



# Municipality of Lakeshore Water and Wastewater Rate Study Update

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Council Presentation

November 29, 2022

# Study Purpose



- Watson undertook a water and wastewater rate study for the Municipality in 2018 to calculate water and wastewater rates over a ten-year forecast period (2019 to 2028)
- The Municipality is currently undertaking a plant expansion to the Denis St. Pierre Water Pollution Control Plant
  - The 2018 study identified capital costs of approximately **\$18 million** (2018\$), which was based on construction and associated tender prices at that time
  - There have been significant increases in tender prices for construction and as such, the revised estimate for the project is now **\$53.90 million**
- This study provides an update to the wastewater rates to reflect these increased costs
- The water rates are also being updated to reflect 2022 budget and customer information

# Current Water and Wastewater Rates (2022)



2022 - Water Billing Rates		
Base Charge per Month		
All Customers		\$20.85
Volume Charge		
\$	1.560	per m <sup>3</sup>

2022 - Wastewater Billing Rates		
Base Charge per Month		
All Customers		\$21.32
Volume Charge		
\$	1.680	per m <sup>3</sup>

# Customer Profile



Customers	Water	Wastewater
2018	14,097	9,551
2022	14,625	10,180
<b>Increase in Customers</b>	<b>528</b>	<b>629</b>
Forecasted Increase between 2018 and 2022 as per 2018 Rate Study	630	540
<b>Difference in Actual vs. Forecast</b>	<b>(102)</b>	<b>89</b>

- An additional 528 water customers and 629 wastewater customers were added to the Municipality's systems between 2019 and 2021
- Relative to the forecast identified in the 2018 Rate Study, this represents:
  - 102 less water customers; and
  - 89 more wastewater customers.

# Volumes



Volumes (cubic metres)	Water	Wastewater
2018	3,520,946	2,513,090
2022	3,593,476	2,678,595
<b>Increase in Volumes</b>	<b>72,530</b>	<b>165,505</b>
Forecasted Increase between 2018 and 2022 as per 2018 Rate Study	91,875	78,750
<b>Difference in Actual vs. Forecast</b>	<b>(19,345)</b>	<b>86,755</b>

- Total billable water volumes are 0.5% less than forecasted for 2022
- Total billable wastewater volumes are 3.4% higher than originally forecasted
- Through a review of historical billable volumes, this analysis continues to assume each new customer will generate 170 cu.m in annual volume

# Forecast Users and Billable Volumes



Assuming an average of 175 cu.m. per customer for future flows

Water Customer Forecast	2022	2023	2024	2025	2026	2027	2028
Existing	14,625	14,625	14,625	14,625	14,625	14,625	14,625
New - Growth	101	302	504	706	896	1,074	1,251
<b>Total</b>	<b>14,726</b>	<b>14,927</b>	<b>15,129</b>	<b>15,331</b>	<b>15,521</b>	<b>15,699</b>	<b>15,876</b>

Water Billable Volume Forecast (cu.m.)	2022	2023	2024	2025	2026	2027	2028
Existing	3,593,476	3,593,476	3,593,476	3,593,476	3,593,476	3,593,476	3,593,476
New	17,675	52,850	88,200	123,550	156,800	187,950	218,925
<b>Total Billable Volume</b>	<b>3,611,151</b>	<b>3,646,326</b>	<b>3,681,676</b>	<b>3,717,026</b>	<b>3,750,276</b>	<b>3,781,426</b>	<b>3,812,401</b>

Wastewater Customer Forecast	2022	2023	2024	2025	2026	2027	2028
Existing	10,180	10,180	10,180	10,180	10,180	10,180	10,180
New - Growth	101	302	504	706	896	1,074	1,251
<b>Total</b>	<b>10,281</b>	<b>10,482</b>	<b>10,684</b>	<b>10,886</b>	<b>11,076</b>	<b>11,254</b>	<b>11,431</b>

Wastewater Flows Forecast (cu.m.)	2022	2023	2024	2025	2026	2027	2028
Existing	2,678,595	2,678,595	2,678,595	2,678,595	2,678,595	2,678,595	2,678,595
New	17,675	52,850	88,200	123,550	156,800	187,950	218,925
<b>Total</b>	<b>2,696,270</b>	<b>2,731,445</b>	<b>2,766,795</b>	<b>2,802,145</b>	<b>2,835,395</b>	<b>2,866,545</b>	<b>2,897,520</b>

# Capital Infrastructure Needs



Capital Expenditure Forecast (2022 to 2028)	Water (2022\$)	Wastewater (2022\$)
2018 Study	45,900,860	47,304,516
2022 Update	44,140,000	79,990,000
<b>Increase/(Decrease)</b>	<b>(1,760,860)</b>	<b>32,685,484</b>

- Capital forecasts for the water and wastewater systems were updated as part of this study
- Between 2022 and 2028, capital costs have decreased by \$1.8 million (2022\$) for water and increased by \$32.7 (2022\$) million for wastewater



# Capital Financing Options

- ✓ Reserves
- ✓ Development Charges
- ✓ Debt
- ✓ Operating Budget Transfers (Funding Reserves)
- ☐ Grants
- ☐ Municipal Act (Part 12)





# Reserve Balances

## Comparison Between Projected and Actual Year-end 2021 Balances

Reserve/Reserve Fund	2021 Projected (2018 Rate Study)	2021 Actual
Water Working Fund Reserve	\$1,061,541	\$1,061,541
Water General Reserve Fund	\$12,884,165	\$10,592,714
Water D.C. Reserve Fund	\$98,956	\$1,680,249
Water Contingency Reserve	\$319,172	\$319,172
Water Plant Filter Reserve Fund	\$1,091,439	\$1,092,162
<b>Sub-Total Water</b>	<b>\$15,455,273</b>	<b>\$14,745,838</b>
Wastewater General Reserve Fund	\$211,015	(\$1,761,601)
Wastewater D.C. Reserve Fund	\$0	\$910,167
Wastewater Capital Reserve	\$521,690	\$1,279,262
<b>Sub-Total Wastewater</b>	<b>\$732,705</b>	<b>\$427,828</b>
<b>Combined Total</b>	<b>\$16,187,978</b>	<b>\$15,173,666</b>

# Proposed Capital Financing

Inflated Dollars



Description	Water 2022-2028	Wastewater 2022-2028
<b>Capital Financing</b>		
Provincial/Federal Grants	-	-
Development Charges Reserve Fund	9,437,515	402,573
Non-Growth Related Debenture Requirements	15,000,000	25,545,928
Growth Related Debenture Requirements	-	53,132,499
Water/Wastewater Reserves	22,273,345	2,952,000
<b>Total Capital Financing</b>	<b>46,710,860</b>	<b>82,033,000</b>

## Note: Debt issuances identified for analysis:

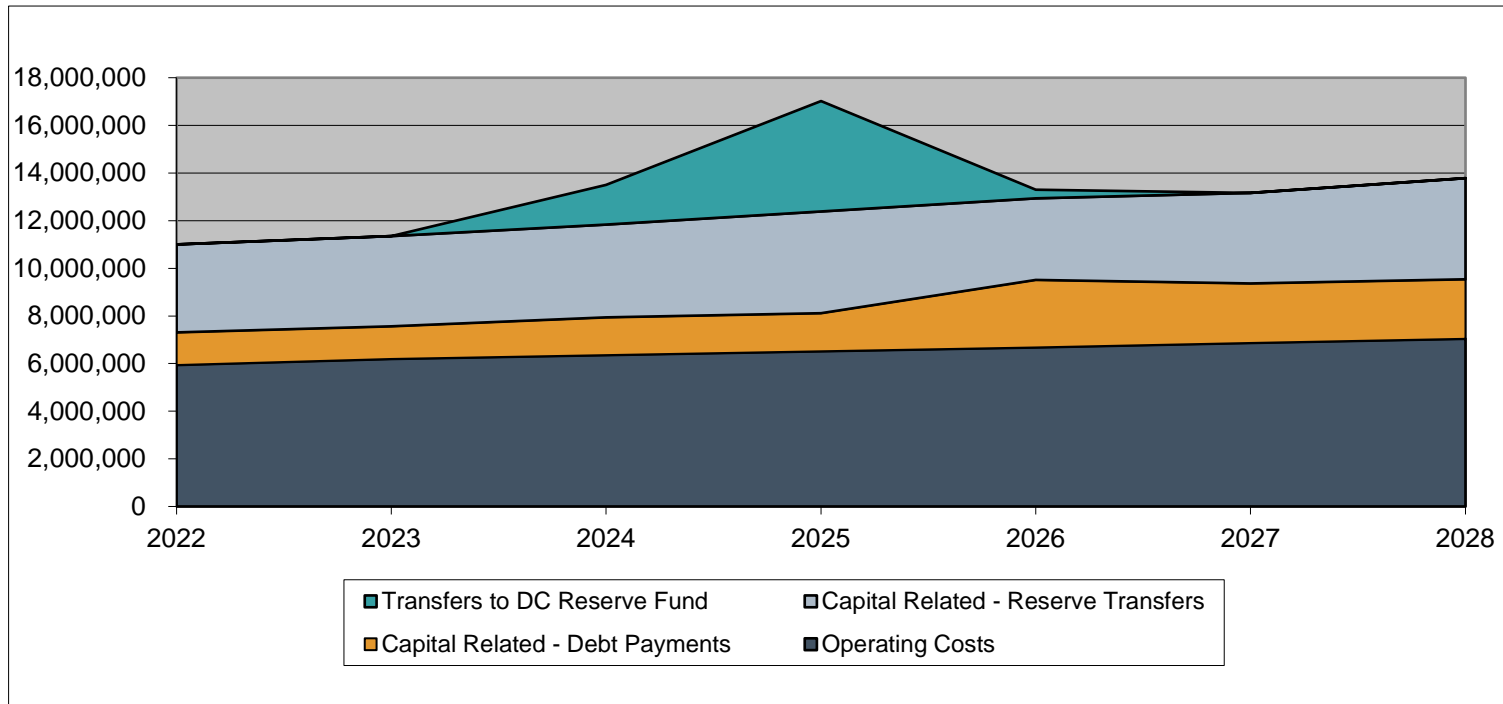
- Growth-related: \$53.13 million
- Non-growth-related: \$40.55 million

# Operating Budgets



- Operating expenditures (for water and wastewater) are increasing over the forecast to recognize:
  - Inflationary Impacts (note: same assumptions as 2018 study):
    - 2% for most operating expenditures
    - 8% for utilities and fuel
    - 3% for water purchases from Tecumseh and Union Water
  - Increase in OCWA contract costs due to new treatment plant
  - Additional wages and benefits expenses for additional employees

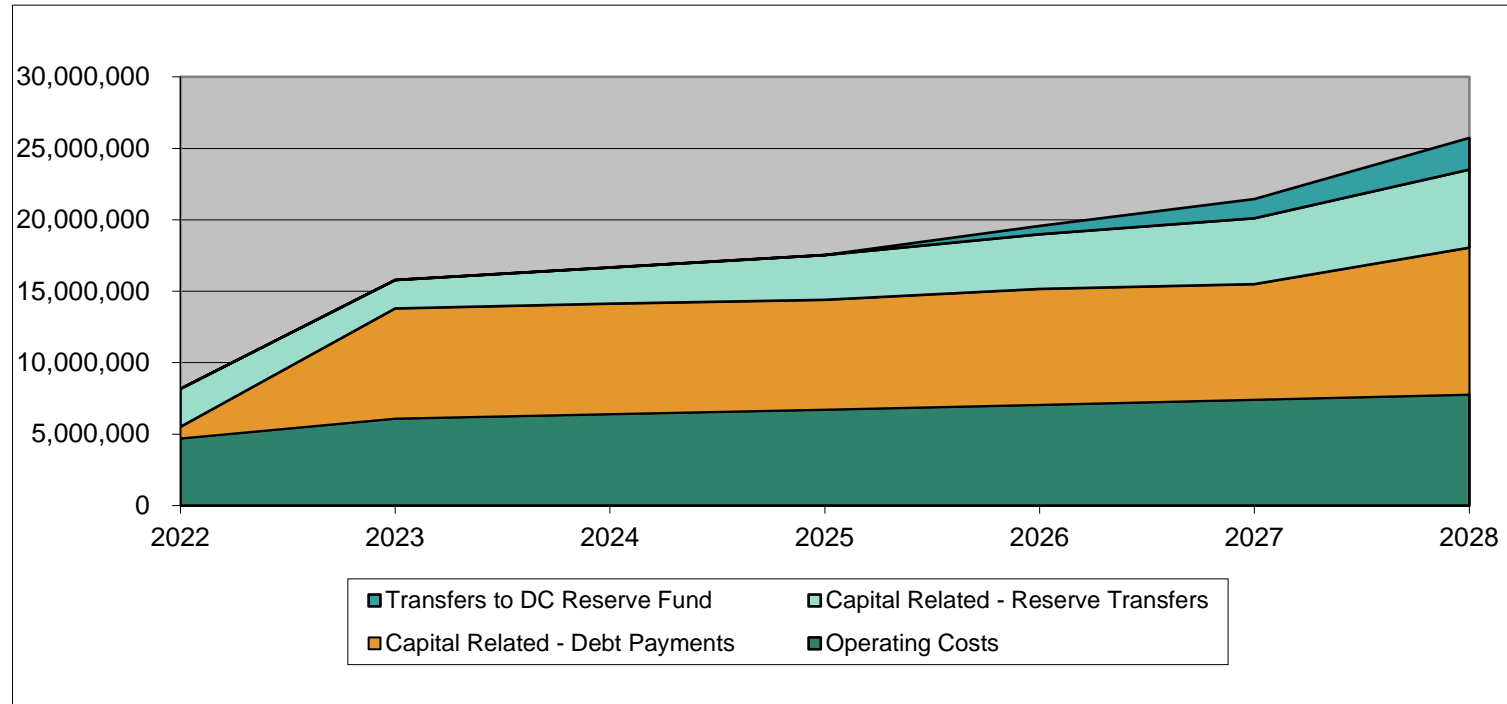
# Water Operating Budget



Description	2022	2023	2024	2025	2026	2027	2028
Operating Costs	5,933,667	6,193,900	6,351,400	6,514,700	6,684,100	6,859,600	7,041,900
Capital Related - Reserve Transfers	3,691,752	3,786,791	3,896,529	4,275,426	3,424,027	3,807,923	4,238,448
Capital Related - Debt Payments	1,372,987	1,372,987	1,595,845	1,595,845	2,829,128	2,503,023	2,503,023
Transfers to DC Reserve Fund	0	0	1,660,000	4,640,000	370,000	0	0
<b>Total</b>	<b>10,998,406</b>	<b>11,353,677</b>	<b>13,503,774</b>	<b>17,025,971</b>	<b>13,307,255</b>	<b>13,170,546</b>	<b>13,783,371</b>

Note: Transfers to the D.C. Reserve Fund from the operating budget are utilized to cashflow negative balances. These funds are to be repaid to the general reserve (with interest) over time.

# Wastewater Operating Budget



Description	2022	2023	2024	2025	2026	2027	2028
Operating Costs	4,700,267	6,098,900	6,403,900	6,722,200	7,054,500	7,401,200	7,763,400
Capital Related - Reserve Transfers	2,668,973	1,995,113	2,522,567	3,138,806	3,839,561	4,599,327	5,458,721
Capital Related - Debt Payments	802,990	7,695,830	7,732,496	7,678,381	8,103,611	8,103,611	10,281,546
Transfers to DC Reserve Fund	0	0	0	0	580,000	1,350,000	2,220,000
<b>Total</b>	<b>8,172,230</b>	<b>15,789,842</b>	<b>16,658,963</b>	<b>17,539,386</b>	<b>19,577,672</b>	<b>21,454,138</b>	<b>25,723,667</b>

Note: Transfers to the D.C. Reserve Fund from the operating budget are utilized to cashflow negative balances. These funds are to be repaid to the general reserve (with interest) over time.

# Results of Rate Review



## **Water**

- Increase to operating expenditures from inflationary impacts relative to those identified in 2018.
- D.C. Reserve Fund becomes negative due to large growth-related capital expenditures. Water general reserve is utilized to cash flow negative balances.
- As a result, forecasted rates provide for an annual increase of 4% for both the base and volume charge (relative to 1% annual increases identified in the 2018 study).

## **Wastewater**

- Significant increases in capital and operating expenditures.
- Wastewater general reserve is utilized to fund negative balances in the D.C. Reserve Fund beginning in 2026.
- Given the extensive needs of the system, the annual base and volume charge are forecasted to increase by 9% per year (relative to the recommended rate forecast in 2018 which provided 5% annual increases on the volume rate and 8% annual increases on the base charge).

## **Water and Wastewater Combined**

- This equates to increases of 6.5% to 6.9% per year in the combined water and wastewater bill.

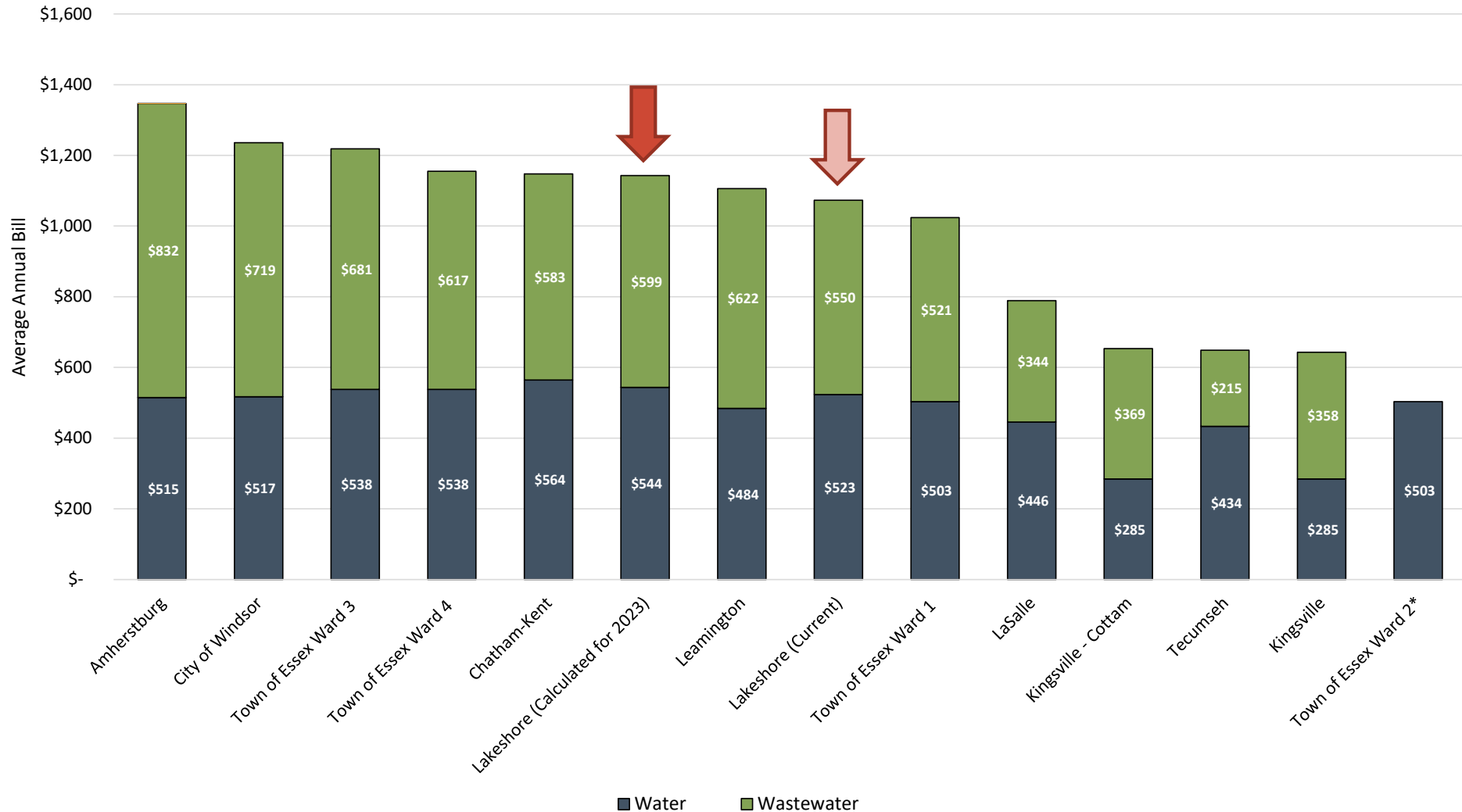
# Average Residential Bill (Based on 175 cu.m. Annual Volumes) – Combined Summary



Description	2022	2023	2024	2025	2026	2027	2028
<b>Water</b>							
Base Monthly Charge	\$20.85	\$21.68	\$22.55	\$23.45	\$24.39	\$25.37	\$26.38
Volume Rate	\$1.56	\$1.62	\$1.68	\$1.75	\$1.82	\$1.89	\$1.97
Annual Base Charge	\$250.20	\$260.21	\$270.62	\$281.44	\$292.70	\$304.41	\$316.58
Annual Volume Charge	\$273.00	\$283.50	\$294.00	\$306.25	\$318.50	\$330.75	\$344.75
<b>Total Water Bill</b>	<b>\$523.20</b>	<b>\$543.71</b>	<b>\$564.62</b>	<b>\$587.69</b>	<b>\$611.20</b>	<b>\$635.16</b>	<b>\$661.33</b>
<b>Wastewater</b>							
Base Monthly Charge	\$21.32	\$23.24	\$25.33	\$27.61	\$30.09	\$32.80	\$35.76
Volume Rate	\$1.68	\$1.83	\$1.99	\$2.17	\$2.37	\$2.58	\$2.81
Annual Base Charge	\$255.84	\$278.87	\$303.96	\$331.32	\$361.14	\$393.64	\$429.07
Annual Volume Charge	\$294.00	\$320.25	\$348.25	\$379.75	\$414.75	\$451.50	\$491.75
<b>Total Wastewater Bill</b>	<b>\$549.84</b>	<b>\$599.12</b>	<b>\$652.21</b>	<b>\$711.07</b>	<b>\$775.89</b>	<b>\$845.14</b>	<b>\$920.82</b>
<b>Total Water and Wastewater Bill</b>	<b>\$1,073.04</b>	<b>\$1,142.82</b>	<b>\$1,216.83</b>	<b>\$1,298.76</b>	<b>\$1,387.09</b>	<b>\$1,480.30</b>	<b>\$1,582.15</b>
Annual % Increase (rounded)		6.5%	6.5%	6.7%	6.8%	6.7%	6.9%

Note: Total debt issuances of \$53.13 million (growth) and \$40.55 million (non-growth) have been assumed in this analysis to mitigate larger increases in water and wastewater rates

# Comparison of Residential Annual Water and Wastewater Combined Bills (based on 175 cu.m)







# Items for Council Consideration

1. Consider the capital programs;
2. Consider the operating programs;
3. Consider the proposed water rates; and
4. Consider the proposed wastewater rates.

# Questions



Questions