



 **Watson
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ECONOMISTS LTD.

2026 Water and Wastewater Rate Study

Township of Cramahe

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Table of Contents

	Page
1. Introduction.....	1-1
1.1 Background.....	1-1
1.2 Study Process.....	1-2
1.3 Legislative Context	1-3
1.3.1 Safe Drinking Water Act.....	1-4
1.3.2 Financial Plans Regulation.....	1-5
1.3.3 Water Opportunities Act, 2010	1-7
1.3.4 Infrastructure for Jobs and Prosperity Act, 2015	1-8
1.3.5 Water and Wastewater Rate Calculation Methodology	1-10
2. Forecast Growth and Servicing Requirements.....	2-1
3. Capital Infrastructure Needs.....	3-1
3.1 Capital Forecast.....	3-1
4. Lifecycle Costing.....	4-1
4.1 Overview of Lifecycle Costing.....	4-1
4.1.1 Definition.....	4-1
4.1.2 Financing Costs	4-1
4.1.3 Costing Methods	4-4
4.2 Summary	4-6
5. Capital Cost Financing Options	5-1
5.1 Summary of Capital Cost Financing Alternatives.....	5-1
5.2 Development Charges Act, 1997	5-2
5.3 Municipal Act	5-2
5.4 Grant Funding Availability	5-4
5.5 Existing Reserves/Reserve Funds.....	5-5
5.6 Debenture Financing.....	5-6
5.6.1 Infrastructure Ontario	5-6
5.6.2 Ontario Investment Bank	5-7
5.7 Recommended Capital Financing Approach.....	5-7



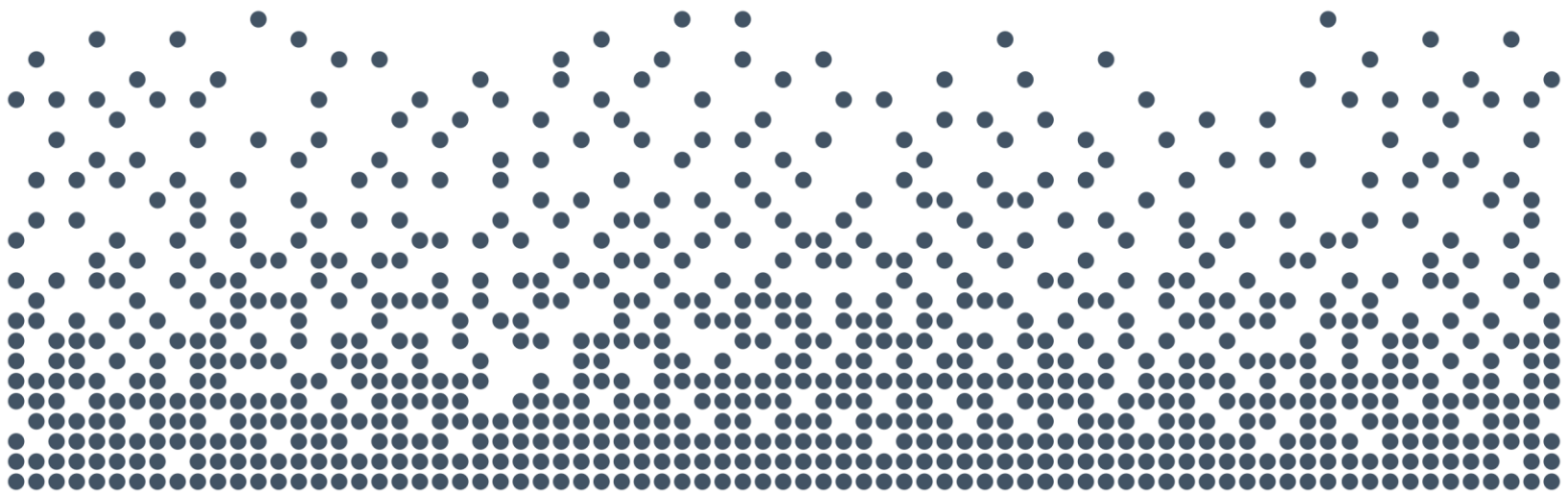
Table of Contents (Cont'd)

	Page
6. Operating Expenditures and Revenues	6-1
6.1 Operating Expenditures	6-1
6.2 Operating Revenues	6-2
7. Pricing Structures	7-1
7.1 Introduction	7-1
7.2 Alternative Pricing Structures.....	7-2
7.3 Assessment of Alternative Pricing Structures	7-4
7.4 Rate Structures in Ontario	7-9
8. Forecast Water and Wastewater Rates	8-1
8.1 Introduction	8-1
8.2 Water Rates	8-1
8.3 Wastewater Rates	8-2
8.4 Forecast Water and Wastewater Bill Impacts	8-5
9. Recommendations	9-1
Appendix A Detailed Water Rate Calculations	A-1
Appendix B Detailed Wastewater Rate Calculations	B-1



List of Acronyms and Abbreviations

Acronym	Full Description of Acronym
D.C.A.	<i>Development Charges Act, 1997, as amended</i>
D.C.	Development Charges
E.C.A.	Environmental Compliance Approval
G.F.A.	Gross Floor Area
H.E.W.S.F.	Housing-Enabling Water Systems Fund
I.J.P.A.	<i>Infrastructure for Jobs and Prosperity Act, 2015</i>
I.O.	Infrastructure Ontario
MHIP-HSWS	Municipal Housing Infrastructure Program's Health and Safety Water Stream (MHIP-HSWS)
O.C.I.F.	Ontario Community Infrastructure Fund
OLT	Ontario Land Tribunal
O. Reg.	Ontario Regulation
O.S.I.F.A.	Ontario Strategic Infrastructure Financing Authority
sq.ft.	Square Feet
S.W.S.S.A.	<i>Sustainable Water and Sewage Systems Act, 2002</i>



Report



Chapter 1

Introduction



1. Introduction

1.1 Background

The Township provides water and wastewater services to residents and businesses within its urban serviced area. The treatment, storage, and distribution/collection of water and wastewater are the responsibility of the Township. The Township provides municipal water and wastewater services to customers located within its serviced areas. According to the Township's current billing records, the water system serves 1,137 customers, while the wastewater system serves 993 customers. All customers are metered.

The Township's existing rate structure is primarily based on metered billing, with all customers billed according to their measured water consumption. Metered customers are currently charged a monthly base charge and a volumetric rate for water consumption. These fees are imposed independently for water and wastewater services. The Township imposes a constant rate structure (i.e., a uniform consumptive rate) for consumption. The base charge is designed to recover a portion of the fixed costs associated with operating and maintaining the systems, including administration, billing, and a share of capital-related costs. The volume charge, based on metered consumption, reflects a user-pay approach by aligning a portion of revenues with actual water usage and wastewater flows. This structure balances revenue stability with equity and conservation objectives by ensuring recovery of fixed costs while also recognizing variations in customer usage. The fee structure also indicates that unmetered customers would be charged a flat fee, which varies by property use (i.e., residential or non-residential); however, there are currently no unmetered customers, and the Township's policy is to meter all customers. The water and wastewater rates currently imposed are provided in Table 1-1.

The revenues generated through these rates are intended to support the full cost of service provision, including operating and maintenance expenditures, capital investments, and lifecycle replacement requirements. As such, the rate structure plays a key role in ensuring the long-term financial sustainability of the Township's water and wastewater systems while supporting reliable service delivery to residents and businesses.



Table 1-1
Township of Cramahe
2026 Water and Wastewater Rates for Metered Customers

2026 - Water Billing Rates		2026 - Wastewater Billing Rates	
Metered Customers		Metered Customers	
Base Charge		Base Charge	
15	\$27.58	15	\$32.96
20	\$27.58	20	\$32.96
25	\$38.64	25	\$46.18
40	\$49.67	40	\$59.35
50	\$80.02	50	\$95.62
75	\$303.54	75	\$362.73
100	\$436.90	100	\$522.09
Volume Charge		Volume Charge	
\$2.73	per m ³	\$3.27	per m ³
Unmetered Customers (monthly)		Unmetered Customers (monthly)	
Residential Flat-Rate	136.67	Residential Flat-Rate	163.33
Non Residential Flat-Rate	182.23	Non Residential Flat-Rate	217.77

1.2 Study Process

The Township retained Watson to undertake a water and wastewater rate study to update its 2020 Water and Wastewater Rate Study that was presented and approved in 2021. Municipalities periodically undertake water and wastewater studies to ensure rates are reflective of the costs being incurred.

The objectives of the study and the steps involved in carrying out the assignment are summarized below:

- Update water and wastewater service demand assumptions based on analysis of historical consumption and recent trends;
- Estimate future consumption levels by applying demand assumptions to forecast growth which have been developed as part of the Township's ongoing 2026 development charges (D.C.) background study process and adjusted to reflect the actual historical growth experienced in recent years;
- Identify all current and future water and wastewater system capital needs to assess the immediate and longer-term implications;



- Build a capital program that blends lifecycle needs and specific needs identified by staff;
- Identify potential methods of cost recovery from the capital needs listing. These recovery methods may include other statutory authorities (e.g., *Development Charges Act, 1997 (D.C.A.)*, *Municipal Act*, etc.) as an offset to recovery through the water and wastewater rates;
- Forecast annual operating costs and rate-based funding requirements;
- Develop a long-term water and wastewater rate forecast;
- Provide an impact assessment on rate payers; and
- Present findings to staff and Council for their consideration.

The following analysis is provided in this report:

- Chapter 2 – Forecast Growth and Service Requirements
- Chapter 3 – Capital Infrastructure Needs
- Chapter 4 – Lifecycle Costing
- Chapter 5 – Capital Cost Financing Options
- Chapter 6 – Operating Expenditure and Revenue
- Chapter 7 – Pricing Structures
- Chapter 8 – Forecast Water and Wastewater Rates
- Chapter 9 – Recommendations

1.3 Legislative Context

Significant regulatory changes have taken place in Ontario since the water crisis in Walkerton. These changes result from the Walkerton Commission and the 93 recommendations made in the Walkerton Inquiry Part II report. Areas of recommendation include:

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



The legislation which would have most impacted municipal water and wastewater rates was the *Sustainable Water and Sewage Systems Act, 2002* (S.W.S.S.A.), as it required municipalities to implement full-cost pricing. The legislation was enacted in 2002; however, it had not been implemented pending the approval of its regulations. The Act was repealed as of January 1, 2013. It is expected that the provisions of the *Water Opportunities Act* will implement the requirements of S.W.S.S.A. Furthermore, on December 27, 2017, O. Reg. 588/17 was released under the *Infrastructure for Jobs and Prosperity Act, 2015* (I.J.P.A.), which outlines the requirements for asset management for municipalities. The results of the asset management review under this Act will need to be considered in light of the recent investments undertaken by the Township and the capital spending plan provided herein.

The following sections describe these various resulting changes.

1.3.1 Safe Drinking Water Act

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

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

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

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

This legislation impacts the costs of operating a water system with the need for higher skilled operators including increased training costs, increased reporting protocols and



requirements, continuing enhancements to quality standards, and the costs to license each water system.

1.3.2 Financial Plans Regulation

On August 16, 2007, the Ministry of Environment, Conservation, and Parks (M.O.E.C.P.) issued O. Reg 453/07, which requires the preparation of financial plans for water (and wastewater) systems. The M.O.E.C.P. has also provided a Financial Plan Guidance Document to assist in preparing the plans. A summary of the key elements of the regulation is provided below:

- The financial plan will represent one of the key elements for the municipality to obtain its Drinking Water Licence;
- The financial plans shall be for a period of at least six years, but longer planning horizons are encouraged;
- As the regulation is under the *Safe Drinking Water Act, 2002*, the preparation of the plan is mandatory for water and encouraged for wastewater;
- The plan is considered a living document (i.e., will be updated as annual budgets are prepared) but will need to be undertaken, at a minimum, every five years;
- The plans generally require the forecasting of capital, operating and reserve fund positions, providing detailed inventories, forecasting future users and volume usage, and corresponding calculation of rates. In addition, Public Sector Accounting Board (P.S.A.B.) information on the system must be provided for each year of the forecast (i.e., total non-financial assets, tangible capital asset acquisitions, tangible capital asset construction, betterments, write-downs, disposals, total liabilities, and net debt);
- The financial plans must be made available to the public (at no charge) upon request and be available on the municipality's website. The availability of this information must also be advertised; and
- The financial plans are to be approved by Resolution of the Council or governing body indicating that the drinking water system is financially viable.

In general, the financial principles of the draft regulations follow the intent of S.W.S.S.A. to move municipalities towards financial sustainability. Many of the prescriptive requirements, however, have been removed (e.g., preparation of two separate documents for provincial approval, auditor opinions, engineer certifications, etc.).



A Guideline (“Towards Financially Sustainable Drinking Shores – Water and Wastewater Systems”) had been developed to assist municipalities in understanding the Province’s direction and provided a detailed discussion on possible approaches to sustainability. The Province’s Principles of Financially Sustainable Water and Wastewater Services are provided below:

- Principle #1: Ongoing public engagement and transparency can build support for, and confidence in, financial plans, and the system(s) to which they relate.
- Principle #2: An integrated approach to planning for water, wastewater, and stormwater systems is desirable given the inherent relationship of these services.
- Principle #3: Revenues collected for the provision of water and wastewater services should ultimately be used to meet the needs of those services.
- Principle #4: Lifecycle planning with mid-course corrections is preferable to planning over the short term, or not planning at all.
- Principle #5: An asset management plan is a key input to the development of a financial plan.
- Principle #6: A sustainable level of revenue allows for reliable service that meets or exceeds environmental protection standards, while providing sufficient resources for future rehabilitation and replacement needs.
- Principle #7: Ensuring users pay for the services they are provided leads to equitable outcomes and can improve conservation. In general, metering and the use of rates can help ensure users pay for services received.
- Principle #8: Financial plans are “living” documents that require continuous improvement. Comparing the accuracy of financial projections with actual results can lead to improved planning in the future.
- Principle #9: Financial plans benefit from the close collaboration of various groups, including engineers, accountants, auditors, utility staff, and municipal Council.



1.3.3 Water Opportunities Act, 2010

Since the passage of the *Safe Drinking Water Act, 2002*, further changes and refinements to the legislation have been introduced. Some of these Bills have found their way into law, while others have not been approved. Bill 72, the *Water Opportunities Act, 2010*, was introduced into legislation on May 18, 2010, and received Royal Assent on November 29, 2010.

The Act provides for the following elements:

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

Regarding the sustainability plans:

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

The financial plan shall include:

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



Performance indicators will be established by service, with the following considerations:

- Financing, operation, or maintenance of a municipal service, or to any other matter in respect of what information may be required to be included in a plan;
- Different municipal service providers or for municipal services in different areas of the Province.

Regulations will prescribe:

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

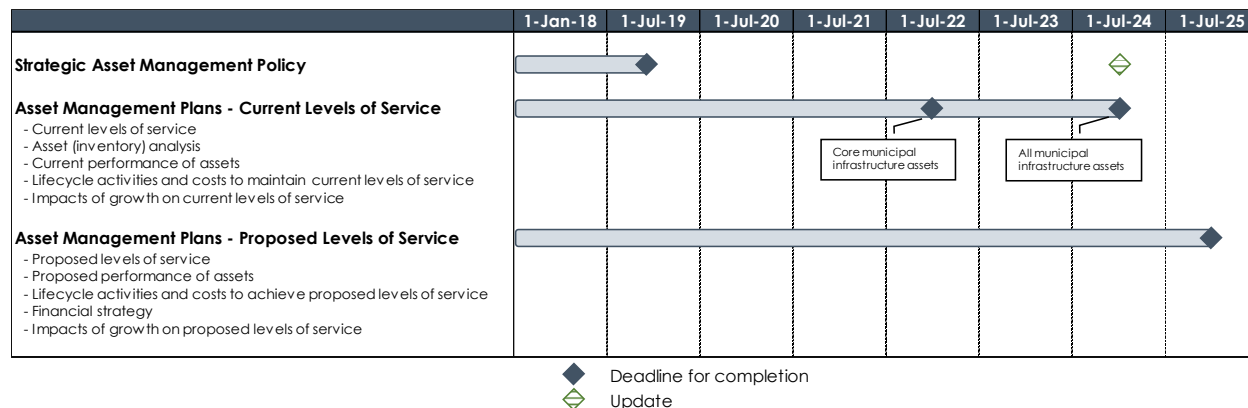
As noted earlier, it is expected that this Act will implement the principles of the S.W.S.S.A. once all regulations are put in place.

1.3.4 *Infrastructure for Jobs and Prosperity Act, 2015*

On June 4, 2015, the Province passed the *Infrastructure for Jobs and Prosperity Act, 2015* (I.J.P.A.) which, over time, will require municipalities to undertake and implement asset management plans for all infrastructure they own. On December 27, 2017, the Province of Ontario released Ontario Regulation (O. Reg.) 588/17 under I.J.P.A. which has three phases that municipalities must meet. The timelines associated with the three phases were later extended by O. Reg. 193/21 which was filed on March 15, 2021. The timelines are presented in Figure 1-1 below.



Figure 1-1
Legislative Timelines set out by the Jobs and Prosperity Act
Legislation related to Asset Management Plans



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

- Phase 1 – Asset Management Plan (by July 1, 2022) for core assets, municipalities must have the following:
 - Inventory of assets;
 - Current levels of service, including some prescribed measures; and
 - Lifecycle management strategies and associated costs to maintain current levels of service.
- Phase 2 – Asset Management Plan (by July 1, 2024):
 - Same steps as Phase 1, but for all assets.
- Phase 3 – Asset Management Plan (by July 1, 2025) builds on Phases 1 and 2, adding:
 - Proposed levels of service; and
 - Financial strategy that supports achieving proposed levels of service.

In relation to water and wastewater services (which are considered core assets), municipalities were required to have an asset management plan that addressed the related infrastructure by July 1, 2022 (Phase 1). O. Reg. 588/17 specifies that the Township’s asset management plan must include the following for each asset category:



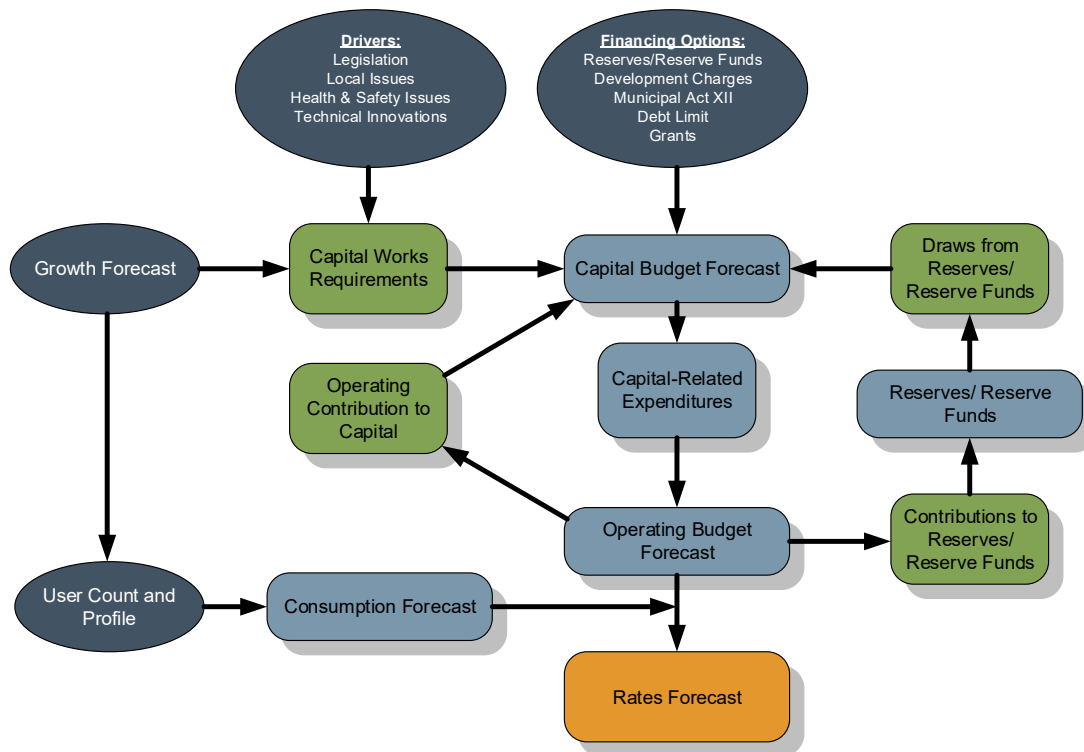
- The current levels of service being provided, determined in accordance with the following qualitative descriptions and technical metrics and based on data from at most the two calendar years prior to the year in which all information required under this section is included in the asset management plan;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

1.3.5 Water and Wastewater Rate Calculation Methodology

Figure 1-2 illustrates the general methodology used in determining the full cost recovery of water and wastewater services.



Figure 1-2
Water and Wastewater Rate Calculation Methodology



The methodology employed generally consists of 5 major elements:

1. Customer Demands and Consumption Forecast

As noted in Section 1.1, the Township employs a rate structure consisting of a monthly base charge and a consumptive rate.

This first step in the analysis is important as it produces the current base revenue by source and assumptions for forecasting purposes. The customer forecast is modelled for the water and wastewater systems independently to identify differences in service demands. The water and wastewater volume forecasts are prepared by applying average annual consumption/flow estimates to future development. Volume estimates were determined based on a review of historical average levels across the Township's water and wastewater systems.



2. Capital Needs Forecast

The capital needs forecasts are developed to measure program/service level adjustments, lifecycle requirements, and growth-related needs. The Township's asset management plan, lifecycle analysis of tangible capital assets, and specific needs identified by Township staff provided the base capital forecast. Capital expenditures are forecast with inflationary adjustments based on capital cost indices.

3. Capital Funding Plan

The capital funding plans consider the potential funding sources available to address the capital needs forecast. The sources of capital funding include rate-based support, reserves/reserve funds, grants, connection charges, and debt for program/service level improvements. Growth-related sources of funding include D.C.s, if imposed by a municipality, and debt. The use of rate-based funding is measured against the revenue projections and affordability impacts. The reserve/reserve fund sources are measured against the sustainability of these funds, relative to lifecycle demands, revenue projections, and affordability impacts. Debt financing is considered for significant capital expenditures where funding is required beyond long-term lifecycle needs or to facilitate rate transition policies. Debt financing is measured against the municipality's debt policies and annual repayment limits to ensure a practical and sustainable funding mix.

4. Operating Budget Forecast

The operating budget forecast considers adjustments to the municipality's base budget reflecting program/service level changes, operating fund impacts associated with infrastructure, and financing for capital projects. The operating expenditures are forecast with inflationary adjustments and growth in service demand, based on fixed and variable cost characteristics. The operating budget forecast ties the capital funding plan and reserve/reserve fund continuity forecast to the rate-based revenue projections. This ensures sufficient funding for both the ongoing annual operation and maintenance of water and wastewater services, as well as the capital cost requirements to ensure service sustainability. Operating revenues are projected to identify the base charge and volume rate parts, net of other operating revenues. Other operating revenues include water meter fees, rental fees, revenue expected from other municipalities that buy services from the municipality (where applicable), and other miscellaneous revenues.



5. Rate Forecast and Structure

The rate forecast and rate structure components of the analysis may consider various rate structures to recover the forecast rate-based revenue from the projected customer demands. At this stage in the analysis, the full costs of service are measured against the customer growth and volume demands to determine full cost recovery rates. The analysis may consider alternative structures, including amalgamating individual systems within a municipality, consistent with municipal policies/strategies, industry practice, and customer affordability. The rate forecasts are applied against a range of customer types, and in relation to other municipalities, to measure the annual water and wastewater bill impacts.



Chapter 2

Forecast Growth and Servicing Requirements



2. Forecast Growth and Servicing Requirements

As previously mentioned, the Township provides water services to 1,137 customers and wastewater services to 993 customers, all of whom are metered.

Table 2-1 provides the breakdown of customers by service and meter size. Township staff provided information on the existing number of customers and existing billable volumes.

Table 2-1
Township of Cramahe
Existing Customer Profile

Meter Size (mm)	Water	Wastewater
15	1,097	957
20	1	1
25	11	10
40	9	8
50	16	15
75	2	1
100	1	1
Total	1,137	993

Water and wastewater customer growth for the 2026-2036 period is based on the draft growth forecast prepared for the Township's ongoing D.C. Background Study.

Future growth in water and wastewater customers has been developed in conjunction with available planning information and discussions with Township staff. The forecasts presented herein reflect anticipated residential growth within the urban serviced area over the planning horizon. For the purposes of this study, it has been assumed that all new development within the serviced areas will connect to both municipal water and wastewater services, consistent with existing servicing policies.

With respect to wastewater services, the number of metered residential wastewater customers will increase by 179 over the 10-year forecast period. It is expected that all new growth (179) will be fully serviced, i.e., will receive both water and wastewater services from the Township.

It is anticipated that the Township will also experience non-residential growth over the forecast period. The draft growth forecast includes non-residential gross floor area over the 10-year forecast period. It is difficult to accurately determine the amount of water



and wastewater new non-residential buildings use each year based on the amount of building space they occupy. Two different users with the same amount of building space can use different amounts of water and wastewater. Therefore, to be conservative, the growth in the non-residential sector has not been included in the forecast of new customers or additional anticipated volumes. Where non-residential customers are added to the system, a surplus would be generated from the rates. This surplus would be used to mitigate other fluctuations in costs and/or to assist in building reserves for future asset management needs.

The Township provided Watson with water consumption records for July 2023 to December 2025. This data was analyzed to develop a forecast of water demand for the period 2026-2036. Based on the consumption patterns of existing customers, discussions with Township staff, and consideration of provincial water consumption trends, residential consumption has been forecast at 137 m³ per customer, based on the average consumption for a residential customer in 2024 and 2025. These average annual consumption levels for residential users were applied to the Township's growth projections to forecast future service demands.

Overall, billable water consumption is expected to increase by approximately 24,500 m³ from 210,600 m³ to 235,100 m³ in 2036. Billable wastewater flows, which are based on water consumption by customers with wastewater services, are forecasted to increase by the same amount over the forecast period.

Tables 2-2 and 2-3 provide the customer forecasts along with the detailed water consumption and wastewater flows forecasts, for the 10-year period to 2036.



Table 2-2
Township of Cramahe
Water System Forecast

Water Customer Forecast	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
Existing	1,137	1,137	1,137	1,137	1,137	1,137	1,137	1,137	1,137	1,137	1,137
New - Growth	5	18	33	48	64	82	101	120	139	159	179
Total	1,142	1,155	1,170	1,185	1,201	1,219	1,238	1,257	1,276	1,296	1,316

Water Volume Forecast (m³)	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
Existing	210,561	210,561	210,561	210,561	210,561	210,561	210,561	210,561	210,561	210,561	210,561
New	685	2,466	4,521	6,576	8,768	11,234	13,837	16,440	19,043	21,783	24,523
Total	211,246	213,027	215,082	217,137	219,329	221,795	224,398	227,001	229,604	232,344	235,084

Table 2-3
Township of Cramahe
Wastewater Customer Forecast

Wastewater Customer Forecast	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
Existing	993	993	993	993	993	993	993	993	993	993	993
New - Growth	5	18	33	48	64	82	101	120	139	159	179
Total	998	1,011	1,026	1,041	1,057	1,075	1,094	1,113	1,132	1,152	1,172

Wastewater Flows Forecast (m³)	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
Existing	180,051	180,051	180,051	180,051	180,051	180,051	180,051	180,051	180,051	180,051	180,051
New	685	2,466	4,521	6,576	8,768	11,234	13,837	16,440	19,043	21,783	24,523
Total	180,736	182,517	184,572	186,627	188,819	191,285	193,888	196,491	199,094	201,834	204,574

Note: Above flows are water flows on which the wastewater billing will be calculated



Chapter 3

Capital Infrastructure Needs



3. Capital Infrastructure Needs

3.1 Capital Forecast

Capital forecasts have been provided for the water and wastewater systems. These forecasts are presented in Table 3-1 and Table 3-2, respectively. The capital forecasts are based on the Township's 2026 budget, the asset replacement forecast developed as part of the 2025 Asset Management Plan, and discussions with Township staff. These forecasts consist of lifecycle capital needs and level of service or capacity improvements.

Township staff indicated that the Township will undertake additional work to refine the long-term capital forecast by incorporating condition assessments to inform the timing and sequencing of projects. This work may result in updates to the capital forecasts contained in this study. As a result, it is recommended that the Township assess the impact of the updated capital forecast on funding requirements and consider updating the rate study at that time if required, prior the regular five-year update.

The total cost of forecast capital needs for water services is \$5.8 million, in current (uninflated) dollars. These works include the continuation of the water meter upgrades program, replacement of hydrants, facilities or facility components, and watermains. The capital program also includes upgrades to buildings and the SCADA system.

The 2026 capital budget and 10-year forecast for wastewater services is \$13.9 million, in current (uninflated) dollars. These works include the replacement of maintenance holes, facilities or facility components and sanitary sewers. The capital program also includes upgrades to the SCADA and UV systems, as well as the extension of a gravity sewer to serve the industrial park and surrounding lands.



Table 3-1
Township of Cramahe
Water Services - 2026 Capital Budget and 2027 to 2036 Capital Forecast Summary (Uninflated \$)

Description	Budget 2026	Total	Forecast										
			2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	
Capital Expenditures													
ENV-06-23 CAPITAL UPGRADES TO SYSTEM-SCADA	191,126	-	-	-	-	-	-	-	-	-	-	-	-
ENV-03-24 CAPITAL UPGRADES TO BUILDINGS	500,949	-	-	-	-	-	-	-	-	-	-	-	-
ENV-01-26 WATER METER UPGRADES	120,000	360,000	120,000	120,000	120,000	-	-	-	-	-	-	-	-
PRV REPLACEMENT - ELGIN & PARK	25,000	-	-	-	-	-	-	-	-	-	-	-	-
Equipment	11,500	-	-	-	-	-	-	-	-	-	-	-	-
1298 - Hydrants	-	676,242	169,061	169,061	169,061	169,061	-	-	-	-	-	-	-
2385 - SCADA	-	36,554	-	-	-	-	-	-	-	-	-	36,554	-
1214 - Streamside Drive	-	127,938	-	-	-	-	127,938	-	-	-	-	-	-
1218 - Parliament Street	-	626,895	-	-	-	-	626,895	-	-	-	-	-	-
1230 - Creek Street	-	183,682	-	-	-	-	-	183,682	-	-	-	-	-
1231 - Arthur Street	-	86,815	-	-	-	-	-	86,815	-	-	-	-	-
1234 - Rotary Centennial Park Drive	-	50,261	-	-	-	-	-	50,261	-	-	-	-	-
1235 - Division Street	-	548,304	-	-	-	-	-	-	548,304	-	-	-	-
1236 - Division Street	-	182,768	-	-	-	-	-	-	-	182,768	-	-	-
1237 - Division Street	-	91,384	-	-	-	-	-	-	-	91,384	-	-	-
1238 - Division Street	-	183,377	-	-	-	-	-	-	-	183,377	-	-	-
1241 - King Street West	-	487,382	-	-	-	-	-	-	-	-	487,382	-	-
1242 - King Street East	-	268,060	-	-	-	-	-	-	-	-	-	-	268,060
1243 - King Street East	-	268,060	-	-	-	-	-	-	-	-	-	-	268,060
1244 - King Street East	-	194,953	-	-	-	-	-	-	-	-	-	-	194,953
212 - Water Treatment Plant	-	518,330	259,165	259,165	-	-	-	-	-	-	-	-	-
2386 - Generator w Fence	-	76,298	-	76,298	-	-	-	-	-	-	-	-	-
462 - Electrical System	-	18,277	18,277	-	-	-	-	-	-	-	-	-	-
Total Capital Expenditures	848,575	4,985,580	566,503	624,524	289,061	169,061	754,833	320,758	548,304	457,529	523,936	731,073	



Table 3-2
Township of Cramahe
Wastewater Services - 2026 Capital Budget and 2026 to 2036 Capital Forecast Summary (Uninflated \$)

Description	Budget 2026	Total	Forecast									
			2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
Capital Expenditures												
ENV-04-23 SS SYSTEM CAMERA INSPECTION	50,000	-	-	-	-	-	-	-	-	-	-	-
ENV-02-24 UV SYSTEM UPGRADE	620,287	-	-	-	-	-	-	-	-	-	-	-
ENV-02-26 SCADA SYSTEM REPLACEMENT	325,000	-	-	-	-	-	-	-	-	-	-	-
SANITARY/GRAVITY SEWER EXTENSION	-	8,271,625	8,271,625	-	-	-	-	-	-	-	-	-
Sanitary Maintenance Holes	-	1,018,457	100,982	100,982	100,982	100,982	100,982	100,982	100,982	105,299	100,982	105,299
Sanitary Sewers	-	2,381,839	-	-	392,262	392,262	392,262	392,262	392,262	-	-	420,528
269 - Internal Components (transfer switch, generator etc)	-	1,218,454	-	-	-	-	-	-	-	-	-	1,218,454
3095 - Internal Components- Muffin Monster	-	10,418	-	-	-	-	-	-	-	10,418	-	-
Total Capital Expenditures	995,287	12,900,792	8,372,607	100,982	493,244	493,244	493,244	493,244	493,244	115,717	100,982	1,744,281



Chapter 4

Lifecycle Costing



4. Lifecycle Costing

4.1 Overview of Lifecycle Costing

4.1.1 Definition

Lifecycle costing has been used in the field of maintenance engineering and to evaluate the advantages of using alternative materials in construction or production design. The method has gained wider acceptance and use in the areas of industrial decision-making and the management of physical assets.

Lifecycle costs include all of the costs which are incurred during the service life of a physical asset. This service life spans the period, from the time its acquisition is first considered to the time it is taken out of service for disposal or redeployment. The asset goes through several stages in its lifecycle. These include specification, design, manufacture (or build), install, commission, operate, maintain, and disposal. Figure 4-1 depicts these stages in schematic form.

4.1.2 Financing Costs

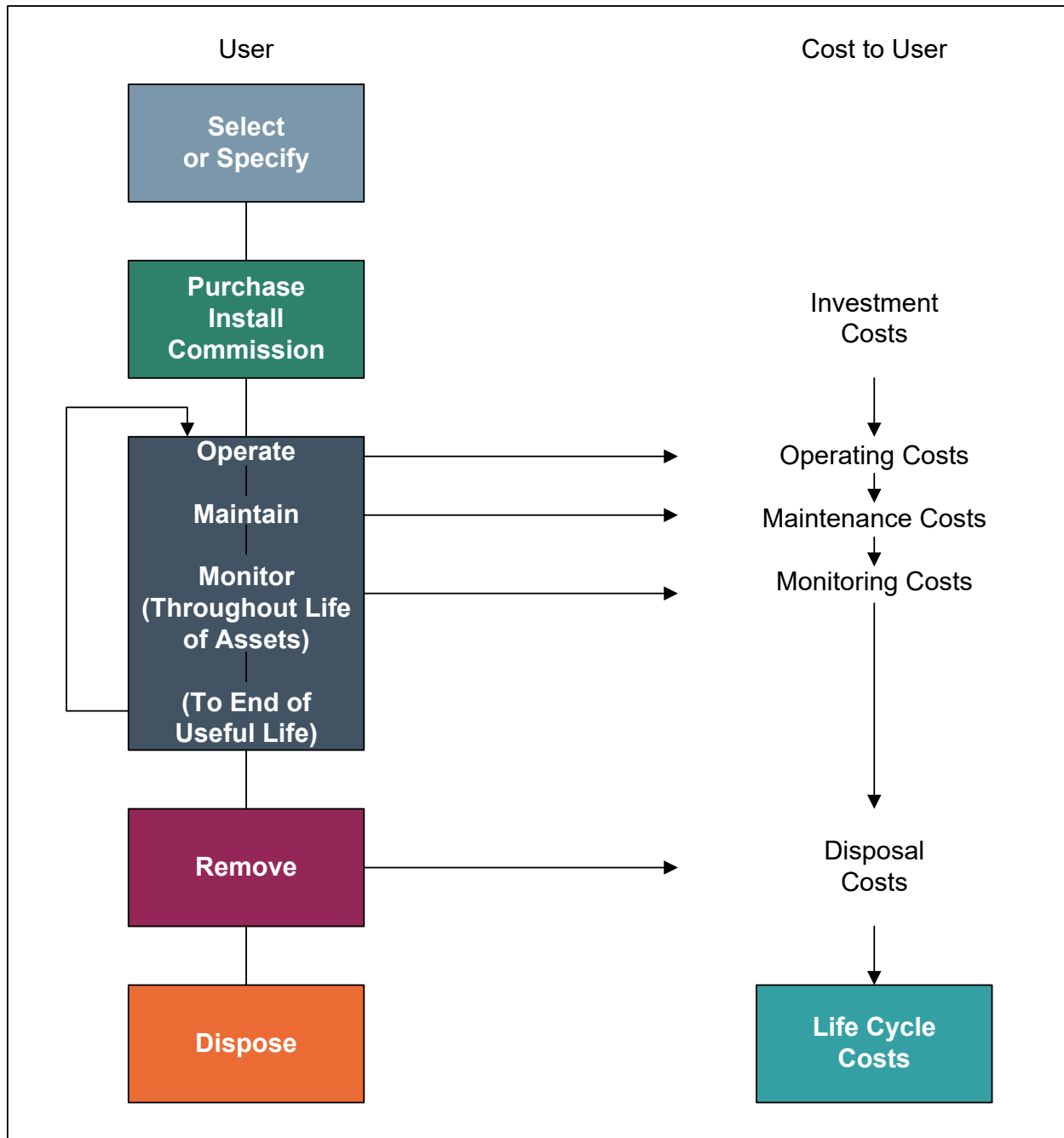
This section will focus on financing mechanisms in place to fund the costs incurred throughout the asset's life.

In a municipal context, services are provided to benefit rate payers. Acquisition of assets is normally timed in relation to direct needs within the community. At times, economies of scale or technical efficiencies will lead to oversizing an asset to accommodate future growth within the Township. Over the past few decades, new financing techniques such as D.C.s have been employed based on the underlying principle of having those that require and directly benefit from expansionary needs, to pay for those needs, vs. having the costs spread amongst existing rate payers (i.e., growth paying for growth needs). Operating costs, which reflect the cost of the service for that year, are charged directly to all existing rate payers who have received the benefit. Operating costs are normally charged through the tax base or user rates.

Capital expenditures are recouped through several methods, with operating budget contributions, D.C.s, connection charges, reserves, developer contributions, grants, and debentures being the most common.



Figure 4-1
Lifecycle Costing



Construction related to growth could produce D.C.s and developer contributions (e.g., works internal to a subdivision which are the responsibility of the developer to construct) to fund a significant portion of projects, where new assets are being acquired to allow growth within the municipality to continue. As well, debentures could be used to fund



such works, with the debt charge carrying costs recouped from growth and/or rate payers in the future.

Capital construction to replace existing infrastructure, however, is largely not growth-related and will therefore not yield D.C.s or developer contributions to assist in financing these works. Hence, a municipality is typically dependent upon debentures, reserves, and contributions from the operating budget to fund these works.

Figure 4-2 depicts the costs of an asset from its initial conception through to replacement. It then follows the costs through to the next replacement.

As referred to earlier, growth-related financing methods such as D.C.s and developer contributions could be used to finance the growth-related component of the new asset. These revenues are collected (indirectly) from the new homeowner who benefits directly from the installation of this asset. Other financing methods may be used to address the non-growth-related component of this project. These methods include reserves which have been collected from past rate payers, operating budget contributions collected from existing rate payers, and debentures which future rate payers will carry. Ongoing costs for monitoring, operating, and maintaining the asset will be charged annually to the existing rate payer.

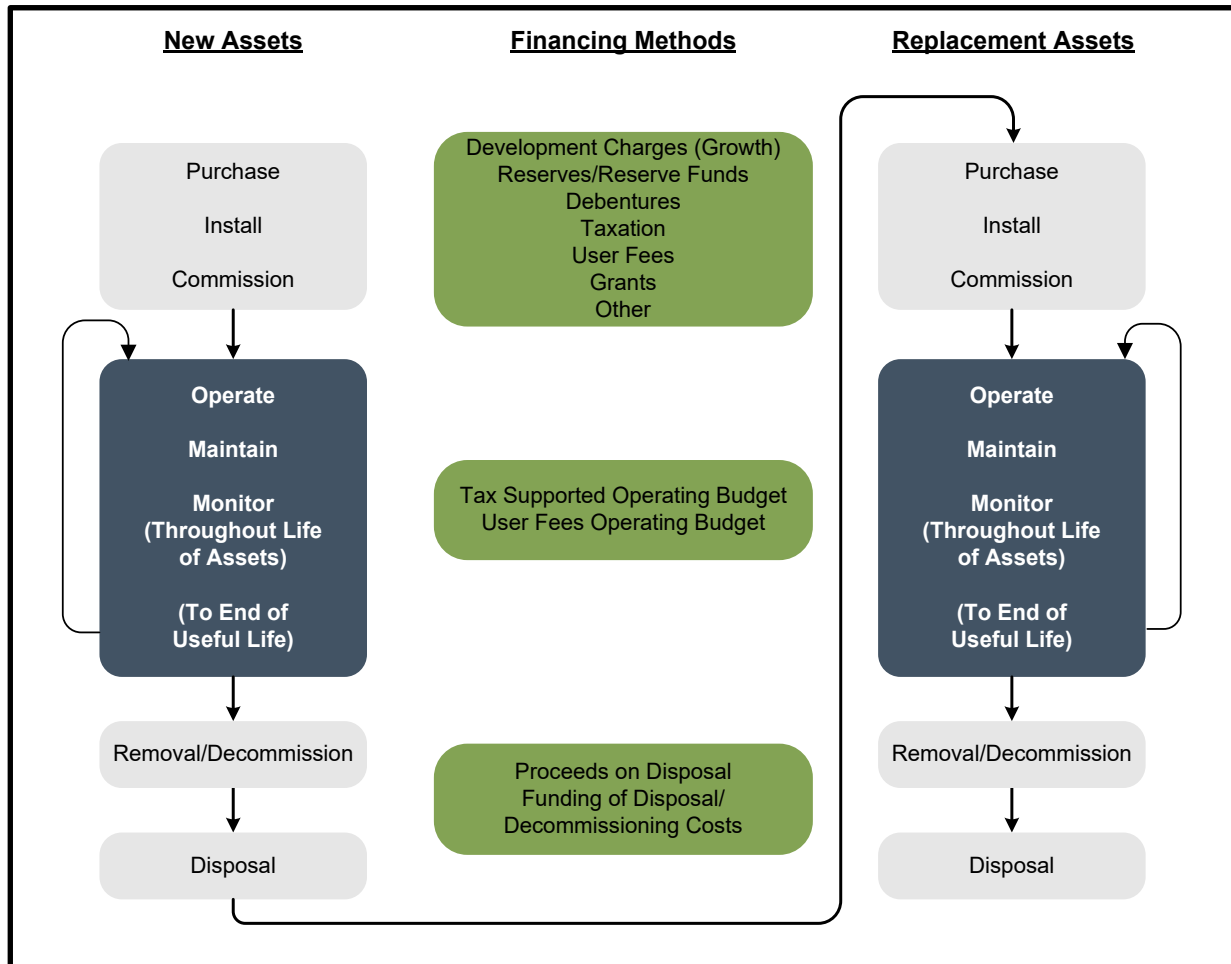
When the asset requires replacement, the sources of financing will be limited to reserves, debentures, and contributions from the operating budget. At this point, the question is raised: "If the cost of replacement is to be assessed against the rate payer who benefits from the replacement of the asset, should the past rate payer pay for this cost, or should future rate payers assume this cost?" If the position is taken that the past user has used up the asset, hence they should pay for the cost of replacement, then a charge should be assessed annually through the life of the asset, to have funds available to replace it when the time comes. If the position is taken that the future rate payer should assume this cost, then debentures and a contribution from the operating budget should be used to fund this work.

Charging for the cost of using up an asset is the basic concept behind depreciation methods utilized by the private sector. This concept allows for expending the asset as it is used up in the production process. The tracking of these costs form part of the product's selling price and, hence, end-users are charged for the asset's depreciation. The same concept can be applied in a municipal setting to charge existing users for the



asset's use and set those funds aside in a reserve to finance the cost of replacing the asset in the future.

Figure 4-2
Financing Lifecycle Costs



4.1.3 Costing Methods

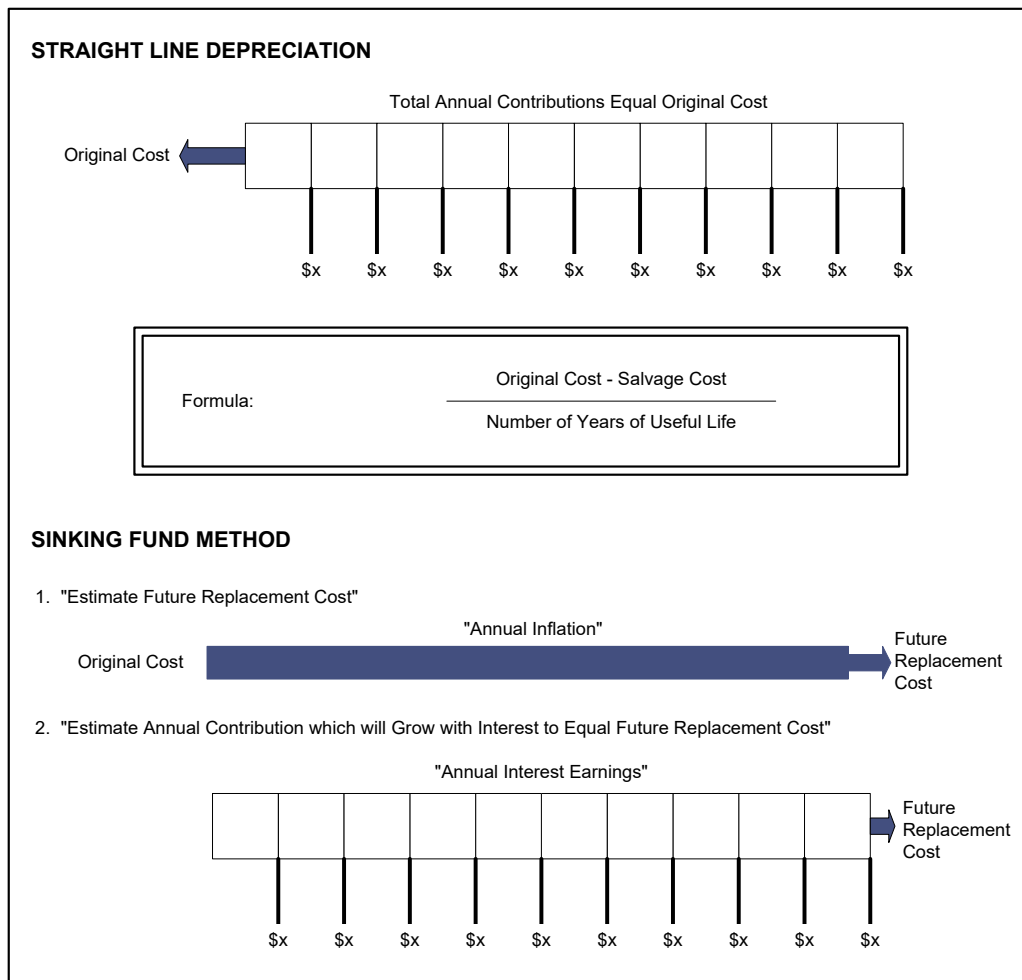
There are two basic methods of calculating the cost of the usage of an asset and for the provision of the revenue required when the time comes to retire and replace it. The first method is the Depreciation Method. This method recognizes the reduction in the value of the asset through wear and tear and aging. There are two commonly used forms of depreciation: the straight-line method and the reducing balance method (shown graphically in Figure 4-3).



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

The second method of lifecycle costing is the sinking fund method. This method first estimates the future value of the asset at the time of replacement. This is done by inflating the original cost of the asset at an assumed annual inflation rate. A calculation is then performed to determine annual contributions (equal or otherwise) which, when invested, will grow with interest to equal the future replacement cost. The preferred method used herein for forecasting purposes is the sinking fund method of lifecycle costing.

Figure 4-3





4.2 Summary

Township staff provided detailed inventories of water and wastewater system assets. In addition, the Township completed its 2025 Asset Management Plan (2025 A.M.P.), which was adopted by Council on December 16, 2025. As noted in the 2025 Asset Management Plan (A.M.P.) The total replacement value, in 2026\$ values, of existing water infrastructure across the Township is approximately \$44.7 million, which translates to an investment of \$38,700 per customer based on the existing number of customers. For wastewater, the total replacement value of existing infrastructure is \$44.4 million, equating to an investment of \$44,200 per customer.

The 2025 A.M.P. also identified the annual capital requirement to address lifecycle and replacement needs of the systems. These calculations, which are summarized in Table 4-1 below (in current dollars), indicate the level of investment required to achieve the approved levels of service as identified in the A.M.P. These amounts represent the average annual funding required for the Municipality to rehabilitate and replace its infrastructure in order to achieve and maintain the approved levels of service. The annual requirements for each service have been considered in developing the rate forecasts and are discussed further in Chapter 6 of this report.

Table 4-1
Township of Cramahe
Summary of Water and Wastewater Infrastructure (2026\$)

Service	Total Replacement Value	Annual Requirement
Water	\$44,681,809	\$636,662
Wastewater	\$44,417,301	\$718,815
Total	\$89,099,110	\$1,355,476

As shown in Table 4-1, the annual lifecycle requirement for water totals \$636,700, and for wastewater services totals \$718,800 (2026\$). This amount would increase to approximately \$955,700 for water services and \$1.08 million for wastewater services, by 2036 after accounting for annual inflationary increases.



Chapter 5

Capital Costs Financing



5. Capital Cost Financing Options

5.1 Summary of Capital Cost Financing Alternatives

Historically, the powers that municipalities had to raise alternative revenues to taxation to fund capital costs have been restrictive. Over the past number of years, several legislative reforms have been introduced. Some of these have expanded municipal powers (e.g., Bill 26, introduced in 1996 to provide for expanded powers for imposing fees and charges), while others appear to limit them (e.g., Bill 98 in 1997 and Bill 23 in 2022 providing amendments to the D.C.A.).

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

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

Recovery Methods	Section Reference
• <i>Development Charges Act, 1997</i> , as amended	5.2
• <i>Municipal Act</i>	5.3
○ Fees and Charges	
○ Stormwater Area Charges	
○ Connection Fees	
○ Local Improvements	
• Grant Funding Availability	5.4
• Existing Reserves/Reserve Funds	5.5
• Debenture Financing	5.6
• Recommended Capital Financing Approach	5.7



5.2 Development Charges Act, 1997

D.C.s are a revenue tool used by municipalities to recover the capital costs associated with new development and redevelopment. These costs are in addition to what a developer/builder normally constructs as part of their subdivision (i.e., Local Services). Empowered by the D.C.A., as amended (D.C.A.), municipalities may pass by-laws to impose charges to recover the capital costs associated with development and redevelopment. The Township does not currently impose D.C.s for water and wastewater services.

5.3 Municipal Act

Part XII of the *Municipal Act* provides municipalities with broad powers to impose fees and charges via passage of a by-law. These powers, as presented in s.391(1), include imposing fees or charges:

“for services or activities provided or done by or on behalf of it;

for costs payable by it for services or activities provided or done by or on behalf of any other municipality or local board; and

for the use of its property including property under its control.”

Restrictions are provided to ensure that the form of the charge is not akin to a poll tax. Any charges not paid under this authority may be added to the tax roll and collected in a like manner. The fees and charges imposed under this part are not appealable to the Ontario Land Tribunal (OLT).

Section 221 of the previous *Municipal Act* permitted municipalities to impose charges, by by-law, on owners or occupants of land who would or might derive benefit from the construction of sewage (storm and sanitary) or water works being authorized (in a specific benefit area). For a by-law imposed under this section of the previous Act:

- A variety of different means could be used to establish the rate and recovery of the costs;
- The charges could be imposed by a number of methods at the discretion of Council (i.e., lot size, frontage, number of benefiting properties, etc.);



- Rates could be imposed with respect to the costs of major capital works, even though an immediate benefit was not enjoyed;
- Non-abutting owners could be charged;
- Recovery was authorized against existing works, where a new water or sewer main was added to such works, "notwithstanding that the capital costs of existing works have in whole or in part been paid;"
- Charges on individual parcels could be deferred;
- Exemptions could be established;
- Repayment was secured; and
- OLT approval was not required.

While under the new *Municipal Act* no provisions are provided specific to the previous s.221, the intent to allow capital cost recovery through fees and charges is embraced within s.391. The new *Municipal Act* also maintains the ability of municipalities to impose capital charges for water and sewer services on landowners not receiving an immediate benefit from the works. Under s.391(2) of the Act, "a fee or charge imposed under subsection (1) for capital costs related to sewage or water services or activities may be imposed on persons not receiving an immediate benefit from the services or activities but who will receive a benefit at some later point in time." Also, capital charges imposed under s.391 are not appealable to the OLT because the charges are "unfair or unjust."

Section 222 of the previous *Municipal Act* permitted municipalities to pass a by-law requiring buildings to connect to the municipality's sewer and water systems, charging the owner for the cost of constructing services from the mains to the property line. Under the new *Municipal Act*, this power still exists under Part II, General Municipal Powers (s.9 (3) b of the *Municipal Act*). Enforcement and penalties for this use of power are contained in s.427 (1) of the *Municipal Act*.

Under the previous *Local Improvement Act*:

- A variety of different types of works could be undertaken, such as watermain, storm and sanitary sewer projects, supply of electrical light or power, bridge construction, sidewalks, road widening, and paving;
- Council could pass a by-law for undertaking such work on petition of a majority of benefiting taxpayers, on a 2/3 vote of Council, and on sanitary grounds, based on the recommendation of the Minister of Health. The by-law was required to go to



the OLT, which might hold hearings and alter the by-law, particularly if there were objections;

- The entire cost of a work was assessed only upon the lots abutting directly on the work, according to the extent of their respective frontages, using an equal special rate per metre of frontage; and
- As noted, this Act was repealed as of April 1, 2003; however, O. Reg. 119/03 was enacted on April 19, 2003, which restores many of the previous *Local Improvement Act* provisions; however, the authority is now provided under the *Municipal Act*.

The Municipality imposes a connection charge on new users connecting to the water and wastewater systems to finance improvements required to address new demands on the municipal systems. The charges are imposed under By-law 2022-05.

5.4 Grant Funding Availability

Federal Infrastructure Funding

The Government of Canada has provided funding to assist municipalities with their water and wastewater systems, including repair and rehabilitation projects. Some funding programs are time-limited, for example the Clean Water and Wastewater Fund and the Investing in Canada Infrastructure Program.

Other programs are ongoing and provide a permanent source of funding. For example, the Canada Community-Building Fund (formerly know as the Federal Gas Tax Fund). The Canada Community-Building Fund provides over \$2 billion each year to communities across Canada. Each municipality then chooses how to use the money. They can make strategic investments in 18 different projects, including water and wastewater services.

Ontario Government

The Province has taken steps to increase municipal infrastructure funding. The Ontario Community Infrastructure Fund (O.C.I.F.) was launched in 2014 and currently provides \$400 million in formula-based funding to help eligible communities renew and rehabilitate their infrastructure. The Ontario government also provides funding through the Connecting Links program (\$30 million in 2023-2024) to help pay for the construction and repair costs of municipal roads that connect communities to provincial



highways. This is on top of the Building Ontario Up investment of \$130 billion in public infrastructure over 10 years starting in 2015.

Additionally, in the 2023 budget, the Province announced it was providing \$825 million over three years through the Housing-Enabling Water Systems Fund (H.E.W.S.F.). Funding through the H.E.W.S.F. would help municipalities repair, rehabilitate, and expand drinking water, wastewater, and stormwater infrastructure needed to build more homes. Since the original announcement, the Province has increased the total available funding through the H.E.W.S.F. to over \$1.0 billion.

The Township successfully applied for and received approximately \$6.0 million in grant funding from the province’s Municipal Housing Infrastructure Program’s Health and Safety Water Stream (MHIP-HSWS) for the expansion of the Gravity sewer expansion project. Aside from this grant, the rate calculations provided in subsequent chapters do not assume any additional grant funding from the federal and provincial governments will be allocated to water and wastewater projects.

The Township is encouraged to continue to pursue funding opportunities as they are announced or made available to assist with funding its water and wastewater infrastructure.

5.5 Existing Reserves/Reserve Funds

The Township has established reserve funds for water and wastewater costs. These reserve funds have been used in the capital funding forecast for rate-based needs. The following table shows the water and wastewater reserve funds used in this analysis and their balances as of December 31, 2025.

Table 5-1
Township of Cramahe
Uncommitted Reserve Fund Balances as at December 31, 2025

Description	Estimated Dec. 31 2025
Water	
Water Reserve Funds	2,608,912
Wastewater	
Wastewater Reserve Funds	74,670



5.6 Debenture Financing

Although it is not a direct way to reduce the overall cost to ratepayers, municipalities use debentures to help them pay for large capital expenditures. In addition, debenture financing can promote inter-generational equity whereby future tax and rate payers who will benefit from the infrastructure pay for the cost of the infrastructure.

The Ministry of Municipal Affairs and Housing controls the amount of debt Ontario municipalities can incur. This is done through its powers under the *Municipal Act*. O. Reg. 403/02 provides the current rules respecting municipal debt and financial obligations. Under these rules, a municipality's debt capacity is capped at 25% of the municipality's own purpose revenue. That is, only 25% of these revenues may be allotted for servicing debt (i.e., debt charges). The Township's 2024 Annual Repayment Limit (A.R.L.) is \$2.0 million based on calculations by the Ministry of Municipal Affairs and Housing. The Ministry of Municipal Affairs and Housing's A.R.L. schedule notes that the Township's available debt is approximately \$24.9 million, based on 20-year financing at an assumed rate of 5%.

The capital financing plan does not identify debt financing for capital works over the 10-year forecast period.

5.6.1 Infrastructure Ontario

Infrastructure Ontario (I.O.) is an arms-length crown corporation, which has been set up as a tool to offer low-cost and longer-term financing to assist municipalities in renewing their infrastructure (this corporation merged the former Ontario Strategic Infrastructure Financing Authority (O.S.I.F.A.) into its operations). I.O. combines the infrastructure renewal needs of municipalities into an infrastructure investment "pool." I.O. will raise investment capital to finance loans to the public sector by selling Infrastructure Renewal Bonds to individual and institutional investors.

I.O. provides access to infrastructure capital that would not otherwise be available to smaller borrowers. Larger borrowers receive longer loan terms than they could get in the financial markets. They can also save on costs such as legal fees and underwriting commissions. Under the I.O. approach, all borrowers receive the same low interest rate. I.O. will enter into a financial agreement with each municipality, subject to technical and credit reviews, for a loan up to the maximum amount of the loan request.



To be eligible to receive these loans, municipalities must submit a formal application along with pertinent financial information. Allotments are prioritized and distributed based upon the Province's assessment of need. The analysis provided herein assumes that the Township will not provide debt financing for the capital projects identified.

5.6.2 Ontario Investment Bank

The Province, through the *Building Ontario Fund Act, 2024* established funding through a new Ontario Infrastructure Bank. This arms-length, board-governed agency will assist investors and institutions in participating in large-scale infrastructure projects. The bank is newly established and currently in the process of being operationalized.

5.7 Recommended Capital Financing Approach

Tables 5-2 and 5-3 present the detailed annual capital expenditure (inflated \$) for water and wastewater services. The capital expenditures, as outlined in the tables, include 4.1% in annual capital inflation based on the 30-year average annual increase in Statistics Canada's Non-Residential Building Construction Price Index. No additional inflation has been applied to the Sanitary/Gravity Sewer Extension project, as the estimate is based on the most recent cost information available to the Township. These tables also include funding sources recommended for the Township's consideration.

Capital expenditures for water services over the 10-year period from 2026 to 2035 are estimated at \$7.19 million when including annual inflationary increases to the estimates provided in Table 3-1. The costs are projected to be funded from the Water Reserve Fund.

For wastewater services, the capital expenditures over the same 10-year forecast period are estimated at \$15.4 million (i.e., costs from Table 3-2 plus inflation). These expenditures are projected to be funded/financed primarily from the rate-funded Wastewater Reserve Fund. \$6.0 million in costs for the Sanitary/Gravity Sewer will be funded by the MHIP-HSWS grant, as discussed in Section 5.4, with the remainder financed from other Township non-rate sources, as these costs are not intended to be funded through the wastewater reserve fund or wastewater rates.



Table 5-2
Township of Cramahe
Capital Budget Forecast and Recommended Capital Financing (inflated \$) – Water

Description	Budget 2026	Total	Forecast										
			2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	
Capital Expenditures													
ENV-06-23 CAPITAL UPGRADES TO SYSTEM-SCADA	191,126	-	-	-	-	-	-	-	-	-	-	-	-
ENV-03-24 CAPITAL UPGRADES TO BUILDINGS	500,949	-	-	-	-	-	-	-	-	-	-	-	-
ENV-01-26 WATER METER UPGRADES	120,000	391,000	125,000	130,000	136,000	-	-	-	-	-	-	-	-
PRV REPLACEMENT - ELGIN & PARK	25,000	-	-	-	-	-	-	-	-	-	-	-	-
Equipment	11,500	-	-	-	-	-	-	-	-	-	-	-	-
1298 - Hydrants	-	749,000	176,000	183,000	191,000	199,000	-	-	-	-	-	-	-
2385 - SCADA	-	53,000	-	-	-	-	-	-	-	-	-	53,000	-
1214 - Streamside Drive	-	157,000	-	-	-	-	157,000	-	-	-	-	-	-
1218 - Parliament Street	-	768,000	-	-	-	-	768,000	-	-	-	-	-	-
1230 - Creek Street	-	234,000	-	-	-	-	-	234,000	-	-	-	-	-
1231 - Arthur Street	-	111,000	-	-	-	-	-	111,000	-	-	-	-	-
1234 - Rotary Centennial Park Drive	-	64,000	-	-	-	-	-	64,000	-	-	-	-	-
1235 - Division Street	-	729,000	-	-	-	-	-	-	729,000	-	-	-	-
1236 - Division Street	-	253,000	-	-	-	-	-	-	-	253,000	-	-	-
1237 - Division Street	-	126,000	-	-	-	-	-	-	-	126,000	-	-	-
1238 - Division Street	-	254,000	-	-	-	-	-	-	-	254,000	-	-	-
1241 - King Street West	-	702,000	-	-	-	-	-	-	-	-	702,000	-	-
1242 - King Street East	-	402,000	-	-	-	-	-	-	-	-	-	402,000	-
1243 - King Street East	-	402,000	-	-	-	-	-	-	-	-	-	402,000	-
1244 - King Street East	-	293,000	-	-	-	-	-	-	-	-	-	293,000	-
212 - Water Treatment Plant	-	551,000	270,000	281,000	-	-	-	-	-	-	-	-	-
2386 - Generator w Fence	-	83,000	-	83,000	-	-	-	-	-	-	-	-	-
462 - Electrical System	-	19,000	19,000	-	-	-	-	-	-	-	-	-	-
Total Capital Expenditures	848,575	6,341,000	590,000	677,000	327,000	199,000	925,000	409,000	729,000	633,000	755,000	1,097,000	
Capital Financing													
Water Reserve Fund	848,575	6,341,000	590,000	677,000	327,000	199,000	925,000	409,000	729,000	633,000	755,000	1,097,000	
Total Capital Financing	848,575	6,341,000	590,000	677,000	327,000	199,000	925,000	409,000	729,000	633,000	755,000	1,097,000	



Table 5-3
Township of Cramahe
Capital Budget Forecast and Recommended Capital Financing (inflated \$) – Wastewater

Description	Budget 2026	Total	Forecast										
			2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	
Capital Expenditures													
ENV-04-23 SS SYSTEM CAMERA INSPECTION	50,000	-	-	-	-	-	-	-	-	-	-	-	-
ENV-02-24 UV SYSTEM UPGRADE	620,287	-	-	-	-	-	-	-	-	-	-	-	-
ENV-02-26 SCADA SYSTEM REPLACEMENT	325,000	-	-	-	-	-	-	-	-	-	-	-	-
SANITARY/GRAVITY SEWER EXTENSION	-	8,271,625	8,271,625	-	-	-	-	-	-	-	-	-	-
Sanitary Maintenance Holes	-	1,285,000	105,000	110,000	114,000	119,000	124,000	129,000	134,000	146,000	146,000	158,000	
Sanitary Sewers	-	3,038,000	-	-	443,000	461,000	481,000	501,000	521,000	-	-	631,000	
269 - Internal Components (transfer switch, generator etc)	-	1,829,000	-	-	-	-	-	-	-	-	-	1,829,000	
3095 - Internal Components- Muffin Monster	-	14,000	-	-	-	-	-	-	-	14,000	-	-	
Total Capital Expenditures	995,287	14,437,625	8,376,625	110,000	557,000	580,000	605,000	630,000	655,000	160,000	146,000	2,618,000	
Capital Financing													
Provincial/Federal Grants	-	6,038,286	6,038,286	-	-	-	-	-	-	-	-	-	
Other Town Funding (Non-Rate)	-	2,233,339	2,233,339	-	-	-	-	-	-	-	-	-	
Wastewater Reserve Fund	995,287	6,166,000	105,000	110,000	557,000	580,000	605,000	630,000	655,000	160,000	146,000	2,618,000	
Total Capital Financing	995,287	14,437,625	8,376,625	110,000	557,000	580,000	605,000	630,000	655,000	160,000	146,000	2,618,000	



Chapter 6

Operating Expenditures and Revenues



6. Operating Expenditures and Revenues

6.1 Operating Expenditures

Township staff provided the approved 2026 Operating Budget, which provided the basis for developing the operating forecast to 2036 in this report.

The operating budget forecast generally includes two components: the operating expenditures and capital-related expenditures. The former is based on the Township's projected annual spending for ongoing operations and maintenance. The latter is based on the capital funding plan decisions (i.e., transfers to reserve funds, debt repayment, and capital fund transfers) presented earlier.

Operating expenditures for 2026 reflect the Municipality's 2026 Budget. The operating forecast for 2027 through 2036 is based on the 2026 Budget with adjustments for inflation. The costs for each component of the operating budget have been reviewed with staff to establish forecast inflationary adjustments. The cost adjustments are based on the trends observed by the Township over the past three budget cycles, along with discussions with staff regarding recent experience with actual costs and cost estimates, and are summarized below:

- Expenditures related to insurance and staffing, such as salary, wages, and benefits, are assumed to increase at a rate of 3.5% annually;
- Expenditures related to hydro are assumed to increase at a rate of 5% annually;
- Expenditures related to inspections and regular asset maintenance are assumed to increase at a rate of 4.1% annually;
- Expenditures related to treatment chemicals are assumed to increase at a rate of 10.1% annually;
- Expenditures related to the billing contract are assumed to increase at a rate of 4.5% annually.
- No increases are anticipated for costs related to rebate or pardon programs; and
- All other expenditures are assumed to increase at a rate of 2.0% annually from 2027 to 2036.

Capital-related annual expenditures in the forecast consist of contributions to reserves to support the forecast and future needs. Annual transfers to the reserve have been



built into the operating expenditure forecasts to minimize the need for debt to finance the capital program.

Compared to the annual lifecycle requirement discussed in Section 4.2 of this report, the annual capital-related expenditures for water services are projected to total approximately \$624,000 in 2036. This represents approximately 65% of the annual lifecycle requirement of \$955,700 identified in Section 4.2. The forecast also assumes an interim loan from the water reserve to the wastewater reserve in 2026, which will be repaid by the end of the 10-year forecast.

Increasing the capital-related expenditures to fully fund the annual lifecycle requirement by 2036 would require higher rate increases than those currently proposed and discussed in Chapter 8. Based on discussions with staff regarding projected capital needs and priorities, the existing reserve balances, and the need to balance these requirements with affordability for the ratepayers, the timeframe for achieving the target funding level has been extended beyond 2036. This approach will be reassessed within five years as part of the next rate study and the preparation of the water financial plan.

Similarly, for wastewater services, capital-related expenditures are projected to total approximately \$1.1 million in 2036, representing the full inflation-adjusted annual lifecycle contribution identified in Section 4.2. The forecast was developed to fund the annual contribution by the end of the 10-year forecast to provide sufficient revenues to fund the forecasted capital needs without requiring new debt.

Tables 6-1 and 6-2 provide the operating expenditure forecasts for water and wastewater services. As shown in Table 6-1, gross operating expenditures for water services are projected to increase from \$1.0 million in 2026 to \$1.7 million in 2036. Operating expenditures for wastewater services are projected to increase from \$1.1 million in 2026 to \$2.3 million in 2036.

6.2 Operating Revenues

The Township has revenues from base charges, consumptive/volumetric charges, connection charges, and other miscellaneous revenues to help contribute towards operating expenditures.

Connection charge revenue is based on the anticipated growth as discussed in Chapter 2 and the current water and wastewater connection charges. Revenue from connection



charges is forecasted to increase over the forecast period based on the increase in new customers as well as inflation. The Township's connection charge by-law provides for mandatory annual indexing based on the change in the Non-Residential Building Construction Price Index. This has been assumed to be 4.1% based on the average annual increase in the NRBCPI. Miscellaneous revenues are forecasted to increase by 2% annually.

Tables 6-1 and 6-2 present the operating expenditures and revenues for water and wastewater services, respectively. The tables provide the net operating expenditures to be recovered from the volumetric rates. A detailed discussion on the adjustments to rate revenue is provided in Chapter 8.



Table 6-1
Township of Cramahe
Operating Budget Forecast – Water (inflated \$)

Description	Budget	Forecast									
	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
Expenditures											
<u>Operating Costs</u>											
SOURCE WATER PROTECTIONS	7,000	7,100	7,200	7,300	7,400	7,500	7,700	7,900	8,100	8,300	8,500
AUDIT	7,000	7,100	7,200	7,300	7,400	7,500	7,700	7,900	8,100	8,300	8,500
INSURANCE	21,102	21,800	22,600	23,400	24,200	25,000	25,900	26,800	27,700	28,700	29,700
CONSULTANTS	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
TELEPHONE	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300
HYDRO	30,000	31,500	33,100	34,800	36,500	38,300	40,200	42,200	44,300	46,500	48,800
LINE MAINTENANCE	20,000	20,800	21,700	22,600	23,500	24,500	25,500	26,600	27,700	28,800	30,000
WATER MAIN BREAKS	40,000	41,700	43,400	45,200	47,100	49,100	51,100	53,200	55,400	57,700	60,100
EQUIPMENT MAINT./SERVICE	71,000	73,900	77,000	80,200	83,500	87,000	90,600	94,400	98,300	102,400	106,600
HYDRANTS MAINTENANCE	15,000	15,600	16,200	16,900	17,600	18,300	19,100	19,900	20,700	21,600	22,500
BUILDING MAINTENANCE	10,000	10,400	10,800	11,200	11,700	12,200	12,700	13,200	13,700	14,300	14,900
INSPECTIONS	45,000	46,900	48,800	50,800	52,900	55,100	57,400	59,800	62,300	64,900	67,600
OFFICE SUPPLIES	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
TREATMENT CHEMICALS	20,000	22,000	24,200	26,600	29,300	32,200	35,400	39,000	42,900	47,200	52,000
ADMINISTRATION FEE	5,000	5,100	5,200	5,300	5,400	5,500	5,600	5,700	5,800	5,900	6,000
METERS/SPOOLERS	15,000	15,300	15,600	15,900	16,200	16,500	16,800	17,100	17,400	17,700	18,100
SAMPLING	7,500	7,700	7,900	8,100	8,300	8,500	8,700	8,900	9,100	9,300	9,500
FIRE HYDRANT PAINTING	10,500	10,700	10,900	11,100	11,300	11,500	11,700	11,900	12,100	12,300	12,500
OTHER EXPENSE	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
CONTRACTED OUT-WATER BILLING	368,224	384,800	402,100	420,200	439,100	458,900	479,600	501,200	523,800	547,400	572,000
Sub Total Operating	696,626	726,700	758,200	791,200	825,700	861,900	900,000	940,000	981,700	1,025,600	1,071,600
<u>Capital-Related</u>											
Transfer to Capital Reserve	316,212	360,514	381,625	403,653	432,625	459,490	490,160	520,333	554,102	588,238	623,965
Sub Total Capital Related	316,212	360,514	381,625	403,653	432,625	459,490	490,160	520,333	554,102	588,238	623,965
Total Expenditures	1,012,838	1,087,214	1,139,825	1,194,853	1,258,325	1,321,390	1,390,160	1,460,333	1,535,802	1,613,838	1,695,565
Revenues											
Base Charge	410,959	438,815	460,791	483,797	508,278	534,740	562,898	592,416	623,355	656,259	690,752
Connection Charge Revenue	14,379	22,463	23,394	24,364	30,448	31,711	34,860	36,305	39,800	41,450	43,168
Total Operating Revenue	425,338	461,278	484,185	508,161	538,727	566,450	597,758	628,721	663,155	697,708	733,920
Water Billing Recovery - Total	587,500	625,936	655,640	686,692	719,598	754,939	792,402	831,612	872,647	916,129	961,644



Table 6-2
Township of Cramahe
Operating Budget Forecast – Wastewater (inflated \$)

Description	Budget 2026	Forecast										
		2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	
Expenditures												
<u>Operating Costs</u>												
BENEFITS	59,550	61,600	63,800	66,000	68,300	70,700	73,200	75,800	78,500	81,200	84,000	
SALARIES	255,010	263,900	273,100	282,700	292,600	302,800	313,400	324,400	335,800	347,600	359,800	
TRAINING & PROFESSIONAL DEVELOPMENT	4,700	4,800	4,900	5,000	5,100	5,200	5,300	5,400	5,500	5,600	5,700	
AUDIT	6,000	6,100	6,200	6,300	6,400	6,500	6,600	6,700	6,800	6,900	7,000	
INSURANCE	16,580	17,200	17,800	18,400	19,000	19,700	20,400	21,100	21,800	22,600	23,400	
CONSULTANTS	60,000	61,200	62,400	63,600	64,900	66,200	67,500	68,900	70,300	71,700	73,100	
TELEPHONE	3,500	3,600	3,700	3,800	3,900	4,000	4,100	4,200	4,300	4,400	4,500	
HYDRO	52,000	54,600	57,300	60,200	63,200	66,400	69,700	73,200	76,900	80,700	84,700	
WATER CHARGES	2,200	2,200	2,200	2,200	2,200	2,200	2,200	2,200	2,200	2,200	2,200	
SEWER CHARGE	2,500	2,600	2,700	2,800	2,900	3,000	3,100	3,200	3,300	3,400	3,500	
INTERNET	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	
EQUIPMENT	5,000	5,200	5,400	5,600	5,800	6,000	6,200	6,500	6,800	7,100	7,400	
LINE MAINTENANCE	60,000	62,500	65,100	67,800	70,600	73,500	76,500	79,700	83,000	86,400	90,000	
EQUIPMENT MAINTENANCE/SERVICE	48,000	50,000	52,100	54,300	56,600	58,900	61,300	63,800	66,400	69,200	72,100	
BUILDING MAINTENANCE	20,000	20,800	21,700	22,600	23,500	24,500	25,500	26,600	27,700	28,800	30,000	
SOFTWARE MAINTENANCE (SCADA)	5,000	5,200	5,400	5,600	5,800	6,000	6,200	6,500	6,800	7,100	7,400	
SANITY SEWER MAINTENANCE HOLES	100,000	104,100	108,400	112,900	117,600	122,500	127,600	132,900	138,400	144,100	150,100	
OPERATING SUPPLIES	7,000	7,100	7,200	7,300	7,400	7,500	7,700	7,900	8,100	8,300	8,500	
POSTAGE/COURIER	200	200	200	200	200	200	200	200	200	200	200	
ALUMINIUM SULPHATE	40,000	40,800	41,600	42,400	43,200	44,100	45,000	45,900	46,800	47,700	48,700	
HYPOCHLORITE	20,000	20,400	20,800	21,200	21,600	22,000	22,400	22,800	23,300	23,800	24,300	
BISULPHATE	15,000	15,300	15,600	15,900	16,200	16,500	16,800	17,100	17,400	17,700	18,100	
ADMINISTRATION FEE	4,100	4,200	4,300	4,400	4,500	4,600	4,700	4,800	4,900	5,000	5,100	
MILEAGE	300	300	300	300	300	300	300	300	300	300	300	
SAMPLING	15,000	15,300	15,600	15,900	16,200	16,500	16,800	17,100	17,400	17,700	18,100	
MACHINE RENTAL	5,000	5,100	5,200	5,300	5,400	5,500	5,600	5,700	5,800	5,900	6,000	
OTHER EXPENSE	10,000	10,200	10,400	10,600	10,800	11,000	11,200	11,400	11,600	11,800	12,000	
CONTRACTED OUT	25,000	25,500	26,000	26,500	27,000	27,500	28,100	28,700	29,300	29,900	30,500	
CONTRACTED OUT - BILLING	17,000	17,800	18,600	19,400	20,300	21,200	22,200	23,200	24,200	25,300	26,400	
Sub Total Operating	860,140	889,300	919,500	950,700	983,000	1,016,500	1,051,300	1,087,700	1,125,300	1,164,100	1,204,600	
<u>Capital-Related</u>												
Transfer to Capital Reserve	222,287	324,743	378,675	437,305	516,722	589,836	675,565	762,597	862,734	966,752	1,078,990	
Sub Total Capital Related	222,287	324,743	378,675	437,305	516,722	589,836	675,565	762,597	862,734	966,752	1,078,990	
Total Expenditures	1,082,427	1,214,043	1,298,175	1,388,005	1,499,722	1,606,336	1,726,865	1,850,297	1,988,034	2,130,852	2,283,590	
Revenues												
Base Charge	427,655	475,841	510,468	547,511	587,658	631,730	679,524	730,738	785,606	845,076	908,802	
Other Revenue	5,000	5,100	5,200	5,300	5,400	5,500	5,600	5,700	5,800	5,900	6,000	
Connection Charges	41,625	65,025	67,721	70,528	88,142	91,796	100,913	105,096	115,213	119,989	124,963	
Total Operating Revenue	474,280	545,966	583,389	623,339	681,200	729,026	786,037	841,534	906,619	970,966	1,039,766	
Wastewater Billing Recovery - Total	608,148	668,076	714,786	764,666	818,522	877,310	940,828	1,008,763	1,081,414	1,159,887	1,243,824	



Chapter 7

Pricing Structures

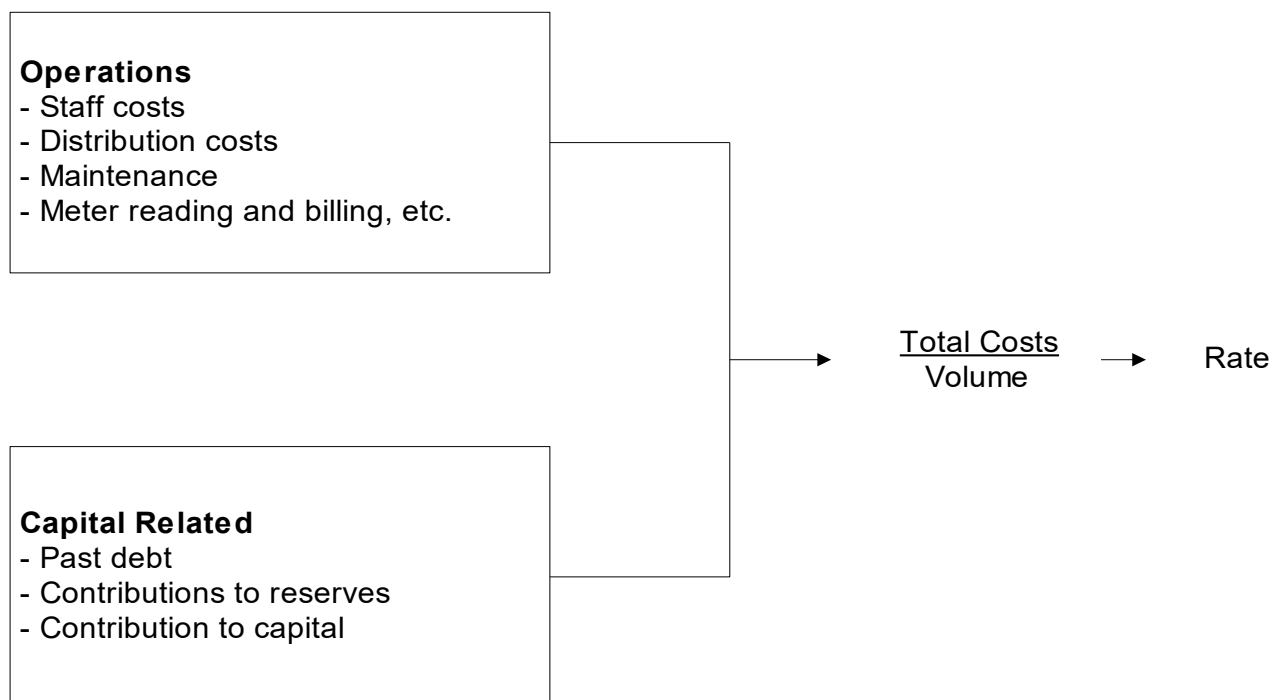


7. Pricing Structures

7.1 Introduction

Rates, in their simplest form, can be defined as total costs to maintain the utility function divided by the total expected volume to be generated for the period. Total costs are usually a combination of operating costs (e.g., staff costs, distribution costs, maintenance, administration, etc.) and capital-related costs (e.g., past debt to finance capital projects, transfers to reserves to finance future expenditures, etc.). The schematic below provides a simplified illustration of the rate calculation for water.

“Annual Costs”



These operating and capital expenditures will vary over time. Examples of factors affecting expenditures over time are provided below.

Operations

- Inflation;
- Increased maintenance as the system ages; and



- Changes to provincial legislation.

Capital Related

- New capital will be built as areas expand;
- Replacement capital needed as system ages; and
- Financing of capital costs are a function of policy regarding reserves and direct financing from rates (pay as you go), debt, and user pay methods (development charges, *Municipal Act*).

7.2 Alternative Pricing Structures

Throughout Ontario, and as well, Canada, the use of pricing mechanisms varies between municipalities. The use of a particular form of pricing depends upon numerous factors, including Council preference, administrative structure, surplus/deficit system capacities, and economic/demographic conditions, to name a few.

Municipalities within Ontario have two basic forms of collecting revenues for water purposes, through incorporation of the costs within the tax rate charged on property assessment and/or through the establishment of a specific water rate billed to the customer. Within the rate methods, there are five basic rate structures employed along with other variations:

- Flat Rate (non-metered customers);
- Constant Rate;
- Declining Block Rate;
- Increasing (or Inverted) Block Rate;
- Hump Back Block Rate; and
- Base Charges.

The definitions and general application of the various methods are as follows:

Property Assessment: This method incorporates the total costs of providing water into the general requisition or the assessment base of the municipality. This form of collection is a "wealth tax," as payment increases directly with the value of property owned and bears no necessary relationship to actual consumption. This form is easy to administer as the costs to be recovered are incorporated into the calculation for all general services, normally collected through property taxes.



Flat Rate: This rate is a constant charge applicable to all customers served. The charge is calculated by dividing the total number of user households and other entities (e.g., businesses) into the costs to be recovered. This method does not recognize differences in actual consumption but provides for a uniform spreading of costs across all users. Some municipalities define users into different classes of similar consumption patterns, that is, a commercial user, residential user, and industrial user, and charge a flat rate by class. Each user is then billed on a periodic basis. No water meters are required to facilitate this method, but an accurate estimate of the number of users is required. This method ensures set revenue for the collection period but is not sensitive to consumption, hence may cause a shortfall or surplus of revenues collected.

Constant Rate: This rate is a volume-based rate, in which the consumer pays the same price per unit consumed, regardless of the volume. The price per unit is calculated by dividing the total cost of the service by the total volume used by total consumers. The bill to the consumer climbs uniformly as consumption increases. This form of rate requires water meters to record the volume consumed by each user. This method loosely aligns the revenue recovery with consumption. Revenue collected varies directly with consumption volume.

Declining Block Rates: This rate structure charges a successively lower price for set volumes, as consumption increases through a series of "blocks." That is to say that within set volume ranges, or blocks, the charge per unit is set at one rate. Within the next volume range, the charge per unit decreases to a lower rate, and so on. Typically, the first, or first and second blocks cover residential and light commercial uses. Subsequent blocks are normally used for heavier commercial and industrial uses. This rate structure requires water meters to record the volume consumed by each type of user. This method requires the collection and analysis of consumption patterns by user classification to establish rates at a level which does not over- or under-collect revenue from rate payers.

Increasing or Inverted Block Rates: The increasing block rate works essentially the same way as the declining block rate, except that the price of water in successive blocks increases rather than declines. Under this method, the consumer's bill rises faster with higher volumes used. This rate structure also requires water meters to record each user's consumption volume. This method requires, as with the declining block structure, the collection and analysis of consumption patterns by user classification to establish rates at a level which does not over or under-collect from rate payers.



The Hump Back Rate: The hump back rate is a combination of an increasing block rate and the declining block rate. Under this method, the consumer's bill rises with higher volumes used up to a certain level and then begins to fall for volumes exceeding levels set for the increasing block rate.

7.3 Assessment of Alternative Pricing Structures

The adoption by a municipality or utility of any one particular pricing structure is normally a function of a variety of administrative, social, demographic, and financial factors. The number of factors, and the weighting each particular factor receives, can vary between municipalities. The following is a review of some of the more prevalent factors.

Cost Recovery

Cost recovery is a prime factor in establishing a particular pricing structure. Costs can be divided into different categories: operations, maintenance, capital, financing, and administration. These costs often vary between municipalities and even within a municipality, based on consumption patterns, infrastructure age, economic growth, etc.

The pricing alternatives defined earlier can all achieve the cost recovery goal, but some do so more precisely than others. Fixed pricing structures, such as Property Assessment and Flat Rate, are established on the value of property or on the number of units present in the municipality, but do not reflect consumption of the service. Thus, if actual consumption for the year is greater than projected, the municipality incurs a higher cost of production, but the revenue base remains static (since it was determined at the beginning of the year), thus potentially providing a funding shortfall. Conversely, if consumption declines below projections, fixed pricing structures will produce more revenue than actual costs incurred.

The other pricing methods (declining block, constant rate, increasing block) are consumption-based and generally generate revenues in proportion to actual consumption.

Administration

Administration is defined herein as the staffing, equipment, and supplies required to support the undertaking of a particular pricing strategy. This factor not only addresses



the tangible requirements to support the collection of revenues, but also the intangible requirements, such as policy development.

The easiest pricing structure to support is the Property Assessment structure. As municipalities undertake the process of calculating property tax bills and the collection process for their general services, the incorporation of the water costs into this calculation would have virtually no impact on the administrative process and structure.

The Flat Rate pricing structure is relatively easy to administer as well. It is usually calculated to collect a certain amount, either monthly, quarterly, semi-annually, or annually. It is billed directly to the customer. The impact on administration centres is mostly on the accounts receivable or billing area of the municipality but normally requires minor additional staff or operating costs to undertake.

The three remaining methods, Increasing Block Rate, Constant Rate, and Declining Block Rate, have a bigger impact on administration. These methods are dependent upon actual consumption and hence involve a major structure in place to administer. First, meters must be installed in all existing buildings in the municipality. New buildings that are built after this must include water meters. Second, meter readings must be undertaken periodically. Hence, staff must be available for this purpose, or a service contract must be negotiated. Third, the billings process must be expanded to accommodate this process. Billing must be done over a defined period, requiring staff to produce the bills. Lastly, either through increased staffing or by service contract, an annual maintenance program must be set up to ensure meters are working effectively in recording consumed volumes.

The benefit derived from the installation of meters is that information on consumption patterns becomes available. This information provides benefit to administration in calculating rates, which will ensure revenue recovery. When planning what services are to be constructed in future years, the municipality or utility has documented consumption patterns distinctive to its own situation, which can be used to project sizing of growth-related works.

Equity

Equity is always a consideration in the establishment of pricing structures, but its definition can vary depending on a municipality's circumstances and based on the subjective interpretation of those involved. For example: is the price charged to a



particular class of rate payer consistent with those of a similar class in surrounding municipalities; through the pricing structure, does one class of rate payer pay more than another class; should one pay based on ability to pay, or on the basis that a unit of water costs the same to supply no matter who consumes it; etc.? There are many interpretations. Equity therefore must be viewed broadly in light of many factors as part of achieving what is best for the municipality.

Revenue Stability

The objective of revenue stability is to limit the variability of annual variation in revenues due to fluctuation in consumption patterns. Variability is most often caused by weather conditions where in “wet” years, water usage is low and in “dry” years, water usage is high. To remove this variability entirely, a municipality would need to recover costs by either property taxes or by using the flat rates. Alternatively, a base charge provides for a fixed amount to be collected per period, which would at least guarantee a portion of the revenue stream.

Fixed vs. Variable Rates/Revenue

Often it is suggested that the rate structure be developed to reflect the fixed vs. variable expenditures so that revenues more closely match the expenditures being made. While this is a positive objective to advance, the reality is that most annual expenditures are generally fixed over periods of time and do not vary with consumption. The most variable costs would include hydro and chemicals, which generally increase or decrease with water production. Other costs, such as wages, benefits, insurance, vehicles/equipment, telecommunications, contracts, capital-related (i.e., debt, reserve transfers, current to capital transfers) are generally fixed. Variable costs for chemicals and hydro generally represent about 10% of the total water budget.

Conservation

Conservation of natural resources is increasingly being more highly valued. Conservation is also a concept which applies to a municipality facing physical limitations in the amount of water which can be supplied to an area. As well, financial constraints can encourage conservation in a municipality where the cost of providing each additional unit is increasing.



Pricing structures such as property assessment and flat rate do not, in themselves, encourage conservation. In fact, depending on the price, which is charged, they may even encourage resource "squandering," either because consumers, without the price discipline, consume water at will, or the customer wants to get their money's worth and hence adopts more liberal consumption patterns. The reason for this is that the price paid for the service bears no direct relationship to the volume consumed and hence is viewed as a "tax," instead of being viewed as the price of a purchased commodity.

The Declining Block Rate provides a decreasing incentive towards conservation. By creating awareness of volumes consumed, the consumer can reduce their total costs by restricting consumption; however, the incentive lessens as more water is consumed, because the marginal cost per unit declines as the consumer enters the next block pricing range. Similarly, those whose consumption level is at the top end of a block have less incentive to reduce consumption.

The Constant Rate structure presents the customer with a linear relationship between consumption and the cost thereof. As the consumer pays a fixed cost per unit, their bill will vary directly with the amount consumed. This method presents tangible incentive for consumers to conserve water. As metering provides direct feedback as to usage patterns and the consumer has direct control over the total amount paid for the commodity, the consumer is encouraged to use only those volumes that are reasonably required.

The Inverted Block method presents the most effective pricing method for encouraging conservation. Through this method, the price per unit consumed increases as total volumes consumed grow. The consumer becomes aware of consumption through metering with the charges increasing dramatically with usage. Hence, there normally is awareness that exercising control over usage can produce significant savings. This method not only encourages conservation but may also penalize legitimate high-volume users if not properly structured.

Figure 7-1 shows the different rate structures. Property tax is not shown for comparison because the proportion of taxes paid for the service varies directly with the property's value. The graphs on the left-hand side of the figure present the cost per unit for each additional amount of water consumed. The right-hand side of the figure presents the impact on the customer's bill as the volume of water increases. Following the schematic



is Figure 7-2, which summarizes each rate structure and the impacts on a customer's bill as volumes increase.

Figure 7-1
Water Rate Pricing Concepts

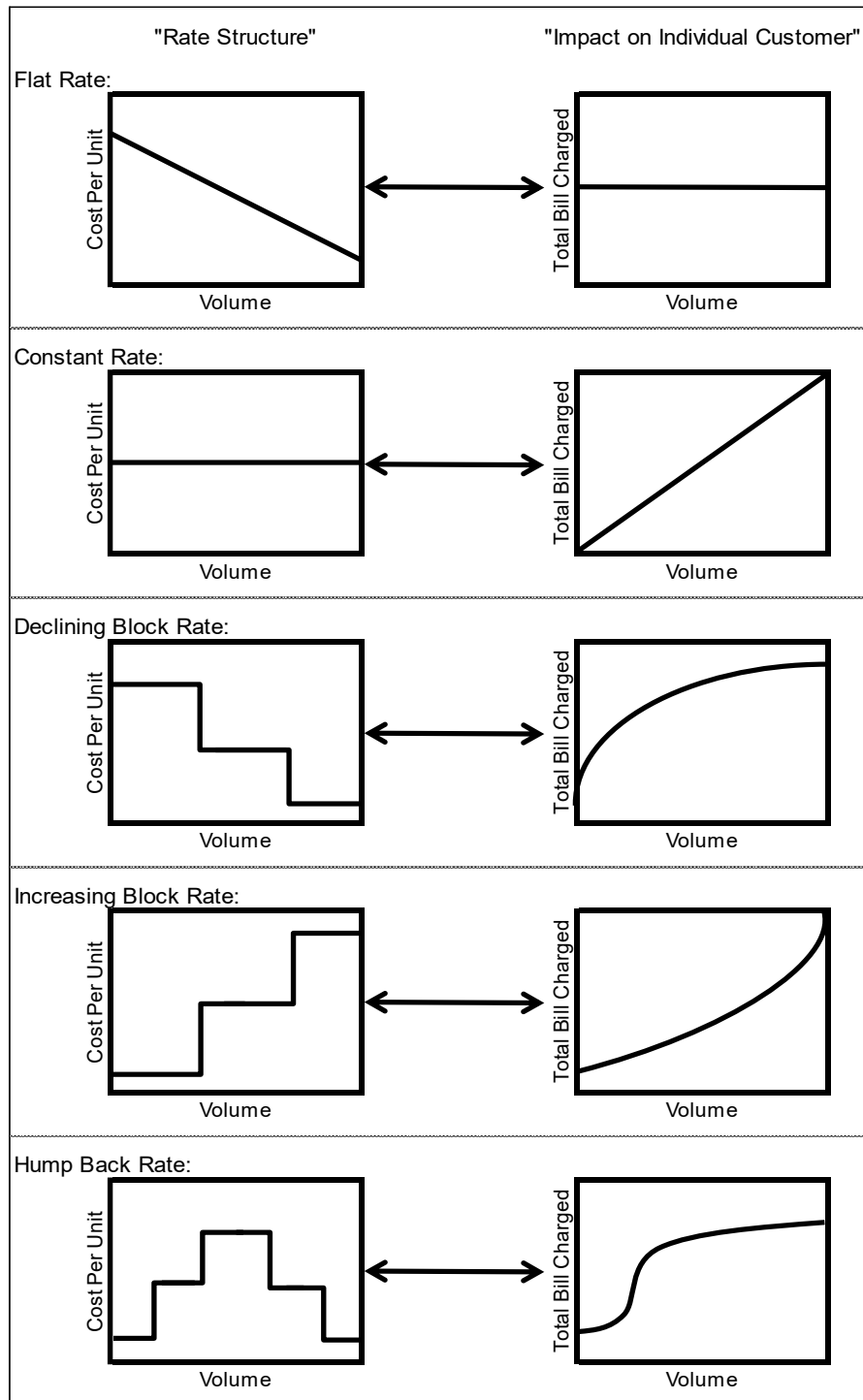




Figure 7-2
Summary of Various Rate Structures and their Impact on Customer Bills as Volume Usage Increases

Rate Structure	Cost Per Unit as Volume Increases	Impact On Customer Bill as Volume Increases
Flat Rate	Cost per unit decreases as more volume consumed	Bill remains the same no matter how much volume is consumed
Constant Rate	Cost per unit remains the same	Bill increases in direct proportion to consumption
Declining Block	Cost per unit decreases as threshold targets are achieved	Bill increases at a slower rate as volumes increase
Increasing Block	Cost per unit increases as threshold targets are achieved	Bill increases at a faster rate as volumes increase
Hump Back Rate	Combination of an increasing block at the lower consumption volumes and then converts to a declining block for the high consumption	Bill increases at a faster rate at the lower consumption amounts and then slows as volumes increase

7.4 Rate Structures in Ontario

In a past survey of over 170 municipalities (approximately half of the municipalities who provide water and/or wastewater), all forms of rate structures are in use by Ontario municipalities. The most common rate structure is the constant rate (for metered municipalities). Most municipalities (approximately 92%) who have volume rate structures also impose a base charge.

Historically, the development of a base charge often reflected either the recovery of meter reading/billing/collection costs, plus administration or those costs plus certain fixed costs (such as capital contributions or reserve contributions). More recently, many municipalities have started to establish base charges based on ensuring a secure



portion of the revenue stream which does not vary with volumes/flows. Selection of the quantum of the base charge is a matter of policy selected by individual municipalities.



Chapter 8

Analysis of Water and Wastewater Rates and Policy Matters



8. Forecast Water and Wastewater Rates

8.1 Introduction

To summarize the analysis undertaken thus far, Chapter 3 reviewed capital-related issues and responded to the provincial directives to maintain and upgrade infrastructure to the required levels. Chapter 5 provided a review of capital financing options, with water and wastewater reserve contributions serving as the predominant basis for financing future capital replacement. Chapter 6 established the 10-year operating forecast of expenditures, including an annual capital reserve contribution.

This chapter will provide calculations of water and wastewater rates over the forecast period, as well as the total annual bill for an average residential user with 137 m³ of water usage per year.

Based on the analysis, the water and wastewater systems require investment over the forecast period. Additional operating expenditures and the requirement for lifecycle capital expenditures will put pressure on the financial sustainability of these systems. Additional details, including reserve continuity schedules and debt repayment schedules for each service, are provided in the appendices.

The following sections outline the proposed rate forecasts, by service, required to support the capital and operating needs identified in Chapters 3 through 6. These rate forecasts are based on maintaining the Township's existing rate structure i.e., monthly base charge based on meter size and constant rate consumptive charge (per m³).

8.2 Water Rates

The calculated water rates are presented in Table 8-1, with detailed calculations provided in Appendix A. As shown in Table 8-1, the monthly base charges and volumetric rates for metered customers, as well as flat rates for unmetered customers, are projected to increase by 3.7% effective July 1, 2026 and by 3.7% annually on January 1, 2027, thereafter to 2036.

As mentioned in Chapter 6, the recommended rate forecasts are designed to recover 65% of the full lifecycle costs of the water system. This approach balances the need to fund the annual lifecycle contribution for asset management, the forecast capital



expenditures without requiring new debt, and maintains fund balance for future capital expenditures.

8.3 Wastewater Rates

The calculated wastewater rates are presented in Table 8-2, with detailed calculations provided in Appendix B. As shown in Table 8-2, the monthly base charges and volumetric rates for metered customers, as well as flat rates for unmetered customers, are projected to increase by 5.8% effective July 1, 2026 and by 5.8% annually on January 1, 2027, thereafter to 2036.

As discussed in Chapter 6, the recommended rate forecasts are designed to recover the full costs of the wastewater system. These increases enable the Township to increase its annual lifecycle contribution to the target amount by the end of the forecast, repay the interim loan from the Water Reserve Fund in 2026, and fund planned capital expenditures without the need for new debt.



Table 8-1
Township of Cramahe
Water Rate Forecast

Description	2026		2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
	January to June	July to December										
Metered Customers												
Monthly Base Charge:												
15 mm	\$27.58	\$28.61	\$29.68	\$30.80	\$31.95	\$33.15	\$34.39	\$35.67	\$37.01	\$38.40	\$39.83	\$41.33
20 mm	\$27.58	\$28.61	\$29.68	\$30.80	\$31.95	\$33.15	\$34.39	\$35.67	\$37.01	\$38.40	\$39.83	\$41.33
25 mm	\$38.64	\$40.09	\$41.59	\$43.15	\$44.76	\$46.44	\$48.18	\$49.98	\$51.85	\$53.79	\$55.81	\$57.90
40 mm	\$49.67	\$51.53	\$53.46	\$55.46	\$57.54	\$59.69	\$61.93	\$64.25	\$66.65	\$69.15	\$71.74	\$74.43
50 mm	\$80.02	\$83.02	\$86.13	\$89.35	\$92.70	\$96.17	\$99.77	\$103.51	\$107.38	\$111.40	\$115.57	\$119.90
75 mm	\$303.54	\$314.91	\$326.70	\$338.93	\$351.63	\$364.79	\$378.45	\$392.63	\$407.33	\$422.58	\$438.41	\$454.83
100 mm	\$436.90	\$453.26	\$470.23	\$487.84	\$506.11	\$525.07	\$544.73	\$565.13	\$586.29	\$608.24	\$631.02	\$654.65
Percentage Increase		3.7%	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%
Volumetric Charge:												
Rate per m3	\$ 2.73	\$ 2.83	\$ 2.94	\$ 3.05	\$ 3.16	\$ 3.28	\$ 3.40	\$ 3.53	\$ 3.66	\$ 3.80	\$ 3.94	\$ 4.09
Percentage Increase		3.7%	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%
Unmetered Customers												
Residential Flat-Rate	\$136.67	\$141.79	\$147.10	\$152.61	\$158.32	\$164.25	\$170.40	\$176.78	\$183.40	\$190.27	\$197.39	\$204.79
Non Residential Flat-Rate	\$182.23	\$189.05	\$196.13	\$203.47	\$211.09	\$219.00	\$227.20	\$235.71	\$244.54	\$253.69	\$263.19	\$273.05
Percentage Increase		3.7%	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%



Table 8-2
Township of Cramahe
Wastewater Rate Forecast

Description	2026		2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
	January to June	July to December										
Metered Customers												
Monthly Base Charge:												
15 mm	\$32.96	\$34.87	\$36.89	\$39.03	\$41.30	\$43.69	\$46.23	\$48.91	\$51.75	\$54.75	\$57.92	\$61.28
20 mm	\$32.96	\$34.87	\$36.89	\$39.03	\$41.30	\$43.69	\$46.23	\$48.91	\$51.75	\$54.75	\$57.92	\$61.28
25 mm	\$46.18	\$48.86	\$51.69	\$54.69	\$57.86	\$61.22	\$64.77	\$68.53	\$72.50	\$76.71	\$81.16	\$85.86
40 mm	\$59.35	\$62.79	\$66.43	\$70.29	\$74.37	\$78.68	\$83.24	\$88.07	\$93.18	\$98.58	\$104.30	\$110.35
50 mm	\$95.62	\$101.17	\$107.03	\$113.24	\$119.81	\$126.76	\$134.11	\$141.89	\$150.12	\$158.83	\$168.04	\$177.79
75 mm	\$362.73	\$383.77	\$406.03	\$429.58	\$454.50	\$480.86	\$508.75	\$538.26	\$569.48	\$602.52	\$637.47	\$674.44
100 mm	\$522.09	\$552.37	\$584.41	\$618.31	\$654.18	\$692.12	\$732.27	\$774.74	\$819.68	\$867.22	\$917.53	\$970.75
Percentage Increase		5.8%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%
Volumetric Charge:												
Rate per m3	\$ 3.27	\$ 3.46	\$ 3.66	\$ 3.87	\$ 4.10	\$ 4.33	\$ 4.59	\$ 4.85	\$ 5.13	\$ 5.43	\$ 5.75	\$ 6.08
Percentage Increase		5.8%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%
Unmetered Customers												
Residential Flat-Rate	\$163.33	\$172.80	\$182.83	\$193.43	\$204.65	\$216.52	\$229.08	\$242.37	\$256.43	\$271.30	\$287.04	\$303.69
Non Residential Flat-Rate	\$217.77	\$230.41	\$243.77	\$257.91	\$272.87	\$288.70	\$305.44	\$323.16	\$341.90	\$361.74	\$382.72	\$404.92
Percentage Increase		5.8%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%



8.4 Forecast Water and Wastewater Bill Impacts

Tables 8-3 to 8-5 show how the recommended rates affect a typical metered residential water and wastewater customer with a volume of 137 m³ per year.

Based on 2026 rates, the equivalent total annual water bill for this customer would be \$705, or \$58.75 per month.

With the proposed monthly base and consumptive charge rates to come into effect as of July 1, 2026, the total annual equivalent water bill is projected at \$731 (\$60.95 per month), an increase of 3.7%. Over the remainder of the forecast period, the annual water bill increases at an average rate of 3.7% per year to \$1,056 in 2036 (or \$88.03 per month).

Similarly, for wastewater, the equivalent annualized bill based on current rates is \$844, or \$70.29 per month.

With the proposed monthly base charges and volumetric rates to come into effect as of July, 2026, the total annualized equivalent bill for wastewater is projected to be \$892, reflecting a 5.8% increase, or \$74.37 per month. Over the remainder of the forecast period, the annual wastewater bill increases at an average rate of approximately 5.8% per year to \$1,568 (or \$130.70 per month) in 2036.

In total, the combined annualized water and wastewater bill for this customer is projected to increase from \$1,548 (\$129.04 per month) based on current rates to \$1,624 (\$135.32 per month). From 2027 to 2036, the combined annual bill is projected to increase at an average rate of 4.9% per year to \$2,593, or \$218.73 per month in 2036.



Table 8-3
Township of Cramahe
Annual Residential Customer Water Bill – Based on 15mm Water Meter and 137 m³ Water Volume

Description	2025	2026		2026 Total	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
		January to June	July to December											
Monthly Base Rate	\$26.26	\$27.58	\$28.61		\$29.68	\$30.80	\$31.95	\$33.15	\$34.39	\$35.67	\$37.01	\$38.40	\$39.83	\$41.33
Constant Rate	\$2.64	\$2.73	\$2.83		\$2.94	\$3.05	\$3.16	\$3.28	\$3.40	\$3.53	\$3.66	\$3.80	\$3.94	\$4.09
Annual Base Rate Bill	\$315	\$165	\$172	\$337	\$356	\$370	\$383	\$398	\$413	\$428	\$444	\$461	\$478	\$496
Volume	137	69	69	137	137	137	137	137	137	137	137	137	137	137
Annual Volume Bill	\$362	\$187	\$194	\$381	\$403	\$418	\$433	\$449	\$466	\$484	\$502	\$521	\$540	\$560
Total Annual Bill	\$677	\$352	\$366	\$718	\$759	\$787	\$817	\$847	\$879	\$912	\$946	\$981	\$1,018	\$1,056
% Increase - Base Rate			3.7%		3.7%	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%
% Increase - Volume Rate			3.7%		3.7%	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%
% Increase - Total Annual Bill			3.7%		3.7%	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%

1. 2027 increase is compared to the equivalent annual 2026 bill that is imposed after July 1, 2026



Table 8-4
Township of Cramahe
Annual Residential Customer Wastewater Bill – Based on 15mm Water Meter and 137 m³ Water Volume

Description	2025	2026		2026 Total	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
		January to June	July to December											
Monthly Base Rate	\$31.09	\$32.96	\$34.87		\$36.89	\$39.03	\$41.30	\$43.69	\$46.23	\$48.91	\$51.75	\$54.75	\$57.92	\$61.28
Constant Rate	\$3.13	\$3.27	\$3.46		\$3.66	\$3.87	\$4.10	\$4.33	\$4.59	\$4.85	\$5.13	\$5.43	\$5.75	\$6.08
Annual Base Rate Bill	\$373	\$198	\$209	\$407	\$443	\$468	\$496	\$524	\$555	\$587	\$621	\$657	\$695	\$735
Volume	137	69	69	137	137	137	137	137	137	137	137	137	137	137
Annual Volume Bill	\$429	\$224	\$237	\$461	\$501	\$531	\$561	\$594	\$628	\$665	\$703	\$744	\$787	\$833
Total Annual Bill	\$802	\$422	\$446	\$868	\$944	\$999	\$1,057	\$1,118	\$1,183	\$1,252	\$1,324	\$1,401	\$1,482	\$1,568
% Increase - Base Rate			5.8%		5.8%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%
% Increase - Volume Rate			5.8%		5.8%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%
% Increase - Total Annual Bill			5.8%		5.8%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%

1. 2027 increase is compared to the equivalent annual 2026 bill that is imposed after July 1, 2026



Table 8-5
Township of Cramahe
Annual Residential Customer Water and Wastewater Bill – Based on 15mm Water Meter and 137 m³ Water Volume

Description	2025	2026		2026 Total	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
		January to June	July to December											
Annual Water Bill	\$688	\$352	\$366	\$718	\$759	\$787	\$817	\$847	\$879	\$912	\$946	\$981	\$1,018	\$1,056
Annual Wastewater Bill	\$790	\$422	\$446	\$868	\$944	\$999	\$1,057	\$1,118	\$1,183	\$1,252	\$1,324	\$1,401	\$1,482	\$1,568
Total Annual Bill	\$1,479	\$774	\$812	\$1,586	\$1,703	\$1,786	\$1,874	\$1,965	\$2,062	\$2,164	\$2,270	\$2,383	\$2,501	\$2,625
Total Monthly Bill	\$123	\$129	\$135	\$132	\$142	\$149	\$156	\$164	\$172	\$180	\$189	\$199	\$208	\$219
% Increase - Total Annual Bill			4.9%		4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	5.0%	5.0%
\$ Increase - Total Annual Bill			\$75.33		\$79.15	\$83.18	\$87.42	\$91.89	\$96.59	\$101.54	\$106.75	\$112.24	\$118.02	\$124.11
\$ Increase - Monthly Bill			\$6.28		\$6.60	\$6.93	\$7.29	\$7.66	\$8.05	\$8.46	\$8.90	\$9.35	\$9.84	\$10.34

1. 2027 increase is compared to the equivalent annual 2026 bill that is imposed after July 1, 2026



Chapter 8

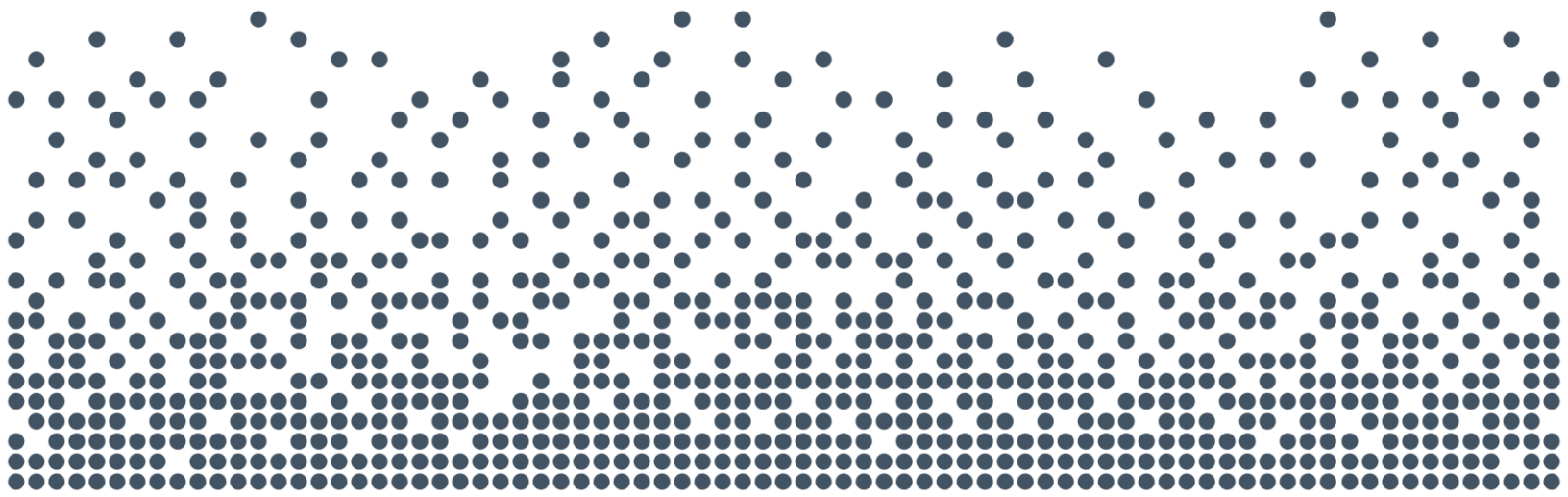
Recommendations



9. Recommendations

As presented within this report, capital and operating expenditures have been identified and projected over a 10-year forecast period for water and wastewater services. Updated rates have been calculated to fund the increased capital and operating expenditures. Based on the analysis in this report, the following recommendations are provided for Council's consideration:

1. That Council provide for the recovery of all water and wastewater service costs through cost recovery rates and maintain reserve funds for water and wastewater services;
2. That Council considers the capital plans for water and wastewater services as provided in Tables 3-1 and 3-2 and the recommended capital financing plan as set out in Tables 5-2 and 5-3.
3. That Council consider the water and wastewater rates as shown in Chapter 8, and direct staff to review Rate Study in five years; and
4. That Council approve the Rate Study and Water Financial Plan (under separate cover) in the format required under O.Reg. 453/07.



Appendices



Appendix A

Detailed Water Rate Calculations



Table A-1
Township of Cramahe
Capital Budget Forecast (uninflated \$)

Description	Budget 2026	Total	Forecast										
			2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	
Capital Expenditures													
ENV-06-23 CAPITAL UPGRADES TO SYSTEM-SCADA	191,126	-	-	-	-	-	-	-	-	-	-	-	-
ENV-03-24 CAPITAL UPGRADES TO BUILDINGS	500,949	-	-	-	-	-	-	-	-	-	-	-	-
ENV-01-26 WATER METER UPGRADES	120,000	360,000	120,000	120,000	120,000	-	-	-	-	-	-	-	-
PRV REPLACEMENT - ELGIN & PARK	25,000	-	-	-	-	-	-	-	-	-	-	-	-
Equipment	11,500	-	-	-	-	-	-	-	-	-	-	-	-
1298 - Hydrants	-	676,242	169,061	169,061	169,061	169,061	-	-	-	-	-	-	-
2385 - SCADA	-	36,554	-	-	-	-	-	-	-	-	-	36,554	-
1214 - Streamside Drive	-	127,938	-	-	-	-	-	127,938	-	-	-	-	-
1218 - Parliament Street	-	626,895	-	-	-	-	-	626,895	-	-	-	-	-
1230 - Creek Street	-	183,682	-	-	-	-	-	-	183,682	-	-	-	-
1231 - Arthur Street	-	86,815	-	-	-	-	-	-	86,815	-	-	-	-
1234 - Rotary Centennial Park Drive	-	50,261	-	-	-	-	-	-	50,261	-	-	-	-
1235 - Division Street	-	548,304	-	-	-	-	-	-	-	548,304	-	-	-
1236 - Division Street	-	182,768	-	-	-	-	-	-	-	-	182,768	-	-
1237 - Division Street	-	91,384	-	-	-	-	-	-	-	-	91,384	-	-
1238 - Division Street	-	183,377	-	-	-	-	-	-	-	-	183,377	-	-
1241 - King Street West	-	487,382	-	-	-	-	-	-	-	-	-	487,382	-
1242 - King Street East	-	268,060	-	-	-	-	-	-	-	-	-	-	268,060
1243 - King Street East	-	268,060	-	-	-	-	-	-	-	-	-	-	268,060
1244 - King Street East	-	194,953	-	-	-	-	-	-	-	-	-	-	194,953
212 - Water Treatment Plant	-	518,330	259,165	259,165	-	-	-	-	-	-	-	-	-
2386 - Generator w Fence	-	76,298	-	76,298	-	-	-	-	-	-	-	-	-
462 - Electrical System	-	18,277	18,277	-	-	-	-	-	-	-	-	-	-
Total Capital Expenditures	848,575	4,985,580	566,503	624,524	289,061	169,061	754,833	320,758	548,304	457,529	523,936	731,073	



Table A-2
Township of Cramahe
Capital Budget Forecast and Recommended Capital Financing (inflated \$) – Water

Description	Budget 2026	Total	Forecast										
			2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	
Capital Expenditures													
ENV-06-23 CAPITAL UPGRADES TO SYSTEM-SCADA	191,126	-	-	-	-	-	-	-	-	-	-	-	-
ENV-03-24 CAPITAL UPGRADES TO BUILDINGS	500,949	-	-	-	-	-	-	-	-	-	-	-	-
ENV-01-26 WATER METER UPGRADES	120,000	391,000	125,000	130,000	136,000	-	-	-	-	-	-	-	-
PRV REPLACEMENT - ELGIN & PARK	25,000	-	-	-	-	-	-	-	-	-	-	-	-
Equipment	11,500	-	-	-	-	-	-	-	-	-	-	-	-
1298 - Hydrants	-	749,000	176,000	183,000	191,000	199,000	-	-	-	-	-	-	-
2385 - SCADA	-	53,000	-	-	-	-	-	-	-	-	-	53,000	-
1214 - Streamside Drive	-	157,000	-	-	-	-	157,000	-	-	-	-	-	-
1218 - Parliament Street	-	768,000	-	-	-	-	768,000	-	-	-	-	-	-
1230 - Creek Street	-	234,000	-	-	-	-	-	234,000	-	-	-	-	-
1231 - Arthur Street	-	111,000	-	-	-	-	-	111,000	-	-	-	-	-
1234 - Rotary Centennial Park Drive	-	64,000	-	-	-	-	-	64,000	-	-	-	-	-
1235 - Division Street	-	729,000	-	-	-	-	-	-	729,000	-	-	-	-
1236 - Division Street	-	253,000	-	-	-	-	-	-	-	253,000	-	-	-
1237 - Division Street	-	126,000	-	-	-	-	-	-	-	126,000	-	-	-
1238 - Division Street	-	254,000	-	-	-	-	-	-	-	254,000	-	-	-
1241 - King Street West	-	702,000	-	-	-	-	-	-	-	-	702,000	-	-
1242 - King Street East	-	402,000	-	-	-	-	-	-	-	-	-	402,000	-
1243 - King Street East	-	402,000	-	-	-	-	-	-	-	-	-	402,000	-
1244 - King Street East	-	293,000	-	-	-	-	-	-	-	-	-	293,000	-
212 - Water Treatment Plant	-	551,000	270,000	281,000	-	-	-	-	-	-	-	-	-
2386 - Generator w Fence	-	83,000	-	83,000	-	-	-	-	-	-	-	-	-
462 - Electrical System	-	19,000	19,000	-	-	-	-	-	-	-	-	-	-
Total Capital Expenditures	848,575	6,341,000	590,000	677,000	327,000	199,000	925,000	409,000	729,000	633,000	755,000	1,097,000	
Capital Financing													
Water Reserve Fund	848,575	6,341,000	590,000	677,000	327,000	199,000	925,000	409,000	729,000	633,000	755,000	1,097,000	
Total Capital Financing	848,575	6,341,000	590,000	677,000	327,000	199,000	925,000	409,000	729,000	633,000	755,000	1,097,000	



Table A-3
Township of Cramahe
Water Reserve Fund Continuity (inflated \$)

Description	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
Opening Balance	2,608,912	1,380,446	1,173,979	896,176	992,285	1,250,429	800,617	899,413	704,560	638,175	480,841
Transfer from Operating	316,212	360,514	381,625	403,653	432,625	459,490	490,160	520,333	554,102	588,238	623,965
Transfer from Wastewater Reserve	-	-	-	-	-	-	-	-	-	-	543,171
Transfer to Capital	848,575	590,000	677,000	327,000	199,000	925,000	409,000	729,000	633,000	755,000	1,097,000
Transfer to Wastewater Reserve	723,171	-	-	-	-	-	-	-	-	-	-
Transfer to Operating	-	-	-	-	-	-	-	-	-	-	-
Closing Balance	1,353,378	1,150,960	878,604	972,829	1,225,911	784,919	881,777	690,745	625,662	471,413	550,976
Interest	27,068	23,019	17,572	19,457	24,518	15,698	17,636	13,815	12,513	9,428	11,020



Table A-4
Township of Cramahe
Operating Budget Forecast – Water (inflated \$)

Description	Budget	Forecast										
	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	
Expenditures												
<u>Operating Costs</u>												
SOURCE WATER PROTECTIONS	7,000	7,100	7,200	7,300	7,400	7,500	7,700	7,900	8,100	8,300	8,500	
AUDIT	7,000	7,100	7,200	7,300	7,400	7,500	7,700	7,900	8,100	8,300	8,500	
INSURANCE	21,102	21,800	22,600	23,400	24,200	25,000	25,900	26,800	27,700	28,700	29,700	
CONSULTANTS	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	
TELEPHONE	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	1,300	
HYDRO	30,000	31,500	33,100	34,800	36,500	38,300	40,200	42,200	44,300	46,500	48,800	
LINE MAINTENANCE	20,000	20,800	21,700	22,600	23,500	24,500	25,500	26,600	27,700	28,800	30,000	
WATER MAIN BREAKS	40,000	41,700	43,400	45,200	47,100	49,100	51,100	53,200	55,400	57,700	60,100	
EQUIPMENT MAINT./SERVICE	71,000	73,900	77,000	80,200	83,500	87,000	90,600	94,400	98,300	102,400	106,600	
HYDRANTS MAINTENANCE	15,000	15,600	16,200	16,900	17,600	18,300	19,100	19,900	20,700	21,600	22,500	
BUILDING MAINTENANCE	10,000	10,400	10,800	11,200	11,700	12,200	12,700	13,200	13,700	14,300	14,900	
INSPECTIONS	45,000	46,900	48,800	50,800	52,900	55,100	57,400	59,800	62,300	64,900	67,600	
OFFICE SUPPLIES	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	
TREATMENT CHEMICALS	20,000	22,000	24,200	26,600	29,300	32,200	35,400	39,000	42,900	47,200	52,000	
ADMINISTRATION FEE	5,000	5,100	5,200	5,300	5,400	5,500	5,600	5,700	5,800	5,900	6,000	
METERS/SPOOLERS	15,000	15,300	15,600	15,900	16,200	16,500	16,800	17,100	17,400	17,700	18,100	
SAMPLING	7,500	7,700	7,900	8,100	8,300	8,500	8,700	8,900	9,100	9,300	9,500	
FIRE HYDRANT PAINTING	10,500	10,700	10,900	11,100	11,300	11,500	11,700	11,900	12,100	12,300	12,500	
OTHER EXPENSE	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	
CONTRACTED OUT-WATER BILLING	368,224	384,800	402,100	420,200	439,100	458,900	479,600	501,200	523,800	547,400	572,000	
Sub Total Operating	696,626	726,700	758,200	791,200	825,700	861,900	900,000	940,000	981,700	1,025,600	1,071,600	
<u>Capital-Related</u>												
Transfer to Capital Reserve	316,212	360,514	381,625	403,653	432,625	459,490	490,160	520,333	554,102	588,238	623,965	
Sub Total Capital Related	316,212	360,514	381,625	403,653	432,625	459,490	490,160	520,333	554,102	588,238	623,965	
Total Expenditures	1,012,838	1,087,214	1,139,825	1,194,853	1,258,325	1,321,390	1,390,160	1,460,333	1,535,802	1,613,838	1,695,565	
Revenues												
Base Charge	410,959	438,815	460,791	483,797	508,278	534,740	562,898	592,416	623,355	656,259	690,752	
Connection Charge Revenue	14,379	22,463	23,394	24,364	30,448	31,711	34,860	36,305	39,800	41,450	43,168	
Total Operating Revenue	425,338	461,278	484,185	508,161	538,727	566,450	597,758	628,721	663,155	697,708	733,920	
Water Billing Recovery - Total	587,500	625,936	655,640	686,692	719,598	754,939	792,402	831,612	872,647	916,129	961,644	



Table A-5
Township of Cramahe
Water Rate Calculation (inflated \$)

Description	2026		2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
	January to June	July to December										
Total Water Billing Recovery	293,750	293,750	625,936	655,640	686,692	719,598	754,939	792,402	831,612	872,647	916,129	961,644
Total Volume (m ³)	105,623	105,623	213,027	215,082	217,137	219,329	221,795	224,398	227,001	229,604	232,344	235,084
Constant Rate	2.73	2.83	2.94	3.05	3.16	3.28	3.40	3.53	3.66	3.80	3.94	4.09
Annual Percentage Change		3.7%	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%

Table A-6
Township of Cramahe
Water Rate Forecast

Description	2026		2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
	January to June	July to December										
Metered Customers												
Monthly Base Charge:												
15 mm	\$27.58	\$28.61	\$29.68	\$30.80	\$31.95	\$33.15	\$34.39	\$35.67	\$37.01	\$38.40	\$39.83	\$41.33
20 mm	\$27.58	\$28.61	\$29.68	\$30.80	\$31.95	\$33.15	\$34.39	\$35.67	\$37.01	\$38.40	\$39.83	\$41.33
25 mm	\$38.64	\$40.09	\$41.59	\$43.15	\$44.76	\$46.44	\$48.18	\$49.98	\$51.85	\$53.79	\$55.81	\$57.90
40 mm	\$49.67	\$51.53	\$53.46	\$55.46	\$57.54	\$59.69	\$61.93	\$64.25	\$66.65	\$69.15	\$71.74	\$74.43
50 mm	\$80.02	\$83.02	\$86.13	\$89.35	\$92.70	\$96.17	\$99.77	\$103.51	\$107.38	\$111.40	\$115.57	\$119.90
75 mm	\$303.54	\$314.91	\$326.70	\$338.93	\$351.63	\$364.79	\$378.45	\$392.63	\$407.33	\$422.58	\$438.41	\$454.83
100 mm	\$436.90	\$453.26	\$470.23	\$487.84	\$506.11	\$525.07	\$544.73	\$565.13	\$586.29	\$608.24	\$631.02	\$654.65
Percentage Increase		3.7%	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%
Volumetric Charge:												
Rate per m3	\$ 2.73	\$ 2.83	\$ 2.94	\$ 3.05	\$ 3.16	\$ 3.28	\$ 3.40	\$ 3.53	\$ 3.66	\$ 3.80	\$ 3.94	\$ 4.09
Percentage Increase		3.7%	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%
Unmetered Customers												
Residential Flat-Rate	\$136.67	\$141.79	\$147.10	\$152.61	\$158.32	\$164.25	\$170.40	\$176.78	\$183.40	\$190.27	\$197.39	\$204.79
Non Residential Flat-Rate	\$182.23	\$189.05	\$196.13	\$203.47	\$211.09	\$219.00	\$227.20	\$235.71	\$244.54	\$253.69	\$263.19	\$273.05
Percentage Increase		3.7%	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%



Appendix B

Detailed Wastewater Rate Calculations



Table B-1
Township of Cramahe
Capital Budget Forecast (uninflated \$) – Wastewater

Description	Budget 2026	Total	Forecast										
			2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	
Capital Expenditures													
ENV-04-23 SS SYSTEM CAMERA INSPECTION	50,000	-	-	-	-	-	-	-	-	-	-	-	-
ENV-02-24 UV SYSTEM UPGRADE	620,287	-	-	-	-	-	-	-	-	-	-	-	-
ENV-02-26 SCADA SYSTEM REPLACEMENT	325,000	-	-	-	-	-	-	-	-	-	-	-	-
SANITARY/GRAVITY SEWER EXTENSION	-	8,271,625	8,271,625	-	-	-	-	-	-	-	-	-	-
Sanitary Maintenance Holes	-	1,018,457	100,982	100,982	100,982	100,982	100,982	100,982	100,982	105,299	100,982	105,299	
Sanitary Sewers	-	2,381,839	-	-	392,262	392,262	392,262	392,262	392,262	-	-	-	420,528
269 - Internal Components (transfer switch, generator etc)	-	1,218,454	-	-	-	-	-	-	-	-	-	-	1,218,454
3095 - Internal Components- Muffin Monster	-	10,418	-	-	-	-	-	-	-	-	10,418	-	-
Total Capital Expenditures	995,287	12,900,792	8,372,607	100,982	493,244	493,244	493,244	493,244	493,244	493,244	115,717	100,982	1,744,281

Table B-2
Township of Cramahe
Capital Budget Forecast and Recommended Capital Financing (inflated \$) – Wastewater

Description	Budget 2026	Total	Forecast										
			2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	
Capital Expenditures													
ENV-04-23 SS SYSTEM CAMERA INSPECTION	50,000	-	-	-	-	-	-	-	-	-	-	-	-
ENV-02-24 UV SYSTEM UPGRADE	620,287	-	-	-	-	-	-	-	-	-	-	-	-
ENV-02-26 SCADA SYSTEM REPLACEMENT	325,000	-	-	-	-	-	-	-	-	-	-	-	-
SANITARY/GRAVITY SEWER EXTENSION	-	8,271,625	8,271,625	-	-	-	-	-	-	-	-	-	-
Sanitary Maintenance Holes	-	1,285,000	105,000	110,000	114,000	119,000	124,000	129,000	134,000	146,000	146,000	158,000	
Sanitary Sewers	-	3,038,000	-	-	443,000	461,000	481,000	501,000	521,000	-	-	-	631,000
269 - Internal Components (transfer switch, generator etc)	-	1,829,000	-	-	-	-	-	-	-	-	-	-	1,829,000
3095 - Internal Components- Muffin Monster	-	14,000	-	-	-	-	-	-	-	-	14,000	-	-
Total Capital Expenditures	995,287	14,437,625	8,376,625	110,000	557,000	580,000	605,000	630,000	655,000	160,000	146,000	146,000	2,618,000
Capital Financing													
Provincial/Federal Grants	-	6,038,286	6,038,286	-	-	-	-	-	-	-	-	-	-
Other Town Funding (Non-Rate)	-	2,233,339	2,233,339	-	-	-	-	-	-	-	-	-	-
Wastewater Reserve Fund	995,287	6,166,000	105,000	110,000	557,000	580,000	605,000	630,000	655,000	160,000	146,000	146,000	2,618,000
Total Capital Financing	995,287	14,437,625	8,376,625	110,000	557,000	580,000	605,000	630,000	655,000	160,000	146,000	146,000	2,618,000



Table B-3
Township of Cramahe
Wastewater Reserve Fund Continuity (inflated \$)

Description	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
Opening Balance	74,670	25,338	249,982	529,030	417,522	361,329	353,088	406,626	524,507	1,251,786	2,113,989
Transfer from Operating	222,287	324,743	378,675	437,305	516,722	589,836	675,565	762,597	862,734	966,752	1,078,990
Transfer from Water Reserve	723,171	-	-	-	-	-	-	-	-	-	-
Transfer to Capital	995,287	105,000	110,000	557,000	580,000	605,000	630,000	655,000	160,000	146,000	2,618,000
Transfer to Water Reserve	-	-	-	-	-	-	-	-	-	-	543,171
Transfer to Operating	-	-	-	-	-	-	-	-	-	-	-
Closing Balance	24,841	245,080	518,657	409,335	354,244	346,165	398,653	514,223	1,227,241	2,072,538	31,807
Interest	497	4,902	10,373	8,187	7,085	6,923	7,973	10,284	24,545	41,451	636



Table B-4
Township of Cramahe
Operating Budget Forecast – Wastewater (inflated \$)

Description	Budget 2026	Forecast										
		2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	
Expenditures												
<u>Operating Costs</u>												
BENEFITS	59,550	61,600	63,800	66,000	68,300	70,700	73,200	75,800	78,500	81,200	84,000	
SALARIES	255,010	263,900	273,100	282,700	292,600	302,800	313,400	324,400	335,800	347,600	359,800	
TRAINING & PROFESSIONAL DEVELOPMENT	4,700	4,800	4,900	5,000	5,100	5,200	5,300	5,400	5,500	5,600	5,700	
AUDIT	6,000	6,100	6,200	6,300	6,400	6,500	6,600	6,700	6,800	6,900	7,000	
INSURANCE	16,580	17,200	17,800	18,400	19,000	19,700	20,400	21,100	21,800	22,600	23,400	
CONSULTANTS	60,000	61,200	62,400	63,600	64,900	66,200	67,500	68,900	70,300	71,700	73,100	
TELEPHONE	3,500	3,600	3,700	3,800	3,900	4,000	4,100	4,200	4,300	4,400	4,500	
HYDRO	52,000	54,600	57,300	60,200	63,200	66,400	69,700	73,200	76,900	80,700	84,700	
WATER CHARGES	2,200	2,200	2,200	2,200	2,200	2,200	2,200	2,200	2,200	2,200	2,200	
SEWER CHARGE	2,500	2,600	2,700	2,800	2,900	3,000	3,100	3,200	3,300	3,400	3,500	
INTERNET	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	
EQUIPMENT	5,000	5,200	5,400	5,600	5,800	6,000	6,200	6,500	6,800	7,100	7,400	
LINE MAINTENANCE	60,000	62,500	65,100	67,800	70,600	73,500	76,500	79,700	83,000	86,400	90,000	
EQUIPMENT MAINTENANCE/SERVICE	48,000	50,000	52,100	54,300	56,600	58,900	61,300	63,800	66,400	69,200	72,100	
BUILDING MAINTENANCE	20,000	20,800	21,700	22,600	23,500	24,500	25,500	26,600	27,700	28,800	30,000	
SOFTWARE MAINTENANCE (SCADA)	5,000	5,200	5,400	5,600	5,800	6,000	6,200	6,500	6,800	7,100	7,400	
SANITY SEWER MAINTENANCE HOLES	100,000	104,100	108,400	112,900	117,600	122,500	127,600	132,900	138,400	144,100	150,100	
OPERATING SUPPLIES	7,000	7,100	7,200	7,300	7,400	7,500	7,700	7,900	8,100	8,300	8,500	
POSTAGE/COURIER	200	200	200	200	200	200	200	200	200	200	200	
ALUMINIUM SULPHATE	40,000	40,800	41,600	42,400	43,200	44,100	45,000	45,900	46,800	47,700	48,700	
HYPOCHLORITE	20,000	20,400	20,800	21,200	21,600	22,000	22,400	22,800	23,300	23,800	24,300	
BISULPHATE	15,000	15,300	15,600	15,900	16,200	16,500	16,800	17,100	17,400	17,700	18,100	
ADMINISTRATION FEE	4,100	4,200	4,300	4,400	4,500	4,600	4,700	4,800	4,900	5,000	5,100	
MILEAGE	300	300	300	300	300	300	300	300	300	300	300	
SAMPLING	15,000	15,300	15,600	15,900	16,200	16,500	16,800	17,100	17,400	17,700	18,100	
MACHINE RENTAL	5,000	5,100	5,200	5,300	5,400	5,500	5,600	5,700	5,800	5,900	6,000	
OTHER EXPENSE	10,000	10,200	10,400	10,600	10,800	11,000	11,200	11,400	11,600	11,800	12,000	
CONTRACTED OUT	25,000	25,500	26,000	26,500	27,000	27,500	28,100	28,700	29,300	29,900	30,500	
CONTRACTED OUT - BILLING	17,000	17,800	18,600	19,400	20,300	21,200	22,200	23,200	24,200	25,300	26,400	
Sub Total Operating	860,140	889,300	919,500	950,700	983,000	1,016,500	1,051,300	1,087,700	1,125,300	1,164,100	1,204,600	
<u>Capital-Related</u>												
Transfer to Capital Reserve	222,287	324,743	378,675	437,305	516,722	589,836	675,565	762,597	862,734	966,752	1,078,990	
Sub Total Capital Related	222,287	324,743	378,675	437,305	516,722	589,836	675,565	762,597	862,734	966,752	1,078,990	
Total Expenditures	1,082,427	1,214,043	1,298,175	1,388,005	1,499,722	1,606,336	1,726,865	1,850,297	1,988,034	2,130,852	2,283,590	
Revenues												
Base Charge	427,655	475,841	510,468	547,511	587,658	631,730	679,524	730,738	785,606	845,076	908,802	
Other Revenue	5,000	5,100	5,200	5,300	5,400	5,500	5,600	5,700	5,800	5,900	6,000	
Connection Charges	41,625	65,025	67,721	70,528	88,142	91,796	100,913	105,096	115,213	119,989	124,963	
Total Operating Revenue	474,280	545,966	583,389	623,339	681,200	729,026	786,037	841,534	906,619	970,966	1,039,766	
Wastewater Billing Recovery - Total	608,148	668,076	714,786	764,666	818,522	877,310	940,828	1,008,763	1,081,414	1,159,887	1,243,824	



Table B-5
Township of Cramahe
Wastewater Rate Calculation (inflated \$)

Description	2026		2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
	January to June	July to December										
Total Wastewater Billing Recovery	304,074	304,074	668,076	714,786	764,666	818,522	877,310	940,828	1,008,763	1,081,414	1,159,887	1,243,824
Total Volume (m ³)	90,368	90,368	182,517	184,572	186,627	188,819	191,285	193,888	196,491	199,094	201,834	204,574
Constant Rate	3.27	3.46	3.66	3.87	4.10	4.33	4.59	4.85	5.13	5.43	5.75	6.08
Annual Percentage Change		5.8%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%

Table B-6
Township of Cramahe
Wastewater Rate Forecast

Description	2026		2027	2028	2029	2030	2031	2032	2033	2034	2035	2036
	January to June	July to December										
Metered Customers												
Monthly Base Charge:												
15 mm	\$32.96	\$34.87	\$36.89	\$39.03	\$41.30	\$43.69	\$46.23	\$48.91	\$51.75	\$54.75	\$57.92	\$61.28
20 mm	\$32.96	\$34.87	\$36.89	\$39.03	\$41.30	\$43.69	\$46.23	\$48.91	\$51.75	\$54.75	\$57.92	\$61.28
25 mm	\$46.18	\$48.86	\$51.69	\$54.69	\$57.86	\$61.22	\$64.77	\$68.53	\$72.50	\$76.71	\$81.16	\$85.86
40 mm	\$59.35	\$62.79	\$66.43	\$70.29	\$74.37	\$78.68	\$83.24	\$88.07	\$93.18	\$98.58	\$104.30	\$110.35
50 mm	\$95.62	\$101.17	\$107.03	\$113.24	\$119.81	\$126.76	\$134.11	\$141.89	\$150.12	\$158.83	\$168.04	\$177.79
75 mm	\$362.73	\$383.77	\$406.03	\$429.58	\$454.50	\$480.86	\$508.75	\$538.26	\$569.48	\$602.52	\$637.47	\$674.44
100 mm	\$522.09	\$552.37	\$584.41	\$618.31	\$654.18	\$692.12	\$732.27	\$774.74	\$819.68	\$867.22	\$917.53	\$970.75
Percentage Increase		5.8%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%
Volumetric Charge:												
Rate per m3	\$ 3.27	\$ 3.46	\$ 3.66	\$ 3.87	\$ 4.10	\$ 4.33	\$ 4.59	\$ 4.85	\$ 5.13	\$ 5.43	\$ 5.75	\$ 6.08
Percentage Increase		5.8%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%
Unmetered Customers												
Residential Flat-Rate	\$163.33	\$172.80	\$182.83	\$193.43	\$204.65	\$216.52	\$229.08	\$242.37	\$256.43	\$271.30	\$287.04	\$303.69
Non Residential Flat-Rate	\$217.77	\$230.41	\$243.77	\$257.91	\$272.87	\$288.70	\$305.44	\$323.16	\$341.90	\$361.74	\$382.72	\$404.92
Percentage Increase		5.8%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%	5.8%