

# West River Street Wastewater Pumping Station & Forcemain

Schedule 'B'  
Municipal Class Environmental Assessment Study

## Public Information Centre

June 27, 2017

6:00 to 8:00 pm

The Sovereign House – Bronte Village

**Welcome!**

**Please Sign In**



**BLACK & VEATCH**



# INTRODUCTION

## Background

The Sustainable Halton Water and Wastewater Master Plan (2011) identified a need to upgrade the West River Wastewater Pumping Station (WWPS) to service future growth to 2031, in accordance with the Region's Official Plan.

A Condition Assessment and Scoping of Upgrade Alternatives report (2016) was completed and recommended a Schedule 'B' Class Environmental Assessment (EA) Study be completed.

The objective of this Class EA Study is to establish a Preferred Solution that:

- Accommodates future growth in the West River WWPS service area
- Addresses improvements identified in the Condition Assessment and Scoping of Upgrade of Alternatives report
- Identifies opportunities for improvement, such as adding a standby forcemain to convey flows

## Problem Statement

*To consider a wide range of WWPS and collection system upgrade alternatives in order to determine the most appropriate wastewater pumping station design concept (that meets Halton Region's latest design standards and pumping capacity needs) and preferred wastewater forcemain alternative.*

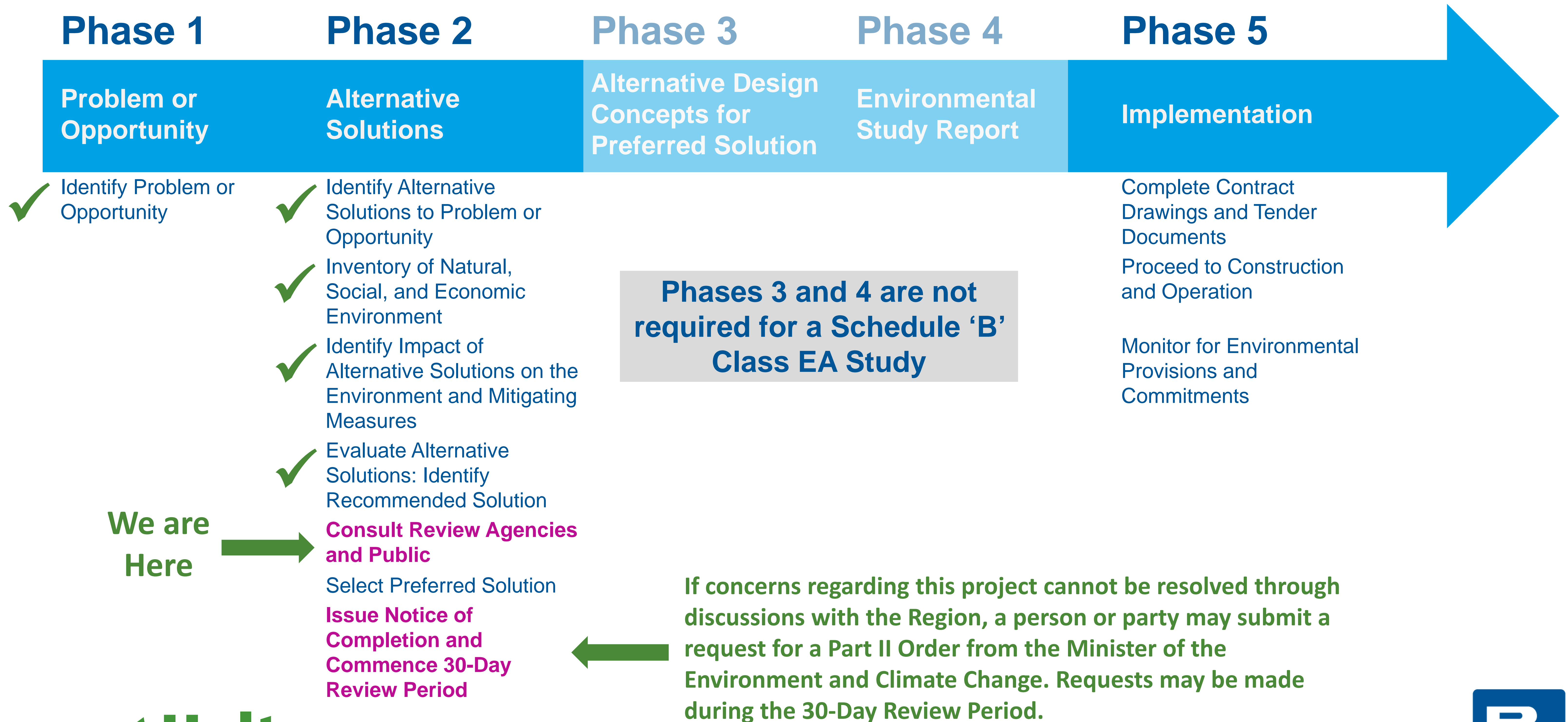




# CLASS ENVIRONMENTAL ASSESSMENT PROCESS

## What is a Municipal Class Environmental Assessment or Class EA Study?

A Municipal Class EA Study is undertaken to determine a preferred solution to a problem or opportunity related to municipal water, wastewater, stormwater, or transportation infrastructure, in accordance with the Ontario Environmental Assessment Act, R.S.O., 1990. The Municipal Class EA Process is documented in the MEA Municipal Class EA Document (October 2000, amended in 2007, 2011 & 2015) and is summarized below.





# EXISTING CONDITIONS

## West River WWPS and Forcemain

- WWPS and forcemain constructed in 1966
- Located in Bronte Harbour. The WWPS building is located within the floodplain.
- Part of the Oakville South-West sewer system and drains to the Oakville South-West Wastewater Treatment Plant
- Primarily residential but also some commercial and industrial users
- WWPS has a wet well – dry well configuration with an overflow that discharges to Bronte Harbour
- WWPS forcemain runs east underneath the harbour, and discharges at a trunk sewer on Bronte Road and Marine Drive

## Technical Studies

- Stage 1 Archeological Assessment
  - Archeological potential evident within the Study Area and within 50 m of Study Area. Stage 2 Archeological Assessment may be required, depending on Recommended Solution
- Cultural Heritage Assessment
  - 16 cultural heritage resources within or adjacent to the Study Area
  - Additional field review to be undertaken after identification of Recommended Alternative
- Designated Substance Survey
  - Existing WWPS contained designated substances that will need to be managed appropriately during construction



Pumping Station Building



Emergency Overflow Pipe to Bronte Harbour



# TECHNICAL REQUIREMENTS

## Current and Future Rated Capacity

Current Rated Capacity: 80 L/s

Master Plan 2031 Future Flow (assessed in 2011): 120 L/s

2031 Future Flow (revised in 2017): 80 L/s

The 2031 future flow was revised to reflect:

- Observed reduction in inflow and infiltration (I/I)
- Refined hydraulic modeling of the wastewater system

Therefore, the current rated capacity of the West River St. WWPS is adequate to service 2031 pumping requirements. However, the WWPS does not currently meet all of Halton Region's design standards.

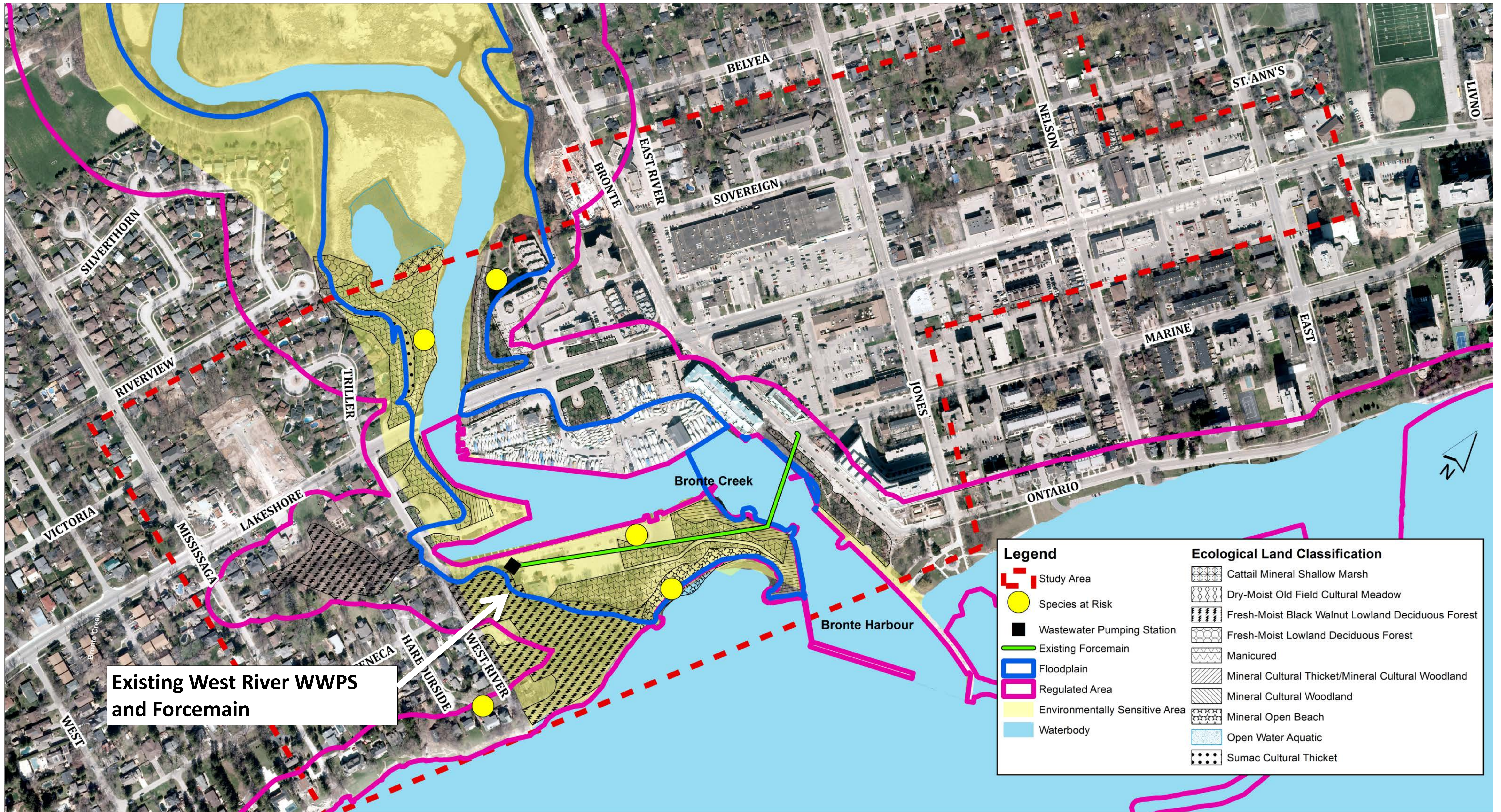


Dry Well, with view of pumps, suction and discharge piping

Design Requirement	Does Station Currently Have This Feature?
Support permissible population growth to 2031	✓ The current rated capacity is sufficient to meet future 2031 flows
At least four pumps (3 duty and 1 standby) located in a dry pit	✗ No, only 2 pumps are currently installed
Standby generator	✓ Yes, the site currently has a generator used during emergency power outages.
Capacity to store peak flows for at least 1 hour	✗ No, wet well does not have capacity to store at least 1 hour of peak flow
Two forcemains (1 duty and 1 standby)	✗ No, only one forcemain installed.

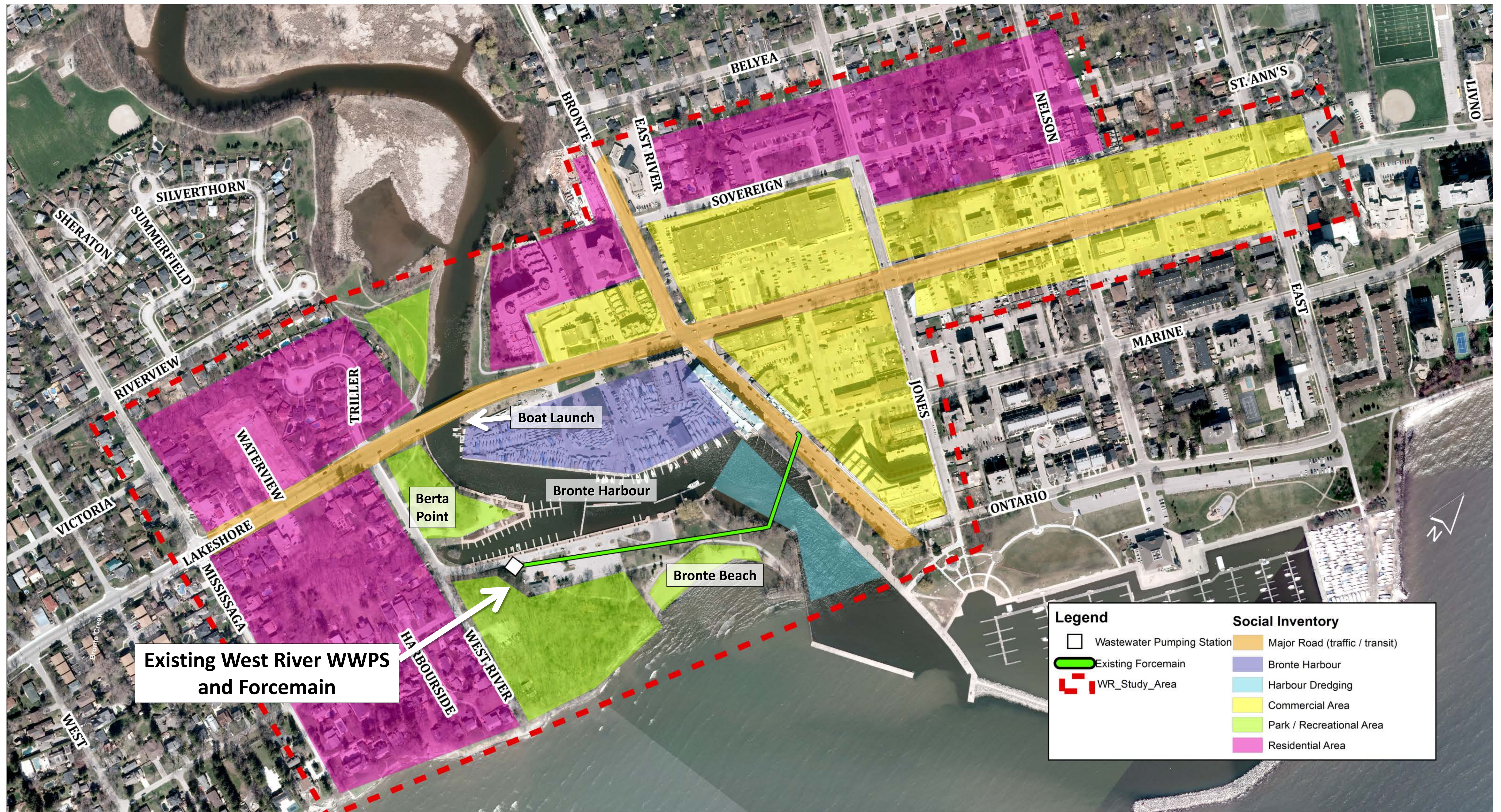


# INVENTORY OF NATURAL ENVIRONMENT





# INVENTORY OF SOCIAL ENVIRONMENT



Existing West River WWPS and Forcemain

Legend		Social Inventory	
	Wastewater Pumping Station		Major Road (traffic / transit)
	Existing Forcemain		Bronte Harbour
	WR_Study_Area		Harbour Dredging
			Commercial Area
			Park / Recreational Area
			Residential Area



# WWPS ALTERNATIVE SOLUTIONS AND SCREENING

Alternative	Description	Is Problem Statement Addressed?	Is Alternative Feasible?	Will the Alternative be Carried to the Detailed Evaluation?
PS-1	Do Nothing (Status Quo) Status Quo of continuing operation with no modifications Repairs and maintenance continue, as needed	✗	✓	Yes, Do Nothing alternative is required to be evaluated to present a baseline for comparison of other alternatives
PS-2A	Divert All Flows to New Gravity Sewer and Decommission WWPS All flows would be diverted to a new gravity sewer that connects to the existing trunk sewer. WWPS would be decommissioned. Building would be retained for other uses.	✓	✗	No, screened out because service area is lower than the area to which wastewater must be conveyed Not technically feasible
PS-2B	Divert Portion of Flows to New Gravity Sewer Portion of flows diverted to a new gravity sewer that connects to existing trunk WWPS would be modified to suit the different pumping needs	✓	✗	No, screened out because service area is lower than the area to which wastewater must be conveyed Not technically feasible
PS-3	Upgrade Existing WWPS Existing WWPS upgraded to meet Halton Design Manual requirements, including expansion of wet well capacity	✓	✓	Yes
PS-4	Replace Existing WWPS on Existing Site New WWPS constructed on existing site	✓	✓	Yes
PS-5A	Construct New WWPS at Berta Point New WWPS constructed at Berta Point	✓	✓	Yes
PS-5B	Construct New WWPS Behind Public Washrooms New WWPS constructed behind the public washrooms	✓	✓	Yes
PS-5C	Construct New WWPS at Memorial Trail New WWPS constructed near Memorial Trail	✓	✓	Yes

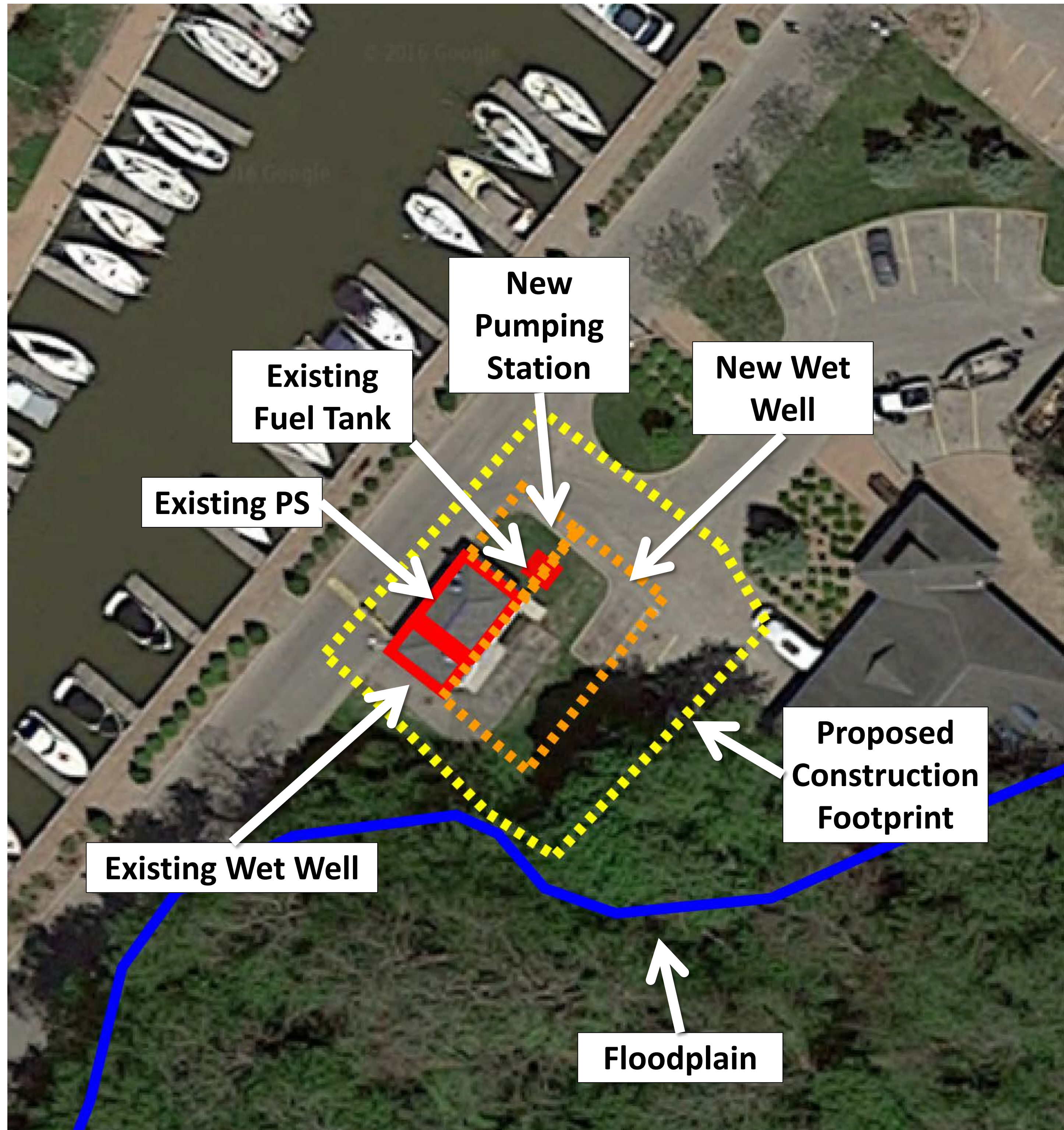
Alternatives PS-1, PS-3, PS-4, PS-5A, PS-5B, PS-5C  
Carried to Detailed Evaluation



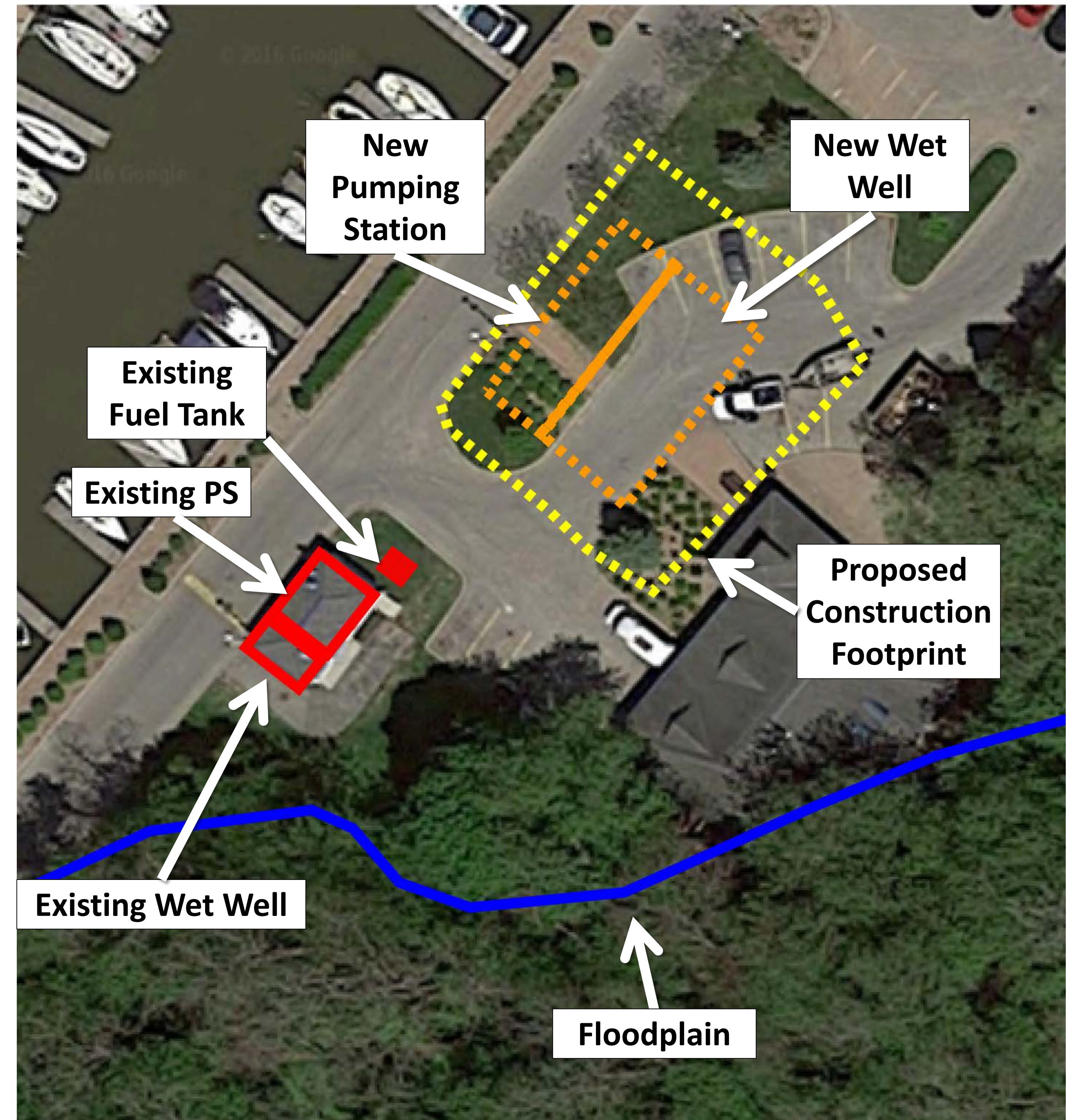


# SHORTLISTED ALTERNATIVE WWPS SOLUTIONS

Alternative PS-3: Upgrade Existing WWPS



Alternative PS-4: Replace Existing WWPS



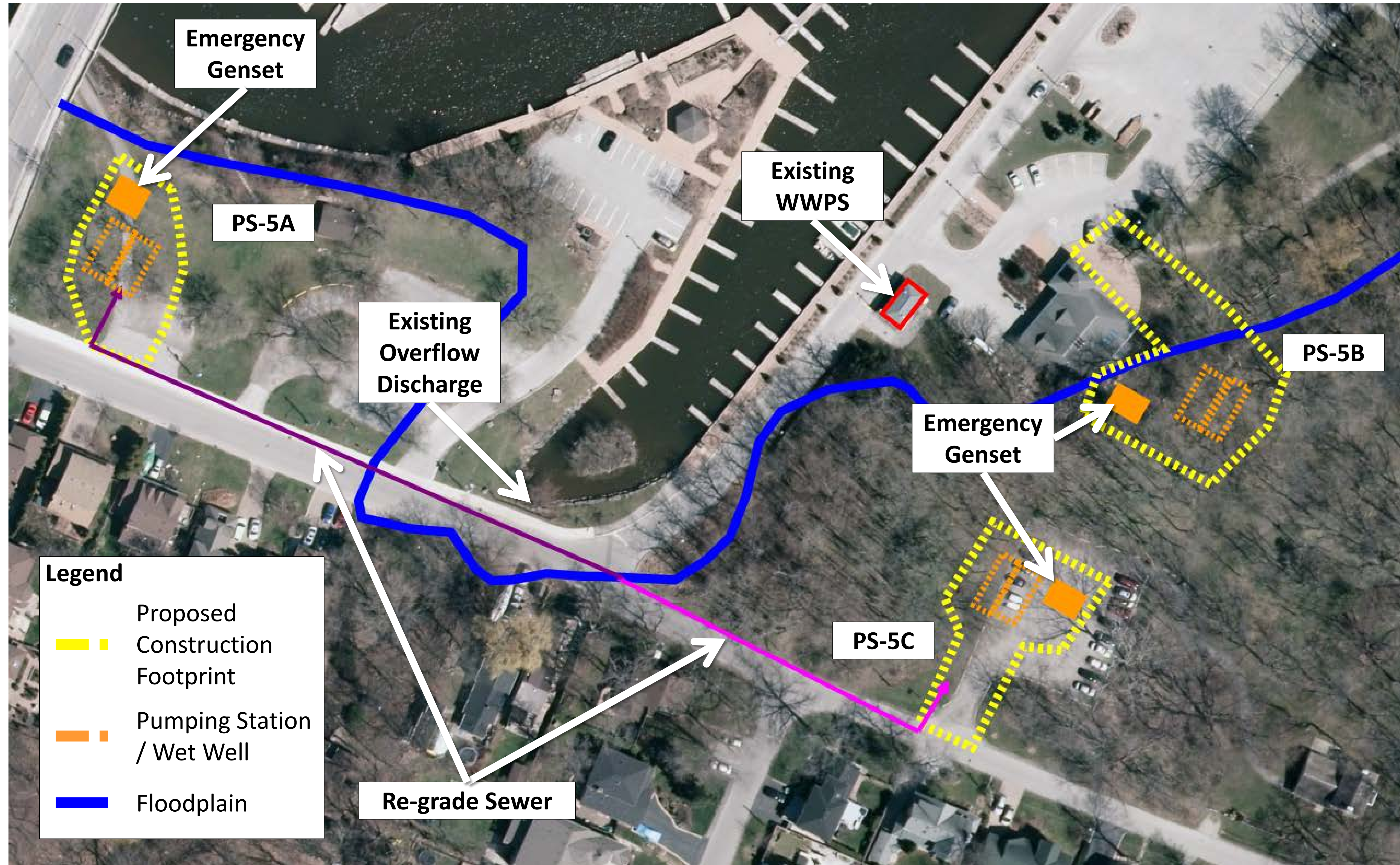


# SHORTLISTED WWPS ALTERNATIVE SOLUTIONS

Alternative PS-5A:  
Berta Point or Overflow  
Parking Area

Alternative PS-5B:  
Behind Public Washrooms

Alternative PS-5C:  
Oakville Memorial Trail





# EVALUATION CRITERIA

Criteria	Parameters	
Social	<ul style="list-style-type: none"> <li>Disruption to community activities and features, such as recreational uses</li> <li>Potential for Local Surcharging</li> <li>Air / Odour Impact</li> <li>Noise Impact</li> </ul>	<ul style="list-style-type: none"> <li>Cultural Heritage Impact</li> <li>Archaeological Impact</li> <li>Transit Disruptions</li> <li>Aesthetic Impact and Appearance</li> </ul>
Natural	<ul style="list-style-type: none"> <li>Impacts to Surface Water / Aquatic Habitat</li> <li>Impacts to Regional Natural Heritage System (NHS) Key Features</li> <li>Impact to Regulated Areas (e.g. Flood Plains, Erosion Hazards)</li> <li>Impact to Vegetation and Vegetation Communities</li> </ul>	<ul style="list-style-type: none"> <li>Impact to Wildlife and Wildlife Habitat</li> <li>Impact to Species at Risk</li> <li>Contribution to Climate Change, such as greenhouse gas emissions</li> </ul>
Technical	<ul style="list-style-type: none"> <li>Operations / Maintenance Issues and feasibility</li> <li>Constructability Issues</li> <li>Implementation Timeframe</li> <li>Meets Halton Region Design Criteria</li> </ul>	<ul style="list-style-type: none"> <li>Resiliency to Climate Change</li> <li>Impact on Nearby Utilities</li> <li>Location Relative to Floodplain</li> </ul>
Legal / Jurisdictional	<ul style="list-style-type: none"> <li>Property disposition or disruption (land use)</li> </ul>	<ul style="list-style-type: none"> <li>Planning Permit Requirements</li> </ul>
Economic	<ul style="list-style-type: none"> <li>Capital Costs (land acquisition and construction)</li> <li>Operating and Maintenance Costs</li> </ul>	<ul style="list-style-type: none"> <li>Life Cycle Costs</li> <li>Cost-Benefit Analyses</li> </ul>



# EVALUATION OF WWPS ALTERNATIVE SOLUTIONS

Criteria	Alt. PS- 1: Do Nothing	Alt. PS-3: Upgrade Existing West River WWPS	Alt. PS-4: Construct New WWPS on Existing Site	Alt. PS-5A: Construct New WWPS at Berta Point	Alt. PS-5B: Construct New WWPS behind Public Washrooms	Alt. PS-5C: Construct New WWPS at Memorial Trail
Social	●	●	●	●	●	●
Natural	●	●	●	●	●	●
Technical	●	●	●	●	●	●
Legal / Jurisdictional	●	●	●	●	●	●
Economic	●	●	●	●	●	●
Overall	●	●	●	●	●	●

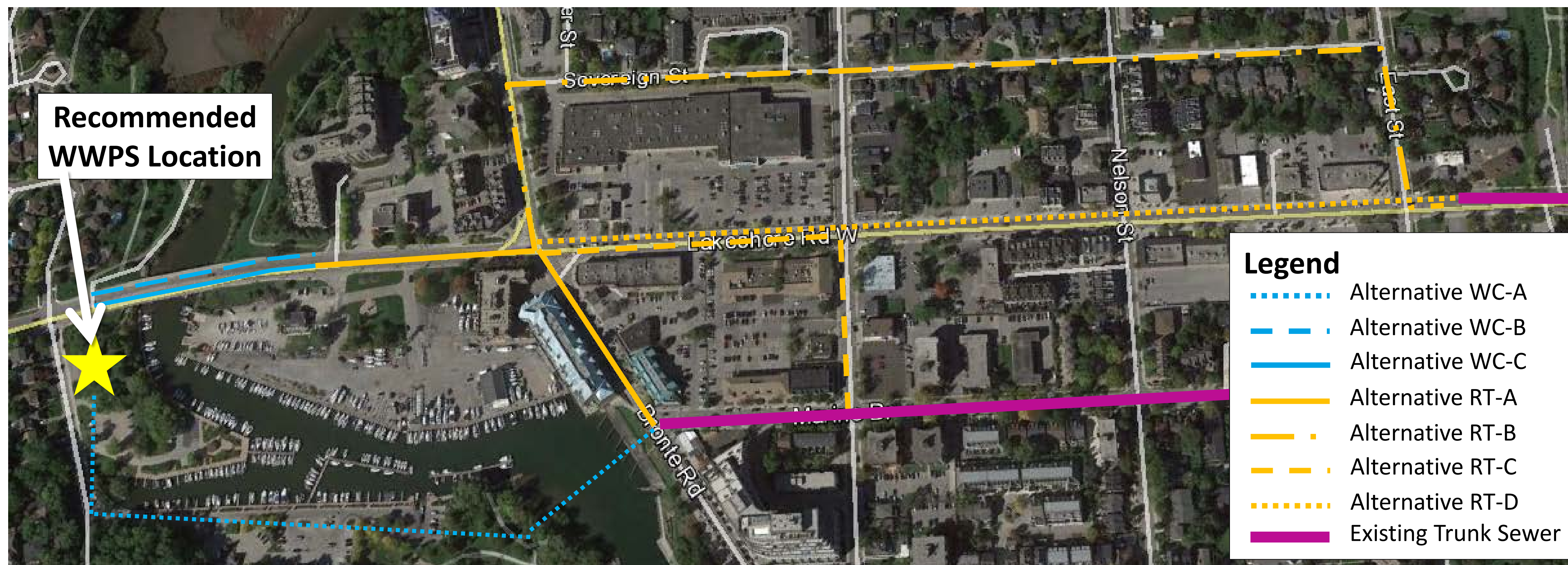
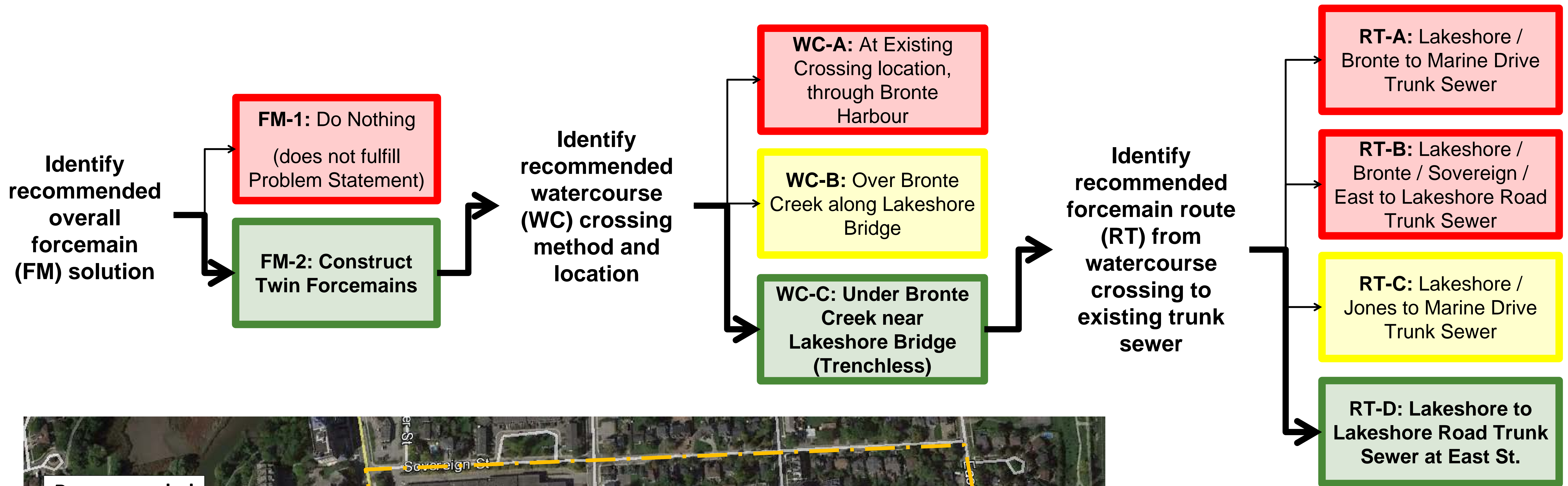
- Lowest Potential Impact, Most Desirable
- Moderate Potential Impact, Neutral
- Highest Potential Impact, Least Desirable

  
**Recommended WWPS Solution: Alternative PS-5A**





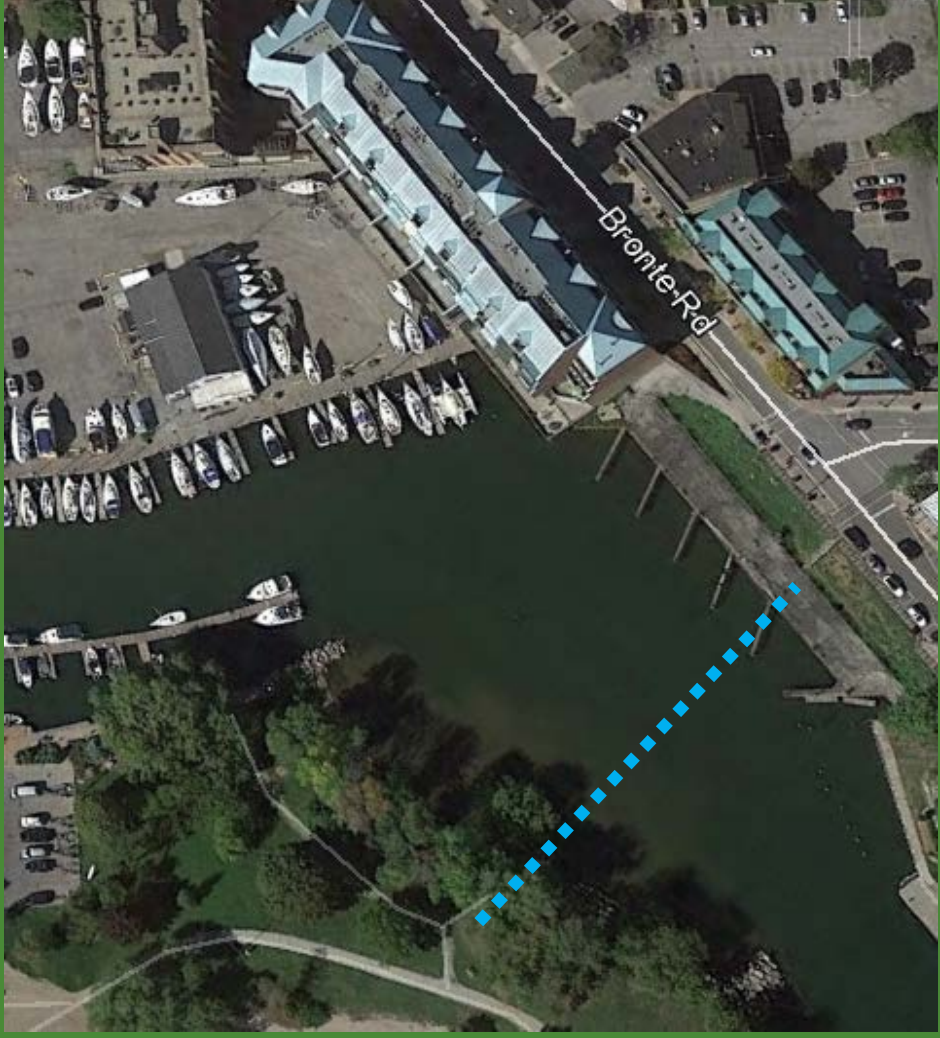
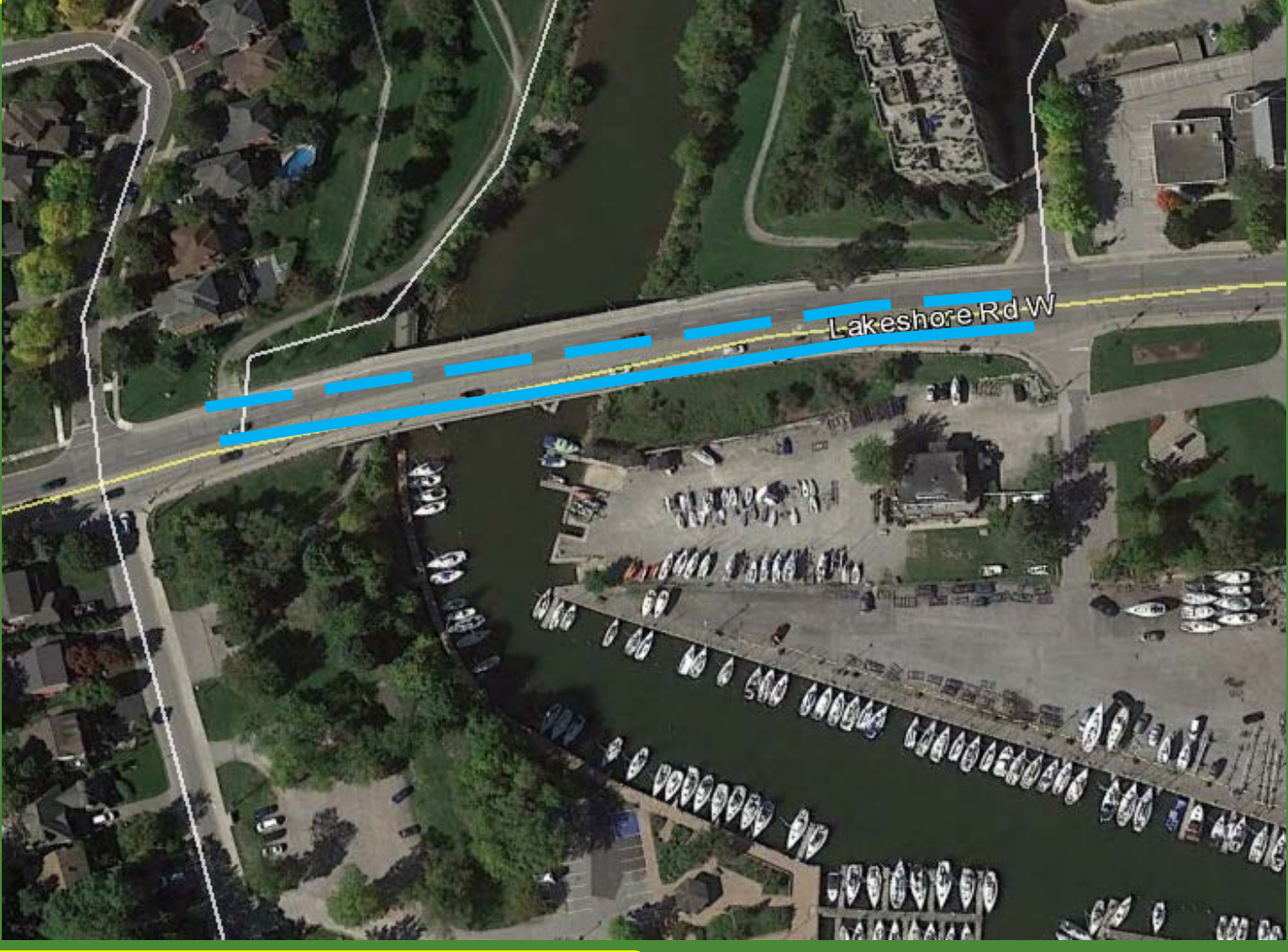
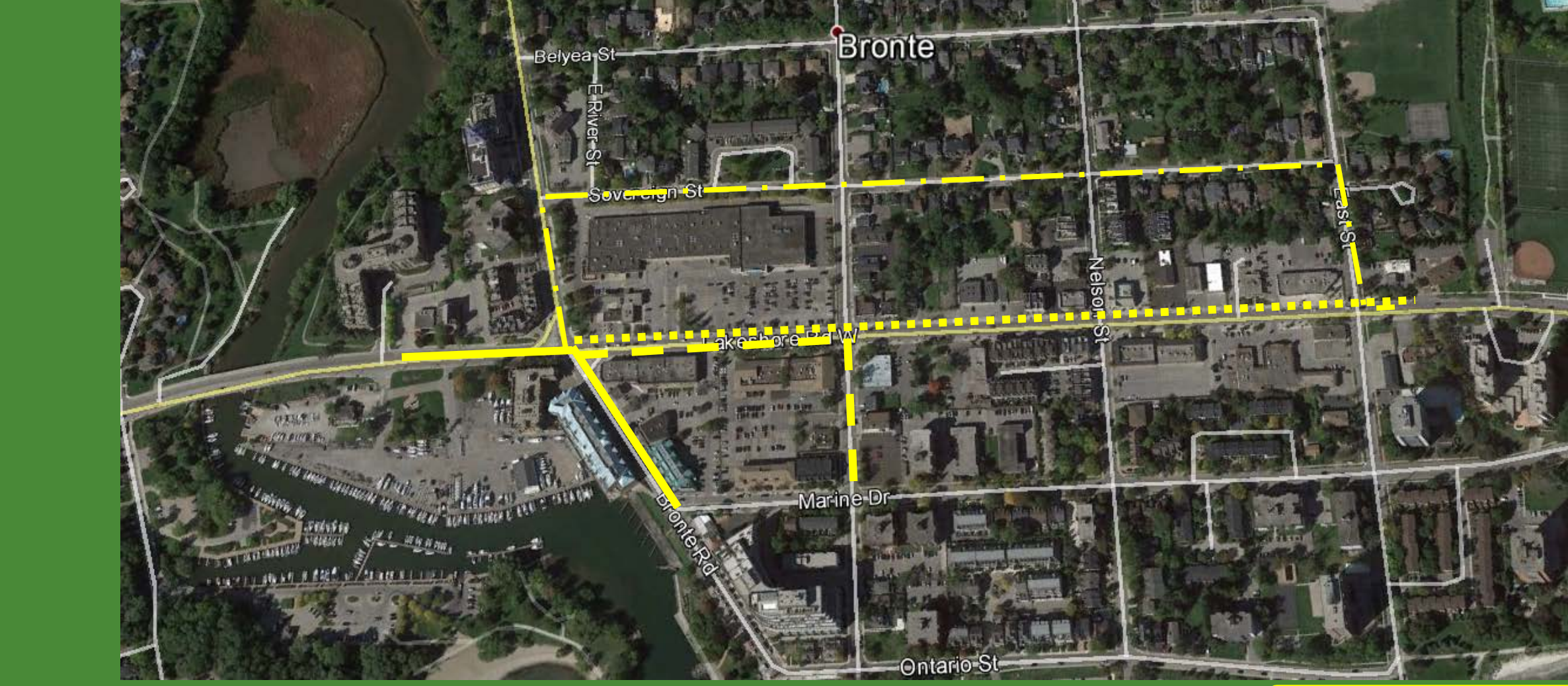
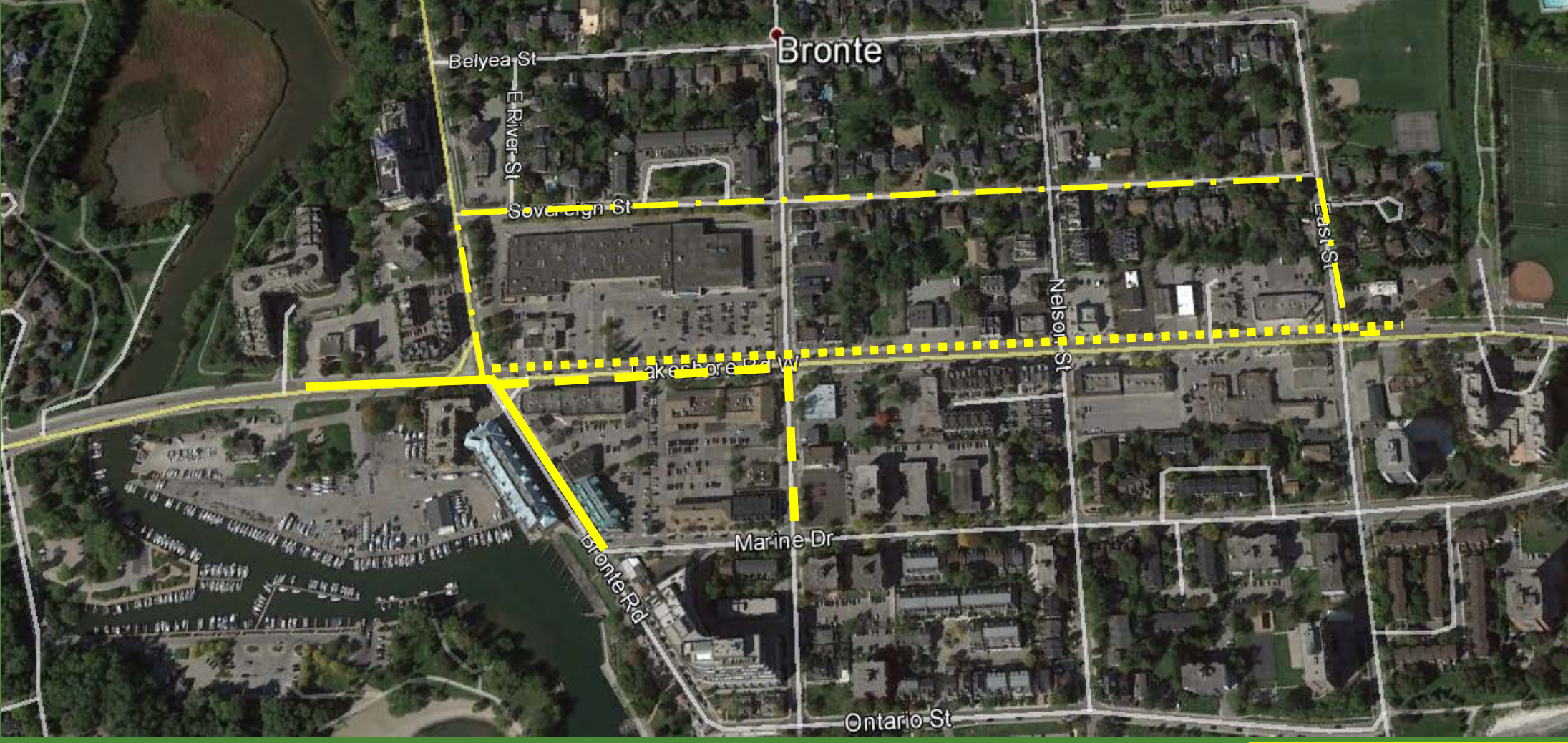
# FORCEMAIN ALTERNATIVE SOLUTIONS AND EVALUATION



- Lowest Potential Impact, Most Desirable**
- Moderate Potential Impact, Neutral**
- Highest Potential Impact, Least Desirable**



# EVALUATION OF FORCEMAIN ALTERNATIVE SOLUTIONS

Criteria	Watercourse Crossing Location			Route to Connect to Existing Trunk Sewer			
	Option WC-A: Trenchless under Bronte Creek	Option WC-B: Trenchless under Bronte Creek	Option WC-C: Along Bridge Creek	Option RT-A: Bronte	Option RT-B: Bronte, Sovereign, and East	Option RT-C: Lakeshore and Jones	Option RT-D: Lakeshore to East
							
Social	Option WC-A was screened out as the social impacts of construction on Bronte Road (staging and pit for trenchless construction) would be prohibitively disruptive to the Bronte Harbour community.	●	●	Options RT-A and RT-B were screened out as the social impacts of construction on Bronte Road (open-cut or trenchless due to pits) would be prohibitively disruptive to the Bronte Harbour community.		●	●
Natural		●	●			●	●
Technical		●	●			●	●
Legal / Jurisdictional		●	●			●	●
Economic		●	●			●	●
Overall		●	●			●	●

- Lowest Potential Impact, Most Desirable
- Moderate Potential Impact, Neutral
- Highest Potential Impact, Least Desirable

Recommended Forcemain Solution: WC-B and RT-D





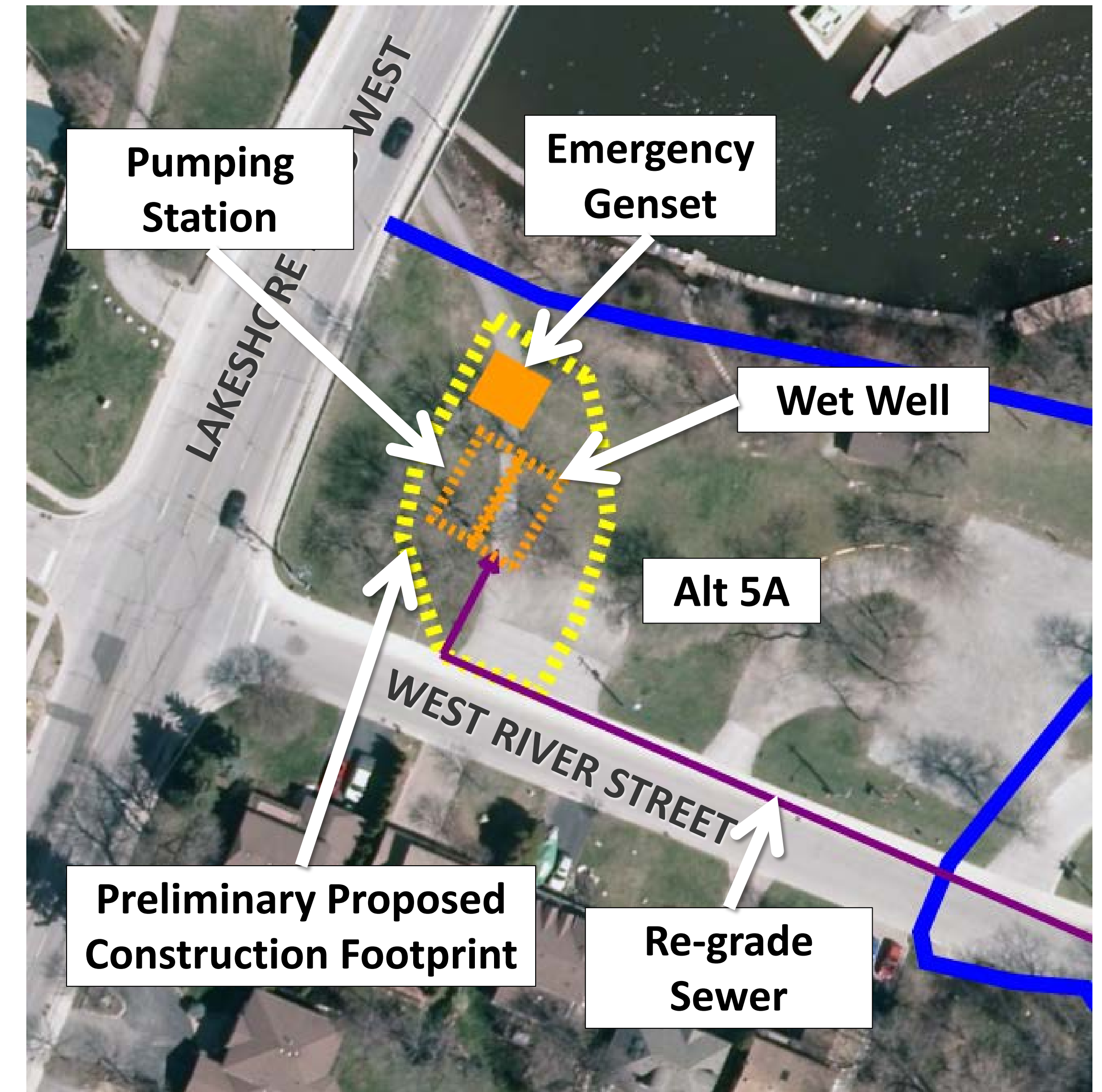
# RECOMMENDED SOLUTION

## Construction of a New WWPS at Berta Point with Twin Forcemains along Lakeshore Road to East Street

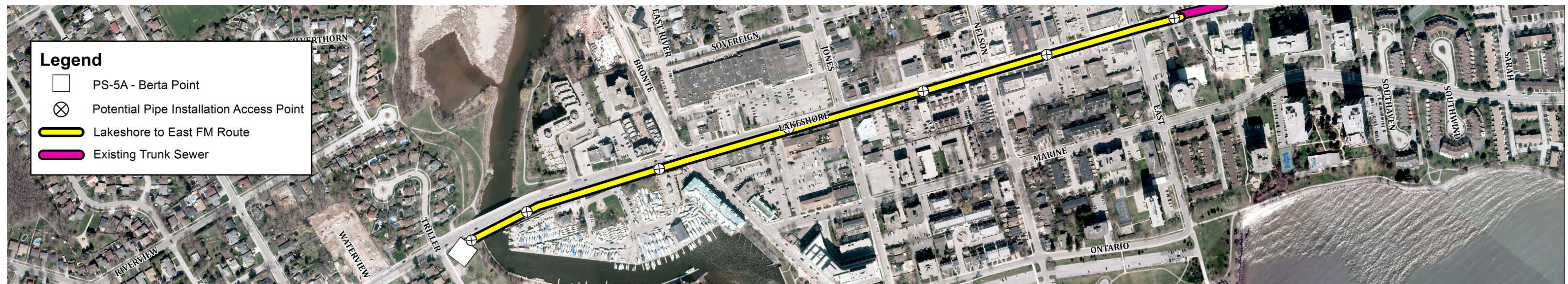
- Construct a new WWPS on Berta Point site, outside of floodplain
- Construct two new forcemains (assuming trenchless construction) along Lakeshore Road to East Street to provide for system backup and operational flexibility
- Existing WWPS building may be retained for other uses
- Existing forcemain may be decommissioned depending on pipe condition
- Preliminary Lifecycle Cost of overall solution estimated at \$16.5 million

### Mitigation Measures and Additional Studies

- Proposed improvements to be planned to avoid impacts to any cultural heritage resources
- Archeological potential was identified at Berta Point, the Recommended WWPS Site. Stage 2 Archaeological Assessment is required
- No Species at Risk were identified to be on or directly adjacent to the Recommended WWPS site and forcemain route



Recommended WWPS Site Layout



Recommended Forcemain Route along Lakeshore



# NEXT STEPS AND CONTACT INFORMATION



**Questions or Comments? Complete a Questionnaire or Contact a member of the Project Team:**

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**We look forward to hearing from you!**

