



 **Watson  
& Associates**  
ECONOMISTS LTD.

# Township of South Stormont 2019 Water and Wastewater Rate Study

---

Council Meeting

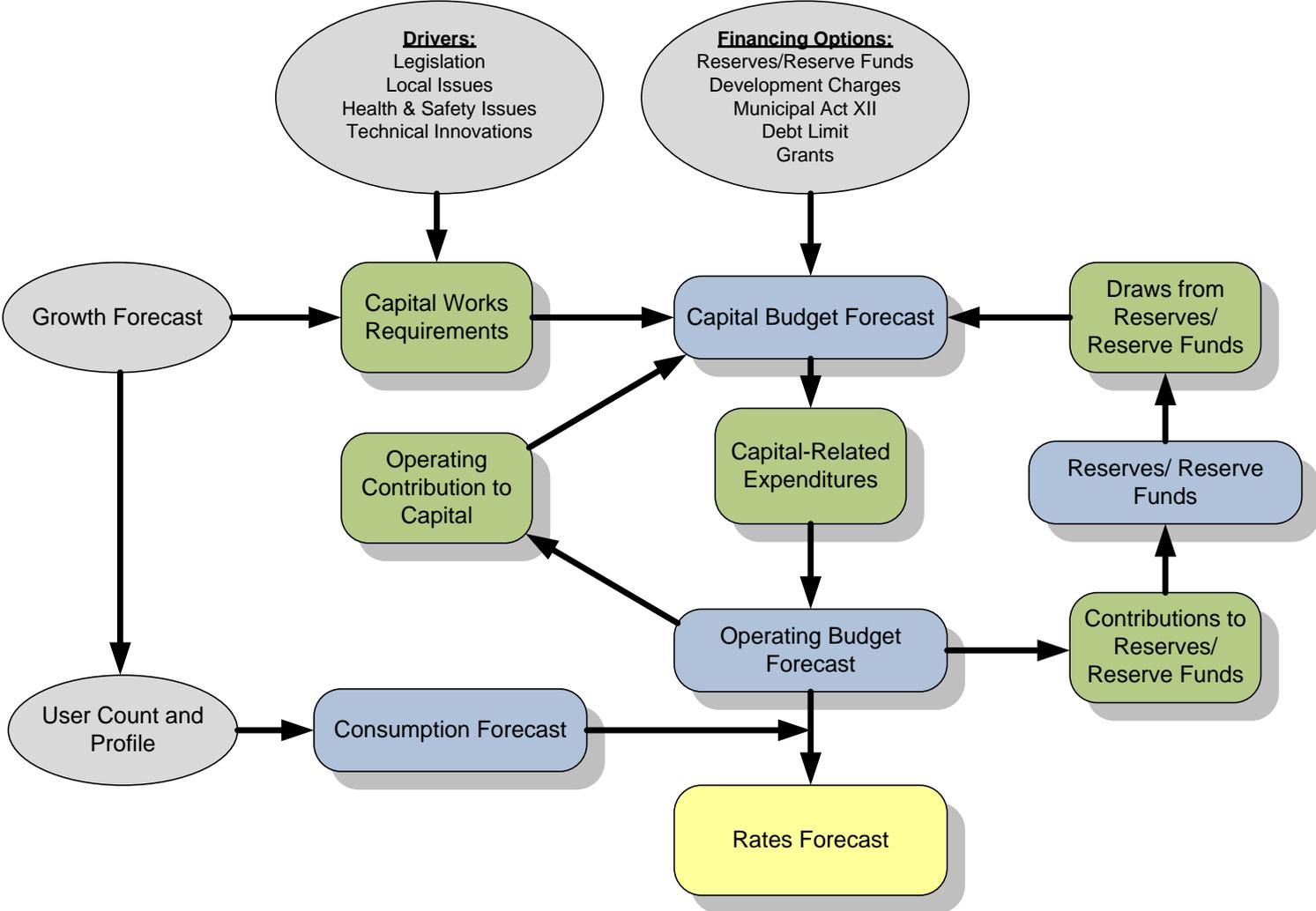
December 11, 2019

# Introduction



- The Township of South Stormont retained Watson & Associates Economists Ltd. to prepare a Water and Wastewater Rate Study for the 2020-2029 forecast period
- Review included:
  - Forecast of water and wastewater demands ;
  - Forecast capital needs to address 10-year capital budget and long-range capital replacement needs;
  - Forecast annual operating cost and rate-based funding requirements;
  - Recommend water and wastewater rate adjustments to address long-term financial plan needs; and
  - Provide impact assessment on existing rates payers

# Rate Study Methodology



# Water and Wastewater Demand Forecast

2019-2029



- Forecast water and wastewater demand based on anticipated customer growth and average annual demand per customer
  - Customer growth forecast to occur at levels consistent with historical pace of growth (2011-2018)
  - Residential water demand per customer – 181 m<sup>3</sup> per year
  - Non-residential water demand per customer – 430 m<sup>3</sup> per year
- 2019-2029 forecast assumes water consumption and wastewater flows growth of 6%

# Water and Wastewater Demand and Customer Forecast 2019-2029



Description	Customer Count			Consumption/Flows (m <sup>3</sup> )		
	2011-2018 Average Annual	2019	2029	Consumption per User <sup>2</sup>	2019 <sup>1</sup>	2029
<b>Water</b>						
<b>Long Sault/Ingleside Water System</b>						
Residential	37	1,920	2,286	182	405,532	472,315
Non-Residential	1	90	100	416	138,632	142,792
Lactalis	-	1	1		545,862	545,862
<b>Eamers Corners - St. Andrews West Water System</b>						
Residential	6	648	707	176	130,655	140,999
Non-Residential		16	16	494	8,909	8,909
<b>Newington Water System</b>						
Residential		99	99	180	17,640	17,640
Non-Residential		4	4	494	1,976	1,976
<b>Total - Water</b>						
Residential	43	2,667	3,092	181	553,827	630,955
Non-Residential	1	110	120	430	149,517	153,677
Lactalis		1	1		545,862	545,862
<b>Total</b>	<b>44</b>	<b>2,778</b>	<b>3,213</b>		<b>1,249,206</b>	<b>1,330,493</b>
<b>Wastewater</b>						
<b>Long Sault Sewer System</b>						
Residential	22	796	1,020	182	168,127	208,926
Non-Residential	1	35	43	416	53,912	57,032
<b>Ingleside Sewer System</b>						
Residential	8	705	784	182	148,906	163,266
Non-Residential	0.3	36	39	416	55,453	56,493
Lactalis	-	1	1		545,862	545,862
<b>Total - Wastewater</b>						
Residential	30	1,501	1,804	182	317,033	372,192
Non-Residential	1	71	81	416	109,365	113,525
Lactalis	-	1	1		545,862	545,862
<b>Total</b>	<b>31</b>	<b>1,573</b>	<b>1,886</b>		<b>972,260</b>	<b>1,031,579</b>

# Water and Wastewater Capital Needs Assessment

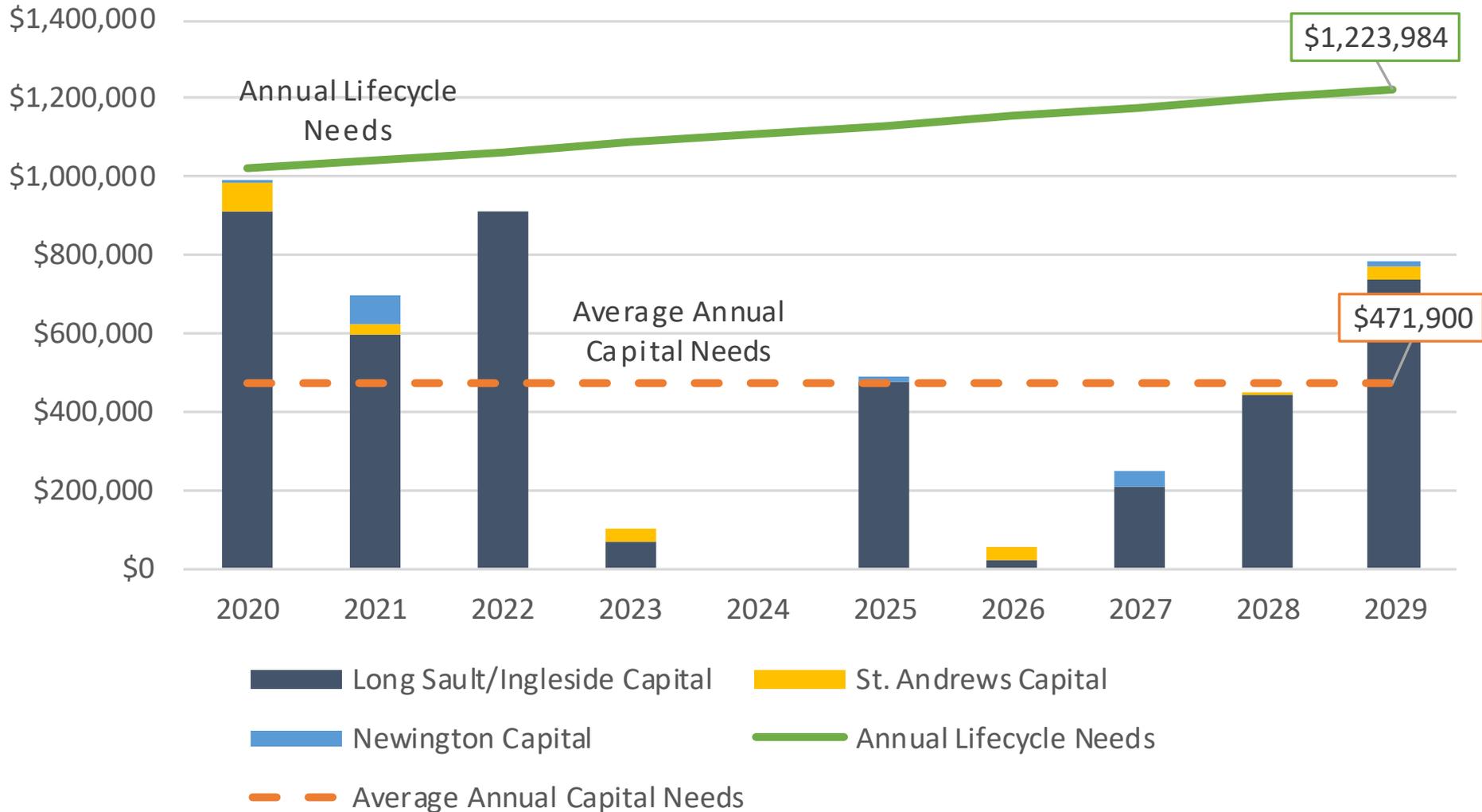
## 2020-2029 (2019\$)



- Total capital needs across all water and wastewater systems
  - Water systems - \$4.3 million
  - Wastewater systems- \$40.2 million (Includes Ingleside WWTP - \$30 million in 2025)
- Forecast capital needs adjusted for 2% annual inflation for rate determination purposes

# Water Capital Needs and Funding Plan

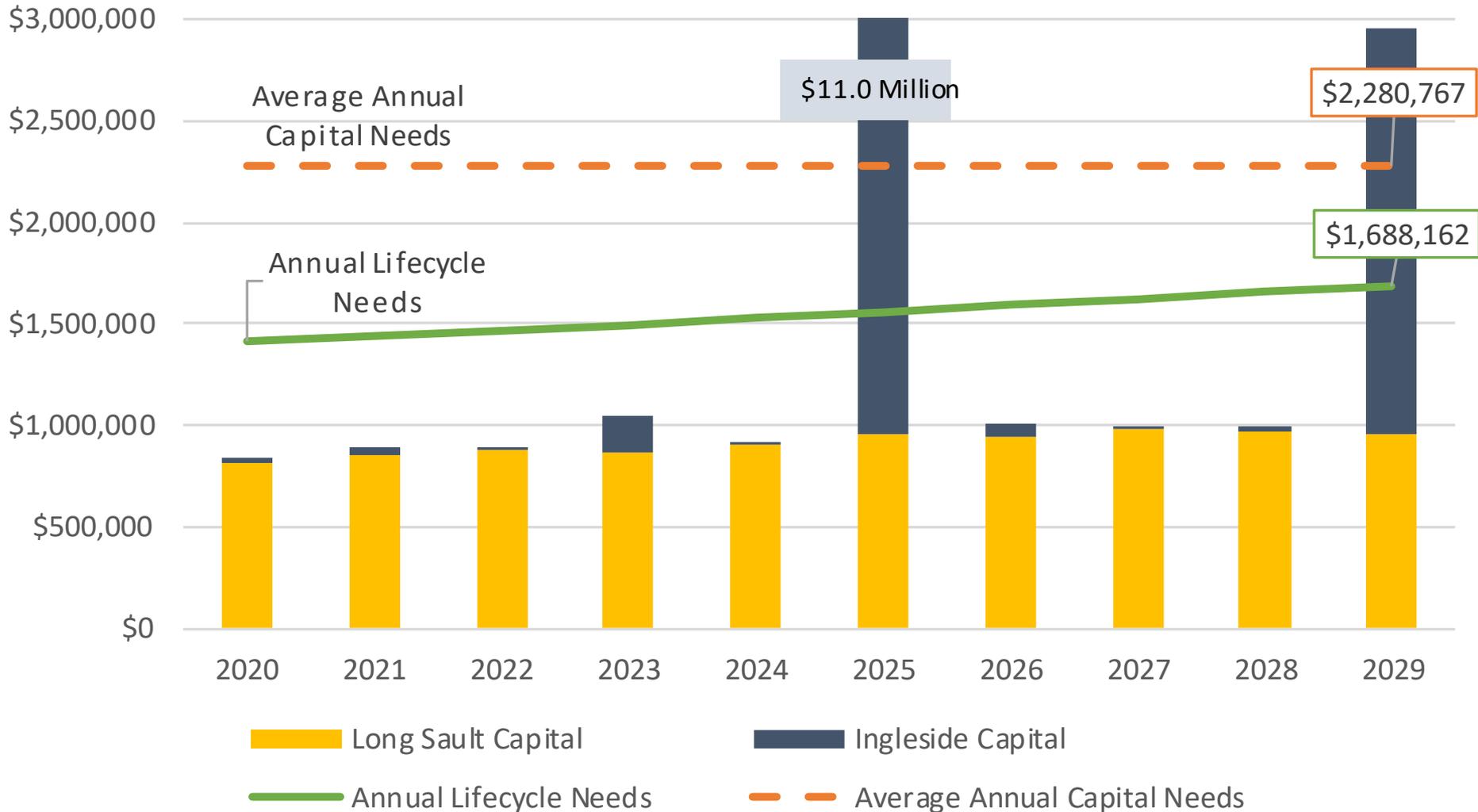
## Inflated



# Wastewater Capital Needs and Funding Plan



Inflated



Ingleside WWTP needs of \$11 million in 2025 exclude \$21.7 million to be funded through grants

# Water and Wastewater Capital Funding Plan

## Principles



- Consistent with Township Asset Management Principles, funding plan developed to reach full lifecycle funding levels by 2029 to:
  - Align recovery of costs associated with use of asset from benefitting users;
  - Provide for the sustainable maintenance, rehabilitation, and replacement of the water and wastewater systems; and
  - Reduce financial risk and provide stable rate increases

# Water and Wastewater Capital Funding Plan

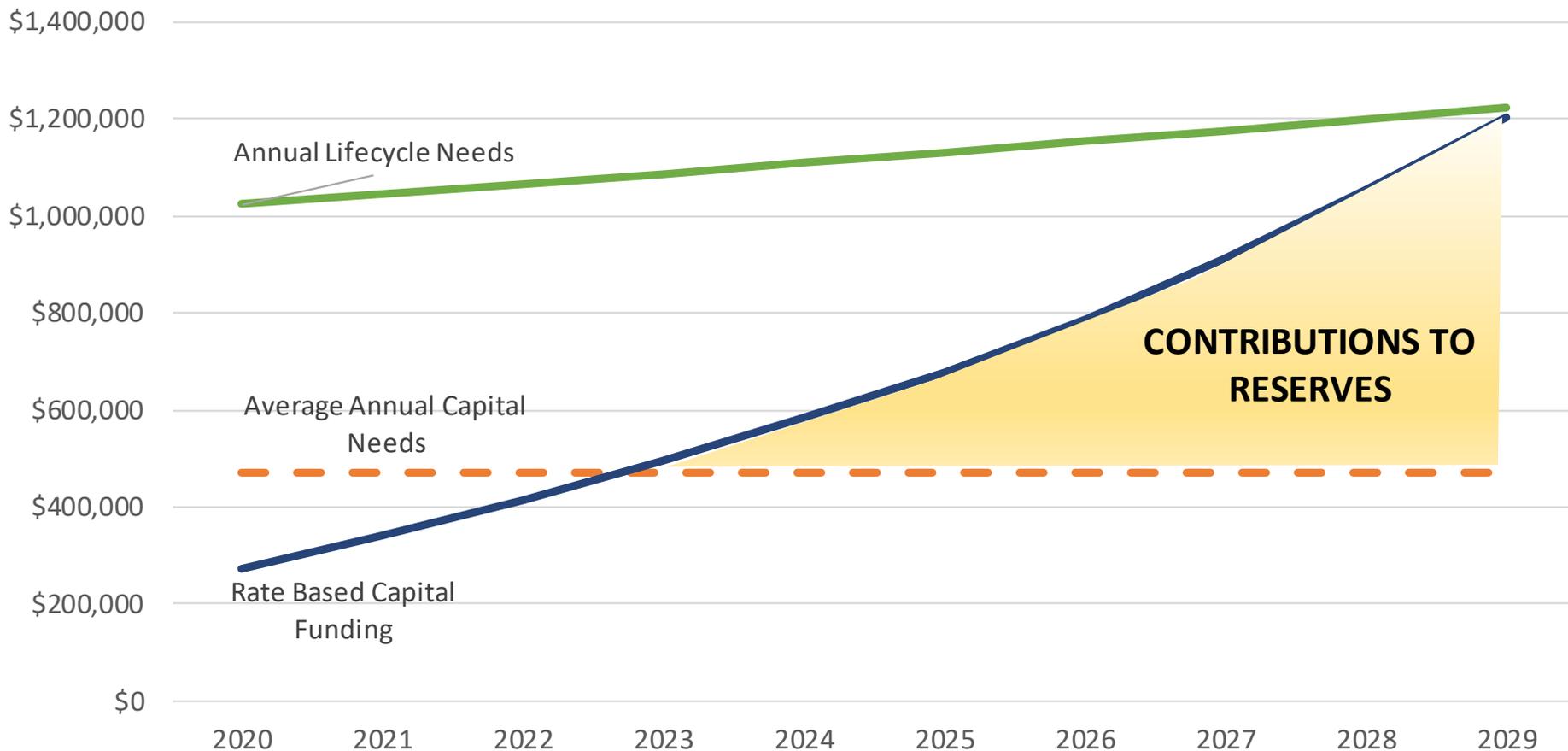
2020-2029 (inflated \$)



- Capital funding plan to address forecast capital needs includes:
  - Water Systems
    - Reserves and rate based funding - \$4.7 million
  - Wastewater Systems
    - Reserves and rate based funding - \$12.7 million
    - Grant funding - \$22.5 million (Ingleside WWTP)
    - External debt - \$10.1 million
- All new connections to systems to pay water and wastewater capital levies (Approximately \$120,000 annually for water and \$49,000 for wastewater)
- By 2029, reserve fund balances would increase from \$2.1 million to \$4.1 million for water and decrease from \$3.7 million to \$0 for wastewater

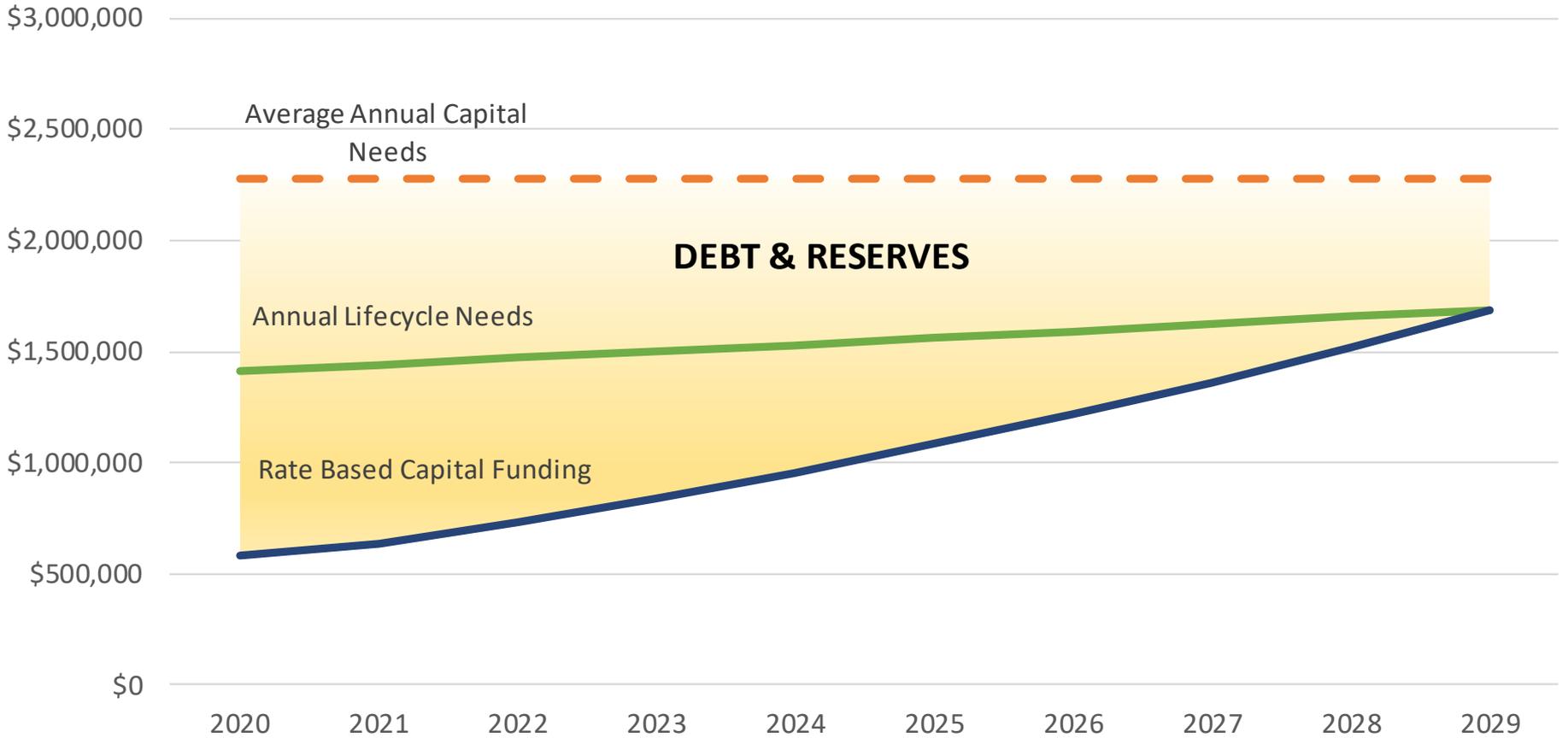
# Water Capital Funding Plan

## 2020-2029



# Wastewater Capital Funding Plan

## 2020-2029



# Water and Wastewater Operating Forecast

2020-2029



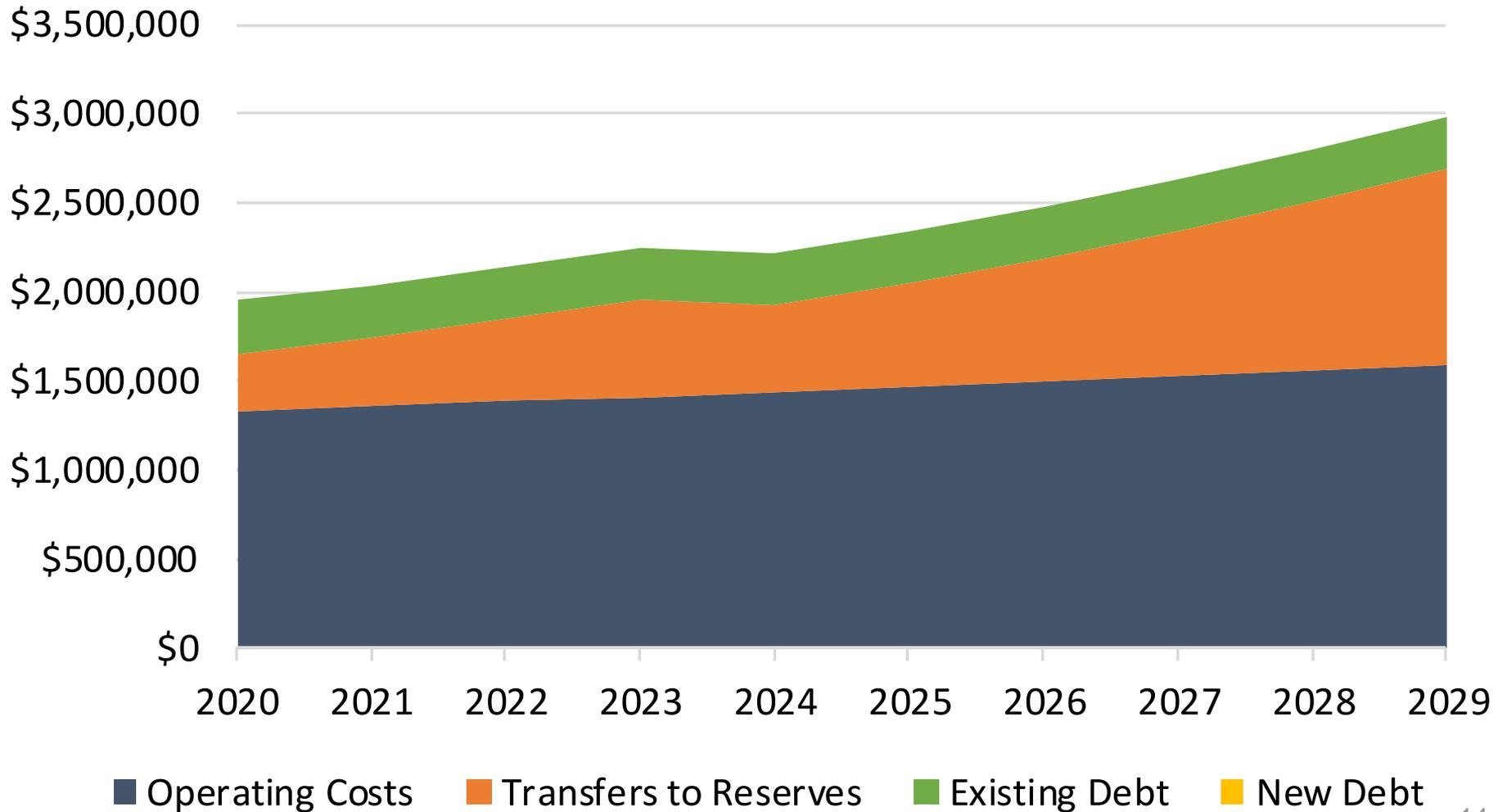
- Water and Wastewater Operating Budget Forecast based on two components:
  - Operating expenditures (i.e. 2019 Operating Budget, plus inflation)
    - Water - \$1.3 million (2019) to \$1.6 million (2029)
    - Wastewater - \$2.1 million (2019) to \$2.6 million (2029)
  - Capital-related expenditures (based on capital funding plan)
    - Water - \$768,000 (2019) to \$1.4 million (2029)
    - Wastewater - \$582,000 (2019) to \$1.7 million (2029)

# Annual Water Operating Expenditures

2020-2029



## Water Expenditures

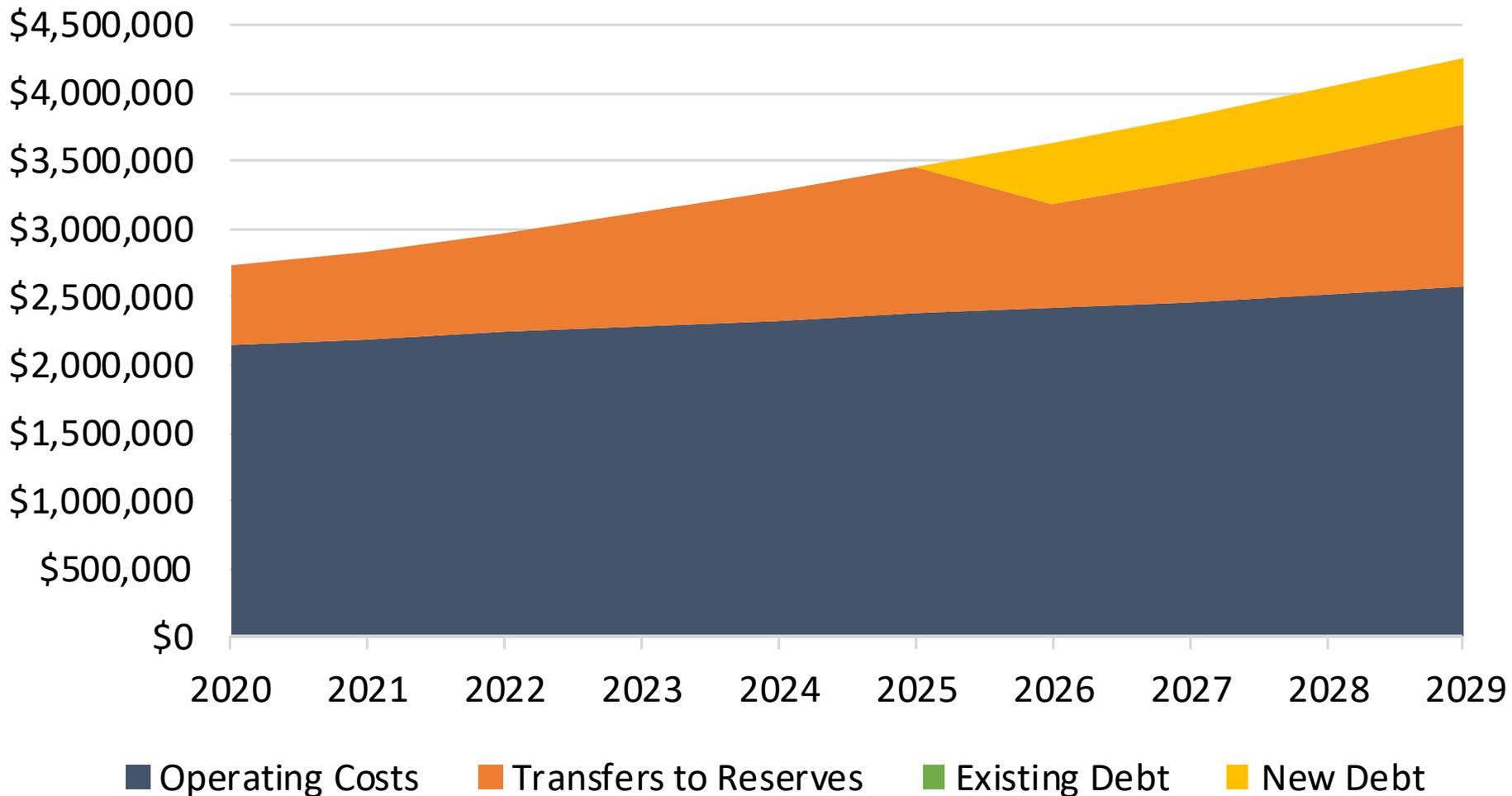


# Annual Wastewater Operating Expenditures

## 2020-2029



### Wastewater Expenditures





# Water and Wastewater Rate Structures

## Current Rate Structure – Water Systems

### **Long Sault/Ingleside System**

- Bill based on rate per m<sup>3</sup> of water consumption
- Minimum bill equivalent to 38.5 m<sup>3</sup> per quarter
- Multiple dwelling units charged at 2/3 of residential rate
- Reduced consumptive rate for large volume industrial users (>6,000 m<sup>3</sup> annual consumption)

### **Rosedale Terrace/St. Andrews/Eamers Corners System**

- Bill based on rate per m<sup>3</sup> of water consumption
- Minimum bill equivalent to 38.5 m<sup>3</sup> per quarter
- Multiple dwelling units charged at 2/3 of residential rate

### **Newington System**

- Flat rate per annum

# Water and Wastewater Rate Structures



## Long Sault & Ingleside Systems

- Wastewater bill based on 225% of water bill
- Special area tax levy (paid as part of property taxes)

# Water and Wastewater Rate Structures

## Recommended Rate Structure



- Funding plans developed based on:
  - Moving towards uniform rate structures across the Township water systems
  - Removal of special area sewer tax levy with corresponding increase in wastewater rates to offset decrease in taxation revenue
- Uniform rate structures across multiple systems recommended to:
  - Address equity and affordability issues of providing service through multiple systems;
  - Balance ability to pay with expected levels of service
  - Provide sustainable funding for systems with less economies of scale; and
  - Improve administrative ease of implementation

# Water Rate Forecast and Annual Customer Bill Impacts

Based on annual residential water consumption of 182 m<sup>3</sup>



Water Rates	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
<b><u>Long Sault/Ingleside</u></b>											
Consumptive Rates (\$/m <sup>3</sup> )	1.029	1.099	1.173	1.252	1.337	1.428	1.525	1.628	1.738	1.856	1.982
Annual Bill (\$)	188	200	214	228	244	260	278	297	317	338	361
% Increase (Annual Bill)		6.8%	6.7%	6.7%	6.8%	6.8%	6.8%	6.8%	6.8%	6.8%	6.8%
<b><u>Eamers Corners/St. Andrews</u></b>											
Consumptive Rates (\$/m <sup>3</sup> )	1.597	1.597	1.597	1.597	1.597	1.597	1.597	1.628	1.738	1.856	1.982
Annual Bill (\$)	291	291	291	291	291	291	291	297	317	338	361
% Increase (Annual Bill)		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.9%	6.8%	6.8%	6.8%
<b><u>Newington</u></b>											
Consumptive Rates (\$/m <sup>3</sup> )	n/a	1.982	1.982	1.982	1.982	1.982	1.982	1.982	1.982	1.982	1.982
Annual Bill (\$)	661	361	361	361	361	361	361	361	361	361	361
% Increase (Annual Bill)		-45.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

# Wastewater Rate Forecast and Annual Customer Bill Impacts

Based on annual residential water consumption of 182 m<sup>3</sup>

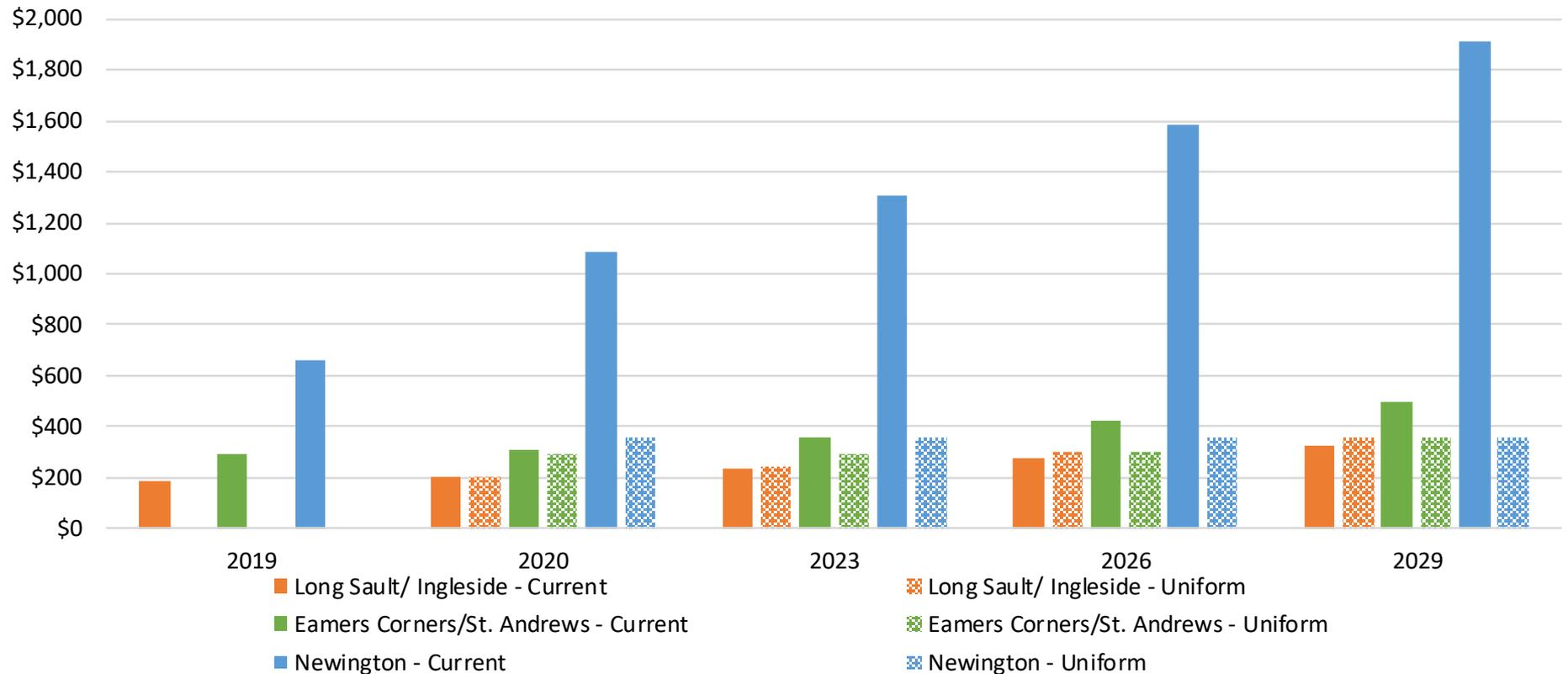


Wastewater Rates	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
<b><u>Long Sault &amp; Ingleside</u></b>											
Flow Rates (\$/m <sup>3</sup> )	n/a	3.493	3.702	3.923	4.158	4.407	4.671	4.950	5.246	5.560	5.893
<b><u>Annual Wastewater Charges</u></b>											
Annual Wastewater Bill	421	636	674	714	757	802	850	901	955	1,012	1,073
Annual Special Area Sewer Tax Bill	207										
<b>Total Annual Wastewater Charges</b>	<b>628</b>	<b>636</b>	<b>674</b>	<b>714</b>	<b>757</b>	<b>802</b>	<b>850</b>	<b>901</b>	<b>955</b>	<b>1,012</b>	<b>1,073</b>
% Increase (Total Annual Charges)		1.2%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%

Annual Special Areas Sewer Tax Bill based on assessed property value of \$200,00

# Annual Water Bill Impacts per Average Residential User

## Current vs. Recommended Rate Structures



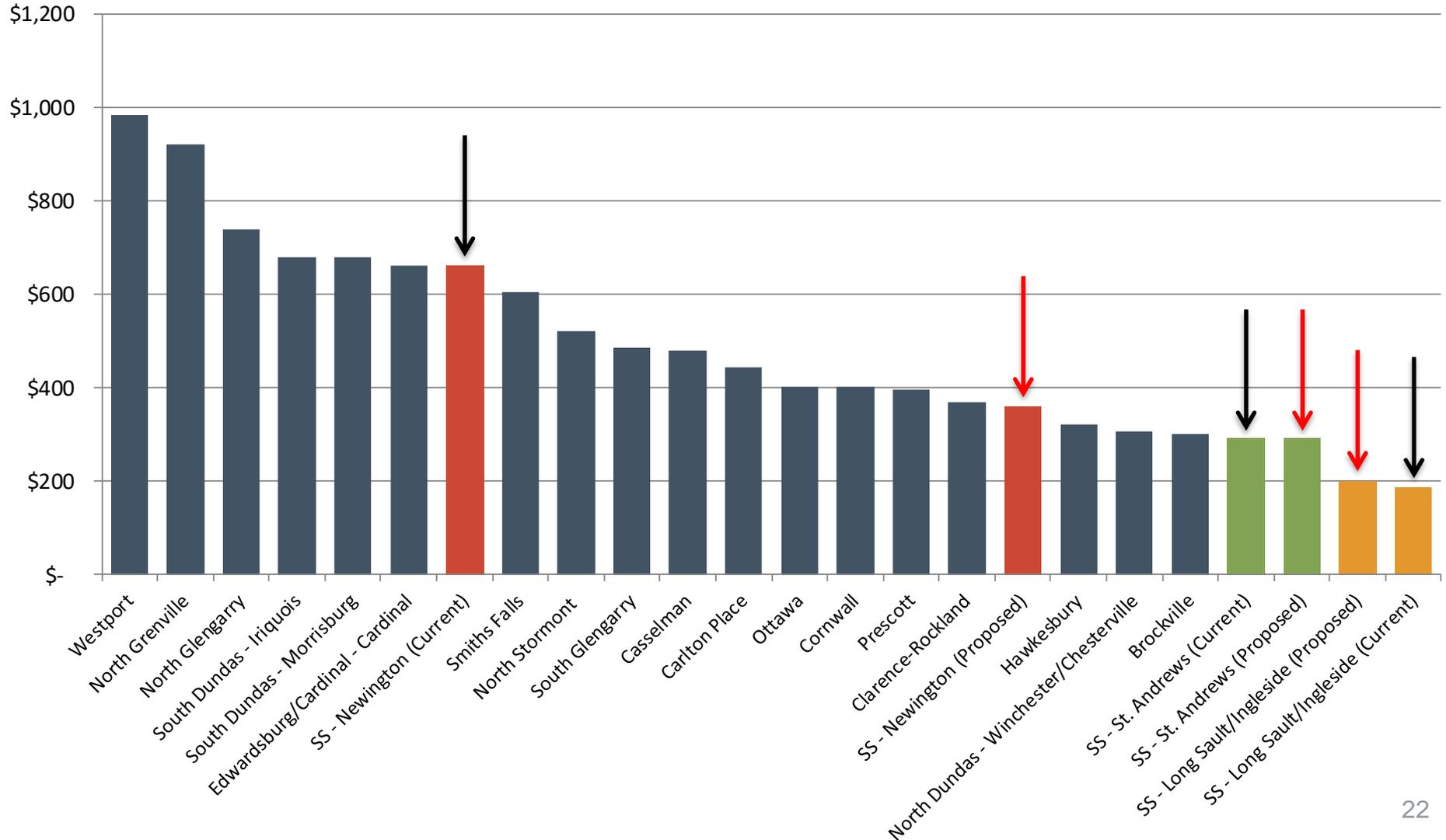
**Bill impacts based on average annual water consumption of 182 m<sup>3</sup>**



# Municipal Comparison – Residential Water Bills

## 182 m<sup>3</sup> Annual Water Consumption

### Average Annual Residential Water Bill Based on 182 Cubic Metres of Consumption



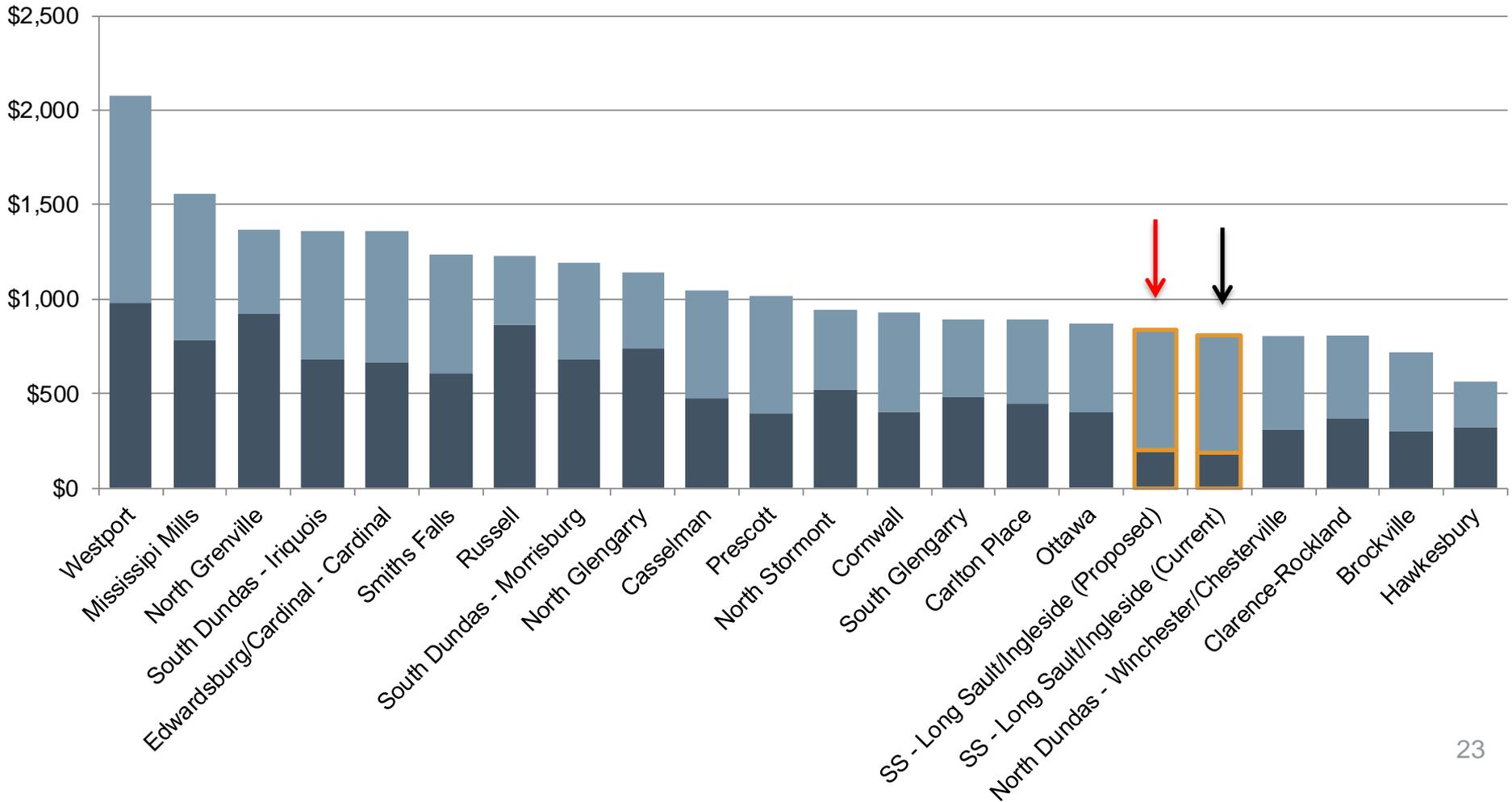
# Municipal Comparison – Residential Water and Wastewater Bills



182 m<sup>3</sup> Annual Water Consumption

Average Annual Residential Water and Wastewater Bill Based on 182 Cubic Metres Consumption

■ Water ■ Wastewater



# Water and Wastewater Rate Study Recommendations



- That the Financial Plan contained in the Rate Study be approved; and
- That Council consider the proposed rates presented in Chapter 6 of the Rate Study for adoption