



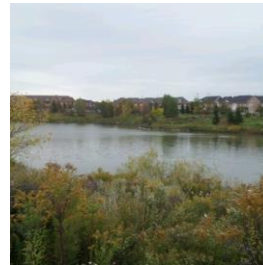
**City of Markham  
2023 Water/Wastewater Rate  
Public Consultation Meeting  
Monday February 13th, 2023**

# Agenda

1. About Markham's Environmental Services Department
2. Markham Water/Wastewater System
3. Markham's Historical Water/Wastewater Rate
4. 2022 Comparative Municipal Water/Wastewater Rates (\$/m<sup>3</sup>)
5. Components of the Water/Wastewater Rate
6. Summary of 2023 City's Water/Wastewater Rate
7. Impact to Residents and Top 10 Institutional, Commercial and Industrial Customers
8. Reserve Balance
9. Future Projects Impacting Water/Wastewater Rates
10. Recommendations
11. Next Steps

# 1. About Markham's Environmental Services Department

- Manages 79% of the City's Right-of-Way assets valued at \$7.60 billion including water, wastewater, stormwater, bridges, culverts, streetlights, watercourses and erosion sites
- Markham's water and wastewater assets are valued at \$4.26 billion out of the \$7.60 billion total Right-of-Way assets



# 1. About Markham's Environmental Services Department

- Provides water service to more than 83,000 residential and ICI customers with consumption close to 30M m<sup>3</sup> annually
- Drinking water in Ontario is required to meet strict water quality standards
- Through the province's Drinking Water License Program, Markham has implemented the Quality Management System that comply to the Ministry of Environment, Conservation and Park's Drinking Water Quality Management Standard (DWQMS)
- The Ministry annually audits our DWQMS and inspects our drinking water system, to ensure our operations and any associated documentation continue to comply with regulatory requirements

# 1. About Markham's Environmental Services Department

Promotion of Markham's waterworks services, tap water, source water protection, and water efficiency:

## **Fat, Oil, and Grease (FOG) Clogs** - Protect Your Pipes!

- Gold award in Promotion & Education, Municipal Waste Association
- IABC Silver Leave Awards of Merit – Government Communication Programs
- IABC/Toronto OVATION Awards
  - Award of Excellence: Government Communications Programs
  - Award of Merit: Audio/Visual



**Get to Know H2O** – Virtual Water Outreach Education Program for schools

# 1. About Markham's Environmental Services Department

- Proactive capital programs to manage water assets:
  - Leak detection
  - Cathodic protection
  - Watermain replacement program
  - Curb box and water meter replacement
  - Life cycle condition assessment



## 2. Markham's Water/Wastewater System

- Markham does not own or operate a water filtration plant or a wastewater treatment plant (water distribution and wastewater collection only system)
- Markham purchases water through York Region (YR) and YR provides Markham with wastewater treatment services. The purchase price for the water includes the Region's cost for water filtration and wastewater treatment services.
- York Region:
  - ✓ Purchases water from the City of Toronto and from the Region of Peel. The source is Lake Ontario.
  - ✓ Pumps water into reservoirs to provide adequate supply and maintain system pressure.
  - ✓ Conveys wastewater to their jointly owned treatment facility (in Durham) that treats and releases the water back to Lake Ontario.

## 3. Markham's Historical Water/Wastewater Rate

*Rate increases not implemented in 2020 & 2021 due to COVID-19*

<b>Rate Increase</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
Region's Wholesale Rate Increase	9.0%	9.0%	9.0%	0.0%	0.0%	3.3%
Markham portion of Water/Wastewater Rate Increase (%)	5.6%	4.4%	5.3%	0.0%	0.0%	3.4%
Total Combined Rate Increase (%) (based on weighting of components for Region & Markham)	7.9%	7.5%	7.8%	0.0%	0.0%	3.3%
Markham's Total Water/Wastewater Rate Increase (\$/m <sup>3</sup> )	3.8555	4.1442	4.4680	4.4680	4.4680	4.6163

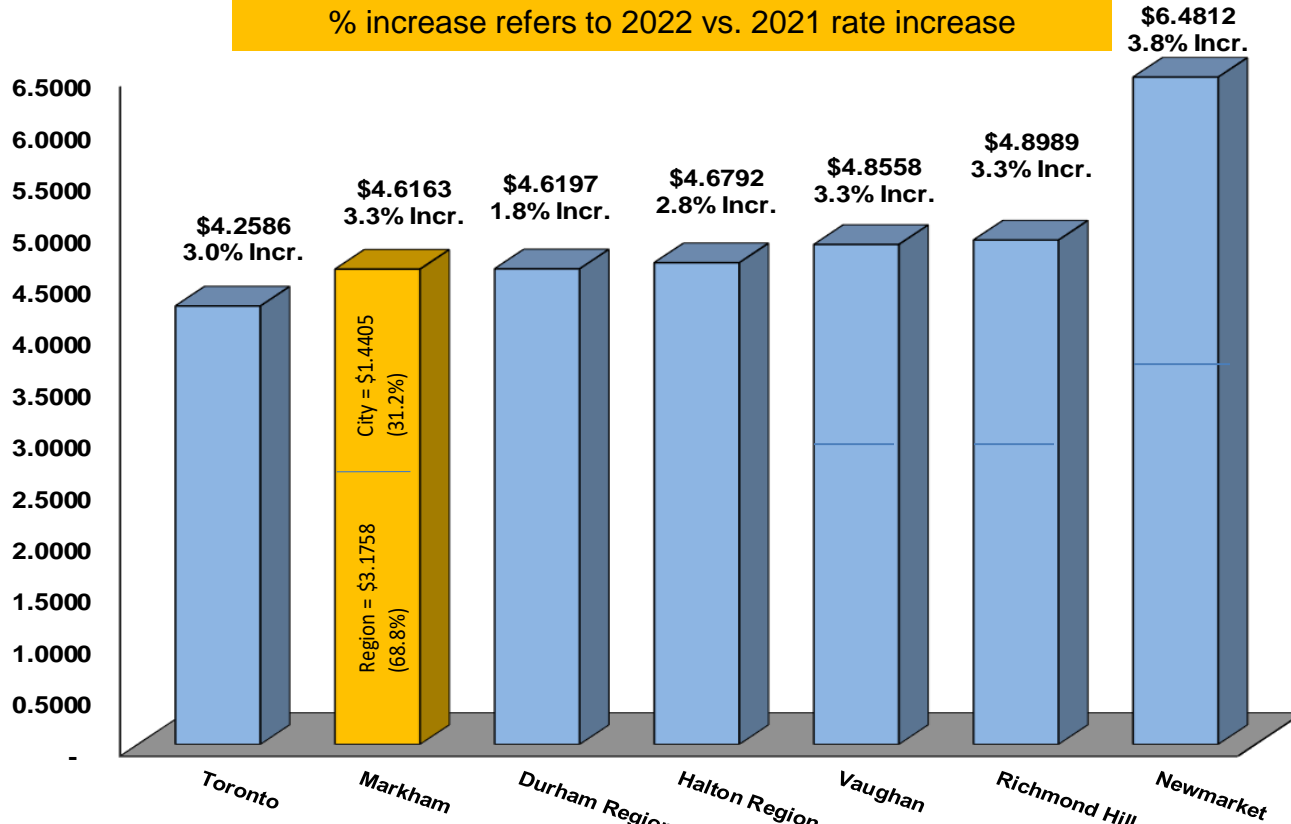
**Markham's total water/wastewater rate increases have historically ranged from 3.3% to 7.9% and is based on a weighting of the Region's component (68% of total City water rate) and Markham's component (32% of total City water rate), and includes the Region's wholesale rate increase (as shown above).**

**Both the City and Region waived the 2020 and 2021 increases in response to the COVID-19 pandemic**



# 4. 2022 Comparative Municipal Water/Wastewater Rates (\$/m<sup>3</sup>)

% increase refers to 2022 vs. 2021 rate increase



## 5. Components of the Water/Wastewater Rate

Markham customers pay a per cubic metre rate (1,000 litres) for their water use. Included in this charge is;

- A. **Region Wholesale Rate** – The actual cost Markham pays to buy water from YR
- B. **Non-Revenue Water** – Cost of water that is used but not billed to the customer
- C. **Operating Expenditures** – Funding needed to operate, upkeep and maintain the water and wastewater systems
- D. **Reserve Contribution** – Funding used for long term infrastructure rehabilitation and replacement

## 5. Components of the Water/Wastewater Rate

The City's proposed 2023 Water/Wastewater rate is:

	2022 Rate \$/m <sup>3</sup>	Increase \$/m <sup>3</sup>	% Increase	2023 Proposed Rate \$/m <sup>3</sup>
A. Region's Wholesale Rate	3.1758	0.1048	3.3%	3.2806
B. Non-Revenue Water	0.3925	0.0130	3.3%	0.4055
C. Operating Expenditures	0.4798	0.0229	4.8%	0.5027
D. Reserve Contribution*	0.5682	0.0367	6.5%	0.6049
<b>City's Water/Wastewater Rate</b>	<b>4.6163</b>	<b>0.1774</b>	<b>3.8%</b>	<b>4.7937</b>

\* Reserve Contribution includes Year 1 of 4 of phase-in Reserve Recovery of \$0.0196/year

**Increase of 3.8% or \$0.1774/m<sup>3</sup>**

## Reserve Recovery – Impact of Not Increasing Rate during years 2020 & 2021

- As a result of Markham's decision to maintain its 2020 and 2021 water and wastewater rates at the 2019 level, the City's reserve study is showing an additional shortfall at the end of 25 years
- The previous Council approved a 4-year rate phase-in starting in 2023 at an incremental rate increase of 0.4% (or \$0.0196/m<sup>3</sup>) due to 0% rate increases in 2020 & 2021

## 5. Components of the Water/Wastewater Rate

### A. York Region Wholesale Rate

#### ➤ York Region:

- ✓ Purchases water from the City of Toronto and from the Region of Peel. The source is Lake Ontario.
- ✓ Pumps water into reservoirs to provide adequate supply and maintain system pressure.
- ✓ Conveys wastewater to their jointly owned treatment facility (in Durham) that treats and releases the water back to Lake Ontario.

## 5. Components of the Water/Wastewater Rate

### A. York Region Wholesale Rate

In September 2021, York Region updated their water/wastewater rate study, which maintained a strategy to ensure financial sustainability and recommended rate increases to support the following requirements:

- ✓ Cover day to day operations
- ✓ Make required asset management contributions based on current estimated needs
- ✓ Service existing user-rate debt and eliminate new debt issuance
- ✓ Maintain full cost recovery while promoting intergenerational equity

## 5. Components of the Water/Wastewater Rate

### A. York Region Wholesale Rate

The Region approved annual rate increases for wholesale rate effective 2022 to 2027.

Approved  
September  
23, 2021

<u>Year Starting</u>	<u>Wholesale Rate (\$/m<sup>3</sup>)</u>	<u>Increase from Prior Year</u>
April 1, 2022	3.1758	3.3%
April 1, 2023	3.2806	3.3%
April 1, 2024	3.3889	3.3%
April 1, 2025	3.5007	3.3%
April 1, 2026	3.6162	3.3%
April 1, 2027	3.7355	3.3%

Note - Region's report identified an annual increase of 2.9% beyond 2027.

## 5. Components of the Water/Wastewater Rate

### A. York Region Wholesale Rate

The Region's water and wastewater (also known as the Region's wholesale rate) rate increase of 3.3%, includes the wholesale water rate increases from the City of Toronto and Region of Peel. These increases are passed on to the City.

	Regions's 2022 Wholesale \$/m <sup>3</sup>	% Increase	\$ Increase/m <sup>3</sup>	Regions's 2023 Wholesale \$/m <sup>3</sup>	% of Total Rate
Water and Wastewater Rate	3.1758	3.3%	0.1048	3.2806	68%

**Increase of \$0.1048/m<sup>3</sup> or 3.3%**



## 5. Components of the Water/Wastewater Rate

	Description	2023 Rate \$/m <sup>3</sup>
✓ A. Region's Wholesale Rate	The actual cost Markham pays to buy water from YR	3.2806
B. Non-Revenue Water	Cost of water that is used but not billed to the customer	0.4055
C. Operating Expenditures	Funding needed to operate, upkeep and maintain the water and wastewater systems	0.5027
D. Reserve Contribution*	Funding used for long term infrastructure rehabilitation and replacement	0.6049
<b>City's Water/Wastewater Rate</b>		<b>4.7937</b>

\* Includes 4-year phase-in of Reserve Recovery of \$0.01906/year starting in 2023

## 5. Components of the Water/Wastewater Rate

### B. Non-Revenue Water

For every 1,000 litres of water that Markham buys from YR, it is budgeted to sell only 890 litres. This unsold water is known as **Non Revenue Water (NRW)**.

The additional 110 litres or 11% of the purchased water is for:

1. System leakage and watermain breaks (74 L)
2. Meter inaccuracies – on YR supply meters and customer meters (15 L)
3. Operational Water - System flushing to maintain water quality and other uses such as fire fighting (18 L)
4. Unauthorised Use - Water theft or illegal connections (3 L)

## 5. Components of the Water/Wastewater Rate

### B. Non-Revenue Water

#### Best Practices

- Markham's budget of 11% NRW is considered a well managed system
- The International Water Association established a global benchmark for water agencies known as the Infrastructure Leakage Index (ILI) where;
- $ILI = \text{Actual System Leakage} / \text{Allowable System Leakage}$ ;
- Allowable System Leakage represents the minimum expected leakage of the system based on best management practices. An ILI close to 1 is considered 'World Class'.
- Markham's 2021 ILI is 1.20

## 5. Components of the Water/Wastewater Rate

### B. Non-Revenue Water

Based on a Region's increase of 3.3%, the NRW component of the 2023 Water Rate will increase by the same percentage

	City's 2022 NRW Component \$/m <sup>3</sup>	% Increase	\$ Increase/m <sup>3</sup>	City's 2023 NRW Component \$/m <sup>3</sup>	% of Total Rate
Water and Wastewater Rate	0.3925	3.3%	0.0130	0.4055	8%

**Increase of \$0.0130/m<sup>3</sup> or 3.3%**

## 5. Components of the Water/Wastewater Rate

	Description	2023 Rate \$/m <sup>3</sup>
✓ A. Region's Wholesale Rate	The actual cost Markham pays to buy water from YR	3.2806
✓ B. Non-Revenue Water	Cost of water that is used but not billed to the customer	0.4055
C. Operating Expenditures	Funding needed to operate, upkeep and maintain the water and wastewater systems	0.5027
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<b>City's Water/Wastewater Rate</b>		<b>4.7937</b>

\* Includes 4-year phase-in of Reserve Recovery of \$0.01906/year starting in 2023

## 5. Components of the Water/Wastewater Rate

### C. Operating Expenditures

The Operating Expenditures component is required to pay for operations and maintenance of the water and wastewater systems. Rate increase includes operational increases such as cost of living adjustments, collective agreements and contract escalations.

	City's 2022 Operating Component \$/m <sup>3</sup>	% Increase	\$ Increase/m <sup>3</sup>	City's 2023 Operating Component \$/m <sup>3</sup>	% of Total Rate
Water and Wastewater Rate	0.4798	4.8%	0.0229	0.5027	10%

**Increase of \$0.0229m<sup>3</sup> or 4.8%**

## 5. Components of the Water/Wastewater Rate

	Description	2023 Rate \$/m <sup>3</sup>
✓ A. Region's Wholesale Rate	The actual cost Markham pays to buy water from YR	3.2806
✓ B. Non-Revenue Water	Cost of water that is used but not billed to the customer	0.4055
✓ C. Operating Expenditures	Funding needed to operate, upkeep and maintain the water and wastewater systems	0.5027
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<b>City's Water/Wastewater Rate</b>		<b>4.7937</b>

\* Includes 4-year phase-in of Reserve Recovery of \$0.01906/year starting in 2023

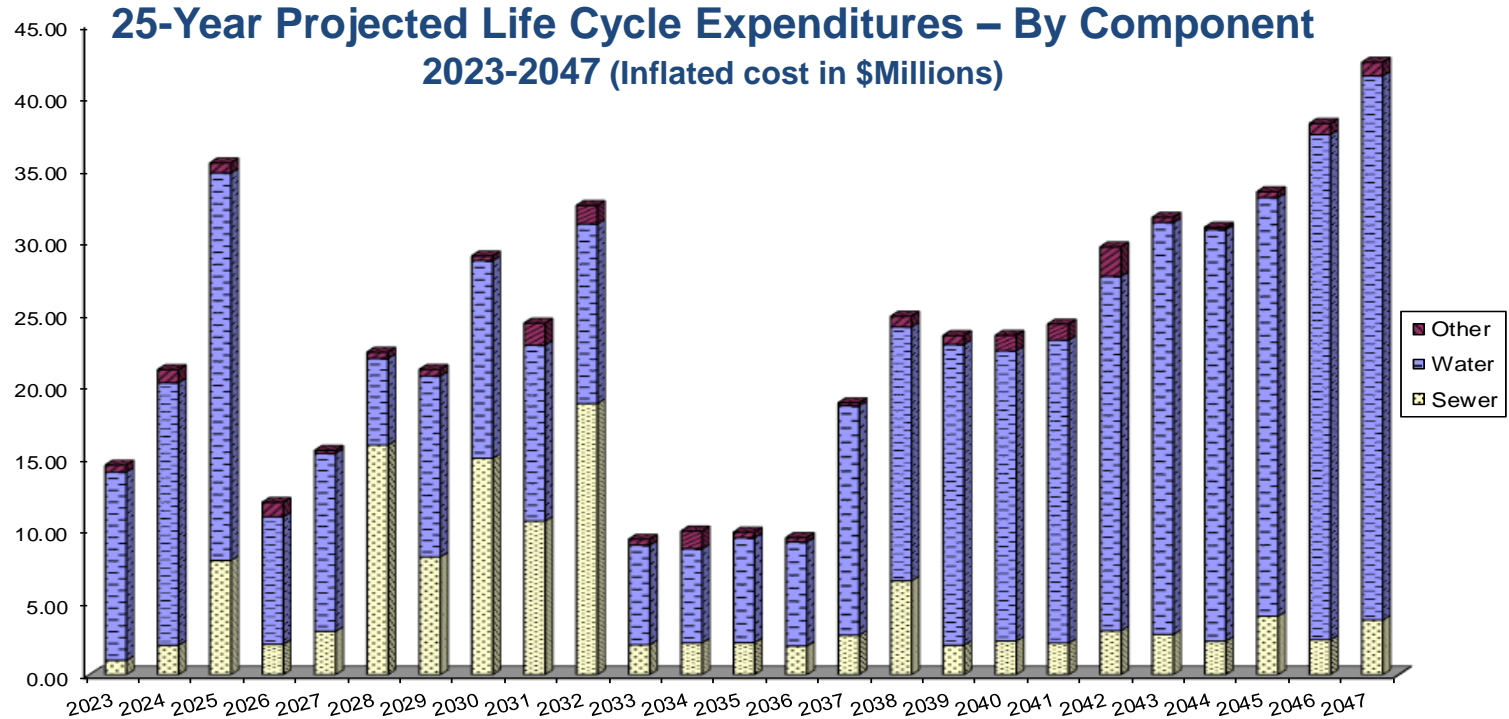
## 5. Components of the Water/Wastewater Rate

### D. Reserve Contribution

- The City implemented the Water & Wastewater Reserve Study with the purpose of addressing the ongoing replacement and rehabilitation requirements for Waterworks infrastructure and other Waterworks related capital assets, such as Fleet, Facilities and ITS infrastructure, over their useful lives.
- The Reserve Study is updated annually to:
  - Establish the water and wastewater rate
  - Ensure that there is adequate funding in the Waterworks Reserve to sustain future replacement and rehabilitation requirements of the City's water and wastewater infrastructure for the next 25 years



## D. Reserve Contribution



Total projected expenditures of \$587.3M inflated (average \$23.5M/year) for the next 25 years or \$446.5M uninflated dollars (average \$17.9M uninflated dollars/year)

## 5. Components of the Water/Wastewater Rate

### D. Reserve Contribution

- Transfer to Reserves = Sales – Purchases – Operations
- The Reserve Contribution component ensures there is adequate funding in the Waterworks Reserve to sustain replacement and rehabilitation requirements for the next 25 years

	City's 2022 Transfer to Reserve \$/m3	% Increase	\$ Increase/m3	City's 2023 Transfer to Reserve \$/m3	% of Total Rate
Water and Wastewater Rate	0.5682	6.5%	0.0367	0.6049	13%

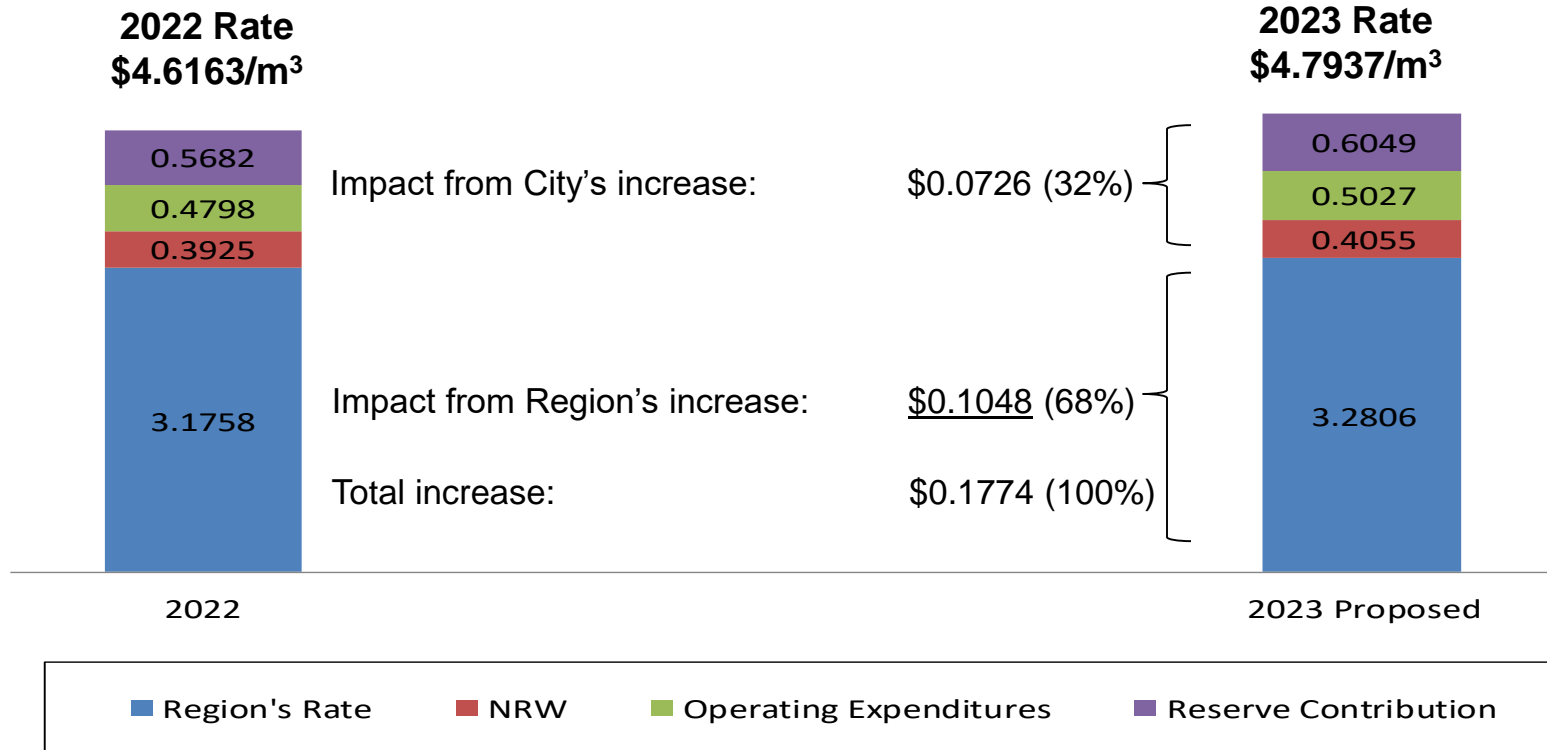
**Increase of \$0.0367/m<sup>3</sup> or 6.5%**

## 5. Components of the Water/Wastewater Rate

	Description	2023 Rate \$/m <sup>3</sup>
✓ A. Region's Wholesale Rate	The actual cost Markham pays to buy water from YR	3.2806
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\* Includes 4-year phase-in of Reserve Recovery of \$0.01906/year starting in 2023

## 6. Summary of 2023 Proposed Water/Wastewater Rate



## 6. Summary of 2023 Proposed Water/Wastewater Rate

Markham's portion of the rate increase is necessary in order to:

- Fund the day-to-day operations of the Waterworks department
- Fund the future replacement of existing assets over the next 25 years
- Avoid higher rate increases in the future

## 7. Impact to Residents and Top 10 Institutional, Commercial, Industrial (ICI) Customers

Based on a 3.8% increase to the 2023 water/wastewater rate of \$4.7937m<sup>3</sup>  
 Rate increase of \$0.1774/m<sup>3</sup> (Region's rate increase of \$0.1048/m<sup>3</sup>, City's increase \$0.0726/m<sup>3</sup>)

### Year over Year Impact to Residents

Year	Water Rate	Average Consumption	Average Water Bill
2022 (A)	\$4.6163/m <sup>3</sup>	208 m <sup>3</sup> per year	\$960
2023 (B)	\$4.7937/m <sup>3</sup>	208 m <sup>3</sup> per year	\$996
<b>Difference (C=B-A)</b>	<b>3.8% Increase</b>		<b>\$36</b>

## 7. Impact to Top 10 Institutional, Commercial, Industrial (ICI) Customers

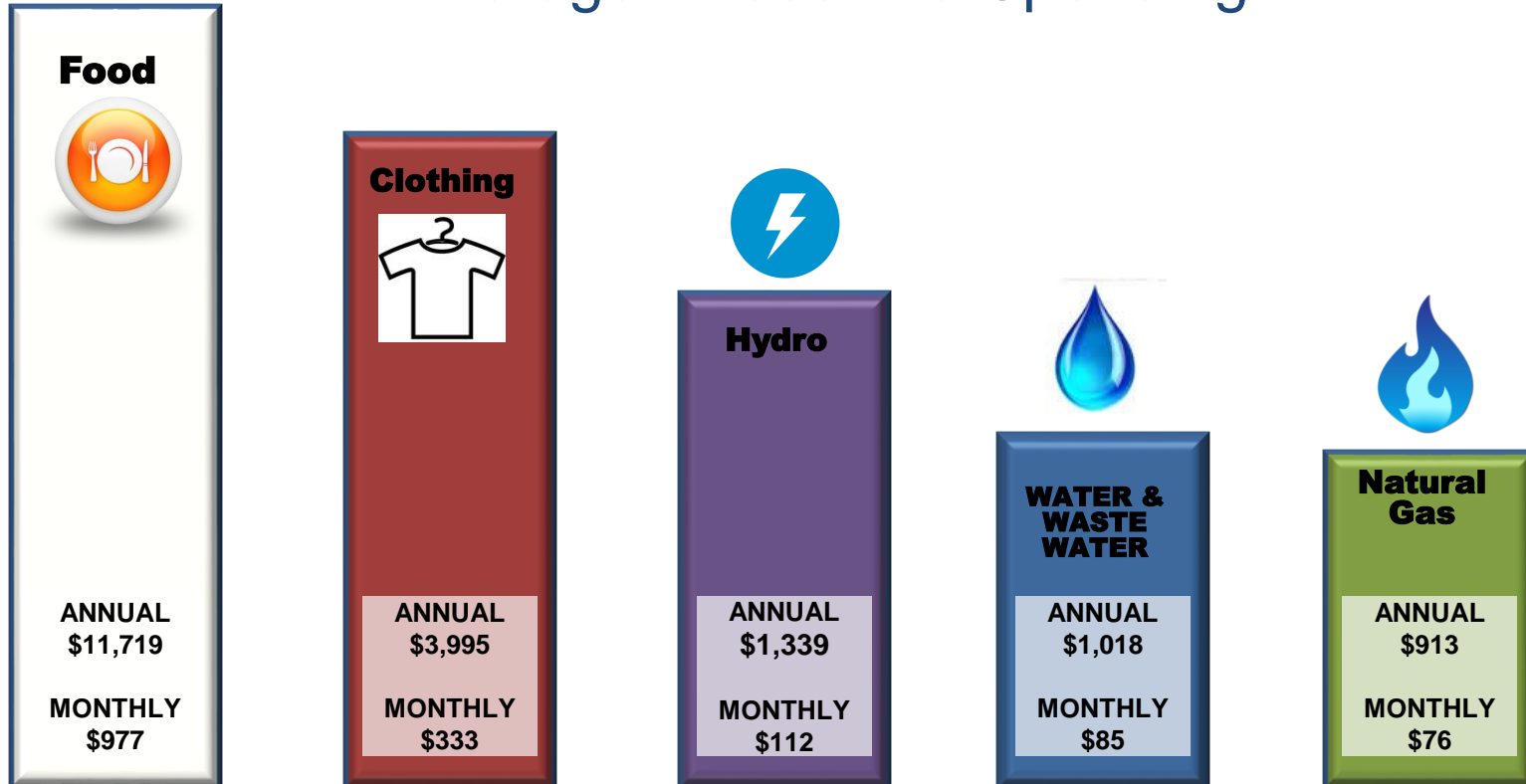
Based on a 3.8% increase to the 2023 water/wastewater rate of  $\$4.7937\text{m}^3$   
Rate increase of  $\$0.1774/\text{m}^3$  (Region's rate increase of  $\$0.1048/\text{m}^3$ , City's increase  $\$0.0726/\text{m}^3$ )

**Increase ranges from \$8,000 to \$13,000 per year**  
(Top 10 list includes manufacturers, office buildings and a retail plaza)





## 7. Average Household Spending



Source (excluding water & wastewater): Statistics Canada 2019 Household Spending – Ontario (adjusted for inflation)



## 8. Reserve Balance \$M

	<b>2022 Year-End Forecast</b>	<b>2023 Proposed Budget</b>
<b>Opening Balance</b>	75.96	79.85
<b>Transfer to Capital</b>	(15.81)	(14.63)
<b>Interest Income</b>	1.30	3.00
<b>Transfer from closed capital projects</b>	2.25	0.50
<b>Transfer to Reserve</b>	16.15	17.67
<b>Waterworks Reserve Ending Balance</b>	<b>79.85</b>	<b>86.39</b>

2023 Projected Reserve Balance represents 2.1% of the total replacement cost of \$4.1B for waterworks infrastructure

## 9. Recommendations

1. That the presentation entitled “2023 Water/Wastewater Rate Public Consultation Meeting” be received and approved for consent at General Committee on February 7th, 2023; and,
2. That the 2023 City of Markham’s (“City”) water/wastewater rate be increased by 3.8% or \$0.1774/m<sup>3</sup> from \$4.6163/m<sup>3</sup> to \$4.7937/m<sup>3</sup> effective April 1, 2023; and further
3. That Staff be authorized and directed to do all things necessary to give effect to this resolution.

## 10. Next Steps

- Council Decision – Scheduled for February 22<sup>nd</sup>, 2023
- Implementation of 2023 Water/Wastewater Rate - April 1, 2023