FINAL REPORT

PREPARED BY HEMSON FOR THE TOWN OF GEORGINA

TOWN OF GEORGINA WATER AND WASTEWATER RATE STUDY

November 2020

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EXECUTIVE SUMMARY

The Town of Georgina's water and wastewater system services Town residents and the non-residential customer base from an extensive distribution network consisting of over of 230 kilometers of linear assets. In order to provide water and wastewater servicing to the community, the Town purchases its water supply and wastewater treatment services from York Region, which is then distributed to the end users. The Town of Georgina is responsible for the costs of distribution, maintenance, and general operations of maintaining the system and charges utility rates to the end-users directly for such services which is intended to recover the total cost of providing services. Utility bills are issued quarterly for both residential and non-residential customers.

The Town of Georgina last completed a comprehensive Water and Wastewater Rate Study in 2016 with a view that the study be updated in three to five years to complement the preparation of the Water Financial Plan (under Ontario Regulation 453/07) to facilitate the Town's drinking water renewal application. The 2020 study recommends utility rate increases in order to fund operating costs, the non-growth capital plan and also makes a provision to reserves for future asset repair and replacement. The Town has increased its water rates at a rate of 9%-10% since 2016, while increasing the wastewater rate at 6% per year. However, the 2020 rates were reverted back to the 2019 rates mid-year in an effort to provide interim relief to residents and businesses to offset the impacts of COVID-19.

Since the five-year review period is nearly complete, the Town of Georgina has initiated this Water and Wastewater Rate Study. The scope of the assignment will be to deliver a long-term water and wastewater financial recovery plan to fund current and future operations (direct and indirect), growth related capital expansion (and associated financing costs), and the rehabilitation and eventual replacement of existing infrastructure. Furthermore, the analysis will ensure that the water and wastewater rate structure will allow the Town to meet its financial obligations and ensure long-term sustainability. In addition to the financial analysis, this study was to review the user rate structure and recommend new water and wastewater rates that address the following:

- Water consumption and wastewater usage by different types of users;
- Total anticipated water and wastewater demand;
- Full recovery of system operating costs;
- Full recovery of capital infrastructure financing needs; and
- Establishment of reserves to fund the rehabilitation and replacement of infrastructure.

In undertaking the analysis, a long-term financial planning model covering a ten-year period from 2021 to 2030 was developed, with 2020 as a budget base year. As the Town is moving into a period where substantial growth is anticipated and cost and revenue assumptions can change, it is recommended that the Town review the rate study in the next three-to-five years as details surrounding growth and costs become more refined. Although this analysis includes the ten-year period, Town staff and Council should consider the immediate three-to-five years for rate setting purposes. The analysis was prepared using 2020 budget information to inform new utility rates for 2021. The following table summarizes the key proposed changes and study parameters considered:

SUMMARY OF KEY PROPOSED CHANGED RECOMMENDATION PARAMETERS

Proposed key changes and recommendation parameters	Existing Situation	Proposed Changes
1. **Increase the fixed charge recovery while decreasing the emphasis on the variable rate component**	The fixed charge component of the water and wastewater bill recovers a small share of costs relative to the variable rate. As a result, Town revenues are very dependent on the amount of consumption billed. Overall, the fixed charge recovers about 7-8% of the total rate funded costs for water and wastewater services combined, while the variable rate component recovers the balance of costs.	It is proposed that the fixed charge recovery for water and wastewater services be realigned to increase revenue stability to the Town. Overall, the fixed charge recovery will be adjusted to recover about 15% of total rate funded costs (from 7-8%) for water and wastewater services combined by the end of the planning period. This adjustment will still maintain fiscal stability for the Town and still ensuring the financial incentives to conserve water remain in place.
2. **Improve the fiscal stability of wastewater services in the short-term**	The wastewater system requires existing rate reserve funds to fund operations as costs have exceeded rate increases historically.	It is proposed that the wastewater rates increase to a higher proportion, relative to water, in the immediate period to ensure long-term sustainability of the system.
3. **Provide Short-term rate relief to mitigate the impacts of COVID-19**	The ongoing global pandemic has impacted communities across the province in many ways. The Town responded to the crisis by reverting the 2020 rates back to 2019 mid-year to provide immediate relief to users. At the time this document was prepared, the full impact and fiscal ramifications of COVID-19 were (and remain) unknown, however, it is likely the impacts of COVID will stretch in 2021.	It is proposed that interim relief continue to be provided to residents and businesses as they continue to grapple with impacts of COVID-19. Therefore, the water and wastewater rates are proposed to increase by 1.45% in 2021 (from the 2019 rates), which is well below the cost pressures being experienced in 2021. Despite providing immediate fiscal relief for 2021, the Town is also cognizant of the budgetary pressures moving forward and rates need to be increased moving forward, but capped at 6% per annum impact for average typical users.

Taking into consideration the key changes and mandates above, the full cost recovery rate analysis reveals:

- The required water user rate revenue in 2021 is forecast to be $7.17 million. This is the amount of revenue that must be collected through the sale of water to fully recover the operating, capital, rehabilitation and replacement costs of the water system.

- The required wastewater user rate revenue in 2021 is forecast to be $7.48 million. This is the amount of revenue that must be collected through the wastewater rates to fully recover the operating, capital, rehabilitation and replacement costs of the wastewater system.

- Over the long-term, the net rate funding requirements for both the Town's water and wastewater systems are expected to increase. The cost increases can largely be attributed to carrying out the capital asset repair and replacement program, increasing utility operational costs (inclusive of regional purchasing/treatment expenditures) as well as increased capital asset management contributions. The water and wastewater net rate funding requirements are projected to increase to $8.88 million and $9.56 million respectively by 2025.

In order for the Town to recover the costs associated with providing these services, necessary adjustments to the utility rates are required. The table below provides a snapshot of the calculated utility rates required under the proposed rate structure over the immediate 5-year period. A few important findings and considerations:

- The 2021 rates are moderated from the initial calculations and intended to provide interim relief as a result of the impacts of COVID-19. Despite the interim relief provided in 2021 only, the rates are projected to increase at a higher rate moving forward ensuring long-term fiscal stability of the services. A typical household (averaging 165 m^3 per year) will see their annual water and wastewater bill increase by 1.45 per cent, or $14 in 2021 only. On average, including the rate relief measures imposed in 2021, the typical bill increase for a household consuming 165m^3 would be 5.4% per annum over the 10-year planning period.

- The rates proposed increase the wastewater rates to a higher proportion, relative to water, in the immediate period to address short-term revenue losses.

- The annual rate changes identified are required to ensure the Town transitions the recovery of costs to the fixed fee, which reduces the dependence on the variable rate to fund annual expenditures. It is for this reason the fixed charges increase at a higher

proportion than the variable rates over the planning period. Although, when the fixed and variable rates are combined, the year-over-year increase is smoothed and estimated at about 5.9% post 2021.

CALCULATED UTILITY RATES: 5-YEAR PROJECTION						
All Accounts	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**
Water Services						
Fixed Capital Charge: $/Quarter	**$9.75**	**$9.89**	**$11.40**	**$13.14**	**$14.81**	**$16.69**
Change (%)	-	*1.45%*	*15.25%*	*15.25%*	*12.70%*	*12.70%*
Consumption Charge: $/m³	**$2.60**	**$2.64**	**$2.74**	**$2.85**	**$3.00**	**$3.15**
Change (%)	-	1.45%	4.00%	4.00%	5.00%	5.00%
Wastewater Services						
Fixed Capital Charge: $/Quarter	**$8.82**	**$8.95**	**$10.54**	**$12.41**	**$14.61**	**$17.20**
Change (%)	-	*1.45%*	*17.75%*	*17.75%*	*17.75%*	*17.75%*
Consumption Charge: $/ m³	**$2.76**	**$2.80**	**$2.96**	**$3.14**	**$3.28**	**$3.44**
Change (%)	-	*1.45%*	*5.85%*	*5.85%*	*4.65%*	*4.65%*
Total Typical Bill[(1)] (165 m³/annum)	**$959**	**$973**	**$1,029**	**$1,091**	**$1,154**	**$1,221**
Change (%)	-	*1.45%*	*5.84%*	*5.94%*	*5.79%*	*5.88%*

Note 1: Typical bill includes water and wastewater services.

In order to test the impact of the new rate structure on Town residents and businesses, a sensitivity analysis was undertaken to quantify the range of rate impacts to both the residential and non-residential properties. The results of the sensitivity analysis is illustrated in the tables below.

For both residential and non-residential properties, the rate changes vary depending on the type of user and specifically tied to usage. The table below provides a summary of the total average annual rate impact for a variety of different users over the 10-year planning period. Overall, as the rate structure change is fairly modest and transitioned over the 10-year planning period, the impact on different user groups is targeted around +/-: 1% - 2% from a typical medium user bill year-over-year change (consuming 165m^3/annum).

COMPARISON OF WATER AND WASTEWATER CHARGES FOR VARIOUS USERS OVER THE PLANNING PERIOD	
Selection of Different Users	**Average Annual Total % Bill Change (2021 – 2030)**
1. Low User: Annual Consumption of 50m³/annum	6.9%
2. Low-Medium User: Annual Consumption of 100m³/annum	5.9%
3. Medium/Typical User: Annual Consumption of 165m³/annum	5.4%
4. Medium-High User: Annual Consumption of 250m³/annum	5.1%
5. High User: Annual Consumption of 600m³/annum	4.8%

Staff have been provided with the utility rate setting full costing model to monitor costs and revenues and assist with future fee updates. It is recommended the Town undertake a comprehensive review every three to five years to ensure that a nexus between costs and revenues is maintained over time and that rates remain competitive with surrounding municipalities. This is very important as at the time this document was prepared, the full impact and fiscal ramifications of COVID-19 were (and remain) unknown; as such, the utility rates should be closely monitored to ensure revenues are sufficient to cover costs.

1. BACKGROUND AND STUDY OBJECTIVE

A. BACKGROUND

The Town of Georgina provides potable water to approximately 13,300 accounts. The Town's Keswick and Sutton Water Distribution System and Wastewater Collection System services residents and businesses within Georgina. In order to provide water and wastewater servicing to the community, the Town purchases its water supply and wastewater treatment services from York Region which is then distributed to the end users. The Town of Georgina is responsible for the costs of distribution, maintenance, and general operations of maintaining the system and charges utility rates to the end-users directly for such services which is intended to recover the total cost of providing services. Utility bills are issued quarterly for both residential and non-residential customers.

The Town of Georgina last completed a comprehensive Water and Wastewater Rate Study in 2016 with a view that the study be updated in three to five years. The 2016 study recommended utility rate increases in order to fund the non-growth capital plan and asset repair and replacement costs. The Town has increased its water rates at a rate of 9%-10% since 2016, while increasing the wastewater rate at 6% per year. However, the 2020 rates were reverted back to the 2019 rates mid-year in an effort to provide interim relief to residents and businesses to offset the impacts of COVID-19.

B. STUDY OBJECTIVE

Since the five-year review period is near completion, the Town of Georgina has initiated this Water and Wastewater Rate Study. The objective of this study is to review the existing rate structure and calculate full cost recovery rates consistent with the Town's overall cost recovery policies. Council approved the rates recommended in this study at the October 28th 2020 meeting, although, the rates will be brought forward annually for formal approval through the Town's regular budget process.

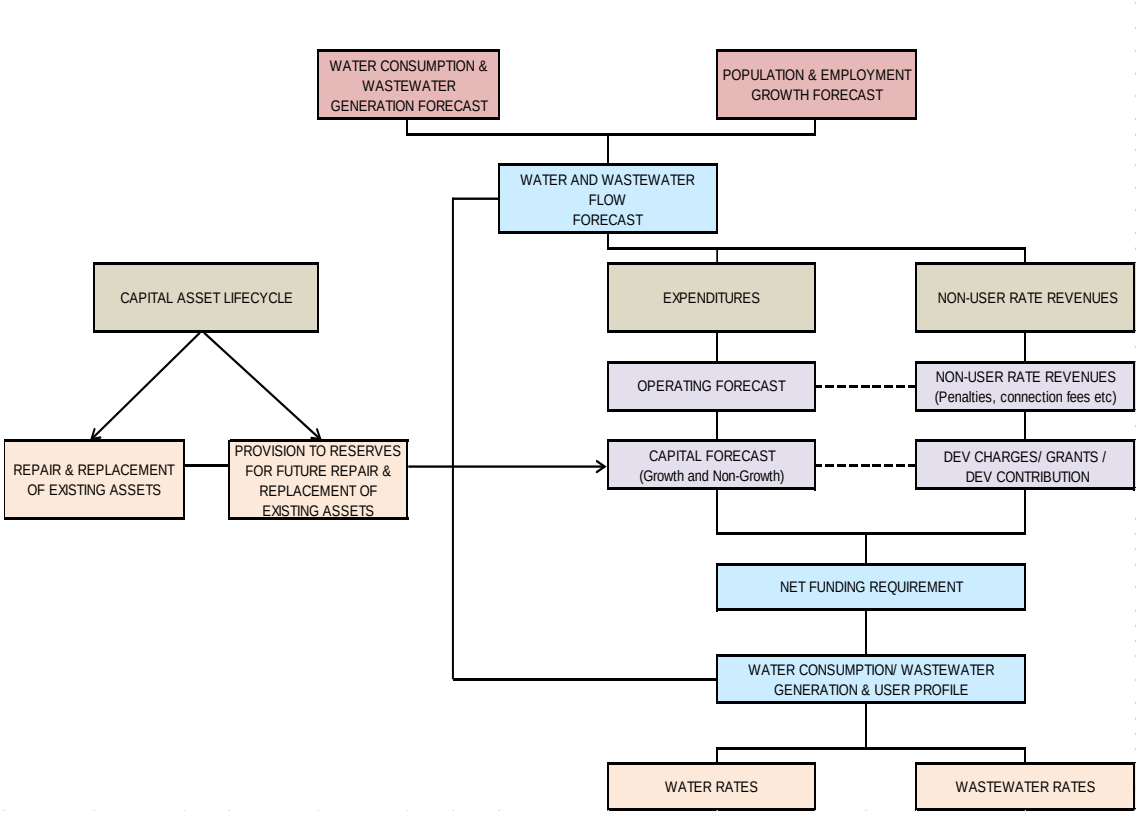
The first step in a study of this nature is to establish a forecast of new users as this is the basis for determining anticipated water consumption and wastewater generation levels. The study period examines the period from 2021 through 2030. However, it should be noted that the study and analysis was prepared using 2020 budget information and uses 2020 as a base year.

Following the demographic analysis, the current water and wastewater rates, reserves and annual operating and capital budgets are analyzed. Based on this analysis, the financial position of the Town's water and wastewater systems is determined.

The next step in the study process is to examine the existing rate structure and calculate full cost recovery rates. The final step in the process is to evaluate the impacts of implementing the full cost recovery rates to the residents of the Town.

In undertaking this analysis, a financial model was developed and serves as a dynamic rate setting tool. Using the model, the Town is able to perform sensitivity analyses of water and wastewater rates, rate structures and also future phase-in options. The model calculates future capital expenditure requirements and projects future operating and maintenance costs. It also calculates the water and wastewater rates necessary to recover the full costs of the water and wastewater systems. The following diagram (Figure 1) illustrates the overall approach.

Figure 1: Utility Rate Setting Model



2. DEMAND ANALYSIS

Future costs of the Town's water and wastewater systems will largely be driven by demands placed on the system by water consumers. A forecast of future consumption demands must therefore be developed.

A. PROJECTION OF NEW CONNECTIONS

The population and employment projections outlined in the Town's 2016 Development Charges Background Study were used to help inform the development projects contained in this study. In addition, discussions with Town staff regarding anticipated development activity and recent trends also helped inform the projection of users.

In 2020, the Town has about 13,280 billable connections that receive water services and it is anticipated that the Town will bill 13,433 connections for water services in 2021. For the purposes of this study, it is assumed that most new households will be connected to both water and wastewater services. By the end of the planning period, in 2030, it is expected that the number of connections will increase to about 15,810 by 2030, averaging just over 250 new connections per year.

B. WATER CONSUMPTION FORECAST

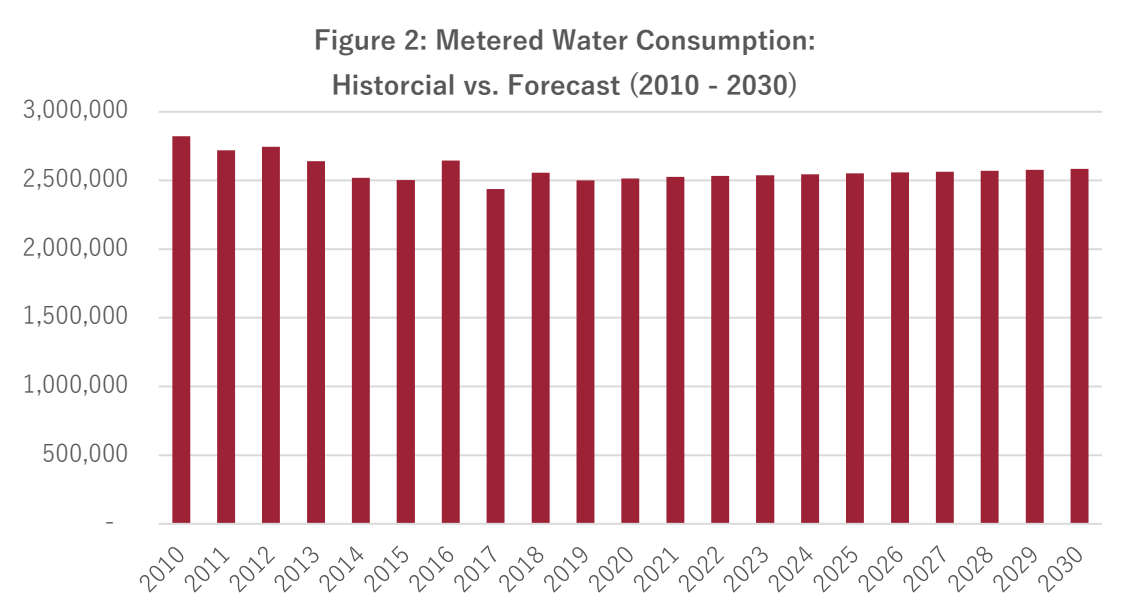
The water demand forecast over the planning period of 2020-2030 was developed using actual 2010 to 2019 metered consumption data.

In our most recent water and wastewater rate studies, we have found that customer profiles have been changing over time: generally, water consumption patterns have been declining, even with the addition of new residential and non-residential units. This trend can be seen in the Town and other jurisdictions across the province. The reduced level of water consumption can largely be related to:

- Demographic changes and household formation sizes – there are fewer people residing in each dwelling unit, ultimately reducing the water use in each household;
- Initiatives by industrial/commercial operations – non-residential users continue to adapt their business processes to be more efficient and environmentally friendly; and

- Efficiency improvements for household appliances – technological improvements have noticeably reduced demand; present-day dishwashers and washing machines are very economical in terms of water use.

For the purpose of setting a utility rate, only the water that is billed to the end-user is incorporated into the analysis and used to calculate utility rates. This is referred to as billable (or metered) water and includes all residential and non-residential consumption. Overall, total billed water is moderated in the early years of the forecast to reflect a general decline in consumption seen in the Town, however, billable consumption is projected to modestly increase over the planning period as a result of the new growth anticipated to take place. Despite the modest growth in cumulative billed water, consumption on a per connection basis continues to be realized. Figure 2 illustrates the historical pattern and forecast of metered water throughout the planning period to 2030. In 2021, the Town is anticipated to bill approximately 2.53 million m^3 of water.



Details regarding the connections and forecast of consumption for the water and wastewater systems are set out in the detailed rate calculations illustrated in Appendix A.

3. Operation and Maintenance Costs

A. Operating Expenditures

The Town of Georgina incurs costs to ensure the utility systems are operated in accordance to provincial legislation that guarantees safety and quality. Operating expenditures include salaries and benefits, materials, contracts, services, hydro, and utilities costs, and also include debt servicing costs. The total operating expenditures for the water system in 2021 is expected to be $7.67 million and anticipated to increase to $8.77 million by 2030. The total operating expenditures for the wastewater system in 2021 is anticipated to be $8.67 million and expected to increase to $10.44 million by 2030. The escalation in costs for both water and wastewater can generally be attributed to: a general increase in operational expenditures, increased regional water purchasing and wastewater treatment costs, additional debt financing requirements (principal and interest payments) associated with carrying out the non-growth capital program and lastly the inclusion for enhanced services and programs, which may be required in order for the Town to continue to adapt to ongoing legislative requirements and customer demands.

Table 1 below summarizes the total forecasted operating expenditures for water and wastewater services. The transfers to reserves and in-year rate funded capital requirements are identified separately and can be found in Section IV of this report.

TABLE 1: ANTICIPATED OPERATING EXPENSES ($000)

	2021	2025	2030
Water	$7,674.3	$9,001.3	$8,765.9
Wastewater	$8,670.5	$10,046.8	$10,438.7

i. General Operating Expenditures

Using the Town's 2020 operating budget, most operating expenditures are assumed to increase at a rate of 2.0 per cent annually to account for inflation. Fuel, hydro, gas and licensing costs are assumed to increase at 5.0 per cent annually to reflect higher historical costs.

ii. Debt - Principal and Interest Payments

The Town has existing debt on both the water and wastewater system related to Willow Beach infrastructure (applicable to both water and wastewater) and the Dalton Road Watermain project (water only). The principal and interest payments of all existing water-

related debt are scheduled to retire in 2029, while wastewater debt is scheduled to retire in 2026.

In order to carry out the non-growth related capital program, a general debt financing provision was included to offset those years with particularly high capital expenditures or where existing reserve funds were insufficient (ensuring reserves maintain a positive position throughout the period). The annual principal and interest payments associated with this debt have been included in the analysis and amount to about $421,000 by 2030 – this is anticipated to be funded through the water and wastewater rates. Please note the Town may explore other alternative financing means to smooth the capital expenditure spikes at the time of the project.

iii. Service Enhancements and Mandatory Requirements

Based on discussions with Town staff, in order for the Town to continue to adapt to ongoing legislative requirements and customer demands, an allocation for enhanced services and programs which may be required in the future has been incorporated into the analysis. A summary of the key initiatives included in the operating budget are as follows:

- Staffing for seasonal work and succession planning;
- Staffing for additional levels of service;
- Water valve and valve chamber exercising and repair program;
- Maintenance Hole inspection and repair program;
- Sanitary flow monitoring program; and
- Inflow and Infiltration (I/I) inspection program.

The specified programs are anticipated to be introduced over the next several years and by 2030 anticipated to represent about $792,000 between both the water and wastewater services.

iv. York Region Water Purchasing and Treatment Costs

In order to provide water and wastewater servicing to the community, the Town relies on the Region of York for the supply and treatment of water. The Town is required to purchase water from the Region for all treated water to be distributed to end users. The Town then recovers those costs, as well as the costs of distribution, maintenance, and general

operations by charging the users connected to the system directly. Not all water purchased from the Region is charged out to the end user. Non-revenue water[1] is water that is purchased from the Region and not charged to any end users and represents a cost to the Town that is not recuperated.

The amount of non-revenue water in Georgina has averaged approximately 25% of water supplied over the past several years. It is anticipated that this average loss is maintained over the immediate 5-year study period, but as targeted water programs and capital renewal requirements take form, non-revenue water is projected to be reduced to about 20% by 2030. This would in turn reduce the amount of water required to be purchased from the Region.

B. NON-USER RATE REVENUES

Non-user rate revenues are budget items which decrease the net operating budget and are not recovered through the Town's water or wastewater user rates. For the purposes of this report, the revenue received from local improvement charges, new services and miscellaneous revenues (e.g. late payments, etc.) are considered to be non-user rate revenue. Please note that the local improvement charge revenue, when combined with the annual transfer to the Willow Beach reserve fund, are used to offset the annual Willow Beach debt payments and this revenue source is expected to come off line when the debt is retired in 2026.

Table 2 shows the Town is expecting to recover approximately $844,100 for the water system and approximately $1.0 million for the wastewater system through non-user rate revenues in 2021. By 2030 these amounts are anticipated to be reduced to approximately $253,600 and $87,800 for the water and wastewater systems respectively. The reduction can be attributed to the local improvement charge revenue, which is expected to come off line when the Willow Beach debt is retired in 2026. All other non-user rate revenues were adjusted at a rate of 2% in the forecast period to account for inflation. Detailed operating expenditures and non-user rate revenues are set out in the detailed rate calculations illustrated in Appendix A.

[1] Non-revenue water can occur for a variety of reasons, including but not limited to: authorized consumption for Town needs (flushing, testing, and fire,) as well as other losses occurring through main breaks, leaks and valve uses.

TABLE 2: PROJECTED NON-USER RATE REVENUES ($000)			
	2021	2025	2030
Water	$844.1	$861.6	$253.6
Wastewater	$1,021.3	$1,027.4	$87.8

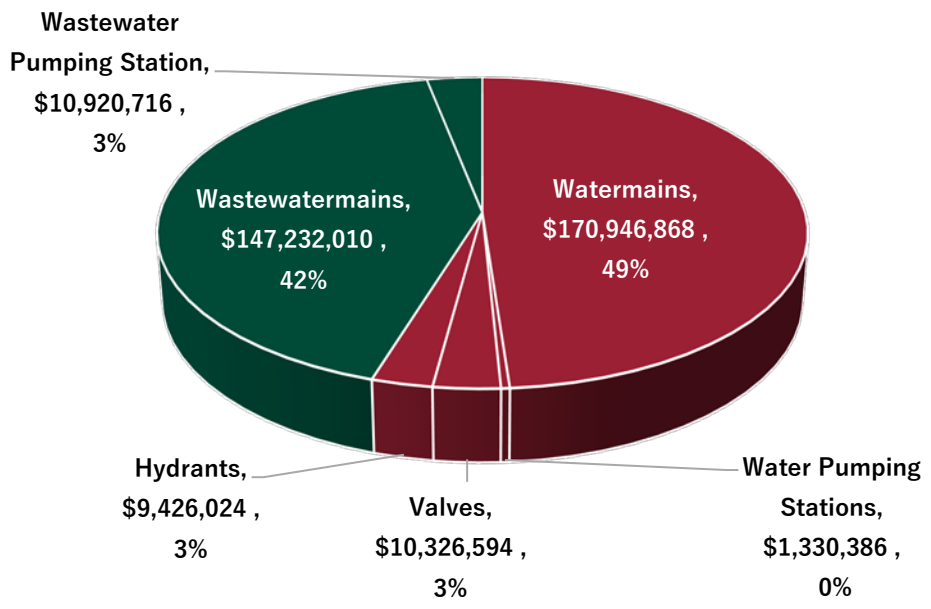
4. INFRASTRUCTURE AND CAPITAL

A. WATER AND WASTEWATER INFRASTRUCTURE

The information contained in the analysis was gathered from the Town's tangible capital asset database. The information is used not only to describe, but also define the quantity, age and replacement value of the existing infrastructure. The inventory was grouped into asset categories, eight of which relate to water servicing and six that relate to wastewater servicing.

The Town's entire water and wastewater systems have a replacement value of about $350 million. Of this value, about 55% is related to the Town's water assets. Figure 3 below provides the breakdown, by category, of the replacement value of the infrastructure between both service categories.

Figure 3 - Asset Replacment Value by Categorgy



Please note that from an asset management and utility rate setting perspective, 'replacement values' should be used as the basis to estimate the cost of replacing an asset when it reaches the end of its engineered design life. This figure is much different than the 'Net Book Value' which is consistent with the financial accounting practices defined by the Public Sector Accounting Board and is reported on the Town's financial statements.

The Net Book Value is the original acquisition cost less accumulated depreciation, depletion or amortization. It is reported on annually in accordance with reporting standards established by the Public Sector Accounting Board (PSAB) of the Canadian Institute of Chartered Accountants. The Town's 2019 estimated Net Book Value of the Town's Tangible Capital Assets as of December 31, 2019 at $134.5 million (excl. urban storm). Under the financial accounting approach many assets may be fully depreciated yet remain in use across the Town. Therefore, Net Book Value is not the appropriate methodology to be employed for infrastructure renewal planning

According to the Town's asset useful life assumptions, nearly 50% of the water infrastructure assets are not due for replacement and have a remaining useful life of 50 years or more (Table 3). Only about 2% of the Town's water infrastructure is overdue for replacement with a remaining useful life of less than one year and a further 3% (or $4.7 million) is identified for replacement in the next ten years.

TABLE 3: WATER ASSETS – REMAINING USEFUL LIVES

Remaining Useful Life	Replacement Value ($000)	Percentage of Total
Overdue	$4,021.7	2%
0-9 Years	$4,731.4	3%
10-19 Years	$17,124.2	10%
20-29 Years	$993.3	1%
30-39 Years	$18,765.3	11%
40-49 Years	$45,527.6	26%
>50 Years	$81,113.7	47%
Total	**$172,277.25**	**100%**

Similarly, wastewater assets in the Town are relatively new. As indicated in Table 4 below, approximately 88% of the Town's wastewater assets are not due for replacement and have a remaining useful life of 50 years or more. Many of these are wastewater mains, which comprise 93% of the wastewater asset replacement value and have an average age of 26 years.

TABLE 4: WASTEWATER ASSETS – REMAINING USEFUL LIVES		
Remaining Useful Life	**Replacement Value ($000)**	**Percentage of Total**
Overdue	$2,468.3	2%
0-9 Years	$559.6	0%
10-19 Years	$7,029.0	4%
20-29 Years	$4,420.1	3%
30-39 Years	$4,367.7	3%
40-49 Years	$734.7	0%
>50 Years	$138,573.4	88%
Total	**$158,152.73**	**100%**

B. CAPITAL AND CONTRIBUTIONS TO RESERVES

The approved 2020 capital budget and corresponding 10-year capital projection as well as the Tangible Capital Asset information and discussions with staff were used as the basis for preparing the ten-year capital forecast. In addition to the in-year capital requirements, Hemson has included annual provisions to reserves, which would allow the Town to prepare for the future repair and replacement of existing infrastructure.

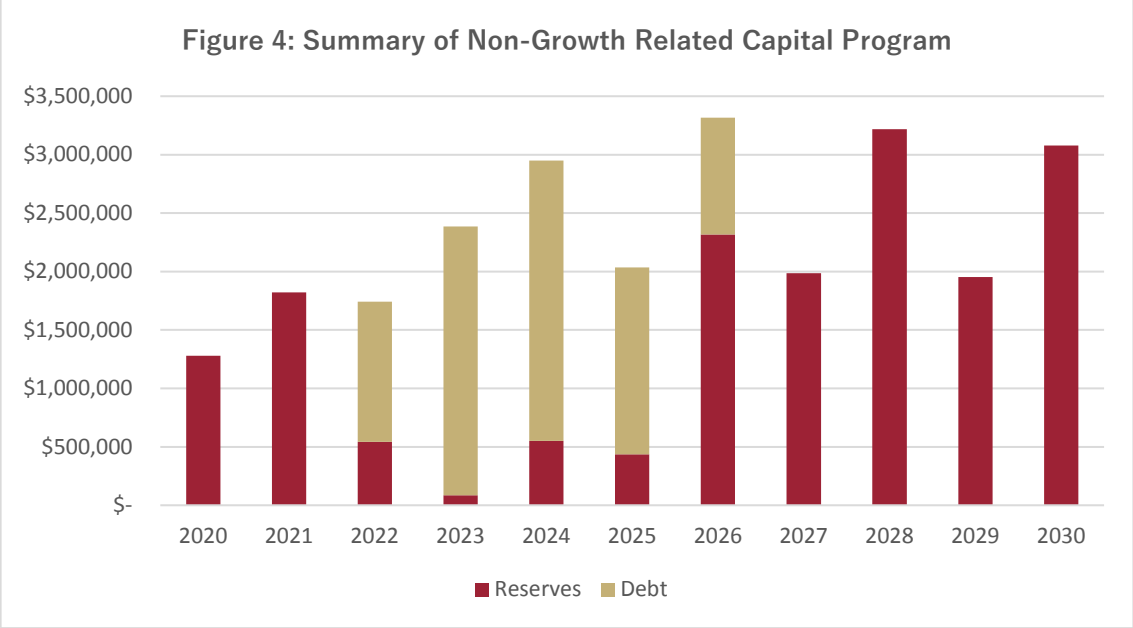
i. Projected Capital Expenditures

Over the next ten-year period (2021-2030), infrastructure investments will be required to support new growth in the Town and maintain the existing infrastructure network. Infrastructure related to growth will receive funding through development charge revenues and other developer contributions. A development charge policy discount would result in a revenue shortfall and therefore any policy discount would need to be recovered through the user rates. Capital improvements and financing costs related to non-growth related infrastructure are the responsibility of the Town. These costs will need to be funded through user rates.

The total non-growth related capital expenditures that the Town will be responsible for funding is summarized in Figure 4 below. Overall, over the 2021-2030 period, approximately $15.14 million in capital is required to support water services and an additional $9.35 million to support the wastewater capital projects. In most instances, water and wastewater reserve funds are largely used to fund in-year capital expenditure requirements, while debt financing measures are included to offset those years with particularly high expenditures or where existing reserve funds were insufficient to cover the cost (thereby ensuring the reserve maintain a positive position throughout the period). Importantly, the associated

principal and interest payments will be paid by way of future utility rates and have been included in the analysis.

Specifically, a total of $5.00 million in debt financing between 2022 and 2026 for water projects is anticipated and a further $3.50 million between 2022 and 2025 for wastewater projects is required. The specific terms of the debt required to facilitate the program will be determined at the time of capital expenditure is required and is subject to change with annual budget reviews.



In addition to the known capital works, an annual provision to reserves is included in the rate calculations as an effort to save for future repair and eventual replacement of existing assets while paying for the capital requirements identified in Figure 4.

ii. Asset Repair and Replacement Provision

In addition to annual operating and maintenance costs, water and wastewater infrastructure will require periodic rehabilitation and eventual replacement. Capital expenditures to carry out the rehabilitation and replacement of the aging infrastructure are not growth-related and therefore would not receive funding through development charges. When assets require rehabilitation or are due for replacement, the source of funds are essentially limited to reserves or contributions from the operating budget. In maintaining a user-pay approach, it is important for the Town to build sufficient reserves for the scheduled replacement of infrastructure through contributions from operating.

The rehabilitation and replacement schedules were created using the TCA data provided by the Town. Provisions for infrastructure replacement are initially calculated for each asset based on their remaining useful life and the anticipated cost of replacement. The aggregate of all individual provisions form the required annual contribution to a reserve fund. A full cost approach is employed to calculate the annual reserve fund contributions and is recognized as a fair approach to charging customers for the use of these assets. In calculating the annual provisions, a number of assumptions are made to account for inflation, interest and the Town's policies and practices. A 2.0 per cent inflation rate and a 3.5 per cent investment rate are assumed throughout this analysis. The calculated full cost average annual contribution requirement amounts to $3.97 million for water services and $2.89 million for wastewater services. This calculation is based on both the infrastructure, which the Town owns at the time of preparing this study and planned new capital acquisitions as well.

To mitigate an impractical increase of the user rates, reserve fund contributions are phased in gradually over the analysis. By the end of the planning period, the Town will be making more significant annual contributions to the reserves thereby providing a funding source for future infrastructure repair and replacement. Table 5 below provides a snapshot of the reserve fund balances, by service, relative to the total replacement value of the system.

TABLE 5: PROJECTED RESERVE FUND BALANCES RELATIVE TO ASSET REPLACEMENT VALUE ($000)

	2021	2025	2030
Water	$1,487.3 (0.4% of RV)	$1,630.5 (0.5% of RV)	$4,408.4 (1.3% of RV)
Wastewater	$1,119.9 (0.3% of RV)	$768.5 (0.2% of RV)	$3,742.1 (1.1% of RV)
Total	**$2,607.2 (0.7% of RV)**	**$2,399.0 (0.7% of RV)**	**$8,150.5 (2.3% of RV)**

5. RATE STRUCTURE ANALYSIS

Various water and wastewater rate structures are in place across Ontario municipalities. These include flat rates, constant rates, humpback block rates, declining block rates and inclining block rates. Rate structures often include fixed or minimum charges in addition to the consumption based charges. The implementation of a particular rate structure depends on a number of aspects including administrative and financial factors. Emphasis should be placed on identifying a rate structure that satisfies changing water use patterns and demographic trends while being fiscally responsible and sustainable from a service delivery standpoint.

As shown in Table 6, the Town currently has in place a two part rate structure:

1) A capital cost recovery charge (i.e. fixed rate) that is levied to each connection irrespective of usage patterns. This fixed charge is intended to provide the Town with a stable revenue source but is set much lower than actual fixed costs the Town would incur to provide services.

2) A consumption-based charge that is applied to each cubic meter of water consumed. The charge per cubic meter remains constant and does not increase (or decrease) relative to individual consumption patterns. This variable rate component is intended to provide the end-user with control of their utility bill which the total amount payable is relative to the volume of water consumed.

It should be noted that the 2020 rates identified below reflect the Town's 2019 rates as they were reverted back mid-year in an effort to provide interim relief to residents and businesses to offset the impacts of COVID-19.

TABLE 6: IN-FORCE 2020 UTILITY RATES

All Accounts	Water	Wastewater
Fixed Capital Charge: $/Quarter	$9.75	$8.82
Consumption Charge: $/m^3	$2.60	$2.76

A. ISSUES TO CONSIDER

i. Cost Recovery

In determining water and wastewater rates, the full cost of providing services are recovered. The costs are to include, operation and maintenance, periodic rehabilitation and

contributions to reserves for the eventual repair and ultimate replacement of water and wastewater infrastructure.

ii. Equity

A 'user-pay' approach was used in selecting a rate structure and calculating water and wastewater rates.

iii. Conservation

It is important to consider measures that promote water conservation when determining a rate structure. It is also important to recognize that not all users have the ability to change their levels of consumption and, as such, should not be penalized.

iv. Administration

A rate structure should be transparent and easy to understand by both the users and service provider. Also, easing administrative requirements may reduce the overall administrative cost, which would ultimately provide for a reduction of rates.

v. Economic Development

While recognizing the importance of the above objectives, it is also important to maintain the Town's attractiveness to industries that may rely heavily on water and/or wastewater services. A rate structure must allow the Town to continue to be competitive from an economic development perspective.

B. MOVING FORWARD

After consultation with Town staff and analysis of neighbouring municipalities and best practices, the recommendation is to maintain the current rate structure, however, the fixed charge is recommended to be realigned over time to recover a greater share of costs - the fixed rates be set to recover approximately 15% of total water and wastewater expenditures. Currently, the fixed charge generates about 8% of the total water and wastewater revenue, while the variable rate funds the remaining share of expenses. From a fiscal sustainability standpoint, it is important that the Town ensures the fixed charge represents a reasonable share of costs to secure sufficient revenues to properly run the system while balancing the overall incentives to promote conservation efforts.

The proposed rate structure is intended to improve the Town's fiscal stability by increasing the predictability of revenues over time. A volumetric based charge is still applied to each cubic meter of water consumed and continues to represent the most significant component of the cost recovery, thereby continuing the Town's commitment to promote water conservation efforts ensuring the end-users have the ability to control the total bill with conservation adjustments.

6. CALCULATED RATES

In calculating the water and wastewater rates, a number of assumptions were applied. The water and wastewater rates are calculated to fully recover the cost of operating the system and identified in-year capital needs (inclusive of any debt servicing requirements). Furthermore, the rates continue to provide for contributions to asset replacement reserves. An immediate implementation of a rate that fully funded the calculated asset rehabilitation and replacement contributions would result in significant impacts to all users in the Town. The analysis is based on providing for a gradual movement towards full rates. These contributions, when combined with the Town's ongoing capital works, will demonstrate a significant movement to long-term full cost recovery rates.

Table 7 below provides a summary of the 2021 net rate funding requirement for each of the water and wastewater systems. The net rate funding need represents the amount of money that must be funded through the utility rates.

TABLE 7: CALCULATION OF THE 2021 NET RATE FUNDING REQUIREMENT ($000)

Ref	Category	Water	Wastewater
1	Operating Expenditures	$7,674.3	$8,670.5
2	Non-growth related capital [1]	$1,569.3	$253.5
	Less: Contribution from Reserve	*($1,569.3)*	*($253.5)*
3	Transfer to/(from) Reserve [2]	$341.7	($170.7)
4	*Less: Non-metered Rate Revenue*	*($844.1)*	*($1,021.3)*
	Total Net Rate Funding Need = (1+2+3-4)	**$7,172.0**	**$7,478.4**

Note 1: non-growth capital is anticipated to be funded through the Town's reserves or debt financing (when required) to smooth annual costs.

Note 2: This is inclusive of the Transfer to the willow beach reserve, although, those funds are accounted for separately and not used to offset regular asset repair and replacement activities

i. Calculated 2021 Utility Rates

Based on the information provided above, the required water and wastewater user rate revenue in 2021 is forecast to be $7.17 million and $7.48 million respectively. This is the amount of revenue which must be collected through the sale of water and treatment of wastewater to fully recover the operating, capital, rehabilitation and replacement costs of the systems. The calculated rates for 2021 are outlined in Table 8 below and the detailed calculations of the water and wastewater rates are outlined in Appendix A.

It should be noted that the 2021 rates are moderated from the initial calculations and intended to provide interim relief as a result of COVID-19. Despite the interim relief provided in 2021 only, the rates are projected to increase at a higher rate moving forward ensuring long-term fiscal stability of the services.

TABLE 8: CALCULATED 2021 UTILITY RATES

All Accounts	Water	Wastewater
Fixed Capital Charge: $/Quarter	$9.89	$8.95
Consumption Charge: $/$m^3$	$2.64	$2.80

ii. Utility Rate Projection

Over the long-term, the net rate funding requirements for both the water and wastewater system are expected to increase. The cost increases can largely be attributed to carrying out the capital program, increasing regional water purchasing and wastewater treatment costs, debt servicing costs, increased contributions to the Town's asset management reserves and lastly the inclusion for enhanced services and programs which may be required in order for the Town to continue to adapt to ongoing legislative requirements and customer demands. The water and wastewater net rate funding requirements are projected to increase to $12.13 million and $12.93 million respectively over the ten-year period. Figure 5 below provides a snapshot of the annual year-over-year projections to 2030.

Figure 5: Projection of Net Rate Funding Need

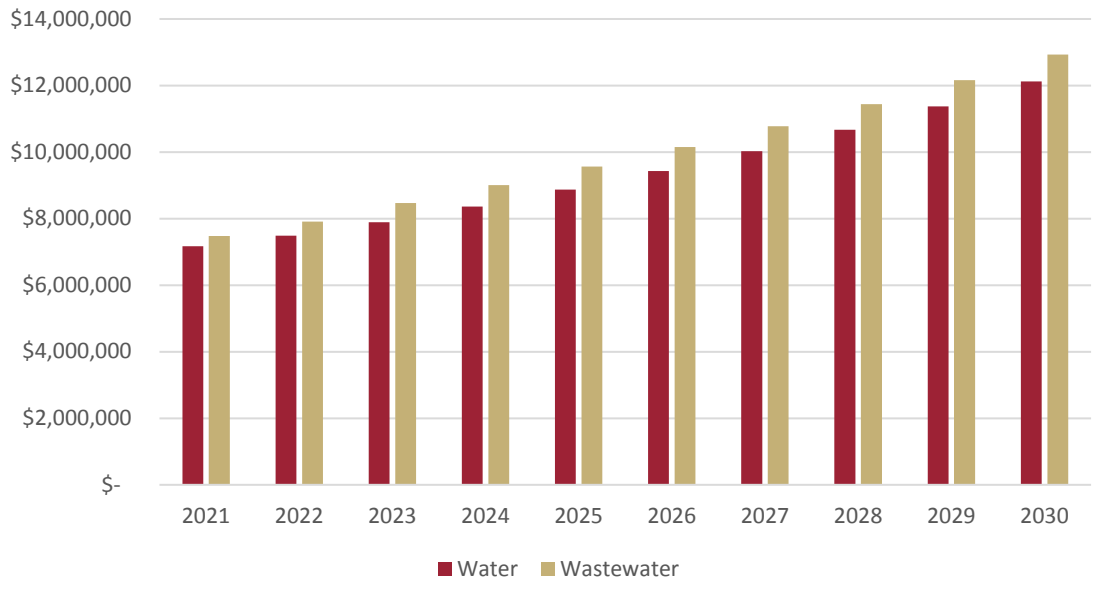


Table 9 below outlines the proposed utility rates required over the immediate 5-year period to support the system. A few important considerations:

- It should be noted that the 2021 rates are moderated from the initial calculations and intended to provide interim relief as a result of the impacts of COVID-19. Despite the interim relief provided in 2021 only, the rates are projected to increase at a higher rate moving forward ensuring long-term fiscal stability of the services.

- The rates proposed increase the wastewater rates to a higher proportion, relative to water, in the immediate period to address short-term revenue shortages. However, as indicated in the table, the total typical bill when combined with water is capped at 6% per annum.

- The annual rate changes identified are required to ensure the Town transitions the recovery of costs to the fixed fee, which reduces the dependence on the variable rate to fund annual expenditures. It is for this reason the fixed charges increase at a higher proportion than the variable rates over the planning period. Although, when the fixed and variable rates are combined, the year-over-year increase is smoothed and estimated at about 5.9% post 2021.

TABLE 9: CALCULATED UTILITY RATES (5-YEAR PROJECTION)

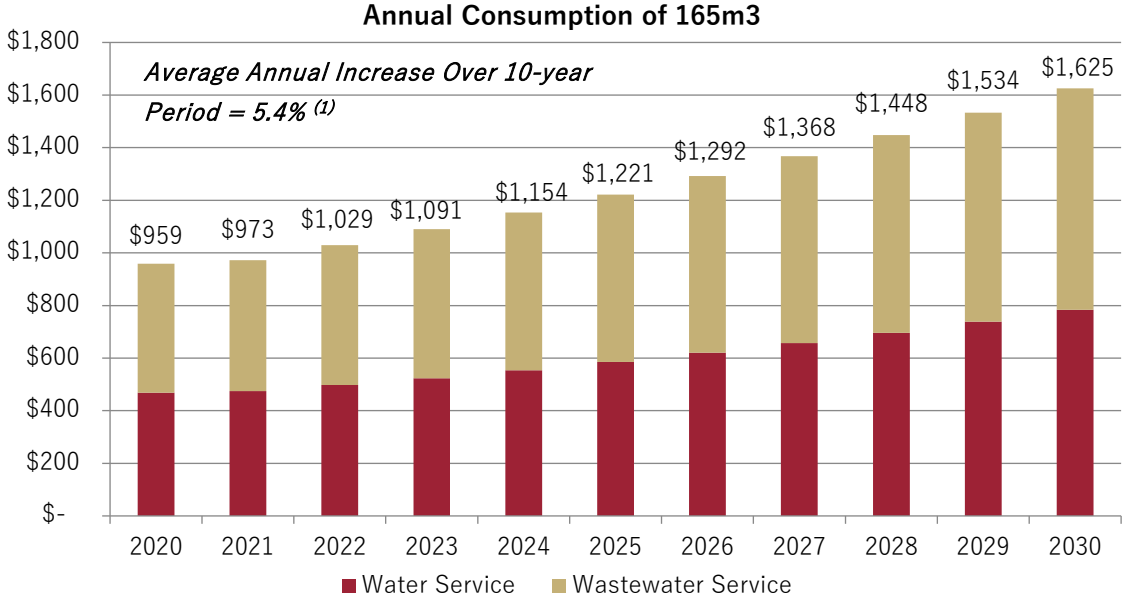
Service Type	2020	2021	2022	2023	2024	2025
Water Services						
Fixed Capital Charge: $/Quarter	**$9.75**	**$9.89**	**$11.40**	**$13.14**	**$14.81**	**$16.69**
Change (%)	-	*1.45%*	*15.25%*	*15.25%*	*12.70%*	*12.70%*
Consumption Charge: $/m³	**$2.60**	**$2.64**	**$2.74**	**$2.85**	**$3.00**	**$3.15**
Change (%)	-	*1.45%*	*4.00%*	*4.00%*	*5.00%*	*5.00%*
Wastewater Services						
Fixed Capital Charge: $/Quarter	**$8.82**	**$8.95**	**$10.54**	**$12.41**	**$14.61**	**$17.20**
Change (%)	-	*1.45%*	*17.75%*	*17.75%*	*17.75%*	*17.75%*
Consumption Charge: $/ m³	**$2.76**	**$2.80**	**$2.96**	**$3.14**	**$3.28**	**$3.44**
Change (%)	-	*1.45%*	*5.85%*	*5.85%*	*4.65%*	*4.65%*
Total Typical Bill[1] (165 m³/annum)	**$959**	**$973**	**$1,029**	**$1,091**	**$1,154**	**$1,221**
Change (%)	-	*1.45%*	*5.84%*	*5.94%*	*5.79%*	*5.88%*

Note 1: Typical bill includes water and wastewater services.

A typical household (averaging 165 m^3 per year) will see their annual water and wastewater bill increase by 1.45 per cent, or $14 in 2021 only. However, in order to ensure a fiscally sustainable system over the long-term, beyond 2021, typical household bills are projected

to increase at a higher rate, about 5.9% per annum. On average, including the rate relief measures imposed in 2021, the typical bill increase for a household consuming 165m^3 would be 5.4% per annum over the planning period. As shown in Figure 6 below, the total charge per typical household is expected to reach $1,221 by 2025 and $1,625 by 2030.

Figure 6: Impact on a Typical Residential User
Annual Consumption of 165m3



Note 1: 1.45% Increase from 2020 to 2021 to mitigate impacts of COVID -19. Post 2021 rate impact average of 5.9% per annum. Cumulative average impact, including 2021, equal to 5.4% per annum.

In order to test the impact of the new rate structure on Town residents and businesses, a sensitivity analysis was undertaken to quantify the range of rate impacts to both the residential and non-residential properties. The results of the sensitivity analysis is illustrated in Table 10 below.

For both residential and non-residential properties, the rate changes vary depending on the type of user and specifically tied to usage. The table below provides a summary of the total average annual rate impact for a variety of different users over the 10-year planning period. Overall, as the rate structure change is fairly modest and transitioned over the 10-year planning period, the impact on different user groups is targeted around +/-: 1% - 2% from a typical medium user bill year-over-year change (consuming 165m^3/annum).

TABLE 10: COMPARISON OF WATER AND WASTEWATER CHARGES FOR VARIOUS USERS OVER THE PLANNING PERIOD	
Selection of Different Users	**Average Annual Total Bill Change (2021 – 2030)**
1. Low User: Annual Consumption of 50m³/annum	6.9%
2. Low-Medium User: Annual Consumption of 100m³/annum	5.9%
3. Medium/Typical User: Annual Consumption of 165m³/annum	5.4%
4. Medium-High User: Annual Consumption of 250m³/annum	5.1%
5. High User: Annual Consumption of 600m³/annum	4.8%

iii. Impact on Reserve and Reserve Funds

It is important to consider the implications of the rate structure and calculated user rates on the Town's water and wastewater reserve fund. The Town's projected 2020 ending water and wastewater reserve funds are in a fairly healthy position with about $2.85 million in water and $1.74 million in wastewater funds (excluding discretionary DC water and wastewater reserve funds as well as funds separately collected for the Willow Beach Debenture). Town staff and Hemson have calculated the Town's reserve funds over the 10-year period with the goal of ensuring reserves maintain a positive position and funds are available to manage unexpected capital expenditures or other operational variances, which may be experienced over the planning period (i.e. changes in regional purchasing costs or variations in annual billable consumption).

Figure 7 indicates that the Town's water and wastewater reserve funds maintain a positive position throughout the period despite significant drawing on these funds to carry-out the non-growth related capital plan. A few points:

- The sharp increase in water reserves indicated toward the latter end of the planning period is a result of existing debt (related to the Dalton road Watermain) coming offline in 2030 which creates additional capacity for the Town to increase in-year contributions to reserve without further impacting the rates.

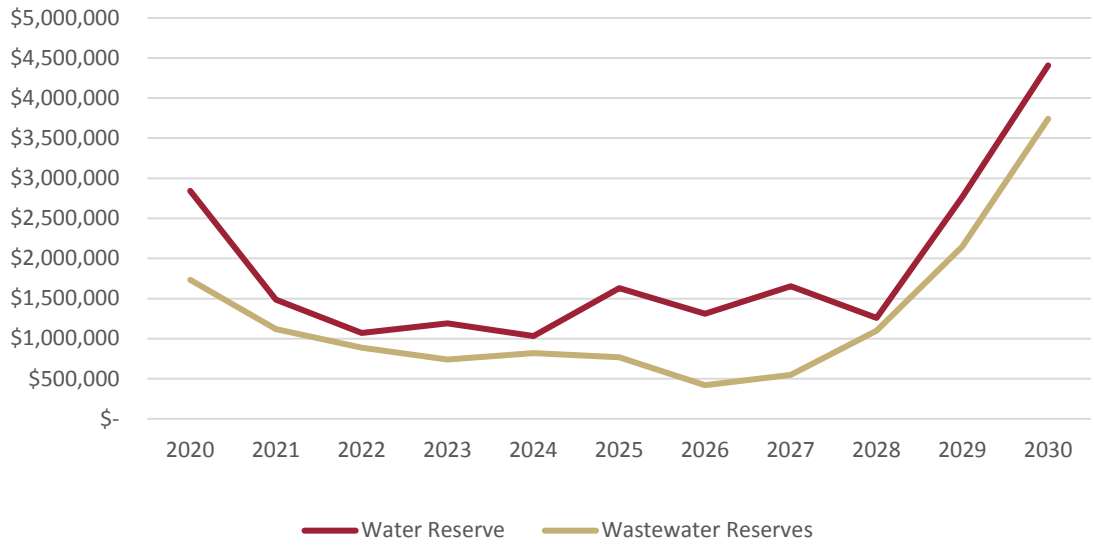
- The wastewater reserves are anticipated to be reduced from current levels over the short-term despite more significant shot-term rate increases put forth relative to

water. If the wastewater reserves were to become even further depleted than projected, the Town can explore different avenues to manage cash flows aside from increasing the utility rates: defer capital renewal projects (if possible without comprising safety), increase the use of debt, interim fund capital renewal projects using water reserves (but paid back over time) or delay the implementation of new strategic initiatives (represents about $250k per annum costs on the wastewater operating budget).

- Lastly, the wastewater reserve fund balances become more sustainable over the long-term as the rates continue to be increased annually at a higher level than both the rate of inflation and the annual change in treatment charges imposed by the Region of York.

It is recommended that the Town continue to monitor both the water and wastewater reserve funds over the period to ensure they continue to be sufficient to cover operational and capital expenditures. It is expected that the quantum of the Town's reserve funds be reviewed again at the next rate review.

Figure 7: Summary of Year-end Water and Wastewater Rate Funded Reserves



Note: Incorporates interest earned on reserve funds. Includes infrastructure, vehicle and equipment replacement and rate stabilization reserves. Excludes the Willow Beach Debenture Reserves.

7. RECOMMENDATIONS AND FINDINGS

The calculated rates presented establish water and wastewater rates to all users of the systems that are fair and equitable. The analysis included in this report ensures that the water and wastewater rates fully fund all of the Town's anticipated annual costs including all operating costs and capital financing needs and debt repayment requirements. It is fiscally prudent that the Town continue to contribute to reserves for the eventual repair and ultimate replacement of water and wastewater infrastructure. The immediate implementation of a rate that fully funds the calculated asset rehabilitation and replacement contributions would result in significant impacts to all users in the Town. The analysis establishes an annual contribution to reserves for asset rehabilitation and replacement that will ensure the Town begins to build up its reserves for the long-term. These contributions, when combined with the Town's ongoing capital works, will demonstrate a significant movement towards long-term full cost recovery rates.

Recognizing the impact of how COVID-19 has impacted communities across the province, the Town responded to the crisis by reverting the 2020 rates back to 2019 mid-year to provide immediate relief. This study proposes that interim relief continue to be provided to residents and businesses as they continue to grapple with impacts of COVID-19. Therefore, the water and wastewater rates are proposed to increase by 1.45% in 2021 (from the 2019 rates) which is well below the cost pressures being experienced in 2021.

Despite providing immediate fiscal relief for 2021, the Town is also cognizant of the budgetary pressures moving forward and rates need to be increased moving forward but capped at 6% per annum impact for average typical users. Overall, the total utility bill for all users will generally increase at approximately 6.0% per annum. Furthermore, the water and wastewater rates calculated in this analysis transitions the recovery of costs to the fixed portion of the bill which reduces the dependence on the variable rate to fund annual costs over the planning period. This transition increases the stability of Town revenues while also continuing to promote water conservation efforts.

It is important to note that at the time this document was prepared, the full impact and fiscal ramifications of COVID-19 were (and remain) unknown; as such, water and wastewater rates should be closely monitored to ensure revenues are sufficient to cover costs. Furthermore, it is imperative that the Town continue to monitor all consumption data on a monthly basis to identify usage trends and variance in the projections to ensure costs and revenues are managed accordingly. A financial model was developed to undertake the analysis and serves as a dynamic rate setting tool. Using the model, the Town is able to

perform sensitivity analyses of water and wastewater rates, rate structure and also phase-in options. It is recommended that this study be reviewed and updated in three to five years as details surrounding overall growth and costs become more refined.

APPENDIX A

DETAILED RATE CALCULATIONS

APPENDIX A - TABLE 1

TOWN OF GEORGINA
2020 WATER AND SEWER RATE STUDY
WATER RATE CALCULATIONS

Water Services	2020 Budget	2021 Projected	2022 Projected	2023 Projected	2024 Projected	2025 Projected	2026 Projected	2027 Projected	2028 Projected	2029 Projected	2030 Projected
1. Operating Expenditures											
Annual Gross Operating Expenditures	$ 2,463,510	$ 2,514,442	$ 2,566,476	$ 2,619,638	$ 2,673,955	$ 2,729,454	$ 2,786,164	$ 2,844,115	$ 2,903,336	$ 2,963,858	$ 3,025,713
Regional Charges	$ 4,144,010	$ 3,940,817	$ 4,065,239	$ 4,193,589	$ 4,325,991	$ 4,462,573	$ 4,566,718	$ 4,672,990	$ 4,781,421	$ 4,892,040	$ 5,004,879
Debt - Willow Beach and Dalton Road	$ 1,219,100	$ 1,219,088	$ 1,219,088	$ 1,219,088	$ 1,219,088	$ 1,219,088	$ 1,219,088	$ 719,605	$ 719,605	$ 640,105	$ -
Future Assumed Debt		$ -	$ -	$ 14,860	$ 74,300	$ 148,600	$ 198,133	$ 247,666	$ 247,666	$ 247,666	$ 247,666
New Initiatives		$ -	$ 260,100	$ 424,483	$ 432,973	$ 441,632	$ 450,465	$ 459,474	$ 468,664	$ 478,037	$ 487,598
Subtotal Annual Gross Operating Expenditures	***$ 7,826,620***	***$ 7,674,348***	***$ 8,110,903***	***$ 8,471,658***	***$ 8,726,306***	***$ 9,001,347***	***$ 9,220,568***	***$ 8,943,850***	***$ 9,120,691***	***$ 9,221,707***	***$ 8,765,856***
2. Capital Expenditures											
Calculated Average Annual Capital Contribution	*$ 3,965,411*	*$ 3,965,411*	*$ 3,965,411*	*$ 3,965,411*	*$ 3,965,411*	*$ 3,965,411*	*$ 3,965,411*	*$ 3,965,411*	*$ 3,965,411*	*$ 3,965,411*	*$ 3,965,411*
Annual Capital Renewal Expenditures											
Non-Growth Related Capital Expenses	$ 961,500	$ 1,569,270	$ 819,315	$ 1,236,308	$ 2,026,312	$ 1,029,555	$ 2,276,536	$ 1,005,100	$ 2,205,063	$ 932,171	$ 2,038,158
Less: Future Debt Financing (Enter as Negative)		*$ -*	*$ (300,000)*	*$ (1,200,000)*	*$ (1,500,000)*	*$ (1,000,000)*	*$ (1,000,000)*	*$ -*	*$ -*	*$ -*	*$ -*
Less: Transfers from Reserve	*$ (961,500)*	*$ (1,569,270)*	*$ (519,315)*	*$ (36,308)*	*$ (526,312)*	*$ (29,555)*	*$ (1,276,536)*	*$ (1,005,100)*	*$ (2,205,063)*	*$ (932,171)*	*$ (2,038,158)*
Subtotal Rate Funded Capital	***$ -***	***$ -***	***$ -***	***$ -***	***$ -***	***$ -***	***$ -***	***$ -***	***$ -***	***$ -***	***$ -***
3. Contribution to/from Reserves											
Contribution to Capital Fund	*$ 589,760*	*$ 209,289*	*$ 94,642*	*$ 136,205*	*$ 356,788*	*$ 603,067*	*$ 943,447*	*$ 1,322,120*	*$ 1,797,177*	*$ 2,399,473*	*$ 3,615,208*
Transfer For Willow Beach Debenture	$ 132,430	$ 132,430	$ 132,430	$ 132,430	$ 132,430	$ 132,430	$ 132,430				
Subtotal Transfers	***$ 722,190***	***$ 341,719***	***$ 227,072***	***$ 268,635***	***$ 489,218***	***$ 735,497***	***$ 1,075,877***	***$ 1,322,120***	***$ 1,797,177***	***$ 2,399,473***	***$ 3,615,208***
4. Total Annual Expenditures (1+2+3=4)	***$ 8,548,810***	***$ 8,016,066***	***$ 8,337,975***	***$ 8,740,292***	***$ 9,215,525***	***$ 9,736,844***	***$ 10,296,445***	***$ 10,265,970***	***$ 10,917,868***	***$ 11,621,180***	***$ 12,381,064***
Revenues											
Local Improvements	$ (631,920)	$ (631,920)	$ (631,920)	$ (631,920)	$ (631,920)	$ (631,920)	$ (631,920)	$ -	$ -	$ -	$ -
Miscellaneous Fees	$ (12,000)	$ (12,240)	$ (12,485)	$ (12,734)	$ (12,989)	$ (13,249)	$ (13,514)	$ (13,784)	$ (14,060)	$ (14,341)	$ (14,628)
New Services	$ (196,000)	$ (199,920)	$ (203,918)	$ (207,997)	$ (212,157)	$ (216,400)	$ (220,728)	$ (225,142)	$ (229,645)	$ (234,238)	$ (238,923)
Subtotal non-rate revenues	***$ (839,920)***	***$ (844,080)***	***$ (848,323)***	***$ (852,651)***	***$ (857,066)***	***$ (861,569)***	***$ (866,162)***	***$ (238,927)***	***$ (243,705)***	***$ (248,579)***	***$ (253,551)***
Net Rate Funding Need	**$ 7,708,890**	**$ 7,171,986**	**$ 7,489,652**	**$ 7,887,641**	**$ 8,358,459**	**$ 8,875,276**	**$ 9,430,283**	**$ 10,027,043**	**$ 10,674,163**	**$ 11,372,600**	**$ 12,127,513**

APPENDIX A - TABLE 2

TOWN OF GEORGINA
2020 WATER AND SEWER RATE STUDY
SEWER RATE CALCULATION

Sewer Services	2020 Budget	2021 Projected	2022 Projected	2023 Projected	2024 Projected	2025 Projected	2026 Projected	2027 Projected	2028 Projected	2029 Projected	2030 Projected
1. Operating Expenditures											
General Operating Expenditures	$ 1,850,670	$ 1,893,184	$ 1,936,818	$ 1,981,609	$ 2,027,593	$ 2,074,810	$ 2,123,300	$ 2,173,103	$ 2,224,265	$ 2,276,828	$ 2,330,842
Regional Charges	$ 6,317,420	$ 6,007,659	$ 6,197,336	$ 6,393,001	$ 6,594,844	$ 6,803,060	$ 6,961,826	$ 7,123,835	$ 7,289,134	$ 7,457,771	$ 7,629,789
Existing Debt	$ 748,920	$ 749,225	$ 749,225	$ 749,225	$ 749,225	$ 749,225	$ 749,225	$ -	$ -	$ -	$ -
Future Assumed Debt		$ -	$ -	$ 44,580	$ 99,067	$ 143,647	$ 173,367	$ 173,367	$ 173,367	$ 173,367	$ 173,367
New Initiatives		$ 20,400	$ 72,828	$ 233,466	$ 270,608	$ 276,020	$ 281,541	$ 287,171	$ 292,915	$ 298,773	$ 304,749
Subtotal Annual Gross Operating Expenditures	***$ 8,917,010***	***$ 8,670,467***	***$ 8,956,206***	***$ 9,401,881***	***$ 9,741,337***	***$ 10,046,762***	***$ 10,289,258***	***$ 9,757,477***	***$ 9,979,681***	***$ 10,206,739***	***$ 10,438,747***
2. Capital Expenditures											
Calculated Average Annual Capital Contribution	*$ 2,885,614*	*$ 2,885,614*	*$ 2,885,614*	*$ 2,885,614*	*$ 2,885,614*	*$ 2,885,614*	*$ 2,885,614*	*$ 2,885,614*	*$ 2,885,614*	*$ 2,885,614*	*$ 2,885,614*
Annual Capital Renewal Expenditures											
Non-Growth Related Capital Expenses	$ 317,000	$ 253,470	$ 922,315	$ 1,150,350	$ 924,397	$ 1,006,369	$ 1,040,010	$ 980,977	$ 1,012,315	$ 1,020,610	$ 1,041,022
Less: Future Debt Financing (Enter as Negative)		$ -	$ (900,000)	$ (1,100,000)	$ (900,000)	$ (600,000)	$ -	$ -	$ -	$ -	$ -
Less: Transfers from Reserve	*$ (317,000)*	*$ (253,470)*	*$ (22,315)*	*$ (50,350)*	*$ (24,397)*	*$ (406,369)*	*$ (1,040,010)*	*$ (980,977)*	*$ (1,012,315)*	*$ (1,020,610)*	*$ (1,041,022)*
Subtotal Rate Funded Capital	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
3. Contribution to/from Reserves											
Contribution to Capital Fund	$ 127,940	$ (369,665)	$ (219,971)	$ (105,159)	$ 90,539	$ 345,892	$ 690,456	$ 1,100,756	$ 1,547,179	$ 2,037,335	$ 2,580,418
Transfer For Willow Beach Debenture	$ 198,960	$ 198,960	$ 198,960	$ 198,960	$ 198,960	$ 198,960	$ 198,960				
Subtotal Transfers	***$ 326,900***	***$ (170,705)***	***$ (21,011)***	***$ 93,801***	***$ 289,499***	***$ 544,852***	***$ 889,416***	***$ 1,100,756***	***$ 1,547,179***	***$ 2,037,335***	***$ 2,580,418***
4. Total Annual Expenditures (1+2+3=4)	***$ 9,243,910***	***$ 8,499,762***	***$ 8,935,196***	***$ 9,495,681***	***$ 10,030,837***	***$ 10,591,614***	***$ 11,178,674***	***$ 10,858,232***	***$ 11,526,860***	***$ 12,244,074***	***$ 13,019,165***
Non User Rate Revenues											
Local Improvements	$ (947,880)	$ (947,880)	$ (947,880)	$ (947,880)	$ (947,880)	$ (947,880)	$ (947,880)	$ -	$ -	$ -	$ -
New Services	$ (72,000)	$ (73,440)	$ (74,909)	$ (76,407)	$ (77,935)	$ (79,494)	$ (81,084)	$ (82,705)	$ (84,359)	$ (86,047)	$ (87,768)
Provision from Reserve	$ (361,780)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Subtotal non-rate revenues	**$ (1,381,660)**	**$ (1,021,320)**	**$ (1,022,789)**	**$ (1,024,287)**	**$ (1,025,815)**	**$ (1,027,374)**	**$ (1,028,964)**	**$ (82,705)**	**$ (84,359)**	**$ (86,047)**	**$ (87,768)**
Net Rate Funding Need	**$ 7,862,250**	**$ 7,478,442**	**$ 7,912,407**	**$ 8,471,394**	**$ 9,005,022**	**$ 9,564,240**	**$ 10,149,710**	**$ 10,775,527**	**$ 11,442,501**	**$ 12,158,028**	**$ 12,931,397**