Stormwater Funding Review

Agriculture and Rural Affairs Sub-Committee

City of Hamilton

June 28, 2023

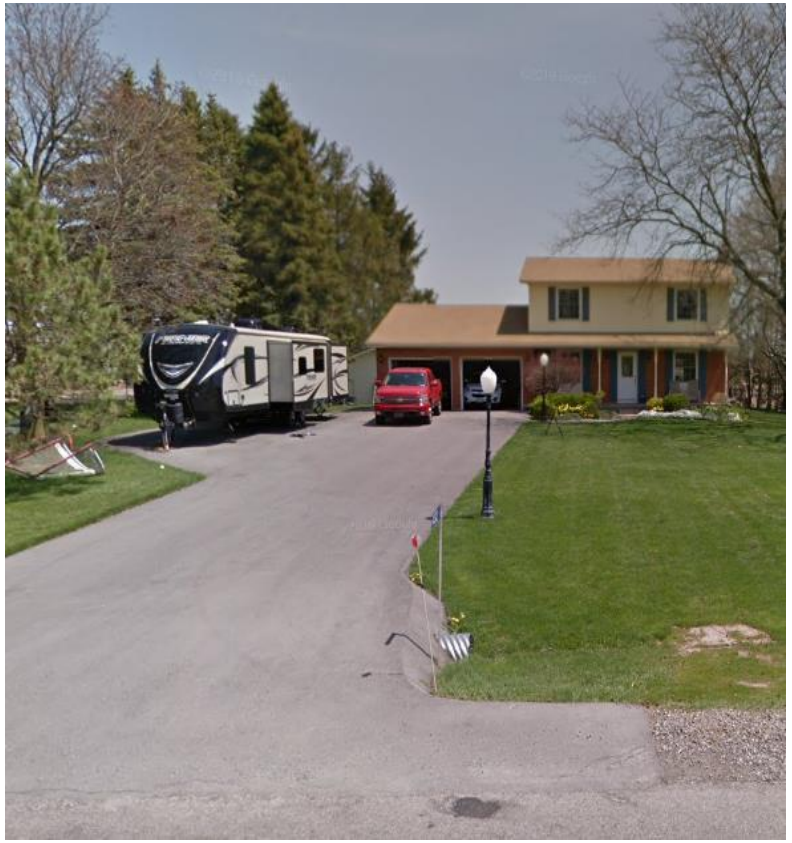
Presented by: Nancy Hill

Agenda

1. Why are we here?
2. Hamilton’s current stormwater funding
3. Funding option evaluation
4. Property analysis
5. Rural analysis
6. Estimated rates
7. Stormwater fees – other municipalities
8. Financial incentives
9. Implementation plan & resourcing requirements

What is Stormwater?

Rain, melting snow, and ice that washes off driveways, parking lots, roads, yards, rooftops, and other surfaces.[1]



1. CSA W211:21-Management standard for stormwater systems

What is Stormwater Management?

From problems…

Bank Erosion

Debris

Spills

Water Quality

Road Flooding

System Surcharge

Asset Failure

To Solutions….

Stormwater Management

Planning, design, and implementation of systems that mitigate and control the impacts of human-made changes to runoff and other components of the hydrologic cycle.[1]

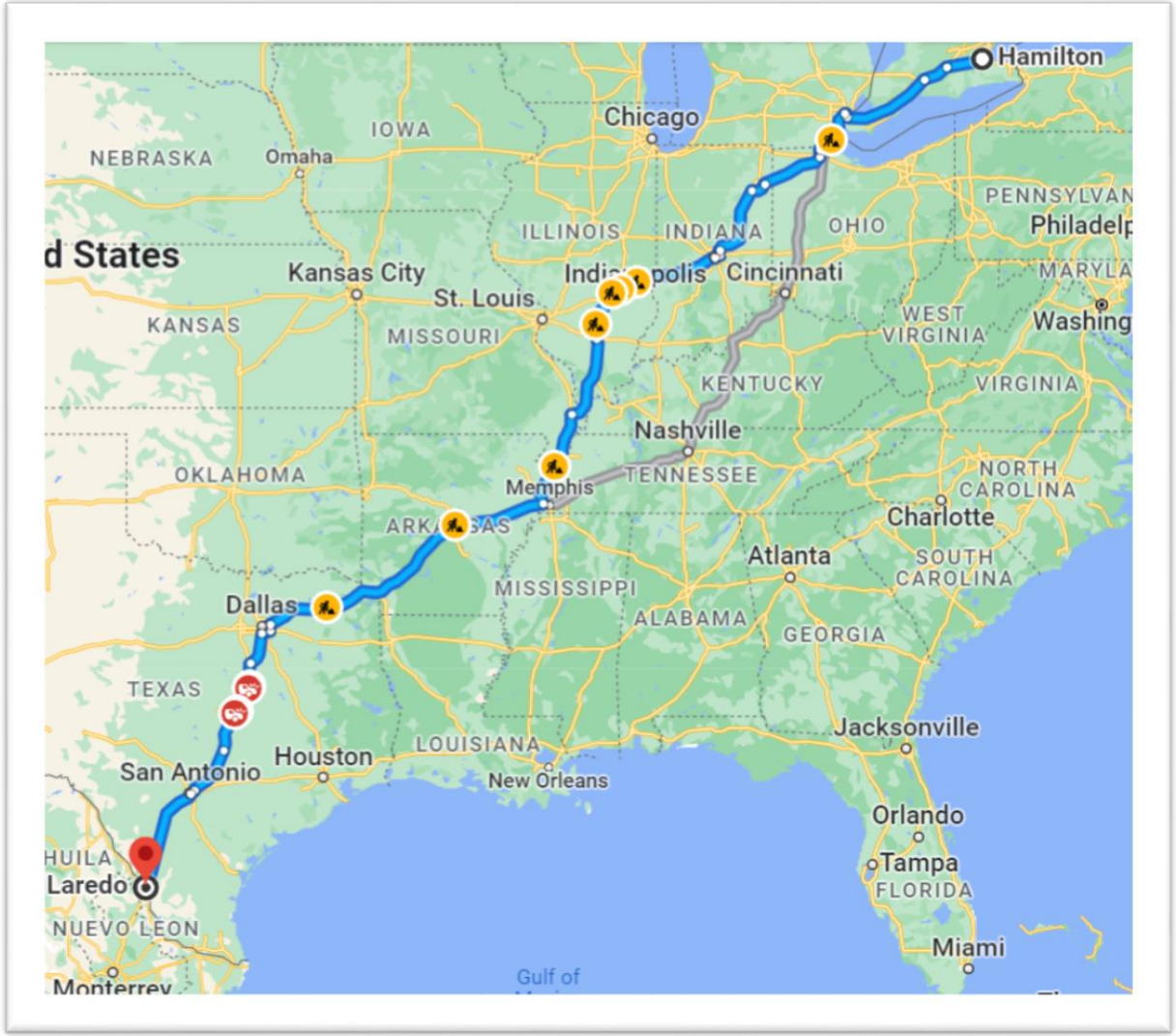
1. CSA W211:21 – Management standard of stormwater systems

Hamilton's Stormwater System

- 1,500 km ditches
- 1,200 km storm sewers
- 148 km watercourses

Hamilton to Mexico

- 50,000 catch basins
- 3,500 culverts
- 4 infiltration facilities
- 126 ponds
- Value of $3.1 billion



Hamilton's Current Stormwater Funding

$000	Storm Operating (W/WW Rate)	Conservation Authorities (Tax Levy)	Roads Maintenance (Tax Levy)	Total Stormwater Program
2023 Restated Budget	$ 30,284	$ 9,108	$ 3,880	**$ 43,272**

Stormwater funding is primarily based on water consumption

- Big water consumers pay more for stormwater management
- Those not on municipal water system (ex. parking lots) pay little/nothing

Is there a better way to fund the City's Stormwater Management Services?

CITY OF HAMILTON
MOTION

General Issues Committee: January 18, 2023

MOVED BY COUNCILLOR J.P. DANKO……

SECONDED BY MAYOR/COUNICLLOR……

Stormwater Rate Review

WHEREAS, in December 2021, Council directed staff, through Report PW21074 to report back to the Public Works Committee with a review of the benefits and challenges of various stormwater program funding options including water rates, a dedicated stormwater fee or tax levy or any other options and provide a recommendation for the preferred financing model for the City's stormwater programs, including a preliminary plan and any resource requirements necessary to conduct a detailed review of the preferred financing model;

WHEREAS, in June 2022, Council approved Report FCS22043 - Stormwater Funding Review that directed staff to report back to the General Issues Committee to provide Guiding Principles for consideration that will direct the evaluation of alternative stormwater rate funding structures as part of the Stormwater Funding Review;

WHEREAS, Report FCS22043 Stormwater Funding Review outlined three phases for the project with an estimated timeline for completion of all three phases of January 2026;

WHEREAS, Report FCS22043(a) Stormwater Funding Review on the November 30, 2022 General Issues Committee (GIC) agenda recommends a set of guiding principles for council to consider;

WHEREAS, Report FCS22043(a) Stormwater Funding Review highlights that Phase 1 of the project was completed three months earlier than originally planned;

WHEREAS, a new Utility Billing System is required to be in place at the expiry of the current contract with Alectra expected at December 31, 2024; and;

WHEREAS, synergies could be achieved if a new Stormwater Funding model could be integrated into a new Utility Billing System;

THEREFORE, BE IT RESOLVED:

a) That staff be directed to report back to the General Issues Committee in the second quarter of 2023 on the steps and resources required to implement a dedicated user fee for stormwater service, with an implementation date no later than January 2025; and,

a) That, in addition to the guiding principles that may be adopted by Council through Report FCS22043(a), staff be directed to include all aspects of the City's stormwater services to be funded from the revenues associated with this dedicated user fee.

Council – January 25, 2023

Guiding Principles to Evaluate Stormwater Funding Options

1. Fair & equitable (“user-pay”)
2. Climate resilient & environmentally sustainable
3. Affordable & financially sustainable
4. Justifiable
5. Simple to understand & manage

Funding Option Evaluation

Hamilton's current model

Stormwater Funding Model	Used By	Stormwater Rate Based On	Guiding Principles						
			Fair & Equitable	Climate Resilient & Environmentally Sustainable		Affordable & Financially Sustainable		Justifiable	Simple to Understand & Manage
				Climate Resilient	Environmentally Sustainable	Affordable	Financially Sustainable		
1. General Tax Levy	Brantford	Assessed value	✗	✗	✗	◐	✗	✗	✓
2. Dedicated Tax Levy	Markham	Assessed value	✗	✗	✗	◐	◐	✗	✓
3. Water/ Wastewater Rate	Hamilton Toronto	Water consumption	✗	◐	✗	◐	◐	✗	✓
4. Stormwater Rate – Tiered Flat Fee	Ottawa Vaughan London	Property type, size	✗	◐	◐	◐	✓	◐	◐
5. Stormwater Rate – ERU	Guelph	Impervious area (but all residential types pay the same)	◐	✓	✓	◐	✓	✓	◐
6. Stormwater Rate – SFU	Windsor	Impervious area (but all single family dwellings pay the same)	✓	✓	✓	◐	✓	✓	◐
7. Stormwater Rate – Tiered SFU	Mississauga Kitchener	Impervious area	✓	✓	✓	◐	✓	✓	✗

Defining Impermeable Surfaces

- Roof
- Asphalt
- Concrete
- Compacted gravel
- Pavers (unless they are designed for infiltration)

Stormwater Rates 101

Rate = $\frac{\text{Total revenue requirements}}{\text{Total \# of billing units}}$ (1 billing unit = average residential impervious area)

Option #5 Equivalent Residential Unit (ERU)

- Charge all residential units the same

Options #6 Single Family Unit (SFU)

- Charge all single-family detached homes the same
- Charge other residential types based on their footprint

Option #7 Tiered Single Family Unit (Tiered SFU)

- Same as SFU but break single-family detached homes into tiers based on their size

Recommended Option(s) Comparison

Housing Type	5. Equivalent Residential Unit – # billing units	6. Single Family Unit – # billing units	7. Tiered SFU - # billing units
Average house	Same for all - 1		
Small house	1	1	0.5
Large house	1	1	1.5
Duplex (both units)	2	1	1
House with suite	2	1	1
20 unit apartment building – low rise	20	Approx 4	Approx 4
40 unit apartment building – high rise	40	Approx 4	Approx 4
Industry/commercial/institution	Same for all - measured individually		

Evaluation: ERU vs SFU vs Tiered SFU

5. Equivalent Residential Unit

- Less equitable than SFU

6. Single Family Unit

- Balances simple vs equity*****
- Residential rates are based on assessment code – simple to administrate

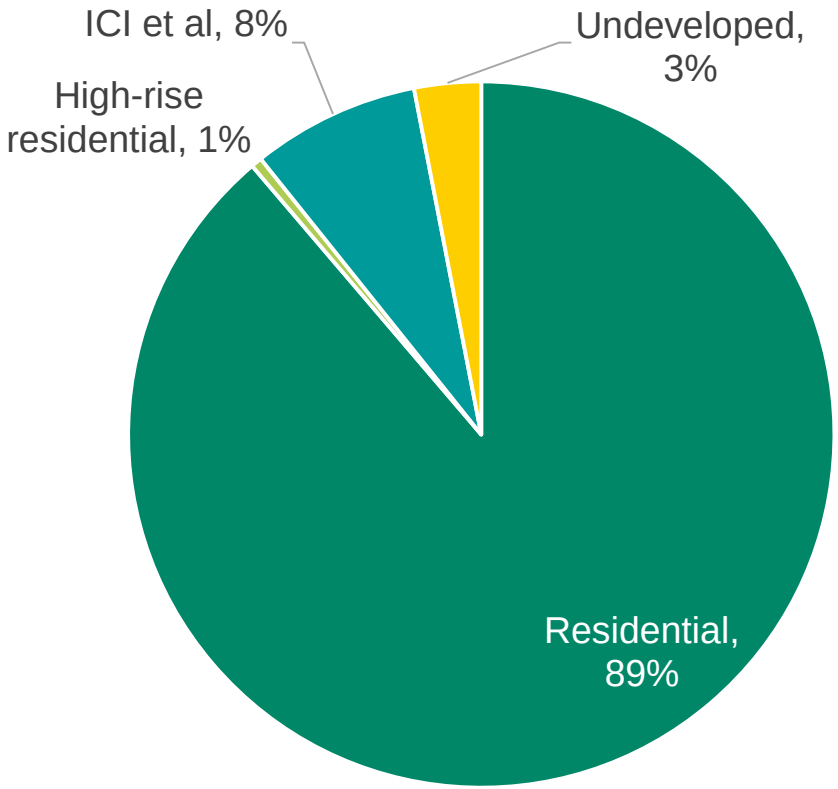
7. Tiered Single Family Unit

- Single family dwellings must be placed into tiers
- Most of the largest homes are in rural areas
- More administration than ERU/SFU

Residential Impervious Area Sampling

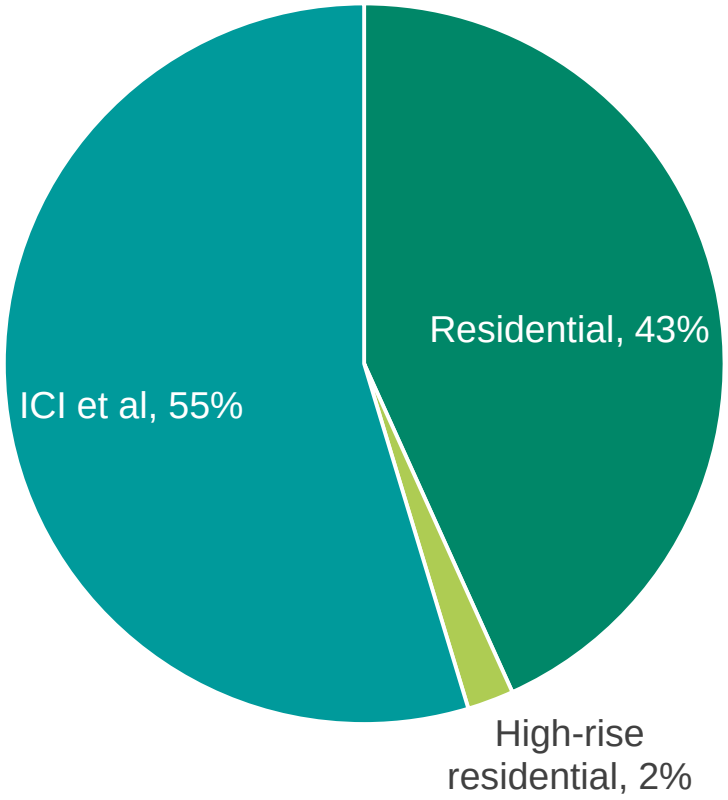
Parcel Type	Avg Impervious Area (m^2) per d.u.	Ratio of Imp Area to Urban SFD	Assigned SFU Factor
Residential SFD (in Urban Boundary)	291	1.0	1.0
Residential SFD (outside Urban Boundary)	596	2.0	1.0
Residential Link Home	223	0.8	1.0
Residential Condo - Standard - Detached	291	1.0	1.0
Residential Semi Detached	171	0.6	0.5
Residential Townhouse (Freehold)	140	0.5	0.5
Residential MultiFamily - Towns	130	0.4	0.5
Residential Condo - Standard - Towns	159	0.5	0.5
Residential Duplex	114	0.4	0.5
Residential Triplex	84	0.3	0.3
Residential Fourplex	81	0.3	0.3
Residential Fiveplex	78	0.3	0.3
Residential Sixplex	73	0.3	0.3
Residential MultiFamily - Building	47		assessed individually
Residential Condo - Standard - Building	60		assessed individually

Property Summary for the City of Hamilton



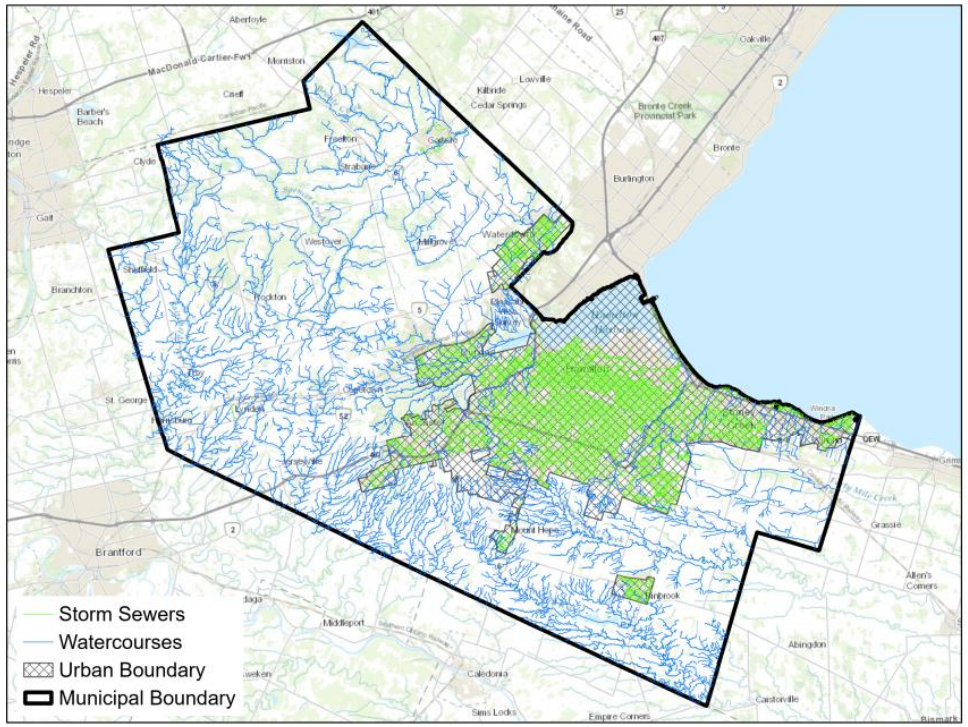
Parcels

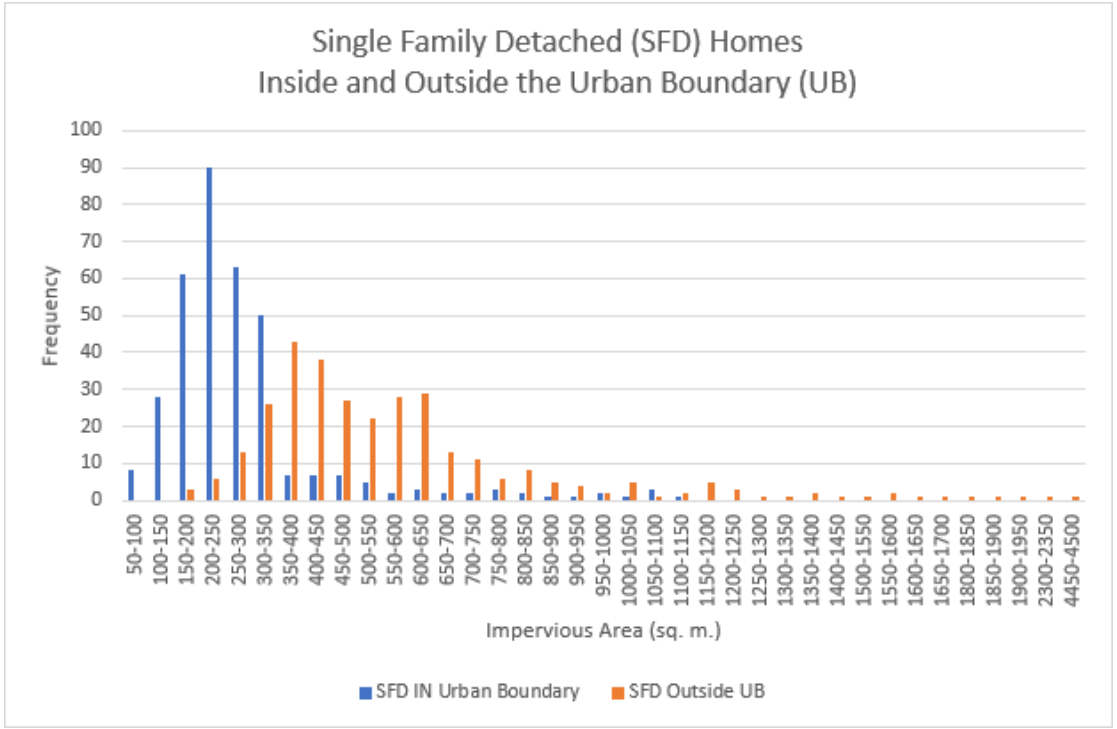
Impervious Area



Rural Analysis

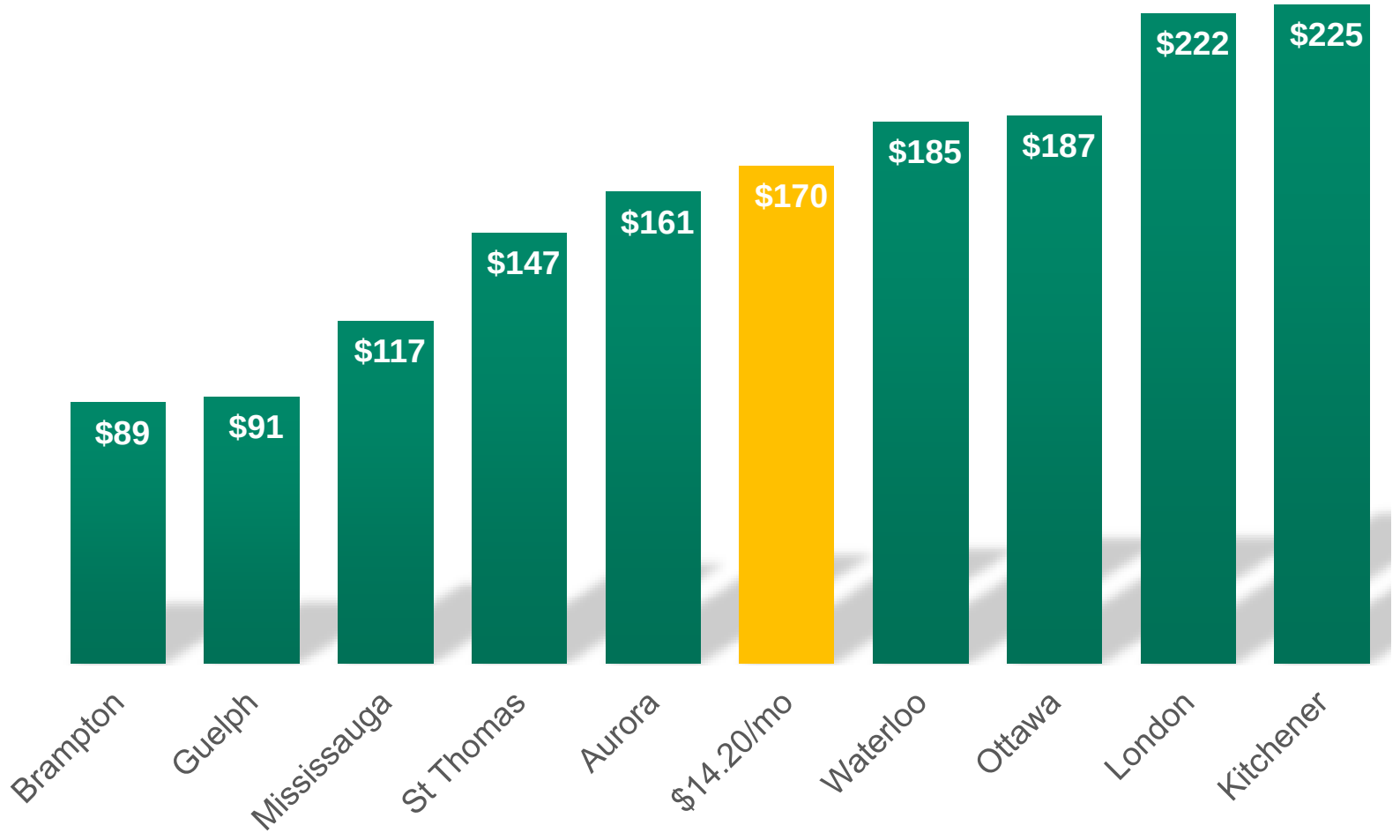
- Average rural home impervious area = 2 x average urban home
- Average residence contributes $60 per year towards stormwater management through property taxes
- All rural properties contribute approx. $1.5 million towards stormwater management through property taxes.
- In 2022, the City spent over $2.6 million on rural drainage projects plus $11.7 million on joint rural/urban initiatives
  - Culvert inspections & replacements, ditch cleaning, Conservation Authority contributions





Estimated Rates based on 2025 Budget

2023 Average Residential Annual Stormwater Fees – Other Municipalities



Financial Incentives for On-site Measures

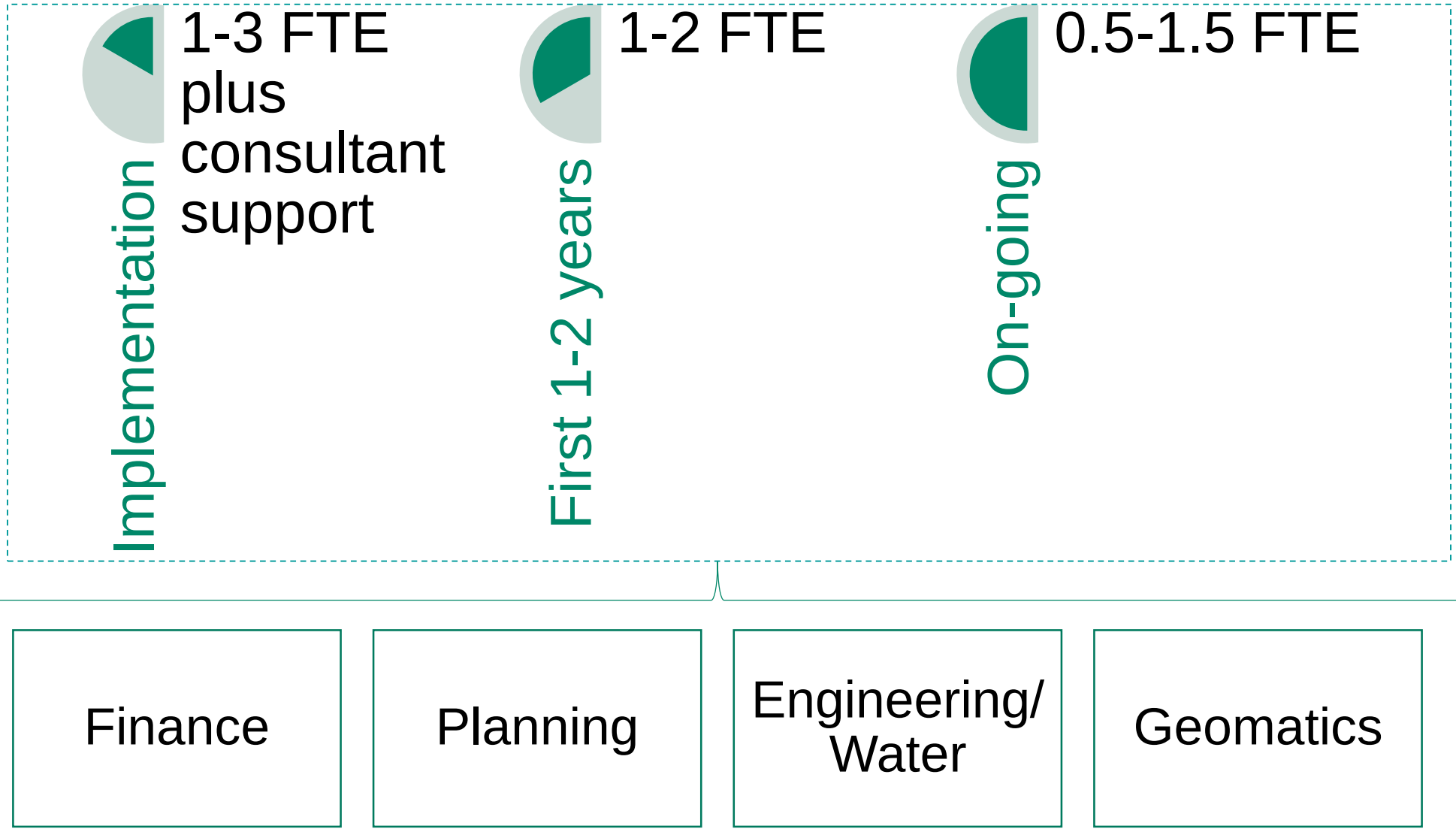
- **Credits** – on-going reduction in stormwater fee for *maintained/functional* measures

- **Other** – financial contributions toward programs

Benefits

- Encourage LID
- Reward desired measures
- Environmental awareness
- Reinforce equity & user-pay concepts
- Synergy with Water
- Potentially defer expenditures

Stormwater Fees – Resourcing Requirements



Hamilton

Stormwater Funding Review

Stormwater Funding Review Timeline

Phase	Timeline	Process Step
Phase One	September 2022	Retained AECOM through the use of the Roster to support Review
	October 2022	Developed Guiding Principles for Council's consideration
	November 30, 2022	Obtained approval of Guiding Principles to be used to evaluate storm funding models
	Dec 2022 - Jan 2023	AECOM conducted Stormwater Funding Review
	February 2023	Council Education Sessions
	May 2023	Provided information presentations to Environment Hamilton & the Hamilton Industrial Environmental Association
	Feb – May 2023	Incorporated feedback from Council sessions to develop a recommended rate structure
	June 28, 2023	**Report to GIC with recommended stormwater rate structure for Council's consideration**
Phase Two	July 2023 to Q1 2025	Coordinate with new water billing solution and implement a plan for customer communications
	July – December 2023	Community Engagement with Stakeholders and the creation of a Financial Incentive program
	Spring 2024	Development of a Review/Appeal process
	Winter 2024	2025 Rate & Tax supported budgets incorporating revised stormwater rate structure
	September 1, 2025	Revised Stormwater Rate Structure implemented

Stormwater Funding Needs

$000	Storm Operating (Rate)	Conservation Authorities (Tax Levy)	Roads Maintenance (Tax Levy)	Credit / Incentive Programs (New)	Administration (New)	**Total Stormwater Program**
2023 Restated Budget	$ 30,284	$ 9,108	$ 3,880	n/a	n/a	**$ 43,272**
2024 Forecasted Budget	$ 35,928	$ 9,288	$ 3,927	n/a	n/a	**$ 49,143**
2025 Forecasted Budget	$ 38,810	$ 9,472	$ 3,986	$ 1,574	$ 200	**$ 54,043**

- 2025 forecasted storm rate budget = $54.0 M (all Stormwater related expenditures)

- Assumes forecast water and wastewater rates for 2024 (10.04%) and 2025 (9.95%)
- Incentive Program assume 3% of total program
- Administration assumed at 1.4 FTE

Paying for Stormwater Program

- Residential ratepayers (excluding multi-residential) contribute nearly 50% of water and wastewater revenues and residential taxpayers contribute 70% of taxation revenues while responsible for about 43% of the stormwater runoff
- This means residential rate and taxpayers are indirectly subsidising the cost of the stormwater system for other sectors under the current storm system funding
- In 2025, under the current approach to funding stormwater services, an average residential homeowner would pay a total of about $180 ($120 in water/wastewater charges and $60 in property taxes)
- In 2025, assuming the recommended stormwater rate structure the costs would be:
  - Single Family Dwellings - $170 annual stormwater user fee
  - Semi-detached and townhomes - $85 annual stormwater user fee

Tax Levy Funded Stormwater Expenditures

- 2025 Impact on the overall total tax levy:
  - 1.0% = $11 M
  - 1.3% = $14 M

- Recommendation to transfer $14M to the Climate Change Reserve for climate change / environmental initiatives in conjunction with the introduction of the Stormwater Rate Structure

HAMILTON'S CLIMATE ACTION STRATEGY
Re-Charge. Adapt. Engage. Act.

Water/Wastewater Rates Restatement

$1,061.50
2025 W/WW/Storm Residential Bill (as of Jan 1, 2025)

$123.95
Restatement Decrease ($)

11.7%
Restatement Decrease (%)

$937.55
2025 W/WW Residential Bill Restated (as of Sept 1, 2025)

Impact of Recommended 2025 Restatement of the Water and Wastewater Rate; Decreases on a Typical Residential Bill: 11.7%

Based on annual water consumption of 200m³

Assumes approved in principle rates are implemented for 2024 (10.04%) and 2025 (9.95%)

Residential Impact Profiles

Residential Type	Single Family Dwelling			Townhome	Triplex
Water User Profile	Average Residential User	Low Water User (Single Occupant)	Large Water User (Multi Generational Home)	Average Townhome	Average Triplex
Meter Size	meters < 25mm				
Annual Consumption	200m3	100m3	300m3	170m3	250m3
Forecast Monthly SW Fee	$ 14	$ 14	$ 14	$ 7	$ 13
Current Annual WWW Bill	$ 1,062	$ 685	$ 1,533	$ 920	$ 1,297
Restated WWW Bill, 2025	$ 938	$ 600	$ 1,360	$ 811	$ 1,149
WWW Bill, Net Change	$ (124)	$ (85)	$ (173)	$ (109)	$ (148)
Annual Storm Bill	**$ 170**	**$ 170**	**$ 170**	**$ 85**	**$ 153**
Annual Net Change	$ 46	$ 86	$ (3)	$ (24)	$ 5
Annual Net Change %	4.4%	12.5%	(0.2%)	(2.6%)	0.4%

Assumes approved in principle rates are implemented for 2024 (10.04%) and 2025 (9.95%)

ICI Impact Profiles

Property Type	Institutional (Hospital)	Commercial (Shopping Mall)	Commercial (Big Box Retailer)	Commercial (York Blvd Parkade)
Meter Size	Various Meters	Various	38mm	N/A
Annual Consumption	301,940m3	32,550m3	3,883m3	N/A
Impervious Area	41,300m2	229,300m2	37,200m2	4,100m2
Forecast Monthly SW Fee	$ 2,015	$ 11,190	$ 1,815	$ 200
Annual WWW Bill, Current Structure	$ 1,512,494	$ 181,817	$ 20,296	N/A
Restated WWW Bill, 2025	$ 1,352,222	$ 161,980	$ 18,120	N/A
WWW Bill, Net Change	$ (160,272)	$ (19,837)	$ (2,176)	N/A
Annual Storm Bill	**$ 24,180**	**$ 134,275**	**$ 21,777**	**$ 2,403**
Annual Net Change	$ (136,092)	$ 114,438	$ 19,601	$ 2,403
Annual Net Change %	(9.0%)	62.9%	96.6%	N/A

Assumes approved in principle rates are implemented for 2024 (10.04%) and 2025 (9.95%)

Report FCS22043(b) Recommendations

(a) That the Stormwater Rate Structure as outlined in Appendix “A” to Report FCS22043(b) be approved effective September 1, 2025;

(b) That staff develop the 2025-2034 Rate Supported Budget incorporating the Stormwater Rate Structure;

(c) That property tax levy funding related to stormwater expenditures to be funded by the new stormwater rate structure, be transferred to the Climate Change Reserve and applied to climate change / environmental initiatives in conjunction with the introduction of the Stormwater Rate Structure;

(d) That staffing requirements for the Stormwater Rate Structure once implemented be referred to the 2025 Rate Supported Budget;

(e) That the City Solicitor be authorized and directed to prepare all necessary by-laws, for Council approval, in order to implement recommendations (a) through (d) of Report FCS22043(b);

(f) That staff develop and report back regarding the implementation of a Stormwater Incentives Program;

Report FCS22043(b) Recommendations

(g) That staff develop and implement a communication strategy to advise property owners of the Stormwater Rate Structure to be implemented;

(h) That the single source procurement of AECOM Canada Ltd as external consultants for the Stormwater Funding implementation, pursuant to Procurement Policy #11 – Non-competitive Procurements be approved;

(i) That the General Manager, Finance and Corporate Services, be authorized to negotiate, enter into and execute a contract and any ancillary documents required to procure AECOM Canada Ltd as the consultant to support the implementation of Stormwater Rate Structure in a form satisfactory to the City Solicitor;

(j) That the implementation of the Stormwater Rate Structure with an upset limit of $500,000, be funded from the Stormwater Reserve (108010);

(k) That the subject matter respecting an assessment of steps and resources required to implement a dedicated user fee for stormwater, be identified as complete and removed from the General Issues Committee Outstanding Business List.


THANK YOU