10 Forecasted 2016 Revenue: Mildmay Water (Total: \$319,662)

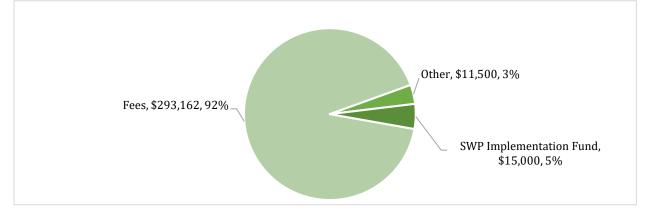
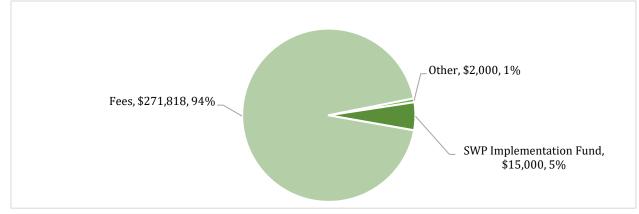
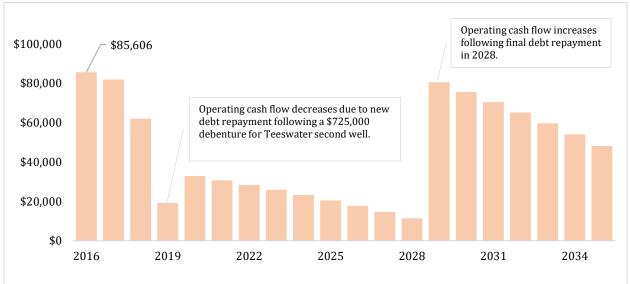


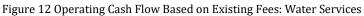
Figure 11 Forecasted 2016 Revenue: Teeswater Water (Total: \$288,818)



## 5. Assessing the Feasibility of Existing Water Fees

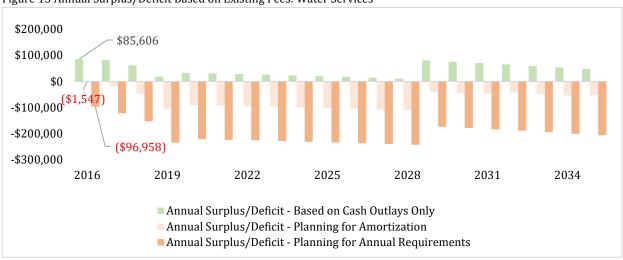
In this section , we determine whether existing fees are sufficient to meet the municipality's cash outlays and non-cash expenses for its water services. We continue the municipality's practice of forecasting a 1% annual increase in new connections through the projection period. The chart below illustrates whether the municipality's revenues can account for the annual cash outlays, including principal and interest repayments.

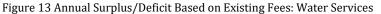




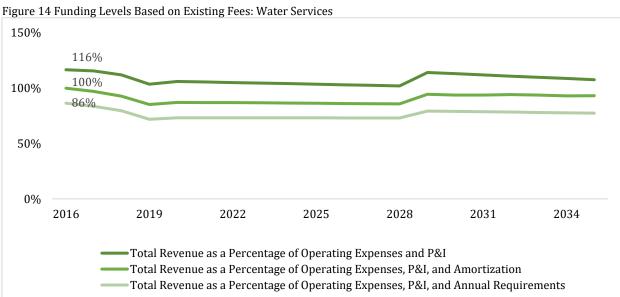
Based on existing rates, the municipality expects to generate a combined \$608,480 in total revenues in 2016 for its Teeswater and Mildmay systems. Cash expenses are expected to total \$522,874, without accounting for the amortization or annual requirements associated. As such, the municipality will generate a positive operating cash flow of \$85,606. The operating cash flow is expected to remain positive over the projection period, although at a declining rate as operating expenses are projected to increase at a faster rate. As its debt repayment decreases from approximately \$73,950 in 2028 to \$0 in 2029, South Bruce will see an increase in its operating cash flow; however, again, at a declining rate.

While the municipality's existing rate revenues are sufficient to meet its annual cash expenses and debt obligations, the revenues are inadequate to meet long-term infrastructure requirements. The chart below illustrates the municipality's annual deficits when non-cash expenses such as amortization and annual requirements are incorporated into financial planning.





Upon incorporating amortization, the municipality falls into a deficit position of \$1,547 in 2016, rather than a surplus of \$85,606. If the municipality's long-term planning is centered on current replacement costs rather than historical cost, this deficit rises to \$96,958. In contrast to accounting for only operating expenses and debt obligations, the municipality runs an annual deficit in each year of the projection period when non-cash expenses are incorporated, underfunding its long-term infrastructure needs. Figure 14 below illustrates the municipality's funding levels through the projection period.



## 6. Establishing New Fees

While the municipality is sufficiently funded to meet its operating needs and debt obligations, its existing revenues do not allow the municipality to fully fund its amortization and annual requirement needs. To eliminate funding gaps, the municipality must increase its annual fees.

Planning Strategy	Average Funding Levels 2016-2035
Cover operating expenses and P&I	108%
Cover operating expenses, P&I, and amortization (based on historical cost)	90%
Cover operating expenses, P&I, and annual requirements (based on replacement cost)	76%

Table 5 Average Funding Levels Based on Planning Strategy

#### **Scenario 1: Establishing New Fees to Meet Amortization Needs**

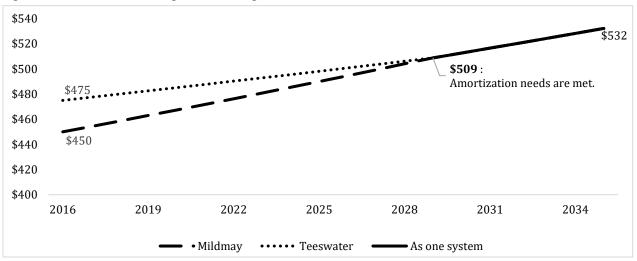
At a minimum, for the purpose of asset management, the municipality should allocate sufficient funding each year to account for its annual amortization expense. As the municipality is in a deficit position when amortization is incorporated, a gradual increase in fees should be phased in to meet these requirements.

Our analysis based on a 20-year outlook suggests that the municipality must increase its combined fee revenues by 0.75% until 2029, at which point it will generate sufficient revenues to account for anticipated operating expenses and amortization of existing and new assets. Based on an annual 1% growth rate, the number of users will increase to 741 for Mildmay and 651 for Teeswater, for a total of 1,392.

Using an annual increase of 0.75% and 1,392 customers, the municipality will generate \$708,124 in rate revenue in 2029, producing a surplus of \$25,006. The uniform target fee needed to reach this revenue is \$509. As the two systems charge different fees, the respective annual increases needed will vary. The table below illustrates the annual rate increases needed for Mildmay and Teeswater customers to meet amortization needs by 2029 and reach our target uniform fee of \$509. By the end of the projection period, the uniform target fee will increase to \$532 (using 0.75% annual increase after 2029) for both Mildmay and Teeswater customers.

	2016	2029	2035
Fee – Mildmay	\$450	\$509	\$532
Fee – Teeswater	\$475	\$509	\$532
Annual rate increase required to reach Uniform Target Fee of \$509 by 2029 - Mildmay			
Annual rate increase required to reach Uniform Target Fee of \$509 by 2029 - Teeswater			

Table 6 Establishing a Uniform Target Fee for Water Services to Account for Amortization



#### Figure 15 Scenario 1: Establishing a Uniform Target Water Fee to Meet Amortization Needs

#### **Scenario 1: Recommendations**

In summary, we recommend the following to meet the municipality's amortization needs:

- Increase Mildmay user fee by 0.95% annually until 2029. The fee for Mildmay customers will increase to \$509.
- Increase Teeswater user fee by 0.53% annually until 2029. The fee for Teeswater customers will increase to \$509.
- Continue to increase fees by 0.75% annually. In our projection period, concluding in 2035, the fee will rise to \$532.



Figure 16 Scenario 1: Comparing Annual Surplus/Deficit - Existing Water Fees vs. New Water Fees

Under existing fees, the municipality will run a deficit through the projection period, and this deficit will continue to grow. As the municipality implements the above recommended annual increases, the uniform target fee of \$509 will be sufficient to cover the annual amortization expense, producing a surplus of \$25,108 in 2029. This varies slightly from the \$25,006 listed above as individual annual increases are applied to each system between 2016-2029 rather than an average of 0.75%.

#### **Scenario 1: Impact on Reserves**

As of January 1<sup>st</sup> 2016, the municipality had a combined reserve balance of \$1,069,634. The municipality's forecasted allocation to reserves in 2016 is \$89,131 for both systems. This will produce a combined, forecasted closing balance of \$1,158,765. The chart below show how the annual transfer to reserves will evolve over the projection period based on recommended rate increases.

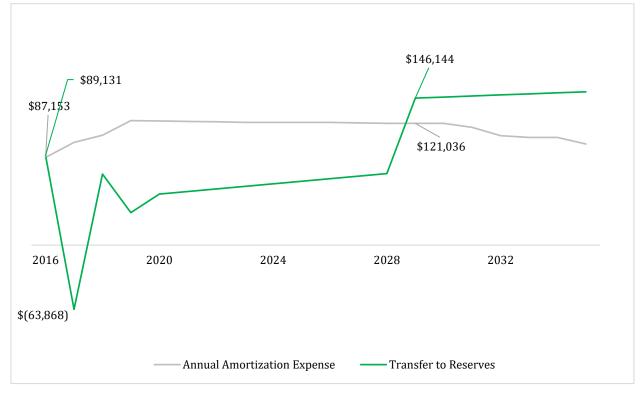


Figure 17 Scenario 1: Impact of New Water Fees on Annual Transfer to Reserves

In 2029, the municipality is forecasted to allocate \$146,144 based on the new fee structure. This will be sufficient to account for the amortization expense of \$121,036.

#### **Scenario 2: Establishing New Fees to Meet Annual Requirements**

Our approach to developing new fees to meet annual requirements is similar to that of amortization expense. Setting aside funds annually for non-cash expenses such as amortization is an important step toward developing a sustainable asset management program. However, as amortization is based on historical costs, the municipality will not accumulate sufficient funds for future replacement needs. A better, although more demanding strategy, is to plan based on current replacement costs.

Whereas the amortization expense for South Bruce's water infrastructure totalled \$87,152 in 2016, the annual requirements were \$182,564. This figure will increase to more than \$253,000 following acquisition of additional assets between 2016-2018. Our analysis suggests the fee revenues must increase by 2.15% annually to account for the annual requirements; under this new fee schedule, the municipality will generate a surplus in 2032 based on a uniform target fee of \$608 per user. The chart below illustrates the respective fee increases needed for each system if long-term planning is premised on current replacement costs rather than historical costs. For consistency with the amortization approach, we've used 2029 as our target year.

	2016	2029	2035
Fee – Mildmay	\$450	\$608	\$691
Fee – Teeswater	\$475	\$608	\$691
Annual rate increase required to reach Uniform Target Fee of \$68 by 2029- Mildmay			2.34%
Annual rate increase required to reach Uniform Target Fee of \$608 by 2029 - Teeswater			

Table 7 Establishing a Uniform Target Fee to Meet Annual Requirements for Water Services

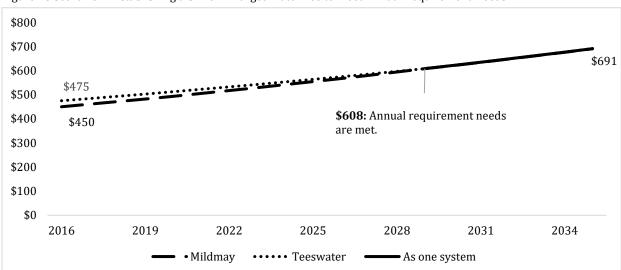


Figure 18 Scenario 2: Establishing a Uniform Target Water Fee to Meet Annual Requirement Needs

#### **Scenario 2: Recommendations**

In summary we recommend the following to meet the municipality's annual requirement needs:

- Increase Mildmay user fee by 2.34% annually until 2029. The fee for Mildmay customers will increase to \$608.
- Increase Teeswater user fee by 1.92% annually until 2029. The fee for Teeswater customers will increase to \$605.
- Continue to increase fees by 2.15% annually. In our projection period, concluding in 2035, the fee will rise to \$691.

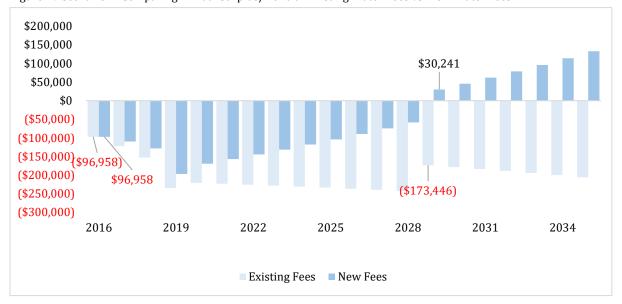


Figure 19 Scenario 2: Comparing Annual Surplus/Deficit - Existing Water Fees vs. New Water Fees

Without rate increases, the municipality will continue to run an annual deficit through the projection period. Using the recommended rates, the municipality will rise into a surplus position in 2029, generating \$30,241 after accounting for annual requirement needs.

#### **Scenario 2: Impact on Reserves**

As of January 1<sup>st</sup> 2016, the municipality had a combined reserve balance of \$1,069,634. The municipality's forecasted allocation to reserves in 2016 is \$89,131 for both systems. This will produce a combined, forecasted closing balance of \$1,158,765. The chart below show how annual transfer to reserves will evolve over the projection period based on recommended rate increases to meet annual requirements.

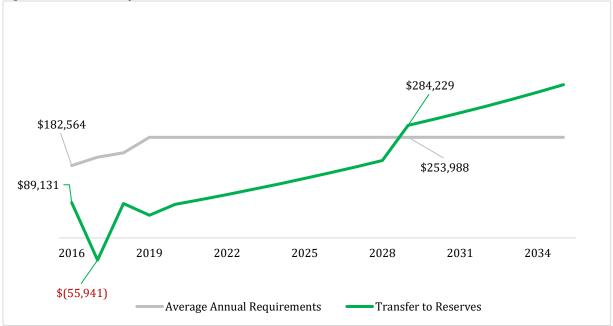


Figure 20 Scenario 2: Impact of New Water Fees on Annual Transfer to Reserves

In 2029, the municipality is forecasted to allocate \$284,229 based on the new fee structure. This will be sufficient to fully fund its annual requirements of \$253,986.

## V. Sanitary Services

### 1. Current Fee Structure

Table 1 illustrates the current fee structure for the municipality's two sanitary systems and the total number of customers serviced by each system. As with its water services, the municipality implements only a fixed annual fee, with no volumetric charge imposed based on volume of water treatment levels.

	2016 Appual		Nur	nber of Users	
System	2016 Annual Fee	Percent Change from 2015	Residential	Non- residential	Total
Mildmay	\$600	0	551	70	621
Teeswater	\$365	14.3%	644	97	741
	Total		1,195	167	1362

Table 8 Existing Fee Structure – South Bruce Sanitary

We reviewed 13 water and sanitary systems in eight municipalities in Bruce County to assess the comparability of South Bruce's sanitary rates relative to a demographically and geographically similar peer group. The average total annual cost per user in Bruce County was \$484. Five sanitary systems in four municipalities implemented volumetric charges for their sanitary services. On average, volumetric charges comprise 18% of the charges incurred by customers for sanitary services in Bruce County.

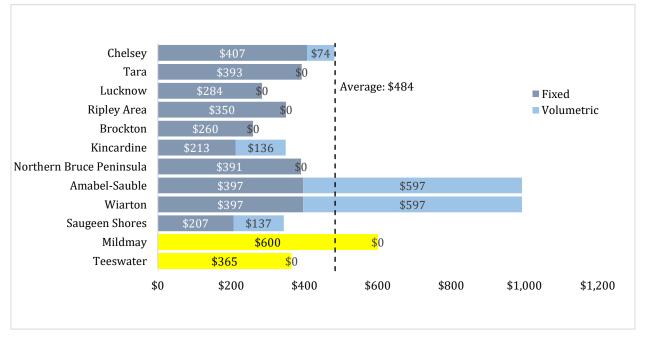


Figure 21 Comparing Sanitary Fees in Bruce County

Table 9 illustrates the fixed and volumetric rates across the eight municipalities in Bruce County. We use 1:1 ratio of water consumption to sanitary treatment, and an annual water consumption rate of  $100m^{3.3}$ 

	Annual Cost			
Municipality	Fixed	Volumetric	Total	Volumetric as a Percentage of Total Annual Cost
South Bruce				
Teeswater	\$365	\$0	\$365	0%
Mildmay	\$600	\$0	\$600	0%
Saugeen Shores	\$207	\$137	\$344	40%
South Bruce Peninsula				
Wiarton	\$397	\$597	\$994	60%
Amabel-Sauble	\$397	\$597	\$994	60%
NB Peninsula	NA	NA	NA	NA
Kincardine	\$391	\$0	\$391	0%
Brockton	\$213	\$136	\$349	39%
Huron-Kinloss				
Ripley Area	\$260	\$0	\$260	0%
Lucknow	\$350	\$0	\$350	0%
Arran-Elderslie				
Tara	\$284	\$0	\$284	0%
Chelsey	\$393	\$0	\$393	0%
Paisley	\$407	\$74	\$482	15%
Average	\$355	\$128	\$484	18%

Table 9 Volumetric Cost as Percentage of Total Annual Cost: Sanitary Services

<sup>&</sup>lt;sup>3</sup> Residential Water Use in Canada, https://www.ec.gc.ca/indicateurs-indicators/default.asp?lang=en&n=7E808512-1

## 2. Expense Analysis

In order to determine the suitability of the municipality's existing fees, we summarize all expenditures and revenues related to the municipality's two sanitary systems. A comprehensive list of all expenditures and revenues is enumerated in Appendix 2. In total, the two systems will incur \$1,514,084 in expenses in 2016, including long-term debt repayment for Teeswater/Formosa totaling \$739,163.

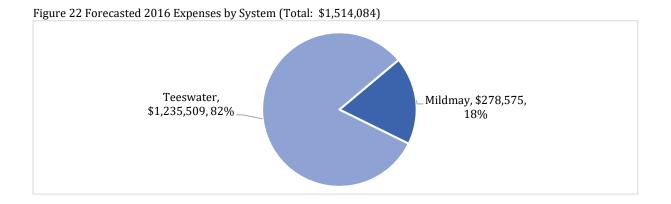
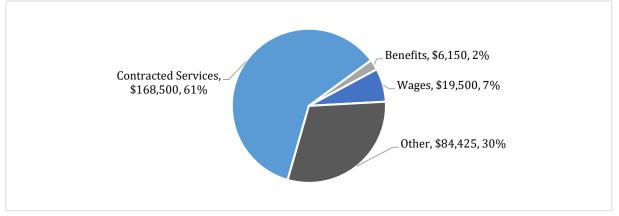
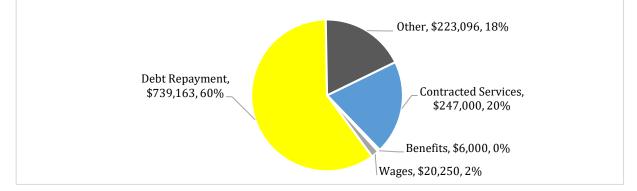


Figure 23 Forecasted 2016 Expenses: Mildmay Sanitary Services (Total: \$278,575)







These expenses do not account for non-cash expenses, such as amortization or annual requirements (lifecycle). As with water services, allocating the annual amortization expense for sanitary capital assets is a critical first step in building a sustainable asset management program. However, as this approach is based on the historical cost of assets, it does not produce sufficient funds to meet replacement needs. Instead, we recommend the municipality build its financial strategies around on the annual requirements for its infrastructure.

Using a 2% inflation rate, the chart below illustrates the operating expenses for the two systems over the course of the projection period, beginning with \$1,514,084 in 2016.

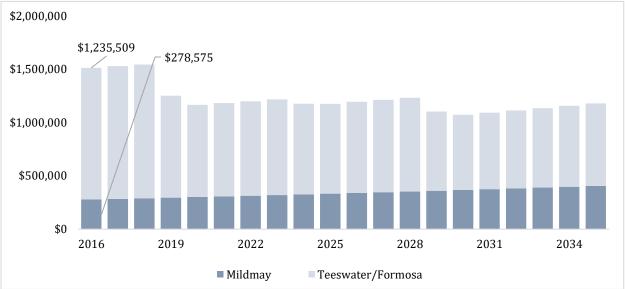


Figure 25 Forecasted Operating Expenses: Water Services (Excludes Amortization and Annual Requirement)

#### **Debt Repayment**

In 2016, the Teeswater/Formosa had \$739,163 in P&I debt repayments. There were no debt repayments related to the municipality's Mildmay system. Figure 26 illustrates the changes in P&I payments for Teeswater.

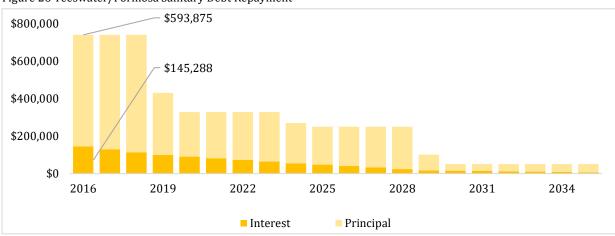


Figure 26 Teeswater/Formosa Sanitary Debt Repayment

#### **Amortization and Annual Requirements**

In addition to day-to-day operational expenses and debt repayments, below, we outline the amortization and annual requirements for the municipality's existing asset portfolio.

Table 10 Comparing Amortization and Annual Requirements for Existing Assets: Sanitary Services

	2016 Amortization	2016 Annual Requirements
Mildmay	\$133,835	\$369,190
Teeswater/Formosa	\$495,249	\$512,565
Total	\$629,084	\$881,755

When planning around the current replacement cost of the assets rather than its historical cost, the municipality's annual deficit grows significantly. While this is a substantial challenge, over the long term, it can be pivotal in mitigating perpetual infrastructure deficits. Through the projection period in this study, the amortization will fluctuate with asset acquisition and disposals. The table below shows the planned major expenditures identified by the municipality for Mildmay and Teeswater, and the additional amortization expense associated with each project.

Table 11 Planned Expenditures: Sanitary Services

Project	Estimated Cost	Estimated Useful Life	Annual Amortization Expense	Year
Mildmay - SCADA	\$150,000	20	\$7,500	2017

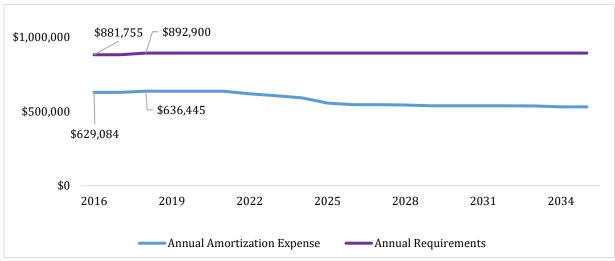


Figure 27 Amortization vs. Annual Requirements: Sanitary Services

As a result of acquisition of new capital assets, the annual amortization expense increases slightly to \$636,445 in 2018; similarly, the annual requirements increases from \$881,755 in 2016 to \$892,90 for the remainder of the projection period.

#### **Total Expenses**

In 2016, the municipality's forecasted expenses for sanitary services total \$2,143,168, including \$629,084 in non-cash amortization expense. If annual requirements, totalling \$881,755, are used in place of amortization for long-term planning, the forecasted expense will increase to \$2,395,839. The chart below shows how the combined expenses for the municipality's sanitary services will evolve over the projection period depending on the municipality's planning strategy. An annual inflation rate of 2% is used for projections.

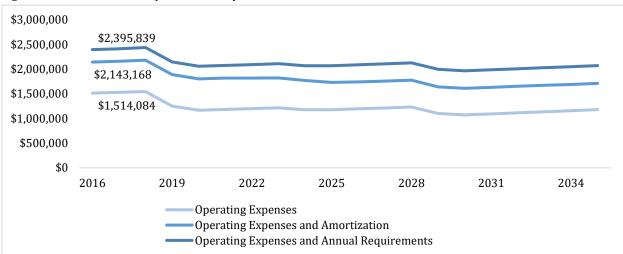


Figure 28 Total Forecasted Expenses: Sanitary Services

#### 3. **Revenue Analysis: Existing Fees**

In this section, we detail the municipality's 2016 forecasted revenues for Mildmay and Teeswater sanitary services. The municipality estimates it will generate \$1,689,629 in 2016, including Sewer Capital Collection fees totalling \$722,053 for the Teeswater/Formosa system.

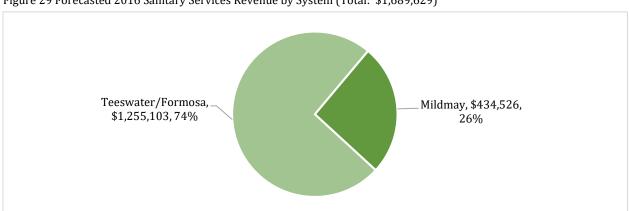


Figure 29 Forecasted 2016 Sanitary Services Revenue by System (Total: \$1,689,629)

Figure 30 Forecasted 2016 Revenue: Mildmay (Total: \$434,526)

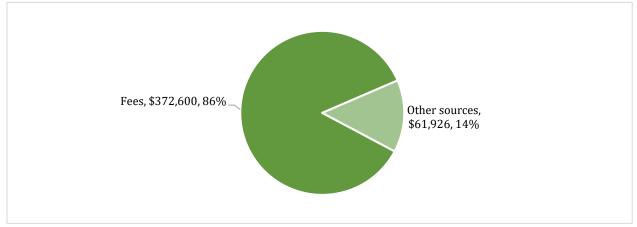
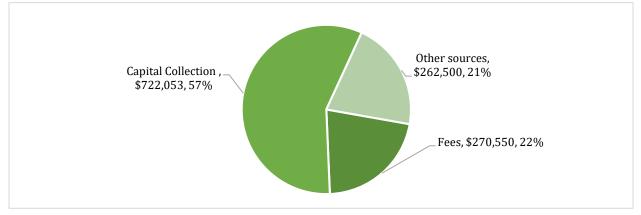
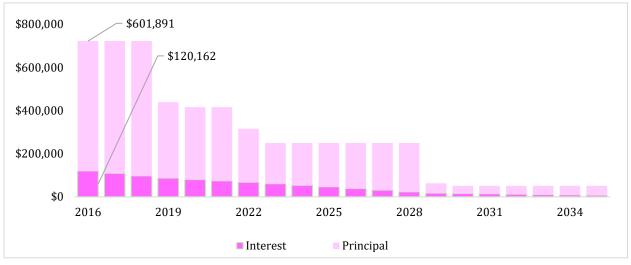


Figure 31 Forecasted 2016 Revenue: Teeswater/Formosa (Total: \$1,255,103)







## 4. Assessing the Feasibility of Existing Sanitary Fees

In this section , we determine whether existing fees are sufficient to meet the municipality's cash outlays and non-cash considerations for its sanitary services. We continue the municipality's practice of forecasting a 1% annual increase in new connections through the projection period. The chart below illustrates whether the municipality's revenues can account for its annual cash expenses.

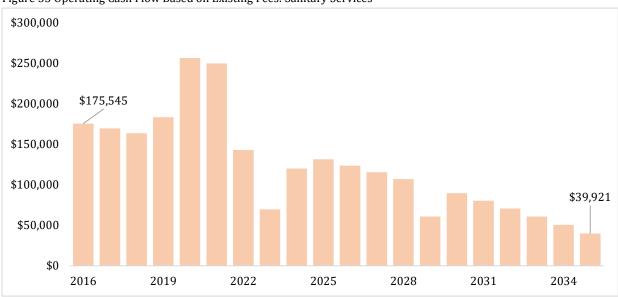


Figure 33 Operating Cash Flow Based on Existing Fees: Sanitary Services

Based on existing fees, the municipality expects to generate a combined \$1,689,629 in total revenues in 2016 for its Teeswater/Formosa and Mildmay systems. Cash expenses are expected to total \$1,514,084, without accounting for the amortization or annual requirements. As such, the municipality will generate a positive operating cash flow of \$175,545. The operating cash flow is expected to remain positive over the projection period, although at a declining rate as operating expenses are projected to increase at a faster rate than revenues. If existing fees are maintained, the municipality's cash flow will decrease to \$39,921 by 2035.

While the municipality's existing rate revenues are sufficient to meet its annual cash expenditures, the revenues are inadequate to meet long-term infrastructure requirements. The chart below illustrates the municipality's annual deficits when non-cash expenses such as amortization and annual requirements are incorporated into financial planning.

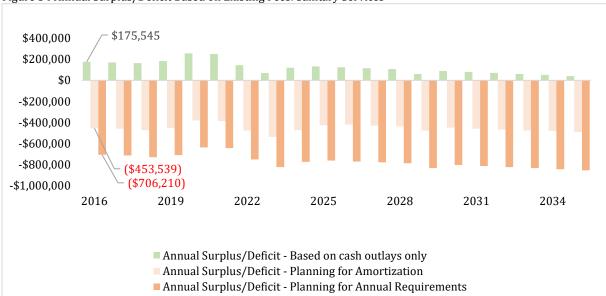


Figure 34 Annual Surplus/Deficit Based on Existing Fees: Sanitary Services

Upon incorporating amortization, the municipality falls into a deficit position of \$453,539. If the municipality's long-term planning is centered on current replacement costs rather than historical cost, this deficit increases to \$706,210. In contrast to accounting for only operating expenses, the municipality runs an annual deficit in each year of the projection period when non-cash expenses are incorporated, underfunding its long-term needs. The chart below illustrates the municipality's funding levels through the projection period. Currently, the municipality is underfunding for both its amortization and annual requirement needs.

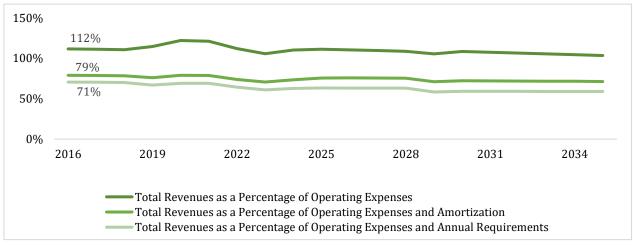


Figure 35 Funding Levels Based on Existing Fees: Sanitary Services

### 5. Establishing New Fees

While the municipality is adequately funded to meet its operating needs, its existing revenues do not allow the municipality to fully fund its amortization and annual requirement needs. To eliminate funding gaps, the municipality must increase its annual fees.

### **Adjusting for Impact of Council Resolution**

Council has passed a resolution deferring any rate increases specifically to recover the cost of the new Teeswater/Formosa system until 2024. We recommend an annual increase in rates of 2.0% to parallel inflation related increase in operating expenses through the projection period. This will maintain positive cash flow levels. The municipality's existing practice of forecasting a 1% annual growth in customers is also applied for sanitary services.

Planning Strategy	With 2% Annual Increase in Rates to Match Inflation	
Cover operating expenses	124%	
Cover operating expenses and amortization (based on historical cost)	84%	
Cover operating expenses and annual requirements (based on replacement cost)	71%	

#### **Scenario 1: Establishing New Fees to Meet Amortization Needs**

At a minimum, for the purpose of asset management, the municipality should allocate sufficient funding each year to account for its annual amortization expense. As the municipality is in a deficit position when amortization is incorporated, a gradual increase in fees should be phased in to meet these requirements.

Our recommendations for sanitary services will begin with a 2% annual increase in revenues to meet inflation needs and maintain existing cash flows. In addition, in consultation with the municipality, we continue to implement a 1% annual increase in new connections.

Our analysis based on a 20-year outlook suggests that, based on the 2% increase above to match inflation and a 1% annual increase in new connections, the municipality must increase its average combined fee revenues by 2.15% annually beginning 2025 to meet its amortization requirements by 2033.

Using an annual increase of 2.15% and 1,613 customers, the municipality will generate \$1.2 million in fee revenue in 2029, producing a surplus of \$22,084. The uniform target fee needed to reach this revenue is \$795. As the two systems charge different fees, their respective annual increases needed will vary. The chart below illustrates the annual rate increases needed for Mildmay and Teeswater customers to meet amortization needs by 2029 and reach our target uniform fee of \$794. By the end of the projection period, the uniform target fee will increase to \$903. To coincide with fee standardization with water services, we've once again set 2029 as our target year.

	2016	2024	2029	2035
Fee – Mildmay	\$600	\$704	\$795	\$903
Fee – Teeswater	\$365	\$428	\$795	\$903
Annual rate increase required to reach Uniform Target Fee of \$795 between 2024-2029 - Mildmay				
Annual rate increase required to reach Uniform Target Fee of \$795 between 2024-2029 - Teeswater				
Annual rate recommended after 2029				

Table 12 Establishing a Uniform Target Fee for Sanitary Services to Account for Amortization

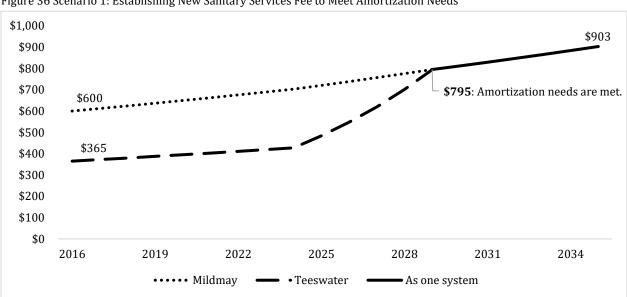


Figure 36 Scenario 1: Establishing New Sanitary Services Fee to Meet Amortization Needs

#### **Scenario 1: Recommendations**

To meet annual amortization expense for its sanitary services, we recommend the following to the municipality:

- Increase rates by 2% annually through the projection period to meet inflation needs and maintain existing cash flow levels. Customers of Mildmay and Teeswater will see their rates increase to \$704 and \$428, respectively.
- Beginning 2025 and until 2029, implement a 2.49% annual increase in rates for Mildmay customers and a 13.18% increase for Teeswater customers, reaching a uniform target fee of \$795. This will allow the municipality to meet its annual amortization expense in 2029.
- Beginning 2030, implement a 2.15% an annual increase on the uniform target fee. This will allow the municipality to continue to meet its amortization needs and establish a foundation to meet its annual requirements.



Figure 37 Scenario 1: Comparing Annual Surplus/Deficit - Existing Sanitary Fees vs. New Sanitary Fees

Without rate increases, the municipality will continue to run an annual deficit through the projection period. Using the recommended rate increases, South Bruce will rise into a surplus position in 2029, generating \$22,084, after accounting for its annual amortization expense.

#### **Scenario 1: Impact on Reserves**

As of January 1<sup>st</sup> 2016, the municipality had a combined reserve balance of \$242,378. The municipality's forecasted allocation to reserves in 2016 is \$174,425 for both systems. This will produce a combined, forecasted closing balance of \$416,803. The chart below show how annual transfer to reserves will evolve over the projection period based on recommended rate increases.

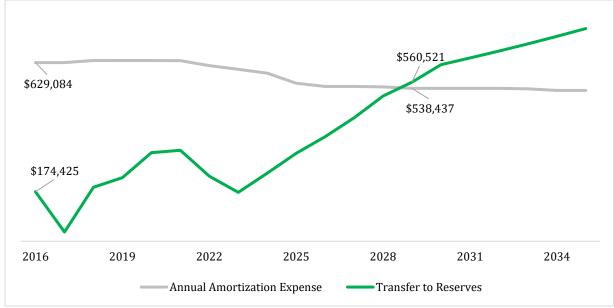


Figure 38 Scenario 1: Impact of New Sanitary Fees on Annual Transfer to Reserves

In 2029, the municipality is forecasted to transfer \$560,521 based on the new fee structure. This will be sufficient to account for the amortization expense of \$538,437, leaving a surplus of \$22,084.

# **Scenario 2: Establishing New Fees to Meet Annual Requirements**

Our approach to developing new fees to meet annual requirements is similar to that of amortization expense. Setting aside funds annually for non-cash expenses such as amortization is an important step toward developing a sustainable asset management program. However, as amortization is based on historical costs, the municipality will not accumulate sufficient funds for future replacement needs. A better, although more demanding strategy is to plan based on current replacement costs.

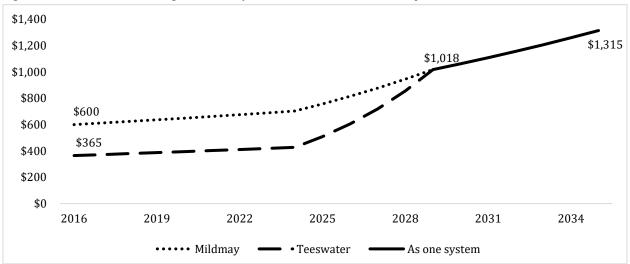
Whereas the amortization expense for South Bruce's sanitary infrastructure totalled \$629,084 in 2016, the annual requirements were \$881,755. This figure will increase to \$892,900 following acquisition of additional assets between 2016-2018.

As with amortization approach, Our recommendations for sanitary services will begin with a 2% annual increase in revenues to meet inflation needs and maintain existing cash flows. In addition, in consultation with the municipality, we continue to implement a 1% annual increase in new connections.

Our analysis based on a 20-year outlook suggests that, based on the 2% increase above to match inflation and a 1% annual increase in new connections, the municipality must increase its average combined fee revenues by 4.35% annually beginning 2025 to meet its annual requirement needs by 2035.

Using an annual increase of 4.35% and 1,645 customers, the municipality will generate \$2,097,357 in total revenue in 2034, producing a surplus of \$46,903. The uniform target fee needed to reach this revenue is \$1,018. As the two systems charge different fees, the respective annual increases needed will vary. The chart below illustrates the annual rate increases needed for Mildmay and Teeswater customers to meet annual requirement needs. To coincide with fee standardization with water services, we've once again set 2029 as our target year.

Table 14         Sanitary Services: Establish	shing a Uniform Tar	get Fee to Meet for A	Annual Requiremen	ts
	2016	2024	2029	2035
Fee – Mildmay	\$600	\$704	\$1,018	\$1,315
Fee – Teeswater	\$365	\$428	\$1,018	\$1,315
Annual rate increase required to read Mildmay	ch Uniform Target F	ee of \$1,018 betwee	en 2024-2029 -	7.69%
Annual rate increase required to read Teeswater	ch Uniform Target F	ee of \$1,018 betwe	en 2024-2029 -	18.92%
Annual rate recommended after 202	9			4.35%



#### Figure 39 Scenario 2: Establishing New Sanitary Services Fee to Meet Annual Requirement Needs

### **Scenario 2: Recommendations**

To fully fund the annual requirements for its sanitary services, we recommend the following to the municipality:

- Increase rates by 2% annually through the projection period to meet inflation needs and maintain existing cash flow levels. Customers of Mildmay and Teeswater will see their rates increase to \$704 and \$428, respectively.
- Beginning 2025 and until 2029, implement a 7.69% increase in rates for Mildmay customers and a 18.92% increase for Teeswater customers, reaching a uniform target fee of \$1,018. This will allow the municipality to meet its annual requirements in 2029.
- Beginning 2030, implement a 4.35% increase on the uniform target fee. This will allow the municipality to continue to meet its annual requirement needs and establish a foundation for major capital expenditures without the use of debt.

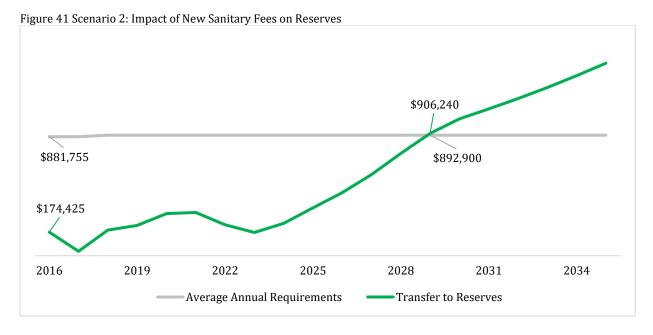
Without rate increases, the municipality will continue to run a deficit through the projection period. New fees will produce a surplus of \$13,340 after accounting for the municipality's annual requirements. Maintaining existing fees will produce a deficit of \$832,163.



Figure 40 Scenario 2: Comparing Annual Surplus/Deficit - Existing Sanitary vs. New Sanitary Fees

# **Scenario 2: Impact on Reserves**

As of January 1<sup>st</sup> 2016, the municipality had a combined reserve balance of \$242,378. The municipality's forecasted allocation to reserves in 2016 is \$174,425 for both systems. This will produce a combined, forecasted closing balance of \$416,803. The chart below show how annual transfer to reserves will evolve over the projection period based on recommended rate increases.



In 2029, the municipality is forecasted to transfer \$906,240 based on the new fee structure This will be sufficient to fully fund its annual requirements of \$892,900, leaving a surplus of \$13,340.

# Appendix 1: Financial Plans

PDF ATTACHED.

						Staten	nent of Fina	ancial Oper enario 1: A			Water									
Operating Revenues	2016		2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Rate Revenue Miscellaneous Revenue Total Revenues	\$ 564,980 \$ 43,500 \$ 608,480	\$ 43,635	\$ 584,650 \$ 13,771 \$ 598,421	\$ 594,918 \$ \$ 13,909 \$ \$ 608,827 \$	605,369 14,048 619,417	\$616,006 \$14,189 \$630,195	\$ 626,833 \$ \$ 14,331 \$ \$ 641,164 \$	637,853 \$ 14,474 \$ 652,327 \$	649,069 14,619 663,688	\$ 660,486 \$ 14,765 \$ 675,251	\$ 672,106 \$ \$ 14,912 \$ \$ 687,019 \$	683,934 \$ 15,062 \$ 698,996 \$	695,973 \$ 15,212 \$ 711,185 \$	708,227 \$ 15,364 \$ 723,591 \$	720,690 \$ 15,518 \$ 736,208 \$	733,373 \$ 15,673 \$ 749,046 \$	746,280 5 15,830 5 762,109 5	5 759,413 5 15,988 5 775,401	\$ 772,778 \$ 16,148 \$ 788.926	\$ 786,377 \$ 16,309 \$ 802,687
<b>Operating Expenses</b> Mildmay																				
Wages Benefits Contracted Services Other Source Water Protection	\$ 16,500 \$ 5,000 \$ 160,000 \$ 39,490 \$ 16,175	\$ 16,830 \$ 5,100 \$ 163,200 \$ 40,280 \$ 16,499	\$ 17,167 \$ 5,202 \$ 166,464 \$ 41,085 \$ 10,000	\$ 17,510 \$ \$ 5,306 \$ \$ 169,793 \$ \$ 41,907 \$ \$ 10,200 \$	17,860 5,412 173,189 42,745 10,404	\$ 18,217 \$ 5,520 \$ 176,653 \$ 43,600 \$ 10,612	\$ 18,582 \$ \$ 5,631 \$ \$ 180,186 \$ \$ 44,472 \$ \$ 10,824 \$	18,953 \$ 5,743 \$ 183,790 \$ 45,362 \$ 11.041 \$	19,332 5,858 187,466 46,269 11,262	\$ 19,719 \$ 5,975 \$ 191,215 \$ 47,194 \$ 11,487	\$ 20,113 \$ \$ 6,095 \$ \$ 195,039 \$ \$ 48,138 \$ \$ 11,717 \$	20,516 \$ 6,217 \$ 198,940 \$ 49,101 \$ 11.951 \$	20,926 \$ 6,341 \$ 202,919 \$ 50,083 \$ 12,190 \$	21,345 \$ 6,468 \$ 206,977 \$ 51,085 \$ 12,434 \$	21,771 \$ 6,597 \$ 211,117 \$ 52,106 \$ 12,682 \$	22,207 \$ 6,729 \$ 215,339 \$ 53,148 \$ 12,936 \$	22,651 6,864 219,646 54,211 13,195	23,104 7,001 224,039 55,296 13,459	\$ 23,566 \$ 7,141 \$ 228,519 \$ 56,401 \$ 13,728	\$ 24,037 \$ 7,284 \$ 233,090 \$ 57,529 \$ 14,002
Total - Mildmay	\$ 237,165	\$ 241,908	\$ 239,918	\$ 244,716 \$	249,611	\$ 254,603	\$ 259,695 \$	264,889 \$	270,187	\$ 275,590	\$ 281,102 \$	286,724 \$	292,459 \$	298,308 \$	304,274 \$	310,360 \$	316,567	322,898	\$ 329,356	\$ 335,943
Teeswater Wages Benefits Contracted Services Other	\$ 16,000 \$ 4,500 \$ 140,000 \$ 45.672	\$ 16,320 \$ 4,590 \$ 142,800 \$ 46,585	\$ 16,646 \$ 4,682 \$ 145,656 \$ 47,517	\$ 16,979 \$ \$ 4,775 \$ \$ 148,569 \$ \$ 48,467 \$	17,319 4,871 151,541 49,437	\$ 17,665 \$ 4,968 \$ 154,571 \$ 50,426	\$ 18,019 \$ \$ 5,068 \$ \$ 157,663 \$ \$ 51,434 \$	18,379 \$ 5,169 \$ 160,816 \$ 52,463 \$	18,747 5,272 164,032 53,512	\$ 19,121 \$ 5,378 \$ 167,313 \$ 54,582	\$ 19,504 \$ \$ 5,485 \$ \$ 170,659 \$ \$ 55,674 \$	19,894 \$ 5,595 \$ 174,072 \$ 56,787 \$	20,292 \$ 5,707 \$ 177,554 \$ 57,923 \$	20,698 \$ 5,821 \$ 181,105 \$ 59,082 \$	21,112 \$ 5,938 \$ 184,727 \$ 60,263 \$	21,534 \$ 6,056 \$ 188,422 \$ 61,468 \$	21,965 6,178 192,190 62,698	22,404 6,301 196,034 63,952	\$22,852 \$6,427 \$199,954 \$65,231	\$ 23,309 \$ 6,556 \$ 203,954 \$ 66,535
Source Water Protection Total - Teeswater	\$ 16,175 \$ 222,347	\$ 16,499 \$ 226,794	\$ 10,000 \$ 224,501	\$ 10,200 \$ \$ 228,991 \$	10,404 233,571	\$ 10,612 \$ 238,243	\$ 10,824 \$ \$ 243,007 \$	11,041 \$ 247,868 \$	11,262 252,825	\$ 11,487 \$ 257,881	\$ 11,717 \$ \$ 263,039 \$	11,951 \$ 268,300 \$	12,190 \$ 273,666 \$	12,434 \$ 279,139 \$	12,682 \$ 284,722 \$	12,936 \$ 290,416 \$	13,195 296,225	302,149	\$ 13,728 \$ 308,192	\$ 14,002 \$ 314,356
Total Operating Expenses	\$ 459,512	\$ 468,702	\$ 464,419	\$ 473,708 \$	483,182	\$ 492,846	\$ 502,702 \$	512,756 \$	523,012	\$ 533,472	\$ 544,141 \$	555,024 \$	566,125 \$	577,447 \$	588,996 \$	600,776 \$	612,791	625,047	\$ 637,548	\$ 650,299
Debt Charges Debt Charges - Interest Payment	\$3,702	\$2,439	\$1,150	\$14,583	\$13,050	\$11,600	\$10,150	\$8,700	\$7,250	\$5,800	\$4,350	\$2,900	\$1,450	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Amortization Expense	\$ 87,153	\$ 102,113	\$ 109,342	\$ 123,784 \$	123,490	\$ 122,941	\$ 122,563 \$	121,940 \$	121,940	\$ 121,940	\$ 121,940 \$	121,563 \$	121,036 \$	121,036 \$	121,036 \$	\$ 117,132 \$	108,742	\$ 107,043	\$ 107,003	\$ 100,601
Total Expenses	\$ 550,367	\$ 573,254	\$ 574,911	\$ 612,074 \$	619,722	\$ 627,386	\$ 635,415 \$	643,396 \$	652,201	\$ 661,211	\$ 670,431 \$	679,487 \$	688,610 \$	698,483 \$	710,032 \$	5 717,908 \$	721,533	\$ 732,091	\$ 744,551	\$ 750,901

												State	ement	of C	ash Fl	ow -	- South	Bru	ce Wa	ter																			
													5	Scen	ario 1:	Am	ortiza	tion																					
Total Revenues	<b>201</b> \$ 608,48		<b>201</b> 618,19		2018 598,421		<b>2019</b> 608,827		<b>2020</b> 619,417		<b>2021</b> 30,195		<b>2022</b> 641,164		<b>2023</b> 552,327	\$	2024 663,688	\$	<b>2025</b> 675,251	\$6	<b>2026</b> 87,019	\$ 6	<b>2027</b> 98,996	\$7	<b>2028</b> 11,185	\$ 72	<b>2029</b> 23,591	\$7	2030 36,208		<b>2031</b> 749,046		2032 762,109		203 775,401		2034 788,926		2035 802,687
Cash Paid For Operating Costs Debt Repayments - Debt Interest	\$ 459,51: \$3,70	2	468,702 \$2,43	9	464,419 \$1,150	Ť.	473,708 \$14,583	Ť (	483,182 \$13,050		92,846		502,702 \$10,150	\$	512,756 \$8,700	\$	523,012 \$7,250	\$	533,472 \$5,800	\$ 5	44,141 \$4,350		55,024 \$2,900	\$ 5	66,125 \$1,450		77,447 \$0	\$5	i88,996 \$0		600,776 \$0	)	612,791 \$0		625,047 \$0	)	637,548 \$0	)	650,299 \$0
Cash Provided from Operating Transactions	\$ 145,26	6\$	147,05	5\$	132,852	\$ ´	120,537	\$ 1	123,185	\$ 1	25,749	\$ 1	128,311	\$	30,870	\$	133,426	\$	135,979	\$ 1	38,527	\$ 1·	41,071	\$ 1·	43,610	\$ 14	16,144	\$ 1	47,212	\$ 1	148,271	\$	149,318	\$	150,354	\$	151,377	\$	152,387
Capital Transactions Acquisition of TCA	\$	- \$	150,00	0\$	725,000	\$		\$		\$		\$		\$		\$		\$		\$		\$		\$		\$		\$		\$		- \$		\$		- \$		- \$	-
Finance Transactions Proceeds from Debt Issues Debt Repayment - Principal only	\$ \$ 59.66	- \$ 0 \$	60,923		725,000 62,213	\$	88,258	s	72,500	\$	72,500	\$	72,500	s	72,500	\$	72,500	s	72,500	\$	72,500	\$	72,500	s	72,500	\$	-	\$	-	\$		- \$		s	-	- \$		- \$	
Increase/(Decrease) in Cash Equivalents	\$ 89,13	1\$	(63,86	8)\$	70,640	\$	32,279	\$	50,685	\$	53,249	\$	55,811	\$	58,370	\$	60.926	\$	63,479	\$	66.027	\$ I	68,571	\$	71,110	\$ 14	46.144	\$ 1	47,212	\$ 1	148,271	\$	149,318	\$	150,354	\$	151,377	\$	152,387
Cash and Cash Equivalents at Beginning Balance	\$ 1,069,63	4 \$ <sup>.</sup>	1,158,76	5\$1	,094,897	\$ 1. <sup>°</sup>	165,537	\$ 1,1	197,816	\$ 1,2	48,501	\$ 1,3	301,750	\$ 1,3	357,562	\$ 1,	415,932	\$ 1.	476,858	\$ 1,5	40,337	\$ 1.6	06,365	\$ 1,6	74,936	\$ 1,74	46,047	\$ 1.8	92,190	\$ 2,	039,403	\$ 2	,187,673	\$ 2	.336,991	\$ 2	.487,345	\$ 2	638,722
Cash and Cash Equivalent at Ending Balance	\$ 1.158.76	5 \$	1 094 89	7 \$ 1	165 537	\$ 1 1	197 816	\$ 1 2	248 501	\$13	01 750	\$ 1 3	357 562	\$ 1.	115 932	\$ 1.	476 858	\$ 1	540 337	\$ 1 6	06 365	\$ 1.6	74 936	\$ 17	46.047	\$ 1.89	2 190	\$ 2 0	139 403	\$ 2	187 673	\$ 2	336 991	\$ 2	487.345	\$ \$ 2	638 722	\$ \$ 2	791 110

							Stat	ement of H	inancial	Position - S	outh Bruc	e Water									
									Scenario	1: Amortiza	ation										
	20	16	2017	2018	2019	2020	2021	2022	202	3 202	4 202	5 2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Financial Assets Cash	\$ 1,158,76	65 \$	1,094,897	\$ 1,165,537	\$ 1,197,816	\$ 1,248,501	\$ 1,301,750	\$ 1,357,562	\$ 1,415,932	2 \$ 1,476,858	\$ 1,540,337	\$ 1,606,365	\$ 1,674,936	\$ 1,746,047	\$ 1,892,190	\$ 2,039,403	\$ 2,187,673	\$ 2,336,991	\$ 2,487,345	\$ 2,638,722	\$ 2,791,110
Liabilities Debt-Principal Outstanding	\$ 198,55	54 <b>\$</b>	138,894	\$ 77,971	\$ 740,758	\$ 652,500	\$ 580,000	\$ 507,500	\$ 435,000	) \$ 362,500	\$ 290,000	\$ 217,500	\$ 145,000	\$ 72,500	\$-	\$-	s -	\$-	s -	\$-	\$-
Net Financial Assets	\$ 960,21	11 \$	956,003	\$ 1,087,566	\$ 457,058	\$ 596,001	\$ 721,750	\$ 850,062	\$ 980,932	2 \$ 1,114,358	\$ 1,250,337	\$ 1,388,865	\$ 1,529,936	\$ 1,673,547	\$ 1,892,190	\$ 2,039,403	\$ 2,187,673	\$ 2,336,991	\$ 2,487,345	\$ 2,638,722	\$ 2,791,110
Non-Financial Assets Tangible Capital Assets	\$ 3,985,51	18 \$	4,033,405	\$ 4,649,064	\$ 4,525,280	\$ 4,401,790	\$ 4,278,850	\$ 4,156,287	\$ 4,034,34	7 \$ 3,912,408	\$ 3,790,468	\$ 3,668,528	\$ 3,546,966	\$ 3,425,930	\$ 3,304,895	\$ 3,183,859	\$ 3,066,727	\$ 2,957,986	\$ 2,850,942	\$ 2,743,940	\$ 2,643,338
Cash as a % of Net Fixed Assets	29	9%	27%	25%	26%	28%	30%	33%	359	% 38%	6 419	44%	47%	51%	57%	64%	71%	79%	87%	96%	106%
Debt as a % of Net Fixed Assets	,	5%	3%	2%	16%	15%	14%	12%	119	% 99	6 89	6%	4%	2%	0%	0%	0%	0%	0%	0%	0%

					_							St	atem	ent of	f Cash	ı Flow	v - Soi	uth B	ruce	Wate	r									_								
													Sc	enar	io 2: /	Annua	al Req	uirei	ment	5																		
Total Revenues	\$ 6	<b>2016</b> 608,480	\$ 6	<b>2017</b> 526,124		2018 614,665	\$ 63	<b>2019</b> 3,792 \$	\$ 653,	523 \$	<b>2</b> ( 673,8	0241 78 \$	2 694,8	022 375 \$	2 716,5	<b>023</b> 537 \$	<b>2</b> ( 738,8	0 <b>24</b> 83 \$		0 <b>25</b> 36 \$	<b>20</b> 785,71	<b>26</b> 8 \$	<b>202</b> 810,253	7 8 \$	<b>202</b> 835,564	8 1 \$	<b>202</b> 861,676	<b>e</b> 6 \$	2030 888,683	0 3 \$	2031 916,543		2032 945,284		<b>2033</b> 974,934	\$ 1,005	<b>203</b> 4 ,521 \$	2035 \$ 1,037,075
Cash Paid For Operating Costs Debt Repayments - Debt Interest Cash Provided from Operating Transactions		\$9,512 \$3,702	•	468,702 \$2,439 154,983	•	64,419 \$1,150 49,096	\$1	3,708 \$ 4,583 5,502 \$	\$ 483, \$13, \$ 157,	050	492,8 \$11,6 169,4	00	502,7 \$10,7 182,0	150	512,7 \$8,7 195,0	700	523,0 \$7,2 208,6	50	533,4 \$5,8 222,6		544,14 \$4,35 237,22		555,024 \$2,900 252,329	) .	566,125 \$1,450 267,989	, ·	577,447 \$( 284,229		588,996 \$0 299,687		600,776 \$0 315,767	\$ \$	612,791 \$0 332,493		625,047 \$0 349,887	• • • •	,548 \$ \$0 ,973 \$	\$ 650,299 \$0 \$ 386,776
Capital Transactions Acquisition of TCA	\$	-	\$ 1	150,000	\$ 7	25,000	\$	- 5	\$	- \$		- \$		- \$		- \$		- \$		- \$		- \$	,	. s		- \$		- \$	-	- \$	-	\$		s		\$	- \$	ş -
Finance Transactions Proceeds from Debt Issues Debt Repayment - Principal only	\$ \$	- 59,660	÷	60,923		25,000 62,213	\$8	8,258 \$	\$ 72,	500 \$	72,5	00 \$	72,	500 \$	72,5	500 \$	72,5	00 \$	72,5	00 \$	72,50	00\$	72,500	) \$	72,500	)\$		- \$	-	- \$		\$		\$	-	\$	- \$	· -
Increase/(Decrease) in Cash Equivalents	\$	89,131	\$	(55,941)	\$	86,884	\$5	7,244	\$ 84,	791 \$	96,9	32 \$	109.	523 \$	122,5	580 \$	136,1	21 \$	150,1	64 \$	164,72	7 \$	179,829	\$	195,489	\$	284,229	9\$	299,687	\$	315,767	\$	332,493	\$ 3	349,887	\$ 367	.973 \$	\$ 386,776
Cash and Cash Equivalents at Beginning Balance	\$ 1,0	69,634	\$ 1,1	58,765	\$ 1,1	02,824	\$ 1,18	9,708	\$ 1,246,	952 \$	1,331,7	43 \$	1,428,6	675 \$	1,538,1	198 \$	1,660,7	78 \$	1,796,8	99 \$	1,947,06	64 \$ 2	2,111,790	) \$ 2	2,291,619	9 \$ 2	.,487,108	3\$2	,771,337	\$3	,071,023	\$3,	386,791	\$ 3,7	719,284	\$ 4,069	,170 \$	\$ 4,437,143
Cash and Cash Equivalent at Ending Balance	\$ 1, <sup>-</sup>	58,765	\$ 1,1	02,824	\$ 1,1	89,708	\$ 1,24	6,952	\$ 1,331,	743 \$	1,428,6	75 \$	1,538,1	198 \$	1,660,7	778 \$	1,796,8	99 \$	1,947,0	64 \$	2,111,79	0 \$ 2	2,291,619	\$2	2,487,108	3 \$ 2	,771,337	7 \$3	,071,023	3 \$ 3	,386,791	\$3,	719,284	\$ 4,0	069,170	\$ 4,437	,143 \$	\$ 4,823,919

						Statem	ent of Fin	ancial Ope	eration - So	outh Bruce	Water									
							Scenar	rio 2: Anni	ual Requir	ements										
Operating Revenues Rate Revenue Miscellaneous Revenue Total Revenues	2016 \$ 564,980 \$ 43,500 \$ 608,480	2017 \$ 582,489 \$ 43,635 \$ 626,124	2018 \$ 600,894 \$ 13,771 \$ 614,665	2019 \$ 619,883 \$ 13,909 \$ 633,792	2020 \$ 639,475 \$ 14,048 \$ 653,523	2021 \$ 659,689 \$ \$ 14,189 \$ \$ 673,878 \$	2022 6 680,545 6 14,331 6 694,875	2023 \$ 702,063 \$ 14,474 \$ 716,537	2024 \$ 724,264 \$ 14,619 \$ 738,883	2025 \$ 747,171 \$ \$ 14,765 \$ \$ 761,936 \$	2026 770.806 \$ 14.912 \$ 785.718 \$	2027 795,191 \$ 15,062 \$ 810,253 \$	2028 820,352 \$ 15,212 \$ 835,564 \$	2029 846,312 \$ 15,364 \$ 861,676 \$	2030 873,165 \$ 15,518 \$ 888,683 \$	2031 900,870 \$ 15,673 \$ 916,543 \$	2032 929,455 15,830 945,284	2033 \$ 958,946 \$ 15,988 \$ 974,934	\$ 16,148	2035 \$ 1,020,766 \$ 16,309 \$ 1,037,075
Operating Expenses Midmay Wages Benefits Contracted Services Other Source Water Protection Total - Midmay	\$ 16,500 \$ 5,000 \$ 160,000 \$ 39,490 \$ 16,175 \$ 237,165	\$ 16,830 \$ 5,100 \$ 163,200 \$ 40,280 \$ 16,499 \$ 241,908	\$ 17,167 \$ 5,202 \$ 166,464 \$ 41,085 \$ 10,000 \$ 239,918	\$ 17,510 \$ 5,306 \$ 169,793 \$ 41,907 \$ 10,200 \$ 244,716	\$ 17,860 \$ 5,412 \$ 173,189 \$ 42,745 \$ 10,404 \$ 249,611	\$ 18,217 \$ \$ 5,520 \$ \$ 176,653 \$ \$ 43,600 \$ \$ 10,612 \$ \$ 254,603 \$	18,582 5,631 180,186 44,472 10,824 259,695	\$ 18,953 \$ 5,743 \$ 183,790 \$ 45,362 \$ 11,041 \$ 264,889	\$ 19,332 \$ 5,858 \$ 187,466 \$ 46,269 \$ 11,262 \$ 270,187	\$ 19,719 \$ \$ 5,975 \$ \$ 191,215 \$ \$ 47,194 \$ \$ 11,487 \$ \$ 275.590 \$	\$ 20,113 \$ \$ 6,095 \$ \$ 195,039 \$ \$ 48,138 \$ \$ 11,717 \$ \$ 281,102 \$	20,516 \$ 6,217 \$ 198,940 \$ 49,101 \$ 11,951 \$ 286,724 \$	20,926 \$ 6,341 \$ 202,919 \$ 50,083 \$ 12,190 \$ 292,459 \$	21,345 \$ 6,468 \$ 206,977 \$ 51,085 \$ 12,434 \$ 298,308 \$	21,771 \$ 6,597 \$ 211,117 \$ 52,106 \$ 12,682 \$ 304,274 \$	22,207 \$ 6,729 \$ 215,339 \$ 53,148 \$ 12,936 \$ 310,360 \$	22,651 6,864 219,646 54,211 13,195 316,567	\$ 23,104 \$ 7,001 \$ 224,039 \$ 55,296 \$ 13,459 \$ 322,898	\$ 23,566 \$ 7,141 \$ 228,519 \$ 56,401 \$ 13,728 \$ 329,356	\$ 24,037 \$ 7,284 \$ 233,090 \$ 57,529 \$ 14,002 \$ 335,943
Teeswater Wages Benefits Contracted Services Other Source Water Protection Total - Teeswater	\$ 16,000 \$ 4,500 \$ 140,000 \$ 45,672 \$ 16,175 \$ 222,347	\$ 16,320 \$ 4,590 \$ 142,800 \$ 46,585 \$ 16,499 \$ 226,794	\$ 16,646 \$ 4,682 \$ 145,656 \$ 47,517 \$ 10,000 \$ 224,501	\$ 16.979 \$ 4.775 \$ 148,569 \$ 48,467 \$ 10,200 \$ 228,991	\$ 17,319 \$ 4,871 \$ 151,541 \$ 10,404 \$ 233,571	\$ 17,665 \$ \$ 4,968 \$ \$ 154,571 \$ \$ 50,426 \$ \$ 10,612 \$ \$ 238,243 \$	18,019         5,068         5,068         5,068         5,068         5,1434         10,824         243,007	\$ 18,379 \$ 5,169 \$ 160,816 \$ 52,463 \$ 11,041 \$ 247,868	\$ 18,747 \$ 5,272 \$ 164,032 \$ 53,512 \$ 11,262 \$ 252,825	\$ 19,121 \$ \$ 5,378 \$ \$ 167,313 \$ \$ 54,582 \$ \$ 11,487 \$ \$ 257,881 \$	\$ 19,504       \$         \$ 5,485       \$         \$ 170,659       \$         \$ 55,674       \$         \$ 11,717       \$         \$ 263,039       \$	19,894 \$ 5,595 \$ 174,072 \$ 56,787 \$ 11,951 \$ 268,300 \$	20,292 \$ 5,707 \$ 177,554 \$ 57,923 \$ 12,190 \$ 273,666 \$	20,698 \$ 5,821 \$ 181,105 \$ 12,434 \$ 279,139 \$	21,112 \$ 5,938 \$ 184,727 \$ 60,263 \$ 12,682 \$ 284,722 \$	21,534 \$ 6,056 \$ 188,422 \$ 61,468 \$ 12,936 \$ 290,416 \$	21,965 6,178 192,190 62,698 13,195 296,225	\$ 22,404 \$ 6,301 \$ 196,034 \$ 63,952 \$ 13,459 \$ 302,149	\$ 22,852 \$ 6,427 \$ 199,954 \$ 65,231 \$ 13,728 \$ 308,192	\$ 23,309 \$ 6,556 \$ 203,954 \$ 66,535 \$ 14,002 \$ 314,356
Total Operating Expenses Debt Charges Debt Charges Interest Payment	\$ 459,512 \$3,702	\$ 468,702 \$2,439	<u>\$ 464,419</u> \$1,150	\$ 473,708 : \$14,583	\$ 483,182 \$13,050	\$ 492,846 \$ \$11,600	\$ 502,702 \$ \$10,150	\$ 512,756 \$8,700	\$ 523,012 \$7,250	\$ 533,472 \$ \$5,800	\$ <u>544,141</u> \$ \$4,350	\$2,900	<u>566,125</u> \$1,450	<u>577,447</u> \$0	<u>588,996</u> \$ \$0	<u>600,776</u> \$ \$0	612,791 \$0	\$ <u>625,047</u> \$0	\$ <u>637,548</u> \$0	\$ 650,299 \$0
Annual Requirements Total Expenses	\$ 182,564 \$ 645,778	\$ 203,813 \$ 674,954	\$ 214,958 \$ 680,527	\$   253,986 \$   742,276	\$ 253,986 \$ 750,218	\$ 253,986 \$ 758,431	253,986 766,838	\$ 253,986 \$ 775,442	\$ 253,986 \$ 784,247	<b>\$ 253,986 \$</b> \$ 793,258 \$	\$   253,986   \$ \$   802,477   \$	253,987 \$ 811,911 \$	253,988 \$ 821,562 \$	253,988 \$ 831,435 \$	253,988 \$ 842,984 \$	253,988 \$ 854,764 \$	253,988 866,779	\$ 253,988 \$ 879,035	<ul><li>\$ 253,988</li><li>\$ 891,536</li></ul>	<ul><li>\$ 253,988</li><li>\$ 904,287</li></ul>

						Stat	ement of F	'inancial F	osition - S	outh Bruc	e Water									
							Scen	ario 2: An	nual Requi	irements										
	2016	2017	2018	2019	2020	2021	2022	2023	3 2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	203
Financial Assets Cash	\$ 1,158,765	\$ 1,102,824	\$ 1,189,708	\$ 1,246,952	\$ 1,331,743	\$ 1,428,675	\$ 1,538,198	\$ 1,660,778	\$ 1,796,899	\$ 1,947,064	\$ 2,111,790	\$ 2,291,619	\$ 2,487,108	\$ 2,771,337	\$ 3,071,023	\$ 3,386,791	\$ 3,719,284	\$ 4,069,170	\$ 4,437,143	\$ 4,823,919
Liabilities Debt-Principal Outstanding	\$ 198,554	\$ 138,894	\$ 77,971	\$ 740,758	\$ 652,500	\$ 580,000	\$ 507,500	\$ 435,000	\$ 362,500	\$ 290,000	\$ 217,500	\$ 145,000	\$ 72,500	\$-	\$-	s -	\$-	s -	\$ -	\$
Net Financial Assets	\$ 960,211	\$ 963,930	\$ 1,111,737	\$ 506,194	\$ 679,243	\$ 848,675	\$ 1,030,698	\$ 1,225,778	\$ 1,434,399	\$ 1,657,064	\$ 1,894,290	\$ 2,146,619	\$ 2,414,608	\$ 2,771,337	\$ 3,071,023	\$ 3,386,791	\$ 3,719,284	\$ 4,069,170	\$ 4,437,143	\$ 4,823,919
Non-Financial Assets Tangible Capital Assets	\$ 3,985,518	\$ 3,931,705	\$ 4,441,747	\$ 4,187,762	\$ 3,933,776	\$ 3,679,790	\$ 3,425,805	\$ 3,171,819	\$ 2,917,833	\$ 2,663,848	\$ 2,409,862	\$ 2,155,875	\$ 1,901,888	\$ 1,647,900	\$ 1,393,912	\$ 1,139,925	\$ 885,937	\$ 631,949	\$ 377,962	\$ 123,974
Cash as a % of Net Fixed Assets	29%	28%	27%	30%	34%	39%	45%	52%	62%	5 73%	88%	106%	131%	168%	220%	297%	420%	644%	11749	38919
Debt as a % of Net Fixed Assets	5%	4%	2%	18%	17%	16%	15%	14%	12%	5 11%	9%	7%	4%	0%	0%	0%	0%	0%	0%	0%

									St	atement of	f Cash Flow	- South Bru	ice Sanitary										
										S	cenario 1: A	mortizatio	n										
Total Revenues	\$	2016 1,689,629		2017 ,712,209 \$	2018 1,735,492	2 \$ 1,476,6	019 603 \$	2020 1,477,829	2021 1,503,080	<b>2022</b> 1,429,026	<b>2023</b> \$ 1,389,686	2024 \$ 1,417,081	<b>2025</b> \$ 1,486,321 \$	2026 1,563,209	2027 \$ 1,648,772	<b>2028</b> \$ 1,744,180 \$	2029 1,663,627	<b>2030</b> 5 1,695,029 \$	2031 1,739,031	<b>2032</b> 1,784,346 \$	2033 1,831,015 \$	2034 1,879,079 \$	2035 1,928,583
Cash Paid For Operating Costs Debt Repayments - Debt Interest	\$	774,921 \$145,288		790,419 \$	806,228 \$113,796	\$ 822,3 \$99,0		838,799 \$90,335	855,575 \$81,908	\$ 872,687 \$73,179	\$ 890,141 \$64,139	\$ 907,943 \$55,224	\$    926,102   \$ \$47,909	944,624 \$40,270	\$ 963,517 \$32,452	\$ 982,787 \$ \$24,341	1,002,443 \$ \$17,279	\$ 1,022,492 \$ \$15,420	1,042,942 \$ \$13,948	1,063,800 \$ \$12,415	1,085,076 \$ \$10,818	1,106,778 \$ \$9,154	1,128,914 \$7,421
Cash Provided from Operating Transactions	\$	769,420	\$	792,026 \$	815,469	\$ 555,2	243 \$	548,695	565,597	\$ 483,160	\$ 435,406	\$ 453,914	\$ 512,310 \$	578,315	\$ 652,803	\$ 737,052 \$	643,906	657,117 \$	682,141	708,131 \$	735,121 \$	763,147 \$	792,249
Capital Transactions Acquisition of TCA	s		\$	150,000 \$		\$	- \$	- 9	:	6 -	\$-	\$-	s - s	i - :	\$-	\$-\$	; - 1	s - s	; - t	; - \$	- \$	- \$	-
Finance Transactions Proceeds from Debt Issues Debt Repayment - Principal only	\$ \$	593,875	\$ \$	- \$ 609,401 \$	625,365	\$ \$ 331,3	- \$ 309 \$	- \$ 237,034 \$	245,459	5 - 5 254,188	\$- \$263,230	\$- \$214,358	\$ - \$ \$ 202,511 \$	210,050	\$- \$217,868	\$ - \$ \$ 225,979 \$	- \$ 83,385 \$	- \$ 35,357 \$	- \$ 36,829 \$	- \$ 38,362 \$	- \$ 39,959 \$	- \$ 41,623 \$	43,356
Increase/(Decrease) in Cash Equivalents	Ş	174,425	\$	32,625 \$	190,104	\$ 223,9	934 \$	311,661 \$	320,138	\$ 228,972	\$ 172,176	\$ 239,556	\$ 309.799 \$	368,265	\$ 434,935	\$ 511,073 \$	560,521 \$	621,760 \$	645,312 \$	669,768 \$	695,161 \$	721,524 \$	748,893
Cash and Cash Equivalents at Beginning Balance	\$	242,378	\$	416,803 \$	449,428	\$ 639.5	532 \$	863,466	1,175,128	1,495,266	\$ 1,724,238	\$ 1,896,414	\$ 2,135,970 \$	2,445,769	\$ 2,814,034	\$ 3.248.969	3,760,042	\$ 4,320,563 \$	4,942,323	5,587,635 \$	6.257,404 \$.	6,952,565 \$	7,674,089
Cash and Cash Equivalent at Ending Balance	\$	416,803	\$	449,428 \$	639,532	\$ 863,4	466 \$	1,175,128	1,495,266	\$ 1,724,238	\$ 1,896,414	\$ 2,135,970	\$ 2,445,769 \$	2,814,034	\$ 3,248,969	\$ 3,760,042 \$	4,320,563	\$ 4,942,323 \$	5,587,635	6,257,404 \$	6,952,565 \$	7,674,089 \$	8,422,982

								Statem	ent of Finai	ncial Operat	ion - South	Bruce San	itary									
										enario 1: An												
		2016	2	017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Operating Revenues																						
Rate Revenue	ş	643,150	\$ 662,4		682,493 \$ 1.053.000 \$	703,104 773,499	\$ 724,338 \$	746,213 \$	768,748	791,964 \$	815,882 \$	881,609 \$	954,948	\$ 1,036,927 \$	1,128,716 \$	1,231,652 \$	1,271,332 \$	1,311,605 \$	1,353,153	1,396,018	\$ 1,440,240	
Miscellaneous Revenue (Includes Capital Collection) Total Revenues	\$	1,046,479	\$ 1,049,7				\$ 753,492 S \$ 1,477,829 S	756,868 \$	660,278		601,200 \$ 1.417.081 \$	604,713 \$	608,261	\$ 611,845 \$ \$ 1.648,772 \$	615,464 \$	431,975 \$		427,426 \$	431,193	434,997	\$ 438,839 5	
Total Revenues	3	1,669,629	\$ 1,712,2	209 \$	1,735,492 \$	1,476,603	\$ 1,477,829 3	1,503,080 3	1,429,026 3	1,309,000 \$	1,417,061 Ş	1,460,321 3	1,563,209	\$ 1,048, <i>112</i> \$	1,744,160 \$	1,003,027 3	1,695,029 \$	1,739,031 \$	1,784,340	5 1,831,015	\$ 1,879,079 3	1,928,383
Operating Expenses																						
Mildmay																						
Wages	s	19,500	\$ 19,8	890 \$	20,288 \$	20,694	\$ 21,107 \$	21,530 \$	21,960	22,399 \$	22,847 \$	23,304 \$	23,770	\$ 24,246 \$	24,731 \$	25,225 \$	25,730 \$	26,244 \$	26,769	27,305	\$ 27,851 \$	28,408
Benefits	s	6,150		273 \$	6,398 \$	6,526	\$ 6,657 \$	6,790 \$	6,926 \$	7,064 \$	7,206 \$	7,350 \$	7,497	\$ 7,647 \$	7,800 \$	7,956 \$	8,115 \$	8,277 \$	8,443 \$	8,611	\$ 8,784 \$	
Contracted Services	\$	168,500	\$ 171.8		175,307 \$	178,814	\$ 182,390 \$	186,038 \$	189,758	193,554 \$	197,425 \$	201,373 \$	205,401	\$ 209,509 \$	213,699 \$	217,973 \$	222,332 \$	226,779 \$	231,314 \$	235,941	\$ 240,659 \$	245,473
Other	s	84,425	\$ 86,1		87,836 \$	89,592	\$ 91,384 \$	93,212 \$	95,076	96,978 \$	98,917 \$	100,896 \$	102,914	\$ 104,972 \$	107,071 \$	109,213 \$	111,397 \$	113,625 \$	115,897 \$	118,215	\$ 120,580 \$	122,991
Total - Mildmay	s	278,575	\$ 284,1	147 \$	289,829 \$	295,626	\$ 301,539 \$	307,569 \$	313,721	319,995 \$	326,395 \$	332,923 \$	339,581	\$ 346,373 \$	353,300 \$	360,366 \$	367,574 \$	374,925 \$	382,424 \$	390,072	\$ 397,874 \$	405,831
Teeswater																						
Wages	s	20.250	\$ 20.6	655 \$	21.068 \$	21.489	\$ 21.919 \$	22.358 \$	22.805	23.261 \$	23.726 \$	24.201 \$	24.685	\$ 25.178 \$	25.682 \$	26.196 \$	26.719 \$	27.254 \$	27,799	28.355	\$ 28,922 \$	29,500
Benefits	š	6.000		120 \$	6.242 \$	6.367	\$ 6,495 \$	6.624 \$	6.757	6.892 \$	7.030 \$	7.171 \$	7.314	\$ 7.460 \$	7.609 \$	7.762 \$	7.917 \$	8.075 \$	8.237	8,401	8,569	8.741
Contracted Services	Ś	247.000	\$ 251.9	940 <b>\$</b>	256.979 \$	262.118	\$ 267.361 \$	272,708 \$	278,162	283,725 \$	289.400 \$	295,188 \$	301.092	\$ 307.113 \$	313.256 \$	319.521 \$	325.911 \$	332,429 \$	339.078	345.860	\$ 352,777	359,832
Other	s	223,096	\$ 227,5	558 \$	232,109 \$	236,751	\$ 241,486 \$	246,316 \$	251,242	256,267 \$	261,393 \$	266,620 \$	271,953	\$ 277,392 \$	282,940 \$	288,598 \$	294,370 \$	300,258 \$	306,263	312,388	\$ 318,636 \$	325,009
Total - Teeswater	Ş	496,346	\$ 506,2	273 \$	516,398 \$	526,726	\$ 537,261 \$	548,006 \$	558,966	570,146 \$	581,548 \$	593,179 \$	605,043	\$ 617,144 \$	629,487 \$	642,076 \$	654,918 \$	668,016 \$	681,377	695,004	\$ 708,904 \$	723,082
Total Operating Expenses	\$	774,921	\$ 790,4	419 \$	806,228 \$	822,352	\$ 838,799 \$	855,575 \$	872,687	890,141 \$	907,943 \$	926,102 \$	944,624	\$ 963,517 \$	982,787 \$	1,002,443 \$	1,022,492 \$	1,042,942 \$	1,063,800 \$	1,085,076	\$ 1,106,778 \$	1,128,914
Debt Charges																						
Debt Charges - Interest Payment		\$145,288	\$129,7	763	\$113,796	\$99,008	\$90,335	\$81,908	\$73,179	\$64,139	\$55,224	\$47,909	\$40,270	\$32,452	\$24,341	\$17,279	\$15,420	\$13,948	\$12,415	\$10,818	\$9,154	\$7,421
Amortization Expense	\$	629,084	\$ 629,0	080 \$	636,445 \$	636,403	\$ 636,403 \$	635,876 \$	618,365	605,655 \$	591,908 \$	556,400 \$	545,184	\$ 545,184 \$	543,497 \$	538,437 \$	538,437 \$	538,437 \$	538,437	536,605	\$ 531,110 \$	531,110
Total Expenses	\$	1,549,293	\$ 1,549,2	262 \$	1,556,469 \$	1,557,763	\$ 1,565,537 \$	1,573,359 \$	1,564,231	1,559,934 \$	1,555,076 \$	1,530,411 \$	1,530,079	\$ 1,541,153 \$	1,550,626 \$	1,558,159 \$	1,576,349 \$	1,595,327 \$	1,614,652	1,632,499	\$ 1,647,042 \$	1,667,445
Annual Surplus/(Deficit)	\$	140,336	\$ 162,9	946 \$	179,024 \$	(81,160)	\$ (87,708) \$	(70,279) \$	(135,205) \$	(170,249) \$	(137,994) \$	(44,090) \$	33,131	\$ 107,619 \$	193,555 \$	105,469 \$	118,680 \$	143,704 \$	169,694	198,516	\$ 232,037 \$	261,139

								State	ment of Fir	nancial Posi	tion - Soutl	1 Bruce San	itary									
									S	cenario 1: A	mortizatio	n										
		20	16	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Financial Assets Cash	s	416.80	3\$4	449,428 \$	639,532	\$ 863,466	\$ 1,175,128	\$ 1,495,266	\$ 1,724,238	\$ 1,896,414	\$ 2,135,970	\$ 2,445,769	\$ 2,814,034	\$ 3,248,969	\$ 3,760,042 \$	\$ 4,320,563	\$ 4,942,323	\$ 5,587,635	\$ 6,257,404	\$ 6,952,565	\$ 7,674,089	\$ 8,422,982
Liabilities Debt-Principal Outstanding	s	4,703,26	5 \$ 4,1	109,390 \$	3,499,989	\$ 2,874,624	\$ 2,543,315	\$ 2,306,281	\$ 2,060,822	\$ 1,806,634	\$ 1,543,404	\$ 1,329,046	\$ 1,126,535	\$ 916.485	\$ 698,617 \$	\$ 472,638	\$ 389,254	\$ 353,897	\$ 317.068	\$ 278.706	\$ 238,746	\$ 197,123
Net Financial Assets	\$	(4,286,46	2) \$ (3,6	659,962) \$	\$ (2,860,457)	\$ (2,011,158)	\$ (1,368,187)	\$ (811,015)	\$ (336,584)	\$ 89,780	\$ 592,566	\$ 1,116,723	\$ 1,687,499	\$ 2,332,484	\$ 3,061,425 \$	\$ 3,847,925	\$ 4,553,069	\$ 5,233,738	\$ 5,940,336	\$ 6,673,859	\$ 7,435,343	\$ 8,225,858
Non-Financial Assets Tangible Capital Assets	s	23,315,77	4 \$ 22,8	836,694 \$	\$ 22,200,249	\$ 21,563,846	\$ 20.927.443	\$ 20,291,567	\$ 19,673,202	\$ 19,067,547	\$ 18,475,639	\$ 17,919,239	\$ 17,374,055	\$ 16.828.871	\$ 16.285.374	\$ 15,746,937	\$ 15,208,500	\$ 14,670,063	\$ 14,131,626	\$ 13,595,021	\$ 13,063,911	\$ 12,532,801
Cash as a % of Net Fixed Assets		2	%	2%	3%	4%	6%	7%	9%	10%	12%	14%	16%	19%	23%	27%	32%	38%	44%	51%	59%	67%
Debt as a % of Net Fixed Assets		20	%	18%	16%	13%	12%	11%	10%	9%	8%	7%	6%	5%	4%	3%	3%	2%	2%	2%	2%	2%

									S	taten	nent of	Cash Fl	ow - '	South Bru	ıce Sani	tary														
												io 2: An	nual	Requirer	nents															
Total Revenues	\$	2016 1,689,629	\$ 1,712,2	2 <b>017</b> 209 \$	2018 1,735,492	201 1,476,603		2020 ,477,829	20) \$ 1,503,08		2022 ,429,026	\$ 1,389,6	0 <b>243</b> 86 \$	2024 1,417,081	20 \$ 1,531,04	<b>125</b> 13 \$ 1	2026 1,662,550	\$ 1,81	2027 4,710 \$	202 1,991,223		<b>2029</b> 009,346	20 \$ 2,087,1	0 <b>30</b> 32 \$	2031 2,180,608	\$ 2,278,	2032 964 \$	2033 2,382,462	203 \$ 2,491,376	
Cash Paid For Operating Costs Debt Repayments - Debt Interest Cash Provided from Operating Transactions	\$ \$	774,921 \$145,288 769,420	\$ 790,4 \$129,7 \$ 792,0	763	806,228 \$113,796 815,469	822,352 \$99,008 555,243	3	838,799 \$90,335 548,695	\$ 855,57 \$81,90 \$ 565,59	8	872,687 \$73,179 483,160	\$ 890,1 \$64,1 \$ 435,4	39 <sup>.</sup>	907,943 \$55,224 453,914	\$ 926,10 \$47,90 \$ 557,03	. 9	944,624 \$40,270 677,655		3,517 \$ 2,452 3,741 \$	982,787 \$24,341 984,094	1 3	002,443 \$17,279 989,625	\$ 1,022,4 \$15,4 \$ 1,049,2		1,042,942 \$13,948 1,123,718	\$ 1,063, \$12, \$ 1,202,	415	1,085,076 \$10,818 1,286,567	\$ 1,106,778 \$9,154 \$ 1,375,444	
Capital Transactions Acquisition of TCA	\$		\$ 150,0	000 \$	- 4		- \$	- :	\$	- \$		\$	- \$	-	\$	- \$		\$	- \$		- \$		s	- \$		\$	- \$		\$	\$
Finance Transactions Proceeds from Debt Issues Debt Repayment - Principal only	\$ \$	- 593,875	\$ \$ 609.4	-\$ 401\$	- \$ 625,365 \$	331,309	- \$ 9 \$	237,034	\$ \$ 245,45	-\$ 9\$	- 254,188	\$ \$ 263.2	-\$ 30\$	- 214,358	\$ \$ 202,5 <sup>.</sup>	-\$ 11\$	- 210,050	\$ \$ 21	- \$ 7.868 \$	225,979	- \$ 9 \$	- 83,385	\$ \$ 35,3	-\$ 57\$	- 36,829	\$ \$ 38.	- \$ .362 \$	- 39,959	\$ . \$ 41,623	
Increase/(Decrease) in Cash Equivalents	\$	174,425	\$ 32,6	625 \$	190,104	223,934	1\$	311,661	\$ 320,13	8\$	228,972	\$ 172,1	76 \$	239,556	\$ 354,52	21 \$	467,605	\$ 60	),873 \$	758,116	6\$9	906,240	\$ 1,013,8	63 \$	1,086,890	\$ 1,164,	.387 \$	1,246,608	\$ 1,333,820	\$ 1,426,300
Cash and Cash Equivalents at Beginning Balance	\$	393,888	\$ 568,3	313 \$	600,938	791,042	2 \$ 1	,014,976	\$ 1,326,63	8 \$ 1	,646,776	\$ 1,875,7	48 \$,	2,047,924	\$ 2,287,48	30 \$ 2	2,642,001	\$ 3,10	9,606 \$	3,710,479	9 \$ 4,4	168,594	\$ 5,374,8	34 \$	6,388,697	\$ 7,475,	,587 \$	8,639,974	\$ 9,886,582	\$ 11,220,402
Cash and Cash Equivalent at Ending Balance	\$	568,313	\$ 600,9	938 \$	791,042	1,014,976	5\$1	,326,638	\$ 1,646,77	6\$1	,875,748	\$ 2,047,9	24 \$	2,287,480	\$ 2,642,00	01 \$ 3	3,109,606	\$ 3,710	),479 \$	4,468,594	4 \$ 5,3	374,834	\$ 6,388,6	97 \$	7,475,587	\$ 8,639,	974 \$	9,886,582	\$ 11,220,402	\$ 12,646,708

							Statemen	t of Finar	icial Operat	tion - Soutl	n Bruce Sa	nitary									
								Scenar	o 2: Annua	l Requiren	ients										
Operating Revenues Rate Revenue Miscellaneous Revenue Total Revenues	\$ \$	2016 643,150 1,046,479 1,689,629	2017 \$ 662,486 \$ 1,049,723 \$ 1,712,209	2018 \$ 682,493 \$ \$ 1,053,000 \$ \$ 1,735,492 \$	2019 703,104 \$ 773,499 \$ 1 476 603 \$	2020 724,338 753,492 1,477,829	2021 \$ 746,213 \$ \$ 756,868 \$ \$ 1,503,080 \$	2022 768,748 660,278 1 429 026	2023 \$ 791,964 \$ \$ 597,721 \$ \$ 1,389,686 \$	2024 8 815,882 8 601,200 9 1 417 081	2025 926,330 604,713 1 531 043	2026 1,054,289 608,261 1,662,550	2027 \$ 1,202,865 \$ \$ 611,845 \$ \$ 1,814,710 \$	2028 1,375,759 615,464 1,991,223	2029 1,577,371 431,975 2,009,346	2030 1,663,435 423,697 2,087,132	2031 \$ 1,753,182 \$ 427,426 \$ 2 180,608	2032 \$ 1,847,772 \$ 431,193 \$ 2,278,964	2033 \$ 1,947,465 \$ 434,997 \$ 2,382,462	2034 \$ 2,052,537 \$ 438,839 \$ 2,491,376	2035 \$ 2,163,277 \$ 442,720 \$ 2,605,997
<b>Operating Expenses</b> Mildmay Wages	s	19,500	\$ 19,890	\$ 20,288 \$	5 20,694 <b>\$</b>	21,107	\$ 21,530 \$	21,960	\$ 22,399 \$	5 22,847 \$	3 23,304	\$ 23,770	\$ 24,246 \$	24,731	\$    25,225  \$	5 25,730 \$	\$ 26,244	\$ 26,769	\$ 27,305	\$ 27,851	\$ 28,408
Benefits Contracted Services Other Total - Mildmay	\$ \$ \$ \$	6,150 168,500 84,425 278,575	\$ 6.273 \$ 171,870 \$ 86,114 \$ 284,147	\$ 6,398 \$ \$ 175,307 \$ \$ 87,836 \$ \$ 289,829 \$	6.526 \$ 178.814 \$ 89.592 \$ 295.626 \$	6,657 182,390 91,384 301,539	\$ 6.790 \$ \$ 186.038 \$ \$ 93.212 \$ \$ 307.569 \$	6,926 189,758 95,076 313,721	\$ 7,064 \$ \$ 193,554 \$ \$ 96,978 \$ \$ 319,995 \$	5 7,206 5 197,425 5 98,917 5 326,395 5	5 7,350 5 201,373 5 100,896 5 332,923	5 7,497 5 205,401 5 102,914 5 339,581	\$ 7,647 \$ \$ 209,509 \$ \$ 104,972 \$ \$ 346,373 \$	7,800 \$ 213,699 \$ 107,071 \$ 353,300 \$	7,956         5           217,973         5           109,213         5           360,366         5	8,115 222,332 111,397 367,574	\$ 8,277 \$ 226,779 \$ 113,625 \$ 374,925	\$ 8,443 \$ 231,314 \$ 115,897 \$ 382,424	\$ 8,611 \$ 235,941 \$ 118,215 \$ 390,072	\$ 8,784 \$ 240,659 \$ 120,580 \$ 397,874	\$ 8.959 \$ 245.473 \$ 122.991 \$ 405.831
Teeswater Wages Benefits Contracted Services Other Total - Teeswater	\$ \$ \$ \$	20,250 6,000 247,000 223,096 496,346	\$ 20,655 \$ 6,120 \$ 251,940 \$ 227,558 \$ 506,273	\$ 21,068 \$ \$ 6,242 \$ \$ 256,979 \$ \$ 232,109 \$ \$ 516,398 \$	21,489 \$ 6,367 \$ 262,118 \$ 236,751 \$ 526,726 \$	21,919 6,495 267,361 241,486 537,261	\$ 22,358 \$ \$ 6,624 \$ \$ 272,708 \$ \$ 246,316 \$ \$ 548,006 \$	22,805 6,757 278,162 251,242 558,966	\$ 23,261 \$ \$ 6,892 \$ \$ 283,725 \$ \$ 256,267 \$ \$ 570,146 \$	23,726 7,030 289,400 261,393 5581,548	24,201 7,171 295,188 266,620 593,179	24,685 7,314 301,092 271,953 605,043	\$ 25.178 \$ \$ 7.460 \$ \$ 307.113 \$ \$ 277.392 \$ \$ 617.144 \$	25,682 7,609 313,256 282,940 629,487	26,196 7,762 319,521 288,598 642,076	26,719 7,917 325,911 294,370 654,918	\$ 27,254 \$ 8,075 \$ 332,429 \$ 300,258 \$ 668,016	\$ 27,799 \$ 8,237 \$ 339,078 \$ 306,263 \$ 681,377	\$ 28,355 \$ 8,401 \$ 345,860 \$ 312,388 \$ 695,004	\$ 28,922 \$ 8,569 \$ 352,777 \$ 318,636 \$ 708,904	\$ 29,500 \$ 8,741 \$ 359,832 \$ 325,009 \$ 723,082
Total Operating Expenses	\$	774,921	\$ 790,419	\$ 806,228 \$	822,352 \$	838,799	\$ 855,575 \$	872,687	\$ 890,141 \$	\$ 907,943	926,102	\$ 944,624	\$ 963,517 \$	982,787	\$ 1,002,443 \$	\$ 1,022,492	\$ 1,042,942	\$ 1,063,800	\$ 1,085,076	\$ 1,106,778	\$ 1,128,914
Debt Charges Debt Charges - Interst Payment		\$145,288	\$129,763	\$113,796	\$99,008	\$90,335	\$81,908	\$73,179	\$64,139	\$55,224	\$47,909	\$40,270	\$32,452	\$24,341	\$17,279	\$15,420	\$13,948	\$12,415	\$10,818	\$9,154	\$7,421
Annual Requirements	\$	881,755	\$ 881,755	\$ 892,900 \$	\$ 892,900 \$	892,900	\$ 892,900 \$	892,900	\$ 892,900 \$	\$ 892,900 \$	892,900	\$ 892,900	\$ 892,900 \$	892,900	\$ 892,900 \$	892,900	\$ 892,900	\$ 892,900	\$ 892,900	\$ 892,900	\$ 892,900
Total Expenses	\$	1,801,964	\$ 1,801,937	\$ 1,812,923 \$	\$ 1,814,260 \$	1,822,034	\$ 1,830,383 \$	1,838,765	\$ 1,847,179 \$	5 1,856,067 \$	1,866,911	\$ 1,877,794	\$ 1,888,868 \$	1,900,028	\$ 1,912,621 \$	1,930,812	\$ 1,949,790	\$ 1,969,115	\$ 1,988,794	\$ 2,008,832	\$ 2,029,234
Annual Surplus/(Deficit)	\$	(112,335)	\$ (89,729)	\$ (77,431) \$	(337,656) \$	(344,204)	\$ (327,302) \$	(409,740)	\$ (457,493) \$	6 (438,986) 5	(335,868)	\$ (215,245)	\$ (74,158) \$	91,195	\$ 96,725 \$	5 156,320 \$	\$ 230,819	\$ 309,849	\$ 393,668	\$ 482,544	\$ 576,763

Statement of Financial Position - South Bruce Sanitary																															
												Scen	nario 2	2: Annu	al Requir	remen	ts														
			2016		2017		2018	2	2019	2020	2021	20	22	2023	202	24	2025	202	26	2027	202	8	2029	2	030	2031	203	2	2033	2034	203
Financial Assets Cash	\$	56	8,313	\$ 6	600,938	\$ 79	1,042	\$ 1,014,	976 \$	1,326,638	\$ 1.646.776	\$ 1,875,74	48 \$ 2	.047,924	\$ 2,287,480	0 \$ 2.	642,001	\$ 3,109,606	6\$3	8,710,479	\$ 4,468,594	\$ 5,3	374,834	\$ 6,388,6	i97 \$	7,475,587	\$ 8.639.974	\$ 9,886.	582 \$	11,220,402	\$ 12,646,708
Liabilities Debt-Principal Outstanding	\$	4,70	3,265	\$ 4,1	09.390	\$ 3,49	9,989	\$ 2,874,	624 \$	\$ 2,543,315	\$ 2,306,281	\$ 2,060,82	22 \$ 1	,806,634	\$ 1,543,404	4 \$ 1,	329,046	\$ 1,126,535	5\$	916,485	\$ 698,617	's -	472,638	\$ 389,2	:54 \$	353,897	\$ 317,068	\$ 278,	706 \$	238,746	\$ 197,123
Net Financial Assets	\$	(4,13	4,952)	\$ (3,5	608,452)	\$ (2,70	18,947)	\$ (1,859,	648) \$	\$ (1,216,677)	\$ (659,505)	\$ (185,07	74) \$	241,290	\$ 744,076	6\$1,	312,955	\$ 1,983,071	1 \$ 2	2,793,994	\$ 3,769,978	\$ \$ 4,9	902,196	\$ 5,999,4	44 \$	7,121,690	\$ 8,322,906	\$ 9,607,	876 \$	10,981,656	\$ 12,449,585
Non-Financial Assets Tangible Capital Assets	\$	23,31	5,774	\$ 22.5	84,019	\$ 21,69	1,119	\$ 20,798.	220 \$	\$ 19,905,320	\$19,012,420	\$18,119,52	21 \$17	,226,621	\$ 16,333,722	2 \$ 15,	440,822	\$ 14,547,922	2 \$ 13	3,655,023	\$ 12,762,123	\$\$11,8	369,224	\$ 10,976,3	24 \$	10.083,424	\$ 9,190,525	\$ 8,297,	625 \$	7,404,726	\$ 6,511,826
Cash as a % of Net Fixed Assets			2%		3%		4%		5%	7%	9%	. 10	0%	12%	149	%	17%	219	%	27%	355	6	45%	5	8%	74%	94%	1	19%	152%	194%
Debt as a % of Net Fixed Assets			20%		18%		16%		14%	13%	12%	. 11	1%	10%	99	%	9%	89	%	7%	55	6	4%		4%	4%	3%		3%	3%	39