



West Trunk Diversion Project

Class Environmental Assessment

Region of Peel

Public Information Centre (PIC)

Virtual PIC

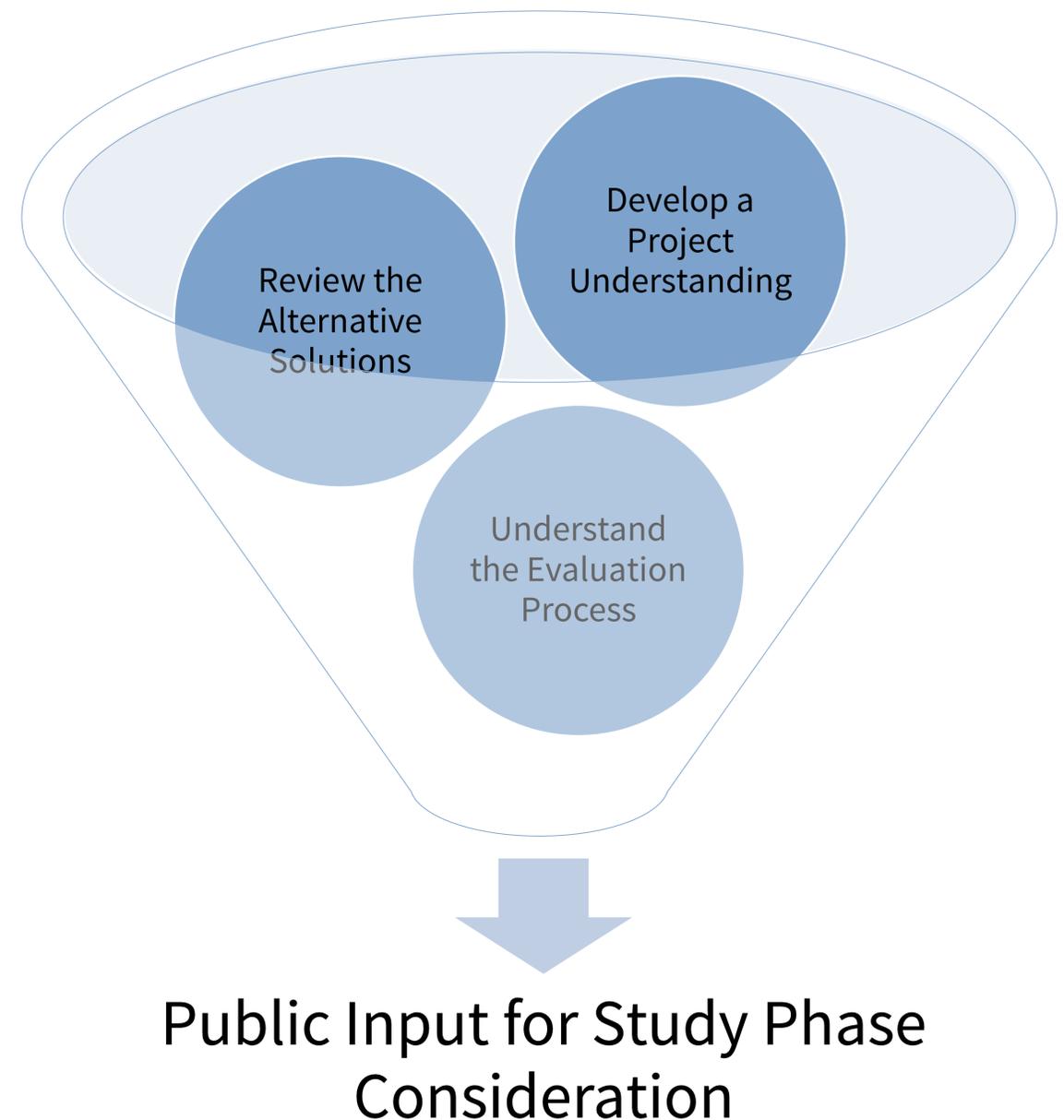
Boards Posted Online from 2021-09-20 to 2021-10-19

Public Information Centre

West Trunk Diversion – Class Environmental Assessment Study

- **Purpose of the Public Information Center (PIC)**
 - To provide an update on the study's progress and to solicit feedback from the public.
- **Help us help you!**
 - This is your opportunity to comment on the study.
 - All comments received will be taken into consideration during the study phase. Once the study is complete however, the preferred solution alternative will continue to construction with no further changes made.
- **What should I be doing?**
 - Reviewing the PIC display boards.
 - To provide input or ask a question, please use the online question form and/or contact the Region of Peel Project Manager as follows:

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Public Works
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Study Area and Project History

West Trunk Diversion – Class Environmental Assessment Study

- **Project Background – Credit Valley Trunk Sewer meets West Trunk Sewer**
 - The Credit Valley Trunk Sewer was built in the late 1960s and has been responsible for servicing the western portion of the Region since that time.
 - The purpose of this Project is to support the future rehabilitation of the Credit Valley Trunk Sewer.
 - By linking the Credit Valley Trunk Sewer to the West Trunk Sewer, the Region will also benefit from improved system operations and redundancy which contributes to the overall long-term flood mitigation strategy.
 - Permanent linkages between the two sewers will be automated. Control gates within diversion structures will provide the Region with the ability to remotely divert flows between the two sewers as needed.
- **Study Area**
 - The study area extends from Erin Mills Parkway to the Credit River, and from Eglinton Avenue West to the intersection of Erin Mills Parkway and Mississauga Road.

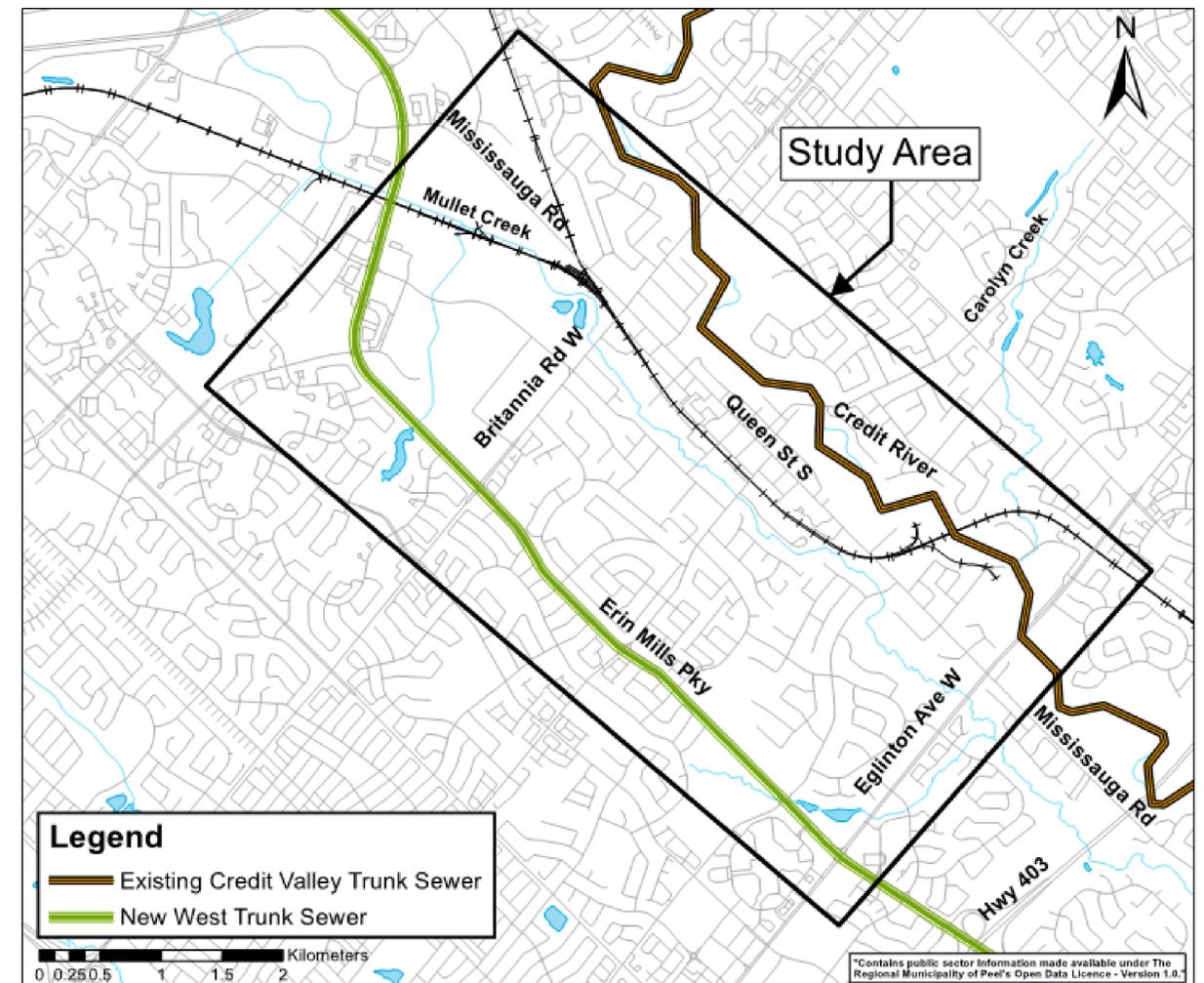


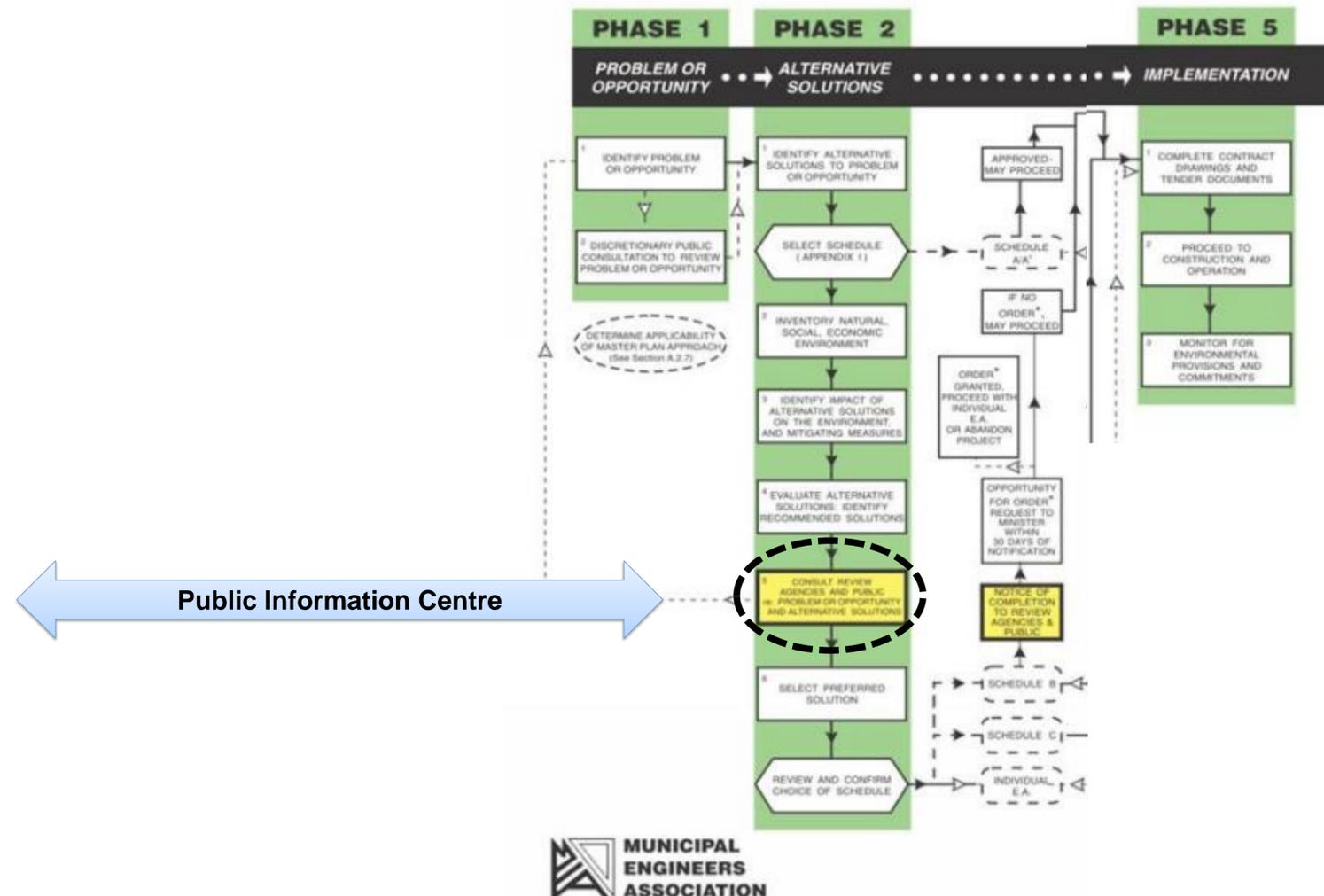
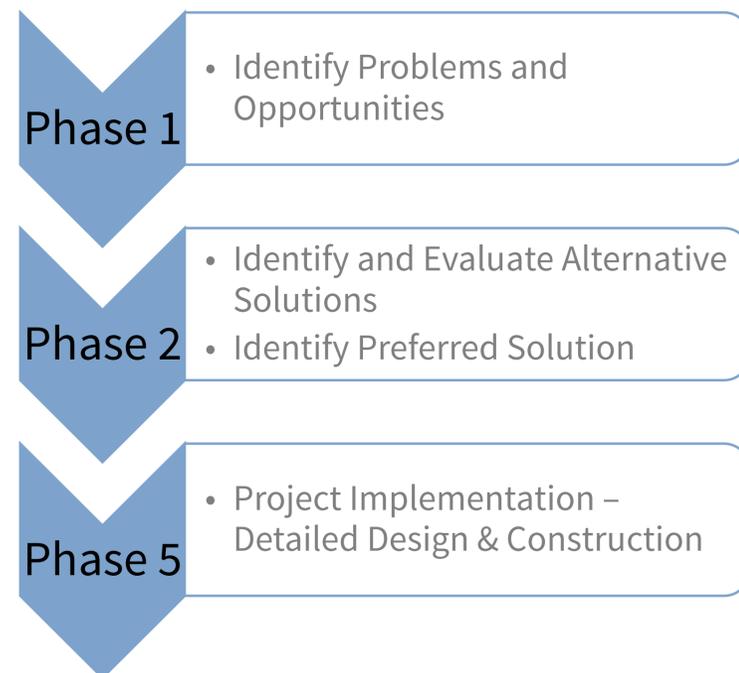
Figure 1 – Study Area for the West Trunk Diversion Class EA

Study Status

West Trunk Diversion – Class Environmental Assessment Study

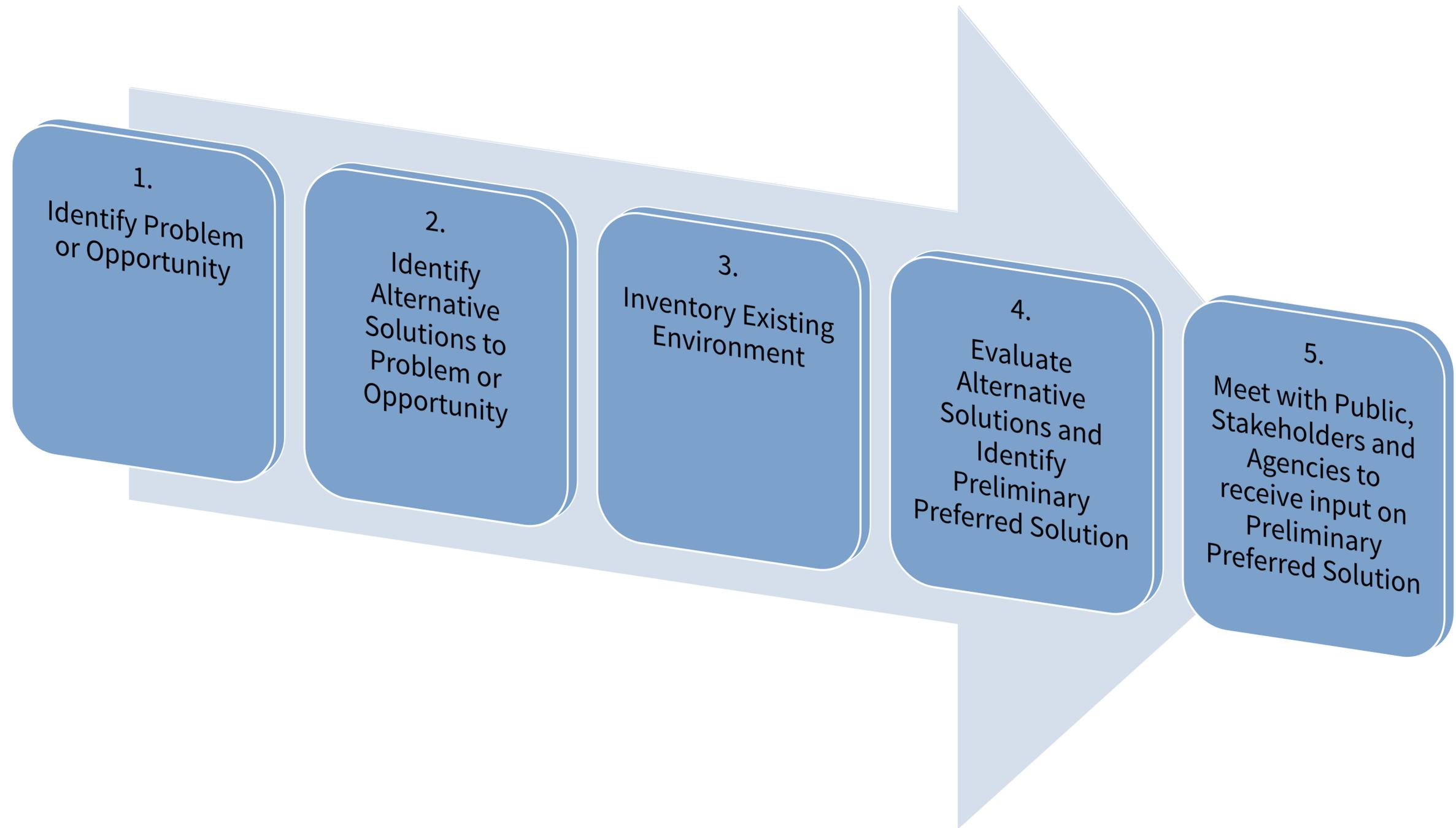
- Where are We?**

- We are approaching the completion of the Schedule B Class EA study
- This PIC represents the “Consult Review Agencies and Public in Problem or Opportunity and Alternative Solutions”



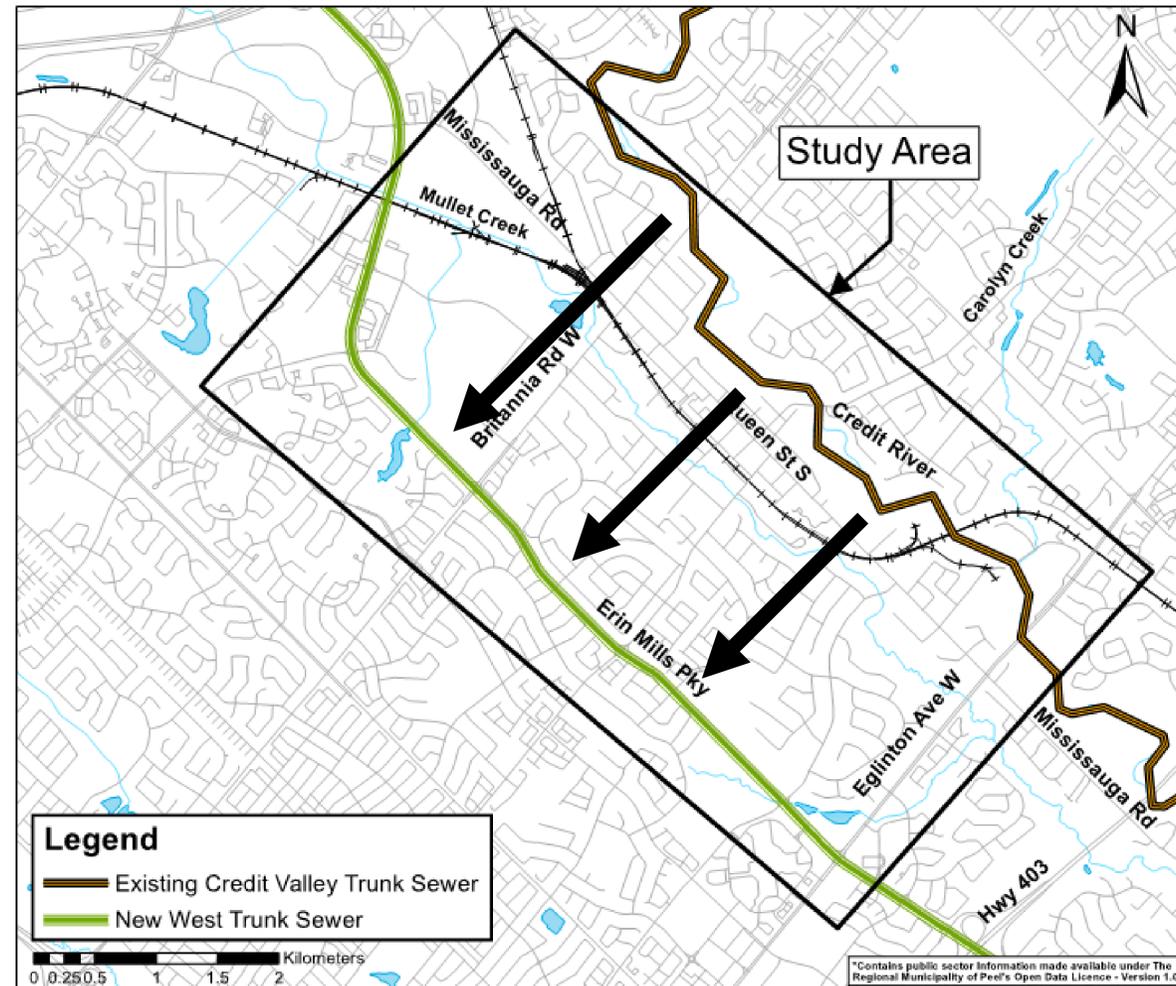
Expanded Study Process

West Trunk Diversion – Class Environmental Assessment Study



1. Identify Problem or Opportunity

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Problem Statement

“There is a need to undertake the rehabilitation of the existing Credit Valley Trunk Sewer (CVTS). To complete this work, it will be necessary to divert some or all of the flow to the recently constructed West Trunk Sewer (WTS) so that it can be undertaken in conditions of low to no flow. It is therefore necessary to undertake an interconnection between the CVTS and the WTS which has the benefit of providing operational flexibility, redundancy and additional capacity to better manage wet weather flows.”

2. Identify Alternative Solutions

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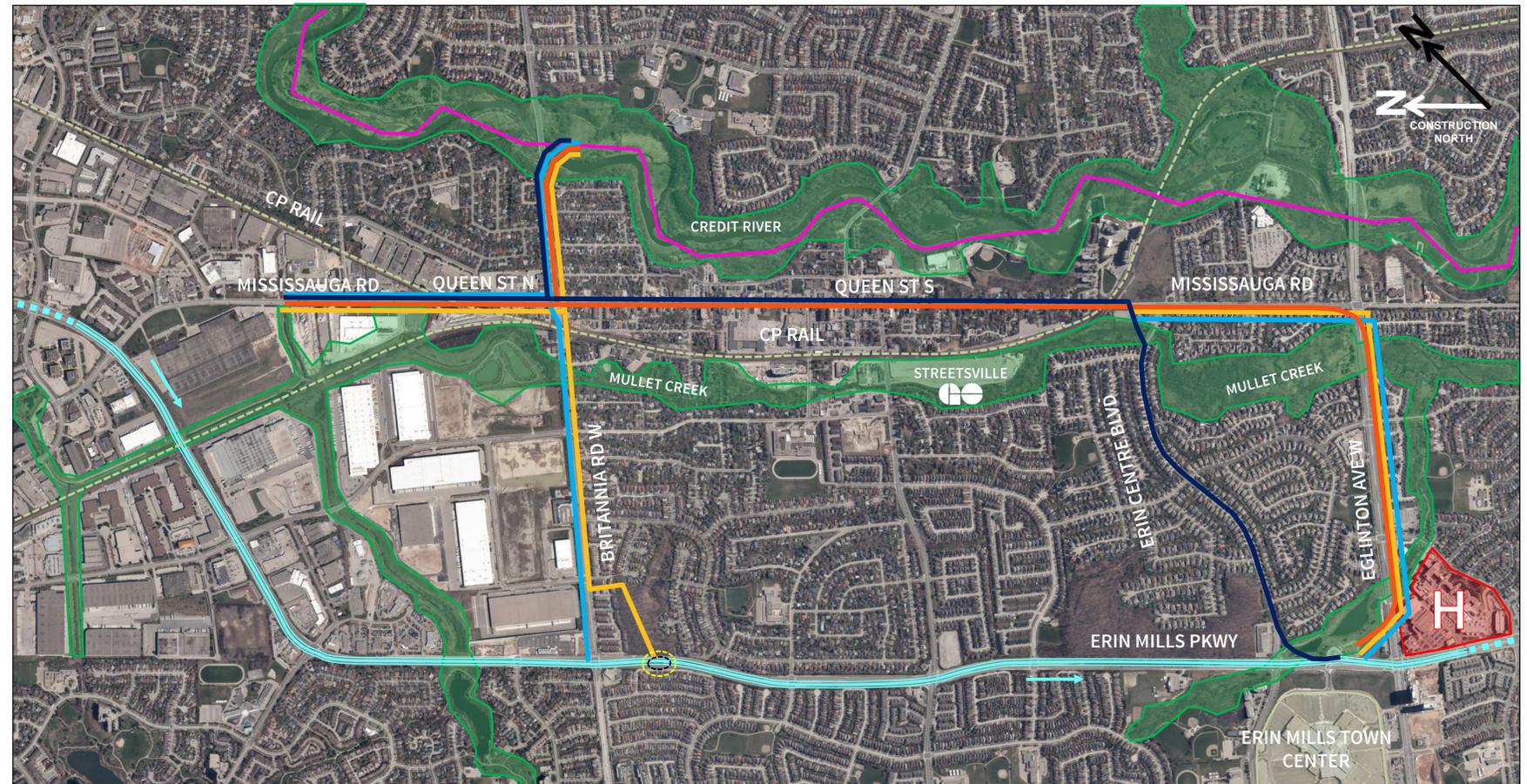


Alternative Ideas

1. Do Nothing
2. Limit Growth
3. **Construction of Diversion Sewer(s)**

Alternative Sewer Diversion Concepts

- Alignment Alternative 1 – “Streetsville”
- Alignment Alternative 2 – “Britannia Woodlot”
- Alignment Alternative 3 – “Britannia Straight”
- Alignment Alternative 4 – “Erin Centre Blvd.”



Evaluation Considerations and Technical Requirements

- Comparison focuses on sewer installation on Britannia Road (between Queen Street and Erin Mills Parkway) versus sewer installation on Queen Street (between Britannia Road and Erin Centre Boulevard). Common elements such as sewer installation along Queen Street north of Britannia Road West and along Britannia Road West east of Queen Street were not compared.
- The existing West Trunk sewer is very deep. In order to facilitate connections to the existing West Trunk sewer, the diversion sewer(s) will be constructed by trenchless tunneling methods (either tunnel boring machine or microtunneling).
- The only disturbance to the ground surface will be at shaft sites, to access the tunnel. Each alternative has a different number of shaft sites.
- Shaft sites will require a staging area where construction equipment can be stored, and excavated material managed. Staging areas will vary in size but will generally be on the order of 1000-2000m².
- Tunnels will be required to make tight radius curves or have shaft sites located within major intersections which are heavily congested.

LEGEND

- EA Alternative 1
- EA Alternative 2
- EA Alternative 3
- EA Alternative 4
- BRITANNIA LEG PROPOSED CONNECTION POINT
- CVC REGULATED AREA
- CREDIT VALLEY HOSPITAL
- EX. 2400mm Ø WEST TRUNK SEWER
- EX. 1200mm Ø CREDIT VALLEY TRUNK SEWER
- CP RAILWAY

3. Inventory Existing Environment

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Technical Studies Undertaken

1. Phase 1 Environmental Site Assessments
2. Geotechnical Background Review
3. Geophysical Investigation
4. Natural Environment Report
5. Stage 1 Archaeological Assessment
6. Cultural Heritage Resource Assessment
7. Traffic Movement Counts
8. Subsurface Utility Engineering Desktop Background Review
9. Property Impact Report



4.1 Alternative Evaluation Criteria

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Socio-Economic

- Effects on existing land uses
- Compliance with planning / environmental policies
- Nuisance impacts (vibration, noise, dust)
- Vibration effect on existing buildings
- Traffic management
- Odour management
- Land requirement (permanent/temporary)

Natural Environment

- Impact on natural features (watercourses, environmental site assessments, species at risk, aquatic features, landforms, wildlife and wildlife habitat)
- Impact on street trees
- Geology/hydrology considerations
- Soil contamination

Cultural Environment

- Impact to archaeological resources
- Impact to cultural heritage resources

Technical

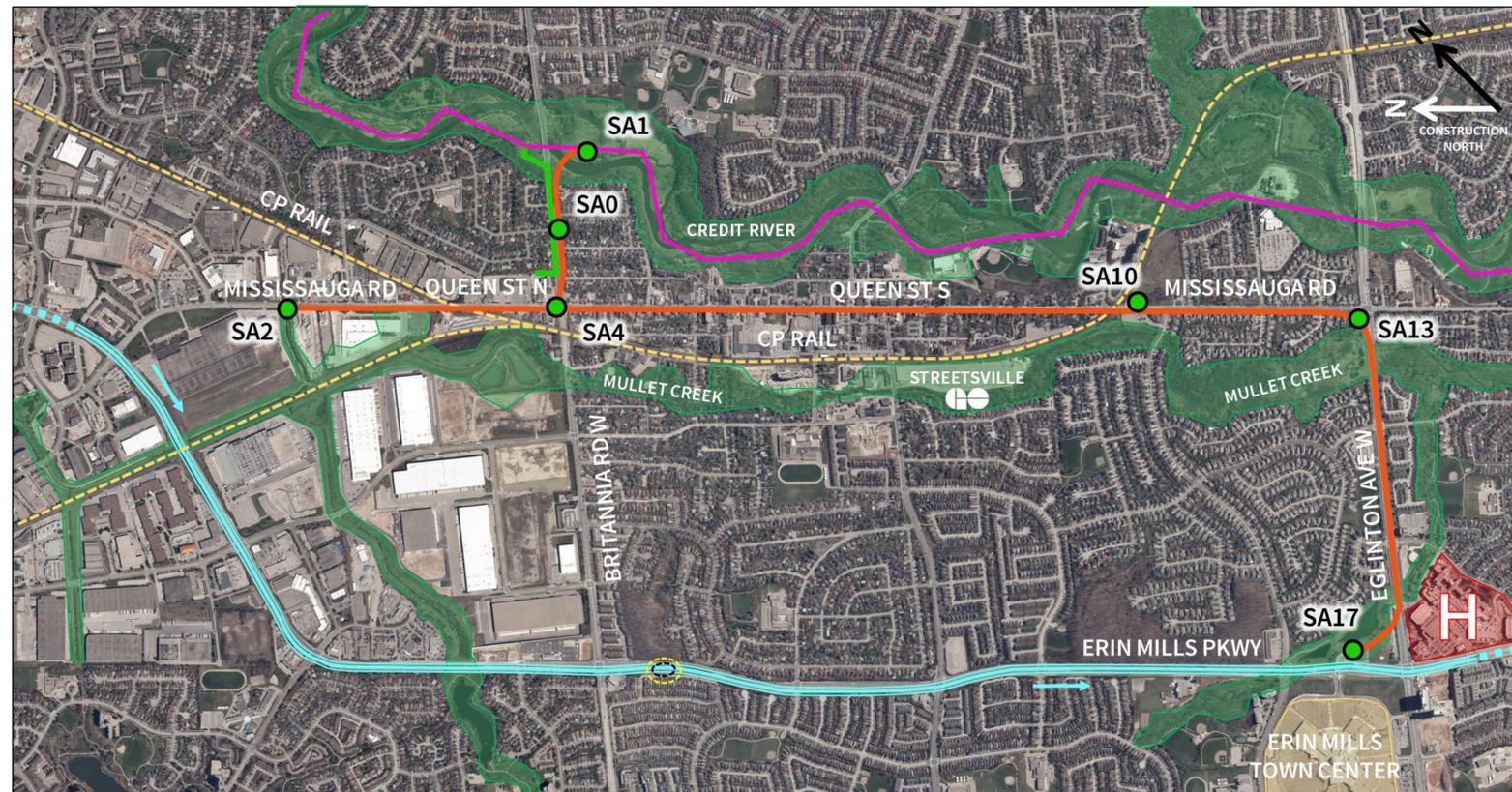
- Shaft locations
- Site requirements
- Existing utilities
- Connection with existing wastewater systems
- Constructability
- Shaft compound at major intersection
- Overall project delivery risk
- Capacity

Costs

- Construction costs
- Operational costs
- Land acquisition costs

4.2 Evaluate Alternative 1 – “Streetsville”

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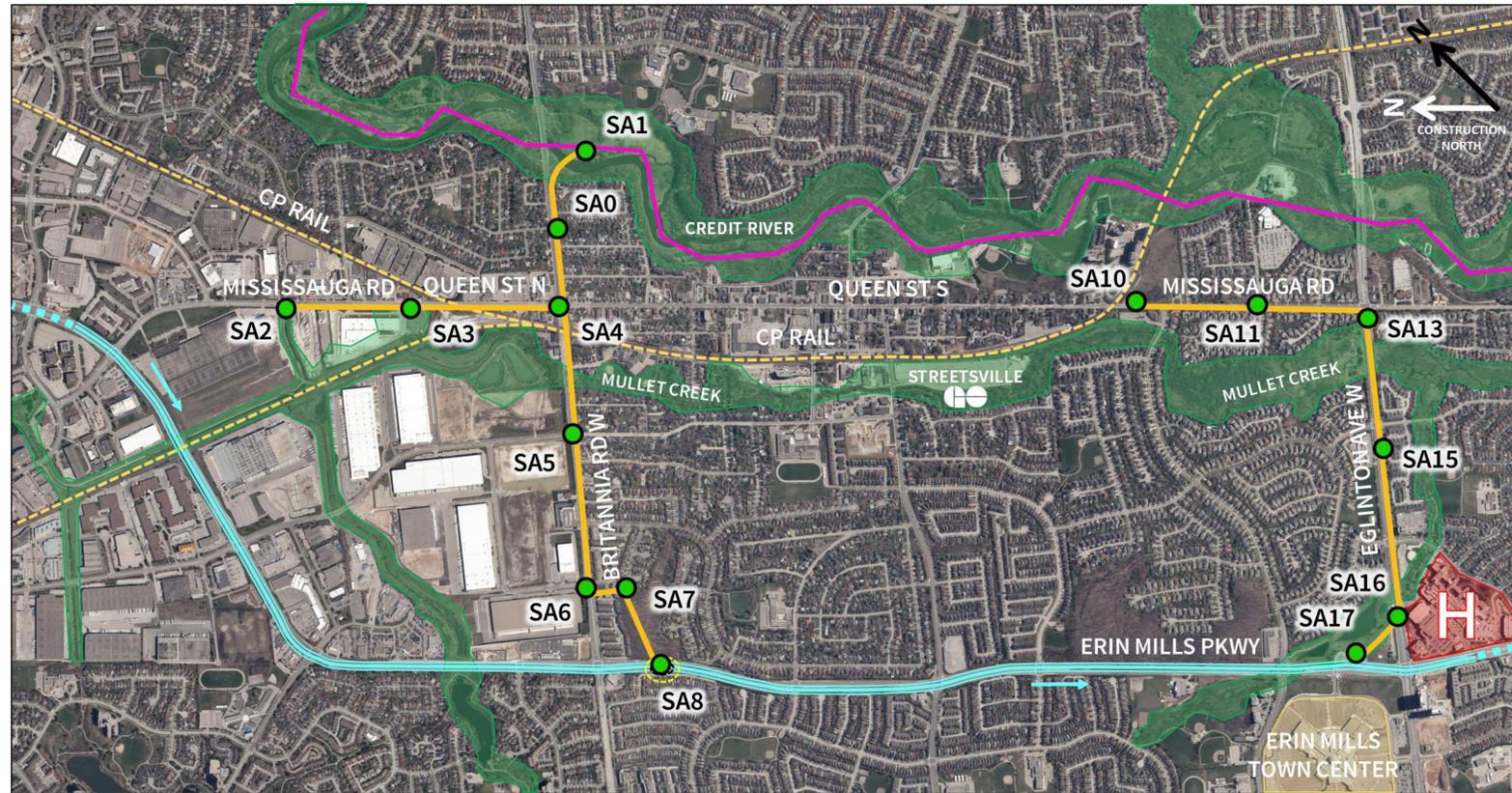
LEGEND

- EA Alternative 1
- EA Alternative 2
- EA Alternative 3
- EA Alternative 4
- EX. 2400mm Ø WEST TRUNK SEWER
- EX. 1200mm Ø CREDIT VALLEY TRUNK SEWER
- - - CP RAILWAY
- BRITANNIA LEG PROPOSED CONNECTION POINT
- CVC REGULATED AREA
- CREDIT VALLEY HOSPITAL

Evaluation Criteria	Impact Narrative
Socio-Economic	Less shaft sites and therefore less impact to residential properties, fewer intersection impacts and less transportation delays.
Natural Environment	No additional watercourse crossings beyond baseline requirements, avoids the known buried valley at Erin Mills Parkway and Britannia Road West, and does not impact any woodlots.
Cultural Environment	Travels through identified Cultural Heritage Landscape of the Mississauga Scenic Route and Streetsville Village Core Area, however shaft locations are positioned outside of Streetsville Village Core and were selected to reduce risk of impacts.
Technical	Although a longer route is required, utilizes a larger diameter tunnel (increased storage potential), reducing the number of required shaft sites and offering the ability for increased capacity during storm events. Only a single connection point to the West Trunk Sewer along Erin Mills Parkway. Alignment will primarily be located within the existing right-of-way.
Costs	Fewer shaft sites and therefore less property required. Only a single connection to the West Trunk Sewer - therefore lower operational costs.

4.3 Evaluate Alternative 2 – “Britannia Woodlot”

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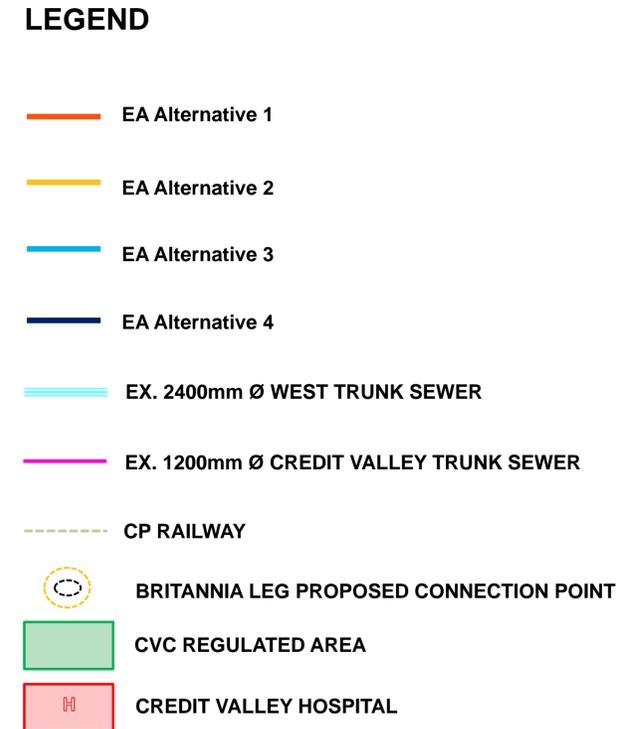
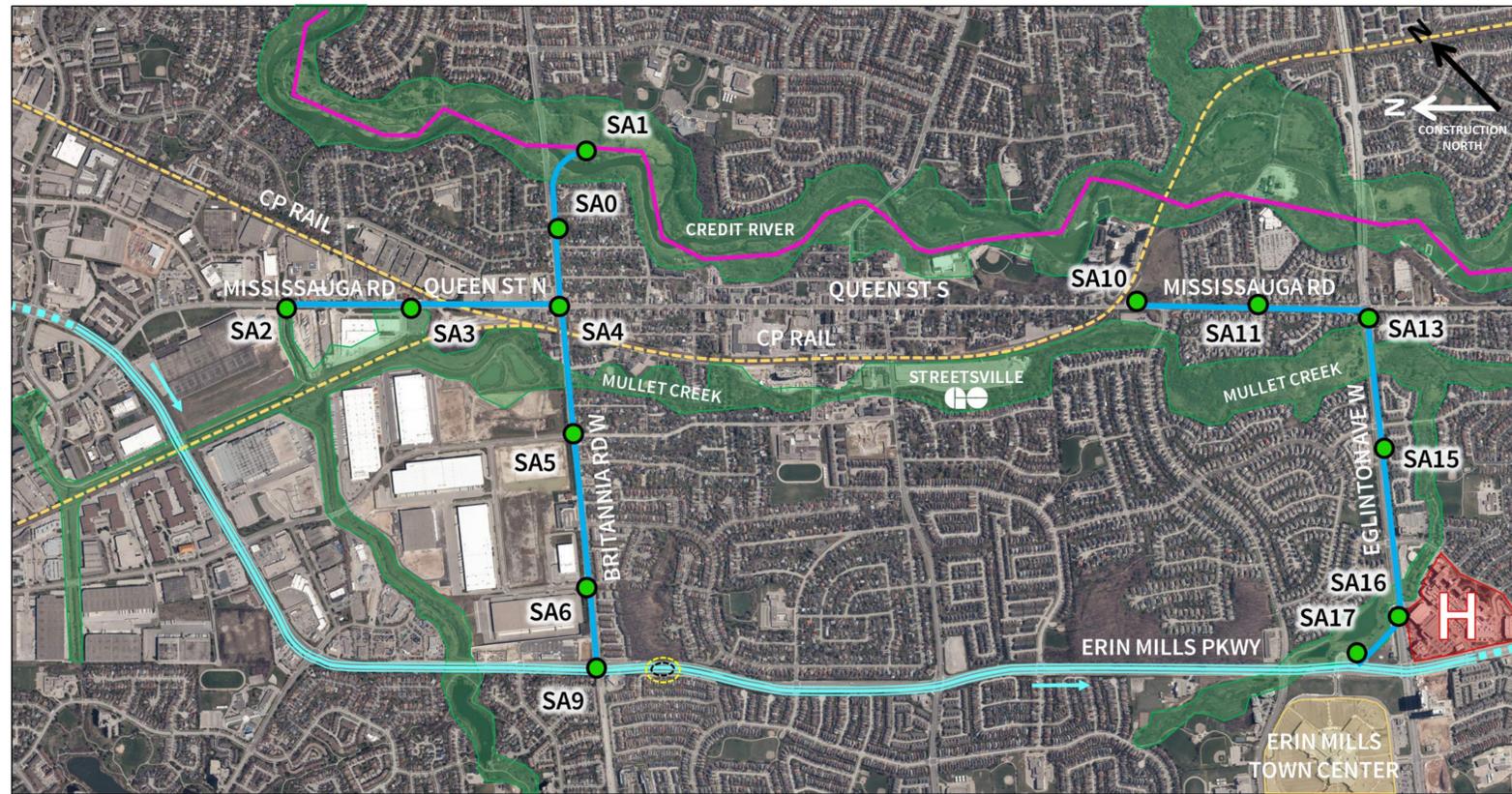
LEGEND

- EA Alternative 1
- EA Alternative 2
- EA Alternative 3
- EA Alternative 4
- EX. 2400mm Ø WEST TRUNK SEWER
- EX. 1200mm Ø CREDIT VALLEY TRUNK SEWER
- - - CP RAILWAY
- BRITANNIA LEG PROPOSED CONNECTION POINT
- CVC REGULATED AREA
- CREDIT VALLEY HOSPITAL

Evaluation Criteria	Impact Narrative
Socio-Economic	Requires greatest number of shaft sites with some shafts in residential areas and at/near major intersections. Greater impact to residential properties, greater impact on transportation including lane reductions and greater delays during construction.
Natural Environment	Requires an additional crossing of Mullet Creek and will impact the known deep, water-bearing buried valley at Erin Mills Parkway. Impacts Turney Woods Park, a significant woodland and therefore has the potential to impact the wetland and bat SAR within the park. Also has the potential to impact the significant woodland associated with Mullet Creek.
Cultural Environment	Limited potential to impact cultural heritage resources (CHR), as shaft sites will avoid known CHR locations.
Technical	Shorter route using smaller diameter tunnels as compared to Alternative 1, but requires additional shaft sites. Requires two connection points to the West Trunk Sewer along Erin Mills Parkway, and shaft sites will be located within the right-of-way, requiring lane closures. Does not provide for increased capacity.
Costs	Greatest number of shafts, therefore more property required. Two connection points to the West Trunk Sewer, therefore greater operational costs.

4.4 Evaluate Alternative 3 – “Britannia Straight”

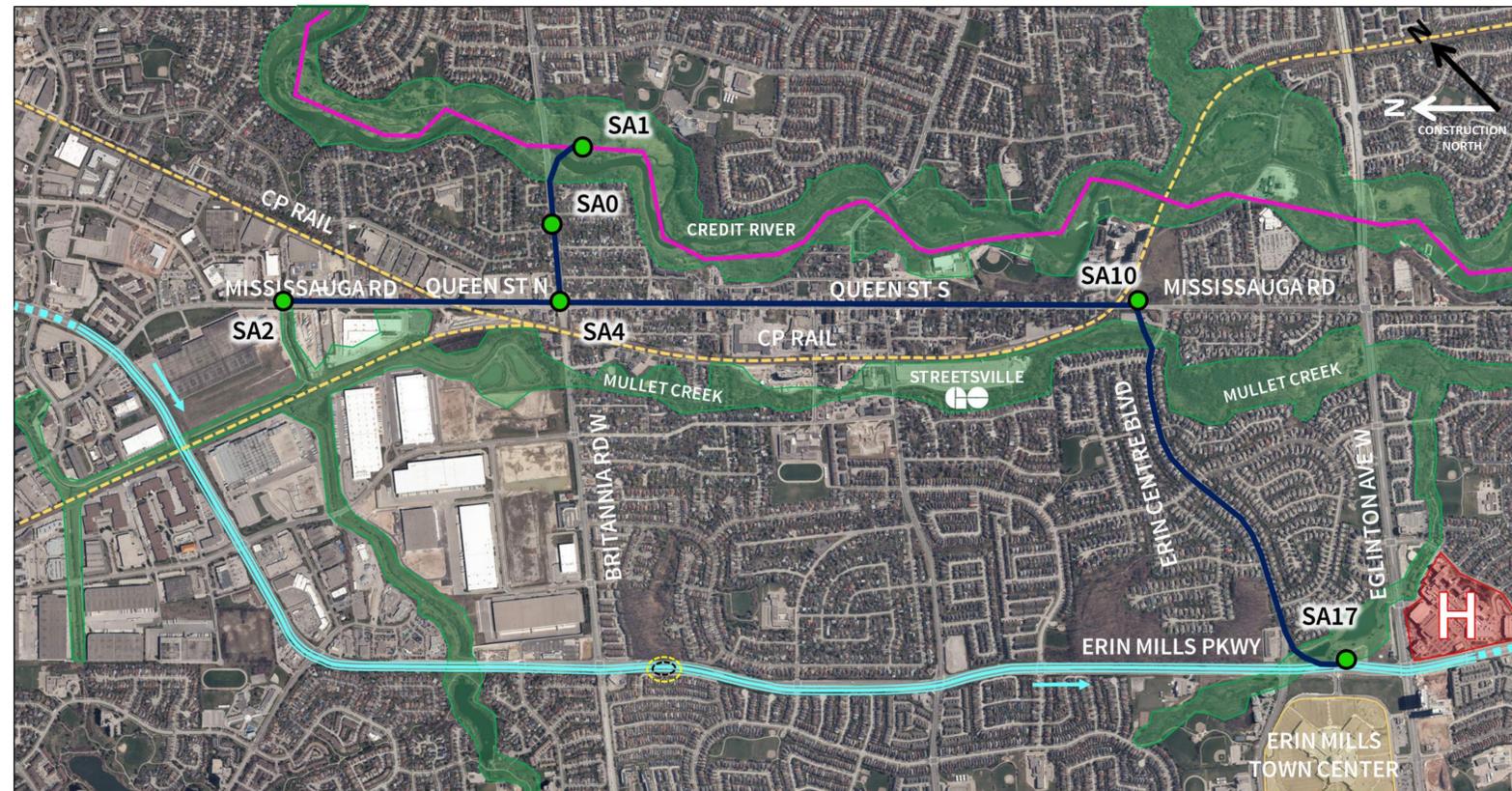
West Trunk Diversion – Class Environmental Assessment Study



Evaluation Criteria	Impact Narrative
Socio-Economic	Requires a greater number of shaft sites with some shafts in residential areas and at/near major intersections. Greater impact to residential properties, greater impact on transportation including lane reductions and greater delays during construction.
Natural Environment	Requires an additional crossing of Mullet Creek and will impact the known deep, water-bearing buried valley at Erin Mills Parkway. Also has the potential to impact the significant woodland associated with Mullet Creek.
Cultural Environment	Limited potential to impact cultural heritage resources, as shaft sites will avoid known resource locations.
Technical	Shorter route using smaller diameter tunnels as compared to Alternative 1, but requires additional shaft sites. Requires two connection points to the West Trunk Sewer along Erin Mills Parkway, and shaft sites will be located within the right-of-way, requiring lane closures. Does not provide for increased capacity.
Costs	Greater number of shafts, therefore more property required. Two connection points to the West Trunk Sewer, therefore greater operational costs.

4.5 Evaluate Alternative 4 – “Erin Centre Blvd.”

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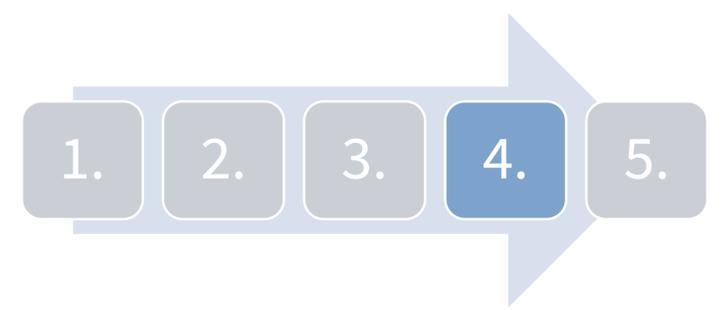
LEGEND

- EA Alternative 1
- EA Alternative 2
- EA Alternative 3
- EA Alternative 4
- EX. 2400mm Ø WEST TRUNK SEWER
- EX. 1200mm Ø CREDIT VALLEY TRUNK SEWER
- - - CP RAILWAY
- BRITANNIA LEG PROPOSED CONNECTION POINT
- CVC REGULATED AREA
- CREDIT VALLEY HOSPITAL

Evaluation Criteria	Impact Narrative
Socio-Economic	Less impact to residential properties, fewest intersection impacts, less transportation delays and least staging areas.
Natural Environment	This alternative has no additional watercourse crossings beyond those common to all alternatives, avoids the known buried valley at Erin Mills Parkway, and does not impact any woodlots.
Cultural Environment	This alternative will travel through the identified Cultural Heritage Landscape of the Mississauga Scenic Route and Streetsville Village Core Area. However, shaft locations are positioned outside of Streetsville Village Core and are selected to reduce risk of impacts.
Technical	Although a longer route is required versus Alternatives 2 and 3, there are less shaft sites, and the alternative only requires a single connection point to the West Trunk Sewer along Erin Mills Parkway. The alignment will primarily be located within the existing right-of-way. This alternative also offers the ability for additional capacity during a storm event and offers greater hydraulic flexibility and a more optimized connection to the existing WTS.
Costs	Fewest shafts required resulting in lower operational costs and reduced property requirements.

Summary of Alternatives Evaluation

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Alt. 1 – “Streetsville”	Alt. 2 – “Britannia Woodlot”	Alt. 3 – “Britannia Straight”	Alt. 4 – “Erin Centre Blvd.”
<ul style="list-style-type: none"> Less impact to residential properties and traffic Avoids the known water-bearing, deep buried valley at Erin Mills Parkway/Britannia Road Fewer number of shaft sites and staging areas, therefore less property requirements Allows for additional sewer capacity Comparable capital cost amongst all alternatives 	<ul style="list-style-type: none"> Greater impact to residential properties and traffic Requires additional crossing of Mullet Creek Potential to impact the known water-bearing, deep buried valley at Erin Mills Parkway/Britannia Road Potential to impact Turney Woods Park, a significant woodland with species-at-risk present Greatest number of shafts, therefore more property required 	<ul style="list-style-type: none"> Greater impact to residential properties and traffic Requires additional crossing of Mullet Creek Greatest potential to impact the known water-bearing, deep buried valley at Erin Mills Parkway/Britannia Road Greater number of shafts, therefore more property required 	<p style="text-align: center;">PRELIMINARY PREFERRED ALTERNATIVE</p> <ul style="list-style-type: none"> Less impact to residential properties and traffic Avoids the known water-bearing, deep buried valley at Erin Mills Parkway/Britannia Road Fewest number of shaft sites and staging areas, therefore least amount of property requirements Allows for additional sewer capacity and improved connection hydraulics Comparable capital cost amongst all alternatives

Evaluation Criteria	Alt. 1 - Streetsville	Alt. 2 - Britannia Woodlot	Alt. 3 - Britannia Straight	Alt. 4 - Erin Centre Blvd.
Socio-Economic	+	-	-	+
Natural Environment	++	-	+	++
Cultural Environment	+	+	+	+
Technical	+	-	-	++
Costs	+	-	-	+

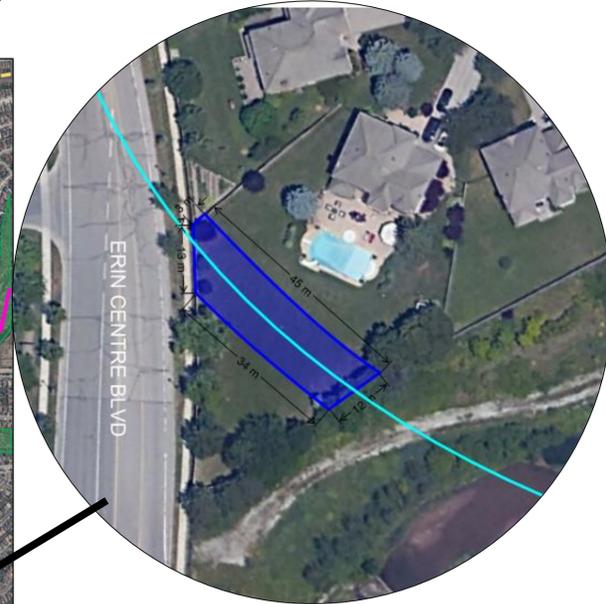
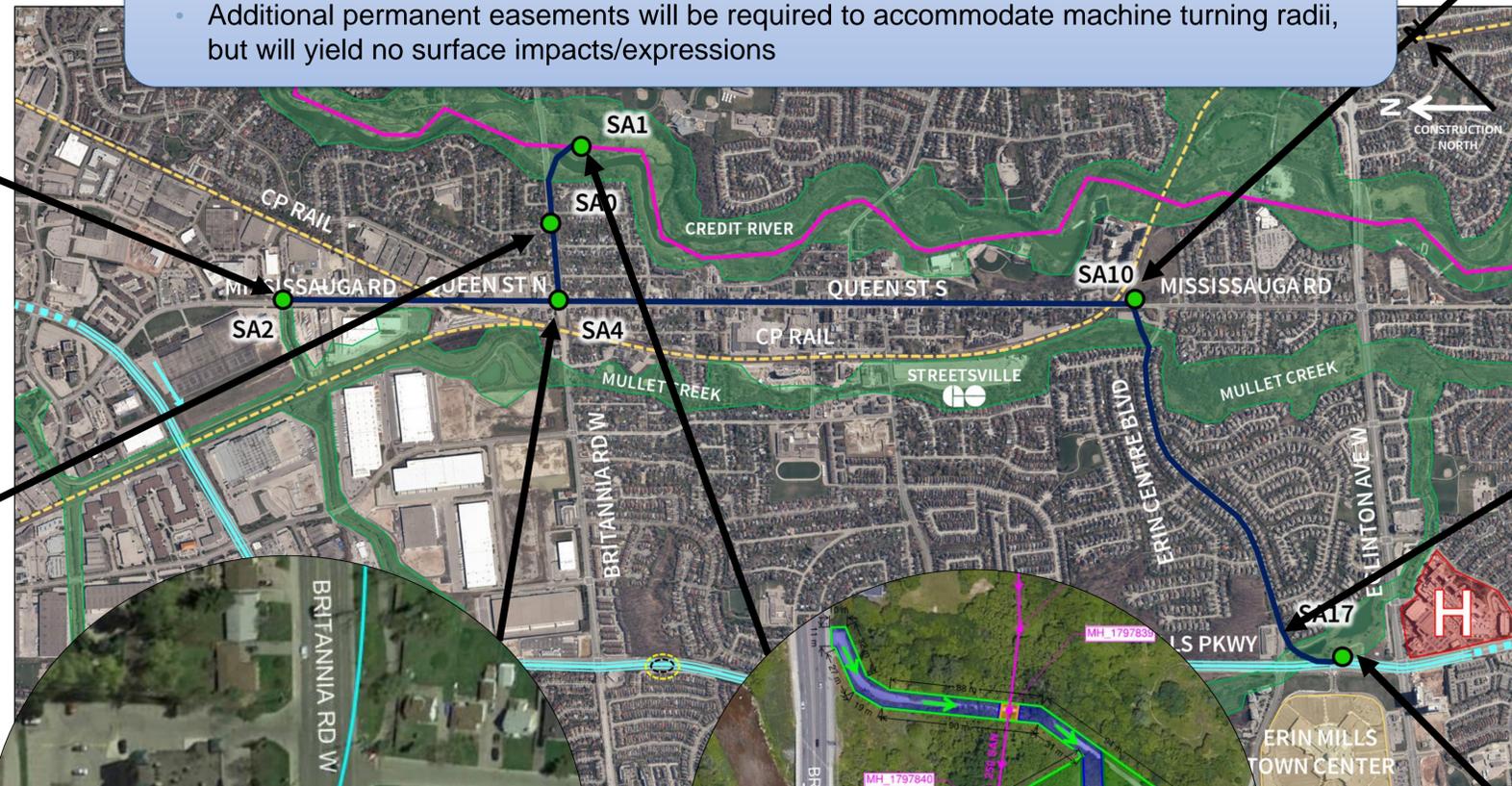
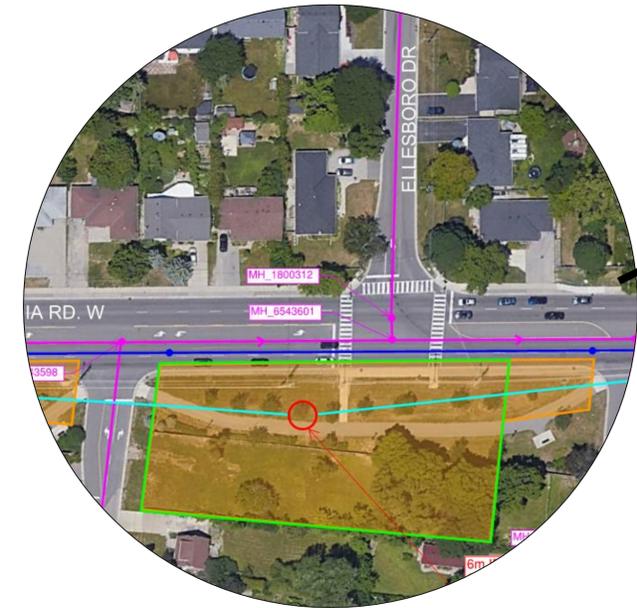
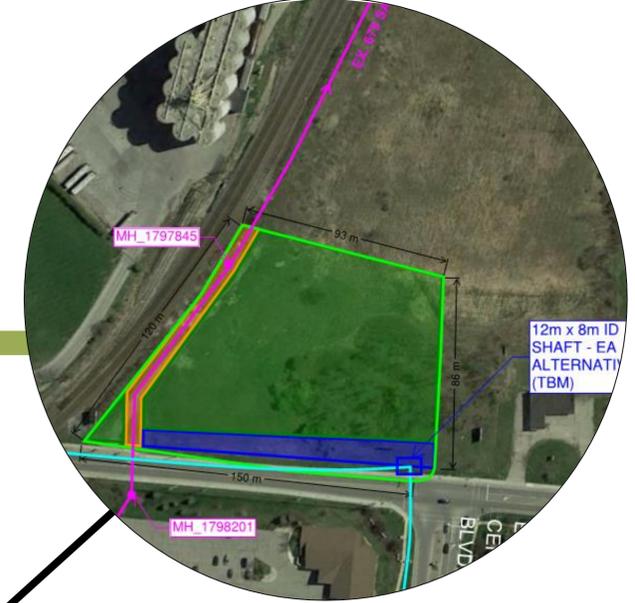
LEGEND
 ++ Most Preferred
 + Preferred
 - Least Preferred

“Erin Centre Blvd” Staging Area Property Plans

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Shaft Selection Rationale

- Extended TBM drive lengths to minimize number of shafts
- Accommodates existing constraints (existing sewer depths, connection points, etc.)
- Minimize impacts to traffic by avoiding lane closures on roadways, cycling/multi-use trails and pedestrian pathways
- Minimize impacts to natural environment, existing and future land uses (e.g., residential and commercial areas), archaeological/cultural heritage features and existing infrastructure
- Additional permanent easements will be required to accommodate machine turning radii, but will yield no surface impacts/expressions



“Erin Centre Blvd.” Construction Methodology and Considerations

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Existing sewer connection depths require the West Trunk Diversion Sewer to be constructed by tunnelling as opposed to open cut (i.e., cut and cover) construction methods.



Surface impacts limited to shaft and working compound construction. Shafts provide launch and reception locations for the specialized tunnel boring machines.



Only the “Erin Centre Blvd.” and “Streetsville” alternative allows for the use of larger tunnel boring machines which can complete longer drives allowing for a significant reduction of the number of required shafts.



The selected tunnel boring machine(s) will be equipped to handle known deep, water-bearing buried valley geohazards which have slowed similar projects in the area.

Proposed Construction Mitigation Measures

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- **Nuisance Impacts (Dust, Noise and Vibration)**

- Adherence to all applicable noise regulations, guidelines and bylaws.
- Fugitive dust mitigation measures shall include mud mats, water spraying/non-chloride dust suppressants, street sweeping, etc.
- Establishment of a reactive complaints protocol.

- **Erosion and Discharge of Sediment**

- Certified Inspectors of Sediment and Erosion Controls will ensure that all required erosion and sediment control measures are in place during construction to avoid construction generated sediment entering adjacent habitats.

- **Traffic (Pedestrian, Cyclist, Transit, Vehicular) Impacts**

- Surface impacts are only related to shaft construction as the sewer will be constructed via trenchless technology.
- Shafts were selected from a host of alternatives to ensure lane reductions were minimized or altogether avoided where possible.

- **Tree Protection**

- Shafts will be optimized during the detailed design phase to avoid/minimize tree and vegetation removal.
- Snow fencing and all standard tree protection measures will be implemented as necessary.
- All disturbed locations will be restored to meet or exceed existing conditions.

- **Watercourse Crossings**

- Fish and fish habitats will not be impacted as all trenchless crossings of watercourses (i.e., Mullet Creek, Credit Valley River) will be undertaken below watercourse levels.

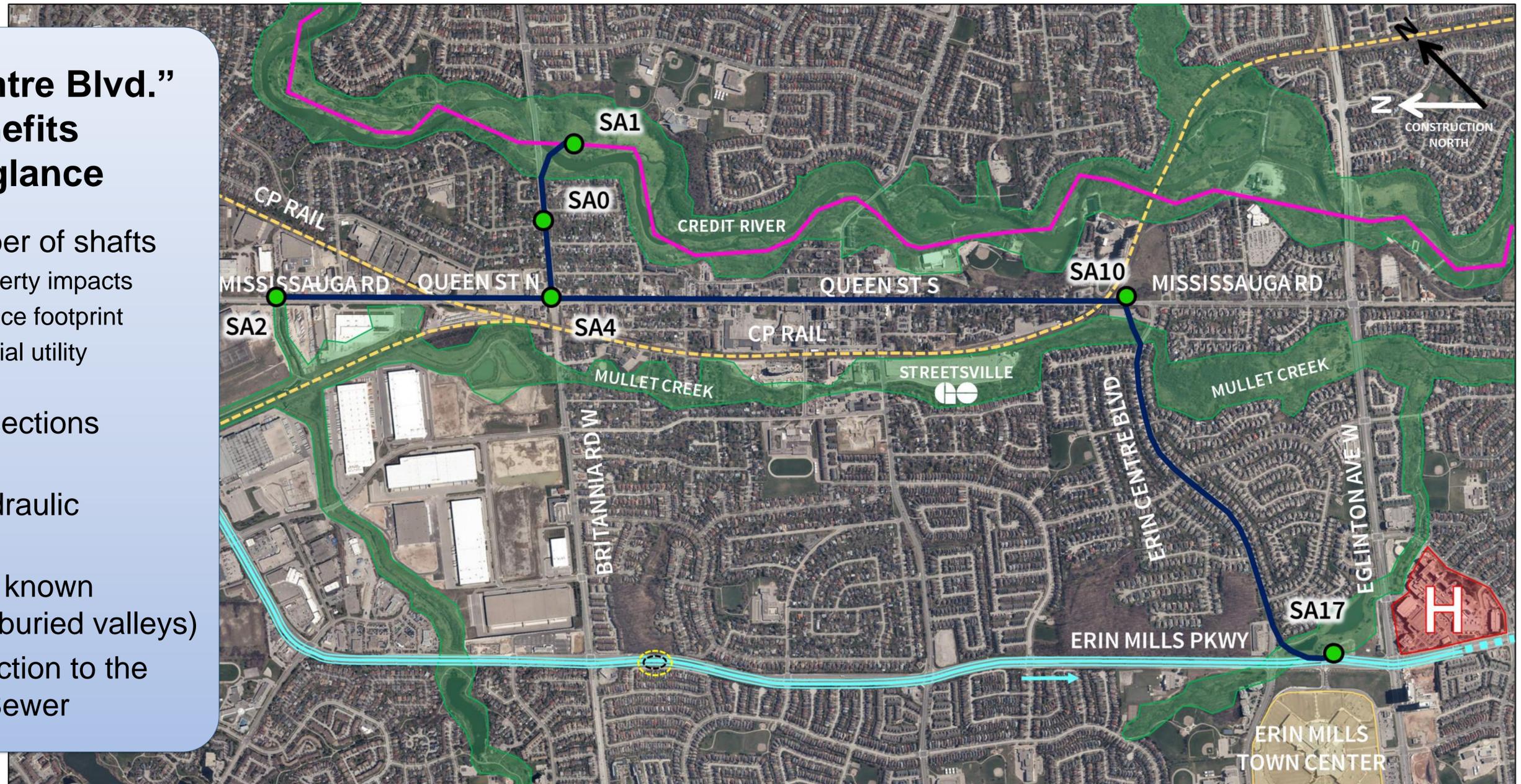


Summary of “Erin Centre Blvd.” Benefits

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“Erin Centre Blvd.” Benefits at-a-glance

- Fewest number of shafts
 - Reduced property impacts
 - Smallest surface footprint
 - Fewest potential utility relocations
- Fewest intersections impacted
- Improved hydraulic flexibility
- Avoidance of known geohazards (buried valleys)
- Single connection to the West Trunk Sewer



Expanded Study Process

West Trunk Diversion – Class Environmental Assessment Study

- **Next Steps**

- Following the receipt of comments and input, the preferred solution will be updated as appropriate.
- The decision-making and process followed will be documented in a Project File Report and made available for the 30-day public review period.
- Pending there is not a Part 2 Order, the project will move forward to detailed design.

Project Schedule	
Study Commencement	April, 2019
Public Information Centre	September, 2021
Submit Project File for Public Review	October, 2021
Class EA Study Completion	November, 2021
Detailed Design	November, 2021
Field Investigations	Spring, 2022
Proposed Start of Construction (Main Contract)	2025



- **Your Review and Comments are Greatly Appreciated!**

- If you have any questions or input, please use the online question form or reach out to the Region of Peel Project Manager
- The construction timing window is subject to potential delays due to COVID-19 and is dependent upon approval of the construction budget by Region Council

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