



# **West Thornhill Stormwater Flood Remediation Construction - Phases 3B & 4A**

## **Community Information Meeting**

through Zoom  
May 5, 2021



# Purpose

- To advise residents and businesses of 2021 – 2022 construction activities as part of West Thornhill flood control remediation
- To promote the City's ongoing plumbing protection rebate program.



# Markham's Flood Control Program

- Following the August 19, 2005 storm Markham initiated several flood risk reduction initiatives and actions:
  - Wastewater pipe upgrades and diversions to address bottlenecks in capacity.
  - Mandatory downspout disconnection program to reduce stormwater into City-wide wastewater systems.
  - Initiated the West Thornhill Stormwater Flood Remediation Class EA to identify sewer system upgrades to meet “100-year storm” design standard requirements in high flood risk areas.
  - Developed a long-term City-wide Flood Control Program and sustainable funding source (Stormwater Fee) for city-wide stormwater system upgrades.

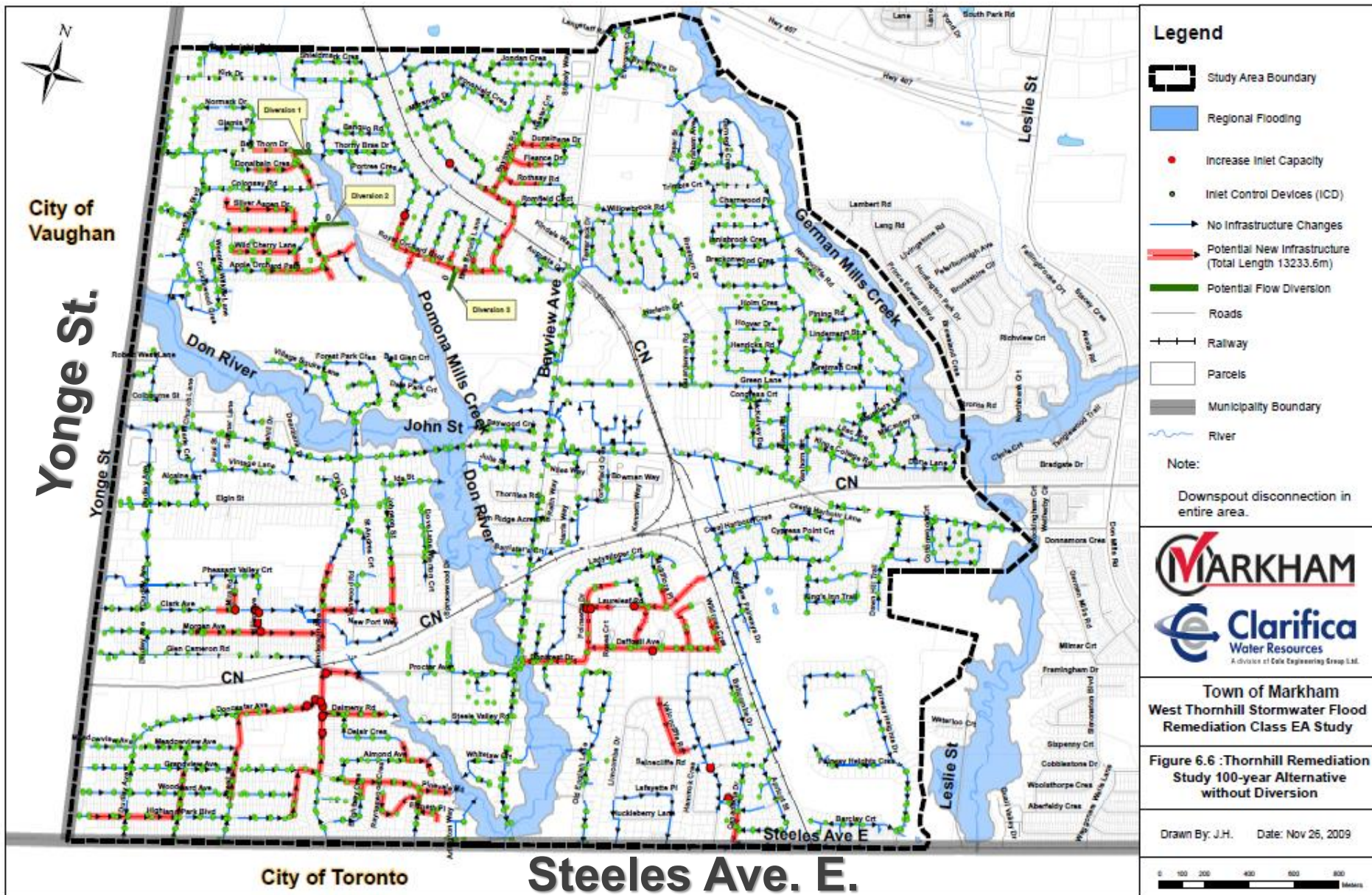


## Background

- Storm drainage improvements to manage flood risks were approved through Class EA Study recommendations (2009) & City received Ministry of Environment approval in 2011.
- Staff presented an implementation strategy to Council in 2011 identifying phasing of improvements in West Thornhill.

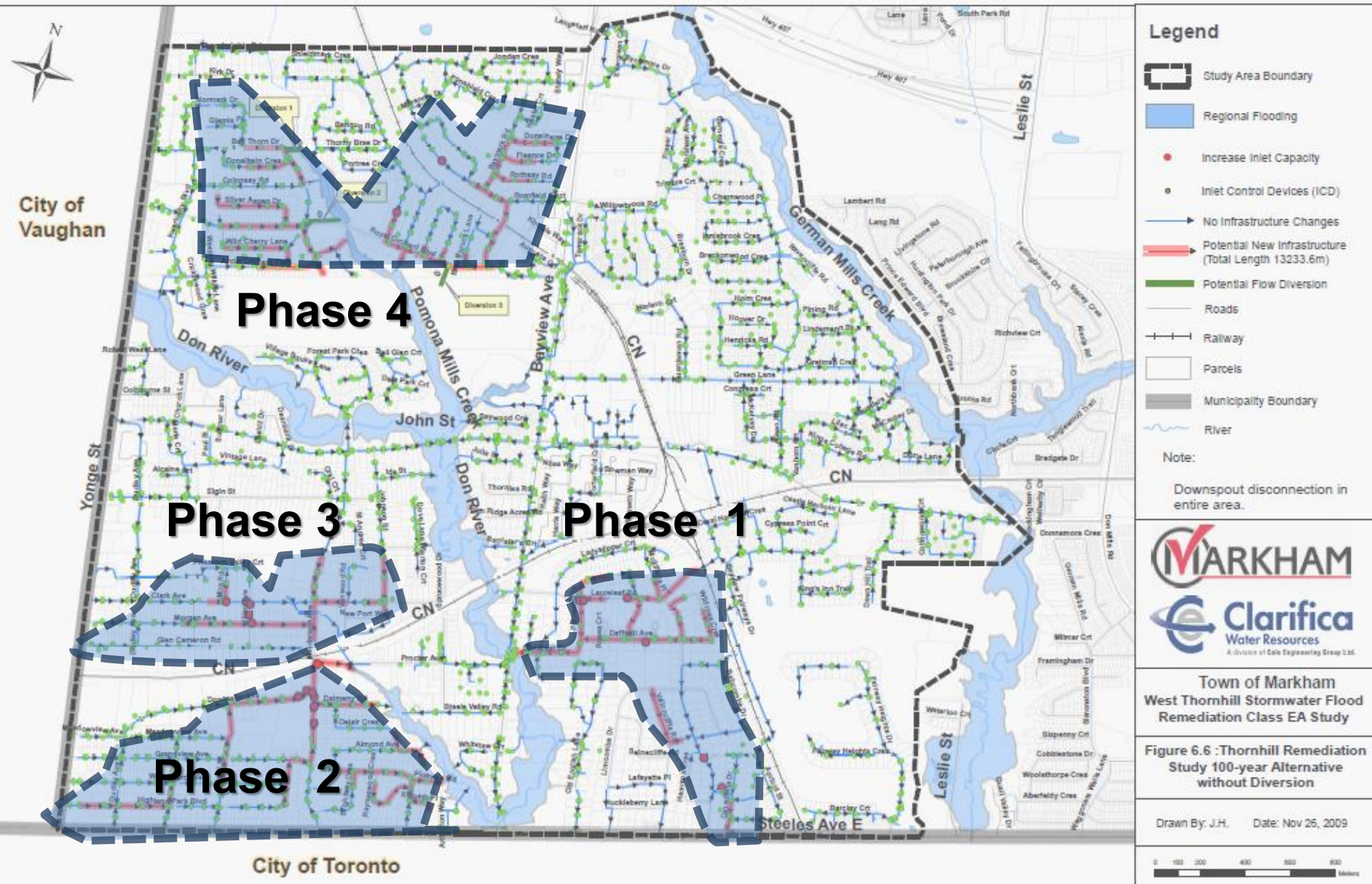
Phase	Duration of Project
1A	2014 – 2015
1B	2015 – 2016
1C	2016 – 2017
2A	2016 – 2017
2B	2017 – 2018
2C	2018 – 2019
2D	2019 – 2020
3A	2020 – 2021
<b>3B and 4A</b>	<b>2021 – 2022</b>

# Class EA Recommendations





# Implementation Phases







# Storm Sewer Installation





## Background (continued)

- City identified need to replace several cast iron watermain (Ph 3B only) in conjunction with storm sewer replacements.
- Additional watermain replacement will be completed on adjacent streets.







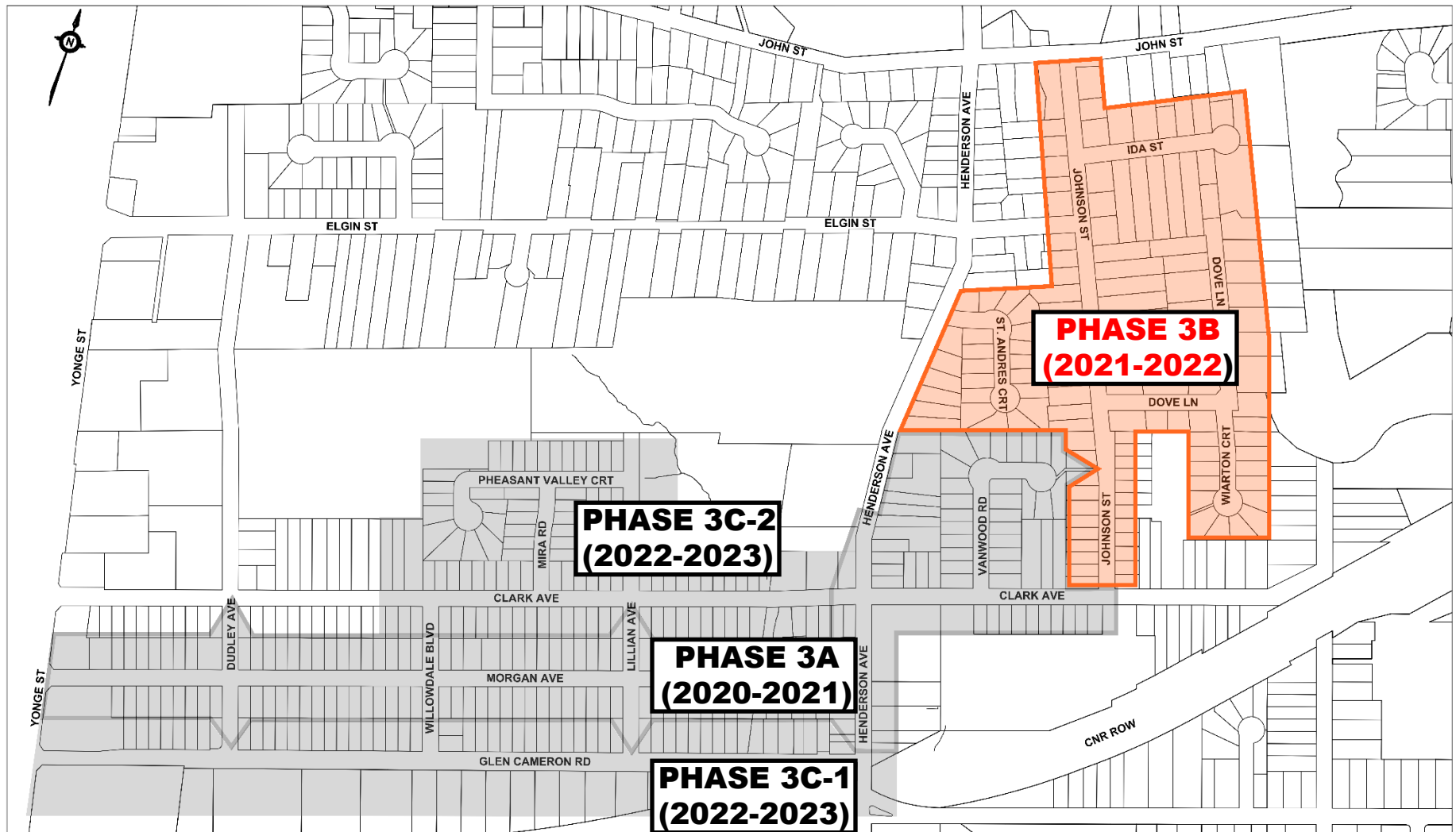
## Proposed Works – Watermain Replacement (Ph 3B only)

- Replace existing cast iron watermain with a new PVC watermain
- All services to property line shall be replaced
- Replacement will generally be in a new alignment
- Final service switchover will generally take 3-4 hours, minimizing disruption to residents



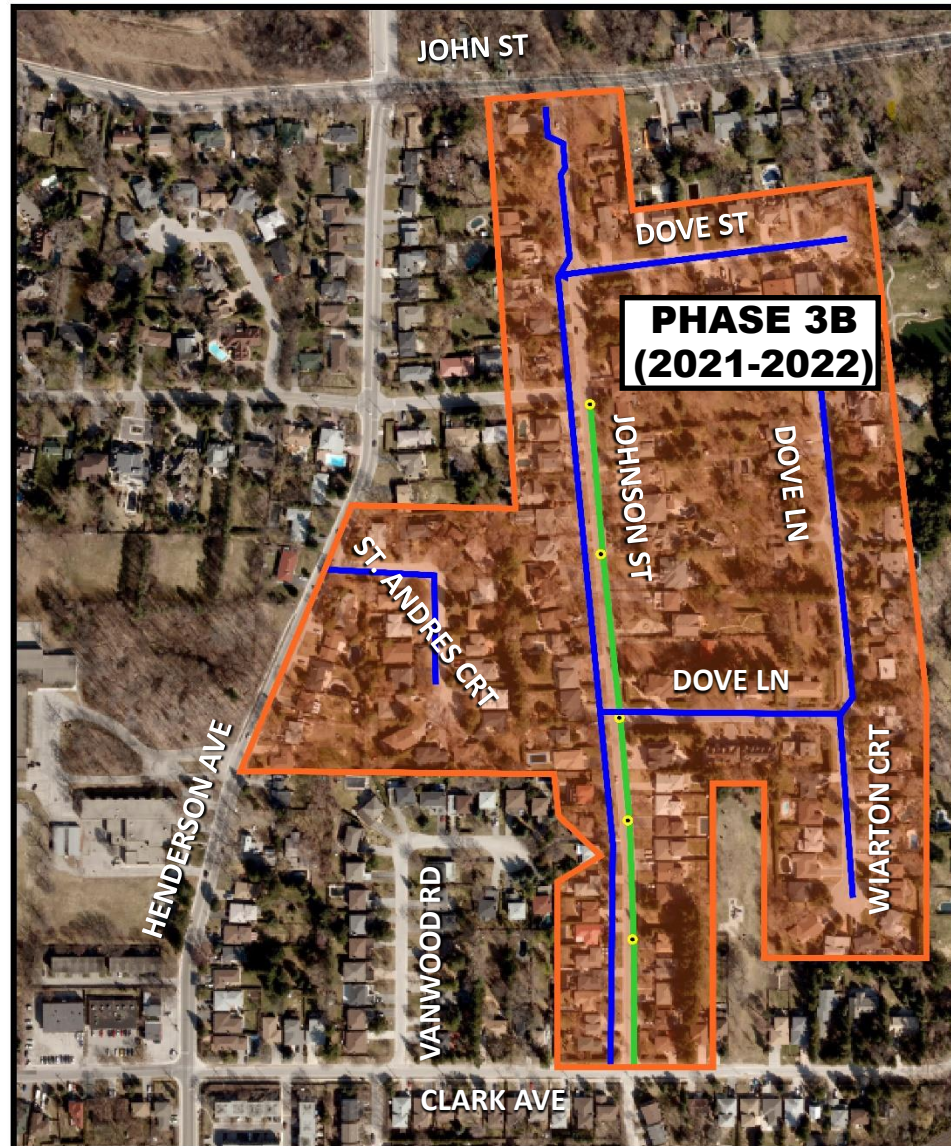
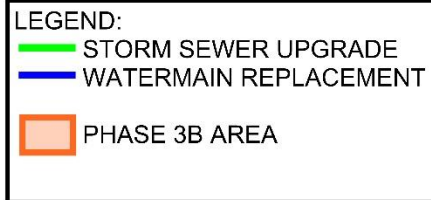


WEST THORNHILL FLOOD CONTROL IMPLEMENTATION PHASES





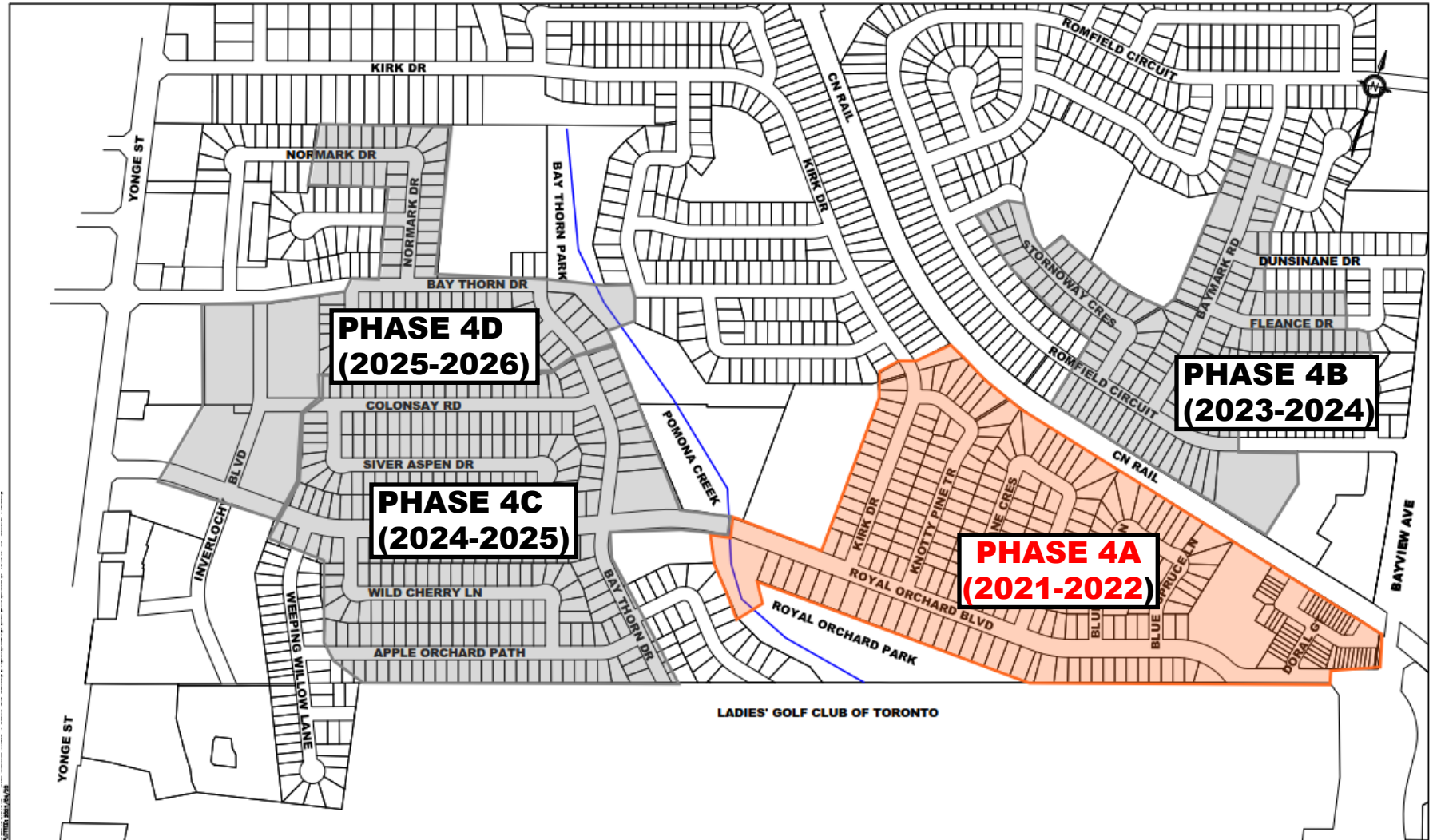
MARKHAM LOCATION MAP - WEST THORNHILL - PHASE 3B





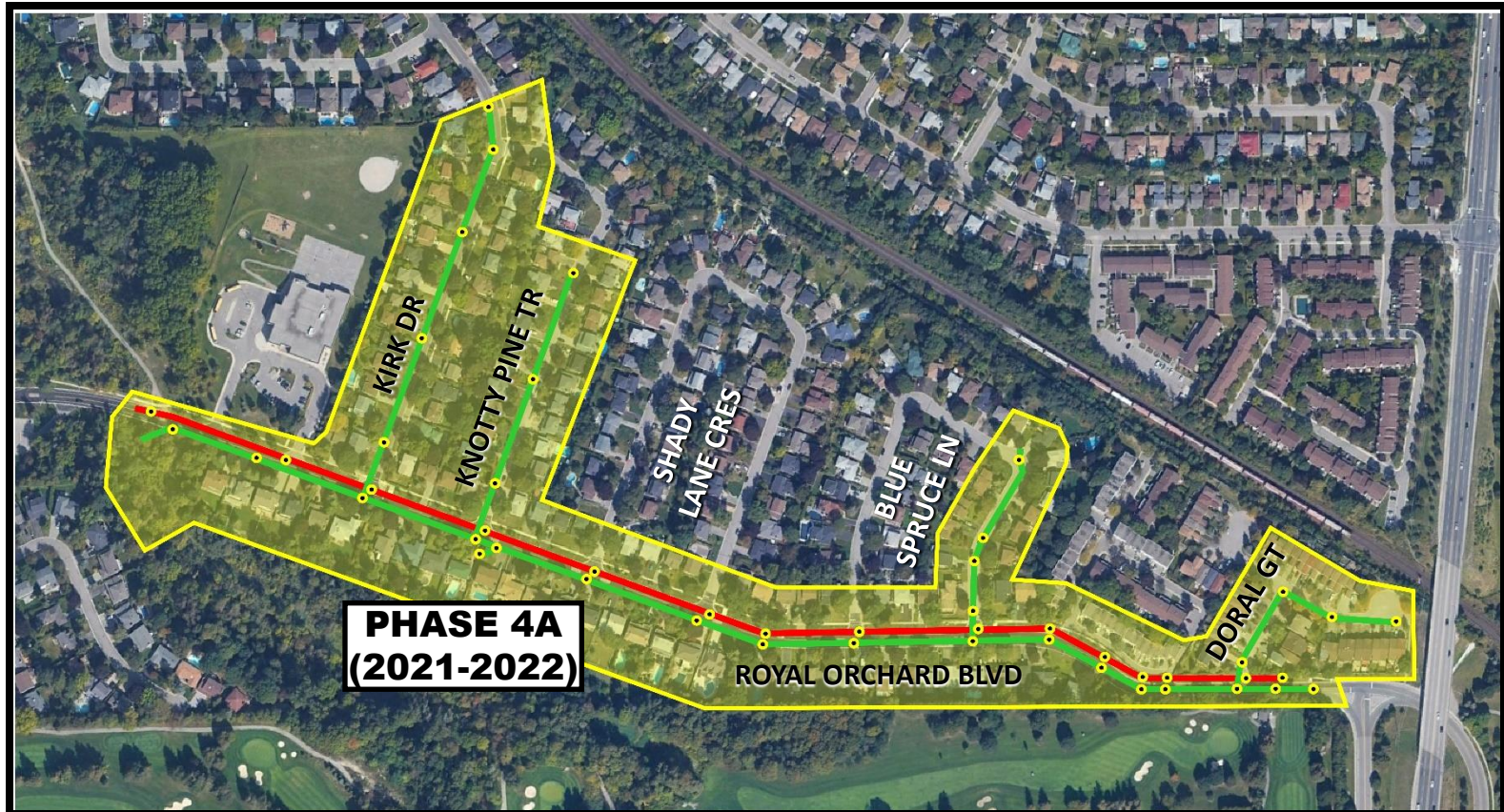


WEST THORNHILL FLOOD CONTROL IMPLEMENTATION PHASES





LOCATION MAP - WEST THORNHILL - PHASE 4A



- LEGEND:
- STORM SEWER UPGRADE
  - SANITARY SEWER REPLACEMENT
  - PHASE 4A AREA



# Phase 3B Improvements

- **Proposed works include:**
  - New storm sewer & watermain along Johnson St.
  - New watermains along Dove Ln., Wiarton Ct., Ida St. and St. Andres Ct..
  - Resurfacing of roads where sewers & watermains are replaced.
  - Temporary site trailers (location to be confirmed).





# Phase 4A Improvements

- **Proposed works include:**
  - New storm and sanitary sewers along Royal Orchard Blvd., from Pomona Creek to Bayview Ave.,
  - New storm sewers along Kirk Dr., Knotty Pine Tr., and Blue Spruce Ln. north of Royal Orchard Blvd., and along Doral Gate and Augusta Court east of Doral Gate.
  - Storm sewer outlet upgrades at Pomona Creek south of Royal Orchard Blvd.
  - Erosion rehabilitation and prevention works in Pomona Creek south of Royal Orchard Blvd.
  - Resurfacing of roads where sewers are replaced.
  - Temporary site trailers (location to be confirmed).



# Managing Traffic During Construction

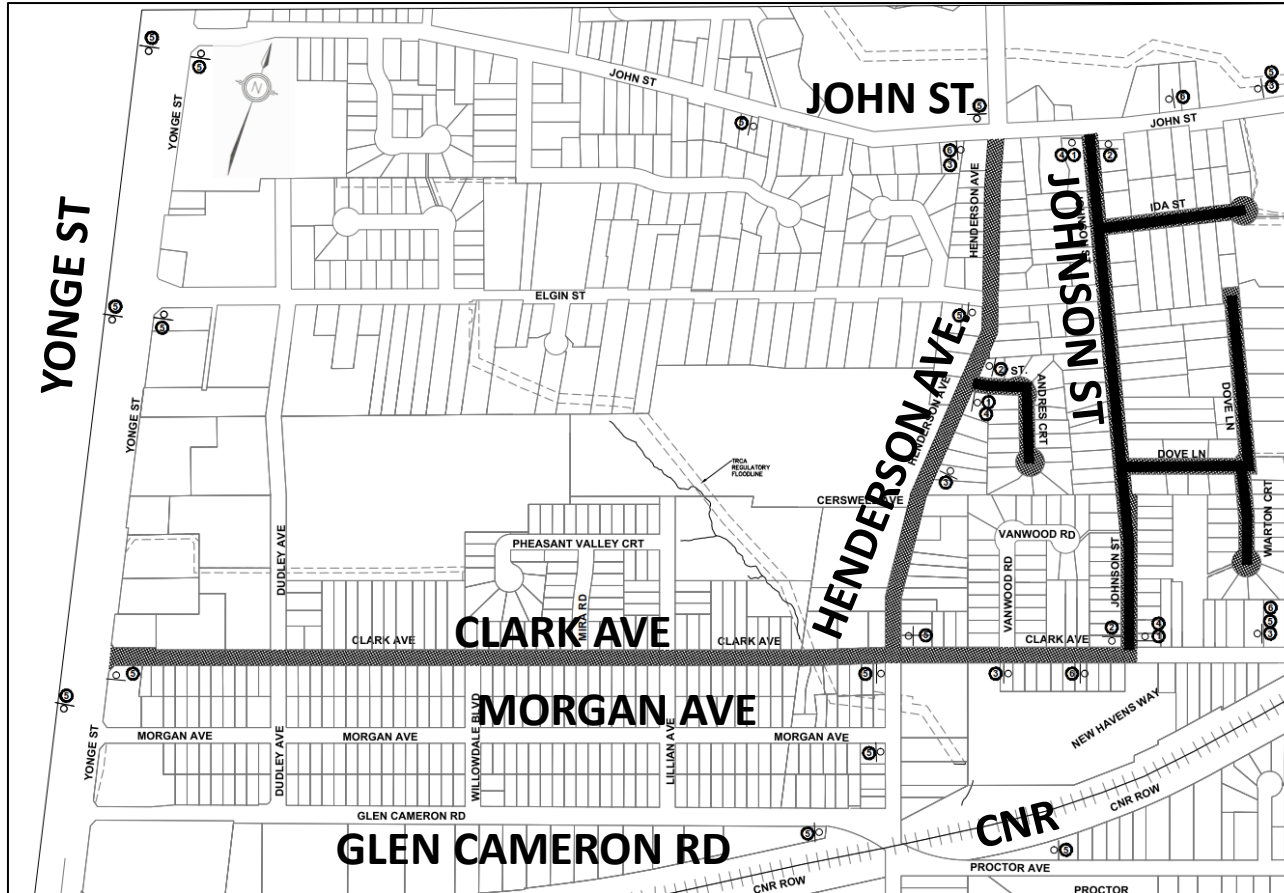
- Roads will remain open to local traffic.
  - Residents will be able to access their driveways at all times although there may be delays during working hours.
  - Access for emergency vehicles will be maintained.
  - Provisions will be made for collection of solid waste and recycling materials





## West Thornhill Phase 3B

### CONSTRUCTION ZONE ADVISORY SIGNING










### LEGEND



CONSTRUCTION AREA



DESIGNATED ROUTE FOR CONSTRUCTION  
VEHICLES

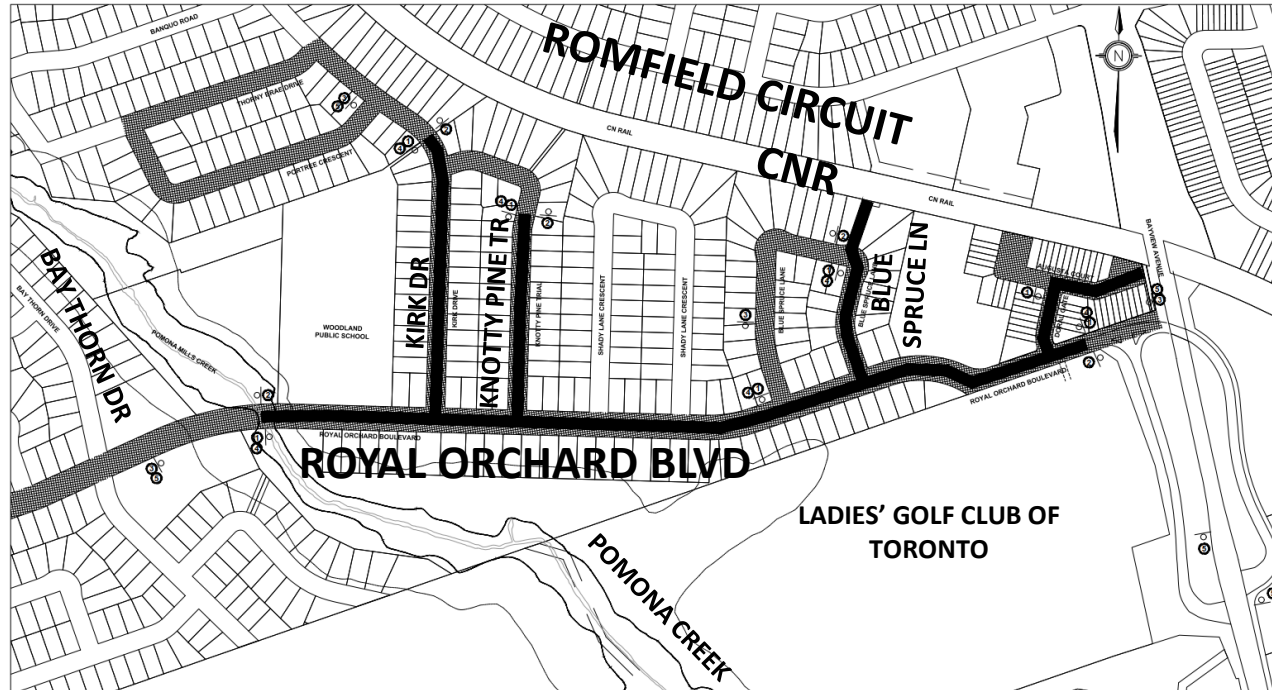
-  SIGN - Rb-90A  
 SIGN - Rb-90B
-  SIGN - TC-1
-  SIGN - TC-71B  
  
LOCAL TRAFFIC ONLY
-  SIGN - TC-65  
INFRASTRUCTURE IMPROVEMENTS  
JOHNSON STREET, DOVE LANE,  
WIARTON COURT, IDA STREET,  
AND ST. ANDRES COURT  
LOCAL TRAFFIC ONLY
-  SIGN - TC-2B












## West Thornhill Phase 4A

### CONSTRUCTION ZONE ADVISORY SIGNING



- 1 SIGN - Rb-90A 
- 2 SIGN - Rb-90B 
- 3 SIGN - TC-1 
- 4 SIGN - TC-71B    
LOCAL TRAFFIC ONLY
- 5 SIGN - TC-65   
ROYAL ORCHARD BOULEVARD,  
KIRK DRIVE, KNOTTY PINE TRAIL,  
BLUE SPRUCE LANE, DORAL GATE,  
AND AUGUSTA COURT  
LOCAL TRAFFIC ONLY
- 6 SIGN - TC-2B 

### LEGEND



CONSTRUCTION AREA



DESIGNATED ROUTE FOR CONSTRUCTION  
VEHICLES



# Driveway Access During Construction

- Some temporary disruption to driveway access should be expected during working hours, in the active construction area.
- Roadway will be restored at the end of each working day to restore driveway access.
- Street parking restrictions will be waived to allow temporary street parking if required (e.g., during construction of new concrete curbs).





# Controlling Noise, Dust, Mud and Sediment

- To mitigate impacts of noise, dust, mud and sediment washoff, the contractor is required to:
  - Adhere to Markham's noise by-law (work hours, sound levels);
  - Limit dust by applying water and dust suppressants;
  - Limit mud by street sweeping;
  - Adhere to the sediment and erosion control plan in the construction contract.





# Maintaining Public Services

- Fire and Emergency services will be notified of road closures.
- Solid waste collection will be co-ordinated with the Contractor.
- School bus service will be maintained during construction but will be re-routed if required.







# Pre-Construction Home Inspection

- As recommended in the Class EA report, a pre-construction home inspection survey will be offered free of charge to homeowners adjacent to construction to provide a record of conditions prior to construction
- Covid-19 H&S protocols will be followed





## Temporary Water Shut-offs (Ph 3B only)

- Water shut-offs may be required during construction to transfer water supply to relocated watermains.
- Shut-offs will typically be 3-4 hours in duration.
- Affected residents will be given 48 hours notice.





# Protecting Trees / Tree Pruning

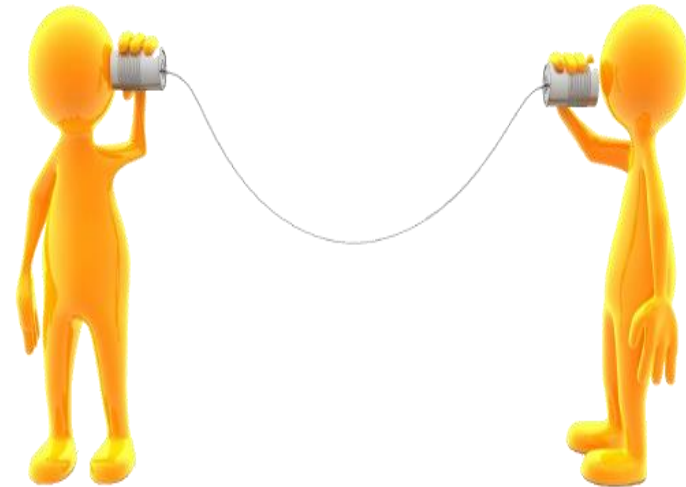
- Trees along the construction area will be protected from damage by construction equipment with fencing, according to City standards.
- As noted in the Class EA report, tree removal along the sewer alignment will be avoided to the extent possible.
- Tree pruning along work areas is required to facilitate construction. Pruning will be supervised by a certified arborist and will be done in accordance with the City's requirements.





# Communication Plan

- Regular communication from the City to residents/businesses in the area (city website)
- Construction notices
- Advanced notification of access closure and disruption of services to residents
- Designated contact person
- 24-hour emergency service





## Next Steps

- Anticipated construction start May 2021
- Anticipated completion:
  - Phase 3B – August 2022
  - Phase 4A - December 2022





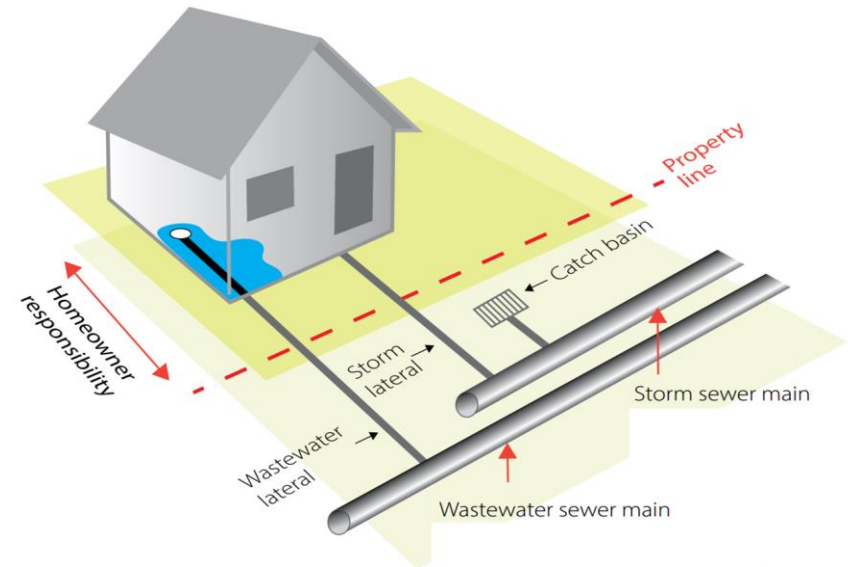
# Questions





# Private Plumbing Protection Rebate Program

- Severe rain events can overwhelm the City's older sanitary and storm sewer systems. This can contribute to basement flooding and property damage.
- Under intense rainfall conditions, home flooding can happen in many ways:
  - Direct connection of your home's private plumbing to the City's sanitary or storm sewer systems
  - Blocked or damaged sanitary or storm laterals (pipes) between the home plumbing system and the City's sewers.





## Private Plumbing Protection Rebate Program

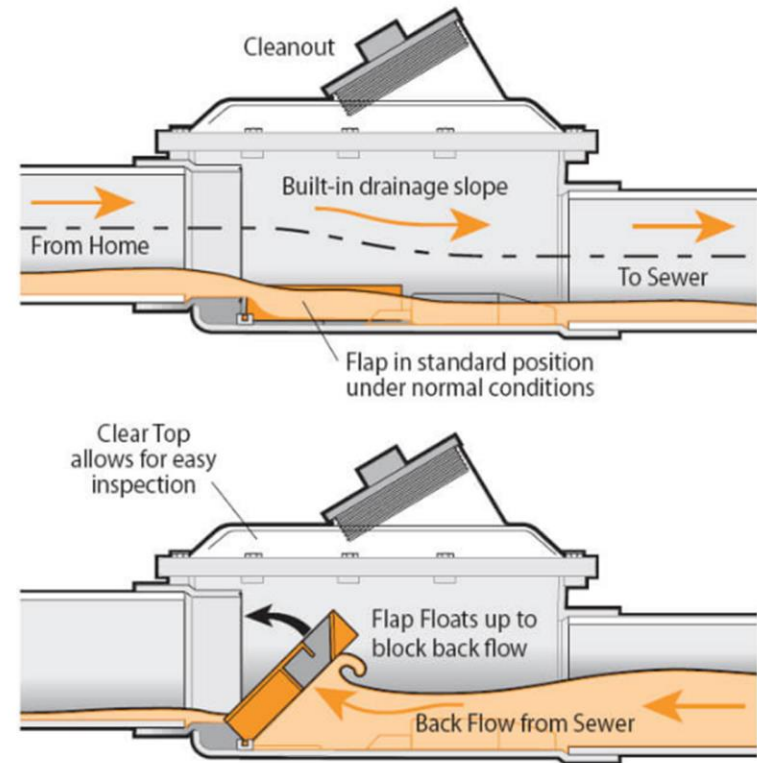
- To help reduce flood damages, in April 2018, Markham City Council approved a Private Plumbing Protection Rebate Program to financially support homeowners who install flood protection measures.
- Measures promoted under the program include:
  - Backwater Valve
  - Weeping Tile Disconnection and Sump Pump Installation
  - Sanitary and Storm Lateral Relining and Repair
- The program has been extended until April 30, 2022.



# Private Plumbing Protection Rebate Program

- **Backwater Valve:**

- A device installed to stop stormwater or sewage from flowing back into your home.
- This device acts as a 'check valve' that allows sewage or stormwater to flow out of the home's plumbing system during normal conditions, and that prevents back flow of sewage or stormwater during storms.

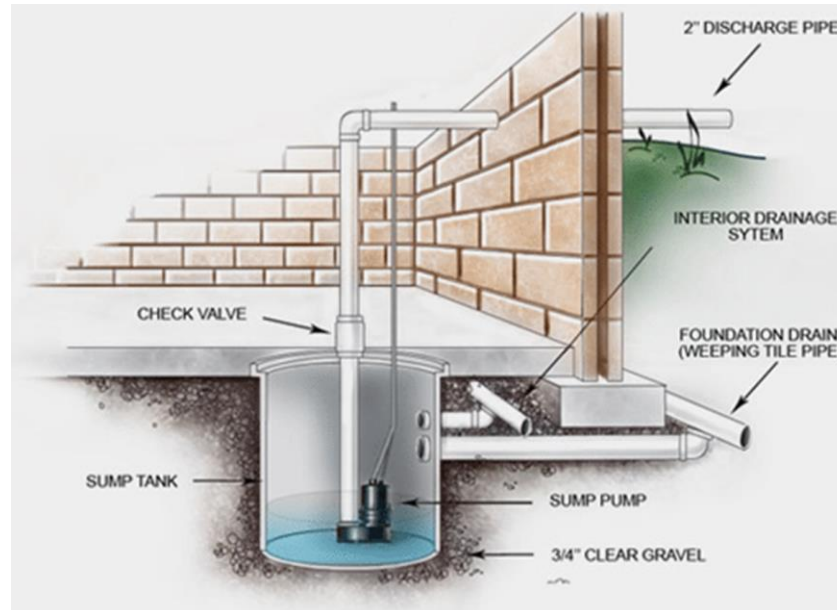






# Private Plumbing Protection Rebate Program

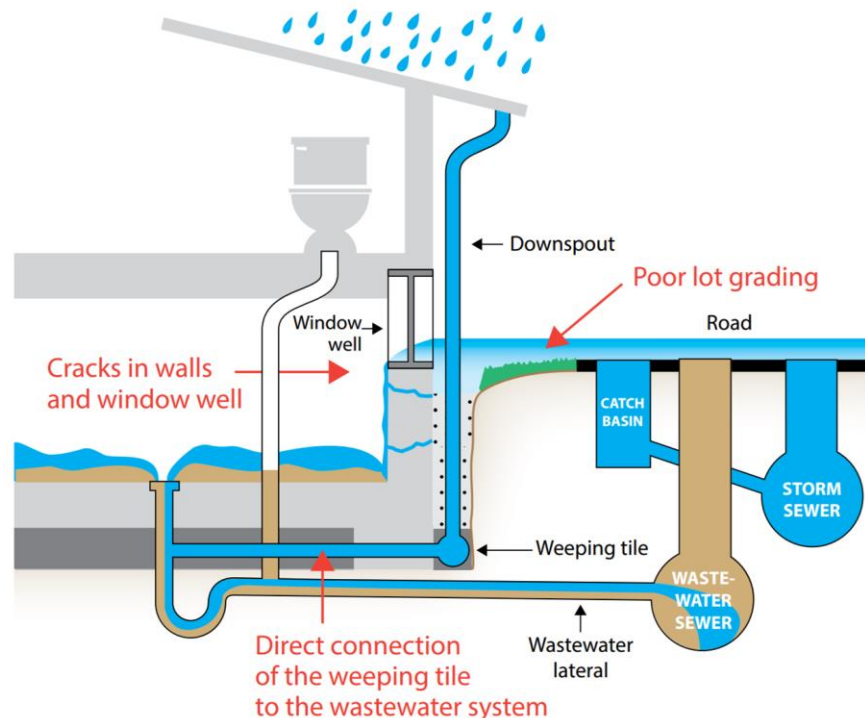
- **Weeping Tile Disconnection and Sump Pump Installation:**
  - Weeping tiles (also called foundation drains) collect groundwater or infiltrated rainwater from around the outside of homes and may directly connect to municipal sewer systems.
  - Disconnecting weeping tiles from municipal sewers and installing a sump pump can help prevent infiltration flooding through foundation walls or the floor when municipal sewers are surcharged during large storm events.





# Private Plumbing Protection Rebate Program

- **Sanitary and Storm Lateral Relining and Repair:**
  - The replacement and restoration of private laterals (pipes) connecting your home's plumbing to the City's sewer system.





# Private Plumbing Protection Rebate Program

Rebates amounts for eligible measures as follows:

Private Plumbing Protection Measure	Maximum Rebate Amount
<b>Backwater Valve</b> – Indoor Installed on Sanitary Lateral	\$1,750
<b>Backwater Valve</b> – Indoor Installed on Storm Lateral	\$1,750
<b>Backwater Valve</b> – Outdoor Installed on Sanitary Lateral (NEW)	\$2,000
<b>Backwater Valve</b> – Outdoor Installed on Storm Lateral	\$2,000
<b>Weeping Tile</b> - Disconnected from Sanitary Lateral and Redirect to Storm Lateral by gravity connection	\$3,000
<b>Weeping Tile</b> - Disconnected from Sanitary Lateral and Sump Pump Installation	\$5,000
<b>Lateral Reline/Repair</b> – Storm	\$2,500
<b>Lateral Reline/Repair</b> – Sanitary	\$2,500



# Private Plumbing Protection Rebate Program

## Am I eligible?

- The property must be located in known flood prone areas, or demonstrate existence of flood risk in the area
- The property is not subject to any contraventions, work orders or outstanding municipal requirements
- No outstanding municipal fines, tax payments, or fees
- The property owner has obtained approval of the work from the Environmental Services Department prior to installation
- Downspouts have been disconnected from the City's sewer system
- The property owner provides the necessary documentation required in the application forms, and complies with program requirements
- The property owner has obtained building permits for the new installation
- The new installation adheres to the *Building Code Act, 1992*, S.O. 1992, c. 23 and the Ontario Building Code O. Reg. 332/12, as amended or any successor thereof;
- The property owner signs a release form in favour of the City
- The work is not required as part of other works in meeting Ontario Building Code requirements
- The deadline to obtain the building permit is April 30, 2022 and submit applications for rebate is July 31, 2022.





# Private Plumbing Protection Rebate Program

## Application Steps:

- Property owners determine required work in consultation with qualified contractor and confirm eligible work
- Property owners fill out the [Technical Review Application Form](#) and submit to City for review/approval
- After receiving an initial approval, property owners hire a licensed plumber to conduct CCTV inspection of laterals and submit inspection record to the City for review
- City issue the Technical Review Approval form to property owners to proceed or change the work plan
- Property owners submit building permit application along with the Technical Review Application and Approval Form
- Building Department issues the permit
- Property owners hire qualified contractor to complete the installation
- Building Department inspects completed works
- Property owners submit [Rebate Application Form](#) including invoices to Environmental Services Department
- City issues rebate cheque to property owners



## Private Plumbing Protection Rebate Program

- **How to Apply?** To learn more about this rebate program or if you would like to apply, please visit the City website [www.markham.ca/water](http://www.markham.ca/water) or send an email to [privateplumbing@markham.ca](mailto:privateplumbing@markham.ca)
- To determine which measures may provide protection to your home, contact a licensed plumber for an assessment.





# Sanitary Downspout Disconnection Program

- This long-term program was initiated to improve the performance of the City's sanitary (wastewater) collection system by reducing wet weather inflows that can limit capacity during extreme storm events and contribute to back-ups and flooding.
- Downspouts that drain rooftops into the City's sanitary sewer are first identified using smoke and water testing, and homeowners are advised of the need to disconnect in accordance with the City by-law.



Rain Barrel



Downspout Disconnection



Smoke Testing



# Questions