

# Town of Minto

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## Water and Wastewater Rate Study

### Council Presentation

June 16, 2015

# Study Purpose

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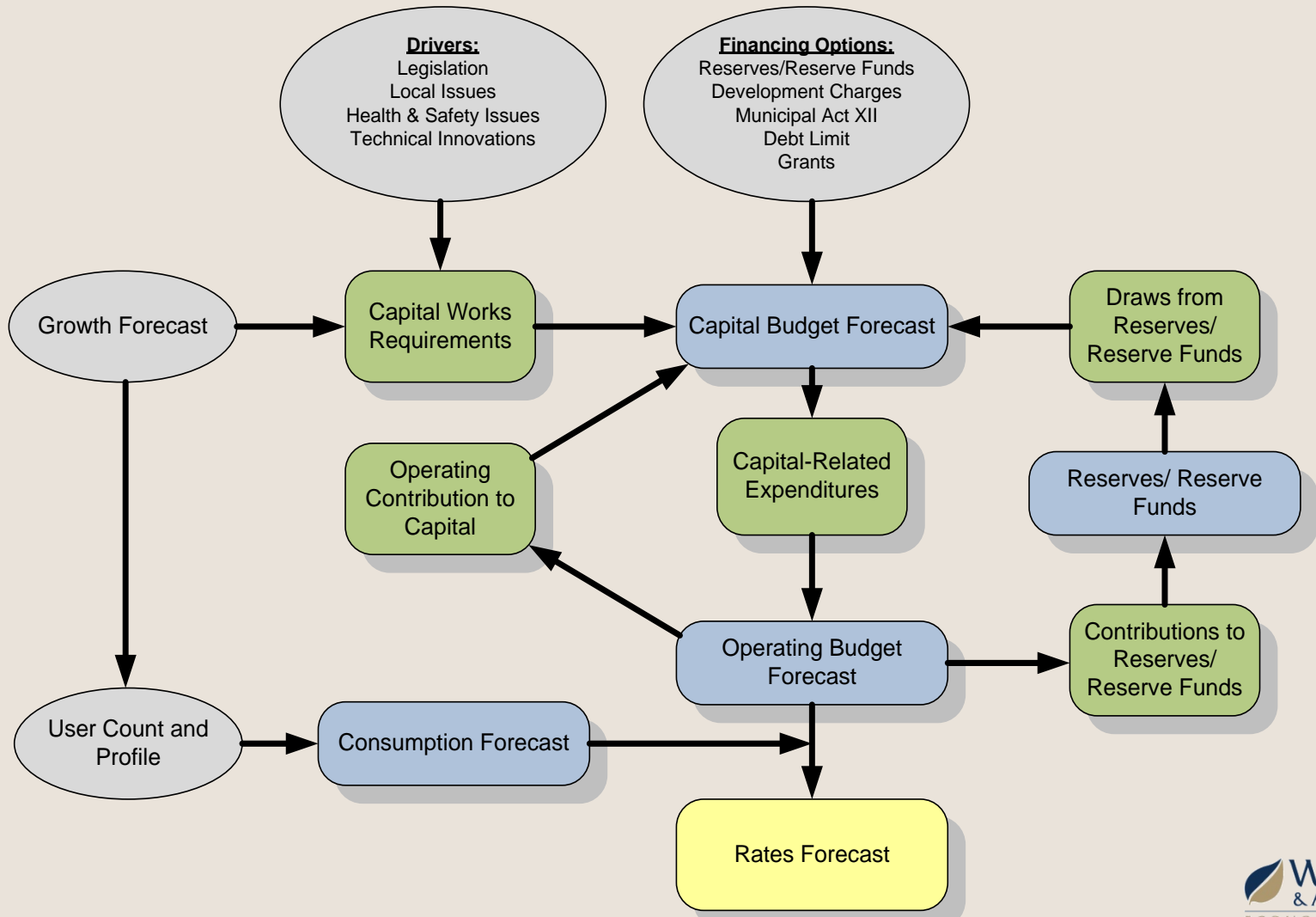
- Watson was retained to update the Town's Water and Wastewater Rate Study and financial plan
  - Estimate customer and consumption levels;
  - Incorporate a capital plan (replacement, growth);
  - Forecast operating costs;
  - Water & wastewater rates;
    - Moving from predominantly flat rates to consumptive base rates;
  - Prepare a water financial plan;
    - Licence renewal requirement

# Legislative Context

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- ❑ *Sustainable Water and Sewage Systems Act (SWSSA) passed on Dec. 13, 2002 (repealed Dec. 31, 2012)*
- ❑ *Safe Drinking Water Act Regulation (O.Reg. 453/07) – Municipal Drinking Water Licensing Program requirements for a financial plan to be submitted to the Province six-months prior to license expiry*
- ❑ *Water Opportunities Act - 2010*

# Study Methodology



# Current Rate Structure

Town of Minto		
2014 - Water Billing Rates		
Flat Rate (non-metered)		
Residential	\$	48.75
General	\$	48.75
Municipal Buildings	\$	48.75
Farms not metered	\$	97.50
Restaurants	\$	89.00
Rest Homes & Boarding	\$	59.50
Stores, Offices under 1,500 ft <sup>2</sup>	\$	37.25
Bowling Greens	\$	48.75
Residence with hairdressing	\$	53.50
Beauty Salons, Barber, Spa	\$	66.75
Garage	\$	74.25
Base Charge		
<sup>3</sup> / <sub>4</sub> " and <sup>5</sup> / <sub>8</sub> "	\$	11.00
1"	\$	12.00
1 ½"	\$	16.00
2"	\$	21.00
3"	\$	23.50
4"+	\$	31.00
Monthly Per Unit Charge		
per month	\$	12.98
Volume Charge - Palmerston		
per m <sup>3</sup>	\$	1.39
Volume Charge - Harriston		
per m <sup>3</sup>	\$	1.39
Volume Charge - Clifford		
per m <sup>3</sup>	\$	1.39
Minimum Bi-Monthly Metered Charge		
per m <sup>3</sup>	\$	62.55

Town of Minto		
2014 - Wastewater Billing Rates		
Flat Rate (non-metered)		
Residential	\$	57.50
General	\$	57.50
Municipal Buildings	\$	57.50
Farms not metered	\$	118.00
Restaurants	\$	106.75
Rest Homes & Boarding	\$	71.50
Stores, Offices under 1,500 ft <sup>2</sup>	\$	45.00
Bowling Greens	\$	59.25
Residence with hairdressing	\$	64.75
Beauty Salons, Barber, Spa	\$	80.75
Garage	\$	85.50
Base Charge		
<sup>3</sup> / <sub>4</sub> " and <sup>5</sup> / <sub>8</sub> "	\$	11.00
1"	\$	12.00
1 ½"	\$	16.00
2"	\$	21.00
3"	\$	23.50
4"+	\$	31.00
Monthly Per Unit Charge		
per month	\$	14.49
Volume Charge - Palmerston		
per m <sup>3</sup>	\$	1.74
Volume Charge - Harriston		
per m <sup>3</sup>	\$	1.74
Volume Charge - Clifford		
per m <sup>3</sup>	\$	1.74
Minimum Bi-Monthly Metered Charge		
per m <sup>3</sup>	\$	78.30

# Customer Profile

Area	Meters	Units
<u>Palmerston</u>		
3/4" and 5/8"	976	1,051
1"	24	69
1 1/2"	7	75
2"	15	29
3"	1	1
<b>Total</b>	<b>1,023</b>	<b>1,225</b>
<u>Harriston</u>		
3/4" and 5/8"	787	858
1"	15	35
1 1/2"	7	47
2"	7	7
3"	1	1
<b>Total</b>	<b>817</b>	<b>948</b>
<u>Clifford</u>		
3/4" and 5/8"	318	331
1"	8	8
1 1/2"	4	19
<b>Total</b>	<b>330</b>	<b>358</b>
<u>Minto Pines</u>		
3/4" and 5/8"	33	33
1"	1	1
<b>Total</b>	<b>34</b>	<b>34</b>
<b>Grand Total</b>	<b>2,204</b>	<b>2,565</b>

# Demand Forecast

Water Customer Forecast	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Existing	2,565	2,565	2,565	2,565	2,565	2,565	2,565	2,565	2,565	2,565	2,565
New - Growth	-	27	80	134	187	241	292	344	398	451	505
Total	2,565	2,592	2,645	2,699	2,752	2,806	2,857	2,909	2,963	3,016	3,070

Water Consumption Forecast (m³)	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Existing	555,549	555,549	555,549	555,549	555,549	555,549	555,549	555,549	555,549	555,549	555,549
New	-	5,400	16,080	26,760	37,440	48,120	58,400	68,880	79,560	90,240	100,920
Total	555,549	560,949	571,629	582,309	592,989	603,669	613,949	624,429	635,109	645,789	656,469

Wastewater Customer Forecast	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Existing	2,565	2,565	2,565	2,565	2,565	2,565	2,565	2,565	2,565	2,565	2,565
New - Growth	-	27	80	134	187	241	292	344	398	451	505
Total	2,565	2,592	2,645	2,699	2,752	2,806	2,857	2,909	2,963	3,016	3,070

Wastewater Flows Forecast (m³)	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Existing	555,549	555,549	555,549	555,549	555,549	555,549	555,549	555,549	555,549	555,549	555,549
New	-	5,400	16,080	26,760	37,440	48,120	58,400	68,880	79,560	90,240	100,920
Total	555,549	560,949	571,629	582,309	592,989	603,669	613,949	624,429	635,109	645,789	656,469

Average consumption per year: 220 m³

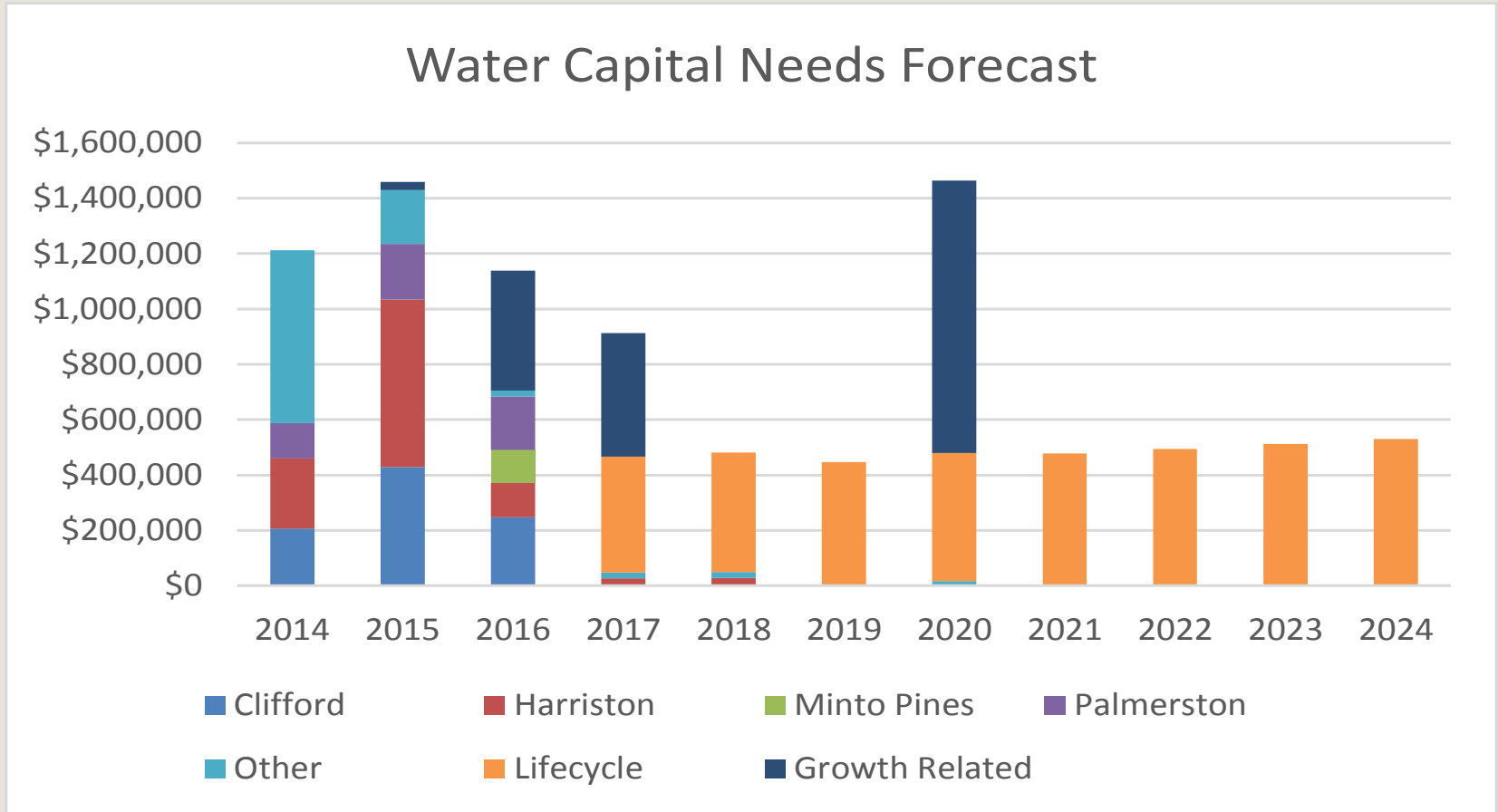
# Water and Wastewater Capital Needs Assessment

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- Capital needs assessment based on:
  - 2015 capital budget, with timing refinements
  - 2015 draft DC Study
  - Town's asset inventory for lifecycle needs
- Capital needs adjusted for 3.45% annual inflation
  - Average NRBCPI over last 10 years

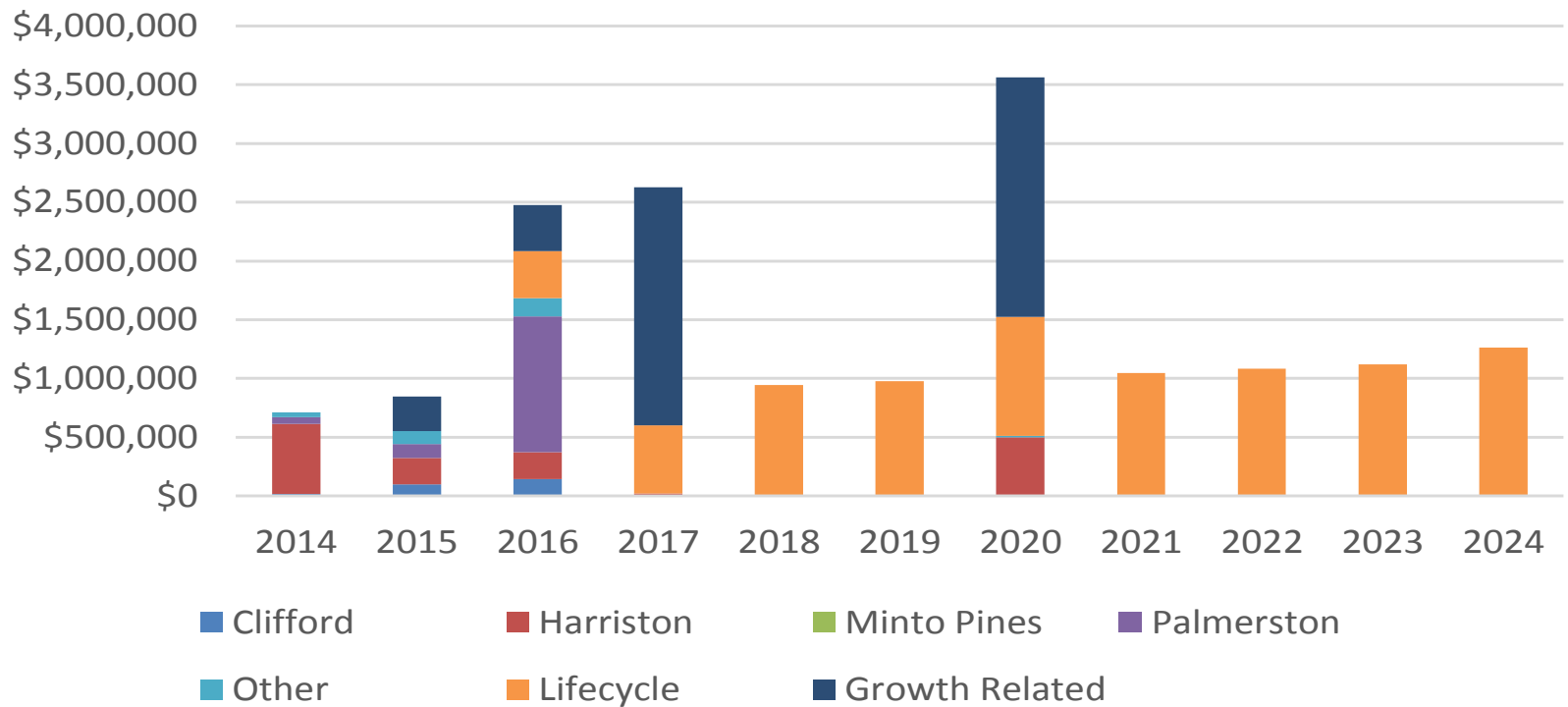


# Water Capital Forecast



# Wastewater Capital Forecast

## Wastewater Capital Needs Forecast



# Forecast Capital Financing

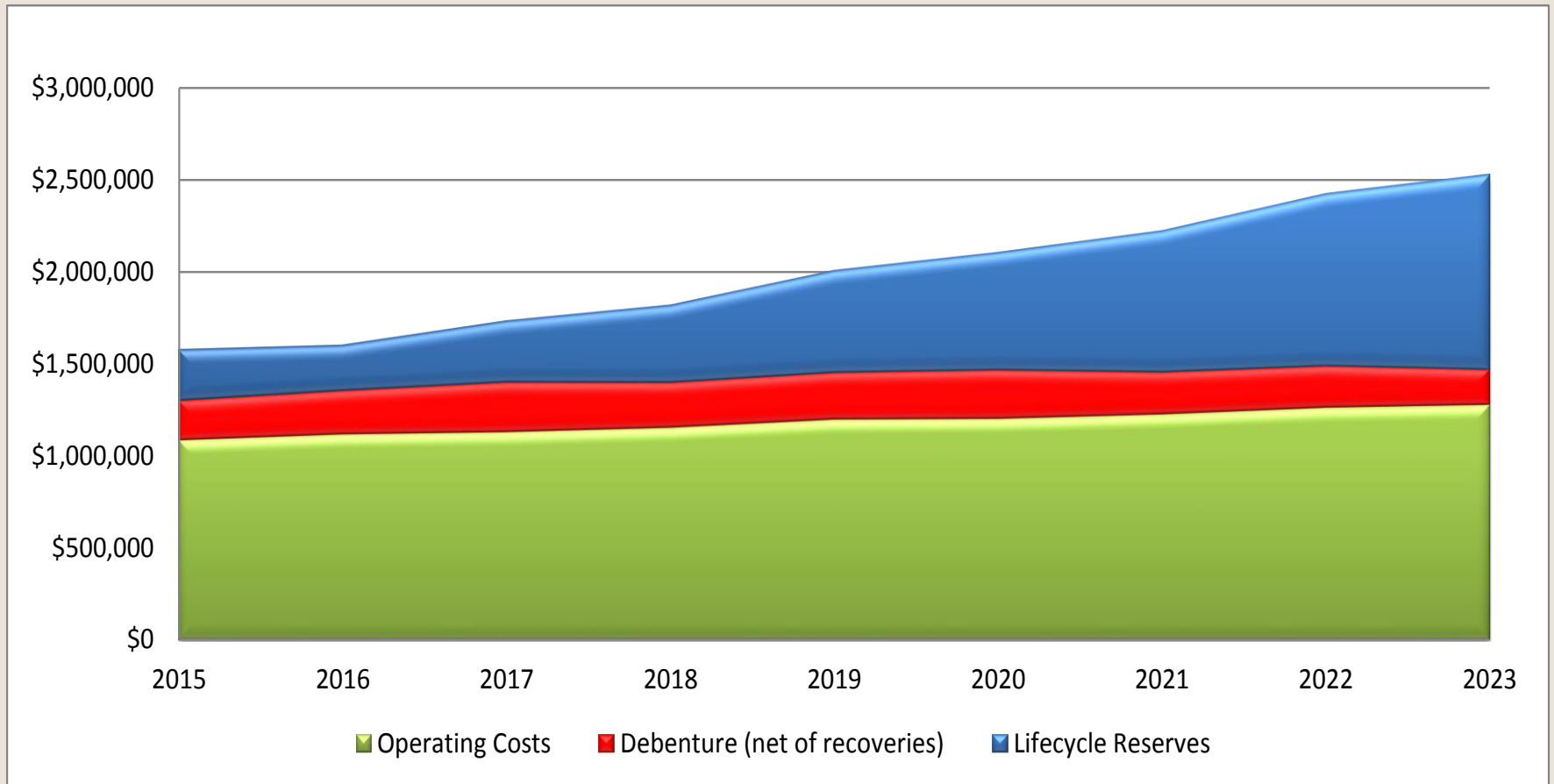
	2014 - 2024 (inflated \$)	
	Water	Wastewater
<b>Total Capital Expenditures</b>	<b>9,130,019</b>	<b>16,660,448</b>
<b><u>Capital Financing</u></b>		
Provincial/Federal Grants	-	-
Development Charges Reserve Fund	426,655	396,555
Non-Growth Related Debenture Requirements	2,160,000	1,710,948
Growth Related Debenture Requirements	1,040,000	2,900,000
Reserve Fund - Lifecycle	5,503,364	11,652,945
<b>Total Capital Financing</b>	<b>9,130,019</b>	<b>16,660,448</b>

# Water and Wastewater Operating Forecast

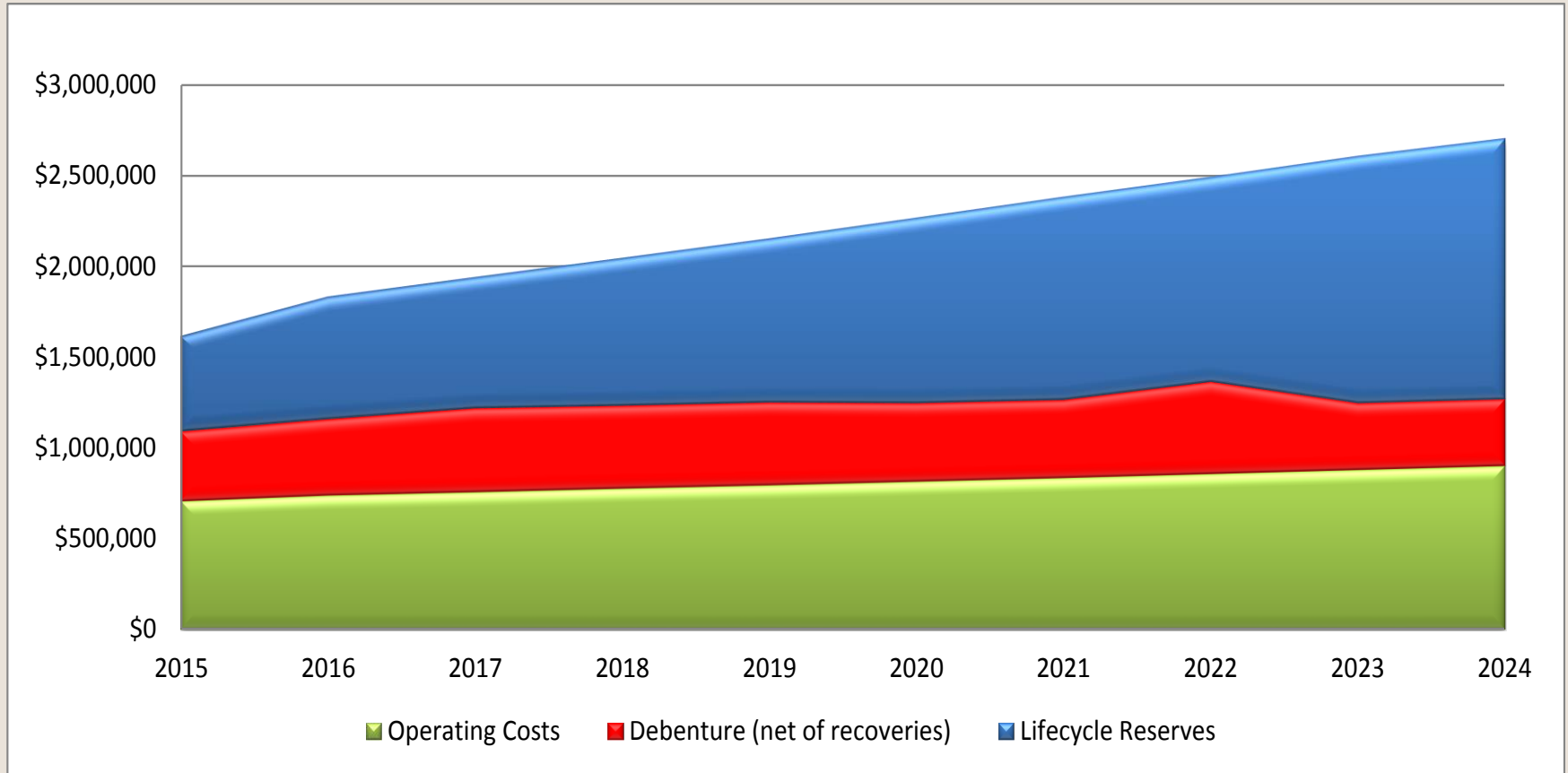
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- Forecast based on 2015 Operating Budget, with provision for annual cost inflation (1.87%), and capital financing
  - Inflation based on average CPI over last 10 years
- Includes building up transfers to capital reserves
  - To fund capital needs in the forecast
  - To fund capital needs beyond the forecast
  - \$383 million in water and wastewater assets

# Water Operating Forecast



# Wastewater Operating Forecast

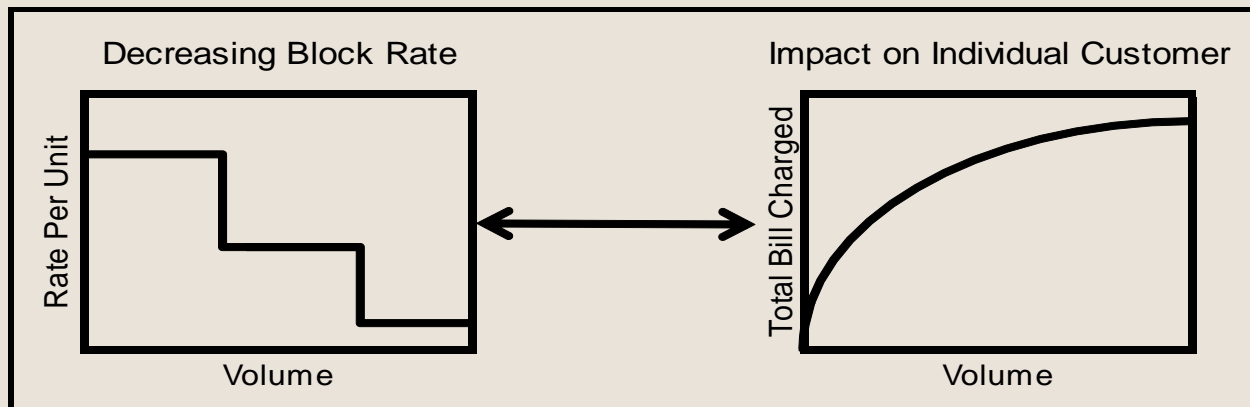
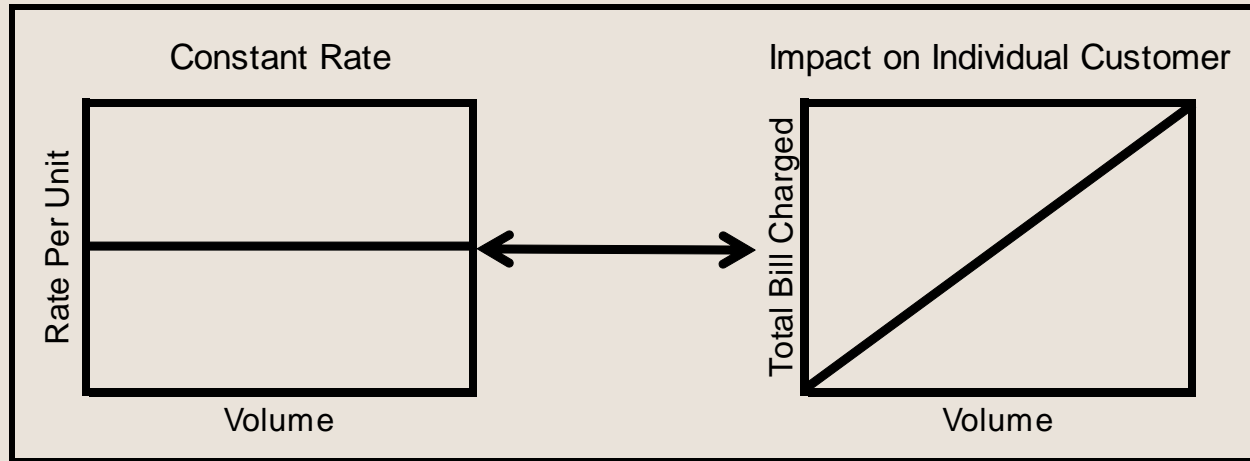


# Water and Wastewater Rate Forecast

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- Moving from a predominantly flat rate structure to a consumptive based structure
- Proposed Structure:
  - Monthly base charge
  - Consumptive rate(s) based on usage per m<sup>3</sup>
- Scenarios (each, for water and wastewater):
  1. One constant consumptive rate for all customers
  2. Decreasing block rate
    - 3 Blocks (bi-monthly):
      - 0-250 m<sup>3</sup>
      - 251-500 m<sup>3</sup>
      - 501+ m<sup>3</sup>

# Water and Wastewater Rate Forecast





# Water and Wastewater Rate Forecast – Constant Rate

## Water:

Description	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
<b>Constant Rate:</b>											
Calculated Water Charge per m <sup>3</sup>	\$ 1.39	\$ 1.80	\$ 1.94	\$ 2.08	\$ 2.20	\$ 2.31	\$ 2.43	\$ 2.55	\$ 2.67	\$ 2.81	\$ 2.95
Estimated Monthly Flat Charge	\$ 48.75	\$ 48.75									
<b>Annual Percentage Change</b>			<b>8.00%</b>	<b>7.00%</b>	<b>6.00%</b>	<b>5.00%</b>	<b>5.00%</b>	<b>5.00%</b>	<b>5.00%</b>	<b>5.00%</b>	<b>5.00%</b>

Description	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
<b>Water Base Charge (\$/month by meter size):</b>											
¾"	\$ 11.00	\$ 13.00	\$ 14.00	\$ 15.00	\$ 16.00	\$ 17.00	\$ 18.00	\$ 19.00	\$ 20.00	\$ 21.00	\$ 22.00
1"	\$ 12.00	\$ 20.00	\$ 21.00	\$ 22.00	\$ 23.00	\$ 24.00	\$ 25.00	\$ 26.00	\$ 27.00	\$ 28.00	\$ 29.00
1 ½"	\$ 16.00	\$ 24.00	\$ 25.00	\$ 26.00	\$ 27.00	\$ 28.00	\$ 29.00	\$ 30.00	\$ 31.00	\$ 32.00	\$ 33.00
2"	\$ 21.00	\$ 29.00	\$ 30.00	\$ 31.00	\$ 32.00	\$ 33.00	\$ 34.00	\$ 35.00	\$ 36.00	\$ 37.00	\$ 38.00
3"	\$ 23.50	\$ 31.50	\$ 32.50	\$ 33.50	\$ 34.50	\$ 35.50	\$ 36.50	\$ 37.50	\$ 38.50	\$ 39.50	\$ 40.50
4"+	\$ 31.00	\$ 39.00	\$ 40.00	\$ 41.00	\$ 42.00	\$ 43.00	\$ 44.00	\$ 45.00	\$ 46.00	\$ 47.00	\$ 48.00

## Wastewater:

Description	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
<b>Constant Rate:</b>											
Calculated Water Charge per m <sup>3</sup>	\$ 1.74	\$ 2.60	\$ 2.66	\$ 2.73	\$ 2.80	\$ 2.87	\$ 2.94	\$ 3.00	\$ 3.06	\$ 3.09	\$ 3.12
Estimated Monthly Flat Charge	\$ 57.50	\$ 57.50									
<b>Annual Percentage Change</b>			<b>2.5%</b>	<b>2.5%</b>	<b>2.5%</b>	<b>2.5%</b>	<b>2.5%</b>	<b>2.0%</b>	<b>2.0%</b>	<b>1.0%</b>	<b>1.0%</b>

Description	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
<b>Wastewater Base Charge (\$/month by meter size):</b>											
¾"	\$ 11.00	\$ 13.00	\$ 14.00	\$ 15.00	\$ 16.00	\$ 17.00	\$ 18.00	\$ 19.00	\$ 20.00	\$ 21.00	\$ 22.00
1"	\$ 12.00	\$ 20.00	\$ 21.00	\$ 22.00	\$ 23.00	\$ 24.00	\$ 25.00	\$ 26.00	\$ 27.00	\$ 28.00	\$ 29.00
1 ½"	\$ 16.00	\$ 24.00	\$ 25.00	\$ 26.00	\$ 27.00	\$ 28.00	\$ 29.00	\$ 30.00	\$ 31.00	\$ 32.00	\$ 33.00
2"	\$ 21.00	\$ 29.00	\$ 30.00	\$ 31.00	\$ 32.00	\$ 33.00	\$ 34.00	\$ 35.00	\$ 36.00	\$ 37.00	\$ 38.00
3"	\$ 23.50	\$ 31.50	\$ 32.50	\$ 33.50	\$ 34.50	\$ 35.50	\$ 36.50	\$ 37.50	\$ 38.50	\$ 39.50	\$ 40.50
4"+	\$ 31.00	\$ 39.00	\$ 40.00	\$ 41.00	\$ 42.00	\$ 43.00	\$ 44.00	\$ 45.00	\$ 46.00	\$ 47.00	\$ 48.00

Note: Water & Wastewater Rates to include a \$15 per unit charge each, bi-monthly for multi-unit buildings.

# Water and Wastewater Rate Forecast – Decreasing Block

## Water:

Description	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
<b>Block Rates:</b>											
Up to 250 m <sup>3</sup>		\$ 1.81	\$ 1.96	\$ 2.10	\$ 2.22	\$ 2.33	\$ 2.45	\$ 2.57	\$ 2.70	\$ 2.83	\$ 2.97
Between 251-500 m <sup>3</sup>		\$ 1.40	\$ 1.51	\$ 1.62	\$ 1.70	\$ 1.78	\$ 1.87	\$ 1.97	\$ 2.06	\$ 2.17	\$ 2.28
Over 500 m <sup>3</sup>		\$ 1.20	\$ 1.30	\$ 1.39	\$ 1.46	\$ 1.53	\$ 1.61	\$ 1.69	\$ 1.77	\$ 1.86	\$ 1.95
Estimated Monthly Flat Charge	\$ 48.75	\$ 48.75									
Annual Percentage Change - Block 1			8.0%	7.0%	6.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Annual Percentage Change - Block 2			8.0%	7.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Annual Percentage Change - Block 3			8.0%	7.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%

Description	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
<b>Water Base Charge (\$/month by meter size):</b>											
¾"	\$ 11.00	\$ 13.00	\$ 14.00	\$ 15.00	\$ 16.00	\$ 17.00	\$ 18.00	\$ 19.00	\$ 20.00	\$ 21.00	\$ 22.00
1"	\$ 12.00	\$ 20.00	\$ 21.00	\$ 22.00	\$ 23.00	\$ 24.00	\$ 25.00	\$ 26.00	\$ 27.00	\$ 28.00	\$ 29.00
1 ½"	\$ 16.00	\$ 24.00	\$ 25.00	\$ 26.00	\$ 27.00	\$ 28.00	\$ 29.00	\$ 30.00	\$ 31.00	\$ 32.00	\$ 33.00
2"	\$ 21.00	\$ 29.00	\$ 30.00	\$ 31.00	\$ 32.00	\$ 33.00	\$ 34.00	\$ 35.00	\$ 36.00	\$ 37.00	\$ 38.00
3"	\$ 23.50	\$ 31.50	\$ 32.50	\$ 33.50	\$ 34.50	\$ 35.50	\$ 36.50	\$ 37.50	\$ 38.50	\$ 39.50	\$ 40.50
4"+	\$ 31.00	\$ 39.00	\$ 40.00	\$ 41.00	\$ 42.00	\$ 43.00	\$ 44.00	\$ 45.00	\$ 46.00	\$ 47.00	\$ 48.00

## Wastewater:

Description	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
<b>Block Rates:</b>											
Up to 250 m <sup>3</sup>		\$ 2.62	\$ 2.69	\$ 2.76	\$ 2.82	\$ 2.89	\$ 2.97	\$ 3.03	\$ 3.09	\$ 3.12	\$ 3.15
Between 251-500 m <sup>3</sup>		\$ 2.00	\$ 2.05	\$ 2.10	\$ 2.15	\$ 2.21	\$ 2.26	\$ 2.32	\$ 2.38	\$ 2.40	\$ 2.42
Over 500 m <sup>3</sup>		\$ 1.70	\$ 1.74	\$ 1.79	\$ 1.83	\$ 1.88	\$ 1.92	\$ 1.97	\$ 2.02	\$ 2.04	\$ 2.05
Estimated Monthly Flat Charge	\$ 57.50	\$ 57.50									
Annual Percentage Change - Block 1			2.5%	2.5%	2.5%	2.5%	2.5%	2.0%	2.0%	1.0%	1.0%
Annual Percentage Change - Block 2			2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	0.8%	0.8%
Annual Percentage Change - Block 3			2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	0.8%	0.8%

Description	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
<b>Wastewater Base Charge (\$/month by meter size):</b>											
¾"	\$ 11.00	\$ 13.00	\$ 14.00	\$ 15.00	\$ 16.00	\$ 17.00	\$ 18.00	\$ 19.00	\$ 20.00	\$ 21.00	\$ 22.00
1"	\$ 12.00	\$ 20.00	\$ 21.00	\$ 22.00	\$ 23.00	\$ 24.00	\$ 25.00	\$ 26.00	\$ 27.00	\$ 28.00	\$ 29.00
1 ½"	\$ 16.00	\$ 24.00	\$ 25.00	\$ 26.00	\$ 27.00	\$ 28.00	\$ 29.00	\$ 30.00	\$ 31.00	\$ 32.00	\$ 33.00
2"	\$ 21.00	\$ 29.00	\$ 30.00	\$ 31.00	\$ 32.00	\$ 33.00	\$ 34.00	\$ 35.00	\$ 36.00	\$ 37.00	\$ 38.00
3"	\$ 23.50	\$ 31.50	\$ 32.50	\$ 33.50	\$ 34.50	\$ 35.50	\$ 36.50	\$ 37.50	\$ 38.50	\$ 39.50	\$ 40.50
4"+	\$ 31.00	\$ 39.00	\$ 40.00	\$ 41.00	\$ 42.00	\$ 43.00	\$ 44.00	\$ 45.00	\$ 46.00	\$ 47.00	\$ 48.00

Note: Water & Wastewater Rates to include a \$15 per unit charge each, bi-monthly for multi-unit buildings.

# Water and Wastewater Annual Bill Impacts

	m <sup>3</sup> per 2 Months	Currently Charged	Bi-Monthly Bill Analysis		
			2014 Equivalent Bill	2015 Equivalent Bill - Constant Rate	2015 Equivalent Bill - Declining Block Rate
Average Residential Home	36.7	Flat Rate	\$ 212.50	\$ 213.35	\$ 214.45
Residential Home - Low Consumption	22.2	Flat Rate	\$ 212.50	\$ 149.68	\$ 150.35
Residential Home - Med. Consumption	38.9	Flat Rate	\$ 212.50	\$ 223.16	\$ 224.33
Residential - 12 units	240.0	Metered	\$ 1,458.48	\$ 1,496.00	\$ 1,503.20
Non-Residential - Low Consumption	25.0	Flat Rate	\$ 262.00	\$ 190.00	\$ 190.75
Non-Residential - Medium Consumption	265.0	Metered	\$ 877.45	\$ 1,246.00	\$ 1,238.50
Non-Residential - High Consumption	3,450.0	Metered	\$ 10,882.50	\$ 15,296.00	\$ 10,628.50

# Municipal Comparison:

## Residential: 220 m<sup>3</sup> per year

Municipality	Water	Wastewater	Water and Wastewater	Rank
Perth East (Milverton)	\$ 746	\$ 628	\$ 1,374	1
Lambton Shores	\$ 675	\$ 638	\$ 1,313	2
Minto - Proposed (2015)	\$ 554	\$ 732	\$ 1,287	3
Minto - Current	\$ 585	\$ 690	\$ 1,275	4
Centre Wellington	\$ 593	\$ 599	\$ 1,192	5
Southgate	\$ 575	\$ 617	\$ 1,191	6
Woolwich	\$ 523	\$ 660	\$ 1,183	7
Erin	\$ 1,128	\$ -	\$ 1,128	8
Guelph/Eramosa (Rockwood)	\$ 462	\$ 631	\$ 1,093	9
Wellesley	\$ 576	\$ 466	\$ 1,041	10
Wellington North	\$ 442	\$ 543	\$ 986	11
North Perth	\$ 494	\$ 479	\$ 973	12
Mapleton (Moorefield)	\$ 468	\$ 494	\$ 963	13
Guelph	\$ 429	\$ 482	\$ 911	14
Mapleton (Drayton)	\$ 411	\$ 425	\$ 837	15
Stratford	\$ 290	\$ 450	\$ 739	16

# Municipal Comparison: Non-Residential: 1,500 m<sup>3</sup> per year

Municipality	Water	Wastewater	Water and Wastewater	Rank
Lambton Shores	\$ 4,421	\$ 4,787	\$ 9,208	1
Southgate	\$ 4,168	\$ 4,652	\$ 8,820	2
Centre Wellington	\$ 4,222	\$ 3,709	\$ 7,931	3
Woolwich	\$ 3,261	\$ 4,191	\$ 7,452	4
Minto - Proposed (2015)	\$ 2,955	\$ 4,170	\$ 7,125	5
Guelph/Eramosa (Rockwood)	\$ 2,855	\$ 4,010	\$ 6,866	6
Erin	\$ 6,804	\$ -	\$ 6,804	7
Wellington North	\$ 3,015	\$ 3,705	\$ 6,720	8
Guelph	\$ 3,006	\$ 3,618	\$ 6,624	9
Wellesley	\$ 3,366	\$ 2,757	\$ 6,123	10
Perth East (Milverton)	\$ 3,114	\$ 2,087	\$ 5,201	11
Minto - Current	\$ 2,229	\$ 2,754	\$ 4,983	12
Stratford	\$ 1,703	\$ 2,615	\$ 4,319	13
North Perth	\$ 1,992	\$ 2,010	\$ 4,002	14
Mapleton (Moorefield)	\$ 1,874	\$ 1,978	\$ 3,852	15
Mapleton (Drayton)	\$ 1,645	\$ 1,701	\$ 3,347	16

# Recommendations

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- Rate Study:
  - Use of full cost recovery rates.
  - Approve the decreasing block rate structure option.
  - Approve the 2015 water and wastewater rates, with implementation in June and July, 2015.
  - Consider the rate study results in any upcoming amendments to the Town's asset management plan.