



# City of Kawartha Lakes Water and Wastewater Rate Study and Financial Plan

---

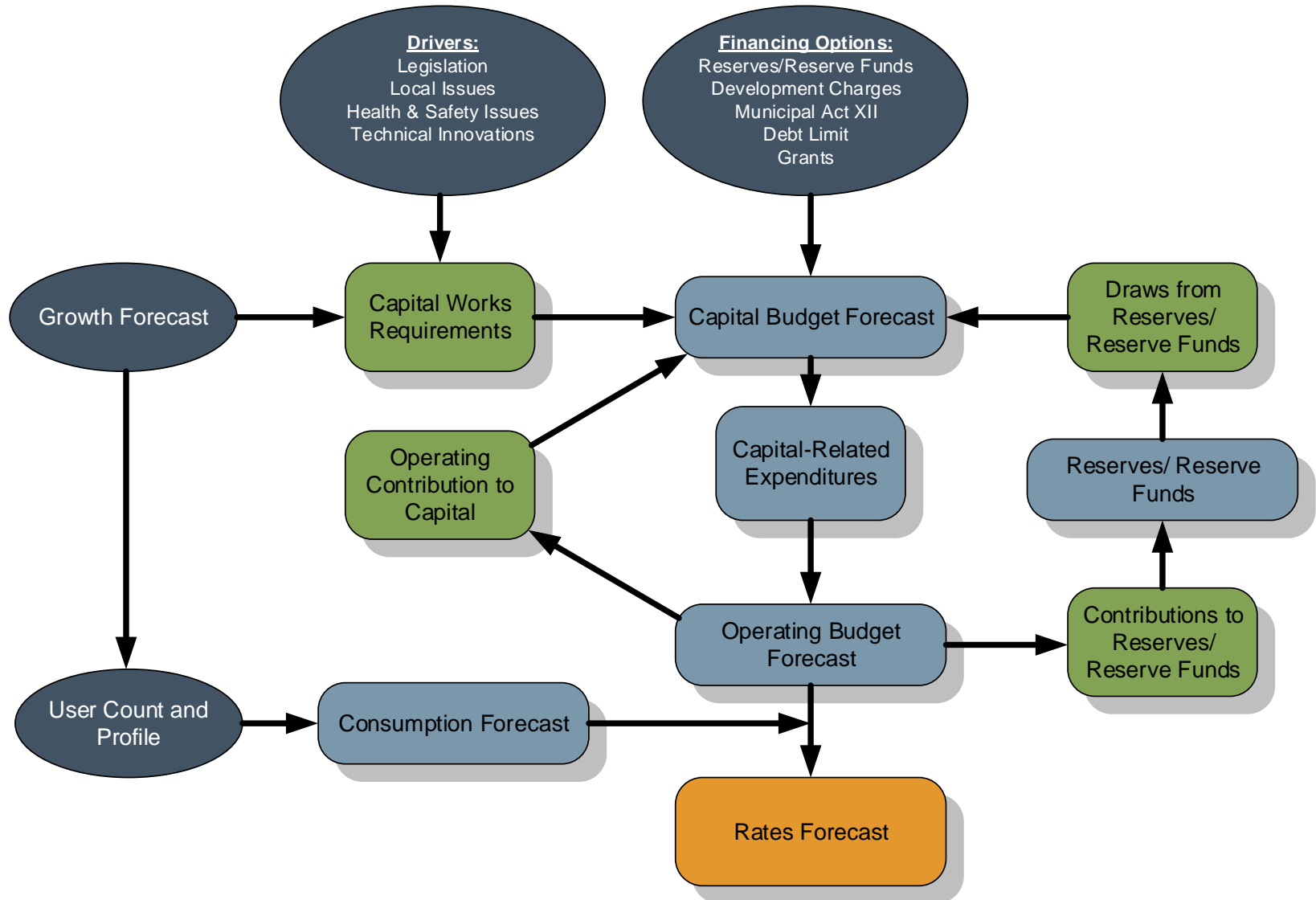
Council Meeting  
March 9, 2021

# Introduction



- The City of Kawartha Lakes retained Watson & Associates Economists Ltd. (Watson) to:
  - Update the City's 2016 Water and Wastewater Rate Study to achieve sustainable lifecycle funding full cost recovery of the costs of service; and
  - Prepare a Water Financial Plan for submission to the province as required under Ontario Regulation 453/07 to meet the City's water licence renewal requirements

# Water and Wastewater Rate Calculation Methodology



# City Current Water and Wastewater Rates



- City's current rate structure comprises a monthly base charge per customer based on water meter size and consumptive rate per cubic metre based on the amount of water consumed

Description	Water	Wastewater	Total
<b>Metered Customers</b>			
5/8" - 3/4"	\$ 31.58	\$ 31.02	\$ 62.60
1"	\$ 41.09	\$ 41.14	\$ 82.23
1 ½"	\$ 52.83	\$ 54.46	\$ 107.29
2"	\$ 85.10	\$ 87.72	\$ 172.82
3"	\$ 322.81	\$ 332.73	\$ 655.54
4"	\$ 410.84	\$ 423.48	\$ 834.32
6"	\$ 616.23	\$ 635.73	\$ 1,251.96
8"	\$ 850.98	\$ 877.13	\$ 1,728.11
<b>Volume Charge</b>			
per m3	\$ 2.80	\$ 1.52	\$ 4.32
<b>Unmetered/Flat Rate Customers</b>			
per month	\$ 73.16	\$ 53.57	\$ 126.73
<b>Mandatory Connects</b>			
per month	\$ 16.88	\$ 17.31	\$ 34.20

# Water and Wastewater Customer Growth

2021-2030



- Customer growth forecast based on historical growth from 2016 to 2020
- Annual growth (water and wastewater services)
  - Low and medium density residential ~ 193 new customers per year on average
  - 5/8"– 3/4" meter assumed for all new connections

Water Customer Forecast	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Existing	13,419	13,419	13,419	13,419	13,419	13,419	13,419	13,419	13,419	13,419
New - Growth	-	97	290	483	676	869	1,062	1,255	1,448	1,641
<b>Total</b>	<b>13,419</b>	<b>13,516</b>	<b>13,709</b>	<b>13,902</b>	<b>14,095</b>	<b>14,288</b>	<b>14,481</b>	<b>14,674</b>	<b>14,867</b>	<b>15,060</b>

Wastewater Customer Forecast	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Existing	11,666	11,666	11,666	11,666	11,666	11,666	11,666	11,666	11,666	11,666
New - Growth	-	97	290	483	676	869	1,062	1,255	1,448	1,641
<b>Total</b>	<b>11,666</b>	<b>11,763</b>	<b>11,956</b>	<b>12,149</b>	<b>12,342</b>	<b>12,535</b>	<b>12,728</b>	<b>12,921</b>	<b>13,114</b>	<b>13,307</b>

# Water Consumption Forecast

2021-2030



- Water consumption forecast based on customer growth and annual average residential water consumption (i.e. 173 m<sup>3</sup>/year)
- Annual average residential water consumption compares with 2016 Rate Study assumptions of 180 m<sup>3</sup>/year

Water Volume Forecast (m <sup>3</sup> )	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Existing	2,656,676	2,656,676	2,656,676	2,656,676	2,656,676	2,656,676	2,656,676	2,656,676	2,656,676	2,656,676
New	-	16,823	50,296	83,770	117,243	150,716	184,189	217,662	251,135	284,608
<b>Total</b>	<b>2,656,676</b>	<b>2,673,500</b>	<b>2,706,973</b>	<b>2,740,446</b>	<b>2,773,919</b>	<b>2,807,392</b>	<b>2,840,865</b>	<b>2,874,338</b>	<b>2,907,812</b>	<b>2,941,285</b>

Wastewater Flows Forecast (m <sup>3</sup> )	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Existing	2,499,607	2,499,607	2,499,607	2,499,607	2,499,607	2,499,607	2,499,607	2,499,607	2,499,607	2,499,607
New	-	16,823	50,296	83,770	117,243	150,716	184,189	217,662	251,135	284,608
<b>Total</b>	<b>2,499,607</b>	<b>2,516,430</b>	<b>2,549,903</b>	<b>2,583,377</b>	<b>2,616,850</b>	<b>2,650,323</b>	<b>2,683,796</b>	<b>2,717,269</b>	<b>2,750,742</b>	<b>2,784,215</b>

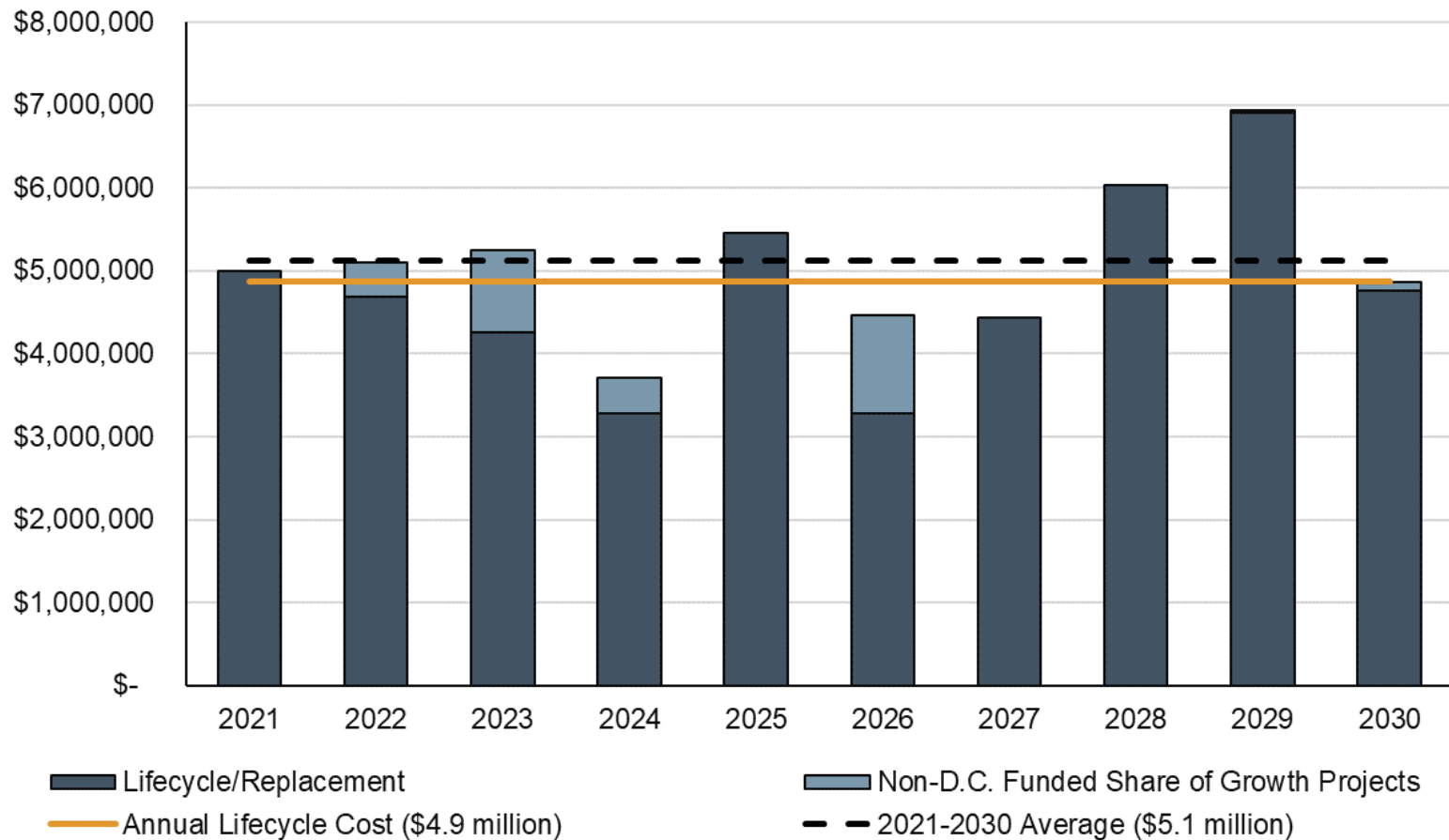
# Capital Needs Forecast

## 2021-2030



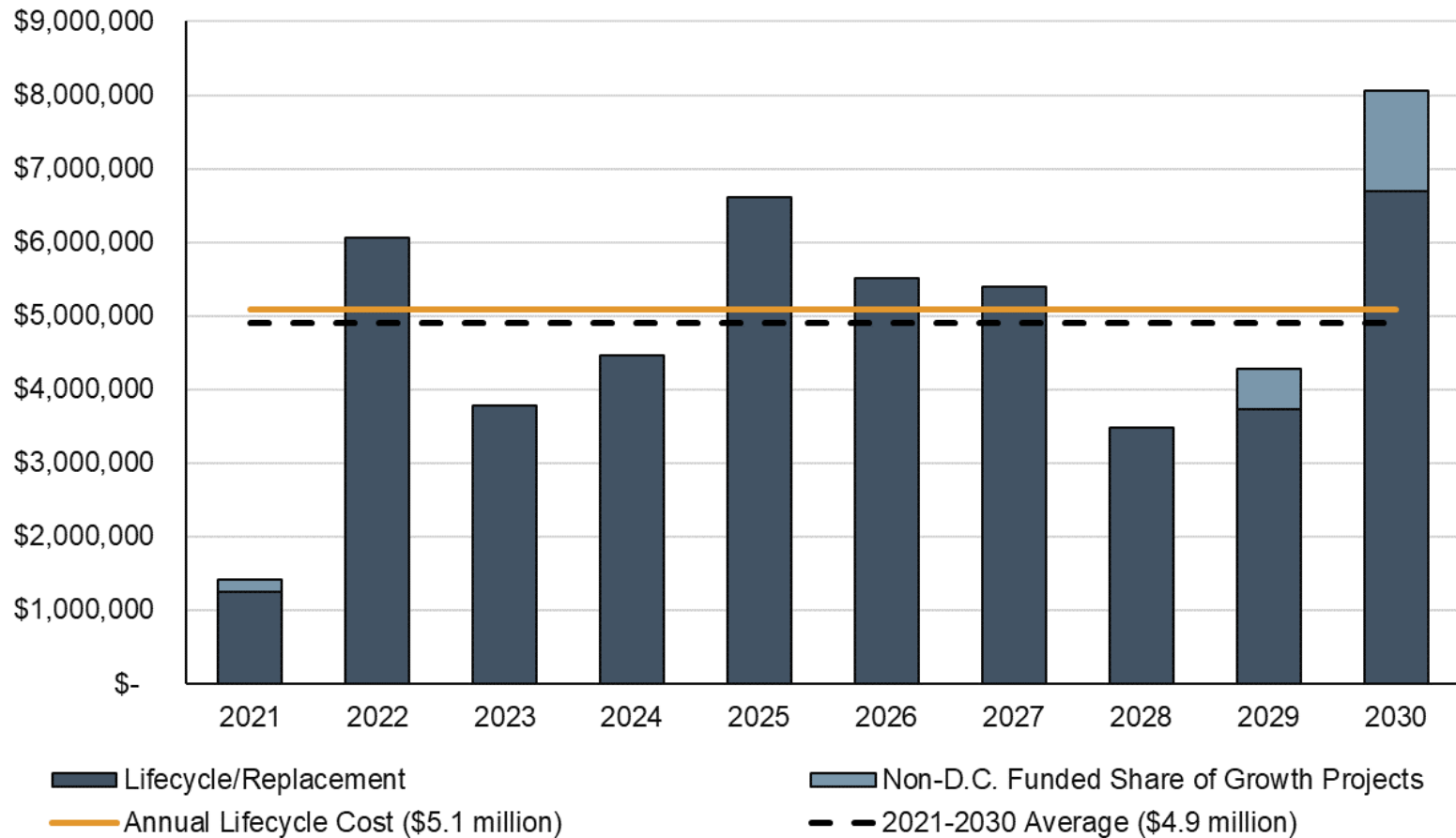
- Capital needs forecast includes:
  - Growth-related capital costs funded through the City's Development Charges By-law
  - Non growth-related capital costs funded through Water and Wastewater Rates, and comprising the benefit to existing cost share of growth-related capital costs and lifecycle capital needs arising from the City's Capital Budget and Asset Management Plan
- Capital needs inflated at historical Statistics Canada capital cost index

# Water Non-Growth Capital Needs





# Wastewater Non-Growth Capital Needs



# Capital Funding Plan

## 2021-2030



- Capital funding plan established to:
  - Utilizing external debt to dampen rate impacts of capital forecast, while remaining within the City's Debt Capacity Limit (with indexing)
  - Increasing annual capital funding to achieve long-term lifecycle funding consistent with the City's Asset Management Plan
  - Establish a Capital Infrastructure Reserve floor of \$500,000 each for water and wastewater services
- Annual rate-based capital funding over the forecast period, with inflation:
  - Water - \$5.6 million (2021 budget) to \$8.5 million (2030)
  - Wastewater - \$4.3 million (2021 budget) to \$6.4 million (2030)

# Operating Budget Forecast

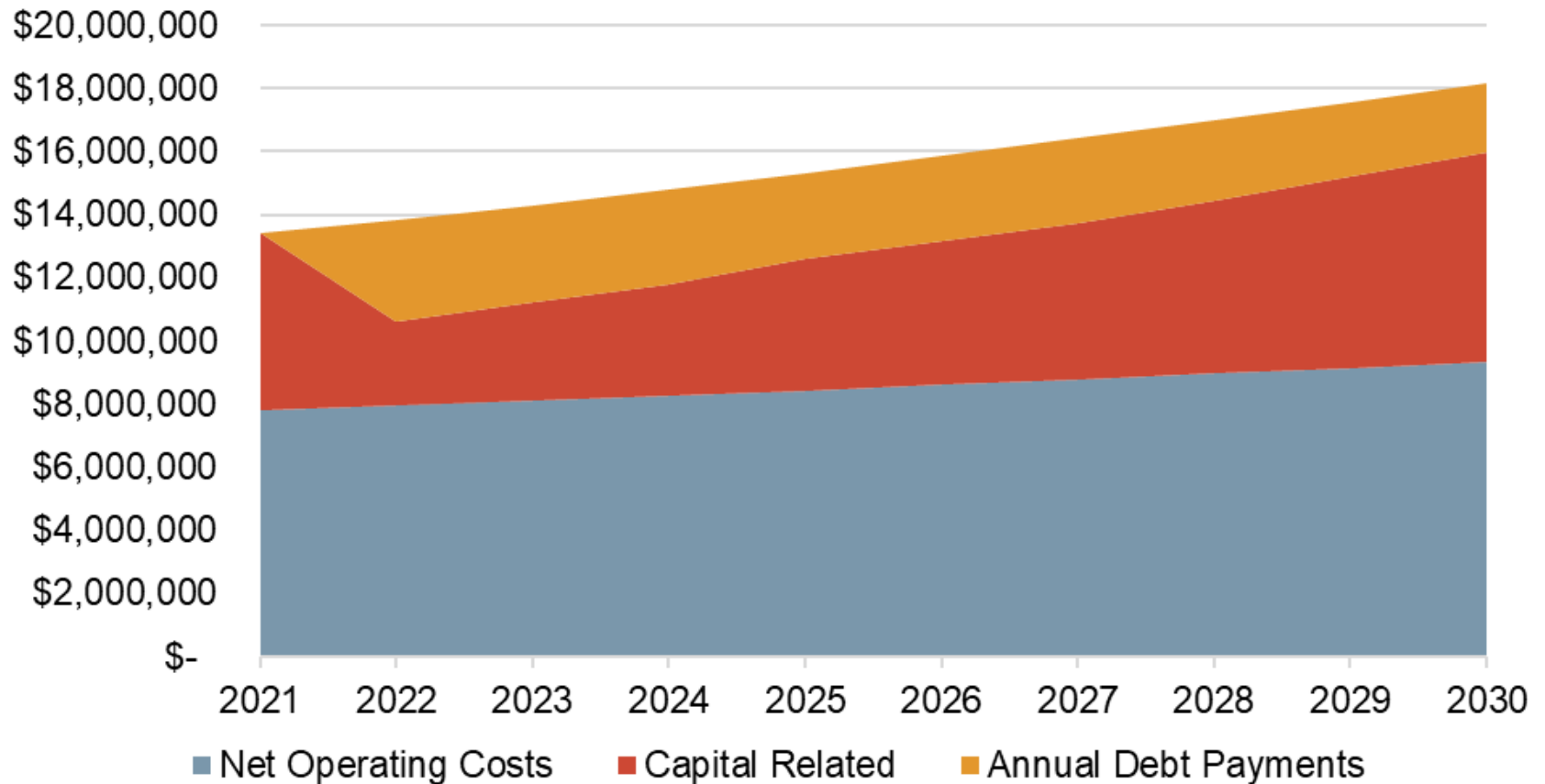
## 2021-2030



- Water and Wastewater Operating Budget Forecast based on two components:
  - Operating expenditures (i.e. City's 2021 Operating Budget and forecast, plus 2% inflation)
    - Water - \$7.8 million (2021) to \$9.3 million (2030)
    - Wastewater - \$4.8 million (2021) to \$5.7 million (2030)
- Capital-related expenditures (based on capital funding plan)

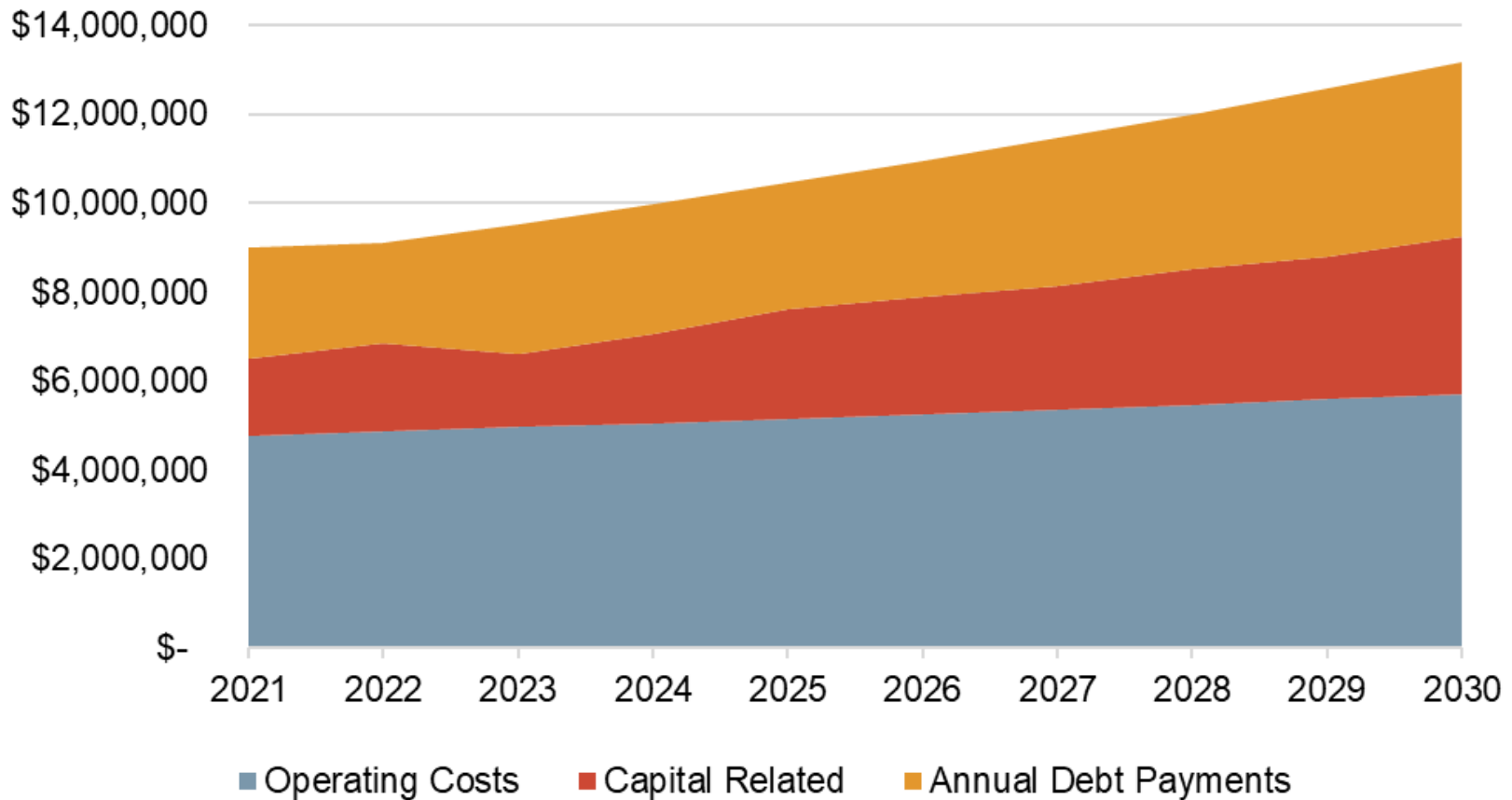
# Annual Water Net Operating Expenditures

## 2021-2030 (Inflated \$)



# Annual Wastewater Net Operating Expenditures

## 2021-2030 (Inflated \$)



# Water and Wastewater Rate Scenarios



- Rate Scenarios were developed with City staff to incorporate considerations for long-term lifecycle funding, ratepayer affordability, use of debt, and annual capital spending
- Under each scenario a water and wastewater rate-based reserve fund floor of \$500,000 each has been applied
- Rate scenarios maintained the City's current rate structure, comprising:
  - Monthly Base Charge – targeted to recover the fixed costs associated with capital-related expenditures informed by the City's Asset Management Plan
  - Consumptive Rate per Cubic Meter – targeted to recover the remaining costs of service, which may be more variable in response to service demands

# Water and Wastewater Rate Scenarios



- The City's current uniform rate structure was also maintained, as it is preferred to an area-specific rate structure, as the latter would result in financially unsustainable systems and limited financial flexibility

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
<b>Water and Wastewater</b>										
Citywide/Uniform Rate Structure	\$ 1,501	\$ 1,545	\$ 1,590	\$ 1,637	\$ 1,686	\$ 1,735	\$ 1,787	\$ 1,840	\$ 1,895	\$ 1,951
Lindsay	\$ 1,134	\$ 1,188	\$ 1,217	\$ 1,214	\$ 1,267	\$ 1,314	\$ 1,365	\$ 1,419	\$ 1,476	\$ 1,599
Bobcaygeon	\$ 1,438	\$ 1,504	\$ 1,538	\$ 1,538	\$ 1,599	\$ 1,649	\$ 1,703	\$ 1,762	\$ 1,825	\$ 1,953
Omeme	\$ 3,089	\$ 3,117	\$ 3,139	\$ 3,138	\$ 3,160	\$ 3,199	\$ 3,250	\$ 3,291	\$ 3,338	\$ 3,448
Fenelon Falls	\$ 2,138	\$ 2,216	\$ 2,228	\$ 2,228	\$ 2,284	\$ 2,383	\$ 2,459	\$ 2,534	\$ 2,602	\$ 2,747
Mariposa	\$ 3,614	\$ 3,671	\$ 3,694	\$ 3,699	\$ 3,737	\$ 3,806	\$ 3,872	\$ 3,932	\$ 3,993	\$ 4,122
<b>Water Only</b>										
Citywide/Uniform Rate Structure	\$ 865	\$ 885	\$ 905	\$ 926	\$ 947	\$ 969	\$ 992	\$ 1,014	\$ 1,038	\$ 1,062
Woodville	\$ 1,037	\$ 1,050	\$ 1,078	\$ 1,103	\$ 1,139	\$ 1,164	\$ 1,191	\$ 1,222	\$ 1,253	\$ 1,286
Manvers	\$ 1,752	\$ 1,771	\$ 1,802	\$ 1,832	\$ 1,870	\$ 1,900	\$ 1,931	\$ 1,966	\$ 2,002	\$ 2,038
Emily	\$ 2,704	\$ 2,648	\$ 2,641	\$ 2,653	\$ 2,616	\$ 2,632	\$ 2,648	\$ 2,646	\$ 2,644	\$ 2,640
Eldon	\$ 2,583	\$ 2,535	\$ 2,533	\$ 2,549	\$ 2,521	\$ 2,539	\$ 2,559	\$ 2,562	\$ 2,564	\$ 2,566
Fenelon Township	\$ 3,278	\$ 3,274	\$ 3,293	\$ 3,321	\$ 3,329	\$ 3,360	\$ 3,391	\$ 3,416	\$ 3,442	\$ 3,467
Norland	\$ 7,134	\$ 6,900	\$ 6,808	\$ 6,798	\$ 6,577	\$ 6,575	\$ 6,575	\$ 6,494	\$ 6,411	\$ 6,322
Kinmount	\$ 13,887	\$ 13,508	\$ 13,345	\$ 13,326	\$ 12,938	\$ 12,933	\$ 12,933	\$ 12,792	\$ 12,647	\$ 12,491
<b>Wastewater Only</b>										
Citywide/Uniform Rate Structure	\$ 636	\$ 660	\$ 685	\$ 711	\$ 738	\$ 766	\$ 795	\$ 825	\$ 857	\$ 889
Coboconk	\$ 1,404	\$ 1,471	\$ 1,491	\$ 1,473	\$ 1,508	\$ 1,531	\$ 1,563	\$ 1,597	\$ 1,636	\$ 1,739

# Water and Wastewater Rate Scenarios



- Rate Scenarios developed and discussed with City staff include:
  - Scenario 1 – Increase in funding to achieve City’s Lifecycle Funding Target by 2030 and no restrictions on the issuance of new debt
  - Scenario 2 – Fund capital program from rates with no additional debt (except for wastewater D.C. and Lindsay WPCP)
  - Scenario 3 – Maintain 2015-2020 (3.0% annually combined)
  - Scenario 4A - Rate increases consistent with historical annual residential water and wastewater bill increases, City’s Debt Limit Policy fixed at \$49.5 million, resulting in deferred annual capital spending
  - Scenario 4B – Rate increases consistent with historical annual residential water and wastewater bill increases, City’s Debt Limit Policy indexed (\$69.4 million), resulting in additional debt issuance



# Water and Wastewater Rate Scenarios



- Rate Scenarios (cont'd):
  - Scenario 5A – City's Debt Limit Policy fixed at \$49.5 million, resulting in bill increases greater than historic averages (i.e. no deferred capital spending)
  - Scenario 5B – City's Debt Limit Policy indexed (\$69.4 million), resulting in bill increases lower than historic averages due to increased debt issuance

# Rate Forecast for Recommended Scenario (i.e. Scenario 4B)



Water Rate Forecast

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
<b>Monthly Base Charge by Meter Size</b>										
5/8" - 3/4"	\$ 31.58	\$ 32.05	\$ 32.53	\$ 33.02	\$ 33.52	\$ 34.02	\$ 34.53	\$ 35.05	\$ 35.57	\$ 36.11
1"	\$ 41.09	\$ 41.71	\$ 42.33	\$ 42.97	\$ 43.61	\$ 44.27	\$ 44.93	\$ 45.60	\$ 46.29	\$ 46.98
1 1/2"	\$ 52.83	\$ 53.62	\$ 54.43	\$ 55.24	\$ 56.07	\$ 56.91	\$ 57.77	\$ 58.63	\$ 59.51	\$ 60.41
2"	\$ 85.10	\$ 86.38	\$ 87.67	\$ 88.99	\$ 90.32	\$ 91.68	\$ 93.05	\$ 94.45	\$ 95.87	\$ 97.30
3"	\$ 322.81	\$ 327.65	\$ 332.57	\$ 337.56	\$ 342.62	\$ 347.76	\$ 352.98	\$ 358.27	\$ 363.65	\$ 369.10
4"	\$ 410.84	\$ 417.00	\$ 423.26	\$ 429.61	\$ 436.05	\$ 442.59	\$ 449.23	\$ 455.97	\$ 462.81	\$ 469.76
6"	\$ 616.23	\$ 625.47	\$ 634.86	\$ 644.38	\$ 654.05	\$ 663.86	\$ 673.82	\$ 683.93	\$ 694.19	\$ 704.60
8"	\$ 850.98	\$ 863.75	\$ 876.70	\$ 889.85	\$ 903.20	\$ 916.75	\$ 930.50	\$ 944.46	\$ 958.63	\$ 973.01
Annual Percentage Change		1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%
<b>Consumptive Rate (per m<sup>3</sup>)</b>										
Constant Rate per m <sup>3</sup>	\$ 2.80	\$ 2.88	\$ 2.96	\$ 3.05	\$ 3.14	\$ 3.23	\$ 3.32	\$ 3.42	\$ 3.52	\$ 3.62
Annual Percentage Change		2.9%	2.9%	2.9%	2.9%	2.9%	2.9%	2.9%	2.9%	2.9%

Wastewater Rate Forecast

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
<b>Monthly Base Charge by Meter Size</b>										
5/8" - 3/4"	\$ 31.02	\$ 32.10	\$ 33.22	\$ 34.38	\$ 35.58	\$ 36.83	\$ 38.11	\$ 39.44	\$ 40.82	\$ 42.24
1"	\$ 41.14	\$ 42.58	\$ 44.06	\$ 45.60	\$ 47.19	\$ 48.84	\$ 50.54	\$ 52.31	\$ 54.13	\$ 56.02
1 1/2"	\$ 54.46	\$ 56.36	\$ 58.33	\$ 60.36	\$ 62.47	\$ 64.65	\$ 66.91	\$ 69.24	\$ 71.66	\$ 74.16
2"	\$ 87.72	\$ 90.78	\$ 93.95	\$ 97.23	\$ 100.62	\$ 104.14	\$ 107.77	\$ 111.53	\$ 115.43	\$ 119.46
3"	\$ 332.73	\$ 344.34	\$ 356.36	\$ 368.80	\$ 381.68	\$ 395.00	\$ 408.79	\$ 423.06	\$ 437.83	\$ 453.11
4"	\$ 423.48	\$ 438.26	\$ 453.56	\$ 469.39	\$ 485.78	\$ 502.73	\$ 520.28	\$ 538.44	\$ 557.24	\$ 576.69
6"	\$ 635.73	\$ 657.92	\$ 680.89	\$ 704.65	\$ 729.25	\$ 754.71	\$ 781.05	\$ 808.32	\$ 836.53	\$ 865.73
8"	\$ 877.13	\$ 907.75	\$ 939.43	\$ 972.23	\$ 1,006.16	\$ 1,041.29	\$ 1,077.63	\$ 1,115.25	\$ 1,154.18	\$ 1,194.47
Annual Percentage Change		3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%
<b>Consumptive Rate (per m<sup>3</sup>)</b>										
Constant Rate per m <sup>3</sup>	\$ 1.52	\$ 1.58	\$ 1.63	\$ 1.70	\$ 1.76	\$ 1.82	\$ 1.89	\$ 1.96	\$ 2.03	\$ 2.11
Annual Percentage Change		3.7%	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%

# Forecast Annual Bill for Average Residential Customer (173 m<sup>3</sup> consumption and ¾" or 5/8" meter)



**Water Rate Summary**

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Monthly Base Rate	\$31.58	\$32.05	\$32.53	\$33.02	\$33.52	\$34.02	\$34.53	\$35.05	\$35.57	\$36.11
Constant Rate	\$2.80	\$2.88	\$2.96	\$3.05	\$3.14	\$3.23	\$3.32	\$3.42	\$3.52	\$3.62
<b>Annual Base Rate Bill</b>	<b>\$379</b>	<b>\$385</b>	<b>\$390</b>	<b>\$396</b>	<b>\$402</b>	<b>\$408</b>	<b>\$414</b>	<b>\$421</b>	<b>\$427</b>	<b>\$433</b>
Volume	173	173	173	173	173	173	173	173	173	173
<b>Annual Volume Bill</b>	<b>\$486</b>	<b>\$500</b>	<b>\$514</b>	<b>\$529</b>	<b>\$545</b>	<b>\$560</b>	<b>\$576</b>	<b>\$593</b>	<b>\$610</b>	<b>\$627</b>
<b>Total Annual Bill</b>	<b>\$865</b>	<b>\$884</b>	<b>\$905</b>	<b>\$925</b>	<b>\$947</b>	<b>\$969</b>	<b>\$991</b>	<b>\$1,014</b>	<b>\$1,037</b>	<b>\$1,061</b>
%Increase - Base Rate	1.3%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%
%Increase - Volume Rate	3.0%	2.9%	2.9%	2.9%	2.9%	2.9%	2.9%	2.9%	2.9%	2.9%
%Increase - Total Annual Bill	2.3%	2.3%	2.3%	2.3%	2.3%	2.3%	2.3%	2.3%	2.3%	2.3%
<b>Increase \$/year</b>	<b>\$19.28</b>	<b>\$19.72</b>	<b>\$20.35</b>	<b>\$20.81</b>	<b>\$21.29</b>	<b>\$21.78</b>	<b>\$22.28</b>	<b>\$22.80</b>	<b>\$23.32</b>	<b>\$23.86</b>

**Wastewater Rate Summary**

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Monthly Base Rate	\$31.02	\$32.10	\$33.22	\$34.38	\$35.58	\$36.83	\$38.11	\$39.44	\$40.82	\$42.24
Constant Rate	\$1.52	\$1.58	\$1.63	\$1.70	\$1.76	\$1.82	\$1.89	\$1.96	\$2.03	\$2.11
<b>Annual Base Rate Bill</b>	<b>\$372</b>	<b>\$385</b>	<b>\$399</b>	<b>\$413</b>	<b>\$427</b>	<b>\$442</b>	<b>\$457</b>	<b>\$473</b>	<b>\$490</b>	<b>\$507</b>
Volume	173	173	173	173	173	173	173	173	173	173
<b>Annual Volume Bill</b>	<b>\$264</b>	<b>\$273</b>	<b>\$283</b>	<b>\$294</b>	<b>\$305</b>	<b>\$316</b>	<b>\$328</b>	<b>\$340</b>	<b>\$353</b>	<b>\$366</b>
<b>Total Annual Bill</b>	<b>\$636</b>	<b>\$659</b>	<b>\$682</b>	<b>\$707</b>	<b>\$732</b>	<b>\$758</b>	<b>\$785</b>	<b>\$813</b>	<b>\$842</b>	<b>\$873</b>
%Increase - Base Rate	3.9%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%
%Increase - Volume Rate	4.1%	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%	3.7%
%Increase - Total Annual Bill	4.0%	3.6%	3.6%	3.6%	3.6%	3.6%	3.6%	3.6%	3.6%	3.6%
<b>Increase \$/year</b>	<b>\$24.22</b>	<b>\$22.75</b>	<b>\$23.56</b>	<b>\$24.41</b>	<b>\$25.28</b>	<b>\$26.19</b>	<b>\$27.12</b>	<b>\$28.09</b>	<b>\$29.10</b>	<b>\$30.14</b>

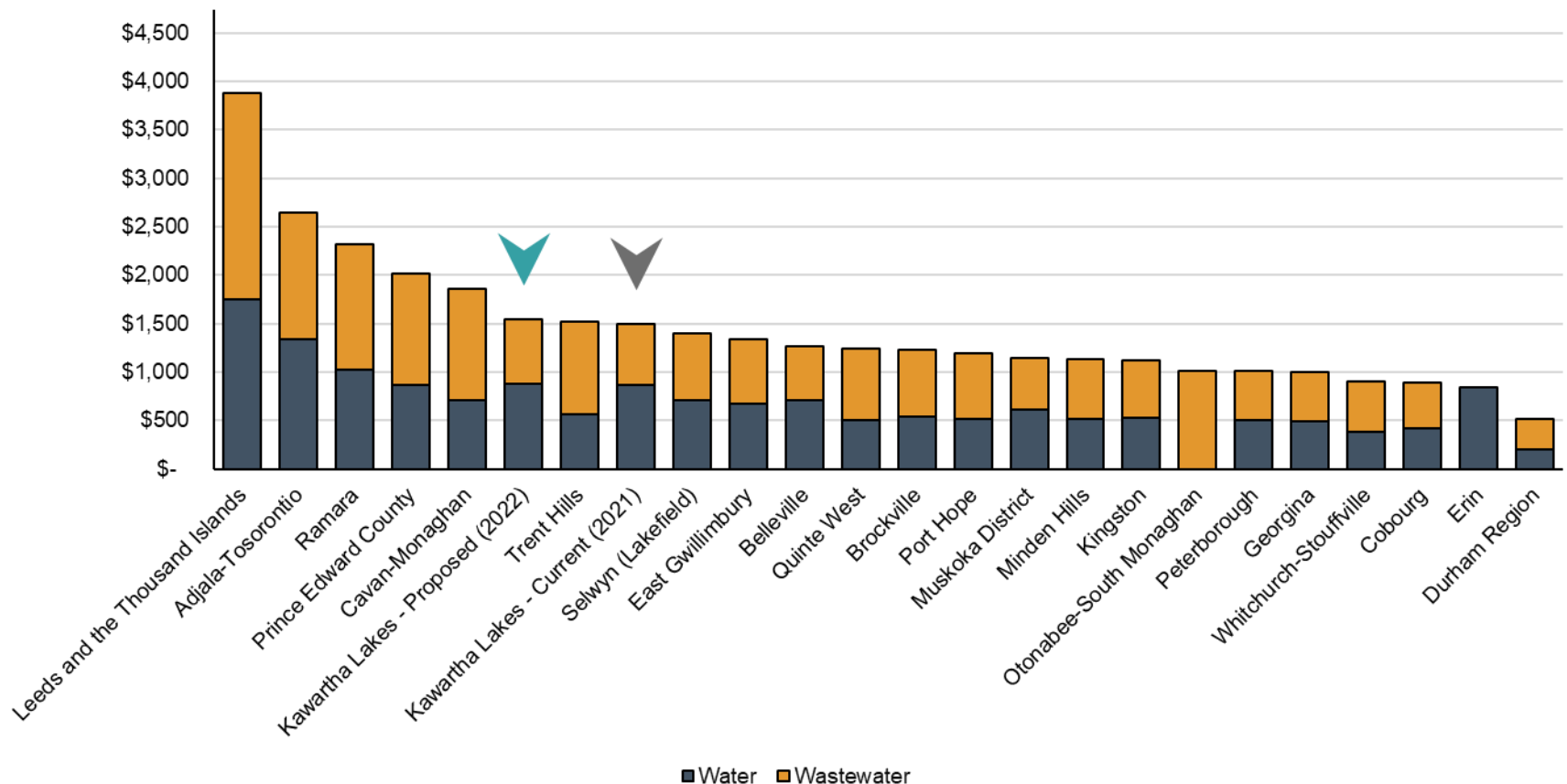
**Water and Wastewater Rate Summary**

Description	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
<b>Total Annual Bill</b>	<b>\$1,500</b>	<b>\$1,543</b>	<b>\$1,587</b>	<b>\$1,632</b>	<b>\$1,679</b>	<b>\$1,727</b>	<b>\$1,776</b>	<b>\$1,827</b>	<b>\$1,879</b>	<b>\$1,933</b>
%Increase - Total Annual Bill	3.0%	2.8%	2.8%	2.8%	2.9%	2.9%	2.9%	2.9%	2.9%	2.9%
<b>Increase \$/year</b>	<b>\$43.50</b>	<b>\$42.47</b>	<b>\$43.91</b>	<b>\$45.22</b>	<b>\$46.57</b>	<b>\$47.97</b>	<b>\$49.41</b>	<b>\$50.89</b>	<b>\$52.42</b>	<b>\$54.00</b>



# Municipal Comparison - Residential

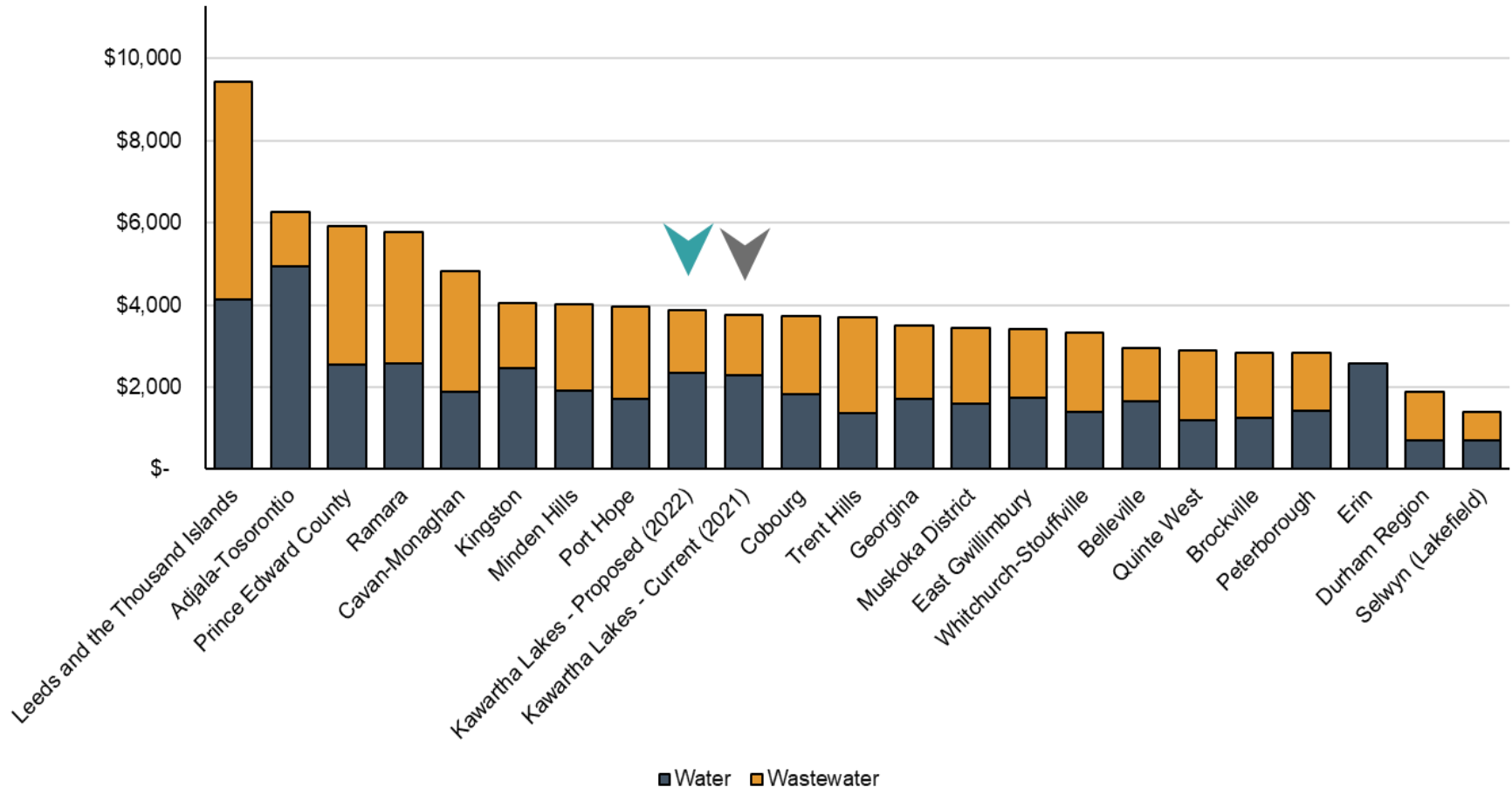
Survey of Annual Residential Water and Wastewater Bill (based on 173 m<sup>3</sup> consumption and ¾" or 5/8" meter)





# Municipal Comparison – Non-Residential

Survey of Annual Non-Residential Water and Wastewater Bill  
Based on 640 m<sup>3</sup> Consumption on 1" Meter



# Water and Wastewater Report

## Recommendations



1. That Council provide for annual indexing of the City's self-imposed debt limit;
2. That Council maintain the rate structure and policy of imposing uniform water and wastewater rates across service areas;
3. That Council provide for the recovery of all water and wastewater costs through full cost recovery rates;
4. That Council approve the 2021 Water and Wastewater Rate Study and the rates provided in Chapter 6 and direct staff to review rate study in five years; and
5. That Council approve the Water Financial Plan and direct staff to submit the Plan and Council resolutions approving the Plan to the Province to maintain the City's Municipal Drinking Water Licence.