City of London
Pollution Prevention Control Plan (PPCP) Update Study

Weeping Tile Disconnections

London St Thomas Association of Realtors

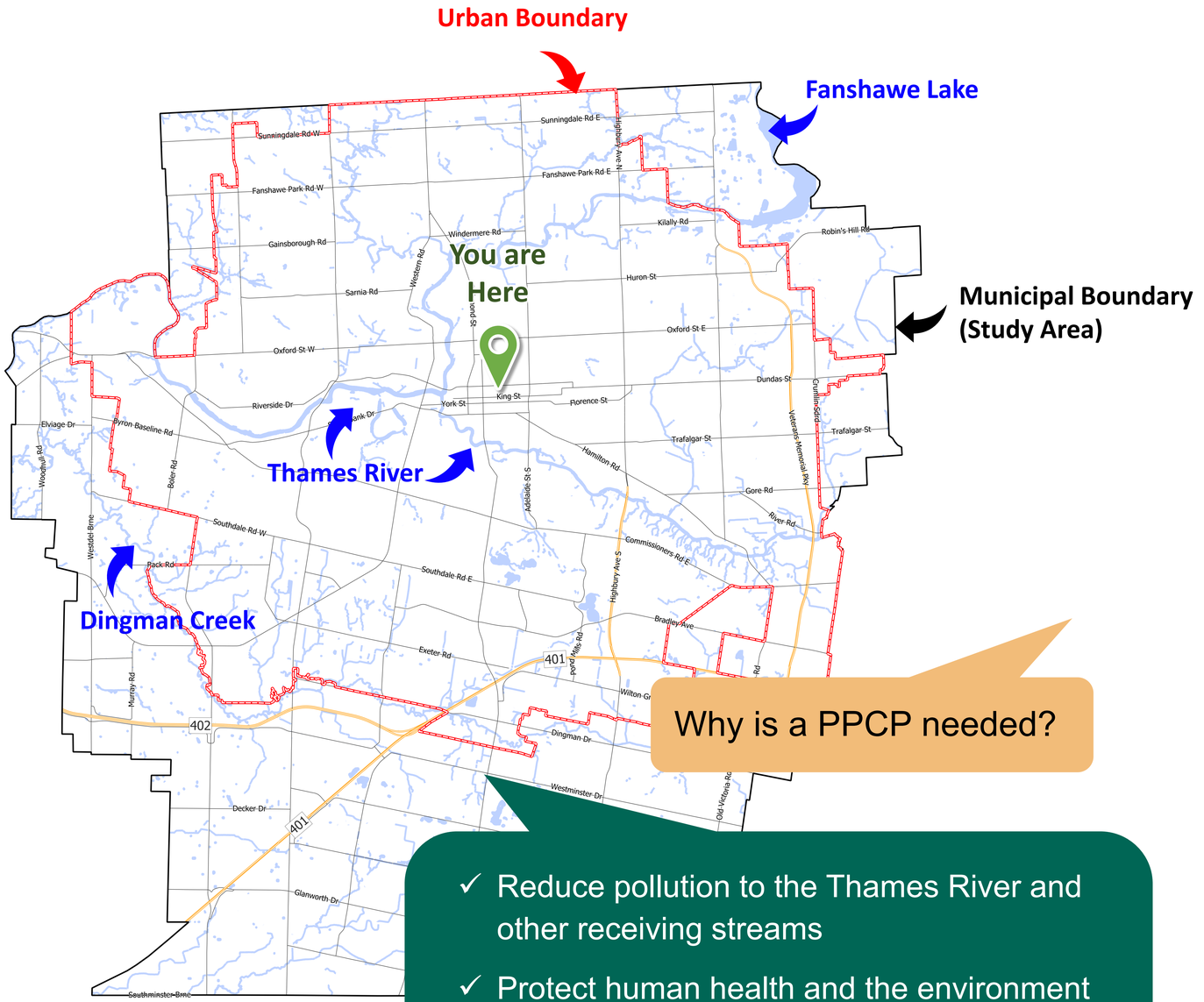
February 19th, 2026

GEI Consultants

London CANADA

Study Introduction and Background

- The **Pollution Prevention Control Plan (PPCP)** update study was initiated as part of the City's ongoing efforts to improve the performance and resiliency of the sanitary system, as well as improve the quality of the City's existing waterways.
- Objective of the Study is to develop an implementation plan for a long-term solution that will limit the volume and frequency of **Combined Sewer Overflows (CSOs)** and **Sanitary Sewer Overflows (SSOs)** into local tributaries.
- The implementation plan will follow the principles as set out by the **Ministry of Environment, Conservation, and Parks (MECP) Procedure F-5-5.**



- ✓ Reduce pollution to the Thames River and other receiving streams
- ✓ Protect human health and the environment
- ✓ Support aquatic life and communities that rely on clean water sources

MECP Procedure F-5-5

- CSOs and SSOs release untreated sewage and stormwater to the environment when the system is overwhelmed – typically during an extreme rainfall event.
- The **Procedure F-5-5** defines the rules for treating sewage and reducing CSOs and SSOs to achieve provincial water quality objectives.

The PPCP update study recommends a long-term implementation plan that aims to limit the volume and frequency of overflows to meet F-5-5 requirements.

Procedure F-5-5

- Treat 100% of Daily Sewage from Residents
- Maintain or Improve the Existing Level of Treated Sewage
- Develop a Pollution Prevention Control Plan to Identify Pollution Sources and Causes
- Treat 90% of Wet Weather Flows from April to October

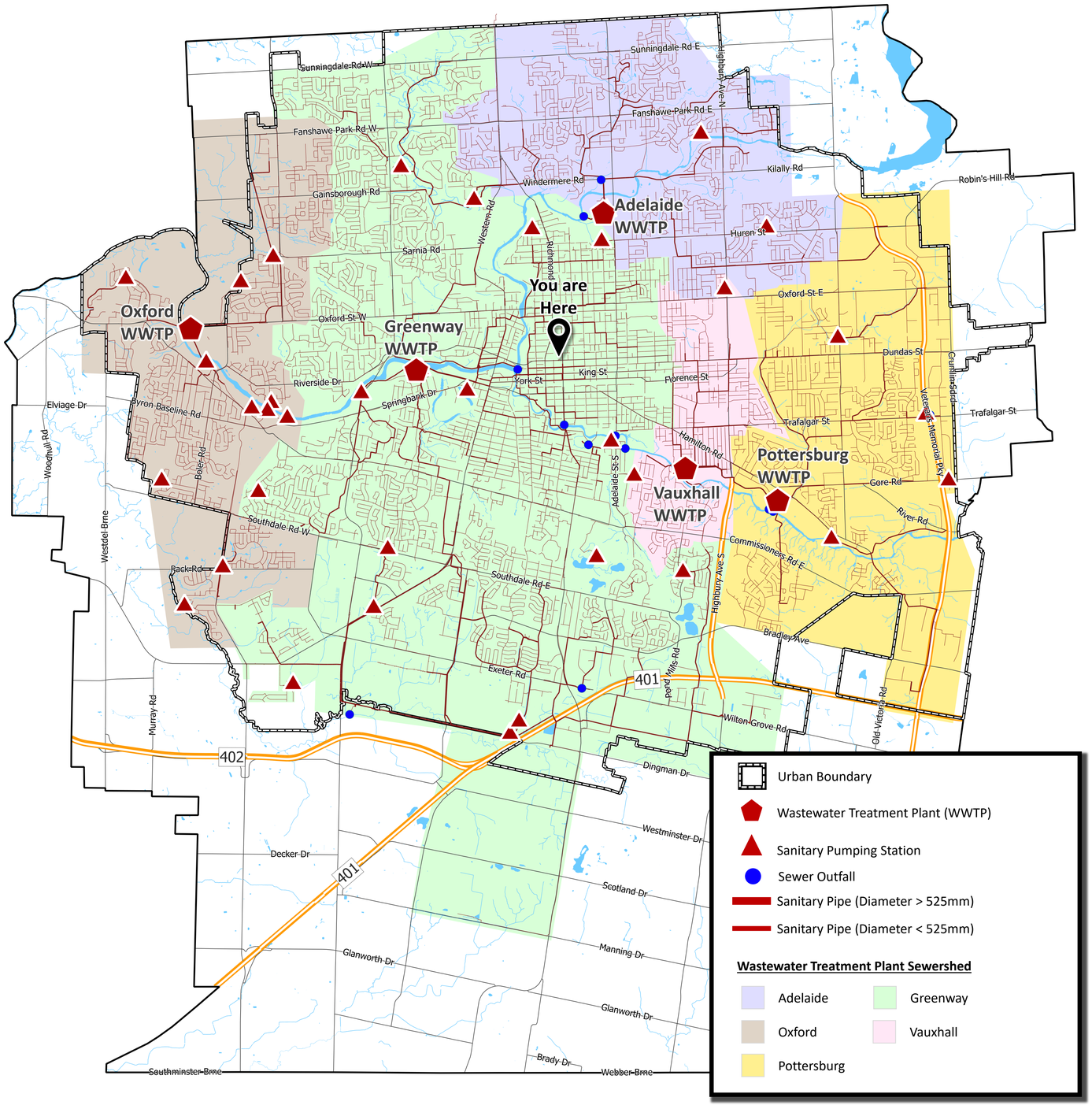
Propose Alternatives, Solutions and Recommend an Implementation Plan

What are the challenges of the system?

Existing System Constraints

The City owns and operates all its sewer system infrastructure.

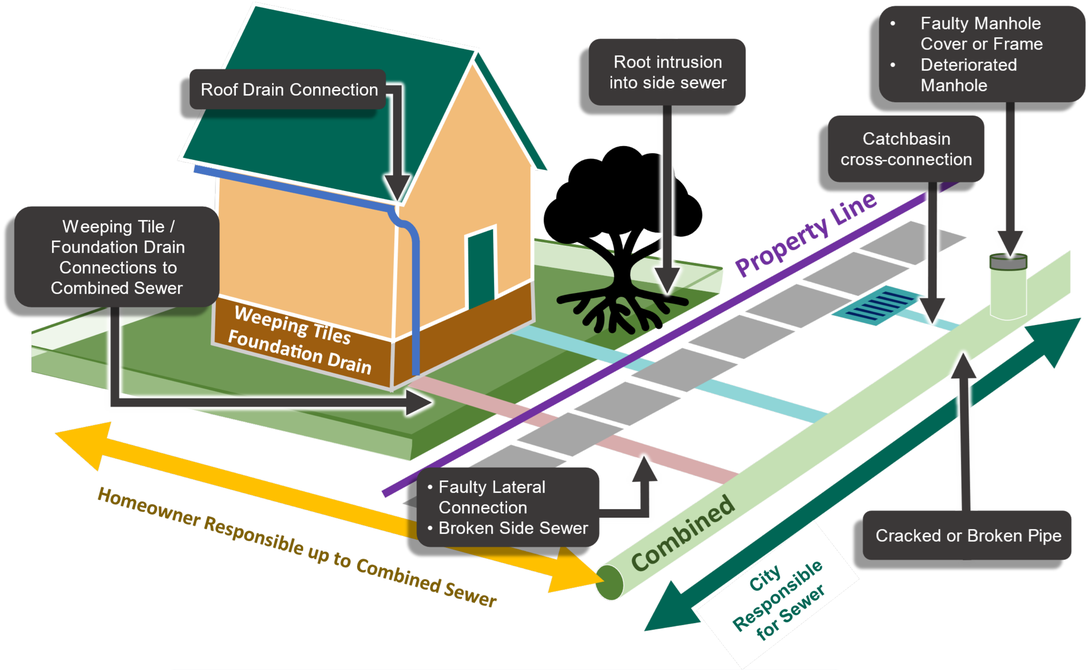
- 128 sanitary sewer overflows
- 1,450 km of sanitary sewers
  - 11.5 km are combined sewers
- 35 sanitary pumping stations (SPS)
  - 29 SPSs discharge directly to receiving streams or indirectly through storm sewers during extreme rainfall events
- 5 wastewater treatment plants (WWTP)



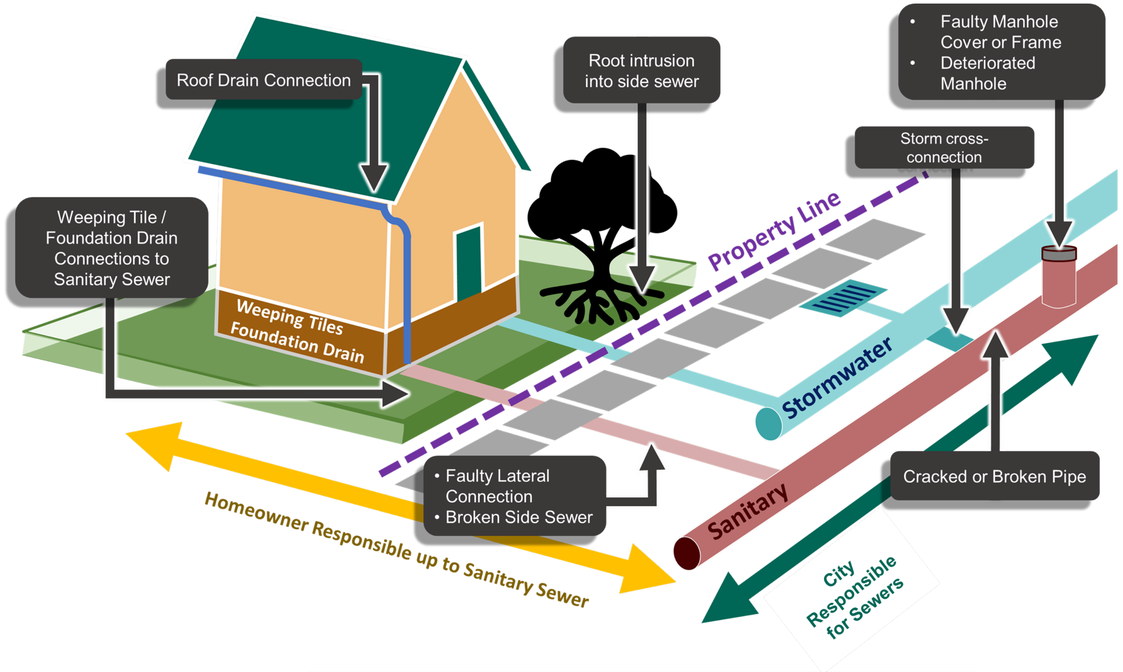
Inflow and Infiltration

Inflow and Infiltration (I&I) refers to groundwater and stormwater that enters the sanitary sewer system and causes problems including risk of basement flooding, CSOs and SSOs into the environment, reduced system capacities, reduced treatment plant efficiencies, and increased costs to residents.

Sources of Wet Weather Flow



Combined System



Separated System

How can we address overflows?

Mitigation Strategies

Selected Mitigation Strategy

Mitigation Strategies	New Storage Tanks	Reconfigure Overflow Weirs	Weeping Tile Disconnection	Pipe Upsizing	Pumping Station Upsizing
Description	Temporarily hold excess overflows which are then slowly emptied into the sewer system and treated once capacity is available.	Designed to allow spills during extreme rainfall events to prevent system backups.	Disconnection weeping tiles from the sanitary system, and installation of a sump pit and pump.	Increased sewer capacity with larger diameter sewers to handle higher volumes.	Install larger or additional pumps so more sewage can be moved through system towards the treatment plants.
Benefits	• Reduce frequency and volume of CSOs and SSOs during extreme rainfall events	• Reduce frequency and volume of CSOs and SSOs during extreme rainfall events • Better flow control to retain more volume in the system • Low cost • Localized solution	• Reduce frequency and volume of CSOs and SSOs during extreme rainfall events • Reduce overall stormwater volume entering system • Lower basement flooding risks • Prepare City for future potential provincial compliance changes	• Reduce frequency and volume of CSOs and SSOs during extreme rainfall events • Provide capacity for additional growth • Better suited to carry combined flow of sewage and stormwater	• Reduce frequency and volume of CSOs and SSOs during extreme rainfall events • Prevent system backup • Additional storage available to temporarily hold excess overflow
Drawbacks	• Odour • Location availability • Storage limits • Variable costs	• Increase downstream spillage risks • Increase upstream flooding risks • Limited ability to implement in existing system	• Requires property owner participation	• Higher costs with larger upgrades • Designed capacity limits	• Highest cost • Does not eliminate overflow risk downstream • Significant maintenance required

How do we disconnect weeping tiles?

Weeping Tile Disconnection and Sump Pit and Pump

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Weeping Tile Connection

Approximately **50,000 homes** may have existing weeping tiles that are still connected to the sanitary system!

Floor Drain

Weeping Tile

Direct connection of the weeping tile to the sanitary system

Weeping Tile Disconnection

Benefits of disconnection:
- ✓ Reduced risk of basement flooding
- ✓ Reduced pollution to local tributaries
- ✓ Greater system resiliency

Floor Drain

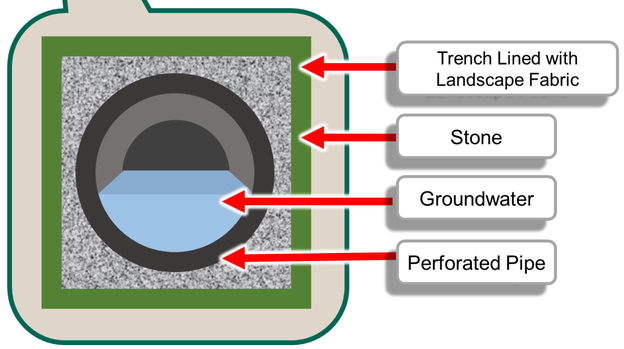
Weeping Tile

Sump Pump

Sump pump forces water away to a permeable surface.

Sanitary System

A **weeping tile** *(foundation drain/ perimeter drain)* is a perforated pipe used to collect and redirect water away from a home's foundation.

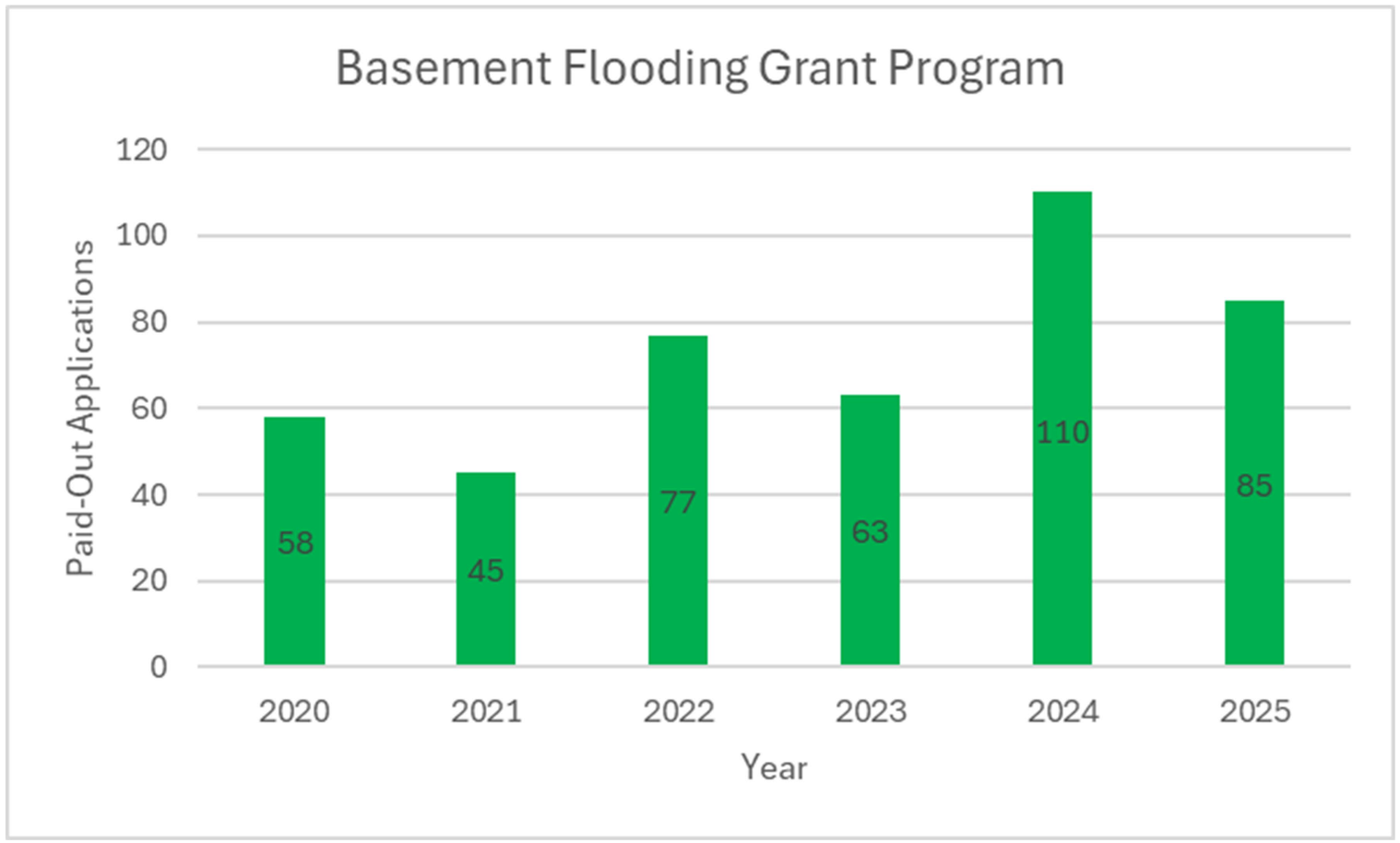


Other Methods We Have Tried – Voluntary Weeping Tile Disconnection

Basement Flooding Grant Program:

Total Disconnections over past 5 years: 438

This represents less than 1% of total properties with weeping tiles connected to sanitary sewer



Other Methods We Have Tried - Storage

White Oaks Sanitary Diversion and Storage Facility:

Constructed in 2003

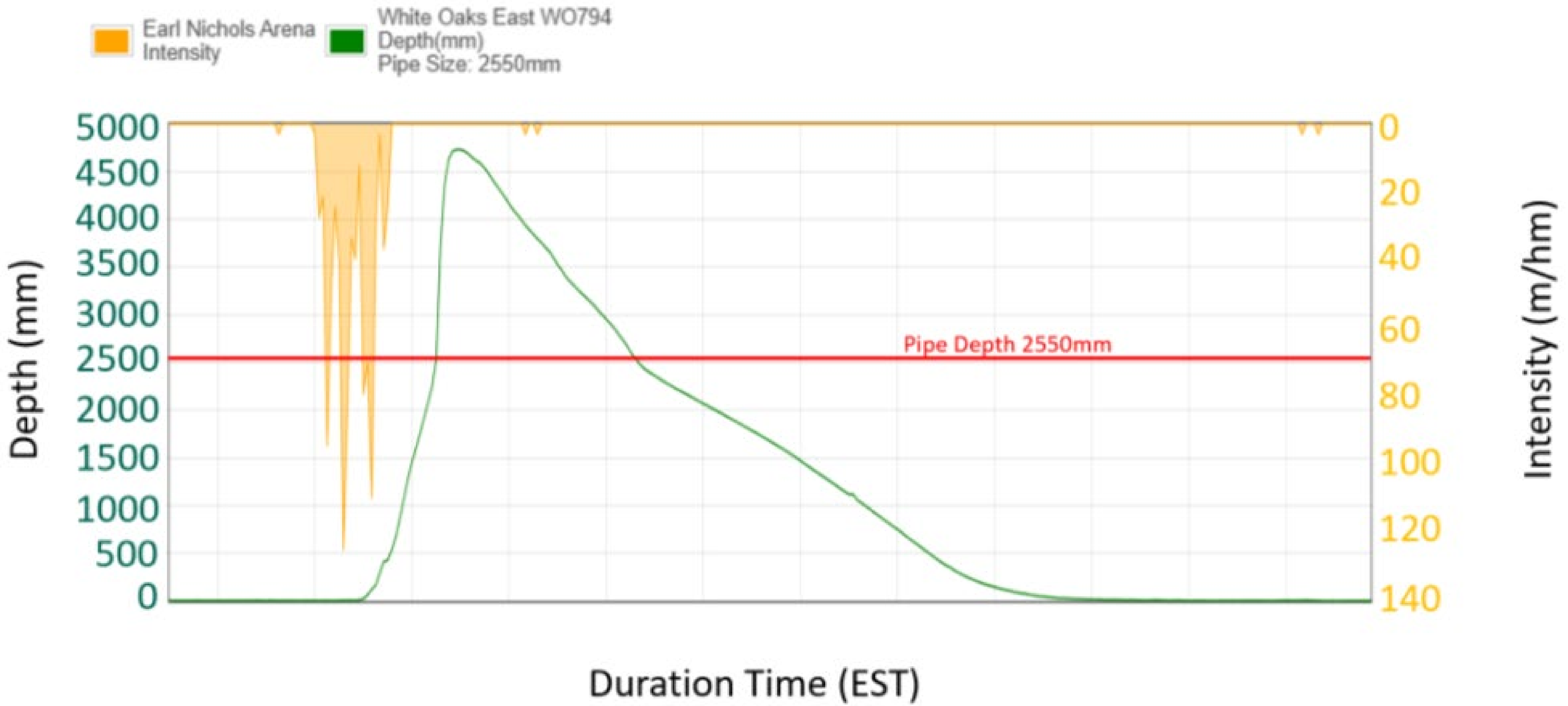
Twin 2,550mm storage pipes located in White Oaks Park providing over 4,300m3 of storage volume.



Other Methods We Have Tried - Storage

White Oaks Storage Pipes – July 15th, 2024, Rain Event: 70mm of high intensity rain

Time Required for storage pipes to fill: <1h
Time Required for storage pipes to empty: 13h



How can we apply the weeping tile disconnection strategy?

Types of Weeping Tile Disconnection Programs



Voluntary Disconnection Program

- Homeowners voluntarily disconnect weeping tiles from the sanitary system.
- Eligible homeowners may be assisted financially through a partial or full rebate/subsidy.



Point-of-Sale Mandatory Disconnection Program

- Discharge of stormwater from property into sanitary system is prohibited, and all eligible property types must disconnect weeping tiles and install a sump pit and pump prior to land title transfer.
- Enforced for compliance.



Incentivized Program

- City encourages disconnection of weeping tiles through additional incentives shown as a credit benefit on the homeowner's recurring wastewater bill.
- Not enforced for compliance.



Disincentivized Program

- City encourages disconnection of weeping tiles through enforcement shown as a punitive charge on the homeowner's recurring wastewater bill.
- These charges offset increased system operation and maintenance costs from connected weeping tile flows.

Evaluation Criteria

The following evaluation criterion were used to select the preferred weeping tile disconnection program.

Flexibility of Choice
Does the program empower homeowners?

Participation Rate
Does the program reach minimum homeowner participation?

Financial Implications
Is the program financially feasible?

Costumer Impact
How will the program impact homeowners?

Efficacy of Reducing Overflows
How efficiently will the program reduce the volume and frequency of overflows within the City?

System Improvement Potential
How efficiently, in the short-term and long-term, will this program address existing system capacity constraints?

Implementation Flexibility
What is the scalability and practically of the program from the City's operational perspective?

City Workload Management
What and how many City resources will be required to apply the program?

Program Time Scale
Will the program reduce overflow volume and frequency in a reasonable time scale?

Which weeping tile disconnection program is most preferred?

Evaluation Results

Least Favourable — Neutral — Most Favourable

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Selected Weeping Tile Disconnection Program

Evaluation Criterion	Voluntary	Point-of-Sale Mandatory	Incentivized	Disincentived
Flexibility of Choice	**Most Favourable** Homeowners can decide not to participate with no legal or financial repercussions.	**Less Favourable** By-law requirement, legal repercussions if not in compliance.	**Most Favourable** Credit benefit/ additional funding offered for homeowners who decide to participate.	**Neutral** Punitive charge incentive applied for homeowners who decide not to participate
Participation Rate	**Less Favourable** Low participation expected without additional funding, depends on public education for homeowners to act.	**Most Favourable** Highest participation expected as it is a requirement for all eligible homeowners across the City.	**Neutral** Higher participation expected than voluntary due to additional funding, relies on public education for homeowners to act.	**More Favourable** Higher participation expected than voluntary and incentivized, relies on public education for homeowners to act.
Financial Implications	**Most Favourable** Most financially feasible for homeowners, covering up to 90% of capital costs.	**Less Favourable** Some rebate/ subsidy opportunities may be available to support homeowners but will be less than voluntary.	**Most Favourable** Most financially feasible for homeowners as credit benefit/ additional funding is available to cover capital costs and future costs.	**Less Favourable** Some rebate/ subsidy opportunities may be available to support homeowners but will be less than voluntary.
Customer Impact	**Most Favourable** Will satisfy and benefit existing flood-impacted homeowners while not disrupting others.	**Least Favourable** Impacted homeowners affected due to potential property closing delays and may disproportionally disrupt certain demographics, leading to increased risk for legal challenges.	**Neutral** Level of disruption and impact dependent on homeowners' choice to disconnect.	**Less Favourable** Level of disruption and impact dependent on homeowners' choice to disconnect, may disproportionally affect certain demographics.
Efficacy of Reducing Overflows	**Less Favourable** Variable decrease in basement flooding risk and minimal overflow reduction anticipated, dependent on homeowner participation in same area/ sewershed	**Most Favourable** Decreased risk of basement flooding for homeowners in same area with limited number of overflows anticipated across the City.	**Less Favourable** Variable decrease in basement flooding risk and variable overflow reduction anticipated, however more homeowners expected to participate in same area/ sewershed compared to voluntary	**Neutral** Variable decrease in basement flooding risk and variable overflow reduction anticipated, however more homeowners expected to participate in same area/ sewershed compared to voluntary and incentivized.
System Improvement Potential	**Less Favourable** Minimal system improvements anticipated, no meaningful beneficial change from existing at current participation rate	**Most Favourable** Large system improvements and resiliency anticipated, including long-term WWTF and PS cost savings.	**Neutral** Some system improvements compared to existing due to higher participation rate.	**More Favourable** More system improvements compared to existing and incentivized due to higher participation rate
Implementation Flexibility	**More Favourable** More flexibility in scheduling inspections for seasons where weather conditions are favorable.	**Less Favourable** Less flexibility in scheduling inspections, based on timing of home sale.	**Neutral** Building Division required to inspect work when homeowner calls.	**Neutral** Building Division required to inspect work when homeowner calls.
City Workload Management	**Most Favourable** No additional implementation necessary, no strain anticipated on existing workloads.	**Less Favourable** High complexity expected requiring significant administration and City resources once by-law is approved and operational.	**More Favourable** Some complexity expected, requiring additional funding approval for incentives.	**More Favourable** Some complexity expected, requiring additional coordination with City wastewater operations team for wastewater billing when applying punitive charges.
Program Timescale	**Least Favourable** No enforcement available as it is homeowner-initiated program length may be indefinite without additional measures.	**Most Favourable** Strict and streamlined enforcement for homeowner compliance across the City will help to minimize program length.	**Neutral** No enforcement available as it is the homeowner's choice to disconnect, program length anticipated to be shorter than voluntary.	**More Favourable** Enforcement in the form of punitive charge for non-disconnection will help to minimize program length.
Overall Rating	**Least Preferred Disconnection Approach**	**Most Preferred Disconnection Approach**	**Second Least Preferred Disconnection Approach**	**Second Most Preferred Disconnection Approach**

How could this program be implemented?

“Point-of-Sale” Mandatory Disconnection Program

- **Point-of-Sale Disconnection Program:** a mandatory requirement for all single-family homes to disconnect their weeping tiles if they have an existing connection to the municipal sanitary system at the time the property is sold.
- Disconnected homes would receive a **Point-of-Sale Certificate of Compliance**, similar to when you sell your car and need to obtain a Vehicle Safety Standards Certificate.
- Every disconnected weeping tile through this program will reduce the amount of flow in the sanitary sewer system.

Increased number of properties with disconnected weeping tiles

- Decreased sewage overflows to the Thames River and receiving waters
- Decreased wastewater treatment costs

This is a long-term strategy which will be a total net benefit for the entire sanitary system, reducing the City’s volume and frequency overflow discharges beyond the F-5-5 90% compliance, and greatly reduces basement flooding risk.

Point-of-Sale Certificate of Compliance

Inspection Requirement

Inflow and Infiltration inspection conducted by City staff on all single-family homes prior to selling property.

Is Weeping Tile Connected to Sanitary System?

PASS

Certificate of Compliance provided by the City.

FAIL

Weeping tile disconnection performed by licensed plumber.*

Re-Inspection

** A Building Permit will be required for any changes to the plumbing system.*

Transfer of Ownership

Title ownership can only be transferred once a Certificate of Compliance in obtained for the property.

Validation Period

Certificate of Compliance remains with the property, and no additional inspection required for future title transfers unless there are major changes to the home’s plumbing system.**

*** Sell value of home may potentially be increased as home is trusted to have reduced basement flooding risk.*

“Point-of-Sale” Benefits & Challenges

Benefits of the Program

- ✓ Reduced Volume and Frequency of Overflows
- ✓ Reduced Volume and Frequency of Flow Bypasses at the Wastewater Treatment Plants
- ✓ Reduced Risk of Basement Flooding
- ✓ Increased System Resiliency for Climate Change
- ✓ Reduced Pollution into Local Tributaries
- ✓ Minimized Potential for Impacts on Human Health and Aquatic Life

This is still a working program and will require Council buy-in and approval before implementation.

Challenges of the Program

➢ Resource Planning

- ❖ Coordination between major primary interest-holder groups
- ❖ Coordination with the existing **Basement Flooding Grant Program**
- ❖ Hiring additional City Inspection and Administration staff

➢ Administration Considerations

- ❖ Funding and Resource Costs
- ❖ Enforcement for Compliance Measures
- ❖ Exemptions and Special Cases

For More Information On..

Existing City Programs and Initiatives

Communication and Public Education

- Basement flooding awareness campaigns.
- Website dedicated to information regarding basement flooding causes, prevention and City contact.

Scan the QR Code to visit the City's website on Basement Flooding.

Basement Flooding Grant Program

- A voluntary financial assistance program for qualifying residential properties that have experienced basement flooding due to City sewer backups.

Scan the QR Code to visit the City's website on the *Basement Flooding Grant Program*.

Pilot Projects

The City has completed weeping tile disconnection pilot projects for specific neighborhoods throughout the City.

Impacted neighborhoods were found to have:

- Significant basement flooding issues
- Weeping tile connection to the sanitary sewer
- Downspout discharge location at or near a building's foundation wall

Next Steps

- Presenting at Infrastructure and Corporate Services Committee on March 23 2026.
- Finalize PPCP Master Plan and place on 30 day review period.
- Obtain direction from Council regarding further investigation into the potential pros and cons of implementation potential, including budget impacts, staffing needs, and overall assessment of feasibility.