

Town of Oakville

Stormwater Fee Feasibility Study

Public Meeting
October 2, 2024



Land Acknowledgement

Oakville, as we know it today, is rich in the history and modern traditions of many First Nations. From the lands of the Anishinaabe, to the Attawandaron and Haudenosaunee, these lands surrounding the Great Lakes are steeped in First Nations history. As we gather today on the sacred lands of Treaties 14 and 22, we are in solidarity with Indigenous brothers and sisters to honour and respect Mother Earth, the original nations of the trees and plants, the four legged, the flyers, the finned and the crawlers as the original stewards of Mother Earth.

We acknowledge and give gratitude to the waters as being life and being sacred and to the carriers of those water teachings, the females. We acknowledge and give gratitude for the wisdom of the Grandfathers and the four winds that carry the spirits of our ancestors that walked this land before us.

The Town of Oakville is located on the Treaty Lands and Territory of the Mississaugas of the Credit. We acknowledge and thank the Mississaugas of the Credit First Nation, the Treaty holders, for being stewards of this traditional territory.

Agenda

Presentation

- Welcome and introductions
- Stormwater and stormwater management
- Oakville's 30-year stormwater management needs
- Stormwater Fee Feasibility Study
- Stormwater funding options and fee calculations
- Incentive programs

Question and answer period

Introductions

Oakville Study Team

- Catharine Hewitson, Director of Asset Management
- Jonathan van der Heiden, Deputy Treasurer and Director of Finance
- Paul Allen, Infrastructure and Asset Management Planning
- Phoebe Fu, Community Infrastructure Commissioner

AECOM

- Pippy Warburton, Project Manager



Stormwater and Stormwater Management

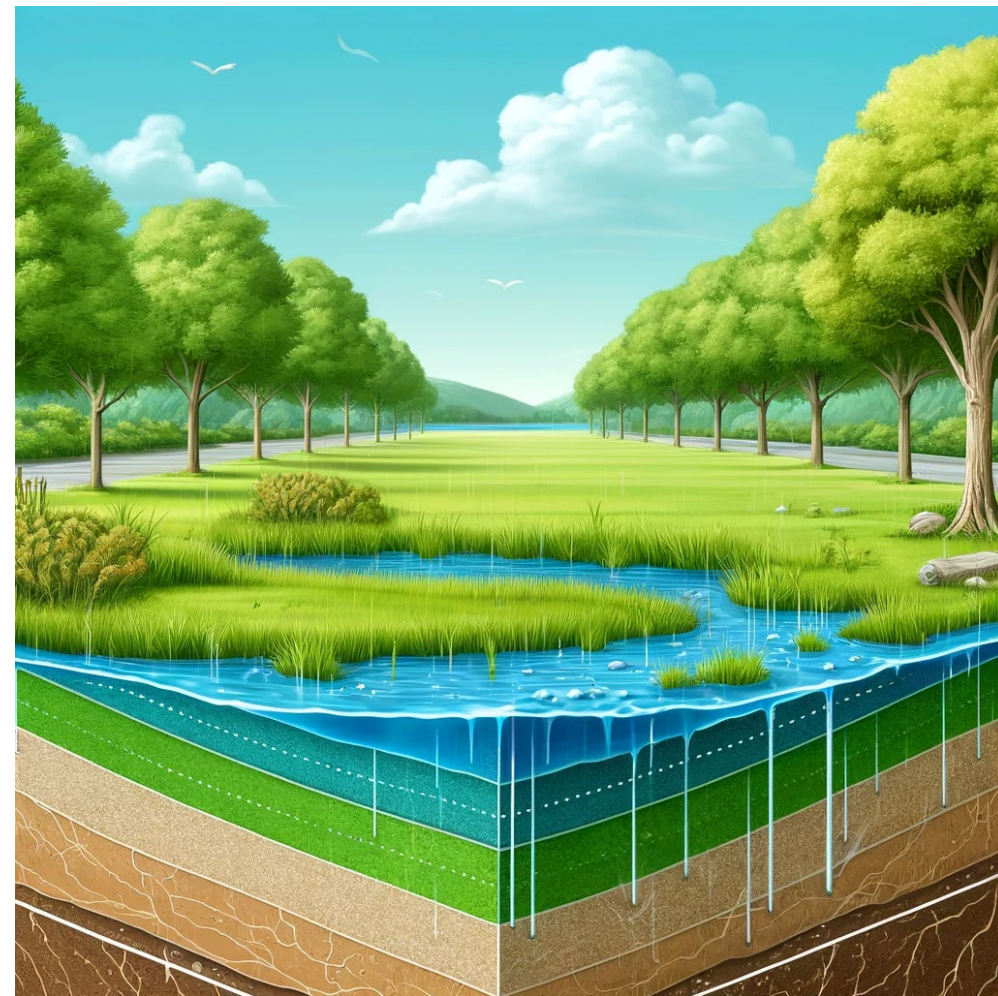
What is stormwater?

Stormwater is water that comes from rain and melted snow that falls on and flows over land and into storm drains, ditches, creeks and lakes.

Stormwater in Nature



Infiltration is the process where water soaks into the soil. Natural landscapes allow for high infiltration, while hard surfaces in built landscapes do not.



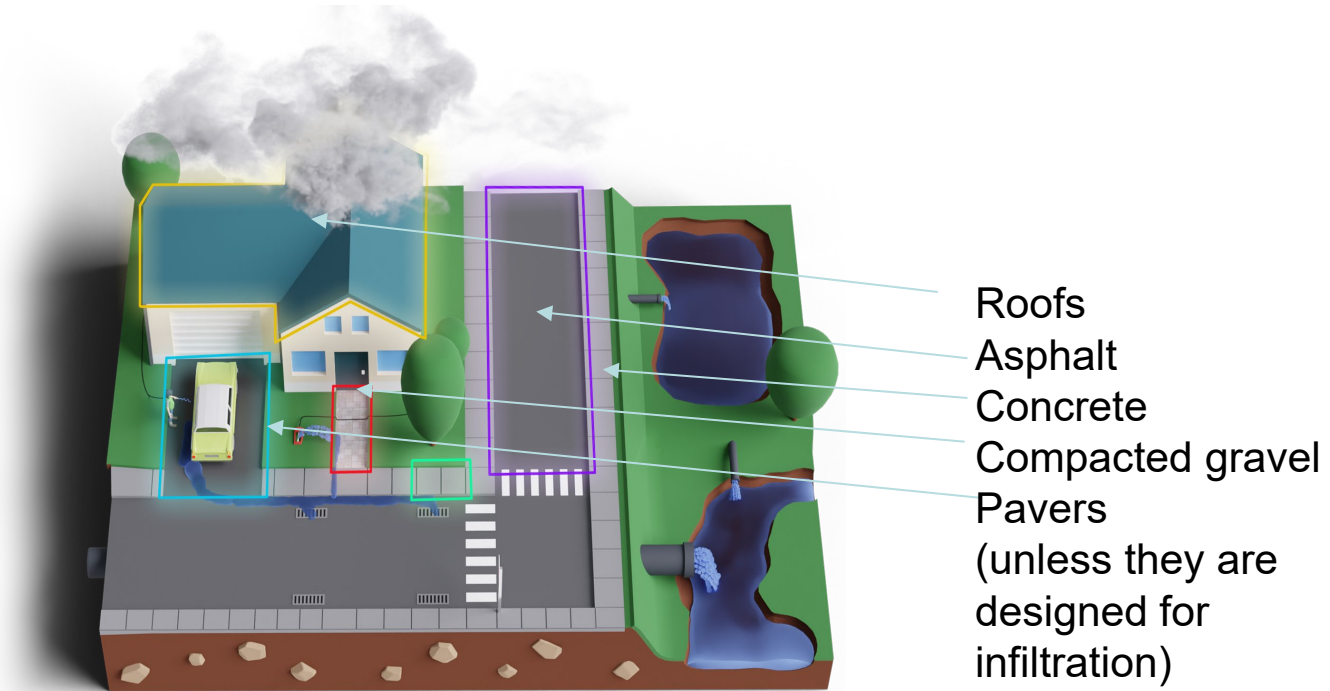
What is stormwater runoff?

Stormwater in Built Landscapes



Impervious Areas are surfaces that do not allow water to penetrate the ground, such as paved roads & parking lots, driveways, roofs.

Increased Runoff Means: More water flows over surfaces, less soaks in, which can lead to higher flooding risk. Runoff can also carry pollutants (oil, grit and salt) into water bodies.



What happens when stormwater isn't managed?



Erosion



Debris in Creeks



Pollutants in creeks/lake



Road Flooding



System Surcharge/ Basement Flooding



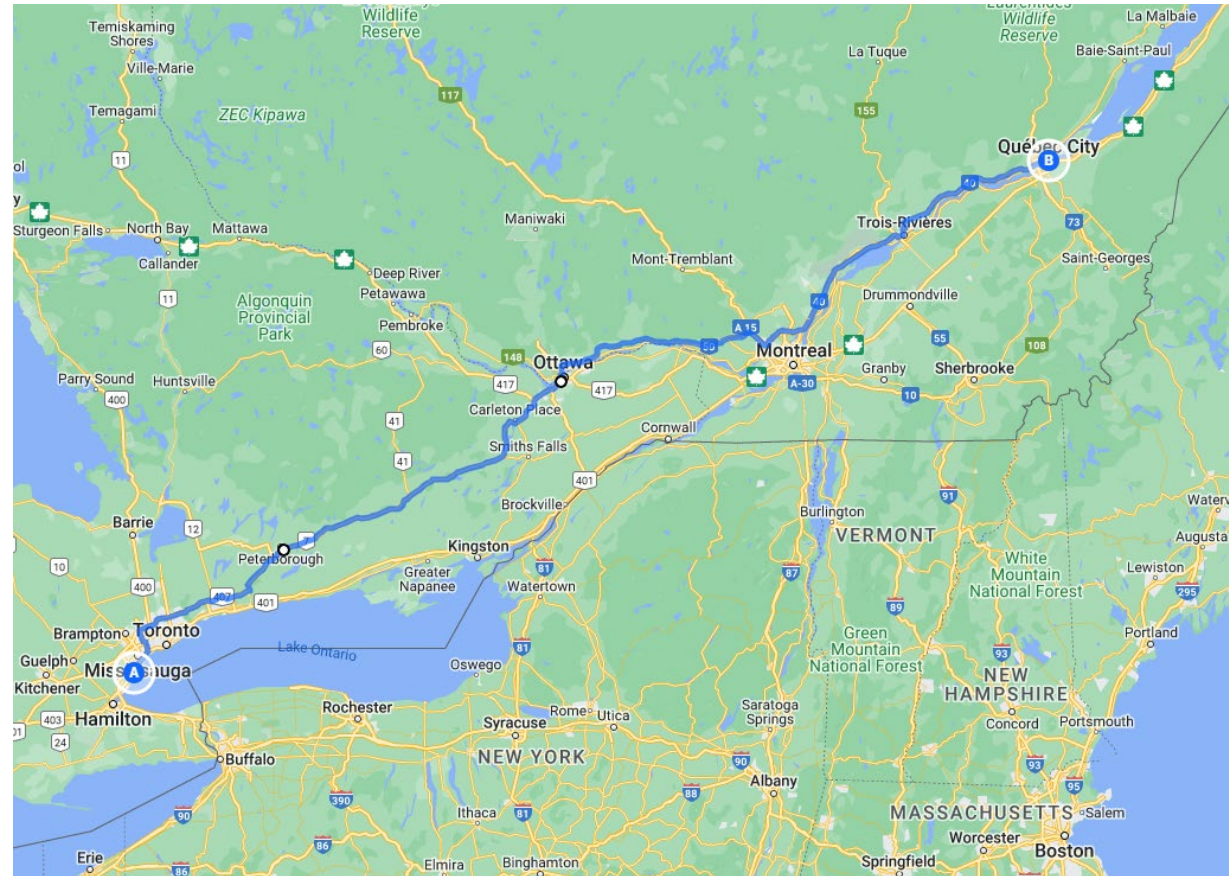
Infrastructure Failure

Oakville's Stormwater System

- ~240 km ditches
- ~690 km storm sewers
- ~156 km creeks
- ~8.07 km of shoreline
- ~30,794 catch basins
- 67 ponds
- Value of **\$963 Million***

**Distance from
Oakville to
Québec City**

*Natural assets are not included in this value.



Oakville's Stormwater Services

- Asset Management Planning
- Assessments (flood risk, asset condition audits)
- Infrastructure inspections, cleaning, and repairs
- Infrastructure renewals and upgrades
- Climate resiliency improvements
- Emergency response (breakages, spills etc.)
- Monitoring – quality, flow and erosion



Oakville's Stormwater Capital Programs

- Repair and renew the storm sewer system and minor culverts
- Monitor and rehabilitate creek channels and lake shoreline to control erosion
- Clean out sediment from stormwater management ponds
- Maintain bioswales, natural channel and tree irrigation pits
- Implement solutions to protect flood plain areas alongside various creeks
- Ditch renewal and drainage improvements in south Oakville neighbourhoods
- Improvements to Oakville and Bronte Harbour shoreline



Impacts of Climate Change

Oakville's Climate Projections

Warmer

annual **+4.2°C** Rise in average **annual** temperatures
(Baseline 8.6°C; Future scenario 12.8°C)
*w/out humidex

winter **+4.7°C** Rise in average **winter** temperatures
(Baseline -3.4°C; Future scenario 1.3°C)

+5.2°C Rise in **minimum** **winter** temperatures
(Baseline -7°C; Future scenario -1.8°C)

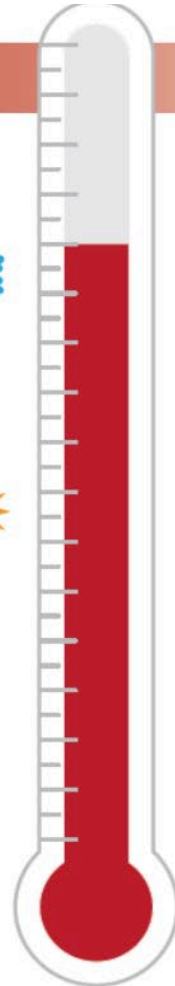
summer **+4.6°C** Rise in **maximum** **summer** temperatures
(Baseline 25.7°C; Future scenario 30.3°C)
*w/out humidex

Hottest day of the year

Baseline 34.2
increasing to **36.5°C**
in 2021-2050

Expected to **reach 39.0°C**
in 2051-2080

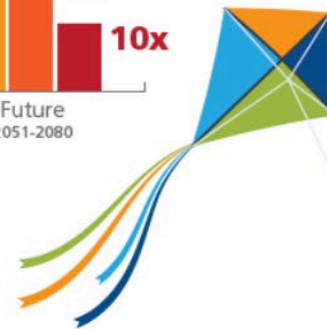
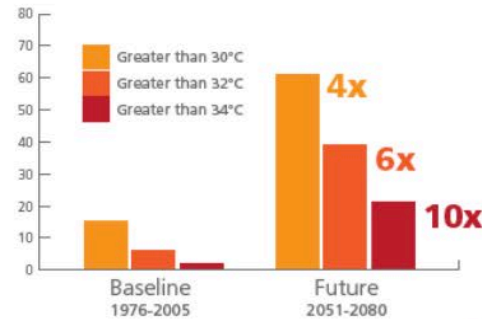
*average w/out humidex



Hot season almost doubled
(Baseline 70.5 days; Future scenario 123.7 days)

Heat alerts and Heat waves

Annual number of and average length of heat waves are to increase



Wetter

Increase in **heavy precipitation days over 10 & 20mm**

Increased intensity, duration and frequency (IDF) of precipitation events

Windier and Wilder

Increase in **wind gusts over 70 & 90 km/hr**
the threshold at which Environment Canada would issue a **High Wind Warning** in Ontario

Freezing rain to increase in winter months

Fluctuating **great lakes levels**

Increased **thunderstorm activity** with increased temperatures



2051-2080 compared to 1976-2005 under a high emissions scenario (RCP8.5)

City of Burlington, Town of Oakville, and ICLEI Canada, 2021

Climate-related impacts are already being felt in Oakville and other parts of Ontario



Climate impact risks to stormwater infrastructure

Example risks include:

- Increased storm sewer backups and overtopping of roads (and increased closures)
- Increased damages due to extreme heat, leading to cracking and buckling
- Increased damages and service disruptions due to flooding, erosion, and extreme weather events
- Increased flooding and erosion along creeks, streams, and Lake Ontario
- Reduced water quality and increase in harmful algal blooms, which may pose a threat to people's health
- Increased spread of invasive species and pests, affecting tree and woodland health
- Decreased asset durability and lifespan



Oakville Stormwater Needs and Rainwater Management Financial Plan (RWMP)



Photo credit to Karin Chykaliuk

Townwide RWM Financial Plan



Townwide RWM Financial Plan Road Map

Phase 1 –
2022

- Identify Needs & Service Level Assessment

Input: SWMP, Riverine studies, Harbour Risk Assessment, Condition reviews



Phase 2 -
2023

- Prioritization & 30 Yr Long-term Plan

- *Reports to Council
 - March 2023
 - July 2023
 - September 2023



Phase 3 -
2024/25

- Financing Plan, Feasibility Study & Implementation

Total 30 Year Stormwater Needs = \$732* Million

On-going Life-cycle Needs
(Operating & Capital Renewal)

- Protect existing infrastructure and natural assets
- Maintain stormwater network functionality
- Based on physical inspection/condition assessments

\$351 M

Climate Adaptation

- Projects identified to adapt/improve stormwater network
- Provide an increased level of storm protection
- Based on studies/modeling of more intense/extreme weather events

\$365 M

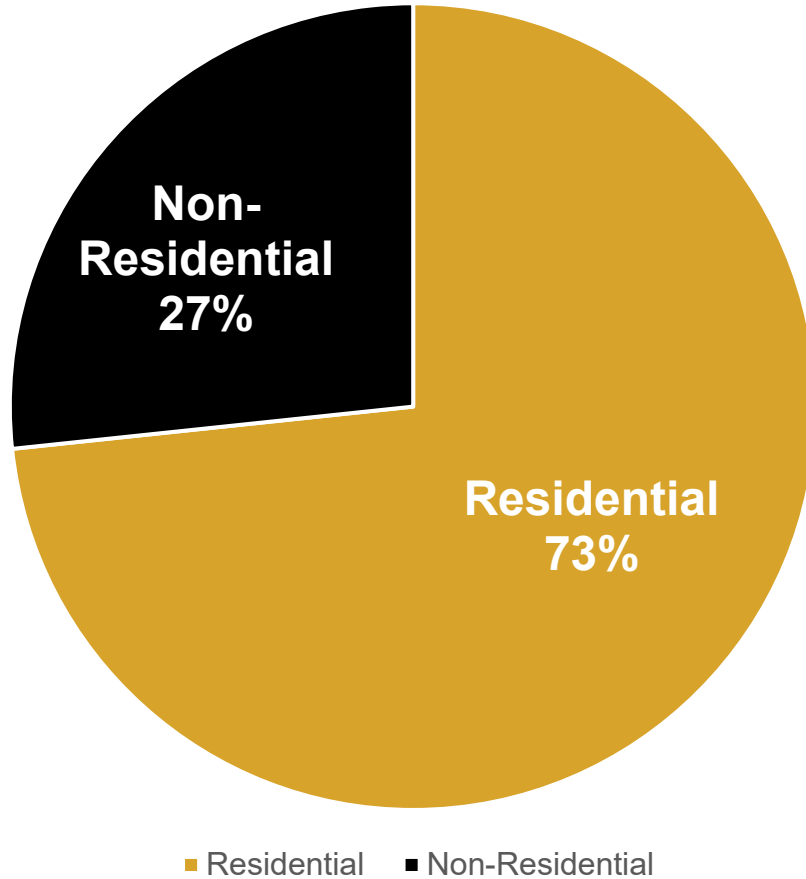
\$24 million per year (average)

*includes annual administration costs to implement the program

How We Currently Pay for Stormwater Management

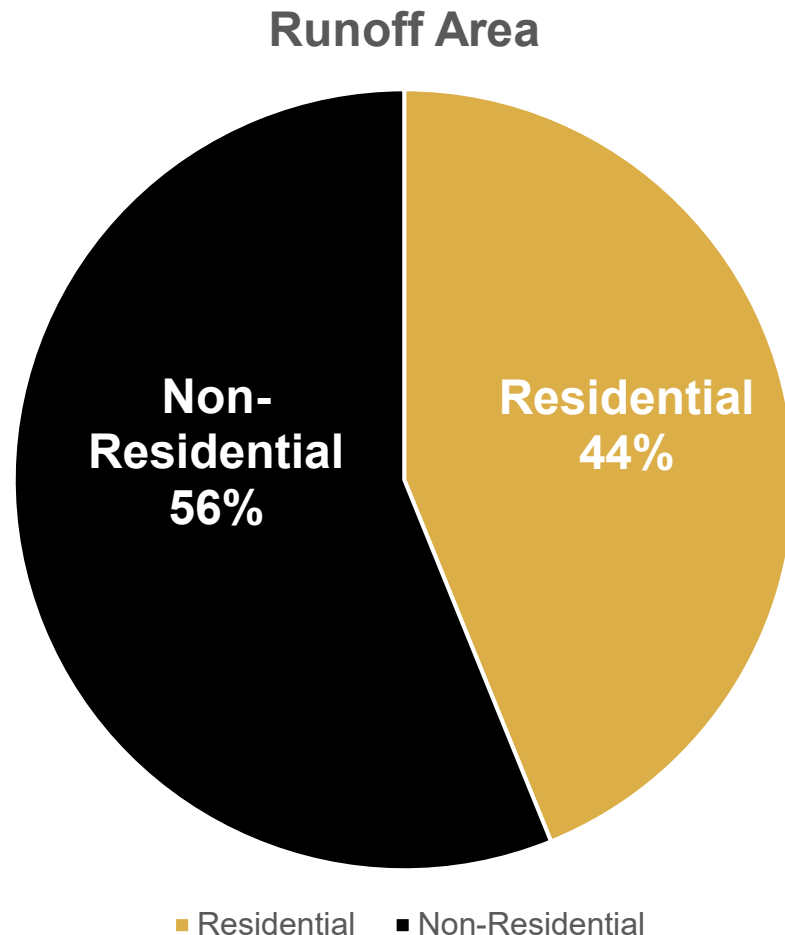
How is Oakville's Stormwater Infrastructure Currently Funded?

Existing Tax Method



- The town currently allocates taxes collected to stormwater infrastructure needs.
- Currently, around 4% of total taxes collected go toward funding the town's \$12.6 million stormwater management program.
- This means that residential properties fund over 70% of the total property taxes collected.

How do Oakville Properties Contribute to Stormwater Runoff?



Based on land area and land use:

- Residential properties contribute to 44% of the total runoff area.
- Non-residential properties contribute 56% of the runoff area.
- Runoff areas can be used to estimate impact on the town's stormwater management system.
- Stormwater management costs can be distributed to better represent impact on the stormwater management system.

Distribution of costs by runoff area can be used for Stormwater Fee

Stormwater Fee Feasibility Study

Stormwater Fee Feasibility Study

The town is reviewing its current stormwater funding model (property taxes) and exploring new ways to pay for stormwater services and support climate change resiliency.

This was first mentioned in the town's 2015-2019 Stormwater Management Master Plan and is a critical aspect of the town's Rainwater Management Financial Plan.

Why do we need to consider new ways to pay for stormwater?

- The way we currently pay for stormwater services in Oakville is **not fair or equitable**, and it is not enough.
- It will ensure we adhere to Ontario Regulation 588/17: Asset Management Planning for Municipal Infrastructure. This regulation **requires** municipalities have sustainable funding for critical infrastructure – including stormwater management infrastructure.
- Many municipalities across Canada are moving towards new funding models.

Guiding Principles for Selection of a Funding Method

Fair and Equitable – fee is non-discriminatory amongst customers and sectors and considers the financial impact on various customer sectors.

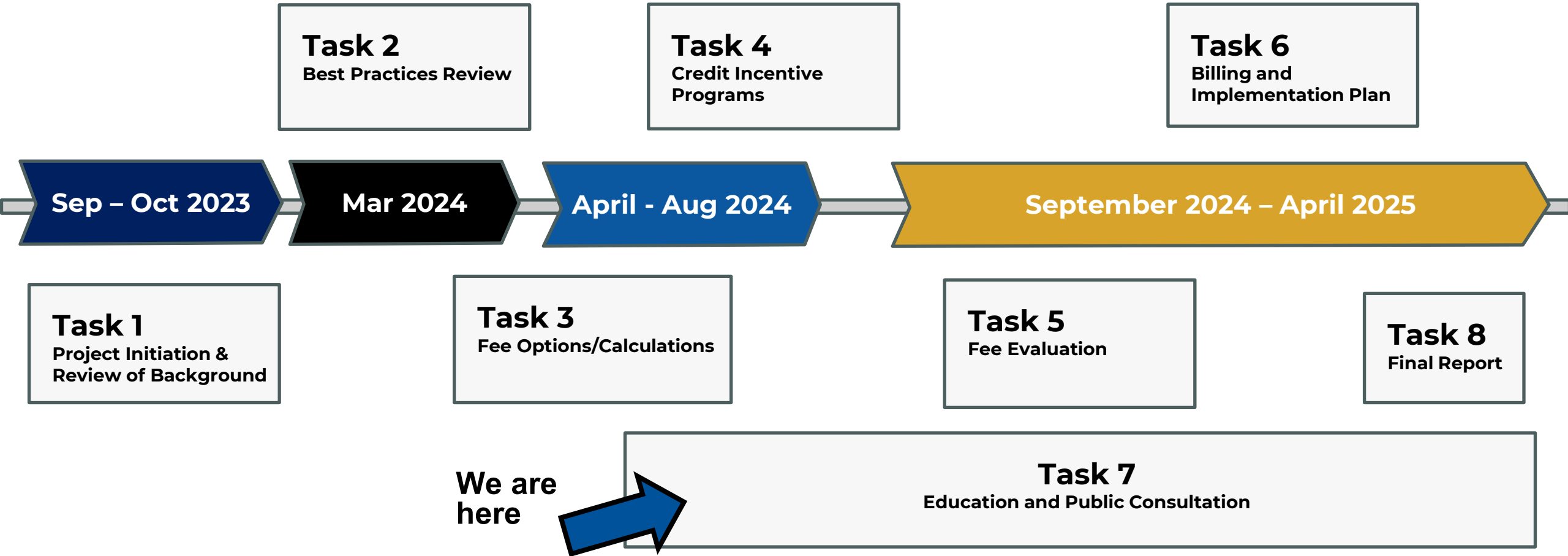
Affordable and Financially Sustainable – provides sustainable, predictable, and dedicated funding to address stormwater infrastructure needs and allows for regular fee reviews to adjust for cost-of-delivery and/or service level changes.

Justifiable – residents and businesses understand why the fee is needed, how much the fee is and what the fee is being used for. Funding structure is justifiable and transparent.

Climate Change Resiliency – encourages customers to be more resilient to climate change through on-site controls to reduce run-off while still providing the necessary funding for town stormwater infrastructure needs.

Simple to Understand and Manage – fee structure is simple to understand by staff, council, and the public. The administration of the fee can be efficiently managed by town staff.

Stormwater Fee Feasibility Study



Stormwater Funding Options

Option 1: Existing Property Tax System

- A new tax levy is created specifically for stormwater
- Property owners would pay based on **assessed value**

Option 2: Tiered Flat Stormwater Fee

- Property types are divided into three tiers. All properties in the same tier would pay the same fee.
- Property owners would pay based on **average runoff areas for each tier**

Option 3: Variable Stormwater Fee Based on Stormwater Runoff

- Fees are based on the estimated stormwater runoff area of each individual property.
- Property owners would pay based on **measured runoff area of each property**



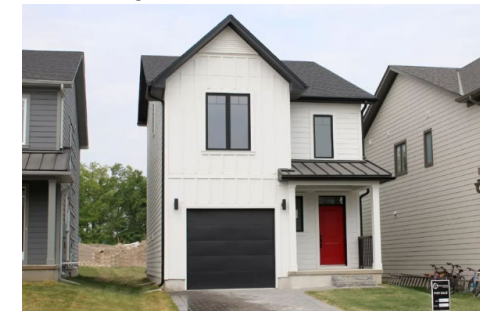
Stormwater fee methods can also be combined, with different methods for residential and non-residential properties

How are Property Types Divided into Tiers? (Distribution Options)

Land Use Types	Property Type Groups
Duplexes-Six-plexes	High Density Residential
Townhouse	
Multi-Family	
Condominium	
Single Family Detached	Low Density Residential
Semi-Detached	
Link Home	
Farms	
Parks	Non-Residential
Commercial	
Industrial	
Institutional	
Government	
Mixed Use	
Miscellaneous	
Undeveloped	



Pays less than



Pays less than



How is Stormwater Runoff Calculated

Stormwater Runoff is estimated using the town's [Development and Engineering Guidelines](#).

A **Runoff Coefficient** maximum of 1 assumes that all stormwater becomes runoff; a minimum of 0 assumes no stormwater is runoff and is absorbed on the property.

The runoff coefficient is then multiplied by the property area.



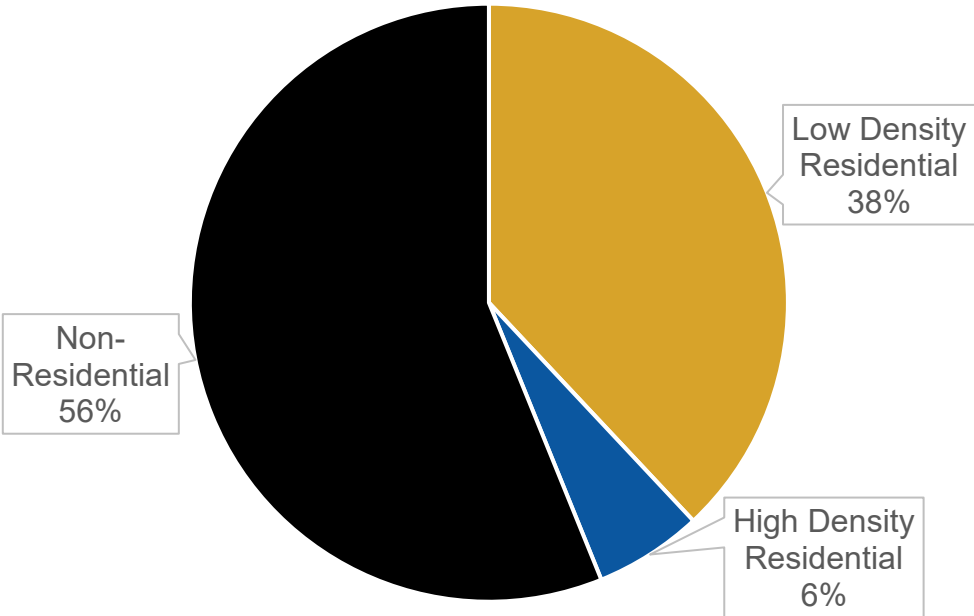
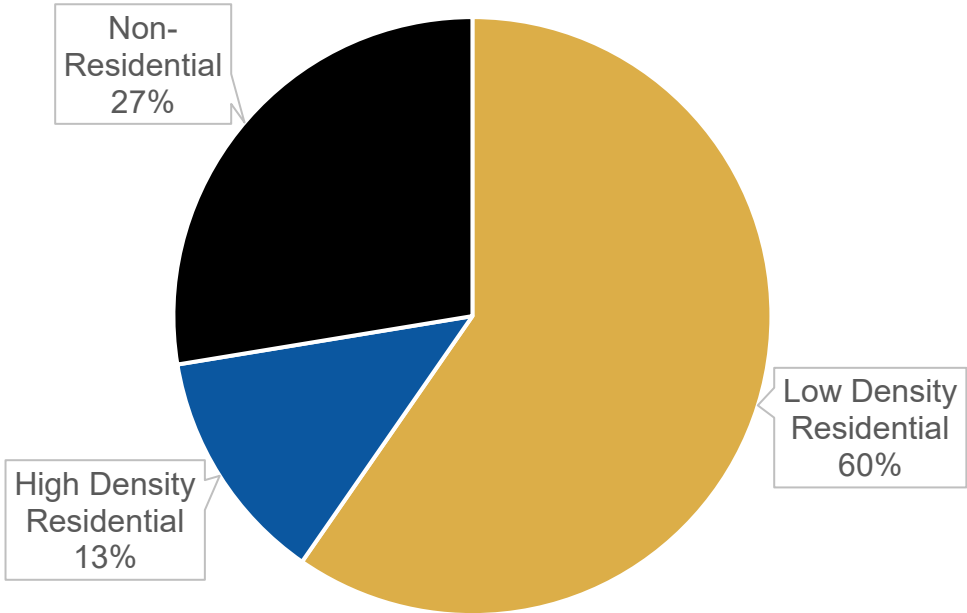
Land Use Types	Assumed Runoff Coefficient*
Low Density Residential	0.7
Farms, Parks ¹ , Miscellaneous, Undeveloped	0.0
High Density Residential ²	0.8
Industrial	0.9
Commercial	0.9
Institutional & Mixed Use	0.75

1. Farms & Parks altered to 0.0 from 0.35
2. The average of Medium and High Density Residential RC values (0.75 & 0.85)

Stormwater Cost Distribution – Existing Tax Method vs Fee Methods

Distribution Based on Tax Assessment Value

Distribution Based on Runoff Area



Total Annual Need:
\$24.4 million

Property Type Category	Tax Method	Runoff Method
Low Density Residential	\$14.6 million	\$9.3 million
High Density Residential	\$3.2 million	\$1.5 million
Non-residential	\$6.6 million	\$13.7 million

Fee Calculations – High Density Residential

Calculations are based on funding \$24 million/ year

CVA: Current Value Assessment

Average Townhome



Runoff Coefficient: 0.8
 Property Area: 212 m²
 CVA: \$593,000

Annual Charge	
Property Taxes	\$193
Tiered Flat	\$57
Variable	\$71

Average Condo



Runoff Coefficient: 0.8
 Property Area: 126 m²
 CVA: \$431,000

Annual Charge	
Property Taxes	\$142
Tiered Flat	\$57
Variable	\$43

Average Plex



Runoff Coefficient: 0.8
 Property Area: 715 m²
 CVA: \$1,038,000

Annual Charge	
Property Taxes	\$341
Tiered Flat	\$57
Variable	\$240

Fee Calculations – Low Density Residential

Calculations are based on funding \$24 million/ year

Small Single-Family Home



Runoff Coefficient: 0.7
 Property Area: 335 m²
 CVA: \$654,000

Annual Charge	
Property Taxes	\$215
Tiered Flat	\$216
Variable	\$99

Average Single-Family Home



Runoff Coefficient: 0.7
 Property Area: 688 m²
 CVA: \$1,005,005

Annual Charge	
Property Taxes	\$331
Tiered Flat	\$216
Variable	\$197

Large Single-Family Home



Runoff Coefficient: 0.7
 Property Area: 1,050 m²
 CVA: \$1,890,000

Annual Charge	
Property Taxes	\$621
Tiered Flat	\$216
Variable	\$309

Fee Calculations – Non-Residential Properties

Calculations are based on funding \$24 million/ year

Small Business



Runoff Coefficient: 0.9
 Property Area: 165 m²
 CVA: \$450,000

Annual Charge	
Property Taxes	\$268
Tiered Flat	\$2,927
Variable	\$73

Medium Sized Commercial Lot



Runoff Coefficient: 0.9
 Property Area: 8,091 m²
 CVA: \$4,146,000

Annual Charge	
Property Taxes	\$2,415
Tiered Flat	\$2,927
Variable	\$3,064

Large Commercial Lot



Runoff Coefficient: 0.9
 Property Area: 33,100 m²
 CVA: \$14,086,000

Annual Charge	
Property Taxes	\$8,203
Tiered Flat	\$2,927
Variable	\$12,528

Stormwater Funding Options - Summary

Property Distribution Group	Average Fees		
	Tax Method	Tiered Flat Fee	Variable Fee
Low Density Residential(LDR) ¹	\$330	\$216	\$195
High Density Residential(HDR) ²	\$153	\$57	\$65
Non-Residential Small Property	\$262	\$2,927	\$63
Non-Residential Medium Property ³	\$2,415	\$2,927	\$3,064
<p>Note: 1 For a LDR property with an area of ~660 m². 2 For an HDR property with an area of ~160 m². 3 For a non-residential property with an area of ~8,100 m².</p>			

Option 1 – Existing Property Tax System

PROS

- Generally accepted by public
- Simple to administer
- Can designate funds to Stormwater Levy (provides a dedicated source of funds)

CONS

- Property Assessment doesn't correlate to a property's runoff
- High distribution to residential (80/20) – not equitable
- Tax-exempt or capped properties do not contribute
- Annual budget pressures to maintain minimal tax increases
- Difficult to implement incentive programs to reduce stormwater runoff
- Would require a tax increase to fund the desired funding amount

Option 2 – Tiered Flat Stormwater Fee

PROS

- More equitable for residential properties than the tax system
- Similar charge compared to Variable Fees for residential properties with much less administrative effort
- Fairly simple to understand
- Easy to implement stormwater incentive programs
- **Both Flat Fees** and **Variable Fees** result in lower fees for low and high density residential property owners vs the Tax Method

CONS

- Unfair for small businesses – this would not be equitable across **all** non-residential property types
- Higher administrative cost than the current system

Option 3 – Variable Stormwater Fee Based on Stormwater Runoff

PROS

- Most equitable system
- Fair for residential properties and non-residential properties
- Easy to implement incentive programs
- Result in lower fees for small non-residential properties vs the Tax Method
- **Both Flat Fees and Variable Fees** result in lower fees for low and high density residential property owners vs the Tax Method

CONS

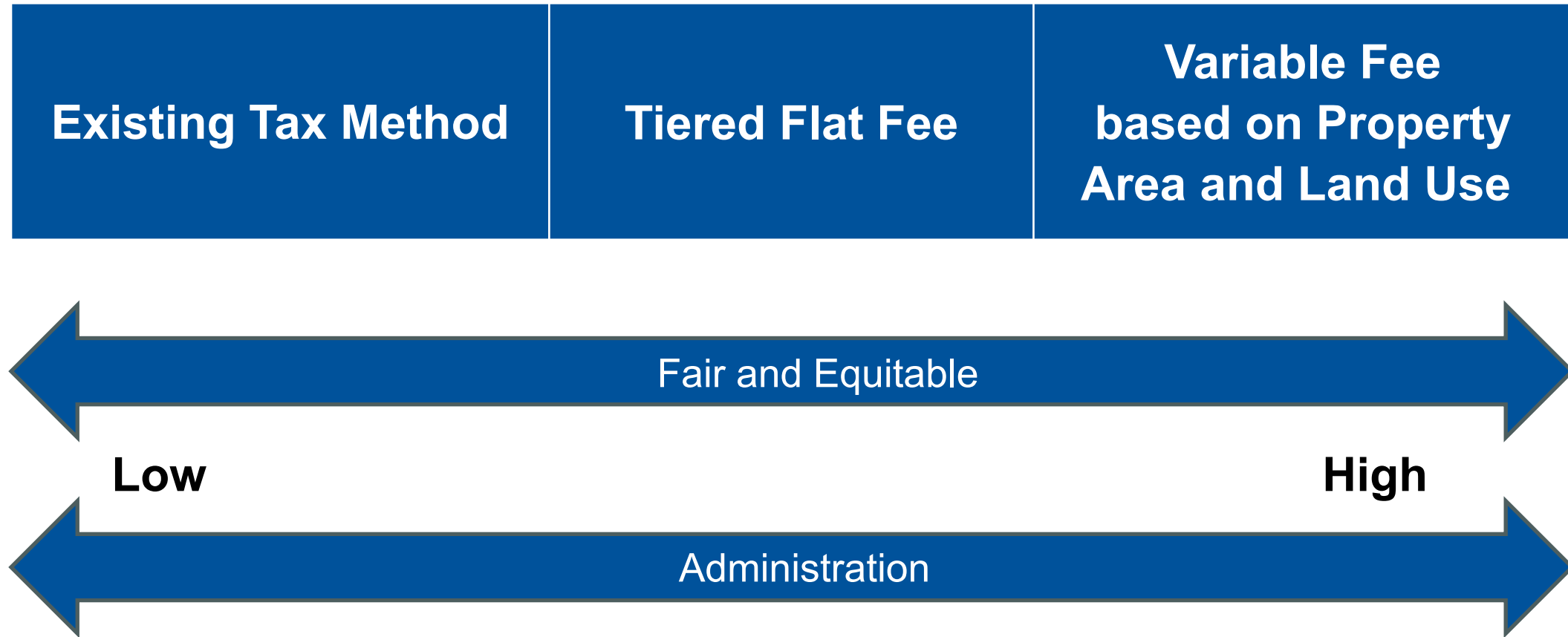
- Highest administrative effort and cost
- Increased administrative cost to charge a very similar fee for residential properties compared to a tiered flat stormwater fee (less than a \$20 difference for significantly more administrative effort)

Evaluation against the Guiding Principles

Calculation Method	Fair and Equitable	Affordable and Financially Sustainable	Justifiable	Climate Resiliency	Simple to Understand and Manage
Tax Method	No	Partly	Partly	Partly	Yes
Tiered Flat Stormwater Fee	Partly	Yes	Yes	Yes	Partly
Variable Stormwater Fee	Yes	Yes	Yes	Yes	Partly

The variable method is preferred based on the guiding principles but requires the most administrative effort to implement.

Finding Balance



**Using a mix of flat rate and variable rate maybe recommended to balance Equity and Administration.
(i.e. Flat Fee for Residential, Variable Rate for Non-Residential)**

Incentive Programs

Many municipalities provide incentives to property owners by offering:

- **Credits:** an ongoing stormwater fee reduction
- **Rebates:** a one-time reward for implementing on-site measures

Who Qualifies?

Property owners who **reduce stormwater runoff** or who **improve the quality** of the stormwater runoff from their property



Credits vs Rebates

Credits

For facilities that provide:

- Flooding and erosion protection
- Water quality treatment
- Other environmental benefits or non-facility measures and activities that promote good “housekeeping” practices

Require certification that facilities have been:

- Properly designed
- Installed
- Operated
- Maintained
- Some require property access to allow inspection by municipal staff

Credits have higher costs to administer and require applicants complete a certification process

Rebates (or Subsidies)

For property owners to implement measures like:

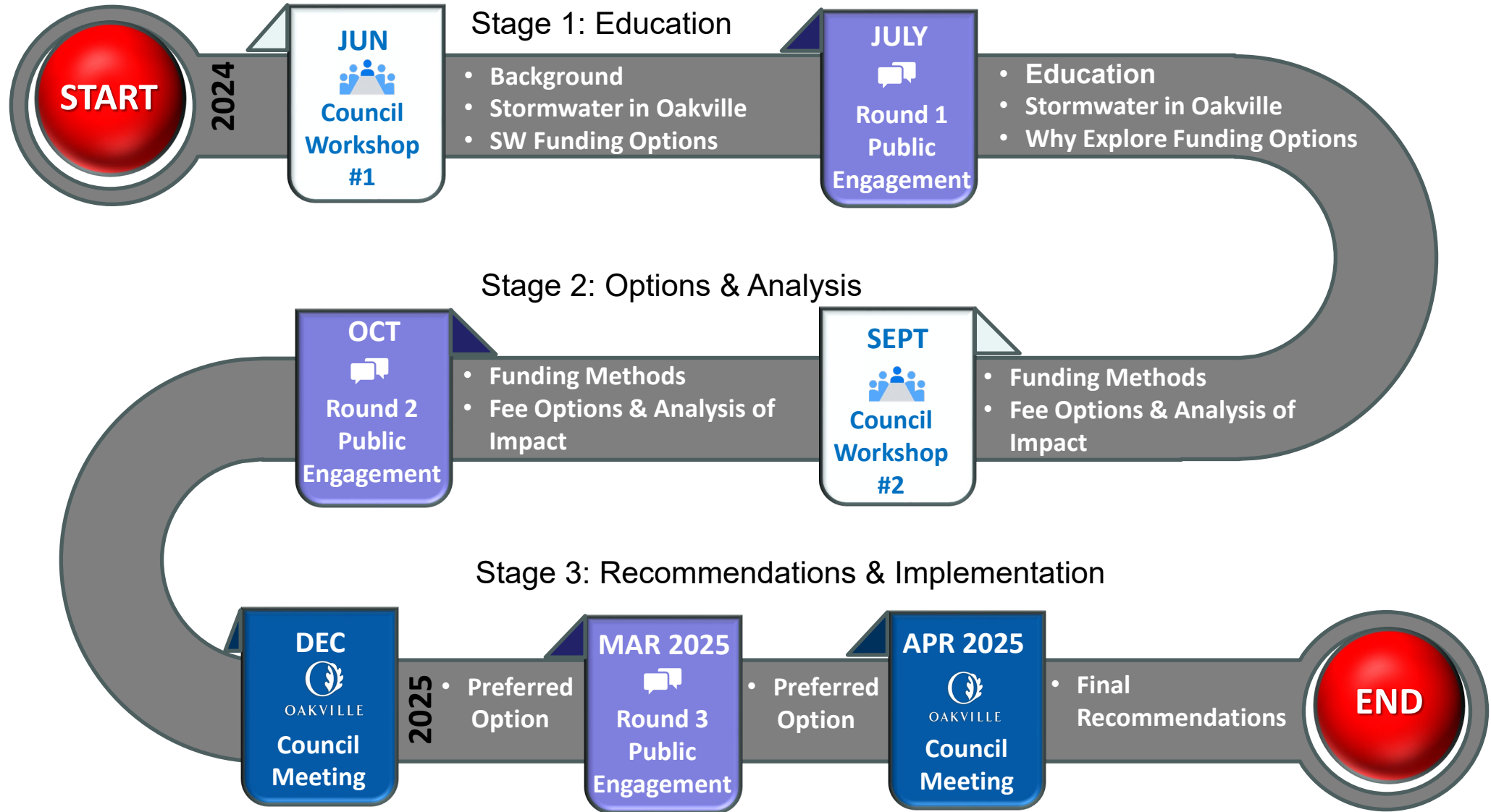
- Rain barrels/ rain gardens
- Downspout disconnections, backflow prevention valves, etc.

Credits could take the form of:

- One-time financial support
- In-person ‘how-to’ advisory services
- Published ‘how-to’ information
- Discounted prices for materials to construct rain gardens, permeable pavement, etc.

Rebates have lower costs to administer compared to credit programs.

Stormwater Fee Feasibility Road Map



Next Steps

- Feedback will be reviewed and considered in the evaluation of funding options and options for incentive programs.
- Preferred options will be presented to Council in **December 2024**.
- We will host a second round of public meetings (virtual and in-person) in **early 2025** to present the preferred funding and incentive program options.
- Final recommendations will be presented to Council in **spring 2025**.

How to Participate

Complete the Survey

Visit [Oakville.ca](https://oakville.ca) and search “stormwater fee” to complete our survey by **October 18, 2024**

Follow-up with us!

You can reach out to the study team at stormwaterfee@oakville.ca with any questions, comments, or concerns

Information Session for Non-Residential Property Owners

Sign up to join us on Zoom on **October 9**
from **1 – 2:30 p.m.**

Registration is available on our study page.

Thank you!