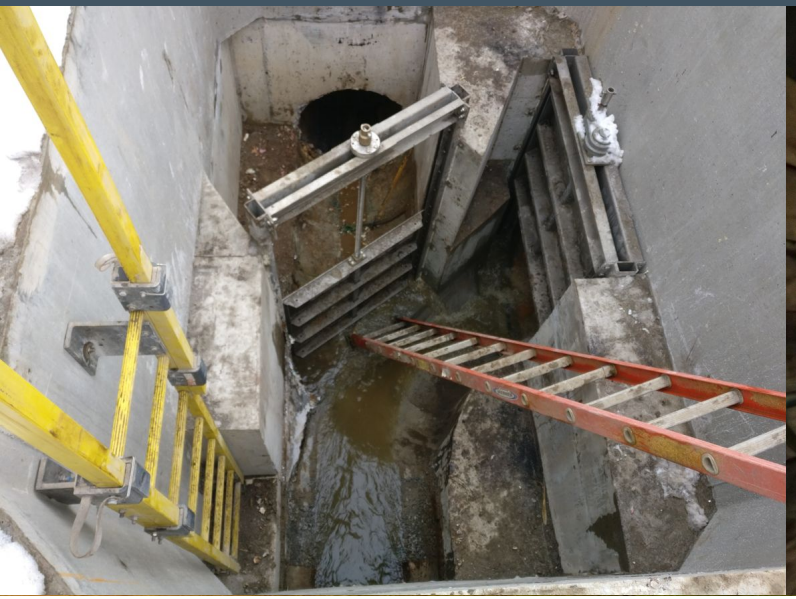
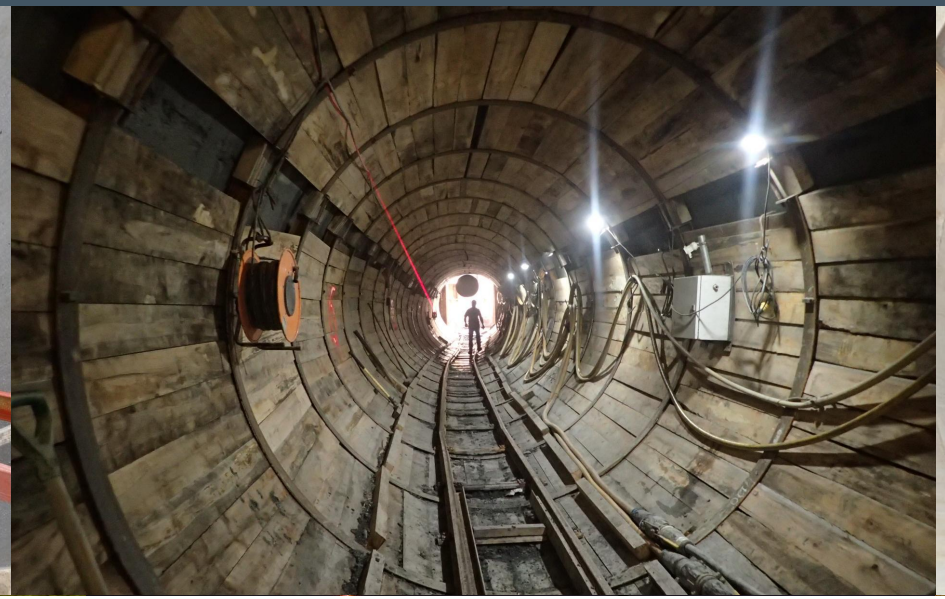
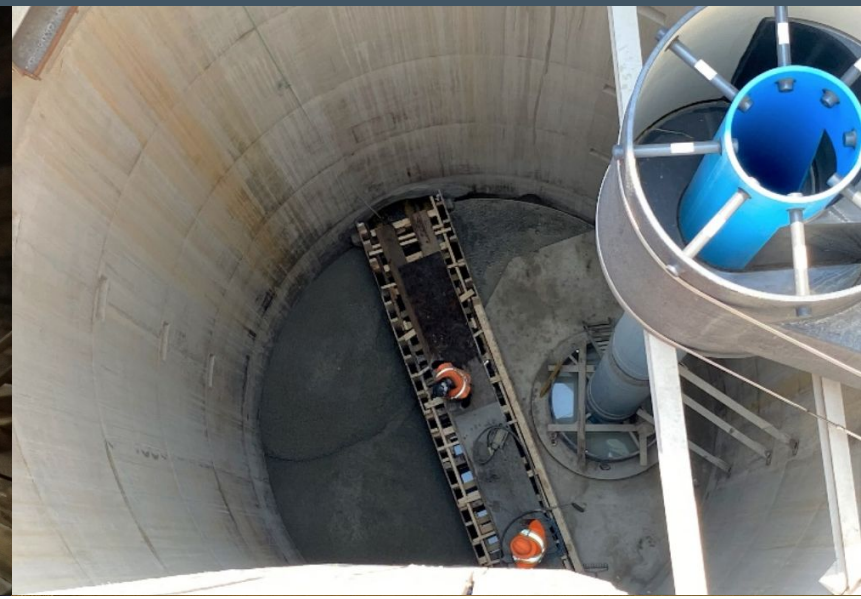
Beyond Wet Weather Flow Relief
Deep Trunks and Diversions in the Region of Peel

Canadian Water and Wastewater Association (CWWA)

National Water and Wastewater Conference (NWWC)

Lyle LeDrew (Region of Peel) and Graeme Henderson (Hatch Ltd.)

November 4th, 2025

Region of Peel working with you

HATCH

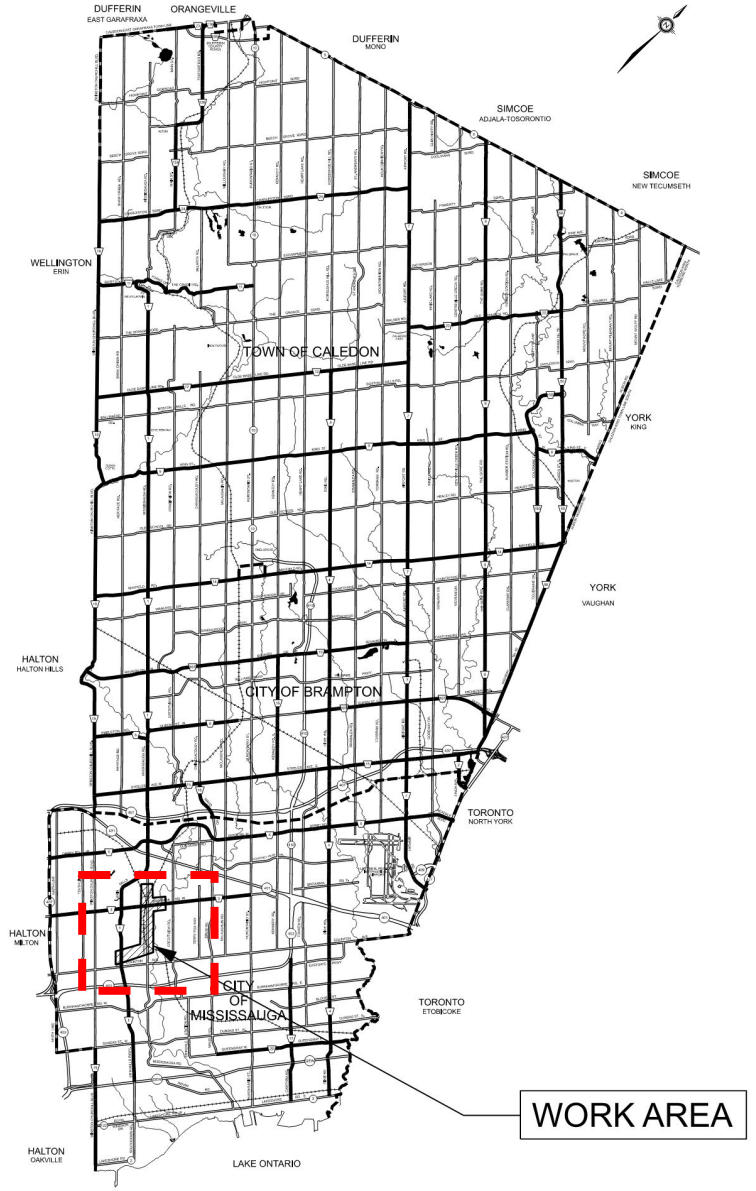
Agenda

1. Where are we?
2. What is this Project?
3. How do we do this?
3. Trenchless Technologies
4. Hydraulic Structures
5. Where are we now?
6. Questions and Answers

Region of Peel working with you HATCH

Where are we?

Where are We?



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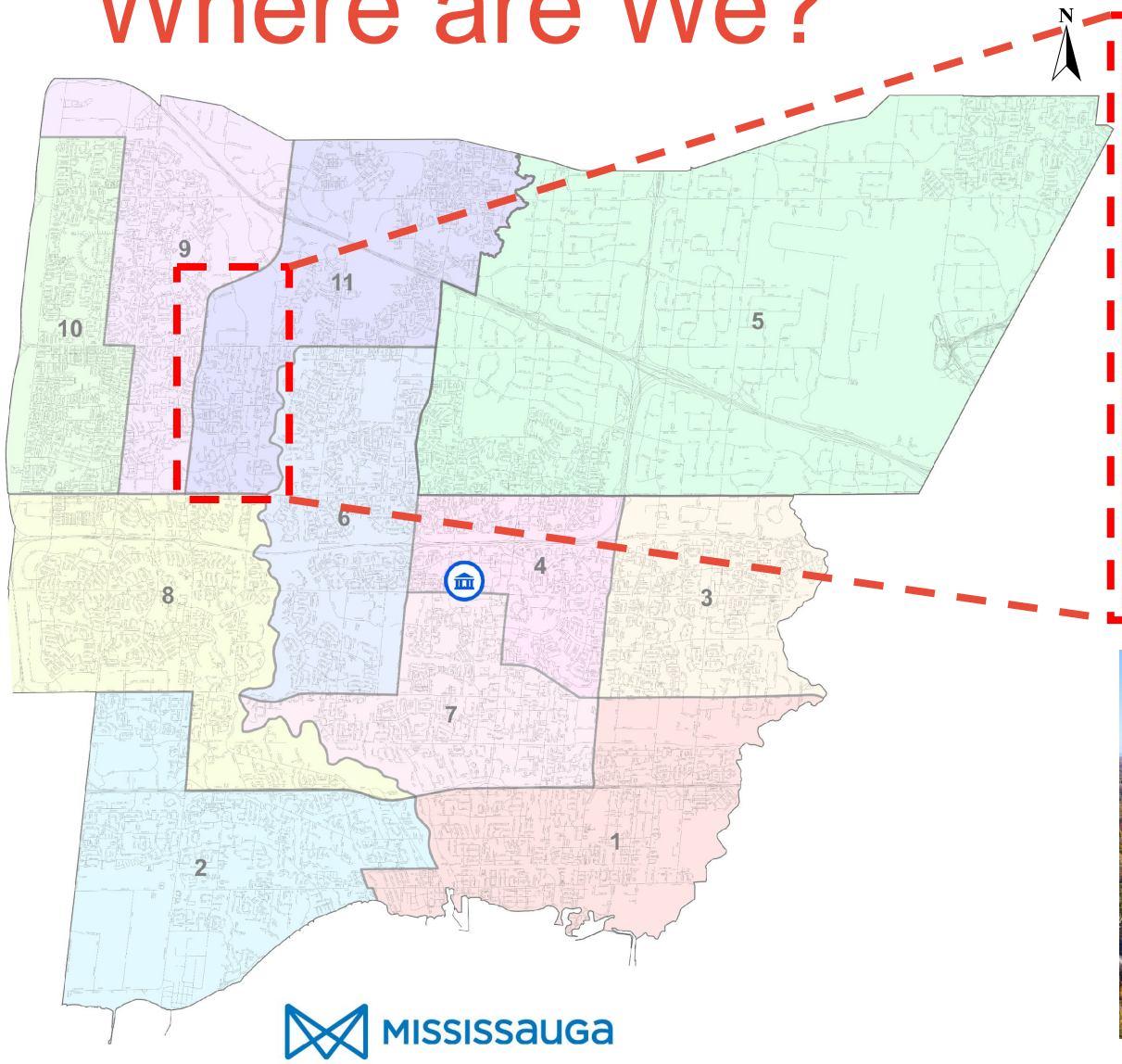
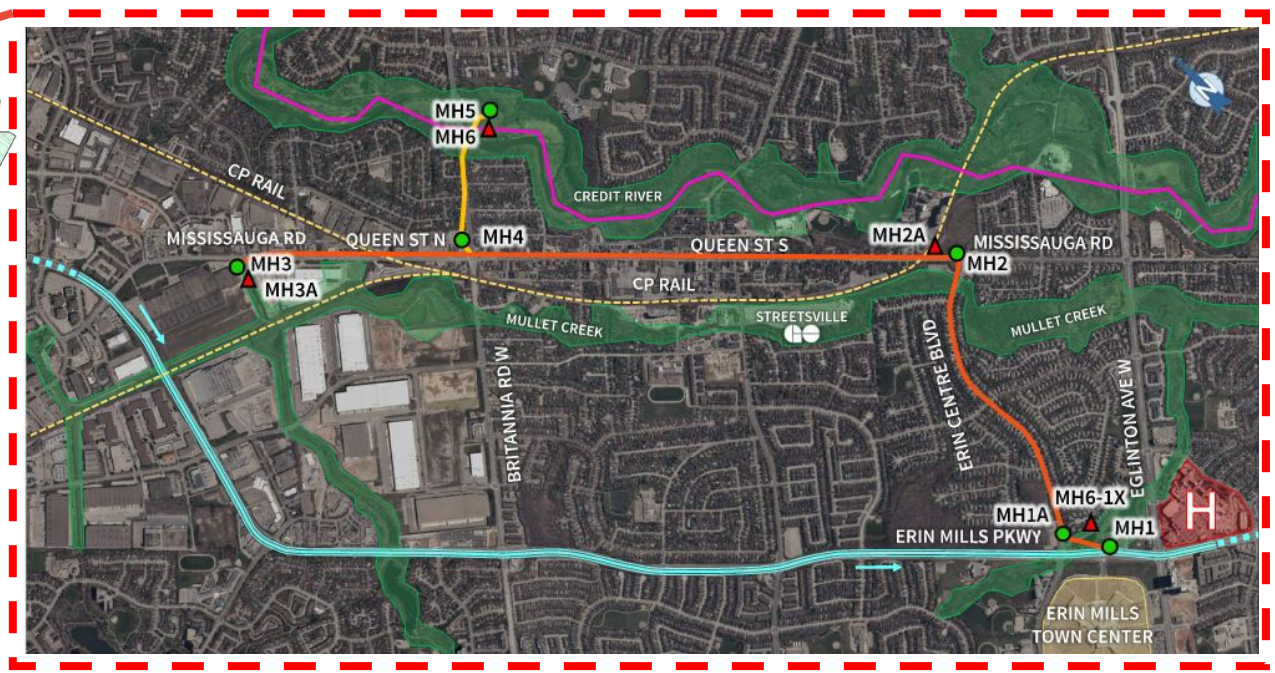
Where are We?





MISSISSAUGA

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What is this Project and why is it important?

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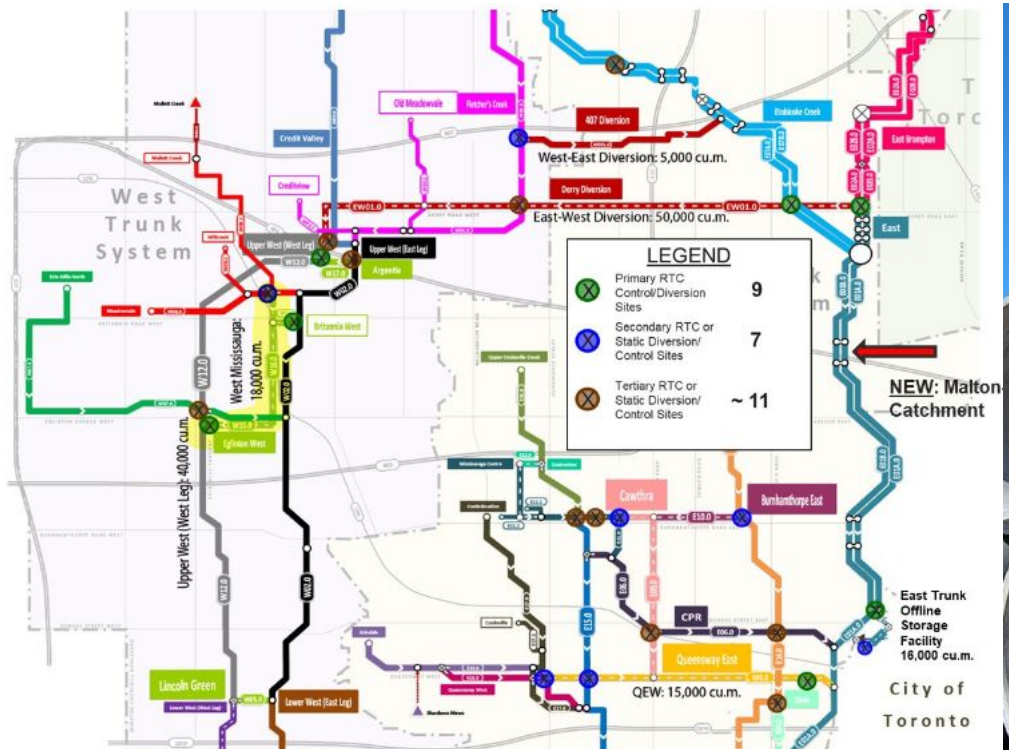
What is this Project?



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Why is it important?

- Rehabilitation of the Credit Valley Trunk Sewer.
- Overall long-term flood mitigation strategy.
- Dynamicity of Operations.

How do we do this?

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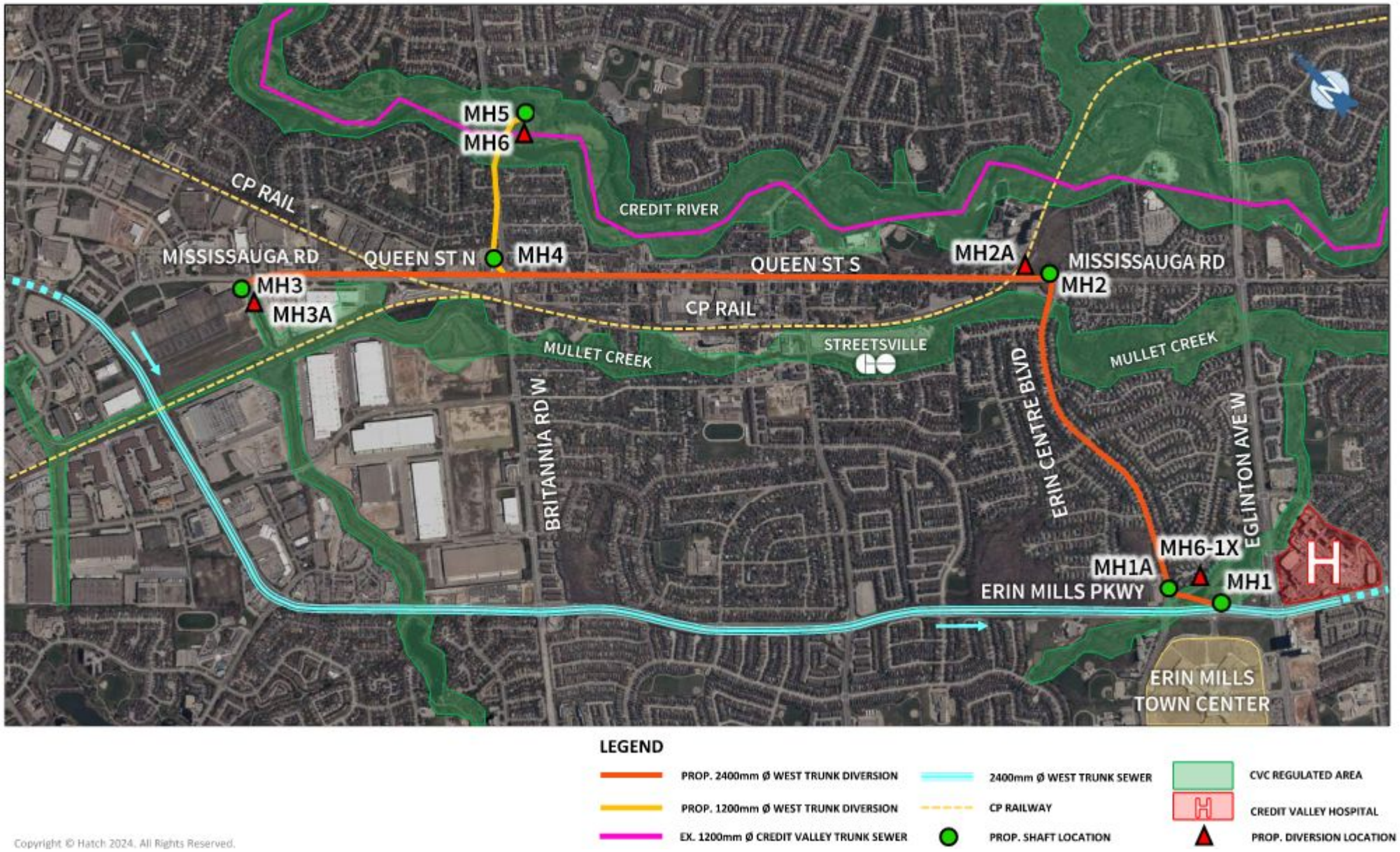

Stakeholders

- City of Mississauga
- MECP
- CVC
- CPKC Rail
- Metrolinx
- PUCC
- Enbridge
- Bell
- Alectra
- Beanfield
- Miway
- Private Property Owners

Trenchless Technologies

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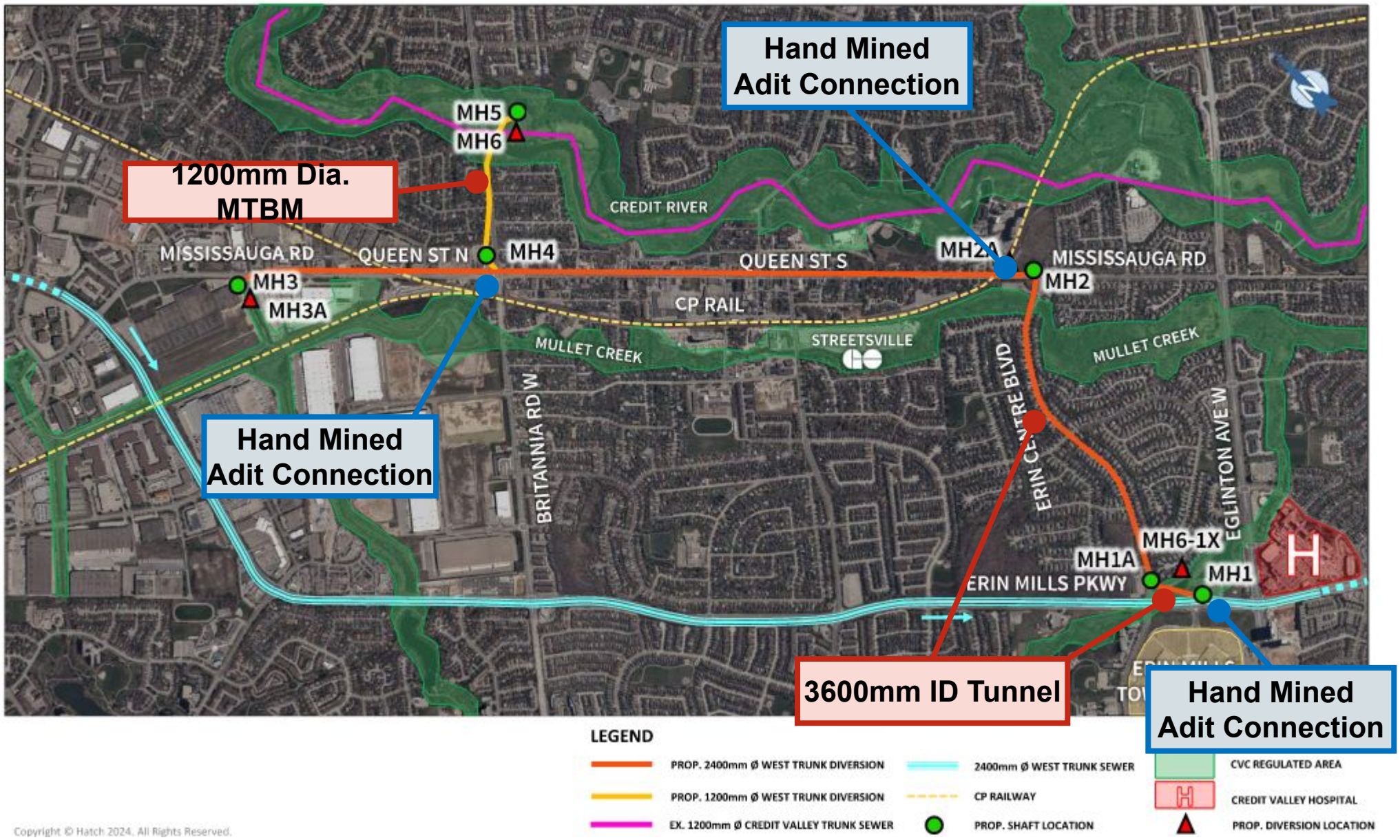
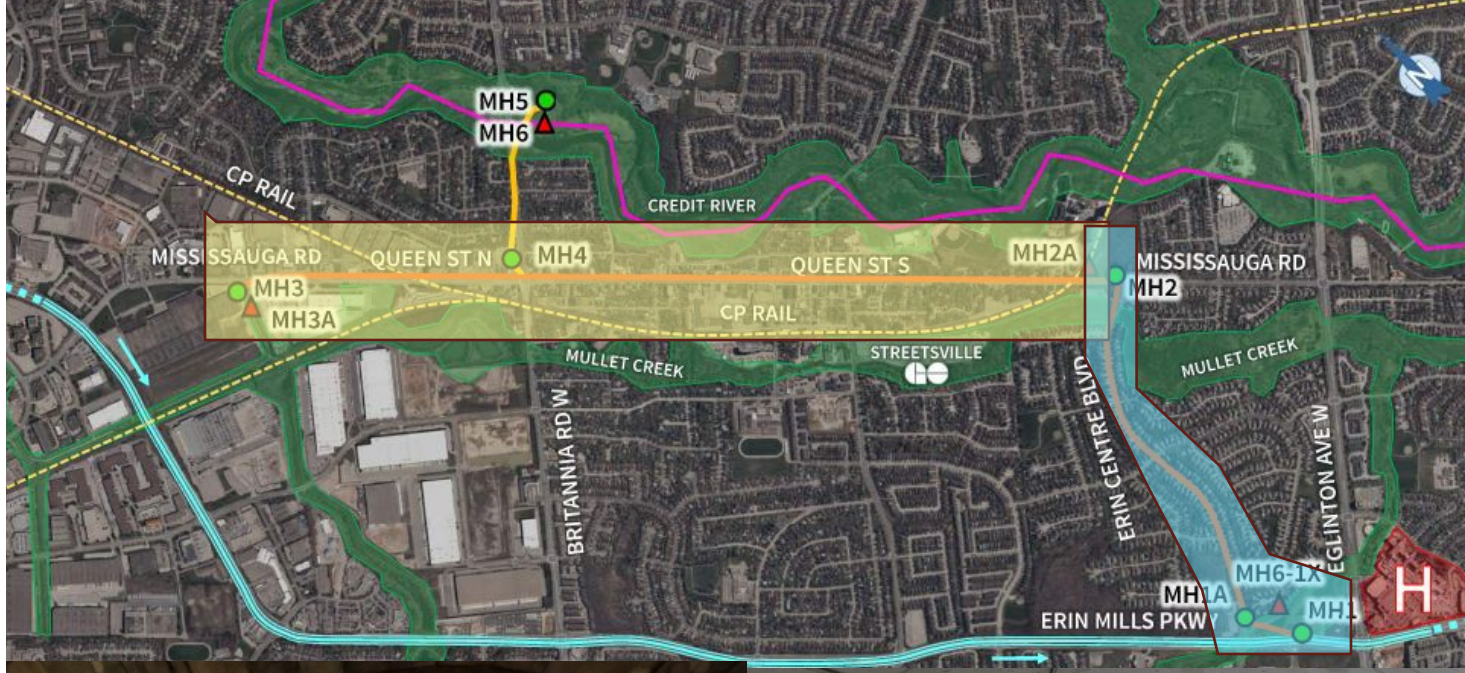
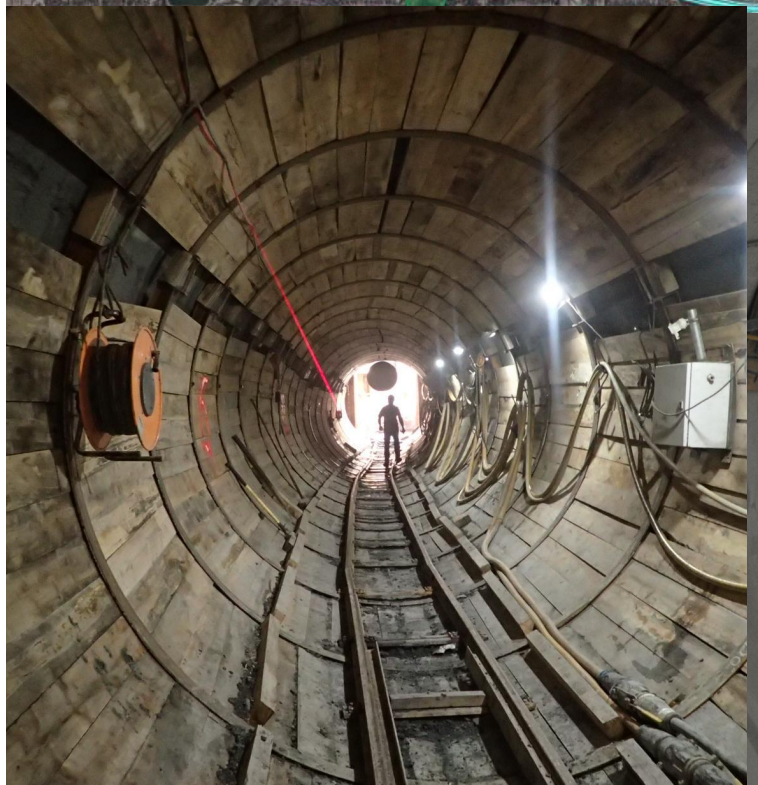


Tunnel Details

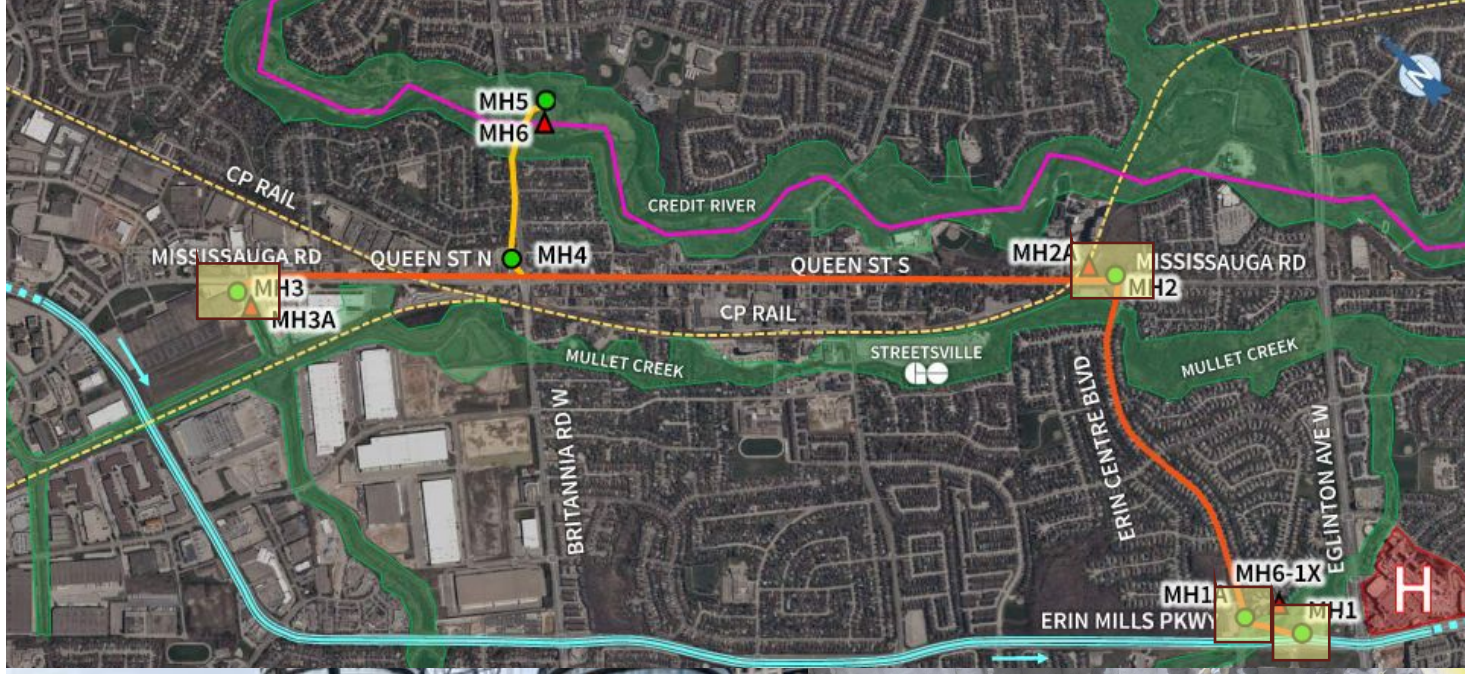
- ~5 km of 3600mm ID (finished) TBM-mined Tunnel
- Tunnel Boring Machine Types
  - EPB TBM
  - Rock TBM
- Erin Centre Boulevard Tunnel
  - EPB TBM
- Initial Support Types
  - Ribs and Lagging
  - Precast Tunnel Liner Segments
- Two-Pass Pipe Installation



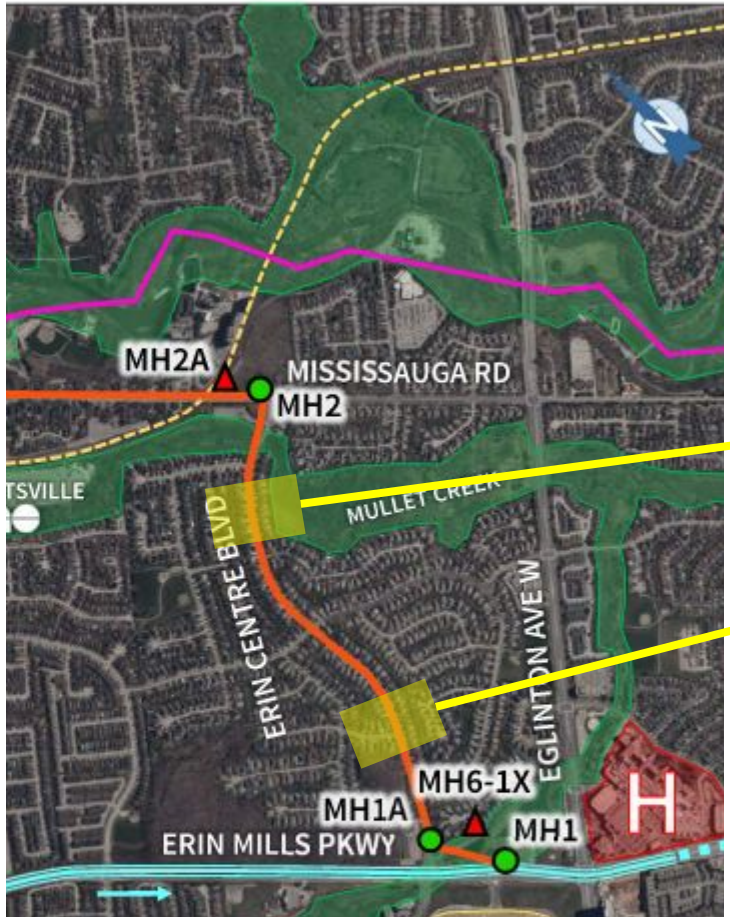


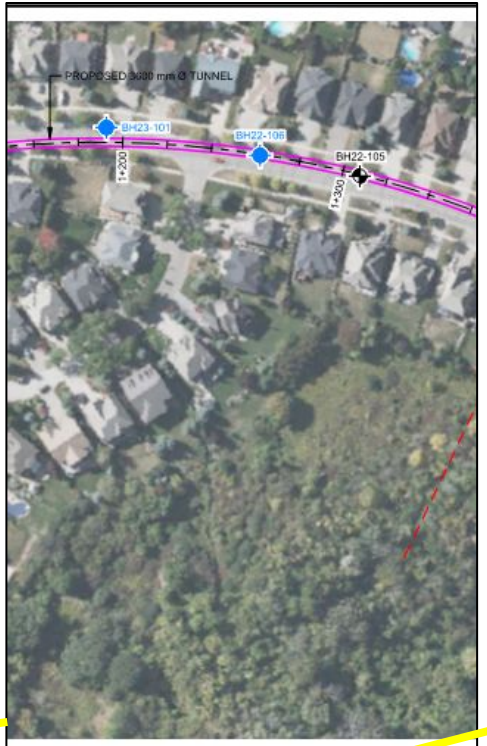
Tunnel Shafts

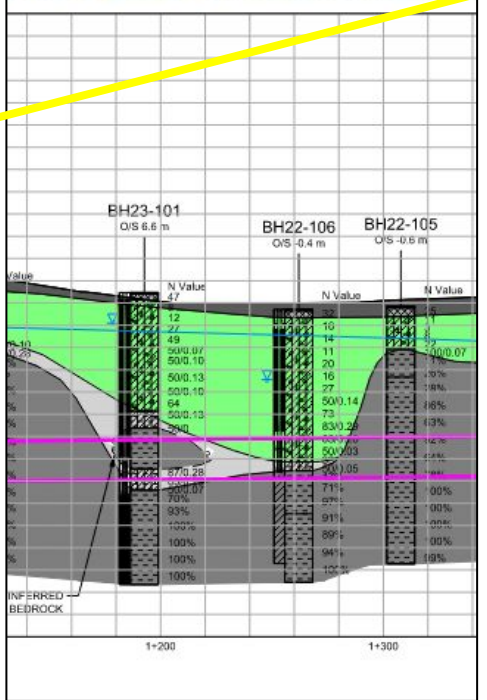
- Shafts for launch, reception, turning of alignment, and tunnel adit
- 3 Circular Shafts
  - 2 at 8m I.D.
  - 1 at 10m I.D.
- 1 Rectangular Shaft – 12 m x 9 m I.D.
- 1 Irregular Shaft – ~11m x 8.8m I.D.
- 20 – 40 m in depth

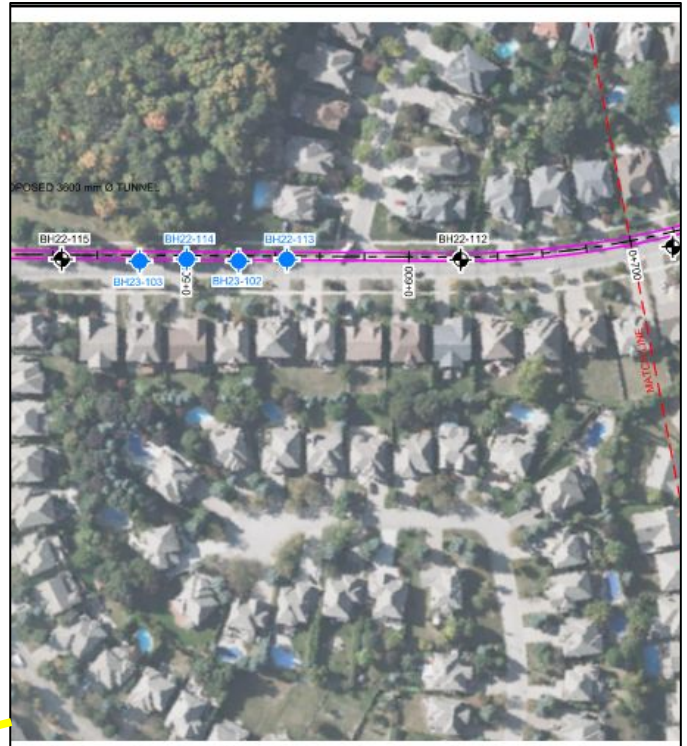


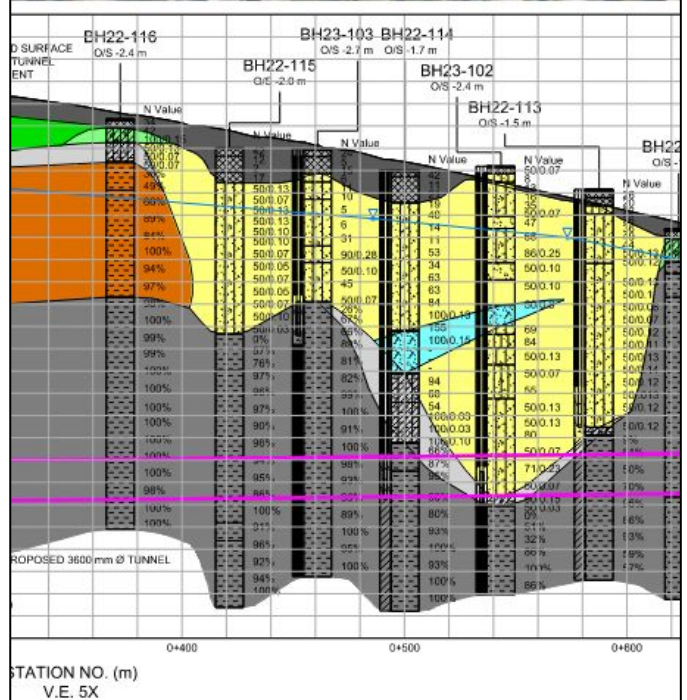
Geotechnical Challenges





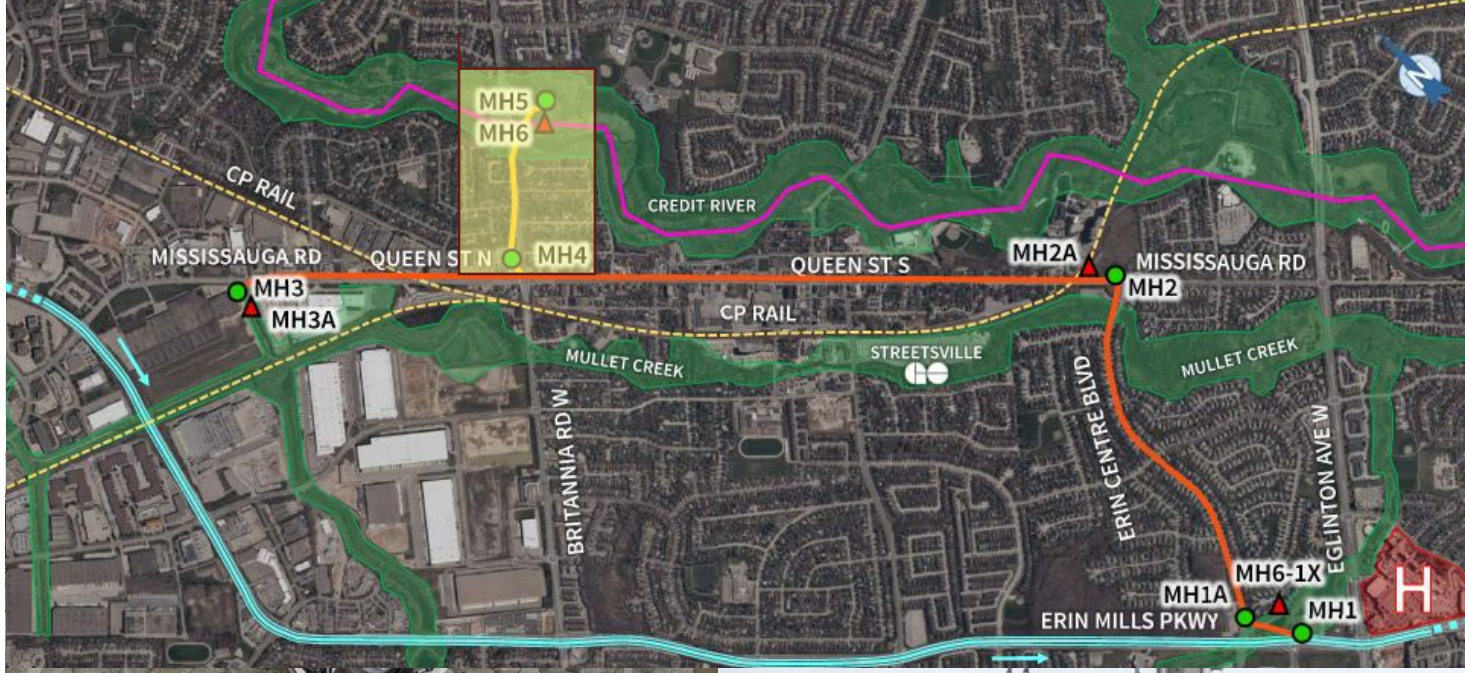






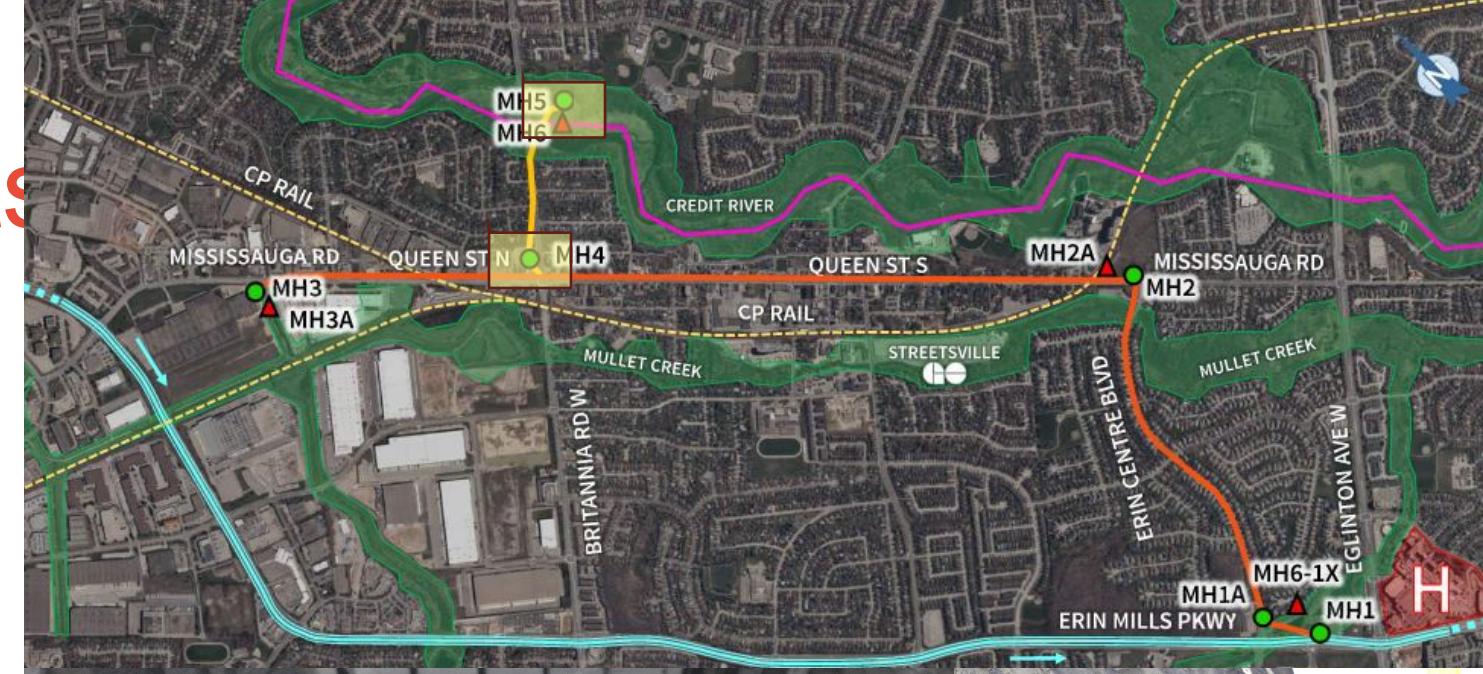
Microtunnel Details

- ~700 m of 1200mm Dia. Microtunnel
- Slurry MTBM
- AWWA C300 MT
- Single Pass Microtunnelling Installation



Microtunnel Shafts

- Shafts for launch, reception, Diversion point at the CVTS, and tunnel adit
- 2 Circular Shafts – 6m I.D.
- 1 Circular Shaft – 10m I.D.
- Fully sealed SOE in overburden



Hydraulic Structures

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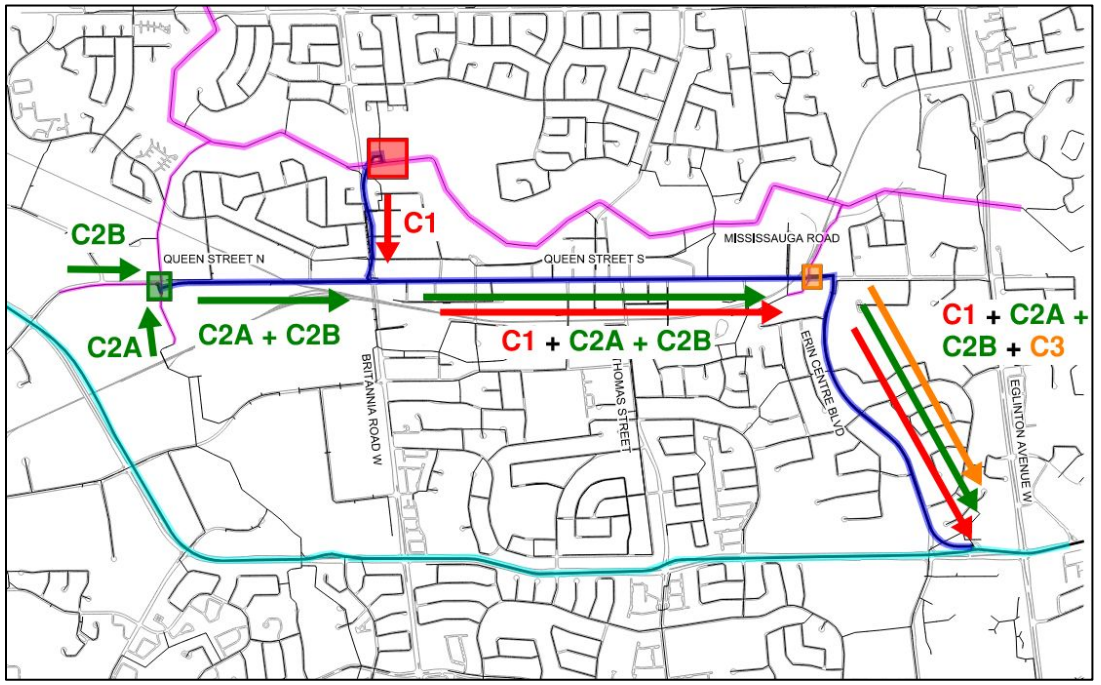
System Operability and Design Flow Basis

- Relief of CVTS during WWFs
- Automated Control Gates w/ SCADA integration
- Future RTC implementation



Diversion Point	Pipe Size	Cumulative Flow		Model ID for Flow Sources
		Dry Weather Flow (L/s)	Wet Weather Flow (L/s)	
C1 – CVTS Diversion Point	1200 mm	50	540	SMH-6554377.1 SMH-1797840.1
C2A – N of Mississauga Road & Alpha Mills Road	1200 mm	313	1109	SMH-1800563.1
C2B – N of Mississauga Road & Alpha Mills Road	825 mm	212	438	SMH-1800259.1
C3 – S of Mississauga Road & Reid Drive	675 mm	60	384	SMH-1798200.1

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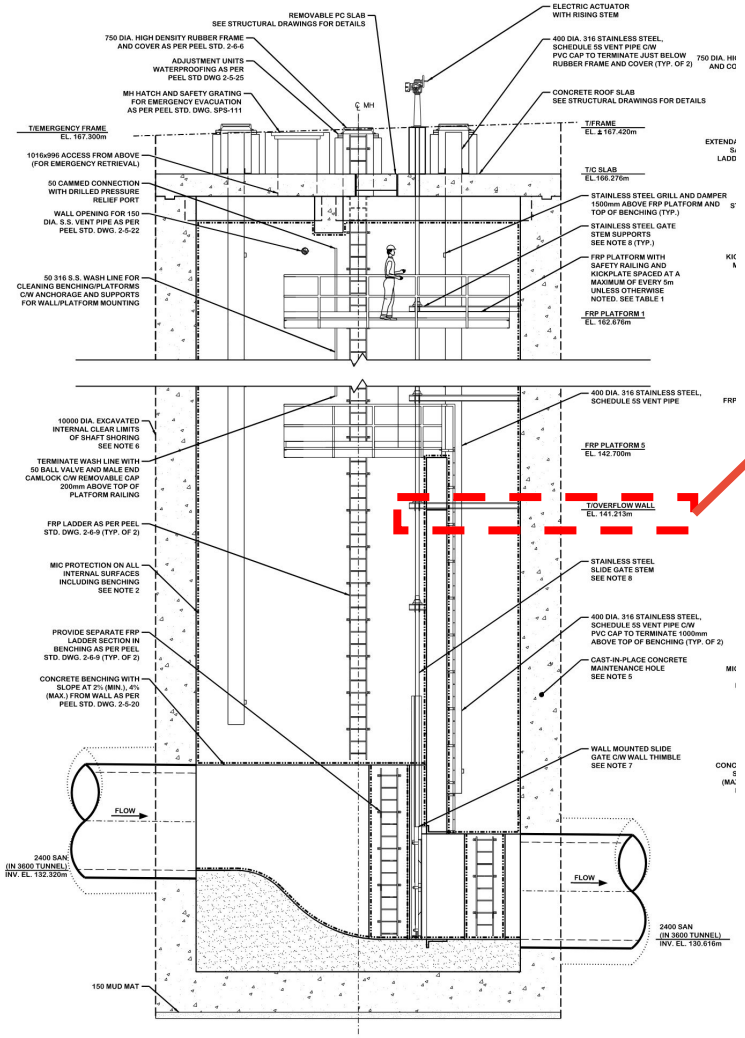
Sanitary Sewers

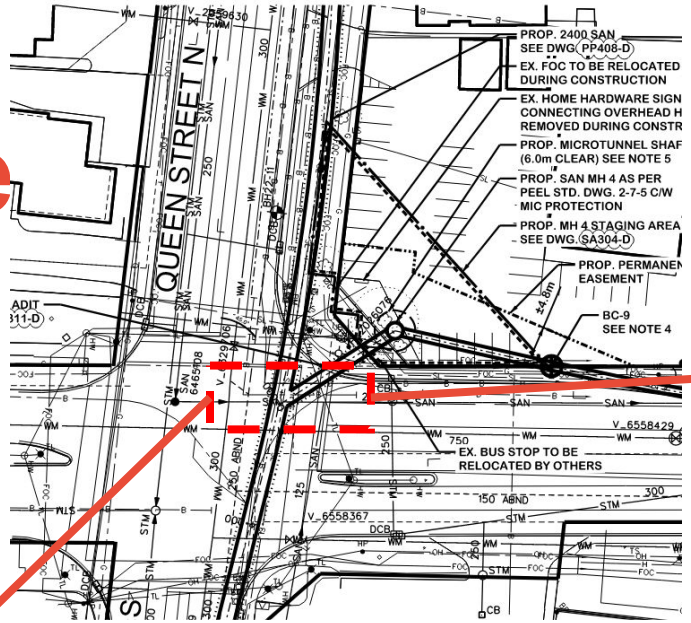
- 250 – 2400mm diameter Sanitary Sewers
- Fully lined/protected sewers to ensure infrastructure longevity
- Pipe Material
  - PVC
  - CPP C300 MT/C301(E)
  - GRP

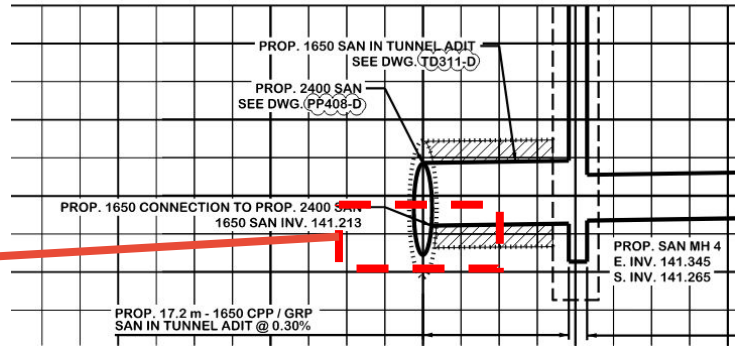
Diversion Structures

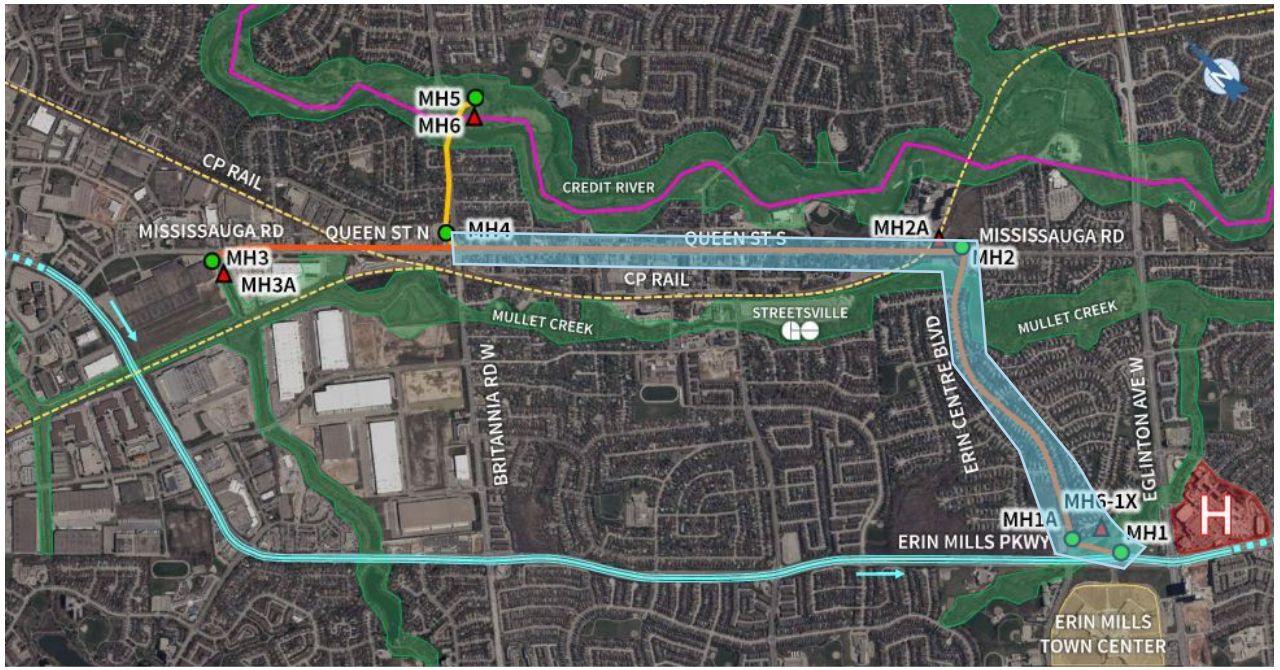
- Automated Slide Gates and Stop Log equipped Diversion Chambers
- I&C and SCADA
- Fully lined structures to ensure infrastructure longevity
- Facilitation of Storage during WWF

MH1 and Storage









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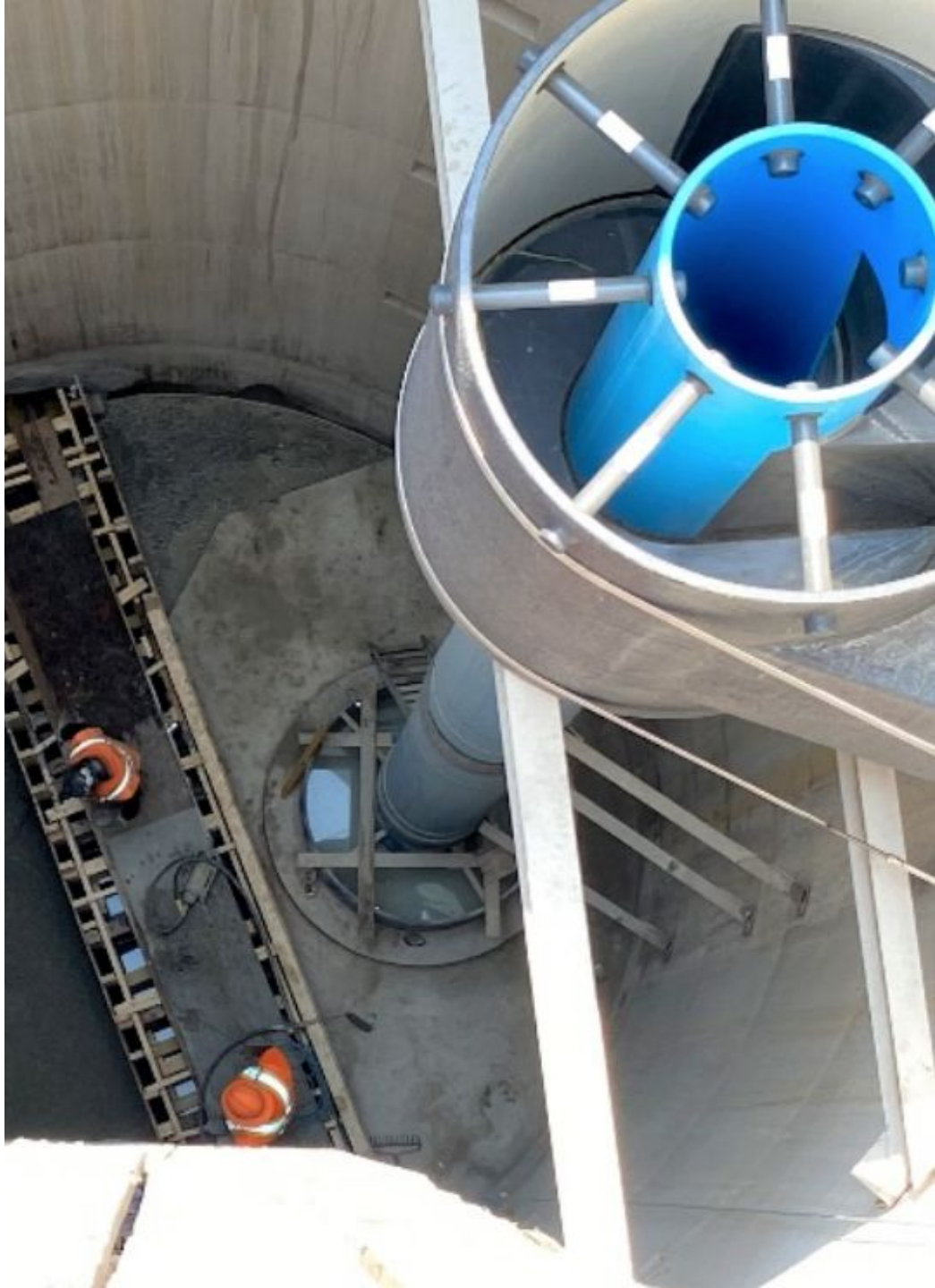
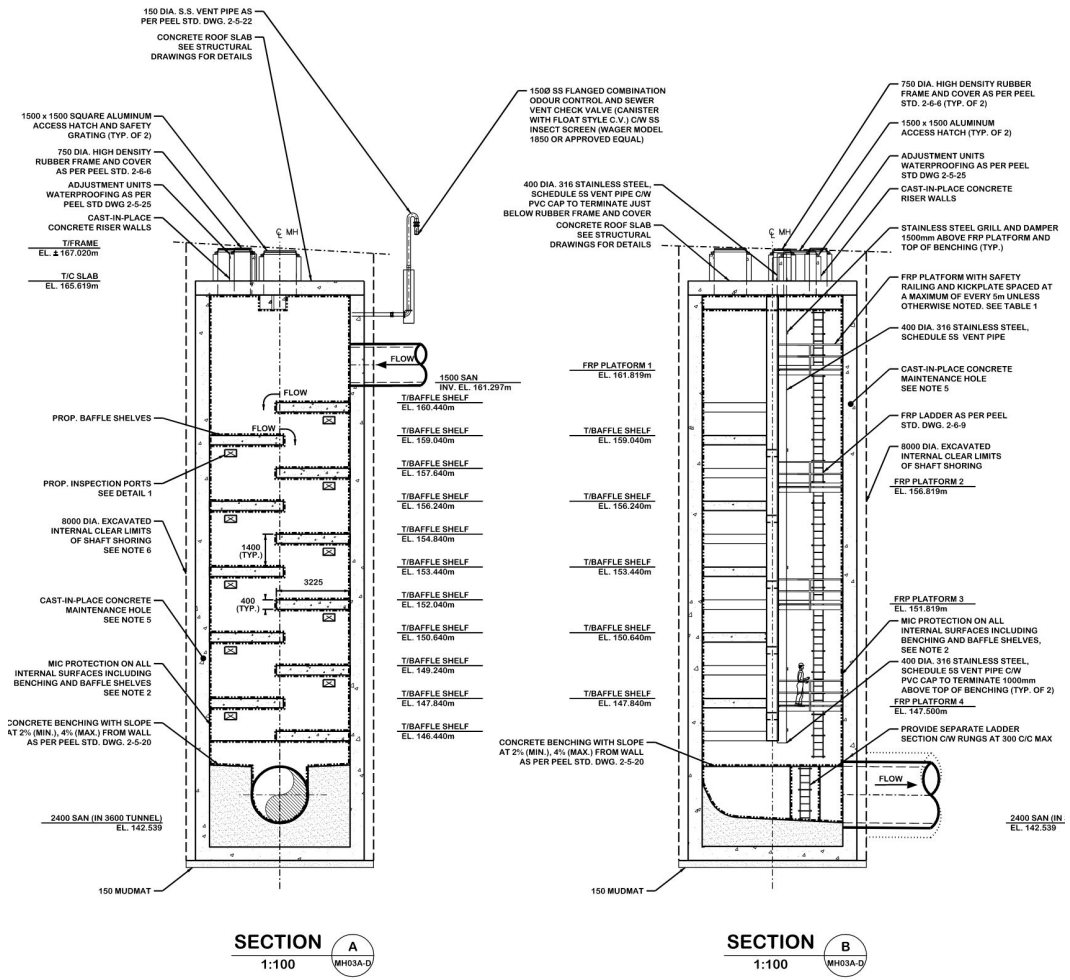
Drop Structures

- One (1) External Drop Structure
- Two (2) Vortex Drop Structure
- One (1) Baffle Drop Structure



Baffle Drop Structure



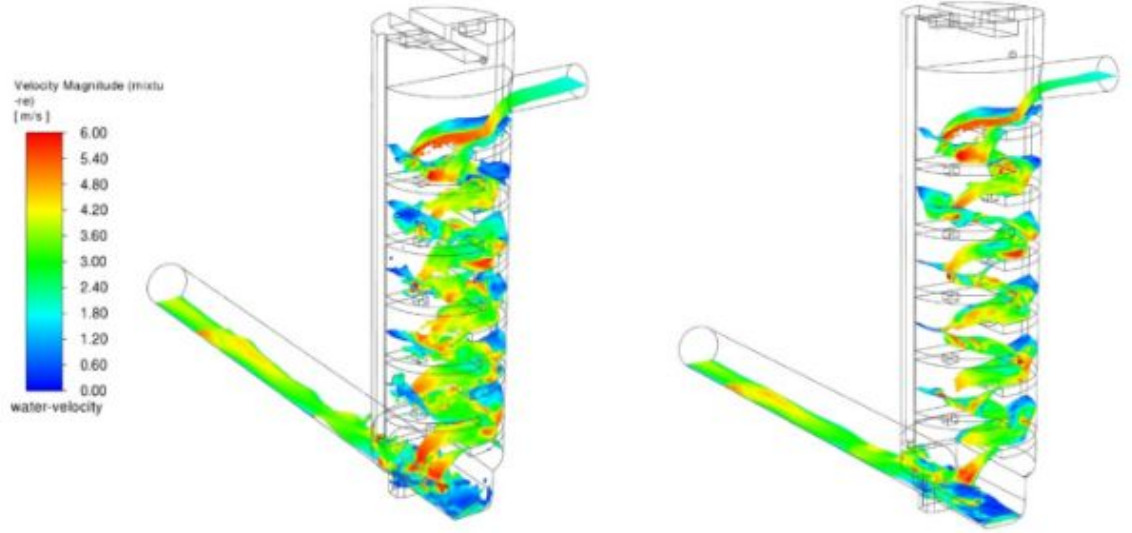


Figure 16 – 1.4m baffle spacing, WWF – velocity at liquid surface. Instantaneous (left) and time-averaged (right)

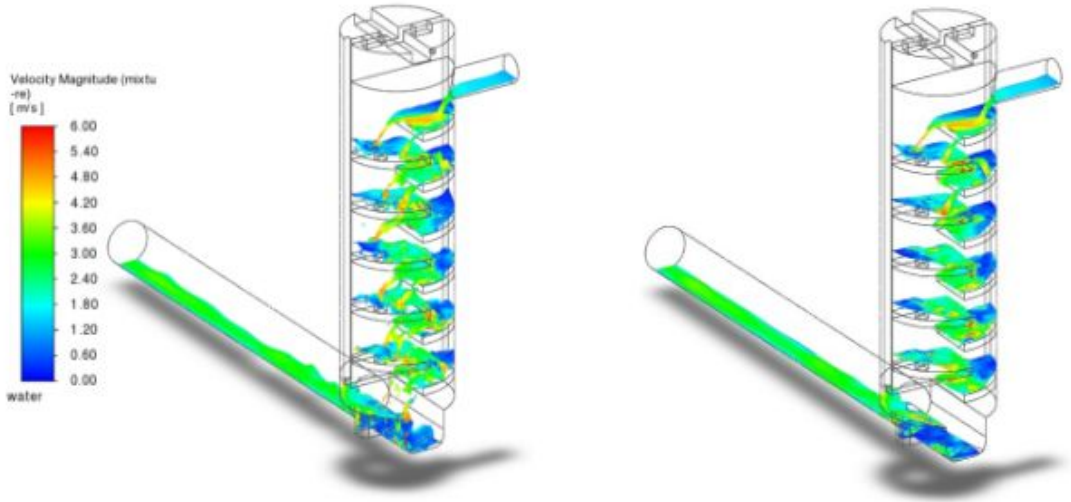


Figure 20 – 1.4m baffle spacing, DWF – velocity at liquid surface. Instantaneous (left) and time-averaged (right)

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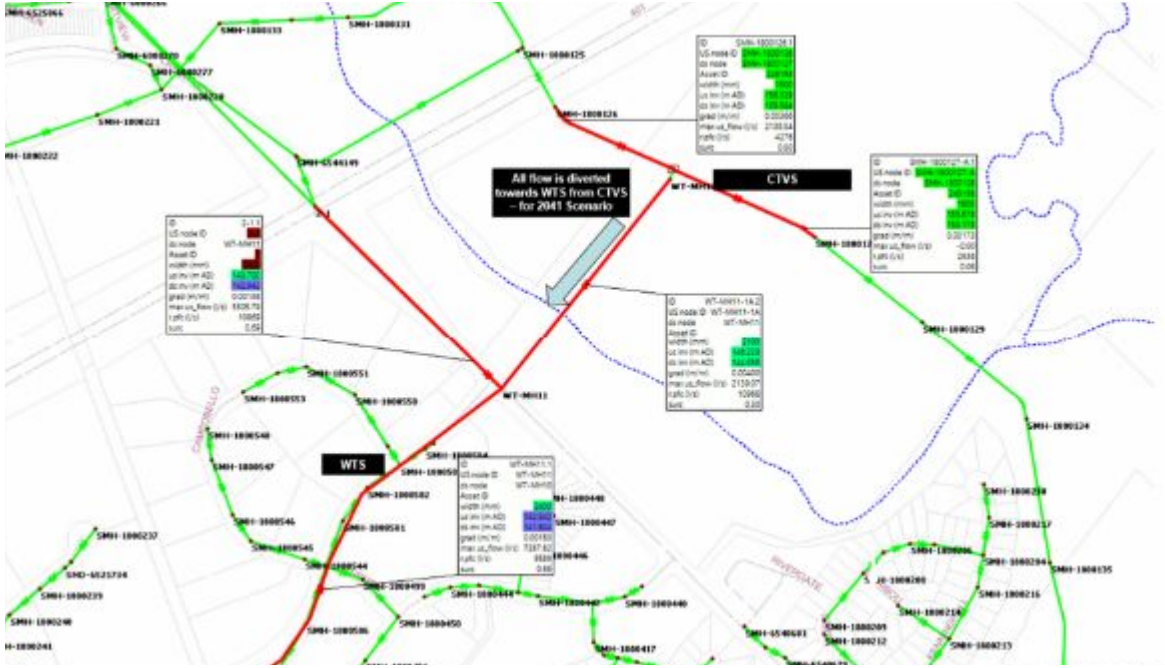
Where are we now?

Current Schedule

- MTBM Contractors prequalified
- TBM Contractors prequalified
- Tendering in Q4, 2025
- Construction Initiation in Q1, 2026
- Construction Completion in Q3, 2030

Other Items of Interest

- Hydraulic Analysis of Piping
- WATS Modelling
- GBR Development
- Actuators and Slide Gates
- Connection to Ex. MH6B
- CFD at MH1
- …and many more!



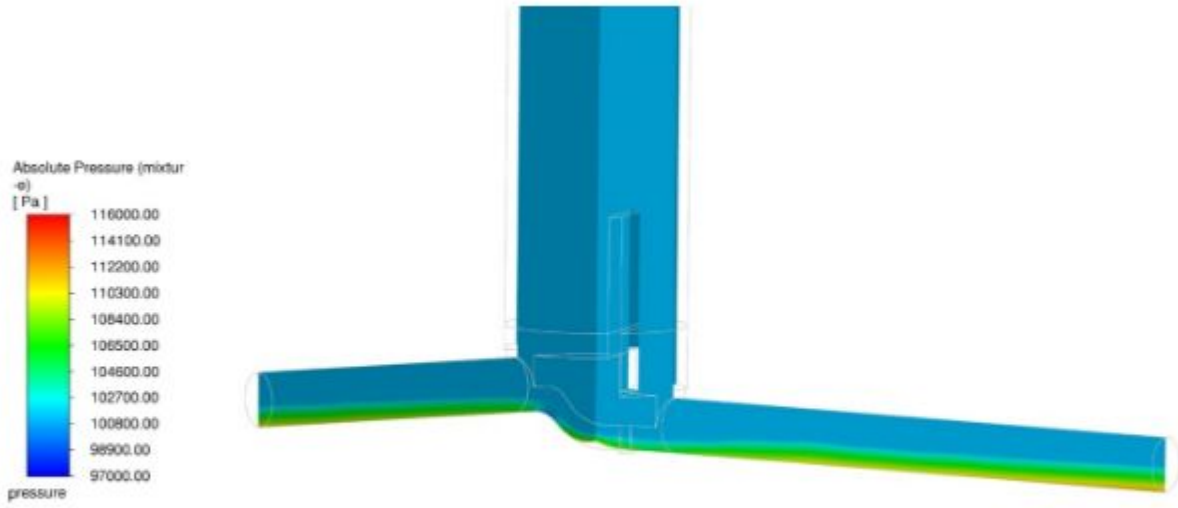


Figure 26 – Absolute pressure along midplanes of upstream and downstream pipes

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Thank you!
Questions?

For more information,
please visit www.hatch.com

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