



## **TOWNSHIP OF KING**

# **Western Avenue, Elmwood Avenue & Castlewood Avenue Watermain Lining Project**

February 24<sup>th</sup>, 2022



# Introduction and Agenda



Terry Hoehn, C.E.T.

- Capital Projects (Linear)  
Group Lead
- Over 30 Years of Experience
- Numerous Municipal Road  
Reconstruction and Servicing  
Projects Completed

- Project Background
- Planned Improvements
- Construction Impacts,  
including FAQs
- Next Steps
- Project Contacts



# Project Background

# Existing Infrastructure

## ▪ Existing Watermain

- Existing watermain is a mix of 150mm asbestos cement pipe and ductile iron pipe.
- Existing watermain is +/- 50 years old and is at the end of its design life.
- Most water services are sized below Township Standards (25mm).

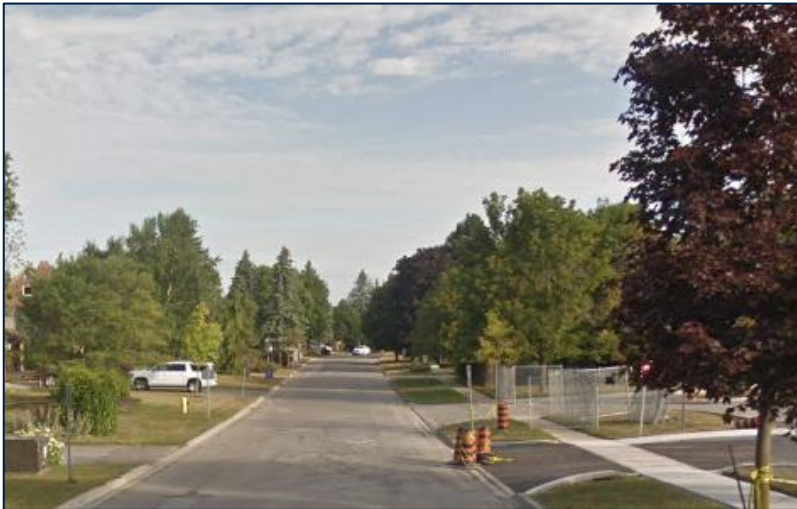
## ▪ Existing Utilities

- Existing Utilities (Bell, Rogers, Hydro, Gas) are all underground and take up the majority of the boulevard area on both sides of the roads.

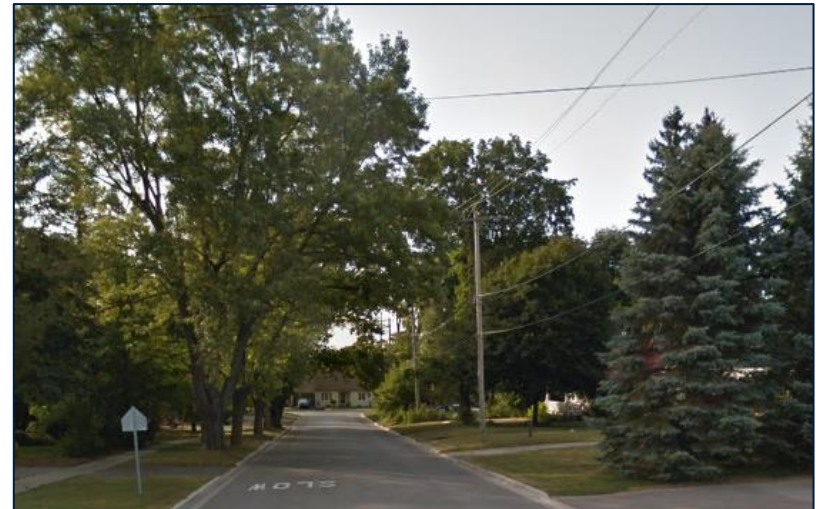
# Existing Infrastructure

## ▪ Existing Road Conditions

- Existing road surface and curbs are in good to very good condition.
- Roads have been reconstructed recently on Castlewood, Elmwood and Western, between Church and Elmwood.
- The remainder of Western is in good condition. Road can ultimately be resurfaced later to extend the life expectancy (not included in the scope of work for this project).



Looking North on Western Avenue



Looking South on Western Avenue



# Options Considered



# Replacement vs. Lining

## ▪ Watermain Replacement (Open Cut)

- Installation in the boulevard would require utility relocations and temporary water
- Installation within the roadway would require relocation of existing sanitary and/or storm sewer pipes to meet MECF separation requirements
- Added noise, vibration and dust
- Increased restoration requirements and associated costs.
- Would have a new PVC watermain system throughout.

## ▪ Watermain Structural Lining

- Alternate to open-cut method, using trenchless technology.
- Existing watermain remains in place and is used as “host” pipe for new liner
- Significant reduction in excavation and disturbance with reduced noise, vibration and dust impacts and reduced restoration costs.
- Requires residents to be placed on a temporary water supply system
- Expected life of watermain liner is in excess of 50 years.

# What is Structural Lining?

- **Watermain Structural Lining**
  - CIPP – cured in place pipe (“pipe within a pipe”)







# Planned Improvements

# Summary of Proposed Work

## ▪ Watermain Lining Project Limits

- Western Avenue, from Brownsville Court to Church Street
- Elmwood Avenue
- Castlewood Avenue



# Summary of Proposed Work

## ▪ Service Replacement

- Replace any water services smaller than 25mm (1”) to property line

## ▪ Fire Hydrant Installation

- Replace older, deficient fire hydrants to meet current standards
- Install additional fire hydrants where needed to meet Township standards and provide adequate fire protection.
- Currently six (6) existing fire hydrants within the project limits
- Total of four (4) additional hydrants being added to the project area for improved fire protection.
- The locations for new hydrants are:
  - #20/26 Western
  - #48/54 Western
  - #84/90 Western
  - #11/17 Castlewood
  - The hydrant at #117 Western will be removed and replaced with a new one at #162/168











# Construction Impacts

# Expected Construction Impacts

## ■ Temporary Water

- A temporary watermain will be installed on both sides of the road prior to construction in order to maintain a potable water supply to all residents. The temporary watermain will likely consist of a combination of 50mm (2") and 100mm (4") watermain pipes installed on the surface and include temporary fire hydrants for fire protection.
- Temporary services will typically connect to exterior hose bibs at each house.



# Mitigation of Construction Impacts

## ▪ Driveway Restoration

- Any driveways damaged during construction (i.e. to connect to an existing water service), will be reinstated with new asphalt to the limits of disturbance only. The following is a list of driveways where existing water services are within the driveway:
  - #27, #48, #90 & #138 Western Ave.
  - #10, #17 & #28 Castlewood Ave.

## ▪ Tree Damage

- Every effort will be made to minimize impacts to existing trees, however some trees may be damaged and require removal (i.e. if water service is located within tree roots).

## ▪ Boulevard Restoration

- There will be excavations within various areas and all disturbed areas will be reinstated to existing condition or better.

## ▪ Water Supply Disruption

- There will be disruptions to water supply however notices will be delivered in advance.

# Mitigation of Construction Impacts

## ▪ Traffic Control

- The Contractor will be required to maintain traffic during construction. With watermain lining, traffic will generally operate normally with isolated single lane closures, particularly near open cut areas.
- Residents will have access to driveways.

## ▪ Dust and Mud Control

- Dust and mud issues are usually very minor with a watermain lining project. Several measures are in place in the construction contract to minimize the impacts from dust and mud.

## ▪ Minor Construction Impacts

- Noise and vibration from construction are expected to be minor for a watermain lining project in comparison to a full replacement.

## ▪ Garbage Collection

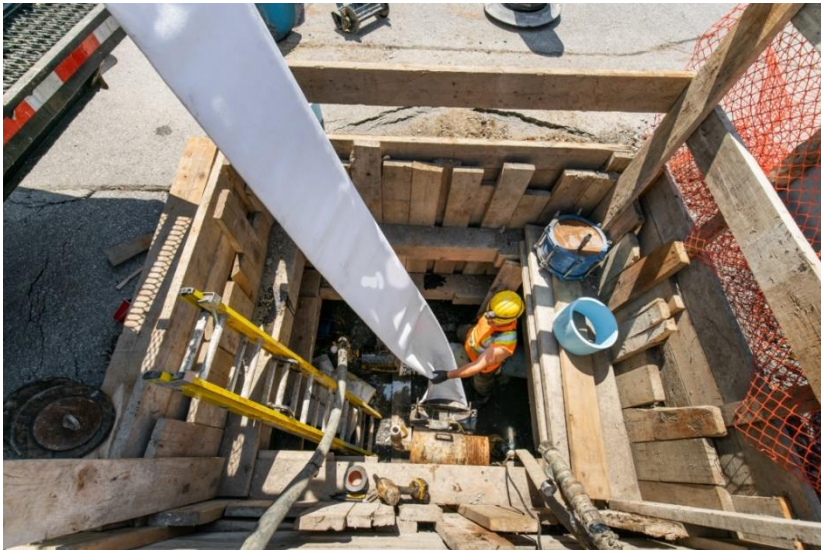
- Your garbage and recycling collection will continue, as usual, according to the normal collection schedule.



# Frequently Asked Questions

- **What will construction look like?**

- As lining is a trenchless technology, you will not see what is happening below ground.
- There will be localized open cut areas excavated where crews will gain access to the watermain, as necessary.



# Frequently Asked Questions

## ▪ What are the project timelines?

- Tender – The Township anticipates tendering the project in March 2022.
- Construction – Construction is expected to commence around May/June 2022.
- Construction Completion – Construction completion is anticipated by November 2022.

## ▪ What are the working hours?

- The construction contract allows for work to occur between 7am and 7pm, from Monday to Friday. Saturday work is not anticipated, but if required, it will only be permitted from 9am to 5pm.

## ▪ How is my home protected?

- A Third party company will issue a written notice after award of the project with the opportunity for an interior and exterior property survey/inspection
- Survey includes documentation of existing property and house conditions including pictures and notes. This information is kept in confidence and is only accessed should and issue arise.
- You are not obligated to consent for either interior or exterior survey
- This information is to your benefit – Think of it as “construction insurance”

# Frequently Asked Questions

- **Will I have access to my property?**

- Yes, access will be maintained and there will be advanced notification prior to any major interruption.

- **What if I have a concern during construction?**

- You may contact the Township or speak with the site inspector directly.
- Prior to construction, contact information for the site inspector will be circulated to all residents.

- **What if I want to upgrade my water service from property line to my house?**

- If homeowners want to upgrade their water service from the property line to the house, will be their responsibility to coordinate with a contractor of their choosing. This work will NOT be completed by the Township's Contractor.

- **What if I have a concern once the work is complete and the Contractor has left?**

- There is a two (2) year maintenance period.
- All concerns should be brought to the Township's attention.



# Next Steps

# Next Steps

- We will receive and review all questions.
- We will finalize design, close tenders, and award the contract.
- Residents in the construction limits will receive advanced notification of construction with relevant contact information.

**REMEMBER:**

**Please be patient.**

**Exercise care and caution in all construction areas.**



# Project Contacts

Any questions or comments can be sent directly to:

**Daniel Wilkinson, C.E.T.**

Environmental Project Manager  
Public Works  
Township of King  
[dwilkinson@king.ca](mailto:dwilkinson@king.ca)  
905-833-5321 ext. 6572

**Terry Hoehn, C.E.T.**

Capital Projects (Linear) Group Lead  
Ainley Group  
[terry.hoehn@ainleygroup.com](mailto:terry.hoehn@ainleygroup.com)  
705-726-3371 ext. 235



**Thank you!**  
**Are there any questions?**