

REVISED INDICATIVE RATES FOR 2020: WATER, WASTEWATER, AND STORMWATER LINES OF SERVICE

2019 NOVEMBER 05



MAKING LIFE BETTER EVERY DAY



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1.0 EXECUTIVE SUMMARY

This report presents Administration's analysis and recommendations for the revised 2020 indicative rates for Calgary's Water Treatment and Supply (Water), Wastewater Collection and Treatment (Wastewater), and Stormwater Management (Stormwater) lines of service, collectively known as the Water Utility. In response to the challenging economic conditions felt by the Calgary community, Administration has undertaken a review of options to reduce annual rate increases for 2020. It is recommended the Water Utility revise 2020 rates only, to ensure the appropriate continued response to economic conditions and uncertain off-site levy revenue.

Calgary is in a slower growth period, with active urban development in 2019 lower than anticipated. As less revenue is being collected, the Water Utility is experiencing a large off-site levy shortfall for the fourth consecutive year. This shortfall is temporary until urban development occurs. However, if urban development does not occur, there will be a permanent subsidy of growth by utility rate payers and future rates will be impacted. Based on the revised 2019 October land forecast, the off-site levy shortfall will persist.

Despite the off-site levy revenue shortfall, the Water Utility must continue to deliver on capital spending commitments in anticipation of an economic recovery and natural population growth. These two financial pressures can no longer be absorbed by the Water Utility. As a result, the Wastewater line of service cannot maintain the One Calgary approved service line rate increase of 5.1 per cent in 2020. In contrast, the Water and Stormwater lines of service have less requirement for capital expenditure, therefore, can absorb pressure from off-site levies while accommodating reductions to the One Calgary approved rate increases for 2020.

Table 1: 2020 indicative rates for Water, Wastewater, and Stormwater lines of service

Line of Service	One Calgary 2020 Approved Rates	Proposed Change	Recommended Revised 2020 Rates
Water Treatment and Supply	+0.3%	-0.8%	-0.5%
Wastewater Collection and Treatment	+5.1%	+1.6%	+6.7%
Stormwater Management	+2.5%	-1.2%	+1.3%

The recommended revised 2020 indicative rates align with the Water Utility's focus on finding efficiencies through continuous improvements and implementation of the zero-based reviews recommendations. The proposed indicative rates will leverage efficiencies, capital savings, and service reductions, while maintaining the capital investment required to support the needs of a

growing city. They also incorporate the projected shortfall in off-site levies and thus mitigate some risk of off-site levy revenue not materializing due to the uncertainty of growth. This does result in utility rate payers paying for some of the costs of growth.

Based on the cost of service recommendations, not all customers will see the same increase or decrease in rates. As show in Table 2, a typical residential metered customer will see a slight decrease of \$0.18 to the overall monthly bill compared to 2019. However, because the impact for each customer class does vary, multi-family and business customer bills, will see moderate increase to the overall monthly bill. These impacts are detailed in the report.

Table 2: Approximate impact on typical residential monthly utility bill

Line of Service	2020 Incremental Change	2020 Monthly Bill
Water Treatment and Supply \$45.75 monthly in 2019	-\$1.68	\$44.07
Wastewater Collection and Treatment \$54.43 monthly in 2019	\$1.30	\$55.73
Stormwater Management \$15.43 monthly in 2019	\$0.20	\$15.63
Total* \$115.61 monthly in 2019	-\$0.18	\$115.43

*Typical residential metered monthly bill is based on 19m3/month

2.0 FINANCIAL MODEL

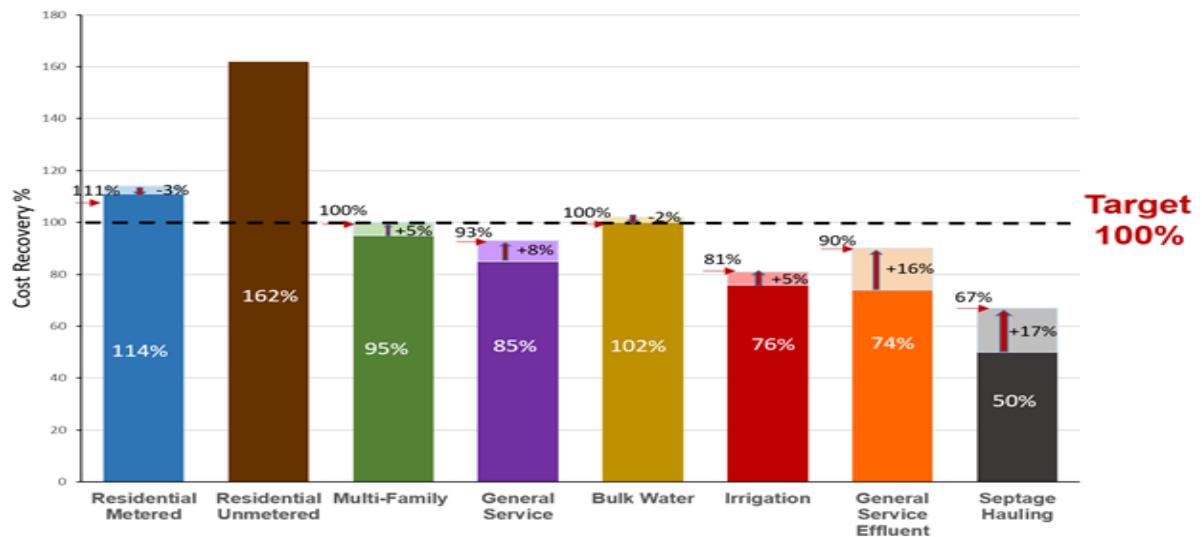
The Water, Wastewater, and Stormwater lines of service are provided under a self-sustaining public utility model. All costs are recovered through user rates, levies, fees, and sources other than the municipal tax base. The key components of the self-sustaining utility business model include:

- **Revenue** – The Water Utility’s revenue consists primarily of rate revenue based on Council approved utility rates for each line of service. Water and Wastewater rate revenue is generated through basic service charges and volumetric rates that are applied by customer

class. Revenue for the Stormwater line of service is generated through a uniform flat service charge to all customers.

- **Off-site levy revenue** – Off-site levy revenue is driven by growth and urban development investments required to service new communities. Current levies are collected based on the revised Off-Site Levy Bylaw and rates for 2019-2022 (2018 November PFC2018-0973). Off-site levy revenues are intended to fund the developers' share of the utility costs attributable to new growth and provide full cost recovery of growth related infrastructure. Significant risks and uncertainty exist within the current model's assumptions, that can result in temporary financial shortfalls that must be buffered by utility rates.
- **Financial policies** –2018 March 19, Council endorsed and approved the recommended 2019-2022 financial plans for the Water and Wastewater lines of service (UCS2018-0223) and the Stormwater line of service (UCS2018-0230). The financial plans articulate policies, measures, targets, and a timeline for compliance, specifically focusing on cash and debt financing. These financial policies help to manage obligations and mitigate financial risks. Adhering to the plans ensure improved financial capacity and sustainability to meet the challenges the Water Utility faces. For the Water and Wastewater lines of service, financial policies also direct a fixed dividend and franchise fee on revenues. Maintaining compliance is contingent on the line of service rate increases presented in this report.
- **Cost of Service basis** –The Water Utility performs a Cost of Service Study (COSS) each business cycle. A COSS ensures the cost of providing a service is distributed in a fair and equitable manner. Costs are assigned to each customer class based on consumption characteristics and the demand that class places on the system. This results in different customer classes paying unique utility rates. The COSS process carefully considers fixed and variable costs, resulting in a rate structure that balances the interests of fairness and equity, financial sustainability and water resource management. As part of preparing the 2019-2022 service plans and budgets, the Water Utility performed a COSS for the three lines of service (UCS2018-0884). Through the COSS, a gap between the cost recovery and the exact cost of service was identified within customer classes. Council directed Administration to close the gap for each customer class to varying degrees, with 100 per cent cost of service for multi-family.

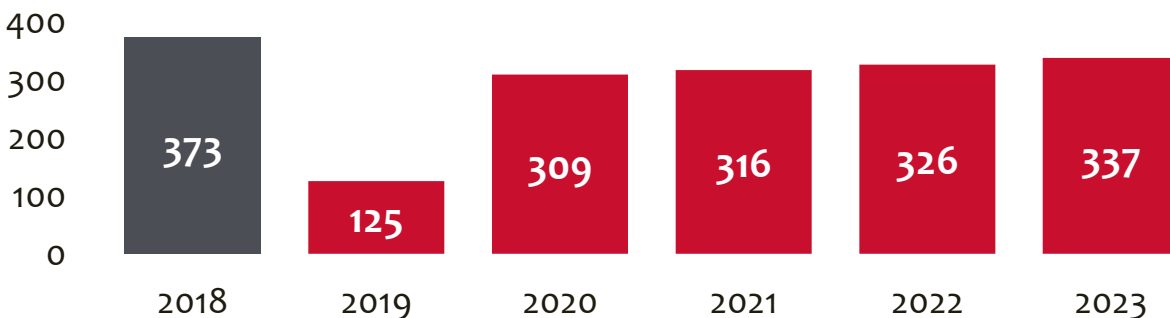
Figure 1: Cost of Service Study approved 2019-2022 cost recovery by customer class



3.0 DRIVERS

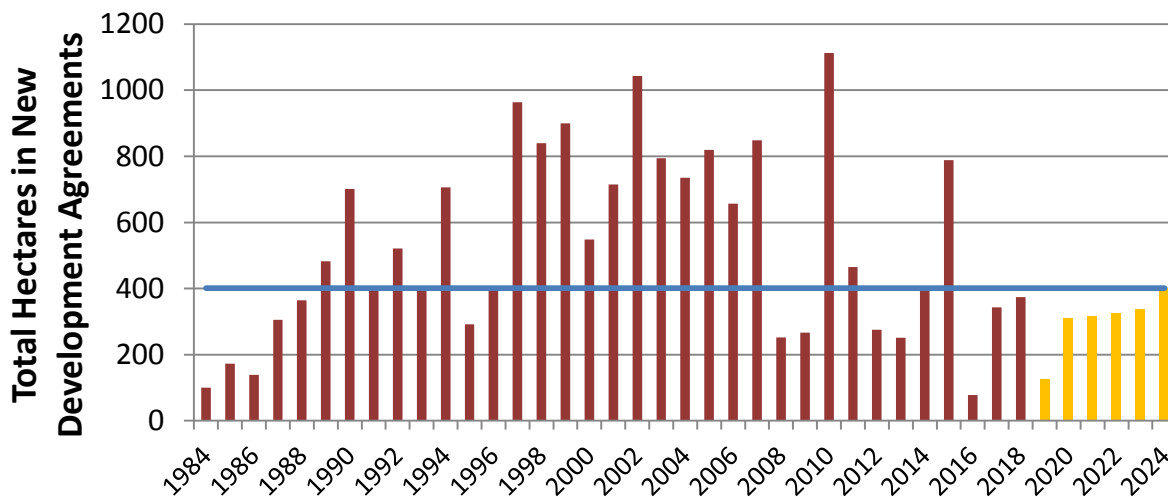
The City of Calgary is focused on providing services that are of value to citizens. The Water Utility provides services to 1.25 million Calgarians, as well as to municipalities outside of Calgary. In the development of the 2019-2022 indicative rates, the Water Utility considered drivers and priorities related to operating and capital expenditures, customer expectations, and requirements to meet financial plan compliance to improve financial sustainability. The Water Utility continues to experience pressure on the rates to meet increasingly stringent regulations, provide high quality service, support the needs of a growing city, and maintain critical assets and infrastructure.

Figure 2: Revised October 2019 Forecast Update (Hectares of Land)



Calgary is in a slower growth period, with active urban development in 2019 lower than anticipated. As less revenue is being collected, the Water Utility is experiencing a large off-site levy shortfall for the fourth consecutive year. Off-site levy revenues are intended to fund 100 per cent of the developers' share of utility costs attributable to new growth. However, revenues vary based on hectares of urban development as well as timing of capital investment to support growth. In periods where actual urban development, or projected pace of future urban development, is lower than the 400 hectares per year assumption in the off-site levy rates, a temporary financial shortfall occurs. Since the new bylaw was approved, actual land development and current forecasts have been lower than the historical average. Based on the revised 2019 October land forecast, the off-site levy shortfall will persist. As a result, the Wastewater line of service cannot maintain the One Calgary approved service line rate increase of 5.1 per cent in 2020.

Figure 3: Total hectares in new urban development agreements (1984-2024)



In response to Calgary's current economic conditions, Administration has undertaken a review of options to reduce annual rate increases for 2020. Based on the Water Utility's ability to adjust utility rates, Administration examined options for each line of service. Building on the operational efficiencies identified and zero-based review recommendations, the Water Utility identified additional savings. The Water Utility has taken reductions across all three lines of service in salary and wages, and consulting. Capital investments were also reprioritized and the Water Utility revisited factors on which the long-range capital plan is built. As a result, relinquishments were recommended across all three lines of service to ensure the overall capital budget is maintained within the approved rates. This resulted in a total relinquishment of \$12.6 million and \$20.6 million in 2019 and 2020, respectively. Each line of service is uniquely impacted, due to the current economic environment and challenges in meeting land development forecasts.

4.0 SERVICES PROVIDED BY THE WATER UTILITY

4.1 THE WATER TREATMENT AND SUPPLY LINE OF SERVICE

Reliable water service provides the foundation to a healthy and green city. As Calgary's population continues to grow, so does the demand on the rivers. With a finite supply of water, the Water line of service needs to operate wisely, considering future water demands. Due to water conservation measures embraced by Calgarians, the line of service has been able to delay investments in treatment capacity and defer costly plant upgrades. These actions have resulted in our ability to keep rates low for customers

Water conservation efforts aim to reduce water consumption and are important to ensure long term water supply reliability. However, the Water line of service must continue to look for ways to mitigate the upward pressures that lower per capita consumption places on revenues and financial sustainability. In response, the line of service has identified effective cost reducing methods through proactively relinquishing capital investments, continuous innovation, and efficiency opportunities to help offset additional inflationary pressures.

4.2 THE WASTEWATER COLLECTION AND TREATMENT LINE OF SERVICE

Calgary is a large, growing city located on two small rivers. To maintain the health of the rivers, ongoing investment is required to meet regulatory requirements. Over the next few years, a continued priority for this service is the significant upgrades at Bonnybrook Wastewater Treatment Plant to address wastewater demands and regulations that will serve future generations of Calgarians.

The nature of the Wastewater line of service is capital intensive, and two-thirds of the planned investments are driven by growth. With rising capital investments required to maintain highly reliable Wastewater systems, meet regulatory requirements, and protect the rivers and the environment, an increased emphasis on service efficiency is vital to the line of service. As the city grows, pressure on treatment processes will continue to increase. Water conservation efforts have no impact on this ever-growing demand. In response, the Wastewater line of service is focused on continually finding efficiencies and process improvements within the plants.

To maintain wastewater rates at affordable levels, the Wastewater line of service has implemented reductions in several areas including capital maintenance, salary and wage, consulting, and research while maintaining capital investments, growing debt, and inflationary pressures. The capital maintenance reductions include reduced investment in the customer initiated private side sanitary replacement program and sanitary trenchless rehabilitation. These reductions result in increased risk of sanitary sewer backups in homes and businesses, and will be monitored closely by Administration.

4.3 THE STORMWATER MANAGEMENT LINE OF SERVICE

A healthy, resilient watershed provides clean, reliable water resources, and is vital to ensure that property is protected from flooding and rivers remain healthy. Efforts to improve flood resiliency and reduce local stormwater flooding are ongoing through a variety of infrastructure programs to address the pressure on Calgary's rivers from growth.

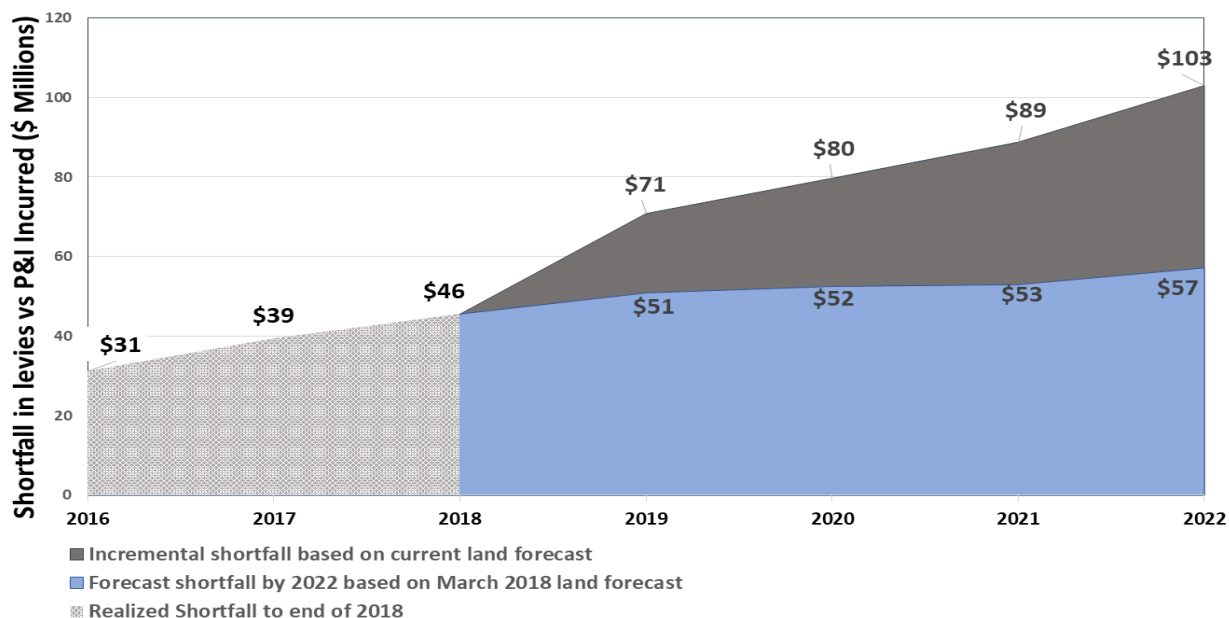
Climate change will alter how and when Calgary's watershed receives precipitation, affecting both water quantity and quality. To balance the social, environmental, and economic pressures, the Community Drainage Investment program continues to be a high priority for the line of service, identifying localized flooding risks and delivering stormwater infrastructure upgrades. The Water Utility is also focused on implementing the Council-approved Flood Resilience Plan (PFC2017-0462). Flood resiliency investments including berms and bank restoration projects are required to reduce impacts of future flood events. These projects represent approximately 38 per cent of the capital budget, of which a large portion is funded through external grants. With the recent changes to the provincial Alberta Community Resilience Program (ACRP), the Stormwater line of service will be significantly impacted. Specifically, the ability to fully deliver on the Council-Approved Flood Resilience Plan. Early information has identified a potential shortfall of \$81 million in capital funding. An additional review and reprioritization of the capital program is required to explore further options and determine a response to the reduced funding. Despite these pressures and lower than anticipated urban development in benefiting areas, the Stormwater line of service has identified reductions to offset increasing rates.

5.0 PROPOSED INDICATIVE RATES

The proposed indicative rates will leverage efficiencies, capital savings, and service reductions, while maintaining the capital investment required to support the needs of a growing city. Additional considerations in the recommendations for the revised 2020 indicative rates for the three lines of service include:

- **Compliance with financial plans:** Specific drivers include meeting the debt service coverage ratio and sustainment reserve balance for each line of service by the end of 2022.
- **The off-site levy shortfall in 2017 and 2018** (from 2016 and 2017 growth) was partially absorbed in the utility rates through efficiencies and service reductions that resulted in operating budget reductions, but also put pressure on 2019-2022 rate increases.
- **Growth and off-site levy revenue:** The significant shortfall will continue throughout the 2019-2022 business cycle. The off-site levy revenue shortfall the Water Utility is experiencing is temporary until urban development occurs. However, if urban development does not occur, there would be a permanent subsidy of growth by utility rate payers.

Figure 4: Projected off-site levy shortfall (cumulative for 2016-2022)



Indicative Rates for the Water Treatment and Supply Line of Service

The Water line of service is currently in a good financial position with lower requirement for capital expenditures and a favourable variance to the operating budget due to efficiencies and fleet optimization. Debt is declining and the capital program is moderating, resulting in decreasing interest expense. The Water line of service can absorb inflationary pressures and adverse fluctuations in off-site levies for growth-related costs. Based on these considerations, the line of service can accommodate the recommended 0.5% reduction in rates. Furthermore, this reduction does not impact service levels. A reduction in the 2020 indicative rate for the Water line of service will result in a \$1.68 savings per month to the water portion of the residential customers' typical monthly utility bill compared to 2019, helping to offset the increases realized in the other lines of services.

The tables below summarize previous reported and current proposed water indicative rates and drivers for 2020.

Table 3: Indicative water rate increases

	One Calgary Approved 2020	Proposed Change	Revised 2020 Recommended Rates
Water Indicative Rates	+0.3%	-0.8%	-0.5%

Table 4: Water treatment and supply drivers / impacts

WATER	Estimated total	Operating costs	Capital related costs	Off-site Levy shortfall	Reserves	Franchise fee
Impact on typical monthly utility bill \$45.75 in 2019	-0.5%	0.0%	-0.3%	0.0%	-0.2%	0.0%

Indicative Rates for the Wastewater Collection and Treatment Line of Service

The effect of growth has a substantial and compounding impact on the Wastewater line of service due to the capital requirement to build new infrastructure. To maintain wastewater rates at affordable levels, the Wastewater line of service has implemented reductions in several areas including capital maintenance, salary and wage, consulting, and research while maintaining a substantial capital program and growing debt and inflationary pressures. Despite these reductions, persistent shortfalls in levies for growth related costs leave the Wastewater line of service requiring a 6.7 per cent rate increase, 1.6 per cent higher than what was approved in One Calgary. This will result in a \$1.30 increase on a typical residential metered customer's monthly bill compared to 2019.

The tables below summarize previous reported and current proposed wastewater indicative rates and drivers for 2020.

Table 5: Indicative wastewater rate increases

	One Calgary Approved 2020	Proposed Change	Revised 2020 Recommended Rates
Wastewater Indicative Rates	+5.1%	+1.6%	+6.7%

Table 6: Wastewater collection and treatment drivers / impacts

WASTEWATER	Estimated total	Operating costs	Capital related costs	Off-site Levy shortfall	Reserves	Franchise fee
Impact on typical monthly utility bill \$54.43 in 2019	+6.7%	+1.3%	+2.7%	+1.3%	+1.1%	+0.3%

Indicative Rates for the Stormwater Management Line of Service

The Stormwater line of service continues to experience upward pressure to mitigate the environmental, social, and economic risks of river and localized flooding while considering climatic variability. Despite these pressures, as well as a lowered land forecast and recent provincial funding changes, a reduced rate increase is recommended for Stormwater. This is due in part to ongoing efforts in realizing efficiencies and less requirement for capital expenditures. Administration is recommending a 1.3 per cent increase to the Stormwater rate, which is 1.2 per cent lower than the One Calgary approved 2020 rate. The result is an approximate \$0.20 increase on all monthly bills compared to 2019.

The tables below summarize previous reported and current proposed stormwater indicative rates and drivers for 2020.

Table 7: Indicative stormwater rate increases

	One Calgary Approved 2020	Proposed Change	Revised 2020 Recommended Rates
Stormwater Indicative Rates	+2.5%	-1.2%	+1.3%

Table 8: Stormwater management drivers / impacts

STORMWATER	Estimated total	Operating costs	Capital related costs	Off-site Levy shortfall	Reserves
Impact on typical monthly utility bill \$15.43 in 2019	+1.3%	+0.2%	+0.3%	+0.7%	+0.1%

Estimated Customer Impacts

Based on cost of service recommendations, customer classes will be impacted differently and not all customer classes will see the same decrease or increase in utility rates. Overall the utility rate revenue will change according to the revised recommended rates indicated in Table 10. A typical residential metered customer will see an overall decrease of \$0.18 to the monthly bill compared to 2019. This is based on 19m³/month water consumption per month.

Table 9: Approximate impact on typical residential metered monthly utility bill based on 19m3/month water consumption

Line of Service	2020 Incremental Change	2020 Monthly Bill
Water Treatment and Supply \$45.75 monthly in 2019	-\$1.68	\$44.07
Wastewater Collection and Treatment \$54.43 monthly in 2019	\$1.30	\$55.73
Stormwater Management \$15.43 monthly in 2019	\$0.20	\$15.63
Total \$115.61 monthly in 2019	-\$0.18	\$115.43

As the impact for each customer class does vary, multi-family and business customer bills, based on a representative amount of consumption per month, will see an overall increase. Specifically, the overall increases will be 2.6 per cent, 2.7 per cent, and 3.5 per cent for multi-family customers using around 600 m3/month, general service regular customers using around 400 m3/month, and general service large customers using around 10,500 m3/ month, respectively.

Table 10: 2020 indicative rates for Water, Wastewater, and Stormwater lines of service

Line of Service	Recommended Revised 2020 Indicative Rates
Water Treatment and Supply	-0.5%
Wastewater Collection and Treatment	+6.7%
Stormwater Management	+1.3%

Administration recommends revising 2020 rates only, to ensure the appropriate continued response to economic conditions and uncertain off-site levy revenue, while focusing efforts on keeping rates low. Recommendations for 2021 and 2022 revised indicative rates will be brought to Council in advance of Mid-Cycle Adjustments, allowing the Water Utility time to consider and respond to direction from Council on the Growth Monitoring Report, including decisions on additional new communities, and continued efforts to find efficiencies.