



Proposed Stormwater Charge – Results of Consultation and Next Steps

Date: May 2, 2017
To: Executive Committee
From: General Manager, Toronto Water
Deputy City Manager & Chief Financial Officer
Wards: All

SUMMARY

The City of Toronto's stormwater management program is currently funded from the water rate. In December 2015, City Council directed staff to develop an implementation plan for a stormwater charge, dedicated to funding the City's stormwater management program, which would result in the removal of the portion from the water rate that currently funds the stormwater management program. After developing a detailed stormwater charge implementation plan, staff executed a substantial consultation campaign to solicit feedback on the model from stakeholders and the general public.

Several issues related to the implementation of a stormwater charge were identified during the development of the implementation plan and the consultation process, the most important of which relate to: potential exemptions from the stormwater charge; no assurance that any overall reduction in a utility bill resulting from the implementation of a stormwater charge would be passed on to a tenant; strong demand from stakeholders and the public for more individualized stormwater charge formulations; and requests for incentives for homeowners. As a result of these issues, staff do not recommend the implementation of a stormwater charge at this time.

The recommendations in this report, if adopted, would direct staff instead to review the water rate structure as it pertains to: identifying fixed-cost elements that would be appropriate to charge as fixed-charges; recovering costs of stormwater management from properties that do not have water accounts; incentivizing stormwater management on large properties; and attracting and retaining the manufacturing sector in Toronto.

The recommendations would also direct staff to assess the state of technology relevant to the viability of automated geographic information system (GIS) analysis of stormwater runoff contributions from properties across Toronto and to periodically report back during the annual budget process with findings of this assessment.

RECOMMENDATIONS

The General Manager, Toronto Water, and the Deputy City Manager & Chief Financial Officer recommends that City Council:

1. Direct the General Manager, Toronto Water and the Deputy City Manager & Chief Financial Officer to consult with all stakeholders and report back to Executive Committee in the spring of 2019 with a review of the water rate structure as it pertains to:
 - a. An identification of any fixed-cost elements of the City's water, wastewater and stormwater programs that would be appropriate to recover through a fixed-rate and/or a fixed-fee, on the water account portion of the utility bill, rather than through the current water rate structure;
 - b. Recovering costs of stormwater management from properties that do not receive a utility bill with a water account or do not consume water;
 - c. Incentivizing stormwater management on large properties that do not consume significant amounts of water relative to property size or potential stormwater runoff impacts; and
 - d. Attracting and retaining the manufacturing sector in Toronto.
2. Direct the General Manager, Toronto Water and the Deputy City Manager & Chief Financial Officer to assess the state of technology relevant to the viability of automated geographic information system (GIS) analysis of stormwater runoff contributions from properties across Toronto and to periodically report back to Budget Committee during the annual budget process with findings of this assessment.

FINANCIAL IMPACT

There are no direct financial implications to Toronto Water or to the City of Toronto budgets arising from the adoption of the recommendations in this report. Toronto Water's operating and capital programs are fully funded through the water rate and user fees.

The Deputy City Manager & Chief Financial Officer has reviewed this report and agrees with the financial impact information.

DECISION HISTORY

At its meeting on October 30, 2012, Toronto City Council considered a report titled, "Toronto Water Capital Program Funding Pressures and Financing Options". This report presented the results of initial stakeholder consultation intended to allow Toronto Water to frame the challenges facing its Capital Program and gather initial feedback on various funding options. That report can be viewed at:

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2012.EX23.3>

At its meeting on November 13, 14, 15 and 18, 2013, Toronto City Council directed the General Manager, Toronto Water and the Deputy City Manager & Chief Financial Officer to identify the most appropriate way to generate additional revenue for Toronto Water to fund its substantial infrastructure requirements through the use of one or more of the following options:

- Water rate increases greater than the rate of inflation once the "9% for 9 years" increases ended in 2014; and/or
- A separate stormwater management charge on the water bill; and/or
- Debenture financing for large scale, long service period projects, with all debt service costs to be paid from water rate increases.

That Council decision can be viewed at:

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2013.EX35.11>

At its meeting on March 10 and 11, 2015, Toronto City Council approved a water rate increase of 8%, effective March 13, 2015. In order to provide the necessary revenue stream for the recommended 2015-2024 Capital Plan in accordance with its project delivery schedule, staff recommended and City Council approved an 8% rate increase in 2016, followed by two years of 5% increases in 2017 and 2018 and an inflationary increase of 3% in the remaining years of the ten year plan. That Council decision can be viewed at: <http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2015.EX3.1>

At its meeting on December 1, 2015, Executive Committee referred Recommendation 16 in the letter (November 24, 2015) from the Budget Committee [EX10.23b] to the General Manager, Toronto Water and the General Manager, Economic Development and Culture to research the impacts of the proposed changes to the industrial waste surcharge fee calculation formula on individual companies taking into consideration the proposed stormwater management charge and report back to the Budget Committee as part of the 2017 Budget process.

"16. City Council direct that, effective January 1, 2016, the industrial waste surcharge program formula for the calculation of surcharge fees be applied to all treatable parameters that exceed the sewers by-law limits, instead of only the one parameter that exceeds the sewer by-law limits by the greatest amount, allowing full cost recovery for the wastewater services provided by the City, such surcharge to be phased in over a six year period to mitigate impacts to existing companies."

That decision can be viewed at:

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2015.EX10.23>

At its meeting on December 9 and 10, 2015, Toronto City Council directed the General Manager, Toronto Water and the Deputy City Manager & Chief Financial Officer to develop and formulate a stormwater management funding model premised on the establishment of a dedicated stormwater charge, thereby removing stormwater management costs from the water rate, and to report back to Executive Committee in the spring of 2017 on a stormwater charge implementation plan. Staff were also directed to investigate the potential of an additional charge for residential properties with parking pads where parking pads are currently permitted. That report can be viewed at: <http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2015.EX10.26>

COMMENTS

Stormwater Management Program Background

Stormwater is rain and melted snow. The City of Toronto's stormwater management program includes operating and capital funding for the entire storm sewer system, as well as the Wet Weather Flow Master Plan and its components such as the Basement Flooding Protection Program. The City's stormwater management program, as with all other Toronto Water programs, is currently paid for through the "pay-as-you-go" water rate, which is distinct from and does not rely on City of Toronto property taxes. Toronto's water rate is competitive relative to other municipalities within the Greater Toronto Area.

In 1987, the International Joint Commission identified the Toronto Harbour as an "Area of Concern", largely due to poor water quality conditions in the Don River and the Inner Harbour. Additionally, the Great Lakes Water Quality Agreement commits Canada and the United States to actions that restore and maintain the chemical, physical and biological integrity of the Great Lakes Basin ecosystem. Despite the international nature of the agreement, most of the onus for remediation falls to municipalities.

In response to being identified as an "Area of Concern", the City of Toronto developed a multi-year Remedial Action Plan (RAP). A cornerstone for the RAP is the City's Wet Weather Flow Master Plan (WWFMP), approved by City Council in 2003. The WWFMP is a 25-year plan to manage stormwater quantity, and improve water quality and aquatic habitats in Toronto's watercourses and along the waterfront.

In 2005, City Council adopted the 10-year Toronto Water Capital Plan and funding strategy, including 9% annual rate increases over nine years, from 2006 to 2014, to address the state of good repair backlog and wet weather flow priorities.

In 2006, City Council adopted the Basement Flooding Protection Program (BFPP) in response to the severe flooding experienced in Toronto in August 2005. The BFPP is a multi-year program to make improvements to the City's sewer system and overland drainage routes to provide an enhanced level of protection and reduce flooding. In 2013, the BFPP was expanded to include the entire city, allowing staff to systematically expand and prioritize Environmental Assessment studies across Toronto.

To meet the objectives of the WWFMP and to address the continued occurrence of extreme weather events in Toronto, Council has added or accelerated other WWFMP projects, including components of the Don River & Central Waterfront project, construction of Waterfront Landforms at Ashbridges Bay, construction of Etobicoke Waterfront Stormwater Control, and protection of additional trunk sewer crossings exposed during the July 8, 2013 storm. Funding was also increased for the Toronto & Region Conservation Authority's (TRCA) watercourse erosion control projects. These projects will help manage water quantity, improve water quality in Toronto's watercourses and Lake Ontario, and will help protect vulnerable infrastructure.

Stormwater Charge Overview

In response to direction from City Council, staff developed a stormwater management funding model premised on the establishment of a dedicated stormwater charge intended to recover the costs of the City's stormwater management program. The stormwater charge was premised on the impact properties have on the City's stormwater management system. As such, the model was based on properties' hard surface areas as a representation of the amount of stormwater runoff they contribute to the City's stormwater management system. The model removed the amount currently paid by rate payers for stormwater management from the water rate, and proposed the imposition of a stormwater charge as a separate dedicated charge on the water account portion of the utility bill. As a corresponding result, with the establishment of a dedicated stormwater charge, if implemented in 2019, the water rate charged to consumers would decrease by approximately 20%.

The stormwater charge model was developed as a direct way to pay for stormwater management. The stormwater charge would be shown as a separate line item on existing utility bills and rate payers would clearly see how much they are paying for the City's stormwater management services.

The stormwater charge model would provide a dedicated funding source for a dedicated City service. A separate reserve fund would be created for the stormwater management program to ensure its continued funding through the stormwater charge as determined by Council at each budget process.

The model staff developed for Toronto---and which was presented to the public and stakeholders during consultation---would divide properties into four categories: (i) Residential; (ii) Apartment & Condominium Buildings; (iii) Industrial, Commercial & Institutional; and (iv) Large Properties. Each of the first three categories would be further divided into various tiers according to property size, with associated stormwater charges calculated based on the average amount of hard surfaces for properties within each tier. Large Properties (those one hectare or larger) would be assigned individualized stormwater charges.

Toronto's stormwater charge would be administered through the existing utility bills at the same frequency used to bill for water. Virtually all properties would receive a stormwater charge, including those without water meters and accounts that do not consume water. Where necessary, staff would administer "stormwater charge only" bills (i.e., for properties that do not receive utility bills, such as some parking lots). If directed by City Council, the earliest staff could implement a stormwater charge is March 1, 2019 (not January 1, 2019 due to the timing of the 2018 municipal election).

The resource assessment for the implementation and sustainment of a stormwater charge program is contained in Attachment A.

Toronto Water Financial Model

The current Toronto Water financial model approved by City Council is premised upon the objective that Toronto Water capital and operating programs are fully self-funded and financially stable, without excessive year-over-year fluctuations over the long term.

The introduction of a dedicated stormwater charge would require separating the stormwater management operating and capital programs and their funding from the current Toronto Water financial model, with the premise that the total of the two components would remain revenue neutral because funding is premised on cost recovery. Stormwater management capital and operating programs would be funded by the stormwater charge, while all other Toronto Water programs would continue to be funded by the water rate. No additional revenue would be generated from the implementation of a stormwater charge than is already provided for in Toronto Water's 10-year operating and capital forecast.

The implementation of a stormwater charge would require the creation of a stormwater management reserve fund by transferring \$65M from the existing water and wastewater capital reserves, based on pro-rata share. The analysis presented in this report is based on an assumed implementation in 2019 with a projected stormwater charge cost recovery of \$275M for that year to cover the cost of the stormwater management operating and capital program. By removing stormwater management funding from the water rate, the water rate would correspondingly decrease by 20%.

Phasing In the Proposed Stormwater Charge

Staff also examined the option of phasing in the proposed stormwater charge. If the stormwater charge was phased in over four years (2019-2022), 25% of the stormwater management program would be funded by the stormwater charge in the first year of implementation, followed by 50% in the second year, 75% in the third year and 100% in the fourth year. During the phasing period, the remaining portion of the stormwater management program would continue to be funded by the water rate. As a result, the water rate would decrease by approximately 3.5% per year over that period. In the case of four-year phasing, the full impact of the stormwater charge would not come into effect until the fourth year. All program components (e.g., requests for review, incentives program for Large Properties, etc.) would still need to be implemented in the first year, the cost for which can be found in Attachment A.

Proposed Stormwater Charge Rate Structure

The stormwater charge model developed for Toronto divides properties into four categories: (i) Residential, (ii) Apartment & Condominium Buildings; (iii) Industrial, Commercial & Institutional, and (iv) Large Properties. Properties less than one hectare in size would be assigned a tier based on property size, as illustrated in Table 1. Large Properties (i.e., those one hectare or larger) would be assigned individualized stormwater charges.

Table 1: Stormwater charge categories and associated tiers

Category	Number of tiers based on property size
Residential	7
Apartment & Condominium Buildings	5
Industrial, Commercial & Institutional	5
Large Properties, 1 ha or larger (1 ha = approx. 108,000 sq ft)	None (individualized calculations)

Staff developed a geographic information system (GIS) analysis method to determine the hard and soft surface areas across the entire city using aerial photography. Hard surface areas on properties represent the amount of stormwater runoff they contribute to the City's stormwater management system. Hard surfaces are defined as those surface areas that generally contribute a higher amount of runoff compared to soft surfaces. Hard surfaces include buildings, paved areas, driveways, walkways, etc. Soft areas include grassed surfaces, soil, treed areas, etc. The analysis did not assess topography, soil types, or other property characteristics because doing so would substantially increase the difficulty and cost of analysis. The hard surface analysis methods employed in Toronto are similar to those adopted in other municipalities that have implemented stormwater charges.

Table 2 illustrates the results of the automated GIS analysis for all categories. The hard surface proportion for each category is equal to the corresponding funding allocation for each category. For example, Residential properties account for 38% of hard surfaces on all properties across Toronto, and therefore 38% of stormwater charges were allocated to the Residential property category.

Table 2: Results of GIS analysis for stormwater charge categories

Property category	Number of properties	Gross area (ha)	Hard surface area (ha)	Hard surface area proportion and corresponding funding allocation
Residential	436,412	19,840	8,049	38%
Apartment & Condominium Buildings	6,522	1,231	789	4%
Industrial, Commercial & Institutional	26,421	4,297	3,298	16%
Large Properties (1 ha or greater)	5,531	22,156	8,889	42%
Total	474,886	47,524	21,025	100%

Staff calculated the stormwater charge amount to be assigned to each square metre of hard surface area by dividing the total cost recovery needed for the stormwater management program in 2019 (\$275M) by the total amount of hard surface area across the City (21,025 hectares, as shown in Table 2), which resulted in \$1.31 per square metre (note: there are 10,000 square metres in a hectare).

To determine the stormwater charge for each tier in the flat rate categories, staff calculated the average hard surface area per property in each tier and then multiplied that amount by \$1.31. For example, the properties in Tier 3 of the Residential property category have 172 m² of hard surface area on average, which results in a stormwater charge flat rate of \$225 per year. The resulting stormwater charge (SWC) tiered flat rates are illustrated in Tables 3 to 5.

Table 3: Residential stormwater charge tiered flat rates

	Gross area range (ha)	Gross area range (sq ft)*	SWC flat rate per year
Tier 1	0.021 or less	Less than 2,400	\$125
Tier 2	0.022 to 0.031	2,400 to 3,399	\$175
Tier 3	0.032 to 0.044	3,400 to 4,799	\$225
Tier 4	0.045 to 0.055	4,800 to 5,999	\$275
Tier 5	0.056 to 0.074	6,000 to 7,999	\$325
Tier 6	0.075 to 0.094	8,000 to 10,199	\$375
Tier 7	0.095 to 0.999	10,200 to 107,600	\$475

*Conversions to square feet from hectares are approximations. Actual SWCs would be calculated in hectares.

Table 4: Apartment & Condominium Building stormwater charge tiered flat rates

	Gross area range (ha)	Gross area range (sq ft)*	SWC flat rate per year
Tier 1	0.011 or less	Less than 1,300	\$110
Tier 2	0.012 to 0.049	1,300 to 5,399	\$230
Tier 3	0.050 to 0.149	5,400 to 16,099	\$860
Tier 4	0.150 to 0.399	16,100 to 42,999	\$2,300
Tier 5	0.400 to 0.999	43,000 to 107,600	\$4,950

*Conversions to square feet from hectares are approximations. Actual SWCs would be calculated in hectares.

Table 5: Industrial, Commercial & Institutional stormwater charge tiered flat rates

	Gross area range (ha)	Gross area range (sq ft)*	SWC flat rate per year
Tier 1	0.016 or less	Less than 1,800	\$135
Tier 2	0.017 to 0.026	1,800 to 2,899	\$240
Tier 3	0.027 to 0.089	2,900 to 9,699	\$530
Tier 4	0.090 to 0.299	9,700 to 32,299	\$1,800
Tier 5	0.300 to 0.999	32,300 to 107,600	\$5,700

*Conversions to square feet from hectares are approximations. Actual SWCs would be calculated in hectares.

There are approximately 5,500 Large Properties (one hectare or larger) in Toronto. Approximately 78% of these properties are industrial, commercial or institutional. Large Properties account for only 1% of the number of properties in the dataset, but represent 42% of all hard surfaces. Because of the size of these properties and their significant hard surface area, they were assigned individualized stormwater charges based on the actual amount of hard surfaces of each property. Staff used the figure of \$1.31 per square metre of hard surface area to calculate these individualized stormwater charges.

Proposed Stormwater Charge Program Components

In the development of an implementation plan for a stormwater charge, staff considered several additional stormwater charge program components. This section will outline what these additional components would entail at a high level, although the details of each, if any, would have to be determined and codified within the Toronto Municipal Code as part of the implementation of a stormwater charge in accordance with any decision by City Council. Cost estimates associated with stormwater charge program components are detailed in Attachment A.

1. Requests for Review

Requests for review would come from customers who believe they have received an incorrect stormwater charge. For customers assigned a tiered flat rate (99% of all properties), an incorrect stormwater charge would result only if the property category (i.e., Residential, Apartment & Condominium Buildings or ICI) was incorrect, or the assigned tier within the category was incorrect. City staff would process the application, conduct the review and update the customer with the result.

Similar recourse would exist for Large Properties (1% of all properties), except the application for a request for review would require evidence that the calculation of impervious area on the property (on which the stormwater charge is based) is incorrect.

2. Technical Exemptions

A technical exemption would only be available for properties that do not contribute any stormwater runoff to the City's stormwater management system. An application including a stormwater management report prepared and stamped by a professional engineer would be required to establish that a property does not directly contribute any runoff to a road, sewer or watercourse. Any indirect connections to Toronto's stormwater management system (i.e., via other parcels), however, would render a property ineligible for a technical exemption.

As shown in Attachment A, cost recovery implications from technical exemptions were estimated to be \$276,000 per year.

3. Incentives Program for Large Properties

The proposed stormwater charge model developed by staff included an incentives program for Large Properties only. The 5,500 Large Properties in Toronto comprise only 1% of properties by count, but account for 42% of all hard surfaces, and therefore focusing the incentives program initially on these properties is the most efficient and effective use of City resources.

The purpose of an incentives program would be to account for and encourage on-site stormwater management. Staff used three criteria during the formulation of the incentives program: are the works quantifiable; are the results verifiable; and is the program as a whole justifiable.

Quantification of on-site stormwater management is typically demonstrated through the preparation of a stormwater management report, prepared by a professional engineer. This is the same process the City currently uses to ensure that new and re-developed sites comply with the requirements set out in the Wet Weather Flow Management Guidelines, and allows staff to understand how stormwater runoff is being retained and managed on a property. These reports in turn allow staff to understand the impact of properties on the municipal stormwater system. Typical on-site stormwater management practices include low impact development/green infrastructure (e.g., permeable pavement, bioswales, green roofs, etc.), stormwater ponds, underground detention tanks, and drainage inlet controls, among others.

Results of on-site stormwater management would need to be verified to ensure the work described in the professional engineer's report has been properly installed and is functioning as designed. Verification is typically conducted by sending staff to inspect constructed works.

An incentives program is justifiable if the impact of the on-site stormwater management works has a significant and positive impact on the City's stormwater management system relative to the costs associated with administering the program. As with other components of this stormwater charge model, staff aimed to keep the administrative burden and associated costs of the incentives program to a minimum.

The details of the incentives program would have to be determined, but staff anticipated that successful eligible applicants would be entitled to a credit on their stormwater charge, capped at 50% to account for fixed costs associated with the municipal stormwater management program. Applicants would need to include an operation and maintenance (O&M) plan with their application, and credit renewals would be required every five years to ensure the on-site stormwater management practices are still in good working order.

As shown in Attachment A, cost recovery implications from incentive programs for Large Properties were estimated to be between \$466,000 and \$2,330,000 per year.

Parking Pads

City Council requested staff to investigate the potential of an additional charge for residential properties with parking pads where parking pads are currently permitted. The stormwater charge tiers that were developed for residential properties are based on property size, and the associated charges correspond to the average amount of hard surfaces on properties in that tier. An additional charge for parking pads would therefore be inconsistent with the stormwater charge model, which does not assess hard surface area on a property-by-property basis.

Many of the permitted parking pads in Toronto are required to be constructed with pervious materials. If the premise of the additional charge for permitted parking pads is based on their stormwater runoff contributions, it would be necessary to distinguish the pads' various materials and conditions, which would incur substantial administrative costs.

The existing permitting process for parking pads administered by Transportation Services is a more appropriate tool to address the issue of assessing additional charges for parking pads.

Proposed Stormwater Charge Impact Analysis (All Categories)

Staff conducted impact analysis to get a better understanding of the potential impacts of the stormwater charge model on all types of users. Generalizing the results of impact analysis is complicated by the fact that there are several variables that affect the result, namely property size, property category and water consumption. Water consumption is a factor in the analysis because the stormwater charge model requires the separation of the portion paid for stormwater management currently embedded in the water rate, thereby resulting in the water rate decreasing by 20% upon implementation.

At a very general level, analysis demonstrates that small properties with higher water consumption would generally have a net decrease on the water account portion of their utility bill, while large properties with low water consumption would generally have a net increase.

In the examples below, staff used water consumption data from 2016. The rates used in the examples are for two scenarios in 2019: the status quo scenario, which assumes the water rate that would be recommended in that year without a stormwater charge,

and the stormwater charge scenario, which assumes the implementation of a stormwater charge and a corresponding decrease to the water rate. The Block 2 rate is the water rate available to eligible industrial process water user customers whose annual water consumption is over 5,000 cubic metres (m3). See Table 6 for a summary of the rates used.

Table 6: Water rates in 2019 under status quo and stormwater charge scenarios

Water rate	Status quo scenario	Stormwater charge scenario
Block 1	\$3.9178/m3	\$3.0390/m3
Block 2	\$2.7425/m3	\$2.1273/m3

1. Residential Impact Analysis

Average annual water consumption for properties in the Residential category is 265 m3, whereas the lowest 10% of water consumers use 96 m3 or less and the highest 10% of water consumers use 438 m3 or more. As shown in Table 7, properties in lower tiers with average water use would have a net decrease on the water account portion of their utility bill. For example, a property with average water use in Tier 1 would have an annual net *decrease* of \$108 on their bill under the stormwater charge scenario compared to the same amount of water use under the status quo scenario. Conversely, a property with average water use in Tier 7 would have an annual net *increase* of \$242 on their bill under the stormwater charge scenario compared to the status quo scenario.

To mitigate the impacts of the stormwater charge, staff have assumed that residents who are eligible for the City's water rebate program for low-income seniors and low-income persons with a disability would also be eligible for a corresponding rebate on their stormwater charge.

Table 7: Residential net annual impact on utility bill under the stormwater charge scenario compared to the status quo scenario for various levels of water consumption

	Number of properties	Percentage of property category	SWC flat rate per year	Annual impact on lowest 10% of water users	Annual impact on average water user	Annual impact on highest 10% of water users
Tier 1	77,635	18%	\$125	\$41	(\$108)	(\$260)
Tier 2	85,338	20%	\$175	\$91	(\$58)	(\$210)
Tier 3	78,000	18%	\$225	\$141	(\$8)	(\$160)
Tier 4	77,445	18%	\$275	\$191	\$42	(\$110)
Tier 5	82,671	19%	\$325	\$241	\$92	(\$60)
Tier 6	17,574	4%	\$375	\$291	\$142	(\$10)
Tier 7	17,749	4%	\$475	\$391	\$242	\$90

2. Apartment & Condominium Buildings

Average annual water consumption for properties in the Apartment & Condominium Buildings category is 8,150 m³, whereas the lowest 10% of water consumers use 1,956 m³ or less and the highest 10% of water consumers use 16,146 m³ or more. As shown in Table 8, most properties in this category would have a net decrease on the water account portion of their utility bill. For example, a property with average water use in Tier 1 would have an annual net *decrease* of \$7,053 on their bill under the stormwater charge scenario compared to the same amount of water use under the status quo scenario. Similarly, a property with average water use in Tier 5 would have an annual net *decrease* of \$2,213 on their bill under the stormwater charge scenario compared to the status quo scenario.

Table 8: Apartment & Condominium Buildings net annual impact on utility bill under the stormwater charge scenario compared to the status quo scenario for various levels of water consumption

	Number of properties	Percentage of property category	SWC flat rate per year	Annual impact on lowest 10% of water users	Annual impact on average water user	Annual impact on highest 10% of water users
Tier 1	1,115	17%	\$110	(\$1,609)	(\$7,053)	(\$14,080)
Tier 2	1,374	21%	\$230	(\$1,489)	(\$6,933)	(\$13,960)
Tier 3	1,566	24%	\$860	(\$859)	(\$6,303)	(\$13,330)
Tier 4	1,384	21%	\$2,300	\$581	(\$4,863)	(\$11,890)
Tier 5	1,083	17%	\$4,950	\$3,231	(\$2,213)	(\$9,240)

3. Industrial, Commercial & Institutional

Average annual water consumption for properties in the Industrial, Commercial & Institutional category is 1,868 m³, whereas the lowest 10% of water consumers use 119 m³ or less and the highest 10% of water consumers use 7,782 m³ or more. As shown in Table 9, properties in lower tiers with average water use would have a net decrease on the water account portion of their utility bill. For example, a property with average water use in Tier 1 would have an annual net *decrease* of \$1,507 on their bill under the stormwater charge scenario compared to the same amount of water use under the status quo scenario. Conversely, a property with average water use in Tier 5 would have an annual net *increase* of \$4,058 on their bill under the stormwater charge scenario compared to the status quo scenario.

Table 9: Industrial, Commercial & Institutional net annual impact on utility bill under the stormwater charge scenario compared to the status quo scenario for various levels of water consumption.

	Number of properties	Percentage of property category	SWC flat rate per year	Annual impact on lowest 10% of water users	Annual impact on average water user	Annual impact on highest 10% of water users
Tier 1	4,131	16%	\$135	\$30	(\$1,507)	(\$6,704)
Tier 2	5,189	20%	\$240	\$135	(\$1,402)	(\$6,599)
Tier 3	6,583	25%	\$530	\$425	(\$1,112)	(\$6,309)
Tier 4	5,617	21%	\$1,800	\$1,695	\$158	(\$5,039)
Tier 5	4,901	19%	\$5,700	\$5,595	\$4,058	(\$1,139)

4. Large Properties

The potential impact on the approximately 5,500 Large Properties is more difficult to generalize because each property would receive an individualized stormwater charge. Staff anticipate that 28% of Large Properties would have a net decrease on the water account portion of their utility bill, whereas the other 72% would have a net increase. The vast majority of Large Properties (89%) would see a change of less than \$50,000 annually one way or the other. Approximately 7% would see a net decrease of \$50,000 or more, and 4% would see a net increase of \$50,000 or more. The following two examples illustrate two types of potential impacts.

Table 10 shows an example in which a large commercial property would see an increase of 79% on their utility bill under the stormwater charge scenario versus the status quo scenario.

Net increases to utility bills of Large Properties resulting from the implementation of the stormwater charge can be mitigated through the incentives program for Large Properties. As described above, Large Properties applicants would be required to successfully demonstrate on-site stormwater management to be eligible for a credit of up to 50% on their stormwater charge.

Table 10: Potential impact of the stormwater charge scenario on a large commercial property with annual water use of 94,747 cubic metres and a lot size of 30.760 ha (approx. 3.3 million sq. ft.) that is approximately 93% impervious

	Status quo scenario	Stormwater charge scenario
Water rate charge	\$371,200	\$287,936
Stormwater charge	N/A	\$375,652
Total annual bill	\$371,200	\$663,588
Difference	N/A	\$292,388 or 79%

Table 11: Potential impact of the stormwater charge scenario on a large commercial property with annual water use of 370,490 cubic metres and a lot size of 5.412 ha (approx. 580,000 sq ft) that is approximately 93% impervious

	Status quo scenario	Stormwater charge scenario
Water rate charge	\$1,451,506	\$1,125,919
Stormwater charge	N/A	\$65,888
Total annual bill	\$1,451,506	\$1,191,807
Difference	N/A	(\$259,699) or (18%)

The decrease to the water rate resulting from the implementation of a stormwater charge would meet Toronto's economic development objective of attracting and retaining large water consumers in the manufacturing sector.

5. Shifts between property categories

If implemented, the stormwater charge would result in a shift in the contributions paid into the stormwater management program by each of the property categories. Table 12 illustrates these shifts. The "status quo scenario" column shows the current breakdown based on program funding from the water rate. The "stormwater charge scenario" column shows the breakdown under the stormwater charge scenario, and is equal to the proportion of hard surfaces from each property category. The sum of the shifts in percentage points or dollars is zero, further illustrating the fact that the developed stormwater charge would not result in any new revenue.

Table 12: Shifts between property categories related to paying into the stormwater management program as a result of implementing a stormwater charge

Property category	Stormwater management funding % (status quo scenario)	Stormwater management funding % (stormwater charge scenario)	Funding contribution shift (%)	Funding contribution shift (\$)
Residential	33%	38%	5%	\$14M
Apartment & Condominium Buildings	16%	4%	-12%	(\$33M)
Industrial, Commercial & Institutional	15%	16%	1%	\$3M
Large Properties	36%	42%	6%	\$16M

6. Combined Impact of Proposed Stormwater Charge with Amended Industrial Waste Surcharge Fee Calculation Formula

In response to direction from Executive Committee, staff conducted analysis examining the combined impact of implementing the proposed stormwater charge and amending the industrial waste surcharge fee calculation formula so that charges would be imposed for all treatable parameters. Two scenarios were examined for each property in Toronto that currently has an Industrial Waste Surcharge Agreement (IWSA):

- (i) the status quo scenario, defined as an industrial waste surcharge fee calculated based on the highest chargeable parameter only, in addition to the existing water rate; and
- (ii) the hypothetical scenario, defined as an amended industrial waste surcharge fee calculated based on *all* chargeable parameters, in addition to a decreased water rate and a separate stormwater charge under the proposed stormwater charge model.

Providing an overview of the results is complicated by the fact that there are many variables (e.g., water consumption, IWSA, stormwater charge, etc.). Nonetheless, it is possible to conclude that those properties that would be most impacted by an industrial waste surcharge fee that charges for all treatable parameters would still see a net decrease to their utility bill when also accounting for the implementation of the stormwater charge. This result is explained by the fact that those properties most impacted by a change to the industrial waste surcharge fee tend to consume a lot of water, and the 20% drop in the water rate resulting from the stormwater charge more

than offsets the impact of the increased cost associated with an amended industrial waste surcharge fee calculation formula.

Proposed Stormwater Charge Consultation

Consultation on options for funding the stormwater management program were initiated by City staff in 2012 and continued in 2013, after which options were narrowed to three: water rate increases greater than the rate of inflation; debenture financing; and a stormwater charge. Further consultation in 2014 resulted in a staff recommendation of a stormwater charge as the most appropriate option for funding the stormwater management program, which was supported by the majority of stakeholders and members of the public consulted.

The consultation described in this staff report was conducted after staff had discerned the details of the proposed stormwater charge, including the funding model and anticipated impacts as described above, in order to give stakeholders and members of the public as much information as possible about the proposal.

1. Stakeholder Consultation

Staff sent invitations to more than 50 stakeholder groups and associations, including all those who participated in the 2012, 2013 and 2014 consultations on the same subject, representing industrial, commercial, institutional, multi-family residential and environmental interests. In October 2016, staff presented an early version of the proposed stormwater charge implementation plan to more than 30 attendees before answering questions and listening to and documenting suggestions and concerns.

Staff encouraged stakeholders to submit written feedback, and five written submissions were received. The Toronto District School Board (TDSB) noted that the stormwater charge would result in a substantial net increase to the TDSB's utility bill, while the Toronto Catholic District School Board (TCDSB) stated it would seek support from the Minister of Education in its request for an exemption from the stormwater charge. Both the Green Infrastructure Coalition of Ontario and the Toronto and Region Conservation Authority (TRCA) supported the stormwater charge and supported the initial focus of the incentives program on Large Properties, but encouraged the City to consider implementing the program for small commercial and residential lots as well.

For the final round of consultation, staff sent invitations to more than 70 stakeholder groups. In April 2017, staff presented the full stormwater charge model to more than 50 attendees before answering questions and listening to and documenting suggestions and concerns.

Staff encouraged stakeholders to submit written feedback, and again received five written submissions. The stormwater charge model received significant support from groups representing environmental interests, such as RiverSides, Smart Prosperity Institute, and Toronto Environmental Alliance (TEA). Suggestions for improvement from these groups included: establishing an incentives program for residential properties; emphasizing the role of green infrastructure; and including a relief program for low-income users. The Toronto Industry Network (TIN) supported the stormwater charge

model, but encouraged the phasing-in of the program. Finally, the Real Property Association of Canada (REALPAC) opposed the implementation of a stormwater charge. If a stormwater charge was to be implemented, REALPAC recommended that the maximum stormwater charge be capped at \$100,000 per year, and also encouraged the phasing-in of the program.

See Attachment B for copies of all stakeholder written submissions from 2016 and 2017.

2. Public Consultation

Staff developed a comprehensive public consultation campaign that ran from March 4 to April 7, 2017, including a website (toronto.ca/stormwatercharge) containing detailed information about the stormwater charge model developed by staff. The website linked to a short, four-question survey developed to collect feedback from the public. The website had approximately 13,000 hits and resulted in more than 1,800 survey responses.

Staff organized 25 public consultation events, 19 of which were “pop-up” consultations at community centres, farmers’ markets and the National Home Show where staff answered 550 enquiries and distributed 2,200 information cards to direct members of the public to the website to learn more and complete the survey. The other six events were public meetings held at each of Toronto’s civic centres where staff delivered a detailed presentation on the stormwater charge proposal to almost 250 attendees.

The public consultation campaign was advertised in print ads (e.g., Metroland newspapers, Metro, NOW Magazine, and multilingual newspapers) and online ads (e.g., CBC, CP24, toronto.ca banner, etc.). Multiple City social media platforms were used to give notice of the consultation, and City Councillors were encouraged to inform their constituents.

Staff also received feedback on the stormwater charge model through 311 Toronto, by telephone, and by email, including more than 30 written submissions.

Examples of the materials used for public consultation campaign can be found in Attachment C.

3. Survey Results

According to the survey results, 74% of respondents either strongly agree or agree that upgrading stormwater infrastructure is an important investment for the City to be making. This result is consistent with previous rounds of consultations, where members of the public understood the value of stormwater management in Toronto but were not sure the best way to fund it.

Respondents were asked which of two options they preferred to fund the stormwater management program. Option 1 was “pay based only on how much water I use” (i.e., the status quo), and Option 2 was “pay less for how much water I use and charge me separately for stormwater based on the average amount of hard space on properties of

my size” (i.e., the stormwater charge model). Results showed that 43% of respondents chose Option 1, 38% chose Option 2, 8% chose that either Option would be fine, and the remaining 11% were unsure (i.e., “I don’t know”). The slight preference for Option 1 is unsurprising given the fact that the Residential property category as a whole would end up paying more if the stormwater charge was implemented, but the strong showing for Option 2 indicates that the proposal resonated with many members of the public.

To gain a better understanding of how members of the public felt about the stormwater charge model, respondents were asked to choose all that apply from a list of 10 choices (e.g., “this is fair”, “this is unfair”, etc.). The most common response, chosen by 33% of respondents, was their feeling that “this is just another way for the City to increase my utility bill”. This response reveals that although the model is revenue neutral as a whole, the impacts of the stormwater charge on individual users is top of mind for members of the public. The second most common response, chosen by 32% of respondents, was that the stormwater charge as developed was “transparent”, which suggests that the materials presented online and elsewhere gave members of the public a good sense of what was being proposed. Interestingly, 28% of respondents rated the stormwater charge as “fair”, compared to 14% who rated it as “unfair”.

The survey also provided an open-ended question about the stormwater charge, the results of which are explored in the next section. Full survey results can be found in Attachment D.

Issues Related to the Proposed Stormwater Charge

Several issues related to the implementation of a stormwater charge were identified during public and stakeholder consultation and throughout the process of developing an implementation plan. This section will explore the most important issues encountered and their implications.

See Attachment E for a full list of issues and responses resulting from stakeholder and public consultation.

1. Exemptions

School boards in Toronto pay for the water they consume. Because the City’s stormwater management program is currently funded through the water rate, school boards currently pay into the stormwater management program. As mentioned above, written feedback on the stormwater charge model from the TCDSB indicated that it would seek support from the Minister of Education in its request for an exemption from the stormwater charge. If this exemption was granted for school boards, staff calculated that the estimated reduction in cost recovery would be approximately \$10M per year, which would account for approximately 3.6% of the expected cost recovery of \$275M in 2019.

2. Impacts on Tenants

As indicated in the Impact Analysis section, most properties in the Apartment & Condominium Buildings category would see net decreases to their utility bills as a result

of the implementation of a stormwater charge. Several members of the public were concerned that there was no way to ensure these savings, if any, would be passed on to tenants. Arrangements between landlords and tenants with respect to the payment of utility bills may vary and are a private matter governed by the Residential Tenancies Act (RTA). The City has no jurisdiction to dictate or enforce these private agreements or the provisions of the RTA.

3. Demand for a More Individualized Approach to the Calculation of Stormwater Charges

Demand for a more individualized approach to the calculation of stormwater charges was very common during public consultation. For example, a full 25% of survey respondents who chose to answer the open-ended question referred to this issue in some respect.

As described above, under the proposed stormwater charge model, most properties (and virtually all residential properties) would be assigned a tier based on the size of the property. The associated stormwater charge for that tier would be calculated based on the average amount of hard surface area on properties in that tier. Many members of the public advocated that this part of the stormwater charge proposal unfairly burdens small houses on large lots. For example, a property owner could be in Residential Tier 7 (the largest tier for that category) with a small bungalow and driveway that only cover a very small portion of the lot, while their neighbour could be in lower tier but have much more hard surface area. The fact that the former property would pay a higher annual stormwater charge than the latter was viewed as unfair. This concern was considered by staff when developing the model, but the amount of feedback on the topic was profuse and was expressed even from members of the public who supported the concept of a stormwater charge in principle.

Members of the public offered two main suggestions to address this issue. The first suggestion was to assess the amount of hard surface area for each property across Toronto, and then to construct tiers or assign individualized stormwater charges based on those data. While there are methods available to assess hard surface area for all properties, none are currently feasible. For example, conducting this work manually (i.e., having staff complete the analysis) for all 475,000 properties in the dataset and maintaining those data in perpetuity would be extremely expensive and time-consuming, and automated methods that are currently available to conduct this work would not result in reliable data.

Many members of the public agreed that individualized analysis is unreasonable. As a result, the other main suggestion they proposed to address the issue was to base stormwater charge classifications on house size. This suggestion is reasonable at face value because there is a logical correlation between house size and total hard surface area on residential properties (although this calculation has not been conducted for Toronto at this point). Unfortunately, the City does not have access to data on house sizes that are at the necessary standard for stormwater billing purposes at this time.

Given evolving technologies, it may eventually be feasible to adopt an automated method of reliably analyzing hard surface area on all properties across the City. Staff are therefore recommending that City Council direct staff to assess the state of technology relevant to the viability of automated GIS analysis of stormwater runoff contributions from properties across Toronto and to periodically report back during the annual budget process with findings of this assessment.

4. Incentives for Homeowners

Requests for incentives for homeowners were also very commonly heard during public and stakeholder consultation. For example, 16% of survey respondents who chose to answer the open-ended question referred to this issue in some respect.

The reasoning behind this request was that homeowners who manage stormwater onsite---for example, by using rain barrels or installing rain gardens---should be credited accordingly. Staff did not include an incentives program for Residential properties in its proposal because it would not meet the criteria of being quantifiable, verifiable and justifiable.

First, onsite stormwater management is typically demonstrated through the preparation of a professional engineer's stormwater management report. Requiring such a report for a residential property would be unreasonable given its associated costs relative to the potential incentive. However, without the benefit of a stormwater management report, it would be very difficult to quantify the impact of the proposed works.

Second, given the large number of properties assigned a tiered flat rate (almost 470,000), verification of even a small portion would be extremely expensive for the City. Moreover, further verification in future years would be necessary to ensure that the equipment or constructed works remain in good working order.

Finally, staff conducted analysis to understand the costs of an incentives program for tiered flat rate properties. Staff used data from other existing Toronto Water programs (e.g., Sewer Surcharge Rebate Program) to calculate the costs associated with implementing such a program. Staff estimated an uptake rate of approximately 4% (a rate common in other municipalities that have such programs), which would translate to approximately 19,000 applications. Processing and conducting engineering reviews of these applications would require 15 staff at a cost of \$1.7M per year, plus the cost of the credits themselves, which would range from \$640,000 for 10% credits to \$3.2M for 50% credits, per year. Verification of those properties at a standard rate of 20% would require another five staff at a cost of \$560,000 per year. Finally, additional costs would be incurred with updating the stormwater charge database and ensuring credits are issued.

The total cost of an incentives program for tiered flat rate properties, ranging from \$2.9M to \$5.4M per year (1% to 2% of expected \$275M cost recovery in 2019), would have to be paid for out of the stormwater charge, thereby increasing the cost of stormwater charges for all users or resulting in the deferral of other components of the stormwater management capital plan. Because of these costs, and because such an incentive program does not meet the criteria of being quantifiable and verifiable, staff did not include an incentives program for tiered flat rate properties in the stormwater charge model.

If a stormwater charge was implemented, staff would recommend starting the incentives program with Large Properties, as described in this report. The learnings from this program could then be used to look at expanding the program to other properties in the future.

Next Steps

The principle of a stormwater charge as a funding mechanism for the City's stormwater management program remains an option for the City in the future, but due to the issues listed above, staff do not recommend its implementation at this time.

The feedback staff received during public consultation made it clear that a stormwater charge would only be accepted if it was formulated from more individualized charges based on a more detailed understanding of hard surface area on all properties across the City. The recommendations in this report, if adopted, would direct staff to assess the state of technology relevant to the viability of automated geographic information system (GIS) analysis of stormwater runoff contributions from properties across Toronto and to periodically report back during the annual budget process with findings of this assessment.

The recommendations in this report, if adopted, would direct staff to identify fixed-cost elements of the water, wastewater and stormwater programs that would be appropriate to charge as a fixed-charge on the water rate bill. The recommendations would also direct staff to review the water rate structure as it pertains to recovering costs of the stormwater management program from properties that do not have water accounts; incentivizing stormwater management on large properties; and attracting and retaining the manufacturing sector in Toronto.

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ATTACHMENTS

- Attachment A - Resource Assessment for Stormwater Charge Implementation & Sustainment
- Attachment B - Stakeholder Written Feedback
- Attachment C - Public Consultation Campaign Materials
- Attachment D - Survey Results
- Attachment E - Consultation – Issues & Responses