



# Town of Georgina Stormwater Rate Study

Final Report



**April 11 2024**



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April 11, 2024

Ms. Dina Havkin  
The Corporation of the Town of Georgina  
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**Attention: Ms. Dina Havkin**

**RE: Town of Georgina Stormwater Rate Study**

Civica Infrastructure Inc. is pleased to submit the technical memo summarizing the work completed in the analysis of a stormwater rate program for the Town of Georgina.

This technical memo summarizes the research involved in understanding how a stormwater charge is developed and the various models used by other municipalities that have successfully implemented a similar charge. The analysis provides a characterization of the Town's community landscape, financial forecast, summary of the various funding models, and evaluate options for the development of a rate program that is equitable and sustainable.

Do not hesitate to contact us for further clarification.

Sincerely,

**CIVICA INFRASTRUCTURE INC.**



Ilmar Simanovskis, P.Eng., MBA  
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## Document History & QA/QC

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## Revision History

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Draft (For Public Review)	Mar 8, 2024	Draft for Public Review	Version 2
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## 1.0 Background and Approach

### 1.1 Background

Civica Infrastructure Inc. (Civica) was retained by the Town of Georgina (the Town) to conduct a Stormwater Rate Study to support the Town's comprehensive program to deliver the Stormwater Master Plan recommendations. The purpose of the rate study is to assess the long-term funding needs of the master plan and recommend strategies to generate the necessary funding through the evaluation of multiple methods, such as a separate rate charge levied against properties. Dedicated stormwater funding mechanisms have become common across many municipalities in southern Ontario and across York Region. The rate forecasts in this report have been created based on current available information.

### 1.2 Importance of Lake Simcoe Protection

The Town has initiated several steps in support of updating its Comprehensive Stormwater Management Master Plan to deliver long term projects to manage the impact of climate change and achieve alignment with the policies of the Lake Simcoe Protection plan (LSPP) and the Lake Simcoe Phosphorous Reduction Strategy. Lake Simcoe has experienced a wide range of pressures affecting the watershed, including excessive nutrients, pollutants, invasive species, impacts of climate change, and increasing human activities. The impact of climate change is projected to influence the frequency, extent, and magnitude of existing water quality problems. This may include variations in stream flow regimes and lake levels, increases in sediment, phosphorous loading, and concentrations of contaminants, and drinking water odour and taste problems. Excessive phosphorous has been the most significant cause of the water quality impairment in Lake Simcoe. As an essential plant nutrient, phosphorous can help to support a healthy aquatic ecosystem. However, when phosphorous levels are too high, this leads to the excessive growth of plants and algae in the lake, which contributes to degraded water quality and low levels of oxygen in the lake, harming aquatic life. The primary sources of excess phosphorous to Lake Simcoe include stormwater runoff from urban areas, effluent from sewage treatment plants, land use in rural, agricultural, urban and shoreline areas, septic systems, and the atmospheric deposition of phosphorous in airborne dust, which is caused by wind erosion of exposed soil. Stormwater management practices help minimize the impact of polluted runoff flowing into lakes and streams and reduce the strain that stormwater places on municipal infrastructure. Further to these recommendations, the Town delivered their comprehensive 10-year stormwater management capital plan forecast in the 2024 budget with additional known and anticipated capital requirements.

### 1.3 Asset Management Approach

The Town undertook work to develop a stormwater asset inventory to quantify the assets owned, as this was identified as an area where data gaps existed. The Town operates 20 stormwater management (SWM) ponds, 21 oil and grit separators, 104 km of storm sewers, and 463 km of roadside drainage ditches, with the total replacement value of the Town's stormwater assets at approximately \$522M (Town of Georgina Asset Management Plan, 2022). There are three key stormwater asset sub-groups: Stormwater Linear, Stormwater Facilities, and Stormwater Low Impact Development (LID) features. These asset sub-groups are operated and maintained between the Operations Division, Asset Management Division, and Capital Delivery Division. Ditches, driveway culverts, roadway crossing culverts, and catch basins are stormwater infrastructure assets that are operated and maintained by the Town's Operations Division. The linear stormwater and stormwater ponds found in urbanized areas of the Town are operated and maintained by the Operations Division as well.

Currently, SWM is funded through property taxes. Recognizing the increased investment needs to implement the comprehensive program, Civica was assigned the task of assessing the potential for implementing a stormwater levy to provide a dedicated funding source in support of stormwater related capital projects and operations and maintenance activities.

#### **1.4 Approach**

Stormwater rate programs are a reliable and sustainable way to ensuring funding needs are met during a period of increasing revenue constraints, environmental and climate change drivers, and as stormwater management and treatment assets continue to age and degrade in capacity and performance. Two cornerstone studies have been used as the basis for this report being:

- Urban Stormwater Fees: How to Pay for What We Need (November 2016, Environmental Commissioner of Ontario)
- New Solutions for Sustainable Stormwater Management in Canada (September 2016, Sustainable Prosperity)

These documents, in conjunction with the experiences of other municipalities will form the options, evaluation, and recommendations of a stormwater revenue program suitable to the land uses and characteristics of the Town of Georgina.

As part of the work plan for the study, Civica submits this report which provides the following outline:

1. Town of Georgina context and funding needs.
2. Overview of comparator municipal programs.
3. Program funding alternatives.
4. Forecast funding strategies.
5. Evaluation criteria to assess the preferred approach.

## 2.0 Town of Georgina Context

### 2.1 *Geographic Context*

The Town of Georgina is situated in York Region (the Region) and is one of nine local municipalities. The creation, operation, and maintenance of stormwater management infrastructure is the responsibility of the Town. Some coordination is also required where the regional road network systems interact with the local system, which is generally limited and kept separate from the higher order stormwater needs related to urban runoff management and stormwater pond management. Figure 2-1 presents the land use designations for the local municipalities and provides context as to the character of the Town of Georgina. The Town's land distribution is comprised of approximately 55% farm and 18% residential with the balance consisting of industrial and commercial (IC), institutional, and vacant lands. Comparatively, the Town is somewhat similar to the Town of Whitchurch-Stouffville and Township of King in urban land coverage and ratio to rural uses.

### 2.2 *Community Character*

The Town of Georgina is located on the southern shores of Lake Simcoe, at the mouth of six Lake Simcoe watersheds. The Town is the northernmost municipality in the Region. The larger urban communities in the study area including Keswick, Sutton, Jackson's Point, and the rural community of Pefferlaw, face escalating growth and higher impervious area coverage as projected populations grow. Relative to its York Region peers it is one of the largest municipalities at 288 km<sup>2</sup>. These characteristics also create unique challenges in stormwater management efforts and priorities and how these systems are funded. Where there are high density communities, the impact to stormwater systems includes urban road networks, higher surface runoff potential, and the need to manage stormwater ponds and the related discharge to watercourses. In the significantly larger rural areas, the impact to stormwater systems is less influenced by urban density but does have influence from large watershed catchment areas, their impact to the transportation and surface drainage ditches and culverts, and cumulative impacts related to man-made restrictions and flow pattern changes.

These two diverse community types are also vastly different when it comes to the number of properties and the expected funding contribution that could be derived to meet the needs of the watershed and stormwater infrastructure maintenance requirements. These unique characteristics have been considered in the following analysis and in balancing the demands and allocation of charges across the community.

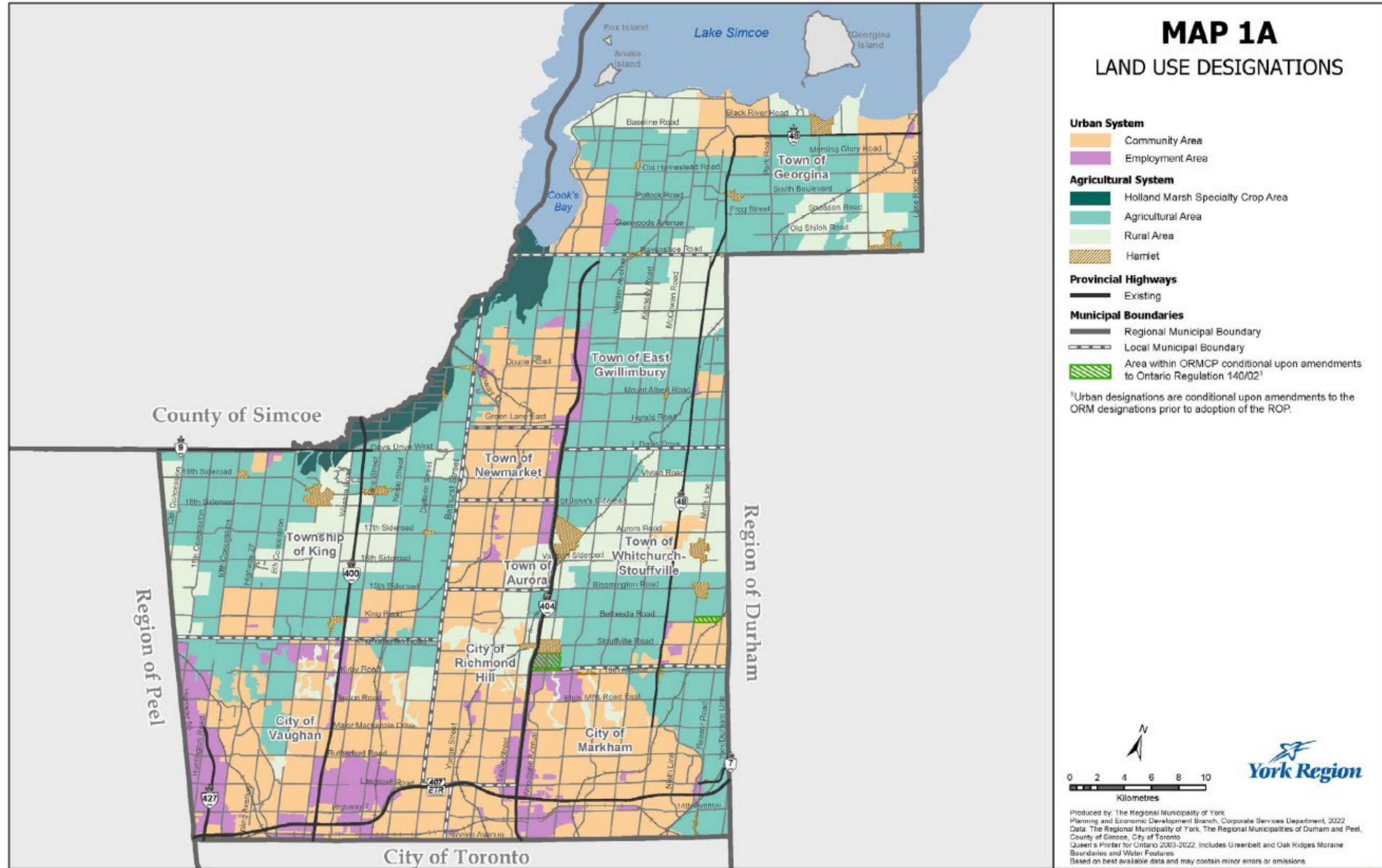


Figure 2-1: York Region Land Use Designations (York Region Adopted Official Plan, 2022)

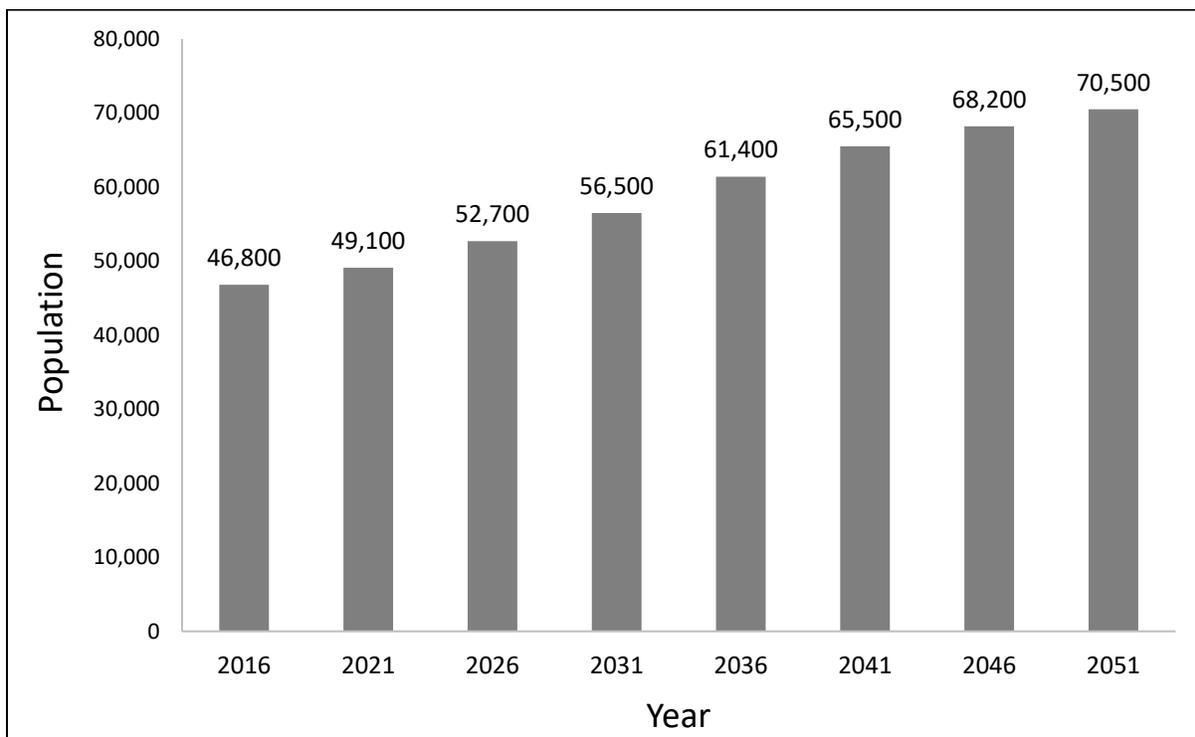
**Table 2-1: York Region Municipal Density Comparison**

Municipality	2021 Population	Land Area (km <sup>2</sup> )	Density (Pop/km <sup>2</sup> )
Aurora	62,057	50.0	1,241
King	27,333	333.12	82
Markham	338,503	210.93	1,605
Newmarket	87,942	38.50	2,284
Richmond Hill	202,022	100.79	2,004
Whitchurch-Stouffville	49,864	206.42	242
Vaughan	323,103	272.44	1,186
Georgina	47,642	287.69	166

Note: Only presents municipalities with existing stormwater revenue programs. Based on simple land coverage estimation. Population distributed over gross total land area as a comparator.

### 2.3 Population Forecast

The Town has been experiencing significant growth pressures similar to other communities in southern Ontario and Greater Golden Horseshoe (GGH) region. These pressures continue due to the drive for new housing and approvals to meet the demand and Provincial growth targets. Figure 2-2 presents the growth forecast adopted for this study. This population forecast, provided by the Town, was incorporated into the financial analysis as a source of revenue growth due to new property creation and provides a balanced view on funding growth potential separate from incremental rate increases.



**Figure 2-2: Town of Georgina Population Growth Forecast**

## 3.0 Overview of Comparator Municipal Programs

This section provides comparator and context for stormwater programs currently in place locally within York Region as well as a broader review of notable programs in Ontario. The York Region context provides an understanding of the approach, rate structure, and program delivery characteristics while the broader Ontario evaluation provides context on rate structures and general character in other communities. The programs all have the basic characteristics of:

- Stormwater funding needs are defined and recovered to create a full cost recover program and to recognize the investment and need for sustainable water resource management.
- Costs recovered vary, but generally include operating costs, maintenance, repair and rehabilitation, larger capital investment requirements through the use of reserve contributions, and recognition of support or administrative needs to deliver the program.
- Collection methods vary but generally attempt to connect the collection of a fee with the maintenance of stormwater assets and services that serve the community funding the program.

Data sources for the following analysis was from publicly available sources and extracted from web site information, capital and operating budget reports, and specific stormwater reports that were available.

### **3.1 York Region Municipality Program Comparators**

Of the eight other local municipalities in the Region, all of them have dedicated stormwater funding programs in place, with the exception of the Town of East Gwillimbury. Table 3-1 below presents a summary of the various programs across the Region.

**Table 3-1: Comparison of York Region Stormwater Rate Programs**

Municipality	Population	Program Approach	Stormwater Rate Structure*	Notes
Aurora	62,057	Tiered Flat Rate	<ul style="list-style-type: none"> <li>Residential and condominium properties have a monthly charge of \$13.41 (2023) or \$161 per year.</li> <li>Water metered non-residential/commercial/industrial and multi residential properties have a monthly charge of \$170.41 (2023) or \$2,045 per year.</li> </ul>	Fees included on monthly water bill.
King	27,333	General Revenue	<ul style="list-style-type: none"> <li>General Revenue based on Property Class and MPAC Valuation. Rates are as follows (rate per \$1M MPAC valuation):                             <ul style="list-style-type: none"> <li>Residential: \$97.21</li> <li>Commercial – Full: \$129.50</li> <li>Commercial – Vacant/Excess Land: \$90.65</li> <li>Industrial – Full: \$159.74</li> <li>Industrial – Vacant/Excess Land: \$103.83</li> <li>Pipeline: \$89.34</li> <li>Landfill: \$106.94</li> </ul> </li> </ul>	Program beginning in 2024. The stormwater management rate only applies to the residential portion of all agricultural property classes and not to the farmland or managed forest portions.
Markham	338,503	Mixed Approach: Residential – Flat Rate ICI – General Revenue	<ul style="list-style-type: none"> <li>Residential fee of \$54/household</li> <li>Non-Residential Fee: \$28.50 per \$100,000 CVA (Current Value Assessment)</li> </ul>	Fee is collected through the water billing system managed by PowerStream.
Newmarket	87,942	Land Use Runoff	<ul style="list-style-type: none"> <li>Stormwater charge is calculated by multiplying the size of the property by the runoff categories:                             <ul style="list-style-type: none"> <li>Low runoff category (natural areas, vacant properties (no buildings or parking lots), golf courses etc.): \$0.079346 per square metre</li> <li>Medium runoff category (residential and institutional properties): \$0.387913 per square metre</li> <li>High runoff category (Commercial, industrial, and mixed-use building): \$0.776109 per square metre</li> </ul> </li> </ul>	Charge is collected over four installments through the hydro bill.
Richmond Hill	202,022	Tiered Land Area	<ul style="list-style-type: none"> <li>There are six property types that are charged different stormwater rates based on their stormwater runoff factors. Rates are based on per 1,000 sq ft of property area:                             <ul style="list-style-type: none"> <li>Residential (up to one acre): \$11.02</li> <li>Residential (greater than one acre): \$2.02 + rates up to one acre</li> <li>Residential (Semi/Link Home): \$12.13</li> <li>Residential (Row/Town Home): \$15.43</li> <li>Commercial/Industrial: \$20.94</li> <li>Institutional: \$15.43</li> <li>Multi-Residential: \$18.74</li> <li>Vacant Land: \$2.20</li> <li>Farmland: \$2.20 (up to 435,600 sq ft)</li> <li>Golf Course (club house, parking, driveway, pro shop): \$19.84</li> <li>Golf Course (playing area, cart paths): \$3.31 (up to 435,600 sq ft)</li> </ul> </li> </ul>	Some capping on rates is included based on size of property.
Whitchurch-Stouffville	49,864	Tiered Flat Rate	<ul style="list-style-type: none"> <li>\$35.00 per year for residential properties</li> <li>\$135.00 per year for commercial properties</li> </ul>	Annual revenue of approximately \$650,000.
Vaughan	323,103	Tiered Flat Rate	<ul style="list-style-type: none"> <li>There are seven categories that are charged different stormwater rates based on their property type and size/density:                             <ul style="list-style-type: none"> <li>Non-residential (small): \$58.21</li> <li>Non-residential (medium): \$1,504.16</li> <li>Non-residential (large): \$22,973.14</li> <li>Agricultural/Vacant: \$806.77</li> <li>Residential (Low density) – per unit: \$64.20</li> <li>Residential (Medium density) – per unit: \$41.20</li> <li>Residential (High density): \$253.62</li> </ul> </li> </ul>	Includes the stormwater rate in the water billing program as administered through Alectra Utilities

\*As of 2024 unless stated otherwise.

### 3.2 Other Notable Stormwater Programs in Ontario

As a financial comparison, several notable municipalities with stormwater rate programs were identified. As can be seen in Table 3-2, these rates vary substantially from \$59 per assessed property to \$225 with an average charge of \$151 per assessed property. There are multiple factors that influence these rates and that are determined through each communities' unique characteristics.

**Table 3-2: Comparator Stormwater Rate Program Fees**

Municipality	Average Annual Fee Per Assessed Property*	Program Comments
Brampton	\$89	Tiered Fee
Guelph	\$91	Variable Rate for equivalent dwelling
Kitchener	\$225	Tiered Fee
London	\$222	Tiered Fee
Middlesex Centre	\$193	Tiered Fee
Mississauga	\$116	Variable Rate for equivalent dwelling
Orillia	\$59	Tiered Fee
Ottawa	\$187	Tiered Fee
St. Thomas	\$147	Tiered Fee
Waterloo	\$185	Tiered Fee

\*Note this is an estimate calculated using a normalized approach using simplified revenue, population, and residential land use information. This may vary depending on specific property types, sizes and calculation inputs depending on the methodology for each municipality.

## 4.0 Program Funding Options

### 4.1 Overview of Funding Options

There are generally five sources of funding for stormwater systems being:

- Tax Levy
- Stormwater and Other Rate Approaches
- Grants and Other External Sources
- Debt Financing
- Development Charges and Assumed Assets

#### 4.1.1 Tax Levy

The majority of municipalities fund stormwater programs through the general tax levy which are generally recognized as part of the Public Works or Roads programs. This approach is effective and consistent with long-standing public service funding mechanisms. The stormwater program is generally within the broader roads and parks assets and part of the overall system. Funding needs are generally minimal and often have a minimal impact on the program portfolio or are funded from various accounts within the program. As stormwater infrastructure needs increase, however, there is a risk that the tax pressures associated with these assets may drive larger policy decisions and cause offsets in other programs due to overall increases in tax pressures to the community. This outcome can leave the stormwater program chronically underfunded when competing with perceived higher needs programs such as roads or parks services.

To avoid this prioritization challenge, the importance of clear long-term needs of stormwater asset management funding becomes critical in defending and securing appropriate capitalization while competing with the broader tax funded services.

#### 4.1.2 Stormwater and Other Rate Approaches

Rate funded programs benefit from the ability to charge a user rate either based on a unit consumption or other identifiable means of delineating what the user is getting for the charge levied. Water and wastewater services are predominantly funded through this approach and are generally based on a per unit consumption rate or a flat rate. This has been a long-used approach and is very much in line with legislative requirements for full cost funding and asset management principles first applied to water system management as a result of the Walkerton tragedy. The extension of this approach to stormwater has the benefit of identifying stormwater as a definable service or benefit and better links the community to the service provided.

This approach has many benefits and is investigated in detail in this report.

#### 4.1.3 Grants and other External Sources

As with many municipal programs, grants and other loan or partnership funding sources are available through various means. An important and relatively sustainable funding source has been the federal gas tax program (rebranded the Canada Community Building Fund in 2021). Although structured to be applied to a wide range of municipal services, there are opportunities to allocate some of these grants to stormwater programs. Also, periodic provincial and federal programs emerge that can offset or support new initiatives for a period of time that can often advance the management or maintenance of stormwater assets.

Although not investigated as a sustainable source, it is recommended that the Town pay close attention to the grant programs available and take full advantage of any programs eligible for stormwater management.

#### **4.1.4 Debt Financing**

This source of funding is also available should stormwater reserve balances and revenue sources not be sufficient to deliver the near-term program needs. This form of funding is not a preferred option unless strictly used to bridge short term funding gaps in a clearly defined capital program.

In the scenarios presented in this report, there may be program delivery and funding considerations that result in a short-term program deficit which can be mitigated through internal borrowing. These funds then are typically recovered in future years as rate revenues and reserve balances grow to close the funding deficit. If considering external debt, this approach would not be recommended for stormwater management projects unless absolutely necessary.

#### **4.1.5 Development Charges and Assumed Assets**

Development charges collected through the Development Charges Act 1997 and as amended by Bill 23 and the More Homes Built Faster Act 2022 has been a relatively effective tool for creating a growth pays for growth funding environment. The benefit of this program is the ability for municipalities to establish and levy specific charges towards future developments to offset the costs of providing the infrastructure needed to accommodate the new growth. This approach is widely used and creates a sustainable funding model for assets required to be created or upgraded to accommodate the impact of growth on infrastructure.

Additionally, stormwater and other servicing assets that are created through subdivision agreements provide the initial investment in asset creation and assumption by the municipality.

These two mechanisms are beneficial in acquiring the initial capital needs of creating the new infrastructure as part of the development process. The Town has benefited from this process in the high growth communities. However, a gap in the funding model can emerge when there is not a well-defined and funded maintenance program or when non-DC funded projects are required.

Fully Leveraging these approaches provides municipalities with the ability to secure the base assets for stormwater management at minimal cost to the taxpayer when there is growth in the community. However, development charges are not applicable to costs such as maintenance, operations, or replacement where no new capacity is required to accommodate growth. Capacity increases required due to other factors such as climate change or previous existing capacity constraints from undersized infrastructure must be funded from other non-growth derived sources.

### **4.2 Stormwater Program Funding Strategies**

The funding source methodologies that will be evaluated are the tax based and rate-based approaches are as follows:

- General Revenue Approach
- Flat Rate Approach
- Land Area Approach

- Impervious Surface Area Approach
- Land Use Runoff Coefficients Approach
- Property Frontage Approach

#### **4.2.1 General Revenue Approach**

The property tax general revenue approach is the existing method used by the Town to fund the current stormwater management program. The funding is derived through the operating budget where the annual departmental operating, maintenance and administrative program costs are presented as part of the overall Town operating budget review and approval process.

Capital projects are identified and reviewed as a separate approval process within the annual budget review and are approved based on eligible or available funding sources (defined reserve, alternate revenue source or tax funding). Capital projects are generally funded through the various reserves and do not have a direct tax rate impact other than the longer-term sustainability of the various reserves and the overall required tax rate funded contributions needed to sustain the longer-term program.

The stormwater program requirements are defined in the operating budget and should be identified separately and have commitment from Council as to their priority and secured funding sustainability. Capital projects are funded similarly through an approved annual contribution to a storm reserve from the general tax levy. The 10-year capital plan then drives the long-term funding needs and assures a clear understanding of the reserve goals and overall program cash flow.

#### **4.2.2 Flat Rate Approach**

The flat rate approach allocates a set charge against different property types in a methodology that is intended to distribute fees more fairly than a general tax rate. Fees are determined based on property classification and charges prorated and determined based on the character of each property type.

There can be any number of divisions in this approach with the simplest being a two-tiered fix rate, one for residential and the second for IC (and possibly another for multi-residential and/or farm). The total funding needs are then distributed between the two (or more) classes.

#### **4.2.3 Land Area Approach**

This approach applies a more detailed property classifications methodology that categorizes and identifies appropriate rates for each of the various classes based on type, land cover, stormwater system impact and capacity for the property type to contribute fees. The Municipal Property Assessment Corporation (MPAC) information is used as the basis and storm rates are applied through the tax billing process as a separate item on the tax bill.

#### **4.2.4 Impervious Surface Area Approach**

This approach uses more site-specific information to assess the hardscape features that have altered the soils' ability to allow infiltration of surface water. Features such as buildings, pavement and other hard surfaces are included in this calculation and the level of imperviousness is expressed as a ratio. A ratio can be established for each property or for classes of property defined by the MPAC data. Logical groupings of property type can also be identified that provides for a balance of fair attribution of charges and assessment effort to define the specific environmental impact of each property.

#### **4.2.5 Land Use Runoff Coefficients Approach**

This approach is based on the more generic land use runoff coefficients provided for in typical stormwater system design guidelines that defined impervious ratios for a range of standard land uses. This is a standard approach in stormwater design and provides a conservative estimate of stormwater management needs in sizing infrastructure and treatment systems. The land use coefficient is applied to the property area and type, and the expected runoff is determined for each property. The information required is the property type (or zoning) and the property size (area) to determine the volume of runoff contributed by the property. Each land use category can be analyzed, or the land use categories can be divided into tiers where similar land use runoff coefficients can be grouped together to minimize the total number of categories to be analyzed.

#### **4.2.6 Property Frontage Approach**

This approach considers the property frontage on the road allowance as the measure of impact to the local stormwater collection and conveyance systems. This intent is to apportion the cost of managing the stormwater collection systems that services each property. The impact of this approach is a generally higher cost for large and rural properties where there is more road frontage.

### **4.3 Subsidy and Credit Programs**

In some cases, municipalities may offer support to property owners to help cover or reduce their stormwater charge. Low-income seniors and persons with disabilities may be eligible for a subsidy to help pay their stormwater charge, which is relief that is provided by the City of Mississauga and City of Brampton. Specific information on the relief provided can be found on their respective websites. The calculations in this study do not account for such programs.

## 5.0 Forecast Funding Needs and Cash Flow

This section presents the long-term funding needs for the Towns stormwater management program plans. These forecasts are based on current available information on stormwater management capital and operating costs and include consideration of per capita program costs for other municipal programs to identify an initial funding forecast that is within expected overall investment needs and costs and comparable to other neighboring municipalities. All costs are presented in this study do not account for inflation.

This program forecast should be reviewed periodically to accommodate future adjustments based on emerging information and changing long-term investment strategies.

### 5.1 Funding Needs

The funding needs are determined for a 10-year planning horizon and include the anticipated capital, operating and maintenance costs for the system in that period. These needs are derived from existing approved and future planned projects and investments to meet the long-term maintenance and operation of stormwater systems.

#### 5.1.1 Town of Georgina 2024 Approved Budget Funding

The Town of Georgina received approval for the stormwater operating and capital plan for 2024 which included a comprehensive capital project cash flow forecast based on the master plan recommendations and currently known asset investment needs.

The funding needs for the program are presented in Table 5-1. The capital needs are based on the Towns 10-year capital plan and the operating costs are based on the reported operating budget for 2024 with an assumed growth in the operating budget of 2 percent per year. The cashflows in Table 5-1 do not account for inflation.

**Table 5-1: Cash Flow Scenarios Summary**

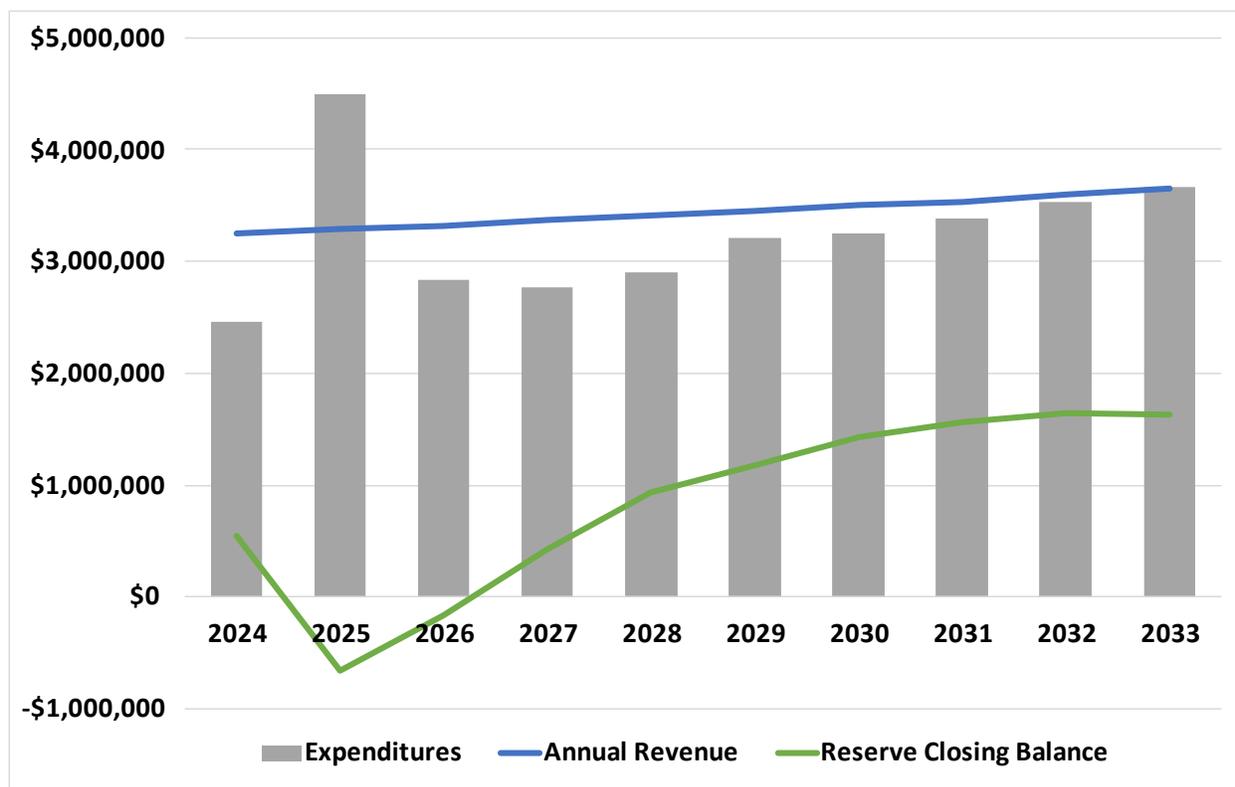
Year	Capital	Operating	Total
2024	\$1,125,000	\$1,329,000	\$2,454,000
2025	\$3,020,000	\$1,469,000	\$4,489,000
2026	\$1,335,000	\$1,498,000	\$2,833,000
2027	\$1,240,000	\$1,528,000	\$2,768,000
2028	\$1,345,000	\$1,559,000	\$2,904,000
2029	\$1,625,000	\$1,590,000	\$3,215,000
2030	\$1,630,000	\$1,621,000	\$3,251,000
2031	\$1,735,000	\$1,654,000	\$3,389,000
2032	\$1,840,000	\$1,687,000	\$3,527,000
2033	\$1,945,000	\$1,721,000	\$3,666,000
<b>Total Forecast Funds</b>	<b>\$16,840,000</b>	<b>\$15,656,000</b>	<b>\$32,496,000</b>

## 5.2 Revenue and Reserve Balance Target

The goal of setting and sustaining a stormwater rate program is to establish a rate that is reasonable and sustainable for the community and that meets the needs of the Town in the longer term. In analyzing the above cash flow scenarios, and comparing possible rate programs to peer municipalities, it is expected that a rate can be established that will meet the mid-term funding targets while being equitable and sustainable for the community. The parameters considered in establishing the 10-year revenue goals are:

- Reserve balance to reach 50% of average annual spend at the end of the 10-year planning horizon.
- Deficit spending is permitted with the assumption that reserve balances can be accommodated internally through overall reserve balances.
- Assessed property count is increasing based on growth forecast.

Figure 5-1 below presents the cash flow scenario for the base program.



**Figure 5-1: 50% Reserve Fund Goal After 10 Years**

Note that the dedicated stormwater rate, if approved, will account for 50% of the required revenue in 2024 due to tax billing cycles. The expenditures in the first half of 2024 will be funded through the general tax levy.

## 6.0 Rate Structure Alternatives

The evaluation has been completed to identify the various funding methods to take into consideration the Town’s unique characteristics compared to other communities that are predominantly urbanized. This has been accomplished by using the MPAC data to assess land uses at a reasonably aggregated level and then applying the various funding methods in a manner that can be implemented based on the MPAC profile.

### 6.1 MPAC Land Use Profile

The MPAC data provided by the Town was aggregated into 5 categories for the purposes of this evaluation and are summarized as follows:

**Table 6-1: MPAC Land Use Profile**

Property Type	Count of Municipal Addresses	Sum of Property Building Area (SF)	Sum of Property Area (Acres)	Ranking Percent*	Average Parcel Size (Acres)
Residential	19,446	27,524,881	23,275	34%	1.2
Commercial	392	715,541	1,707	3%	4.4
Industrial	97	287,944	1,580	2%	16.3
Farm	555	1,419,379	37,336	55%	67.3
Other Lands**	359	1,045,597	3,586	5%	9.6
<b>Total</b>	<b>20,849</b>	<b>30,993,342</b>	<b>67,483</b>	<b>100%</b>	<b>-</b>

\*Ranking percent represents the relative proportion of property type in the data set and is the ratio of each property type by property area to the total property area.

\*\*Other lands include government, institutional, vacant land that is not classified as residential or commercial, and managed forests.

Lands such as government properties, properties with nominal assessed value of \$10 or less, and certain institutions (e.g., schools) are exempt from tax levies per MPAC data and therefore have been removed from the financial analysis in the following sections.

### 6.2 Financial Analysis of Various Revenue Approaches

The following revenue approaches were evaluated:

- General Revenue Approach
- Flat Rate Approach
- Land Area Approach
- Impervious Surface Area Approach
- Land Use Runoff Coefficients Approach
- Property Frontage Approach

#### 6.2.1 General Revenue Approach

This approach is in line with current revenue generation based on property tax assessment with the added separation of how much of that revenue should be attributed to stormwater needs.

This approach has merit as a simplified model for allocating costs based on property type and size and determination of the tax rates for each property. This approach however does not have a direct link to the impact of property size and impermeable surface areas and this factor is not a consideration in the tax calculation. In the case of IC and Farm properties, there may be some correlation in stormwater impact

and assessment rates that create a reasonable cost allocation. In the residential property category, equity in fees may be associated with the parcel size assuming that larger size equates to higher impact to stormwater systems although this may not necessarily be the case. There are programs applying this approach and it is considered a reasonable method for allocation of costs for stormwater systems that are in line with the distribution of costs for general taxation. The cash flow distributions for the 50% reserve fund contribution 10-year averages are presented in Table 6-2 below.

**Table 6-2: General Revenue Approach**

Property Tax Class	Portion of Revenue by Tax Class	Avg. Charge per Tax Class	Distribution
Residential	\$3,008,987	\$149	92.7%
Commercial	\$201,282	\$350	6.2%
Industrial	\$18,215	\$325	0.6%
Farm	\$19,167	\$48	0.6%
<b>Total</b>	<b>\$3,247,650</b>	-	<b>100%</b>

### 6.2.2 Flat Rate Approach

This approach assumes a flat rate applied to each property regardless of use and is simple to implement and manage however there is no direct correlation to surface condition or impermeability and property impact to stormwater management. For Georgina, this approach would result in a per property annual charge of \$180. This rate is in line with the average residential rates however would be considered high for some rural farm and vacant land properties and would be considered low for most IC type properties. There were no municipalities found to apply this approach in our research, however, some municipalities had a tiered flat rate approach that could be considered. For example, a charge of \$158 per residential and per farm parcel and a range of \$175-294 per IC property depending on the size of the lot (tiered flat rate approach).

**Table 6-3: Example of a Tiered Flat Rate Approach**

Property Tax Class	Count of Municipal Addresses	Portion of Revenue by Tax Class	Avg. Charge Per Property	Distribution
Residential	19,446	\$3,062,745	\$158	94.3%
Industrial/Commercial (Small - < 1 acre)	269	\$47,075	\$175	1.3%
Industrial/Commercial (Medium - 1-10 acres)	166	\$35,125	\$212	1.3%
Industrial/Commercial (Large - > 10 acres)	52	\$15,293	\$294	0.4%
Farm	555	\$87,412	\$158	2.7%
<b>Total</b>	<b>20,849</b>	<b>\$3,247,650</b>	-	<b>100%</b>

This tiered approach to IC properties has the ability to be modified significantly depending on the nature of the IC buildings and stormwater runoff potential for those properties. For example, the City of Vaughan has rates ranging from \$58.21 for small (< 1 acre) non-residential properties to \$22,973.14 for large (>10 acre) non-residential properties.

### 6.2.3 Land Area Approach

This approach considers the impact of land area as an approach to distribute the revenue contributions. Although more equitable than the previous approaches, there is still no accounting of the actual impact of each property due to impervious land coverage. The following table provides a land area distribution of charges and an average rate for property type. This approach would require a charge of approximately \$48 per acre. In this approach, the farm sector would be burdened for much of the revenue.

**Table 6-4: Land Area Approach to Rate Structure**

Property Type	Sum of Property Area (A)	Average Parcel Size (A)	Total Revenue from Each Type	Avg. Charge per Property	Distribution
Residential	23,275	1.2	\$1,163,242	\$69	35.8%
Commercial	1,707	67	\$125,298	\$37	3.9%
Industrial	1,580	4.0	\$119,166	\$1,471	3.7%
Farm	37,336	18	\$1,839,944	\$3,315	56.7%
<b>Total</b>	<b>63,898</b>	-	<b>\$3,247,650</b>	-	<b>100%</b>

### 6.2.4 Impervious Surface Area Approach

This approach considers the percentage of each parcel as to coverage based on impervious surfaces such as roof, driveways, pavement, and other conditions that prevent rain from penetrating the ground surface. The impervious area is calculated solely based on the reported MPAC building coverage and could be refined further to include other impervious surfaces. However, as a general approach to reflect more realistic parcel impact, exclusion of other impervious surfaces simplifies the calculation while providing a reasonable and fair distribution of coverage. Based on the MPAC data, the rate per square foot of building area would be \$0.11. The following table summarizes the revenue distribution for this approach.

**Table 6-5: Impervious Surface Area Approach to Rate Structure**

Property Type	Sum of Property Area (A)	Sum of Building Area (square feet)	Revenue per Property Type	Avg. Charge per Property	Distribution
Residential	23,275	27,524,881	\$2,984,905	\$153	91.9%
Commercial	1,707	715,541	\$77,596	\$198	2.4%
Industrial	1,580	287,944	\$31,226	\$322	1.0%
Farm	37,336	1,419,379	\$153,923	\$277	4.7%
<b>Total</b>	<b>63,898</b>	<b>29,947,745</b>	<b>\$3,247,650</b>	-	<b>100%</b>

### 6.2.5 Land Use Runoff Coefficient Approach

As the Town does not publish its own runoff coefficients, the Impervious ratio is defined by nearby municipal stormwater engineering design guidelines and based on these ratios results in an overall imperviousness of 15% for the entire Town. This equates to a rate per impervious acres of \$213. Based on this rate the following revenue distribution is expected.

**Table 6-6: Land Use Runoff Coefficient Approach to Rate Structure**

Property Type	Sum of Property Area (A)	Impervious Ratio	Impervious Area (Acres)	Total Revenue from each Type	Avg. Charge per Property	Distribution
Residential	23,275	45%	10,474	\$2,439,787	\$125	75.1%
Commercial	1,707	90%	1,536	\$357,917	\$913	11.0%
Industrial	1,580	75%	1,185	\$276,001	\$2,845	8.5%
Farm	37,336	2%	747	\$173,945	\$313	5.4%
<b>Total</b>	<b>63,898</b>		<b>13,942</b>	<b>\$3,247,650</b>	-	<b>100%</b>

### 6.2.6 Property Frontage Approach

This approach considers the portion of each parcel that is directly beside the roadway. Based on the reported MPAC data, the following revenue distribution is expected.

**Table 6-7: Property Frontage Approach to Rate Structure**

Property Type	Count of Municipal Addresses	Sum of Property Frontage (ft)	Total Revenue from each Type	Avg. Charge per Property	Distribution
Residential	19,446	1,548,811	\$2,736,008	\$141	84.2%
Commercial	392	154,774	\$273,411	\$697	8.4%
Industrial	97	20,851	\$36,834	\$380	1.1%
Farm	555	114,008	\$201,397	\$363	6.2%
<b>Total</b>	<b>20,849</b>	<b>1,838,444</b>	<b>\$3,247,650</b>	-	<b>100%</b>

## 7.0 Evaluation Criteria

In order to evaluate the various funding options available to the Town, at a minimum each option needed to satisfy the following conditions:

### 7.1 Town Applicability

This criterion considers the geographic extent to which the funding option can be applied. A desirable funding option would be applicable across all property types and an undesirable option would limit applicability or require special cases to administer.

### 7.2 Meets Entire Revenue Needs

This criterion rates the funding options ability to meet the target annual revenue goals. These costs are as prepared in the previous section and are to include operation, maintenance, and capital costs. Administrative costs should be included to a reasonable extent were those efforts support the delivery, planning and fund management of the program.

### **7.3 *Dedicated Funding Source***

Preferred options are those where funds are easily identifiable and dedicated to stormwater programs exclusively. Positive attributes include fully dedicated to storm activities and able to endure cost fluctuations over the long term while sustaining stable rates from year to year.

Considering all six funding options can be structured to satisfy the conditions above, the following evaluation criteria were utilized based on industry experience in identifying the preferred funding option for the Town's specific characteristics and conditions:

### **7.4 *Fair and Equitable Allocation***

This criterion rates the degree to which each funding option charges the property owner according to individual contribution to the stormwater program expenditures. A desirable funding option would allocate costs in a systematic and consistent manner that represents the relative contribution of stormwater runoff and system loading. An undesirable option would result in an inconsistent and indefensible approach that does not best reflect the individual property contribution to the system.

### **7.5 *Effort and Cost to Administer***

The criteria favour those options that are relatively easy to administer and manage the funding option. From program planning and capital and operating budget submissions to public communication and fee collection, and disbursement to the required programs. This criterion also favours options that cost less to initiate and considers ongoing costs to administrate the program.

### **7.6 *Public Accountability***

The criteria rate the degree of fund tracking and transparency. Preferred accountability includes defined reserve, clear operating and capital program communication, rates and fees collected, and reporting on long term program costs and sustainability.

The following table presents the overall rating based on the defined criteria.

**Table 7-1: Funding Options Evaluation Matrix**

Funding Option	Fair and Equitable Allocation	Effort and Cost to Administer	Public Accountability
1. General Revenue Approach	<p><b>Medium</b> Based on assessed value does not have a direct link to the impact of property size and impermeable surface areas and these factors are not considered in the tax calculation.</p>	<p><b>Low</b> Easily incorporated based on MPAC data and current tax billing structure.</p>	<p><b>Medium</b> Somewhat logical due to perceived value of property and impact on stormwater resources. Similar approach as nearby municipalities with similar land use characteristics (e.g., King).</p>
2. Flat Rate Approach	<p><b>Low</b> Same for all properties. No direct correlation to surface condition or impermeability and property impact to stormwater management.</p>	<p><b>Low</b> One fee for all properties that is easy to track and implement.</p>	<p><b>Low</b> Not related to service use - would be considered high for some rural farm and vacant land properties and would be considered low for most IC type properties.</p>
3. Land Area Approach	<p><b>Medium</b> Based on property size - more equitable than the flat rate approach, however, there is still no accounting of the actual impact of each property due to impervious land coverage.</p>	<p><b>Medium</b> Based on MPAC data with some customization needed to internal tax billing processes to account for new method to collect revenues.</p>	<p><b>Medium</b> Somewhat logical but heavy burden on farmland that is mostly serviced by ditches, culverts and drains.</p>
4. Impervious Surface Area Approach	<p><b>High</b> Based on each property's hardscape area that is calculated using remote sensing and GIS data.</p>	<p><b>High</b> Significant technical resources required to perform remote sensing and GIS analysis. Data will require consistent updates. New billing methodology will need to be created.</p>	<p><b>High</b> Most related to service use as hardscapes per property are assessed which have the highest impact on stormwater runoff.</p>
5. Land Use Runoff Coefficients Approach	<p><b>Medium</b> Standard approach in stormwater design and provides a conservative estimate of stormwater management needs in sizing infrastructure and treatment systems.</p>	<p><b>High</b> Significant technical resources required to perform analysis at program startup. New billing methodology will need to be created.</p>	<p><b>High</b> Similar to #4 as hardscapes per property type are assumed and approach is connected to stormwater design standards – simplified assumption as to which properties have the highest impact on stormwater runoff.</p>
6. Property Frontage Approach	<p><b>Medium</b> Based on property frontage - cost of managing the stormwater collection systems that services each property. The impact of this approach is a generally higher cost for large and rural properties where there is more road frontage.</p>	<p><b>Low</b> Easily incorporated based on MPAC data and current tax billing infrastructure available.</p>	<p><b>Medium</b> Somewhat logical but heavy burden on farmland that has large frontages and mostly serviced by ditches, culverts and drains.</p>

## 8.0 Stormwater Rate Study – Public Engagement and Implementation

The following public engagement and stakeholder opportunities were completed, and the results of these sessions is summarized in this section:

- Public website made available to provide educational content on the proposed Stormwater Rate program: [www.georgina.ca/StormwaterRate](http://www.georgina.ca/StormwaterRate)
- February 28, 2024- Presentation to Council: <https://pub-georgina.escrimemeetings.com/Players/ISISStandAlonePlayer.aspx?Id=e4d31e18-97db-441c-b302-d01777d05d0e>
- March 8, 2024- Draft report available online for review and comment
- March 12, 2024- Meeting with Georgina Agricultural Advisory Committee
- March 18, 2024- Public Engagement Session: from 6-8pm, Council Chambers, 26557 Civic Centre Road, Keswick, ON
  - Comments from the public and stakeholders collected via in-person forms and through email: [stormwater@georgina.ca](mailto:stormwater@georgina.ca)
- April 2, 2024- Meeting with Georgina Environmental Advisory Committee
- April 16, 2024- Second Meeting Georgina Agricultural Advisory Committee (Requested meeting from committee that is not reported here due to timing conflict with submission of this report for inclusion in the Council agenda)

### 8.1 Public Consultation Feedback

#### 8.1.1 Georgina Agricultural Advisory Committee

Following the presentation to Council, the first public meeting was with the Agricultural Advisory Committee. A presentation was delivered to the committee members followed by a discussion on the various aspects of the program with the committee members. General concerns from the committee related to potential high costs for stormwater management when farm activities and land management practices are generally supportive of maintaining the natural environment and surface water runoff. Questions on potential benefits created by owners of wetlands or naturalized areas and how that would be considered in the costing, and how any charges would be calculated in a way that is equitable considering the uniqueness of farm properties, watercourse characteristics and current water management benefits and challenges.

The general feedback was with concerns in equity, impact of higher costs, justification for charges in the farmland areas and, what actions would result for improvement to the stormwater system once these charges were collected. After the meeting on March 12, 2024, the Committee requested an additional committee meeting to take place on April 16, 2024. Due to the timing of the agenda, the results of the meeting can not be included in this report.

#### 8.1.2 Georgina Environmental Advisory Committee

The meeting with the Environmental Advisory Committee (EAC) included a presentation to the committee and discussion on various aspects of the program. It is also noted that four members of the public showed up at the Council Chambers to view the livestream, in addition to the Committee. Comments were in support of the importance of stormwater management with questions on cost equity, fairness to property classifications and their relative impact/responsibility to stormwater management. Discussion on how this program could encourage development design and better stormwater management practices was

concluded with the clarification that this program is focused on the long-term operating and maintenance costs of stormwater assets after assumption of these assets from the subdivision creation and that current stormwater management regulations, policies and engineering standards are the guide for how these systems are designed and created.

The general feedback was that finding ways to properly fund and manage stormwater systems is beneficial and that the cost allocation and impact to costs just needs to be as equitable as possible and that the community has a sense of how these costs will benefit Lake health and environmental protection in the long term.

### 8.1.3 Open House Public Engagement Event

The Community was invited to participate in a public open house that was provided at Town Hall Council Chambers. A total of 28 community members attended the event. There were mostly representatives from the farming and rural communities with some urban area residents and small business owners. The focus on the evening was predominately in the rural areas of the community. The discussion included aspects such as historical levels of service and areas of stormwater concerns, Region vs local road responsibilities, equity of how costs are calculated and distributed, and role and benefit of farming lands vs higher impacts of urban communities. It was also noted that depending on the approach, the allocation of costs to the farming sector was minimal in several of the options. There was discussion that this cost could also be removed from the approach with minimal impact on the remaining sectors. In the General Revenue approach for example the farm component represents \$19,167 or 0.6 percent of the total revenue target of \$3,247,650.

There was also discussion on the ideas of community responsibility compared to efforts to identify stormwater costs to a property level. The asset management plan and project list were reviewed to demonstrate the level of investment that is expected to be implemented over the next 10 years and how the current funding is only sufficient to cover about 40 percent of the needed infrastructure improvements.

The attendees were asked to provide feedback on their preferred funding approach with nine of the eleven responses selecting the General Revenue Approach (Following figure).

Approach	Preferred Option Responses	*Preferred Option (%)
General Revenue Approach	9	82%
Flat Rate Approach	0	0
Land Area Approach	0	0
Impervious Surface Area Approach	1	9%
Land Use Runoff Coefficients Approach	1	9%
Property Frontage Approach	0	0
<b>Total Feedback Forms Collected</b>	<b>11</b>	<b>100%</b>

## 8.2 Recommended Cost Distribution Approach

This section is a summary of the analysis and feedback on the alternatives and concludes with a recommendation to the preferred approach.

### **8.2.1 Property Frontage Approach**

The property frontage approach bases an allocation of cost on property frontage where larger frontage length equates to higher stormwater cost allocation. This approach was rated relatively low in the initial analysis and does not necessarily provide an equitable method of cost distribution and frontage does not have a direct relationship to how stormwater and surface permeability are characterized on the property. Further, community feedback raised concerns with the impact to large frontage rural and farm properties where these areas arguably have the lowest impact to the natural hydrological cycle.

For these reasons, this approach was not preferred.

### **8.2.2 Surface Runoff Infiltration Based Approaches**

There were two approaches that considered permeability, surface condition and the impact to infiltration of surface water being the “Impervious Surface Area Approach” and the “Land Use Runoff Coefficient Approach”. These approaches are considered technically driven and are based on land surface conditions, permeability and pre, and post development changes to the hydrology that impacts how much additional runoff will be created after development. Although providing clear justification, there are still many variables within the technical analysis that can influence the outcome. Further, the level of effort for this type of analysis is not necessarily warranted as industry knowledge and understanding of cost distribution has taken on more qualitative approaches with similar cost distribution results.

This approach is also data intense and requires updates and evaluations based on changing conditions, changes in community profile and redistribution of costs based on overall permeability profile.

Community feedback was neutral to this approach recognizing that additional effort for similar outcome was not necessarily a preferred approach to addressing equity. It was also noted in these discussions that there is not perfect method for fully equitable distribution and that there are diminishing returns in the level of analysis and the perceived fairness in the cost distribution. Overall, and with the other methods, there was understanding that the idea of fairness was to best be viewed across the land uses and as a relative assessment of cost difference for each category.

For these reasons, this approach was not preferred.

### **8.2.3 Land Area Approach**

The land area approach was not rated as a preferred alternative technically as there is an inherent inequity where large parcels are generally more naturalized than smaller urban land use areas with small residential or commercial lots. Although easy to implement, there is concern with the equity of cost distribution and for this reason, this alternative was not preferred. This was also confirmed through the public consultation where the general feedback was the impact to the farm and rural community where many of the stormwater management issues are minimal and isolated to surface water management along roadways and the infrastructure needed such as ditching and culverts to direct this flow to the downstream receivers. Similarly, in urban areas, the higher impermeability creates higher peak runoff flows that impact these local sewers, ditches and culverts more acutely than in rural areas.

For these reasons, this approach was not preferred.

### 8.2.4 Preferred Approach

The remaining approaches are the “General Revenue Approach” and the “Flat Rate Approach” which are the final two approaches that ranked the highest overall. Of these two, the flat rate approach is lower in preference as it has similar challenges in fairness as do some of the other approaches. Specifically, a large property that may have higher impact on surface conditions (such as an ICI property with high pavement coverage) would not be treated any differently than a small rural property.

During the consultation period, it was noted that some elements of the flat rate approach may be beneficial if there are say large outliers in the various property types that might seem extreme in comparison. However, there was more support for the general revenue approach based on the methodology, the implicit equity and the simplicity of implementation and support.

In summary, the preference is for the following approaches:

- General Revenue Approach
- General Revenue Approach with Exclusion of Farm

The cost distribution of the general revenue alternative is presented in Table 8-1.

**Table 8-1 Preferred Approach- General Revenue**

Property Tax Class	Portion of Revenue by Tax Class	Avg. Charge per Tax Class	Distribution
Residential	\$3,008,987	\$149	92.7%
Commercial	\$201,282	\$350	6.2%
Industrial	\$18,215	\$325	0.6%
Farm	\$19,167	\$48	0.6%
<b>Total</b>	<b>\$3,247,650</b>	-	<b>100%</b>

It is noted that prior to the cost distribution analysis, some property classes were excluded including Exempt (E) and Full payment in Lieu (CF,CG,CW,RF,RG,RP), to ensure that the stormwater rate would be distributed fairly and based on the actual contributions to the stormwater management system.

For the general revenue alternative that excludes farm properties (FT) and managed forests (TT), the cost can be proportionally redistributed to the residential, commercial, and industrial properties, as seen in Table 8-2.

**Table 8-2 Preferred Approach- General Revenue**

Property Tax Class	Portion of Revenue by Tax Class	Avg. Charge per Tax Class	Distribution
Residential	\$3,026,812	\$150	93.3%
Commercial	\$202,528	\$352	6.2%
Industrial	\$18,310	\$327	0.6%
Farm	\$0	\$0	0%
<b>Total</b>	<b>\$3,247,650</b>	-	<b>100%</b>

### **8.3 Implementation Plan**

The steps for implementation are provided as a guide for the Town considering the potential impact of the introduction of a change in program funding and the need to modify internal processes and communicate. Implementing a new stormwater rate charge that requires internal process changes for the town involves several key steps.

It has been identified in the cash flow forecasting that implementation of the charge is required to be implemented as soon as practical. The approved method will be implemented in time for the 2024 Final tax which will be issued in Mid-Late June. This bill would be payable in two relatively equal installments of late July and late September. Starting in 2025, It is also noted that the program will reduce the amount of the current revenue from general taxes and offset the full funding requirement from the new separated rate that will be distributed using the same general tax assessment calculations. The implementation steps are as follows:

- a) Update Billing Systems: Updated the billing systems to accommodate the new stormwater rate charge revenue method
- b) Implement Communication Plan: Communicate new program through the current website, other Town digital communication channels. Include stormwater brochure with 2024 Final Tax bill.
- c) Staff Training: Provide training sessions for municipal staff involved in administering the new stormwater rate charge, billing, collection, and customer service to ensure they are equipped to handle inquiries and address issues effectively. Training will be provided to all Tax and Revenue staff and all Service Georgina staff. General inquiries will be handled by Service Georgina and Escalations, changes, maintenance, and Billing etc. will be done by Tax and Revenue.