



Stormwater Rate Structure Review

City of Richmond Hill

In association with WSP Inc.

November 2023

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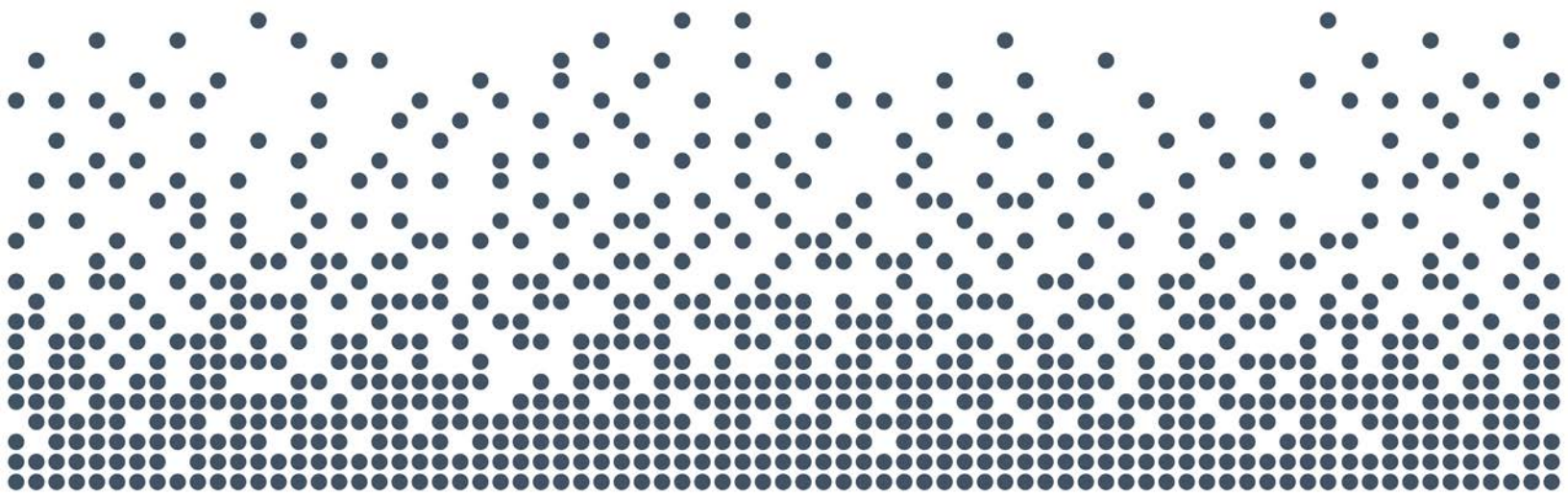
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List of Acronyms and Abbreviations

Acronym	Full Description of Acronym
C.C.B.F.	Canada Community Building Fund
C.V.A.	Current Value Assessment
D.C.	Development Charges
E.C.A.	Environmental Compliance Approval
“i” factor	Impervious Factor
km	Kilometres
L.I.D.	Low Impact Development
MPAC	Municipal Property Assessment Corporation
S.W.M.	Stormwater Management
S.W.S.S.A.	Sustainable Water and Sewage Systems Act
Sq.ft.	Square Feet



Executive Summary



Executive Summary

Introduction

The City of Richmond Hill has had a dedicated stormwater rate in place to fund operating and infrastructure costs since 2013, however, significant shortfalls in funding and the need to improve equity and fairness led the City to approve a new rate structure in 2020, which was implemented in 2022. Due to feedback and inquiries received from Council and a select group of property owners, the City is seeking to refine the current rate structure to improve equity while fully funding current and future infrastructure needs.

The City retained Watson & Associates Economists Ltd. (Watson) and WSP Inc. (WSP) to undertake a stormwater rate structure and funding study. The following has been analyzed as part of this process:

- Consideration of various rate structures identified in benchmarking based on current challenges, best practices, and administrative cost;
- Review of current runoff percentages applied to various property types along with recommended refinements;
- Evaluation of exemptions, unique property types, and credits/rebates/subsidies;
- Data analysis and reconciliation of property dataset based on current structure; and
- Calculation of rates based on updated rate structure.

Current Rate Structure

The City of Richmond Hill was one of the first Ontario municipalities to adopt a stormwater rate structure in 2013. This initial rate was based on a two-tier flat rate structure, differentiating residential and non-residential properties given their relative contributions to the City's stormwater system. This dedicated rate allowed the City to recover operating and capital infrastructure costs from property owners with a more equitable approach compared to recovery through property taxes.

Although the initial flat-rate structure provided a simple method of charging for Storm Water Management (S.W.M.) from an administrative perspective, this structure does not provide a strong link between the impact on the City's stormwater system for certain



users and the amount paid by each of those users. As such, the City implemented a new rate structure in 2022 which is based on actual property area, land use type, and stormwater runoff percentages. The rate structure reflects the principle that higher imperviousness of a property leads to a higher contribution of stormwater runoff into the City's system. The following table provides for the current rates based on property type:

Table ES-1
City of Richmond Hill
Current Rate Structure and Associated Rates

Property Type	Runoff Percentage	Rate per 1,000 sq.ft.
Residential	50%	\$9.54
Commercial/Industrial	95%	\$21.02
Multi-Residential	95%	\$21.02
Golf Courses	15%	\$4.25
Agricultural Land/Farms	10%	\$3.20
Vacant Land	10%	\$3.20

Due to feedback received subsequent to the adoption of the above rate structure, the City then introduced billing caps to certain property types as follows:

- Residential: property area greater than 1 acre; and
- Vacant Land, Farmland, and Golf Courses: property area greater than 10 acres

Proposed Rate Structure

A benchmarking exercise of municipalities within Ontario has established that there is no consistent approach to stormwater rate structures. Given the administrative burden and cost of implementing a rate structure based on measured imperviousness, it was recommended that the City maintain its current rate structure, with a few key refinements as follows, as supported by a detailed engineering review:

- Split the existing residential category (note that multi-residential has a separate category presently) into single family homes, semi-detached, and townhouses to better reflect the differences in contribution to stormwater runoff;



- Charge the portion of large residential properties that are greater than one acre and up to an additional ten acres based on an impervious factor (or “i” factor) of 10% given the similarities to vacant land and the relative contribution to runoff;
- Maintain industrial/commercial calculations at status quo;
- Previously exempt institutional properties should be charged based on an “i” factor of 70%;
- Reduce “i” factor for multi-residential properties from 95% to 85% to reflect moderate landscaping relative to industrial/commercial properties;
- Continue charging vacant land and agricultural land given that these properties contribute to the City’s stormwater runoff; and
- Split golf courses into playing areas versus commercial areas such as the club house and parking lots based on G.I.S. measurements. The split was previously based on proportion of property assessment, however this does not accurately reflect relative contribution to stormwater runoff between the two types of areas.

Based on the above recommendations, the new rate structure would provide for the following property categories and associated “i” factors:



Tables ES-2
City of Richmond Hill
Recommended Changes to Rate Structure

Current Rate Structure		Recommended Rate Structure	
Property Type	Runoff %	Property Type	"i" Factor
Residential (up to 1 acre)	50%	Single Family Detached (up to 1 acre)	50%
		Semi Detached/Link Home	55%
		Row/Town Home	70%
Residential (>1 acre)	50% capped at 1 acre	Residential - 1 acre	50%
		up to 10-acre cap (vacant land rate to be charged)	10%
Commercial/Industrial	95%	Commercial/Industrial	95%
Institutional	Exempt	Institutional	70%
Multi-Residential	95%	Multi-Residential	85%
Vacant Land (up to 10-acre cap)	10%	Vacant Land (up to 10-acre cap)	10%
Farmland (up to 10-acre cap)	10%	Farmland (up to 10-acre cap)	10%
Golf Course (up to 10-acre cap)	15%	Playing area and cart paths (up to 10-acre cap)	15%
Club house, parking, driveway, pro-shop	95%	Club house, parking, driveway, pro-shop	90%



Table ES-3
City of Richmond Hill
Impacts of Refinements to Stormwater Rates

Current Rate Structure		Recommended Rate Structure	
Property Type	Current Rate per 1,000 sq.ft.	Property Type	Recommended Rate per 1,000 sq.ft.
Residential (up to 1 acre)	\$9.54	Residential - Single Family Detached (up to 1 acre)	\$10.11
		Residential - Semi Detached/Link Home	\$11.12
		Residential - Row/Town Home	\$14.16
Residential (>1 acre)	\$9.54	Residential - 1 acre	\$10.11
	\$0	Residential - up to 10 acre cap (vacant land rate to be charged)	\$2.02
Commercial/Industrial	\$21.02	Commercial/Industrial	\$19.21
Institutional	Exempt	Institutional	\$14.16
Multi-Residential	\$21.02	Multi-Residential	\$17.19
Vacant Land (up to 10 acre cap)	\$3.20	Vacant Land (up to 10-acre cap)	\$2.02
Farmland (up to 10 acre cap)	\$3.20	Farmland (up to 10 acre cap)	\$2.02
Golf Course (up to 10 acre cap)	\$4.25	Golf Course - playing area and cart paths (up to 10 acre cap)	\$3.03
Golf Course - club house, parking, driveway, pro-shop	\$21.02	Golf Course - club house, parking, driveway, pro- shop	\$18.20

The current rates presented in Table ES-3 are based on the 2023 operating/capital budgets for Stormwater. Based on the relative shifts in burden resulting from the proposed rate structure in Table ES-2, residential properties will be paying slightly more on a per sq.ft. basis, whereas non-residential properties would experience a decrease in the rate. This change in the rates is a result of shifting the burden between property types as semi-detached and townhouses now receive a higher overall weighting relative to the other properties.

Policy Recommendations

Based on the detailed benchmarking of 16 Ontario municipalities and a review of common practices and policies, the following exemption policies are proposed:

- City owned properties and public schools (exempt from fees and charges under the *Municipal Act*) will continue to be exempt;
- All other properties are to be charged a stormwater fee; and
- Exemptions for hospitals and places of worship to be removed.



The feasibility of a credit program was also assessed and given the following considerations. Based on that review a credit program is not proposed at this time due to financial/resource constraints in addition to equity concerns:

- Benchmarking:
 - Over half of the surveyed municipalities do not provide stormwater credits;
 - Of the municipalities providing credits, majority of them only provide credit to non-residential property groups; and
 - Many municipalities have experienced low uptake in credit program due to the maximum credit provided (e.g. 50% of bill) and very long payback period for return on investment for property owners.
- Equity Concerns:
 - The costs of a non-residential credit program would be borne by residential and other non-eligible properties.
- Financial/Resource Constraints:
 - Potential to add additional pressures on the already depleted reserve if uptake is high;
 - Resource constraints and costs to run a credit program; and
 - Need for ongoing monitoring and compliance of properties that receive the credit.

As part of the policy refinements, it is also recommended that the City adopt a billing inquiry policy to provide for a process in the event a landowner wishes to seek clarification on their rate or thinks the incorrect rate was applied. For example, if the total land area measurement does not match the land area provided through Municipal Property Assessment Corporation (MPAC), G.I.S. system or Tax manager, or the incorrect property type was assigned to the land parcel, the City would have a formal process to allow for a landowner to issue an inquiry for the appropriate rate to be applied. It is noted that this would not be a complaint or appeal procedure where customers can challenge that their property contributes less stormwater runoff than others in the same property category and should be eligible to pay a lower rate.

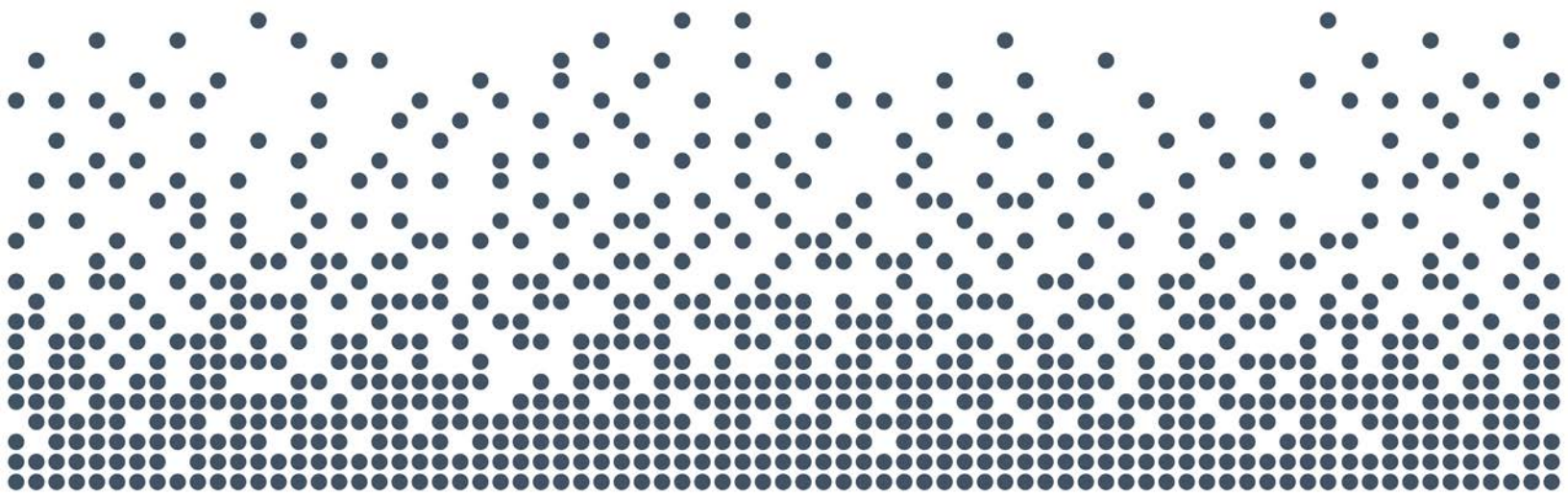
Funding Considerations

Historical underfunding and large capital requirements over the next ten years requires significant rate increases to fund the required works. Various funding strategies have been recommended for consideration:



- Required rate increases;
- Reprioritize the capital forecast to manage and lower funding requirements over the short-term;
- Responsible issuance of debt to fund large capital projects;
- Utilize internal financing where possible to minimize financing costs;
- Explore the use of grant funding to the greatest extent possible; and
- Utilize development charges and other funding sources wherever possible.

It is recommended that the City analyze required rate increases over the next ten years in conjunction with the 2024 water and wastewater financial plan process, subsequent to the approval of the ten-year capital forecast.



Report



Chapter 1

Introduction



1. Introduction

1.1 Stormwater Management Overview

Stormwater, which is rainwater, snowmelt, or other forms of precipitation, must be managed within a municipality to prevent flooding and related issues. As development occurs in a municipality, higher amounts of impervious surfaces develop which increases both the amount of stormwater runoff, and the rate at which the runoff is transported off the surfaces.

Stormwater management (S.W.M.) is the application of practices that are designed to provide protection from flooding, erosion, and protect and maintain the water quality of rivers and streams. In Ontario, municipalities are responsible for stormwater management for more localized storm related surface water. This can be provided through streams, rivers, creeks, or through City-wide municipal infrastructure.

Stormwater is generally managed through the following controls:

- Source control: low impact development for groundwater recharge and reduced runoff generation into the stormwater system;
- Conveyance control: storm sewer pipes and ditches moving large water volumes away efficiently to reduce flooding; and
- End-of-pipe control: holding back or storing water to prevent downstream flooding and erosion, and to remove contamination from the water (e.g. stormwater ponds).

All of the above controls are used together to varying degrees to provide for a “treatment train” approach for the holistic management of stormwater.

City-wide infrastructure, such as stormwater mains in urban areas, outfalls, ditching along-side roads, etc. are all maintained and funded by the City. Increases in the amount of hard surfaces results in increased pressure on existing infrastructure as the assets need to deal with greater runoff volumes.

It is acknowledged that every property in the City of Richmond Hill (City) contributes runoff to the stormwater infrastructure system, even if this is limited to public roads,



catch basins, culverts, and ditches that lead into infrastructure that is owned and maintained by the City.

The City owns, operates, and maintains an extensive S.W.M. asset inventory that forms part of a larger system. This includes over:

- 540 km of storm sewers
- 18,000 catchbasins
- 95 storm ponds;
- 115 sedimentation and filtration manufactured treatment devices;
- 1,100 culverts/road crossings;
- 45 low impact development (L.I.D.) infrastructure systems; and
- 150 km of streams

Based on the City's Asset Management Plan, the total replacement value of these assets is estimated at approximately \$2.3 billion (2023\$). Under Provincial legislation (*Infrastructure for Jobs and Prosperity Act, 2015*, discussed further in Section 1.3.2, the City is obligated to address its asset management needs. Stormwater management systems will also face future pressure arising from climate change and future regulatory requirements and will likely require strategic and timely capital investments to maintain required levels of service. Across Ontario, Canada, and North America, municipalities facing these funding pressures for infrastructure management have adopted funding models/rates that provide a dedicated funding source for their stormwater infrastructure. The benefits of a dedicated rate for S.W.M. includes:

- Providing a dedicated funding source for all expenditures of the S.W.M. system; and
- Increased fairness and equity through the adoption of a rate structure which reflects the property type and overall contribution to stormwater runoff. This is in contrast to recovering costs through the tax rate, which is based on a property's assessed value, and does not have a clear link to stormwater runoff.

1.2 Study Purpose

The City of Richmond Hill has had a dedicated stormwater rate in place to fund operating and infrastructure costs since 2013, however, significant shortfalls in funding and the need to improve equity and fairness led the City to adopt an updated rate



structure in 2022 (note: details on the City's current rate structure are provided in Section 2 of this report). Due to certain inquiries and feedback received from Council and residents, the City is seeking to refine the current rate structure to improve equity while fully funding current and future infrastructure needs.

Watson & Associates Economists Ltd. (Watson) along with WSP Inc. (WSP) were retained by the City of Richmond Hill to undertake a stormwater rate structure review. The overall objective of this study is to provide equitable stormwater rates to customers, in order to provide for the long-term protection and enhancement of water resources in the City through effective and efficient stormwater management infrastructure capital construction, operations, and maintenance.

The report herein provides an overview of the legislation, a history of the City's existing rate structure, challenges with the current model, a recommended rate structure, policy considerations, and a brief discussion on funding requirements.

1.3 Regulatory Requirements for S.W.M.

Resulting from the water crisis in Walkerton, significant regulatory changes have been made in Ontario which impact water, wastewater and stormwater services. Many of these changes have arisen as a result of the Walkerton Commission and the 93 recommendations made by the Walkerton Inquiry Part II report. Areas of recommendation include:

- watershed management and source protection;
- quality management;
- preventative maintenance;
- research and development;
- new performance standards;
- sustainable asset management; and
- lifecycle costing.

The legislation which would have most impacted municipal water, wastewater and stormwater rates was the Sustainable Water and Sewage Systems Act (S.W.S.S.A.) which would have required municipalities to implement full cost pricing. The legislation was enacted in 2002, however, it had not been implemented pending the approval of its regulations. The Act was repealed as of January 1, 2013. It is expected that the



provisions of the Water Opportunities Act will implement the fundamental requirements of S.W.S.S.A.

1.3.1 Water Opportunities Act, 2010

As noted, since Walkerton, refinements to various legislation have been introduced which may impact stormwater services. Some of these Bills have found their way into law, while others have not been approved. Bill 72, the *Water Opportunities Act, 2010*, was introduced into legislation on May 18, 2010, and received Royal Assent on November 29, 2010.

The Act provides for the following elements for Stormwater:

- The fostering of innovative water, wastewater and stormwater technologies, services and practices in the private and public sectors;
- Preparation of sustainability plans for municipal water services, municipal wastewater services and municipal stormwater services.

Regarding the sustainability plans:

- The Act requires a detailed review of a financial plan for water, wastewater, and stormwater services; and
- Regulations will provide performance targets for each service – these targets may vary based on the jurisdiction of the regulated entity or the class of entity.

The financial plan shall include:

- An asset management plan for the physical infrastructure;
- A financial plan;
- For water, a water conservation plan;
- An assessment of risks that may interfere with the future delivery of the municipal service, including, if required by the regulations, the risks posed by climate change and a plan to deal with those risks; and
- Strategies for maintaining and improving the municipal service, including strategies to ensure the municipal service can satisfy future demand, consider technologies, services and practices that promote the efficient use of water and reduce negative impacts on Ontario's water resources, and increase co-operation with other municipal service providers.



Performance indicators will be established by service, with the following considerations:

- May relate to the financing, operation, or maintenance of a municipal service or to any other matter in respect of what information may be required to be included in a plan;
- May be different for different municipal service providers or for municipal services in different areas of the Province.

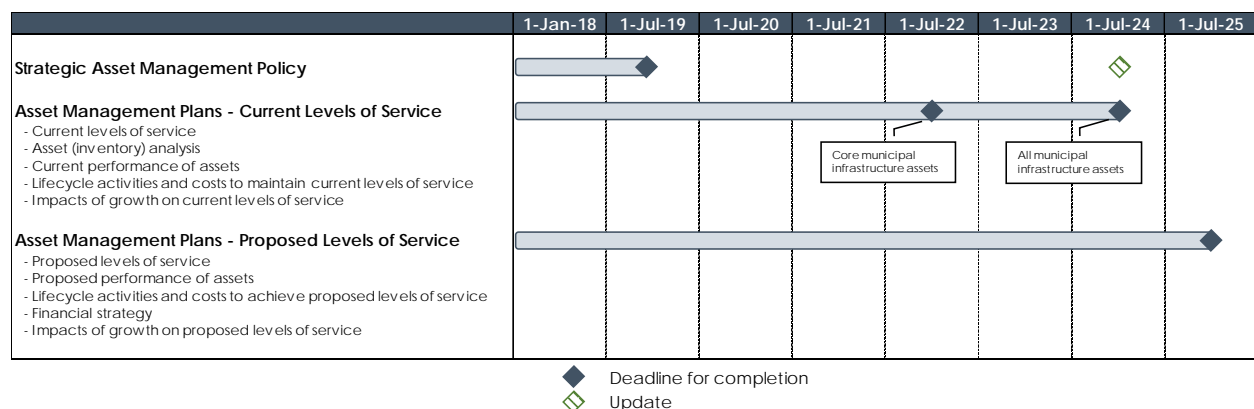
Regulations will prescribe:

- Timing;
- Contents of the plans;
- Which identified portions of the plan will require certification;
- Public consultation process; and
- Limitations, updates, refinements, etc.

As noted earlier, it is expected that this Act will implement the principles of the S.W.S.S.A. once all regulations are put in place.

1.3.2 Infrastructure for Jobs and Prosperity Act, 2015 (I.J.P.A.)

On June 4, 2015, the Province of Ontario passed the I.J.P.A. which, over time, will require municipalities to undertake and implement asset management plans for all infrastructure they own. On December 27, 2017, the Province released Ontario Regulation 588/17 under the I.J.P.A. which has three phases that municipalities must meet:





Note: On March 15, 2021, the Province filed Regulation 193/21 to extend all of the timelines of Regulation 588/17 by one year.

Every municipality in Ontario was to have prepared a strategic asset management policy by July 1, 2019. Municipalities will be required to review their strategic asset management policies at least every five years and make updates as necessary. The subsequent phases are as follows:

- Phase 1 – Asset Management Plan (by July 1, 2022):
 - For core assets, municipalities must have the following:
 - Inventory of assets;
 - Current levels of service measured by standard metrics; and
 - Costs to maintain levels of service.
- Phase 2 – Asset Management Plan (by July 1, 2024):
 - Same steps as Phase 1 but for all assets.
- Phase 3 – Asset Management Plan (by July 1, 2025):
 - Builds on Phase 1 and 2 by adding:
 - Proposed levels of service; and
 - Lifecycle management and financial strategy.

In relation to stormwater (which is considered a core asset), municipalities needed to have an asset management plan that addresses the related infrastructure by July 1, 2022 (Phase 1). O. Reg. 588/17 specifies that the municipality's asset management plan must include the following for each asset category:

- The current levels of service being provided, determined in accordance with the following qualitative descriptions and technical metrics and based on data from at most the two calendar years prior to the year in which all information required under this section is included in the asset management plan;
- The current performance of each asset category, including:
 - a summary of the assets in the category;
 - the replacement cost of the assets in the category;
 - the average age of the assets in the category, determined by assessing the average age of the components of the assets;
 - the information available on the condition of the assets in the category;



- a description of the municipality's approach to assessing the condition of the assets in the category, based on recognized and generally accepted good engineering practices where appropriate; and
- The lifecycle activities that would need to be undertaken to maintain the current levels of service.

The City recently undertook its Asset Management Plan that identified key stormwater infrastructure works. As part of Phase 3 of I.J.P.A., the City will need to identify a financial strategy to fund future infrastructure replacement needs through the dedicated stormwater rate.

1.3.3 Environmental Compliance Approval (E.C.A.)

Stormwater infrastructure is predominately approved by Provincial agencies under the Ontario Water Resources Act as an E.C.A. The Province has specific requirements and expectations of municipalities on how stormwater infrastructure is operated and maintained. To comply with the Provincial legislation, the City manages its stormwater infrastructure under a system-wide E.C.A. that requires regular inspections, monitoring, maintenance and reporting to the Province the status of its entire stormwater system to demonstrate it is functioning properly and is in compliance with Provincial approvals. The E.C.A. requires that the stormwater system is properly operated and maintained with a specific reference to “adequate funding”.



Chapter 2

Stormwater Rate Structure



2. Stormwater Rate Structure

2.1 Evolution of Current Rate Structure

2.1.1 Adoption of Initial Dedicated Stormwater Rate (2013)

The City of Richmond Hill was one of the first municipalities in Ontario to recognize that S.W.M. infrastructure was underfunded and began exploring long term funding options in 2008.

The City established a dedicated stormwater rate in 2013, based on a study undertaken by Watson. This initial rate was based on a two-tier flat rate structure, differentiating residential and non-residential properties given their relative contributions to the City's stormwater system. Prior to the establishment of this rate, the City was funding S.W.M. capital and operating needs through property taxes. A dedicated rate would allow the City to recover all operating and capital infrastructure costs through this funding source and would provide for sustainability and flexibility. A stormwater rate is also a more equitable approach to recovering stormwater costs, given that recovery through property taxes is based on property assessment, which does not have a clear link to stormwater runoff from the property.

2.1.1.1 Issues with Initial Rate Structure

Although the initial flat-rate structure provided a simple method of charging for S.W.M. from an administrative perspective, this structure did not provide a strong enough link between the impact on the City's stormwater system and the amount paid by each user. For example, every non-residential property, from a large shopping mall to a small retail building, despite significant differences in contribution to stormwater runoff.

Residential development across the City has also shifted to higher density forms, resulting in increased impervious area. Multi-residential buildings were being billed with at the same rate as a single family home, resulting in lower revenues despite increased stormwater contribution from high-density housing.

In addition, the intent of the City at the time the stormwater rate was implemented in 2013 was to gradually phase-in rate increases to build up funds in the City's Water Quality Protection Reserve Fund and provide long-term financial sustainability of the



S.W.M. system. The forecast required annual rate increases ranging from 10% to 52% in order to achieve sustainability within ten years, however the approved increases were much lower than the original phase-in strategy (range of 0% to 10% annual increases).

Capital and operating needs have also steadily increased as the City continues to assume additional infrastructure through development. In addition to the operation of new infrastructure, the City's existing infrastructure continues to age adding additional maintenance and replacement costs.

Given the above factors, the City began exploring different rate structures to improve fairness of the rate while improving financial sustainability of the S.W.M. system.

2.1.2 Current Rate Structure (2022)

The new rate structure improved equity by shifting the appropriate stormwater cost burden to properties based on relative impervious areas. This rate structure takes into account the impervious areas of each property type and then considers site areas for the charge; hence the rate for each property is based on individual property size and type.

Runoff percentages have been utilized as a proxy for impervious areas of different property types. These percentages reflect the average imperviousness of different property types such that property types with a higher runoff percentage contribute more stormwater runoff. This is reflected in the table below indicating that an industrial property would contribute more runoff than vacant or agricultural land:



Table 2-1
City of Richmond Hill
Runoff Percentages Utilized in Current Rate Structure

Property Types	Runoff Percentage
Commercial/Industrial	95%
Multi-Residential	95%
Residential	50%
Golf Courses	15%
Agricultural Land/Farms	10%
Vacant Land	10%

As an example, a percentage of 10% indicates that on average, 10% of stormwater would run off the property and into the City's system, whereas 90% would be absorbed by the property or removed through evaporation. It is noted that these percentages are based on averages across the entire property classification. The above runoff rates are based on engineering standards utilized in Ontario and throughout Canada.

The total revenue requirement was distributed by using the total area of the City and applying the runoff percentage by property type to derive a stormwater rate per 1,000 square foot as follows:

Table 2-2
City of Richmond Hill
Current Rate per 1,000 sq.ft.

Property Types	Rate per 1,000 sq.ft.
Commercial/Industrial	\$21.02
Multi-Residential	\$21.02
Residential	\$9.54
Golf Courses	\$4.25
Agricultural Land/Farms	\$3.20
Vacant Land	\$3.20



To calculate an individual property's stormwater bill, the rate per sq.ft. is multiplied by the property's total site area as follows:

Table 2-3
City of Richmond Hill
Rate Calculation Example

Rate Calculation Formula

$$\text{Total Land area in sq.ft. (frontage x depth)} \times \frac{\text{Respective rate for the property}}{1,000}$$

Rate Calculation Example			
Property Type	sq.ft.	Calculation Step	Annual Charge
Residential Property (small)	3,800	3,800 x (\$9.54/1,000)	\$36.25
Residential Property (large) - capped at 1 acre/43,560 sq.ft.	255,697	43,560 x (\$9.54/1,000)	\$415.56
Commercial	92,130	92,130 x (\$21.02/1,000)	\$1,936.57
Industrial	48,499	48,499 x (\$21.02/1,000)	\$1,019.45
Multi-Residential	52,000	52,000 x (\$21.02/1,000)	\$1,093.04
Farm - capped at 10 acres/435,600 sq.ft.	600,000	435,600 x (\$3.20/1,000)	\$1,393.92

This new rate structure improved the equity and fairness of the rate by shifting the cost burden of S.W.M. to non-residential and multi-residential properties with higher imperviousness. In addition to considering the property type, the new rate also considered the size of each individual property by calculating the rate based on each property's area.

2.1.2.1 Rate Caps

The new rate structure took effect April 1, 2022. Based on discussions with City staff, benchmarking exercises comparing to other municipalities, and the inquiries received from customers, the current rate structure appears to function well for greater than 90% of the City's properties. There are a minority of properties where the City has faced challenges in the implementation of the current structure as follows:

- Feedback and inquiries from farmland and golf course landowners were received by the City, given that their large land areas resulted in significantly higher charges relative to the old rate structure. As a result, the City implemented caps



on certain property types such that land areas above these caps were not charged:

- Residential cap: 1 acre
- Farm and vacant land: 10 acre cap
- Golf course playing area (i.e. excluding clubhouses and other commercial areas): 10 acre cap

2.2 Challenges and Gaps with Current Rate Structure

Although the newly adopted rate structure improves equity and fairness relative to the two-tier flat rate structure, the City received feedback from residents and identified certain challenges as follows:

- One acre cap imposed on large residential properties creates an inequity with vacant land of a similar total area, where a cap of 10 acres is imposed.
- Property owners of farm, vacant, and rural residential land question why they are being charged for stormwater as they believe they manage their own runoff onsite and don't use City-owned S.W.M. infrastructure.
- Certain unique mixed-use properties with different uses cannot be appropriately classified within the current rate structure.
- Given that the City bills for stormwater on the water bills, property owners not connected to the water system have questioned why they are receiving a water bill for stormwater.

Through this study process, the City has sought to address these challenges through changes or adjustments to the current rate structure. The options analyzed and the recommended solutions are provided in the subsequent sections.

2.3 Assessment of Rate Structure Alternatives

As part of this study, the City and the consulting team explored various rate structure alternatives based on current challenges, administrative costs, and best practices across Ontario. A summary of rate structures in place across Ontario is provided in Appendix A.



An important consideration with respect to establishing a stormwater funding model is identifying the underlying charging parameters that most closely relate to the benefits of service received. In this regard, there are several approaches which have been used by municipalities across Ontario. These approaches are assessed below in the context of Richmond Hill.

2.3.1 Assessment Criteria

The various funding models/rate structures can be assessed based on the following criteria:

“Ease of Calculation” is a criterion to capture the relative data intensity required to support a given funding model. In the presence of good data, any given funding structure can be calculated with relative ease, but the difficulty lies in the ability to obtain and maintain a comprehensive and accurate data source.

“Equity” measures how closely the amount paid by any given property owner reflects the benefits of service received. Although all City residents benefit from a well-functioning stormwater system, property owners with more impervious areas on their properties produce more stormwater runoff, and hence place higher demands on the City’s infrastructure. A more direct linkage between the amount paid and the benefit derived from services is considered more equitable, and funding structures that provide this are therefore preferred.

“Cost of Administration” reflects the fact that although a funding structure that is well supported by data and provides a tight relationship between the ultimate cost to, and benefits received by, the person paying them may be more desirable, the costs of administering such a funding structure typically rise. This is an important consideration because any increase in the costs of administration would have the effect of diverting funding from actual stormwater system needs. Therefore, the benefit of recovering service costs from benefiting parties needs to be measured against the costs of implementation.

2.3.2 Assessment of Alternatives

Table 2-4 provides the spectrum of options for stormwater cost recovery and the ranking of each relative to various service criteria discussed in the previous section.



Table 2-4
City of Richmond Hill
Spectrum of Options for Stormwater Cost Recovery

Funding Model	Basis of Calculation	Ease of Calculation	Equity	Cost of Administration	Other Comments
Actual Impervious Area per Property	\$/measured impervious area	Difficult	High	High	Costly and need to monitor building permits and update data. Needs continual detailed review and likely additional staff to implement
"i" Factor/Runoff Percentage by Actual Land Area per Property	\$/area of property (varied by type)	Difficult	High	Medium	Can be costly to implement
"i" (Impervious) Factor/Runoff Percentage by Property Type	\$/unit (varied by type)	Difficult	Medium	Medium	Can be costly to implement
Utility Rate	\$/cu.m. of water consumption	Easy	Low	Low	Less costly to implement. May not include all properties
Size of Property	\$/area of property	Medium	Medium	Low	Often gaps in MPAC data – need to supplement with GIS or site visit
Flat Rate per Property	\$/property	Easy	Low	Low	May be varied between residential and non-residential to reflect differences
Property Taxes	Tax rate applied to assessed value	Easy	Low	Low	Easy to implement on tax bill



Generally, moving from the top of the table to the bottom, the relationship between the amount paid and benefits derived from the service becomes more direct. However, the costs to populate and maintain the "denominator" for the calculation also increases as the options progress down the table.

Property Taxes

Property taxes are considered easy to calculate since this is a funding model currently in use across all municipalities and hence data is readily available to support assessment calculations. Similarly, the cost of administration is considered low since the City already maintains a tax database and has the resources in place to maintain and update it as needed. Property assessment is not considered a good proxy for the benefits that a given property receives from the City's stormwater system.

Since the City has already established a dedicated stormwater rate, it is not recommended that the City revert back to charging based on assessment, given the absence of a linkage to stormwater runoff.

Flat Rate per Property

Charging a uniform flat rate per property would be the easiest approach both computationally and administratively. Data on the number of properties is readily available through the City's tax database and determining an appropriate flat fee would simply entail dividing the net costs of the stormwater program by the number of properties. From an administrative perspective, a flat rate approach would be quite inexpensive, as each year the number of properties would simply be adjusted for any subdivisions/severances that take place. However, this type of funding structure provides no direct link between the amount paid and the benefits derived from the stormwater system, as it does not capture any property characteristics and simply treats every property the same.

The City's first dedicated stormwater rate was based on a two-tier flat rate structure. Similar to the rationale provided above for charging based on assessment, the City has already evolved from this simplistic approach in charging a flat rate based on property type. Given the low equity this rate structure provides, it is not recommended that the City adopt this rate structure.



Area Rate

Another relatively simple rate structure would be to charge each property based on its size using a uniform rate per acre. Generally, stormwater rates recognize a relationship between the volume of water which may be derived from the size of the property.

Grouping properties based on size into discrete property groups (e.g. small and large residential property types) and charging each property within the category the same rate is a variation of the area rate. This tiered flat rate based on area can simplify the calculation and administrative burden of the rate structure, however, certain challenges exist for properties that are at the breakpoints of the various tiers. For example, if the cutoff between small and large residential properties is one acre, properties that are 1.01 acres would be charged a higher rate than a property that is 0.99 acres. This could create issues of perceived inequities among properties that are otherwise very similar in size and type.

While area is a key factor for the amount of stormwater to fall on a particular property, this approach does not directly reflect the rate at which the water migrates from the property into the municipal storm system. Given this consideration and the fact that the City already implements a rate which takes contribution to stormwater runoff into account, it is not recommended that the City utilizes an area rate.

Utility Rate

Similar to property taxation, utility billing is an established mechanism, and therefore consumption data is readily available to support rate calculations. Cost of administration is also considered low since this would be no different than the current annual updates to water and wastewater rates. Volumetric utility rates provide customers with a high degree of control over how much they pay, by giving them the option of adjusting water consumption patterns. A weak area of the utility rate approach is its disconnect from system benefits. There is little evidence of a correlation between water usage and the impacts on the municipal stormwater system.

“i” Factor/Runoff Percentage by Property Type

This funding structure would group properties into categories (e.g. low-density residential, commercial, industrial, etc.) and impervious or “i” factors would be applied to the land area within each category to create an estimate of weighted land area within



each category, and within the City as a whole. The relative share of total weighted land area would drive the share of system costs that are attributed to each property category. The share of costs attributed to a category would then be spread evenly over the number of properties within it. As such, all properties within a single category (e.g. single family residential) would pay the same fee, but this amount would be different from the amount paid by other property categories. Such an approach recognizes that there are distinct physical differences between different types of development and property types. For example, residential properties tend to have a lower runoff coefficient and therefore lower weighted land area relative to commercial properties that would carry a much higher runoff coefficient. There is an improvement of the linkage between costs and benefits as compared to the funding structures described above. Data needed for this type of calculation is generally readily available from the City's tax and G.I.S. databases, although the calculations are considered somewhat more difficult, since weighted land area needs to be calculated for each property category. Administratively it becomes somewhat more difficult and expensive to maintain such a funding structure, because the relative distribution of costs between property categories would need to be recalculated with regular frequency to account for the effects of continued development in the City.

“i” Factor/Runoff Percentage by Actual Land Area per Property

This approach is the current approach utilized by the City. This structure involves taking the “i” factor by property type approach a step further by applying “i” factors to each individual property's land area, thereby estimating each property's land area weighted by the “i” factor. Summing the weighted areas of all properties would facilitate the calculation of a charge per acre, which would then be applied to each property's area. The data requirements to support these calculations are greater, as the land area of each property would have to be known. The City has already developed an extensive database which contains size information for all properties, which has been supplemented by G.I.S. data where there are properties with missing size parameters. Since each property's size would be taken into account individually, the linkage between the cost paid and the benefits derived from the system would potentially be greatly improved and thus improving the equity of the charging mechanism.



Actual Impervious Area per Property

As the heading suggests, this approach would require actual measurement of the impervious area of each property, either physically, through G.I.S., or through a combination of both. Each property owner would then pay an amount directly proportionate to the amount of impervious area on their property, and consequently the link between costs and benefits would be very strong. Property owners would also have a high degree of control over the amount they are required to pay, since they have direct control over pertinent site characteristics such as the amount of paved cover (size of driveway, patio, etc.). On the other hand, the desirable attributes of this rate structure come at a significant cost from an initial data acquisition and rate calculation perspective, as well as from the annual data maintenance perspective. Ongoing administration of the database would most likely require several additional staff members. It is noted that relative to the “i” factor method, the costs are significantly higher but the equity is only marginally improved.

2.4 Preferred Rate Structure

The various rate structure options were presented and discussed with the City. A thorough analysis of the advantages and disadvantages of each approach in the context of Richmond Hill was undertaken. Given the benchmarking survey undertaken of rate structures in place across Ontario (see Appendix A), there is no consistent approach in rate structures across municipalities. Rate structures are driven by various parameters including the distribution of property types, size of municipality, administrative considerations, etc.

Given that the City has already dealt with the challenges of implementing a complex rate structure, there is no desire to move to a more simplistic structure such as a flat rate or utility based rate which would decrease equity. In addition, the benefits of increased equity to adopt a rate structure based on actual impervious area does not appear to outweigh the incremental costs.

Given these considerations, the City prefers to continue with the current approach and rate structure. This rate structure functions well for the vast majority of properties across the City and provides a suitable link between the rate charged and the contribution to stormwater runoff. However, in order to address the current challenges of the rate structure, several refinements to the existing structure, in addition to policy



changes are recommended in the following sections. These proposed changes would address the challenges the City is currently facing, as noted in Section 2.2.



Chapter 3

Refinements to Rate Structure



3. Refinements to Rate Structure

3.1 Engineering Review of “i” Factors

Stormwater runoff volumes and flow rates are directly affected by levels of ‘imperviousness’ on individual properties. Imperviousness is closely correlated to the Runoff Coefficient utilized by City Engineering staff in sizing of City drainage infrastructure. While not identical, the processes utilized by the City in determining the size of various drainage systems is pertinent as an input to the City’s Rate Structure. As part of this study process, the City wanted to validate the “i” factors utilized in the rate calculations through a third-party engineering review. The following section provides a review of the property types across Richmond Hill and the proposed refinements to the existing structure.

3.1.1 Residential – Single Family Homes

The imperviousness of Single Family Homes is primarily composed of Rooftops and driveways which occupy approximately half of typical lots. This results in an “i” factor of approximately 50%. Variations in individual lots occur, but from a statistical viewpoint, this does not affect the overall average imperviousness across the City.

Figure 3-1
City of Richmond Hill
Example of Single Family Home





3.1.2 Residential – Semi-detached/Link House

This style of individual residence is based on relatively denser development, with lower lot dimensions, but similar living space. This reduced property size shifts impervious coverage up as the relative portion of the lot covered by impervious surfaces, resulting in a slightly increased “i” factor of 55%.

Figure 3-2
City of Richmond Hill
Example of Semi-Detached House





3.1.3 Residential – Townhouse/Rowhouse

Residential townhouses continue the increase in “i” factor based on the relative proportion of lots covered by impervious rooftops. In addition, the shared roadways make up a larger proportion of the overall development area, resulting in a larger “i” value of approximately 70%.

Figure 3-3
City of Richmond Hill
Example of Townhouse





3.1.4 Residential – Areas >1 Acre

Larger residential lots and parcels vary widely and do not justify an average imperviousness application to the City's rate table. However, impervious surface on these parcels is typically clustered and a common approach is reasonable when considering this land use class. Currently, the S.W.M. rate caps the rate for this property class at 1 acre. However, sites greater than one acre continue to generate stormwater that requires conveyance by municipal infrastructure even if not directly tributary to roadways. Therefore, there is a recommendation to increase the cap size from 1 to 10 acres (as the number of residential parcels greater than 10 acres are limited, and the increase in runoff above that size is considered nominal). Rates are therefore based on similar residential imperviousness values for the one acre 'core', with rates for the remaining, fully pervious areas of the properties assessed similar to vacant lands.

Figure 3-4
City of Richmond Hill
Examples of Residential Lots > 1 Acre





3.1.5 Commercial/Industrial

Commercial and Industrial properties vary in overall impervious area but remain relatively densely covered by buildings and asphalt/concrete surfaces. On an average basis, the highest values are applicable (as pervious areas or landscaping are not typically highly valued in these areas), but reduced slightly to account for the inclusion of buffer areas, and landscaping used to soften the visual impacts of these properties resulting in a larger “i” value of approximately 95%

Figure 3-5
City of Richmond Hill
Examples of Commercial/Industrial Property





3.1.6 Multi-Residential

Multi-residential structures such as apartment buildings typically cover significant portions of the lot with impervious surfaces, but also tend to include relatively larger areas of landscaping and permeable surfaces to improve marketability and curb appeal. As a result, an “i” factor of 85% is appropriate for this land use category.

Figure 3-6
City of Richmond Hill
Examples of Multi-Residential Property





3.1.7 Institutional

Institutional uses, such as places of worship are often configured similarly to commercial areas (in the use of buildings and parking areas), but tend to include a higher proportion of landscaping and pervious areas such as outdoor amenities and ancillary structures that discharge directly to pervious areas. As a result, a modified imperviousness value of 70% is recommended.

Figure 3-7
City of Richmond Hill
Example of Institutional Property





3.1.8 Vacant land

Vacant land generates significantly less runoff than land occupied by impervious surfaces, but the amount of runoff varies according to the level of storm event experienced. Runoff rates are very low during common events but larger for rarer, but more intense events that saturate soil quickly. Runoff may be delayed getting to locations where municipal infrastructure picks up the resulting flow, such as roadside ditches and culverts, but the need for municipal conveyance infrastructure remains, and therefore a related charge rate is required. Overall, a 10 acre cap on vacant land is deemed appropriate for the same reasons outlined for parcels greater than 1 acre, but without the clustering of residential buildings. Vacant land areas above the cap are overall fewer across the municipality and the increased volume from them is considered nominal when considering the frequency of events needed to generate runoff from them.



3.1.9 Agricultural Land

While the total number of agricultural properties in the City remains small, the runoff response from these property types resembles vacant land with absorption of smaller precipitation events, but increasing amounts of runoff generation in rarer, but higher intensity events. Agricultural parcels are often (but not universally) improved with tile drainage, which conveys shallow soil saturation to roadside ditches or local watercourses. In a fashion similar to parcels greater than one acre, agricultural parcels typically cluster impervious surfaces in one location, often a farmhouse or yard area surrounded by farm buildings.

Figure 3-8
City of Richmond Hill
Examples of Agricultural Land





3.1.10 Golf Courses

Golf courses in the City behave sufficiently similar (but not identically) to vacant land to share some of the considerations made for those land use types. The higher proportion of turf surfaces generates more runoff in more common, lower intensity precipitation events than vacant land and therefore has a higher runoff coefficient, which contributes to a higher “i” factor. In addition, golf course operations typically include features similar to commercial operations that are often clustered into a single area, with some distributed buildings for operations and grounds maintenance (such as pump houses and machine sheds). As a result, a 10 acre cap on parcel size is appropriate (similar to vacant land), but with a higher imperviousness factor related to the higher proportion of commercial like systems such as parking lots, club houses, pro shops, restaurants, etc.

Figure 3-9
City of Richmond Hill
Examples of Golf Courses



3.2 Recommended Refinements to Rate Structure

Based on the analysis presented above, the following rate structure and associated “i” factors are recommended for implementation:



Figure 3-10
City of Richmond Hill
Recommended Changes to Rate Structure

Current Rate Structure		Recommended Rate Structure	
Property Type	Runoff %	Property Type	"i" Factor
Residential (up to 1 acre)	50%	Single Family Detached (up to 1 acre)	50%
		Semi Detached/Link Home	55%
		Row/Town Home	70%
Residential (>1 acre)	50% capped at 1 acre	Residential - 1 acre	50%
		up to 10-acre cap (vacant land rate to be charged)	10%
Commercial/Industrial	95%	Commercial/Industrial	95%
Institutional	Exempt	Institutional	70%
Multi-Residential	95%	Multi-Residential	85%
Vacant Land (up to 10-acre cap)	10%	Vacant Land (up to 10-acre cap)	10%
Farmland (up to 10-acre cap)	10%	Farmland (up to 10-acre cap)	10%
Golf Course (up to 10-acre cap)	15%	Playing area and cart paths (up to 10-acre cap)	15%
Club house, parking, driveway, pro-shop	95%	Club house, parking, driveway, pro-shop	90%



3.2.1 Rate Impact

The following table presents the rate impacts of the changes to the rate structure:

Figure 3-11
City of Richmond Hill
Impacts of Refinements to Stormwater Rates

Current Rate Structure		Recommended Rate Structure	
Property Type	Current Rate per 1,000 sq.ft.	Property Type	Recommended Rate per 1,000 sq.ft.
Residential (up to 1 acre)	\$9.54	Residential - Single Family Detached (up to 1 acre)	\$10.11
		Residential - Semi Detached/Link Home	\$11.12
		Residential - Row/Town Home	\$14.16
Residential (>1 acre)	\$9.54	Residential - 1 acre	\$10.11
	\$0	Residential - up to 10 acre cap (vacant land rate to be charged)	\$2.02
Commercial/Industrial	\$21.02	Commercial/Industrial	\$19.21
Institutional	Exempt	Institutional	\$14.16
Multi-Residential	\$21.02	Multi-Residential	\$17.19
Vacant Land (up to 10 acre cap)	\$3.20	Vacant Land (up to 10-acre cap)	\$2.02
Farmland (up to 10 acre cap)	\$3.20	Farmland (up to 10 acre cap)	\$2.02
Golf Course (up to 10 acre cap)	\$4.25	Golf Course - playing area and cart paths (up to 10 acre cap)	\$3.03
Golf Course - club house, parking, driveway, pro-shop	\$21.02	Golf Course - club house, parking, driveway, pro- shop	\$18.20

Based on the relative shifts in burden, residential properties will be paying slightly more on a per sq.ft. basis, whereas non-residential properties would experience a decrease in the rate. This change in the rates is a result of shifting the burden between property types as semi-detached and townhouses now receive a higher overall weighting relative to the other properties.



Chapter 4

Policy Review and Recommendations



4. Policy Review and Recommendations

In addition to the refinements to the existing rate structure, a review and detailed survey work has been undertaken to better understand best practices with respect to stormwater rate policies. The following sections outline the results of the survey work, analysis, and policy recommendations with respect to exemptions, treatment of unique property types and credit/rebate/subsidy programs.

4.1 Exemption Policies

As part of this study, a benchmarking survey related to exemptions and the treatment of unique property types was undertaken in order to provide recommendations. To inform this review, a survey of other Ontario municipalities was undertaken to assess best practices with respect to exemption policies. The detailed survey is provided in Figure A-2 in Appendix A. Based on discussions with City staff along with best practices observed in other municipalities, a summary of the survey responses and policy recommendations are provided below.

It is noted that the City currently exempts places of worship, schools, City-owned facilities, and hospitals.

Conservation Lands

From the survey undertaken, it appears that Conservation Lands are exempted with some and chargeable with others. Within York Region, Vaughan and Newmarket impose charges on Conservation Land, whereas Whitchurch-Stouffville does not. There does not appear to be a restriction within the Conservation Lands Authority to pay municipalities for utility rates under Part XII of the *Municipal Act*. Most government agencies do pay for water and wastewater bills, hence stormwater will fall under a similar category. For consistency with Vaughan and Newmarket, we would recommend continuing to impose charges on conservation lands.

Recommendation: charge Conservation Lands

Utility Lands (Hydro One, etc.)

From the survey undertaken, it appears that utility lands are exempt with some and chargeable with others. Within York Region, Vaughan and Newmarket impose charges



on utility lands, whereas Whitchurch-Stouffville does not. It is recommended that the City continue with current practices and charge these lands.

Recommendation: charge utility lands

Rail Yards (e.g., CN, CP)

The majority of surveyed municipalities charge rail yards, with the exception of Metrolinx properties, as these are generally considered Crown corporation properties. Current practice is to exempt rail yards, however based on the survey above we would recommend charging all rail lands, with the exception of Metrolinx which may be exempted since they are a Crown corporation of the Province.

Recommendation: charge rail yards

City Facilities

The City's current practice is to exempt municipally owned properties from the stormwater rate. Given the current practice and that the majority of the surveyed municipalities exempt municipally owned facilities, it is recommended that the City continue to exempt these properties.

Recommendation: continue exemption for City facilities

Regional Facilities

Based on the survey of other municipalities most municipalities are charging the upper-tier properties. Within York Region, Whitchurch-Stouffville and Newmarket charge Regional facilities, however Vaughan does not impose these charges. Given this common practice, it is recommended that the City continue charging Regional facilities.

Recommendation: continue charging Regional facilities

Hospitals

Given that all municipalities that have responded to the survey that have hospitals within their jurisdiction charge these facilities, it is recommended that the City charge these facilities.

Recommendation: remove hospital exemption



Places of Pilgrimage/Worship

Of the respondents, Kitchener provides a 100% grant to places of pilgrimage, while Brampton and Mississauga provide a subsidy. Given that majority of the municipalities surveyed charge places of pilgrimage/worship, it is recommended to remove this exemption and charge these properties.

Recommendation: remove places of pilgrimage/worship exemption

Schools/Education Lands

Most of the surveyed municipalities exempt schools. It is noted that under the Education Act, schools are exempt from municipal fees and charges imposed under Part XII of the Municipal Act. Given this statutory exemption, it is recommended that the City exempt these properties.

Recommendation: continue exemption of schools (exempt from fees and charges under the Municipal Act).

4.1.1 Summary of Exemption Policy Recommendations

Based on the survey and interviews undertaken with other municipalities it is recommended to remove the following existing exemptions:

- Hospitals; and
- Places of pilgrimage/worship.

In addition, it is recommended to continue exempting the following property types:

- City-owned facilities; and
- Schools (exempt from fees and charges under the *Municipal Act*).

No additional exemptions are being recommended at this time.

4.2 Policy Recommendations on Unique Property Types

City staff have identified concerns raised by property owners regarding several unique property types and requested recommendations with respect to the most appropriate rate to apply to these properties.



Where recommendations are made to impose the charges on various forms of land use, the analysis undertaken by WSP to assess the appropriate “i” factor to be used will be applied.

Mixed Use Property (e.g. golf course or commercial business in a residential property)

For properties where there are three to four different uses on one parcel of land (e.g. a golf course, commercial business and vacant land on one property), it is recommended that the City assign a unique weighting on a case by case basis through GIS measurements of land uses. This does not impose a significant administrative burden, given the small number of these properties across the City. This direct measurement also allows an equitable rate to be charged to these unique property types.

For properties that are developed as residential and have now been converted to a mixed-use office type, it is recommended to treat these as a commercial property. It is assumed that extra parking and impervious areas have been added to the residential lot to accommodate the commercial use, and therefore, should be assigned a higher “i” factor. This is also consistent with other municipalities such as Brampton and Mississauga, which charge mixed-use properties at the commercial/industrial rate.

Parking Lots

Parking lots not associated with any other property and have their own tax roll number should be charged at the commercial/industrial rate given the high level of imperviousness.

Freehold and Condo Townhomes with Common Area

It is recommended to treat both freehold and condo townhouses in a similar manner (i.e. charge both types the townhouse rate based on the new recommended structure). Charging on a common basis allows for all properties of a similar type to be charged the same amount.

Adjoining Lands with Different Classifications Used Together (e.g. vacant land (used for parking and residential))

Parking lots associated with a different land use should generally assume the rate category of the main property/predominant use. Generally, parking lots are associated with commercial or multi-residential properties and given the high levels of



imperviousness of parking lots, it is appropriate to charge the lots the full applicable rate. In the rare instances where parking lots are associated with vacant land or some other use, it is recommended to charge the property based on predominant use/the main property code to ease administrative burden.

Land Parcels Going Through Development Cycle

City staff have raised the question as to when the rate applied to properties being developed should switch from vacant land to residential or commercial/industrial and vice versa. The current practice is to charge a property the vacant rate until a water meter is installed and the MPAC property code changes to residential. It is recommended that the City continue with this practice as it is easy to administer. If the property were to be switched at some other stage in the development cycle, this would require constant monitoring of properties to determine when changes occur. Utilizing MPAC property code data is a straightforward approach and provides a direct trigger on when to change rate categories without individual monitoring of each property.

Residential Property Where a Structure is Demolished and Rebuild is Pending or in Progress

The City's current practice is to convert the rate category of these properties from residential to vacant when a water meter is removed. It is noted that MPAC does not change the property code when a residential property is demolished and a rebuild is to occur. Given that MPAC keeps the classification the same, and to remain consistent with the treatment of other properties in the process of development/redevelopment, it is recommended that the City continue charging these properties the residential rate as they are going through the rebuild. This is supported by the idea that imperviousness of a residential property is generally the same when a building is demolished and is not similar to that of an otherwise vacant property.

Multi-Residential Condos with Common Area

Staff have raised the question as to how common areas of multi-residential condominiums should be charged. It is recommended that these common areas should also be charged at the multi-residential rate. A uniform rate for all land associated with a multi-residential development will ease administrative burden, given that individual monitoring of each common area will be required to determine if any changes occur to these lands over time.



4.3 Credits/Rebates/Subsidies

As part of the benchmarking survey undertaken, Watson identified the practices of other municipalities as it relates to credits, subsidies, and rebates. The detailed survey is provided in Figure A-3 in Appendix A. The following provides a high-level summary of the findings:

- **Subsidies:** 87% of the surveyed municipalities do not provide subsidies to their customers. Of the ones that do provide, the subsidies are generally for places of worship, veterans' organizations and low income/disabled individuals.
- **Rebates:** Three quarter of the surveyed municipalities (75%) do not provide rebates. The rebates offered by the remaining 25% are generally a one-time contribution towards an expenditure which reduces stormwater runoff from the property.
- **Credits:** A little over half of the surveyed municipalities do not provide credits. Of the ones that do provide credits, the majority of the credits are only for non-residential properties. The predominant measures for credits are:
 - Runoff volume reduction;
 - Peak flow reduction;
 - Water quality treatment; and
 - Assessed use to actual use.

4.3.1 Evaluation of Credit Program Feasibility

Based on discussions held between the City and the consulting team the following factors need to be considered when determining whether the City should implement and offer a credit program:

Benchmarking

Over half of the surveyed municipalities do not provide stormwater credits. Of the major municipalities providing credits, the rate structure in place is based on actual measured impervious area (e.g. Brampton and Mississauga), whereas Richmond Hill's rate structure is based on average impervious area by property type. The ability to measure reduction in stormwater runoff and apply an appropriate credit is reduced given Richmond's Hill rate structure is based on averages across property types.



For many properties, there is a significant cost associated with the works that are required in order to be eligible for a credit. As a result, most property owners would only realize a return on their investment over a very long-term time horizon. Given this consideration and through discussions with other municipalities, many have experienced low uptake in credit programs due to the long-term payback period in addition to the maximum credit amount that is provided (e.g. up to 50% reduction).

Equity Concerns

Given that most of the credit programs provided across Ontario are only provided to non-residential property owners, any costs related to a credit program would be borne by the residential sector and other non-eligible properties. This raises concerns with respect to equity across the system.

Financial/Resource Constraints

If a credit program is implemented by the City and uptake is high, this would add additional pressures on the already depleted stormwater reserve fund when these funds need to be directed to fund necessary works required for the overall functioning of the stormwater network.

In addition, there are also significant human resource requirements required to run a credit program. Additional resources would be required to run and monitor the program to ensure ongoing compliance with the requirements of the credit program.

4.3.2 Recommendations

Given the considerations provided above, it is recommended that the City does not proceed with a credit/rebate/subsidy program.

4.4 Billing Inquiries

As part of the policy refinements, it is also recommended that the City adopt a billing inquiry policy to provide for a process in the event a landowner wishes to seek clarification on their rate or thinks the incorrect rate was applied. For example, if the total land area measurement does not match the land area provided through MPAC or the incorrect property type was assigned to the land parcel, the City would have a formal process to allow for a landowner to issue an inquiry for the appropriate rate to be



applied. It is noted that this would not be a complaint or appeal procedure where customers can challenge that their property contributes less stormwater runoff than others in the same property category and should be eligible to pay a lower rate.



Chapter 5

Funding Considerations



5. Funding Considerations

5.1 Financial Sustainability and Infrastructure Funding Gap

As noted in Section 2, the City has not implemented the rate increases that were necessary to achieve financial sustainability. The historical underfunding of the S.W.M. system has led to increasing pressure on maintaining capital infrastructure and will continue to impact the state of good repair as the City's asset base grows. In addition, preliminary capital forecasts have identified significant increases in capital needs over the next ten years. As such, the current annual contributions to the reserve fund are unsustainable and significant rate increases would be required for several years. Through the survey work undertaken as part of this study process, municipalities that have implemented a stormwater rate face similar financial challenges.

Based on preliminary capital forecast needs identified through the budget process, needs are significantly higher than past years due to atypical inflationary pressures and updated asset condition assessments, as provided through the City's asset management work. Given the significantly higher needs, the current \$1 million annual contribution to the stormwater reserve fund is unsustainable as the reserve fund is projected to be in a deficit position at the end of 2024.

It is apparent that a sustainable funding approach is required for the ongoing management of stormwater, however, significant rate increases would be required to fund the works that are required over the next ten years. Through preliminary forecasting work undertaken by the City, approximately \$125 million in capital needs has been identified for the 2024 to 2033 period. As identified in the table below, annual rate increases of 24% would be required in each of the next ten years in order to fully fund this capital program through the stormwater rate.



Table 5-1
City of Richmond Hill
Annual Rate Increases Required to Fund the Preliminary 2024-2033 Capital Forecast

Percentage increase required for each of the next 10 years	0%	3%	9%	15%	24%
Funding percentage achieved of the \$125M capital forecast due to the above increase	1.6%*	8%	25%	50%	100%

Although future rate increases are certainly required to provide a sustainable funding source, 24% annual rate increases over the ten years is not feasible. Alternative options to achieve financial sustainability over the next ten years, in addition to a reasonable level of rate increases, will need to be explored.

5.2 Options for Financial Sustainability

As noted above, given that the City's stormwater reserve fund is expected to be depleted by 2024, significant rate increases would be required to fund the 10 year capital forecast. Given this is not a financially feasible approach and more reasonable rate increases would need to be phased-in, the following alternatives, other than rate increases, can be considered with respect to the funding of the ten-year capital program:

Reprioritize Capital Forecast

Given the significant rate increases that would be required to fund the preliminary capital needs identified by staff, reprioritization of the capital forecast over the short-term may be required. This may include deferrals of lower priority projects, decreasing service levels where allowable and reviewing asset management strategies.

It is noted that this is not a long-term solution as projects cannot be deferred indefinitely. As infrastructure continues to age there will be an increased pressure to replace existing stormwater mains, culverts, etc. This strategy can be utilized over the short-term to allow for the stormwater rates to increase gradually at a financially sustainable level.



External Financing

Although it is not a direct method of minimizing the overall cost to the ratepayer, debentures are used by municipalities to assist in cash flowing large capital expenditures and assist in smoothing rate increases over a number of years.

It should be noted, however, that the issuance of debt should be managed at levels that are sustainable by the City. Issuance of large amounts of debt in any one year can have dramatic impacts on rates given the ongoing principal and interest payments. Hence, proper management of capital spending and the level of debt issued annually must be monitored and evaluated over the longer-term period.

Internal Financing

This would involve the use of other City reserves and internal financing. This may be a favourable approach over the short-term to limit the need for significant rate increases while minimizing external financing costs.

Grants:

- Canada Community-Building Fund (C.C.B.F. – formerly known as the Gas Tax Fund) is a permanent, indexed fund provided directly to municipalities, flowing through provinces and territories to support local infrastructure priorities. Municipalities can pool, bank, and borrow against this funding, providing significant financial flexibility. Each municipality can select how to best direct the funds with the flexibility provided to make strategic investments across 18 different project categories, including stormwater management. Given the significant financial pressure on the S.W.M. system, it is recommended that C.C.B.F. funding should be utilized for high priority stormwater capital works. Utilizing grant funding will limit impacts to the stormwater ratepayer.
- Other grants: where possible, the City should apply for and obtain grant funding wherever available from other levels of government.

Alternative Funding Sources:

- Development Charges: Growth-related capital needs related to stormwater management should be funded through D.C.s to the greatest extent possible.



D.C. funding of capital works wherever possible would reduce the impact on the stormwater rates.

- Reducing the scope of the Capital Program Attributed to S.W.M. Operations: the City is currently funding all S.W.M. related works through the Water Quality Protection Reserve Fund (i.e. stormwater reserve fund). There are certain stormwater related works, such as works required for a new road or road widening, that are required solely for the road. As such, these stormwater works could be attributed to the roads program and be funded through the tax base. This would lower the pressure on the stormwater reserve fund and the associated funding requirements.

Recommendations

Through discussions with staff, it is recommended that rate increase options and financial sustainability of the stormwater management programs should be assessed in conjunction with the upcoming Water and Wastewater Financial Plan in 2024, given that both operations share similar resources and are conducive to parallel review. This would allow the City to first review and prioritize its capital forecast for the next ten years as part of the 2025 budget process. Once the forecast is approved by Council, the ten-year financial plan and associated funding sources and required rate increases can then be developed.



Chapter 6

Concluding Remarks



6. Concluding Remarks

Based on the review undertaken here, it is acknowledged that the City's current rate structure provides for a fair and equitable method of charging customers for stormwater runoff, and functions well for the vast majority of property owners across the City. Given the findings of Watson and WSP, recommended refinements to the existing structure and associated policies include the following:

Rate Structure Recommendations:

- Split the existing residential category into single family homes, semi-detached, and townhouses to better reflect the differences in contribution to stormwater runoff;
- Charge the portion of large residential properties that are greater than one acre and up to ten acres based on an "i" factor of 10% given the similarities to vacant land and the relative contribution to runoff;
- Maintain industrial/commercial calculations at status quo;
- Previously exempt institutional properties should be charged based on an "i" factor of 70%;
- Reduce "i" factor for multi-residential properties from 95% to 85% to reflect moderate landscaping relative to industrial/commercial properties;
- Continue charging vacant land and agricultural land given that these properties contribute to the City's stormwater runoff; and
- Split golf courses into playing areas versus commercial areas such as the club house and parking lots based on G.I.S. measurements. The split was previously based on proportion of property assessment, however this does not accurately reflect relative contribution to stormwater runoff between the two types of areas.

Policy Recommendations:

- Continue exempting schools and City-owned facilities;
- Remove exemptions for hospitals and places of worship/pilgrimage;
- Implement the various recommendations provided herein on the treatment of unique property types; and
- Do not implement a credit program given the various considerations presented herein.

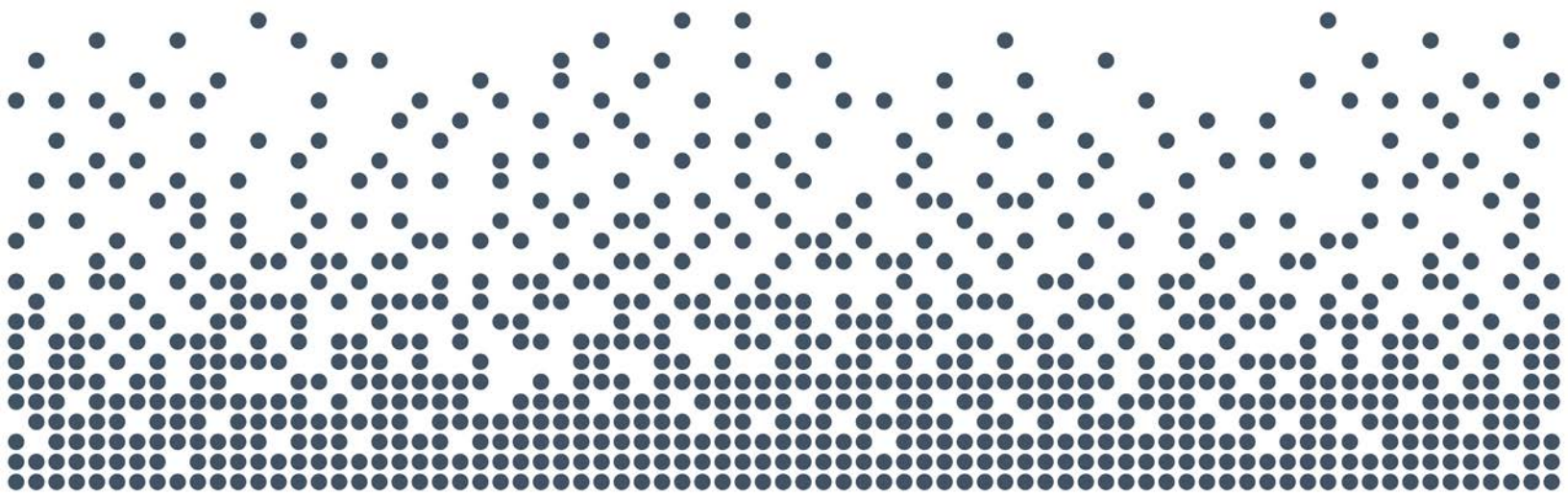


Funding Recommendations:

- Historical underfunding and significant capital requirements over the next ten years requires unfeasible rate increases to fund the required works. Various funding strategies have been recommended for consideration:
 - Reprioritize the capital forecast to manage and lower funding requirements over the short-term;
 - Issue debt responsibly to manage cashflow in a manageable and sustainable manner;
 - Utilize internal financing where possible to minimize financing costs;
 - Explore the use of grant funding (including gas taxes) wherever possible; and
 - Utilize development charges and other funding sources wherever possible.
- Analyze required rate increases over the next ten years in conjunction with the 2024 water and wastewater financial plan process.

6.1 Public Consultation

As part of this study process, the City has undertaken a public consultation process including an information session. The purpose of public consultation was to advise residents within the City why a dedicated stormwater rate is required, the associated benefits to residents, the proposed changes to the rate structure and the associated rate impacts for users. Resident opinions were solicited and feedback was received by the City. The key highlights and a summary of the public consultation is provided in Appendix B.



Appendices



Appendix A

Survey Details



Appendix A: Survey Details

Table A-1
City of Richmond Hill
Municipal Survey of Stormwater Rate Structures

Municipality	Type of Rate Based Structure	Rate Categories
Aurora	Flat Rate Charge per Unit	Residential and condominium properties
		Non-residential and multi-residential properties
Brampton	Tiered Flat Fee (based on roofprint area)	5 categories for Single Residential properties
	Rate per m ² of impervious area (impervious area individually assessed for each property)	Multi-residential & non-residential properties
Hamilton	Utility Rate (based on water consumption)	Based on size of water meter
London	Flat Rate Charge per Property	Land area 0.4 hectares or less Residential land area 0.4 hectares or less without a storm drain within 90m
	Rate per hectare	Land area above 0.4 hectares
Markham	Flat Rate Charge per Property	Residential
	Current Value Assessment	Non-residential
Middlesex Centre	Flat Rate Charge per Property	Land area 0.4 hectares or less
	Rate per hectare	Non-residential land area above 0.4 hectares
Mississauga	Tiered Flat Fee (based on roofprint area)	5 categories for Single Residential properties
	Rate per m ² of impervious area (impervious area individually assessed for each property)	Multi-residential & non-residential properties
Newmarket	Tiered charge per unit of land area	3 tiers by runoff level group
Ottawa	Residential - Flat Rate per Property (by property type, Urban & Rural)	Residential (RS) and Multi-Residential (RA) - Urban/Rural
	Non-Residential - Tiered Flat Fee (based on CVA, Urban/Rural)	ICI - 8 CVA ranges/categories - Urban and Rural



Table A-1 (Cont'd)

Municipality	Type of Rate Based Structure	Rate Categories
Richmond Hill	Area Rate (Varied by Property Type Based on Runoff Coefficient)	Residential
		Commercial/Industrial and Multi-Res
		Agricultural Land/Farmland and Vacant Land
		Golf Courses
St. Thomas	Flat Rate per Property	Residential & commercial/institutional under 1,800 m ² land area
	Rate per Hectare	Commercial/institutional over 1,800 m ² land area & all industrial
Vaughan	Flat Rate Charge per Property	3 Residential categories
		Agricultural/vacant
		3 Non-Residential categories
Whitchurch-Stouffville	Flat Rate Charge per Property	Residential
		Commercial, Industrial, and Multi-residential
Guelph	Flat Rate Charge	Residential - applied to every detached home, townhouse, apartment, and condo
	Rate per Equivalent Residential Unit (ERU) based on impervious area (ERU multiplier = impervious area/188 m ²)	Industrial, commercial, and institutional properties
Kitchener	Tiered Flat Fee (based on property type and size of impervious area)	10 residential categories
		6 non-residential categories
Waterloo	Flat Rate per Property (by property type & size)	3 residential categories & 3 multi-residential categories
		3 institutional categories & 4 industrial/commercial categories



Figure A-2
City of Richmond Hill
Exemption Policy Survey

Property Type	Examples from Other Municipalities
Conservation Lands	<p>London, Waterloo, Ajax, Whitchurch-Stouffville & Middlesex Centre exempt conservation lands</p> <p>Newmarket treats conservation lands similar to vacant properties (i.e. billed at the vacant land rate)</p> <p>Aurora & Hamilton - if the customer does not have a water account then charge is not applied</p> <p>Ajax, Brampton, Kitchener, Mississauga, Ottawa, St. Thomas, and Vaughan all charge Conservation Lands.</p>
Utility Lands	<p>Aurora & Hamilton - only if they have a facility in the municipality with a water account will they be charged.</p> <p>All others - Ajax, Brampton, Guelph, Kitchener, London, Mississauga, Newmarket, St. Thomas, and Vaughan all charge for stormwater.</p> <p>Waterloo & Whitchurch-Stouffville do not charge Hydro One/Utility lands</p>
Rail Yards	<p>Brampton classifies railway as industrial (note: Metrolinx is exempt)</p> <p>Mississauga - exemption provided to Metrolinx, however all other railways and yards are charged</p> <p>Aurora & Hamilton - only charged if associated with a water billing account.</p> <p>Ajax & Whitchurch-Stouffville doesn't charge any rail yards/lines (this includes CP, CN and Metrolinx)</p> <p>St. Thomas, Waterloo, Newmarket and Middlesex Centre charges all rail lines</p>



Property Type	Examples from Other Municipalities
Municipal Facilities	<p>Vaughan, Newmarket, Markham, Waterloo, Aurora, and Ajax exempt City/Town facilities.</p> <p>London does charge it's municipal properties with the exception of City-owned golf courses. Whitchurch-Stouffville, St. Thomas, Mississauga, Middlesex Centre, and Brampton (except City Properties without impervious surfaces) all charge municipal facilities.</p> <p>Aurora & Hamilton - if the facility has a water account then they will be charged.</p>
Regional/Upper-Tier Facilities	<p>Vaughan exempts Regional facilities</p> <p>Whitchurch-Stouffville, Mississauga, Ajax, Newmarket and Brampton charge Regional facilities.</p> <p>Aurora - if the facility has a water account then they will be charged.</p>
Hospitals	<p>Mississauga, Brampton, London, Markham, Newmarket, and St. Thomas all charge hospitals.</p> <p>Whitchurch-Stouffville does not currently have a hospital in their municipality.</p> <p>Aurora & Hamilton - if the facility has a water account then they are charged.</p>
Places of pilgrimage/worship	<p>Kitchener gives a 100% grant to places of worship contingent on the implementation of a stormwater or environmental education program for their members. Brampton offers a subsidy to places of worship.</p> <p>Waterloo, St. Thomas, London, Whitchurch-Stouffville, Ajax, Middlesex Centre, Newmarket, and Vaughan, and Mississauga charge these properties.</p> <p>Aurora & Hamilton - if the facility has a water account then they will be charged.</p>
Education Lands/Facilities	<p>Markham, Brampton, Mississauga, Vaughan & Newmarket exempt District School Board and School Authority</p> <p>St. Thomas, London, Ajax, Whitchurch-Stouffville, Middlesex Centre charge schools.</p> <p>Aurora & Hamilton - if the facility has a water account then they will be charged.</p>



Figure A-3
City of Richmond Hill
Survey of Credit/Rebate/Subsidy Programs

Municipality	Credit	Rebate	Subsidy
Ajax	Available to Non-res only (Combined max 50%) - Peak Flow Reduction (30%) - Water Quality Treatment (30%) - Runoff Volume Reduction (25%) - Pollution Prevention (5%)	No Rebate Offered	No Subsidy Offered
Aurora	No Credit Offered	No Rebate Offered	No Subsidy Offered
Brampton	Available to Non-res and Multi-res (50% max across all categories) Peak Flow Reduction (up to 40%): Percent reduction of the 100-year post development flow to pre-development conditions of the site. Runoff Volume Reduction (Up to 15%): Percent capture of first 15 mm of rainfall during a single rainfall event. Water Quality Treatment (Up to 15%): Consistent with Provincial criteria for enhanced treatment. Pollution Prevention (Up to 5%): Develop and implement a pollution prevention plan.	No Rebate Offered	1. Place of Worship 2. Veterans' Organization 3. Low-income Seniors and Disabled Persons
Cambridge	TBD - City is currently in the implementation phase of establishing a dedicated stormwater rate.		
Guelph	Available to ICI and Multi-res of 6 units or more (capped at 50%) - Peak Flow Reduction (15%) - Runoff Volume Reduction (40%) - Water Quality Treatment (15%) - Operations and Activities (15%)	Rebate up to \$2,000 - Install an approved seasonal outdoor rainwater harvesting tank and receive a one-time rebate of \$0.50/litre of tank storage (to a maximum of \$2,000).	No Subsidy Offered
Hamilton	No credit offered.	N/A	N/A



Municipality	Credit	Rebate	Subsidy
Kitchener	<p>Basic Residential Credit: The basic credit is earned by capturing between 200 and 800 litres of stormwater, earning a 20 per cent credit on your stormwater utility fee.</p> <p>Normal Residential Credit: The normal credit is earned by capturing between 801 and 3,200 litres of stormwater, earning a 30 per cent credit on your stormwater utility fee.</p> <p>Enhanced Residential Credit: The enhanced credit is earned by capturing more than 3,200 litres of stormwater, earning a 45 per cent credit on your stormwater utility fee.</p> <p>Non-res Credits: Quality Credit: one of three quality credits: basic: for removing 60% of the suspended particles in your runoff - 5% credit normal: for removing 70% of the suspended particles in your runoff - 10% credit enhanced: for removing 80% of the suspended particles in your runoff - 15% credit Quantity credit: This credit is based on the amount of impervious area that directs water to an approved management practice. The maximum quantity credit is 25%. Education Credit: Education credits are available for non-residential property owners. To earn the 5% credit: educate employees, the public or students about flood prevention and pollution reduction.</p>	No Rebate Offered	No Subsidy Offered
London	No Credit Offered	No Rebate Offered	No Subsidy Offered
Markham	No Credit Offered	<p>3 Private Plumbing Protection Rebate Program: 1. Backwater Valve Installation (Indoor \$1,750, Outdoor \$2,000) 2. Weeping Tile Disconnection and Sump Pump Installation (\$3,000 - \$5,000) 3. Sanitary and Storm Lateral Reclining and Repair (\$2,500)</p>	
Middlesex Centre	No Credit Offered	No Rebate Offered	No Subsidy Offered
Mississauga	<p>Credit offered for businesses or multi-res properties (cannot exceed 50%) - Peak Flow Reduction (up to 40%) - Water Quality Treatment (up to 30%) - Runoff Volume Reduction (up to 30%) - Operations and Activities (up to 20%)</p>	No Rebate Offered	<ul style="list-style-type: none"> - Places of worship - Veterans' Organization Properties - Working Farms - Single Residential Properties or Condo Units owned and occupied by individuals who receive property tax rebate



Municipality	Credit	Rebate	Subsidy
Newmarket	<p>Credit offered for Commercial and Industrial property owners who implement or will implement Best Management Practices (BMP's) that meet specific evaluation criteria:</p> <p>Low Class Rate - 1. Reduce existing Peak Flow Rate by a minimum of 60% up to and including the 1:100 year storm and; 2. Capture and infiltrate the first 20mm of each storm event. Low class rate applied to area treated that meets the evaluation criteria</p> <p>Medium Class Rate - 1. Reduce existing Peak Flow Rate by 30% for up to and including the 1:100 year storm and; 2. Capture and infiltrate the first 10mm of each storm event. Medium class rate applied to area treated that meets the evaluation criteria.</p> <p>Pollution Prevention - 5% reduction</p> <p>Significant Green Space: Low class rate applied to green space area</p>	<p>Residential Rebate The Town will cover an additional \$100 towards the purchase prices of one tree per property through the Backyard Tree Planting Program.</p>	No Subsidy Offered
Ottawa	No Credit Offered	<p>Downspout Redirection (75% of eligible costs up to a max of \$1,000) Soakaway Pits (\$10/sq.m of directly connected impervious area to a max of \$2,500) Permeable Pavements (\$50/sq.m of installed surface area to a max of \$5,000) Certified Fusion Landscape Design (\$500)</p>	No Subsidy Offered
St. Thomas	No Credit Offered	No Rebate Offered	No Subsidy Offered
Vaughan	No Credit Offered	No Rebate Offered	No Subsidy Offered
Waterloo	Single Homes- Residential properties qualify for a credit by implementing an approved stormwater management practice on their property. These are calculated based on the total potential volume of rainwater captured and diverted from the stormwater system: 200-400 litres - 9%, 401-800 litres - 18%, 801-2000 litres - 27%, 2001-3200 litres - 36%, >3201 litres - 45%	No Rebate Offered	No Subsidy Offered
Whitchurch-Stouffville	No Credit Offered	No Rebate Offered	No Subsidy Offered
Windsor	TBD - City is currently in the implementation phase of establishing a dedicated stormwater rate.		



Table A-4
City of Richmond Hill
Comparison of Stormwater Rate to York Region Municipalities

Municipality	Property Type					
	Single-Detached (0.12 acres)	Semi-Detached/Link Homes (0.07 acres)	Town/Row Houses (0.05 acres)	Multi-Residential (2.2 acres)	Commercial (2.1 acres)	Vacant/Farmland (10 acres)
Aurora	\$161	\$161	\$161	\$2,045	\$2,045	\$0*
Markham**	\$53	\$53	\$53	\$53	\$1,741	\$178
Newmarket	\$58	\$34	\$24	\$1,063	\$2,030	\$988
Richmond Hill (Proposed Rate Structure)	\$55	\$34	\$31	\$1,679	\$1,770	\$880
Vaughan	\$59	\$38	\$38	\$232	\$1,374	\$737
King	Based on assessment					
Georgina	Based on assessment					
East Gwillimbury	Based on assessment					
Whitchurch-Stouffville	Based on assessment					

*Assuming no charge as charge is only applied to properties with a water meter in place

**Non-residential properties are charged based on assessment. Assuming commercial assessment = \$5.9M and farmland assessment = \$605,000



Appendix B

Public Consultation Summary



Appendix B: Public Consultation Summary

Summary of Communication Strategy:

On October 25, 2023, a public information session was held virtually via Zoom. Representatives included City staff from Corporate and Financial Services, Infrastructure Planning, and Development Engineering, along with the consulting team from Watson & Associates Economists Ltd. and WSP Inc. The purpose of this session was to provide details about the study process, the proposed new rates and policies, and to provide the public with the opportunity to provide feedback to the City.

The notice of the public meeting was provided through the following avenues:

- Social media advertisements;
- Digital advertisements;
- Website updates including updates to the homepage banner;
- City events calendar;
- Posters and digital signage at City facilities;
- City's E-newsletter; and
- Direct mail to institutional property owners and the York Region Federation of Agriculture.

Q&A Summary:

As part of the question and answer process, some of the key questions and concerns are provided below, followed by the consulting team's responses.

Q: How much potential revenue is lost if the cap is set at 10 acres?

A: Areas beyond the cap are highly pervious. There is a very small number of properties that are eligible for the cap.

Q: Do golf courses generate more runoff due to additional watering of the greens?

A: Golf course operations and the associated systems are carefully designed and controlled such that water that is applied is in precise proportions and significant runoff is not generated due to lawn watering.



- Q:** On one hand there seems to be a housing shortage in the Province, leading to increase in building of more semis and towns. The extra increase in charges for smaller homes seems like a penalty and is also contradictory to the current housing situation in the province.
- A:** Although smaller properties generate more runoff, the smaller area of these homes would result in a reduction in the charge per unit relative to a single family home.
- Q:** How are the charges for the common areas like roads being distributed among residents of Richmond Hill?
- A:** Roads are not included in the calculation as these are part of the storm water management system.
- Q:** Are Richmond Hill rates in line with other municipalities in York Region?
- A:** Several York Region municipalities do not impose a dedicated stormwater rate as costs are recovered through the general levy. A comparison to York Region municipalities that do have a dedicated rate is provided in Appendix A.
- Q:** Would the “i” factor applied to places of worship be reduced if the property has a lot of lawn area?
- A:** No – the amount of lawn area is considered as part of the average “i” factor applied to institutional properties. To account for each individual property with larger lawn areas, each property would need to be analyzed in detail which would add significant administrative cost burdens to the stormwater fee, in turn increasing the rates for all properties.
- Q:** My property is an unserviced rural residential 1 acre lot. More than 80% of my land is trees and grass. None of my runoff goes into the ditch in front of my house. How is this fair that I now have to pay more than \$400 per year.
- A:** Although runoff may not be generated through smaller events, storm systems are designed to consider rare storm events which would generate runoff from a rural residential lot. It is also noted that the snowmelt generated in the spring is not absorbed by the frozen grass. Water



migrates into the streams and rivers as a result of this which must be controlled and managed. Further, to account for each individual property with larger lawn areas, each property would need to be analyzed in detail which would add significant administrative cost burdens to the stormwater fee, in turn increasing the rates for all properties.

Q: Is the exemption policy the same across York Region?

A: Exemption survey is provided within the report. Note: only four other York Region municipalities impose a dedicated stormwater rate; the remaining municipalities recover stormwater costs through the property tax levy.

Q: Why would an eight-unit townhouse condominium have the same rate and runoff percentage as a high rise multi-residential property?

A: With respect to the proposed rates, the eight-unit townhouse condominium would be charged at the townhouse rate, and not at the multi-residential rate.

Key takeaways:

- Detailed surveys on exemption policies and rate comparisons to other York Region municipalities are provided in Appendix A of this report in response to inquiries received by public and Council.
- A budget amount will be proposed for residents acting as good ambassadors with respect to stormwater management. A formal process will be further defined through the budget process.