



amec
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wheeler



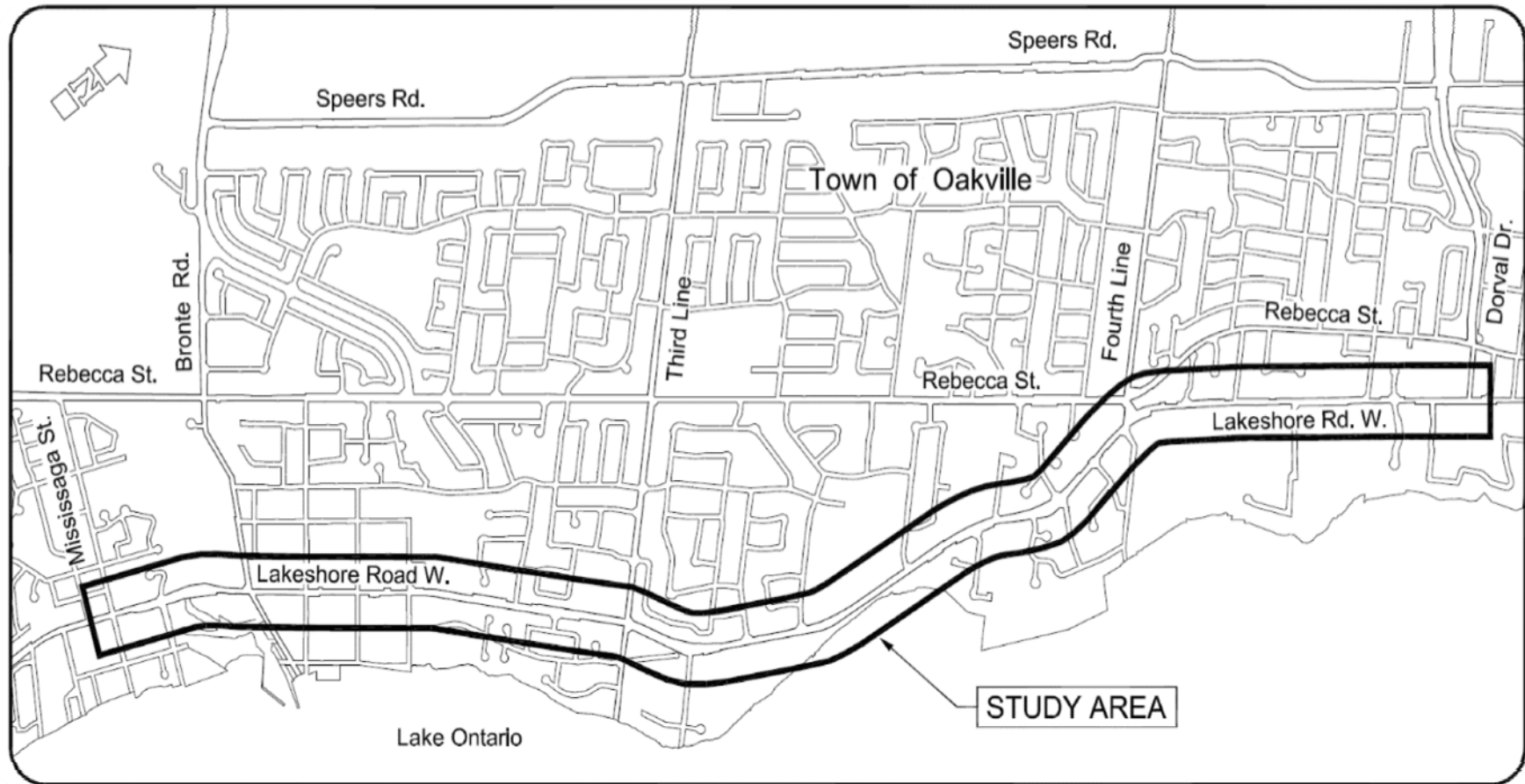
Lakeshore Road West Improvements Stakeholder Meeting #2 November 2, 2017 – Town of Oakville Trafalgar Room



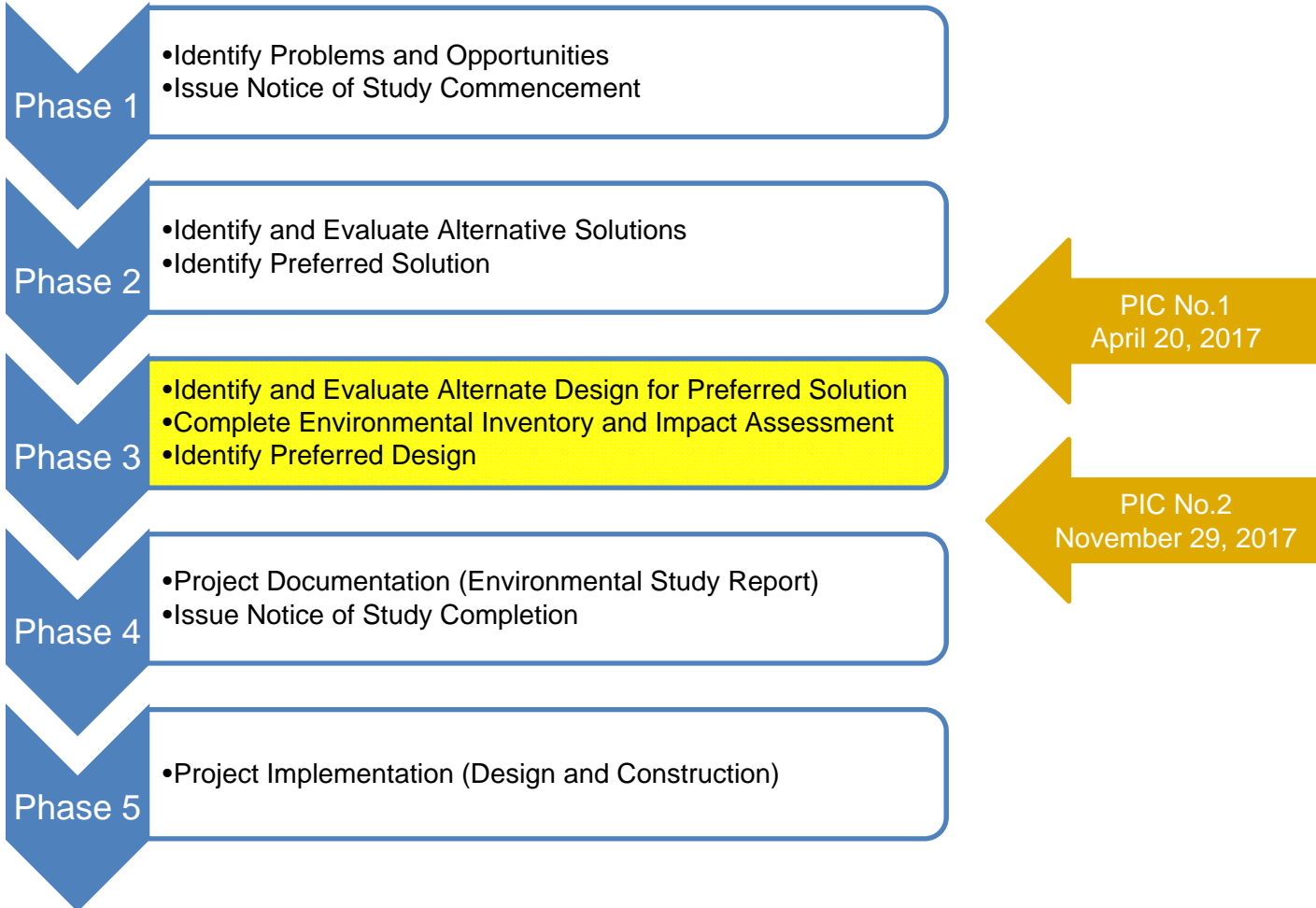
Agenda

1. Introductions
2. Class EA Process
3. Cycling Facilities Assessment
4. Typical Cross Sections
5. Pedestrian Crossings
6. Roundabout Assessment
7. Preliminary Streetscaping Concepts
8. Environmental Inventories
9. Preliminary Design

Study Area



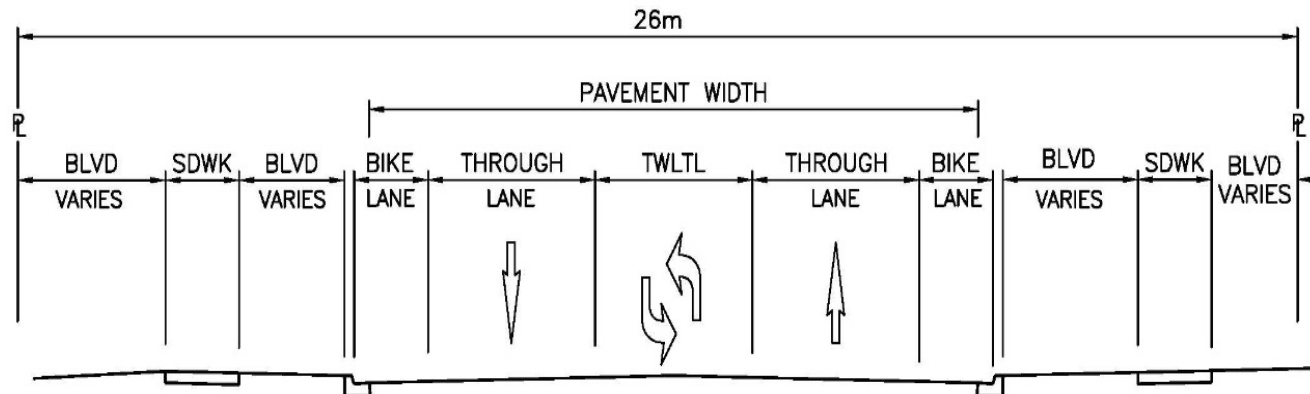
Class Environmental Assessment Process



Cycling Facilities Alternatives

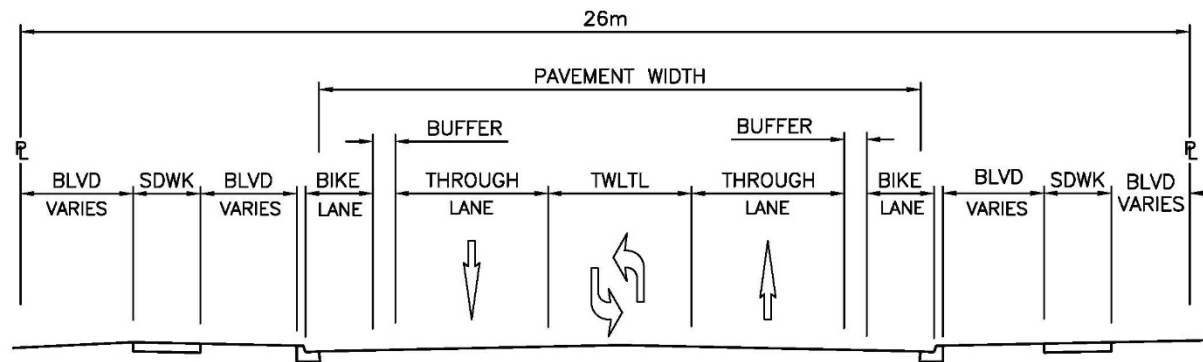
- Five alternatives were selected for evaluation, as follows:
 - Alternative 1: On-Road Bike Lanes
 - Alternative 2: On-Road Bike Lanes with a buffer
 - Alternative 3: Off-Road One-Way Cycle Tracks
 - Alternative 4: Off-Road Multi-Use Trail
 - Alternative 5: Combination - On-Road Bike Lanes with a buffer and Multi-Use Trail on the south side

Alternative 1: On-Road Bike Lanes

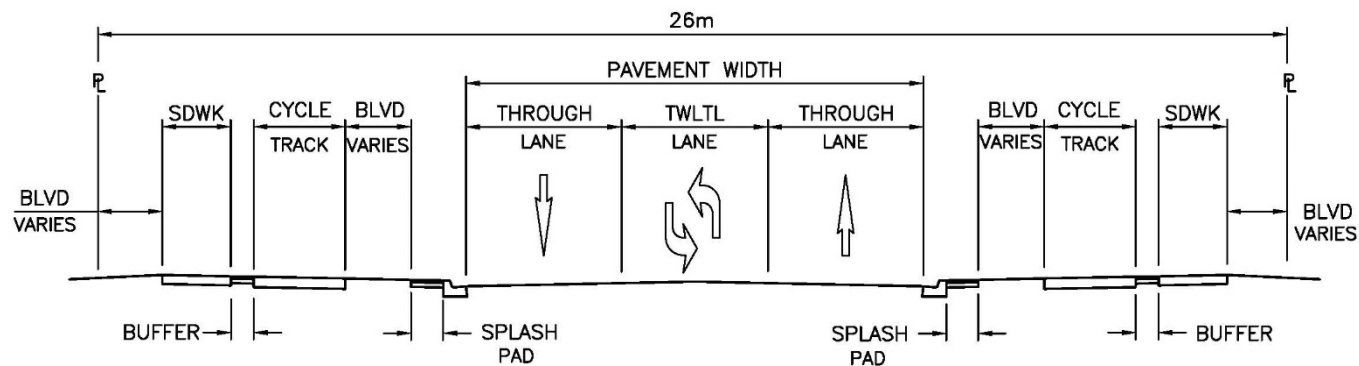


Cycling Facilities Alternatives

Alternative 2: On-Road Bike Lanes with buffer

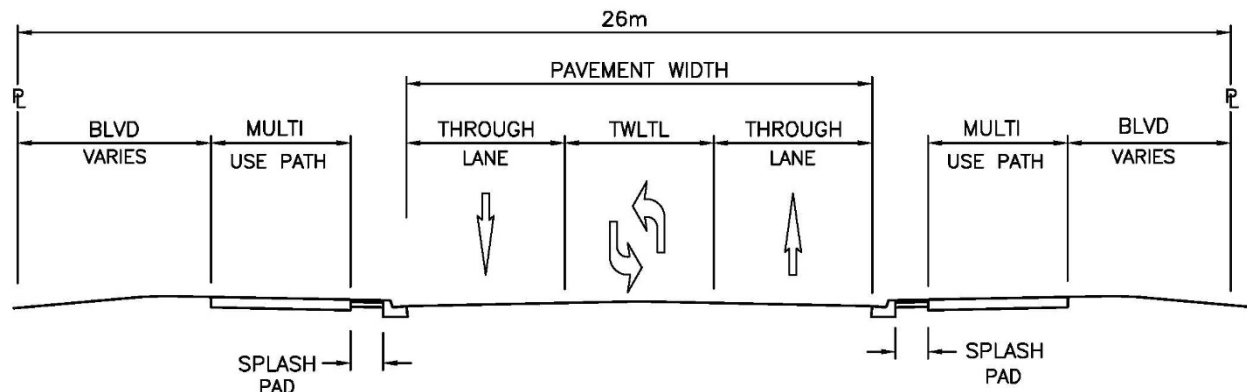


Alternative 3: Off-road One way Cycle Tracks

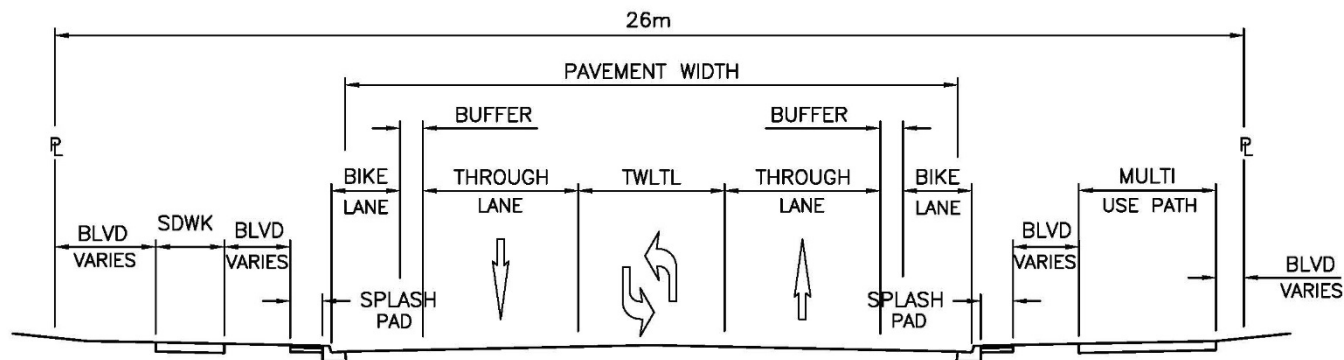


Cycling Facilities Alternatives

Alternative 4: Off-Road Multi-Use Trail



Alternative 5: Combination On-Road Bike Lanes with buffer and Multi-Use Trail on south side



Detailed Alternatives Assessment

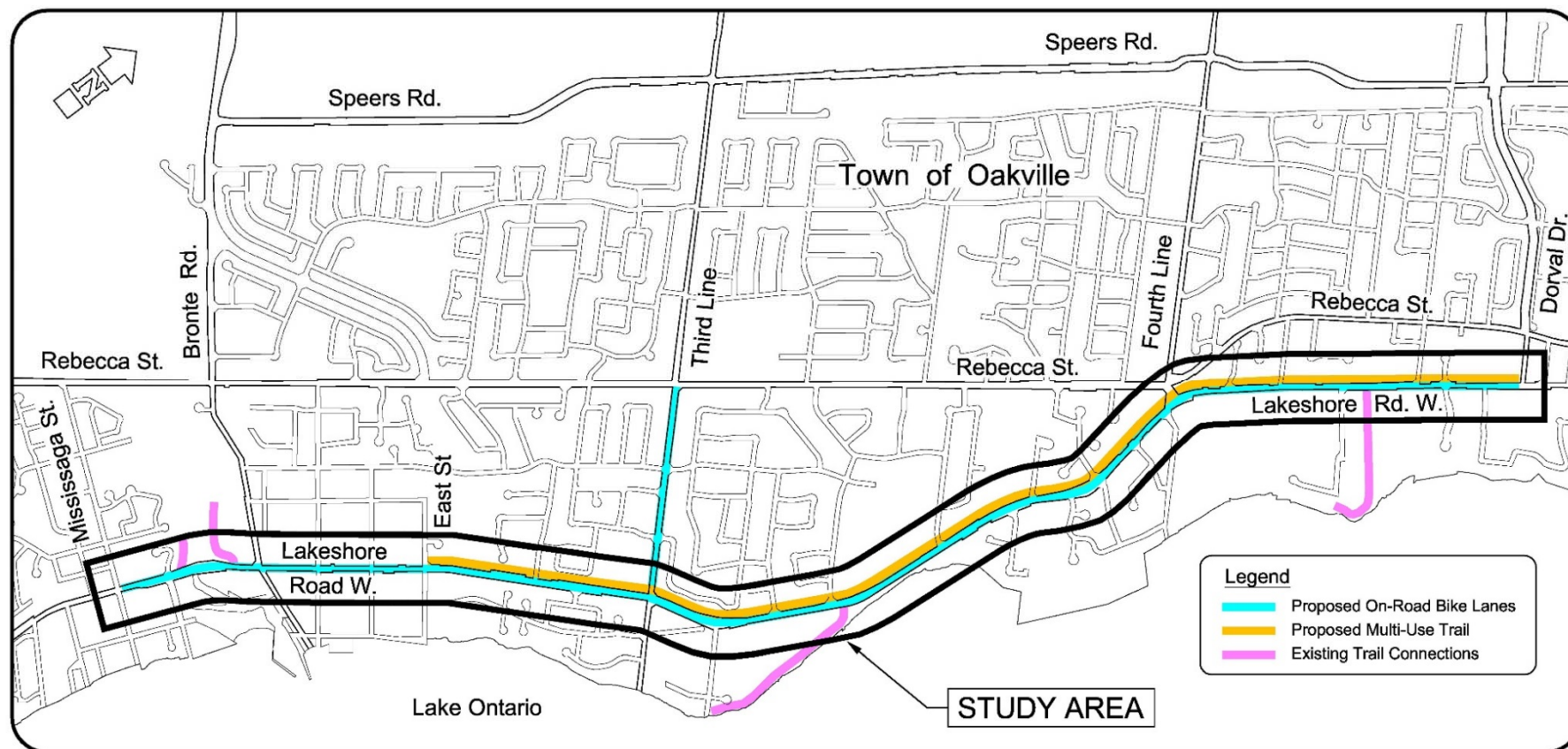
- The five alternatives were assessed based on the following criteria:
 - Roadway constraints and constructability
 - Property impacts
 - Utility impacts
 - Environmental and vegetation impacts
 - Safety and operations
 - Vehicle traffic operations
 - Capital and maintenance costs

Preferred Cycling Facility

- The preferred alternatives are as follows:
 - **Mississaga St. to East St.:**
 - ✓ **Alternative 2** - On-Road Bike Lanes with painted buffer
 - **East St. to Dorval Drive:**
 - ✓ **Alternative 5** - On-Road Bike Lanes with painted buffer and multi-use trail on the south side



Cycling Facilities Map



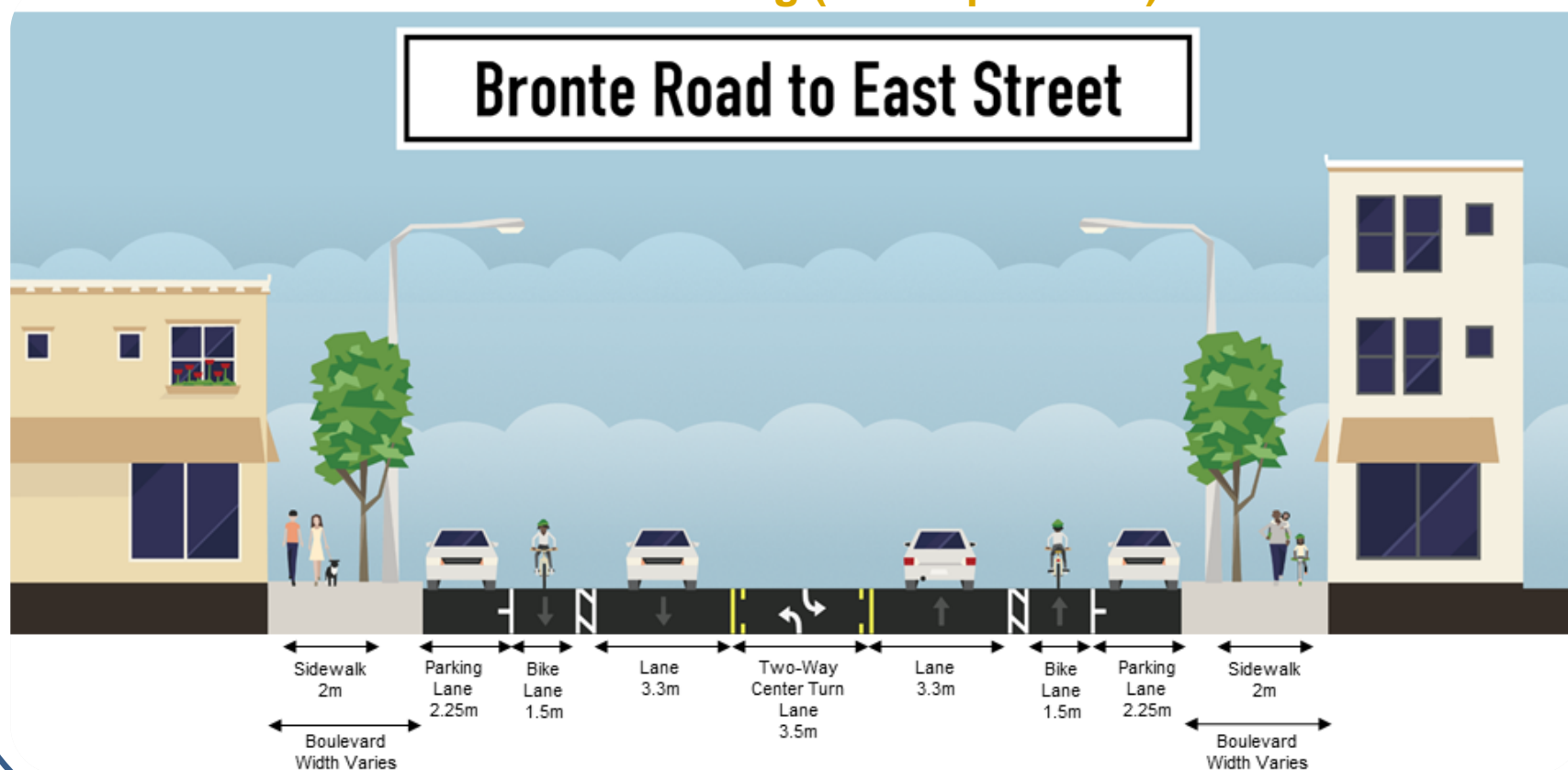
Design Elements

Typical Cross Section: 3 Lanes – On Road Bike Lanes with Sidewalks



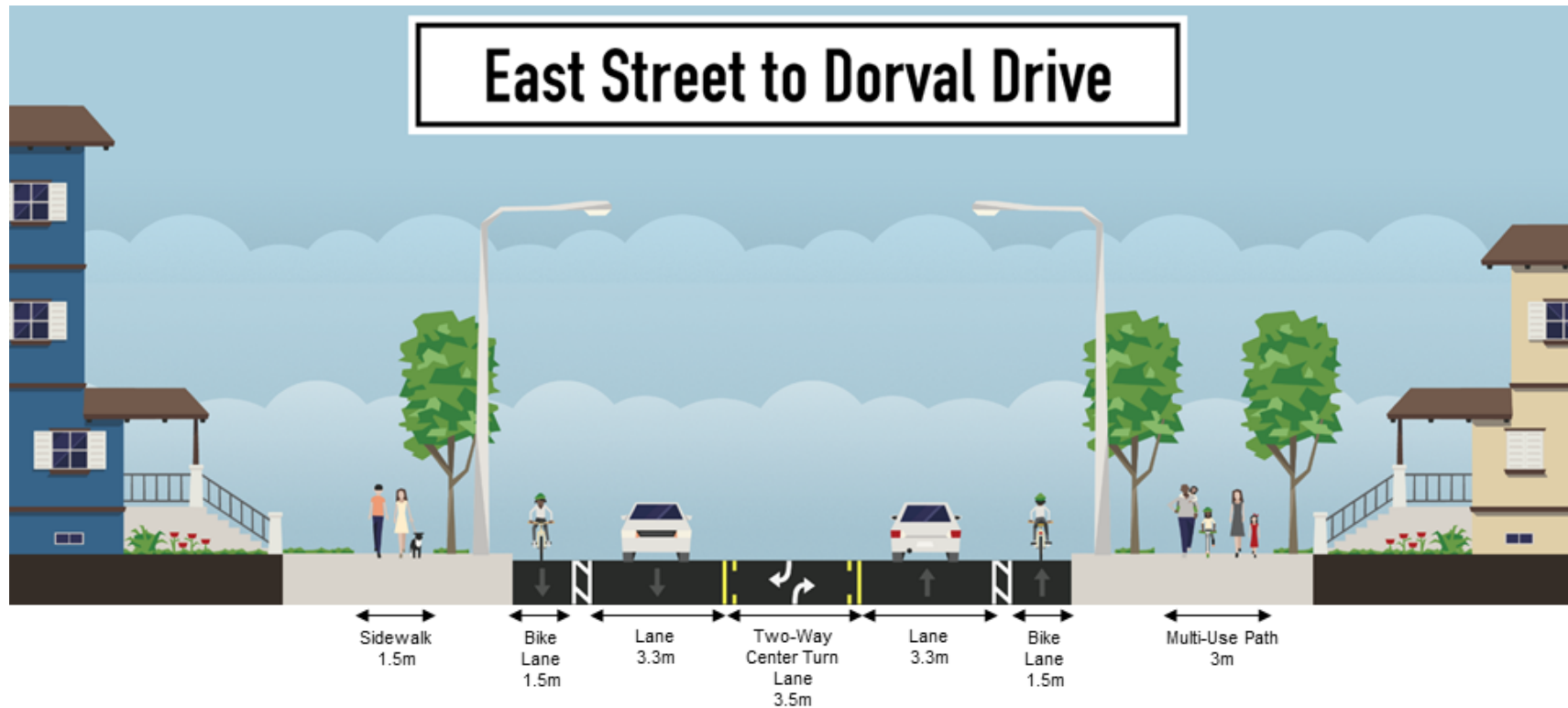
Design Elements

Typical Cross Section: 3 Lanes – On Road Bike Lanes with Parking (where possible)



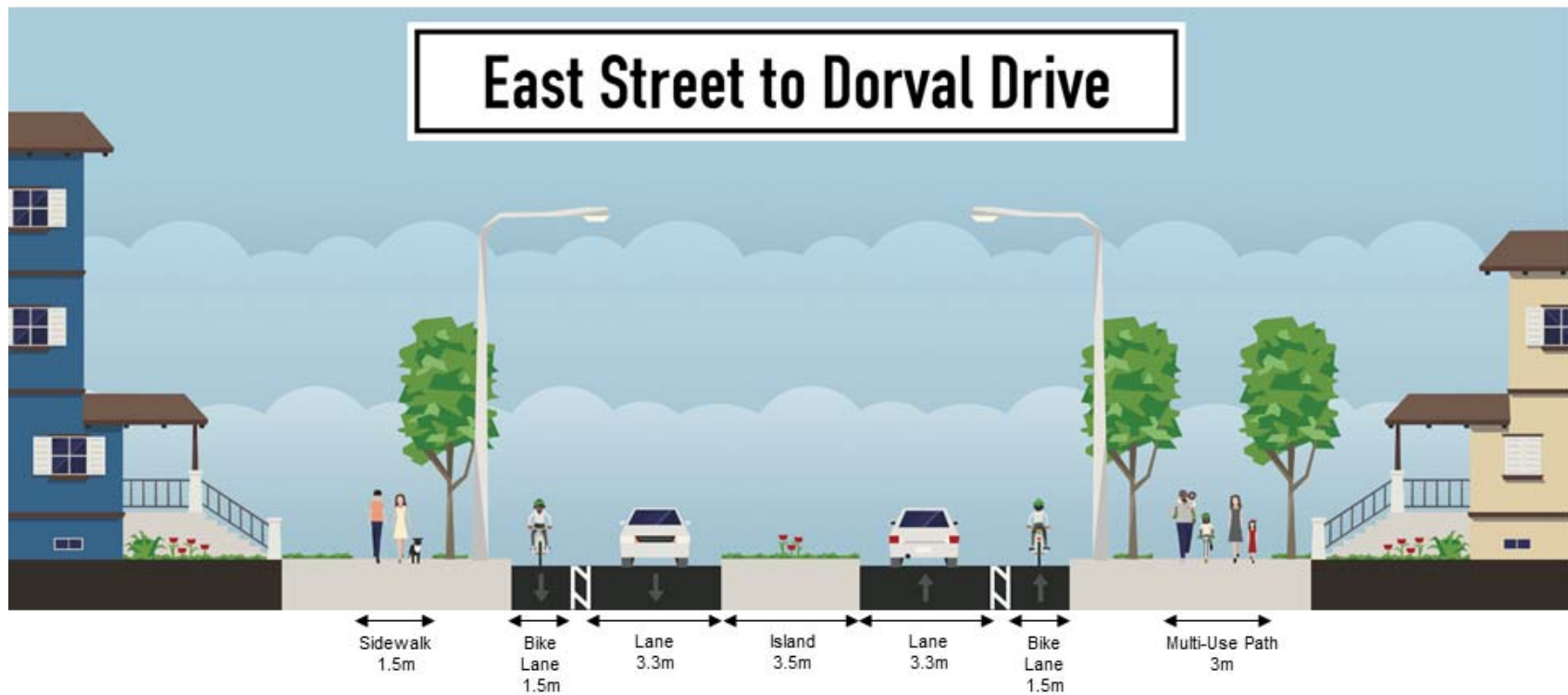
Design Elements

Typical Cross Section:
3 Lanes – On Road Bike Lanes with Sidewalk and Multi-Use Path

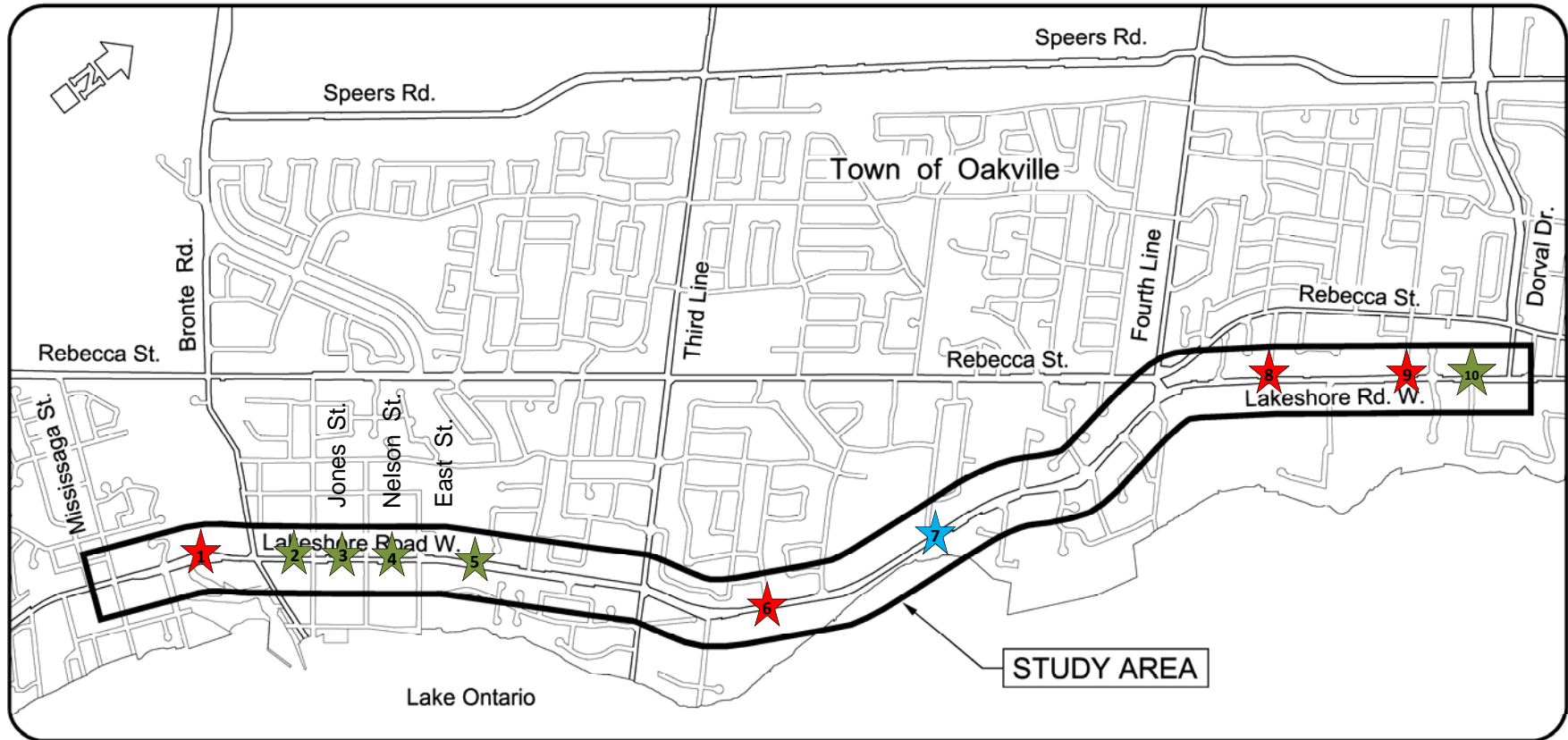


Design Elements

Typical Cross Section with Planted Island where possible



Proposed Pedestrian Crossings



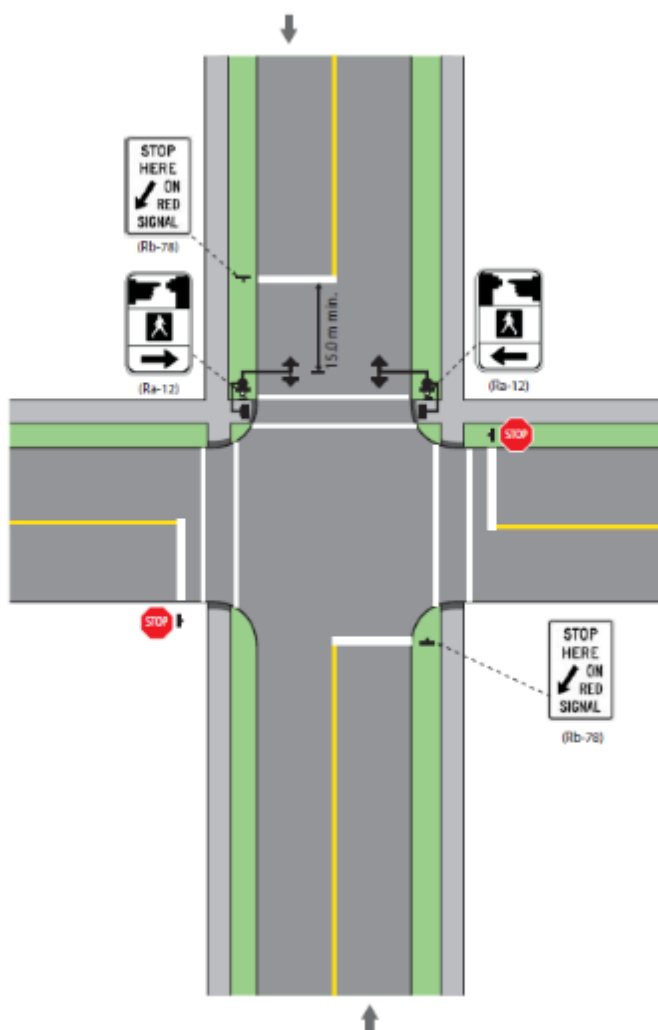
Proposed Pedestrian Crossing Types

- ★ Pedestrian Signal
- ★ Level 2 Type B Crossing
- ★ Level 2 Type C Crossing

Proposed Pedestrian Crossing Locations

- | | |
|------------------------------|--------------------|
| 1. Bronte Creek Trail | 6. Westminster Dr. |
| 2. West of Jones St. | 7. Sandwell Dr. |
| 3. West of Nelson St. | 8. Suffolk Ave. |
| 4. West of East St. | 9. Morden Rd. |
| 5. Bronte Athletic Park Walk | 10. Holyrood Ave. |

Pedestrian Crossing Types

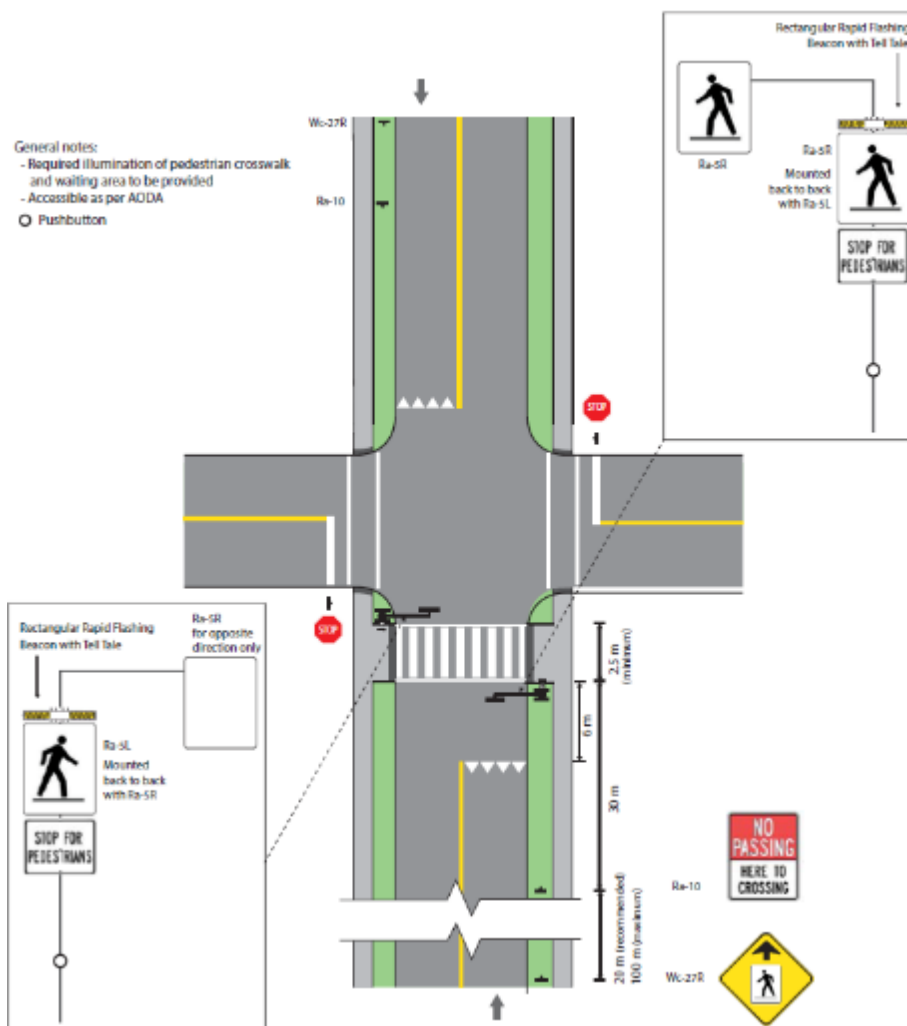


Intersection Pedestrian Signal (IPS)



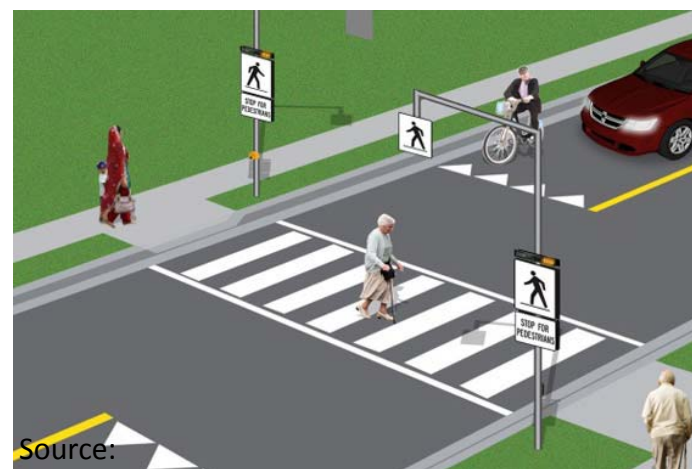
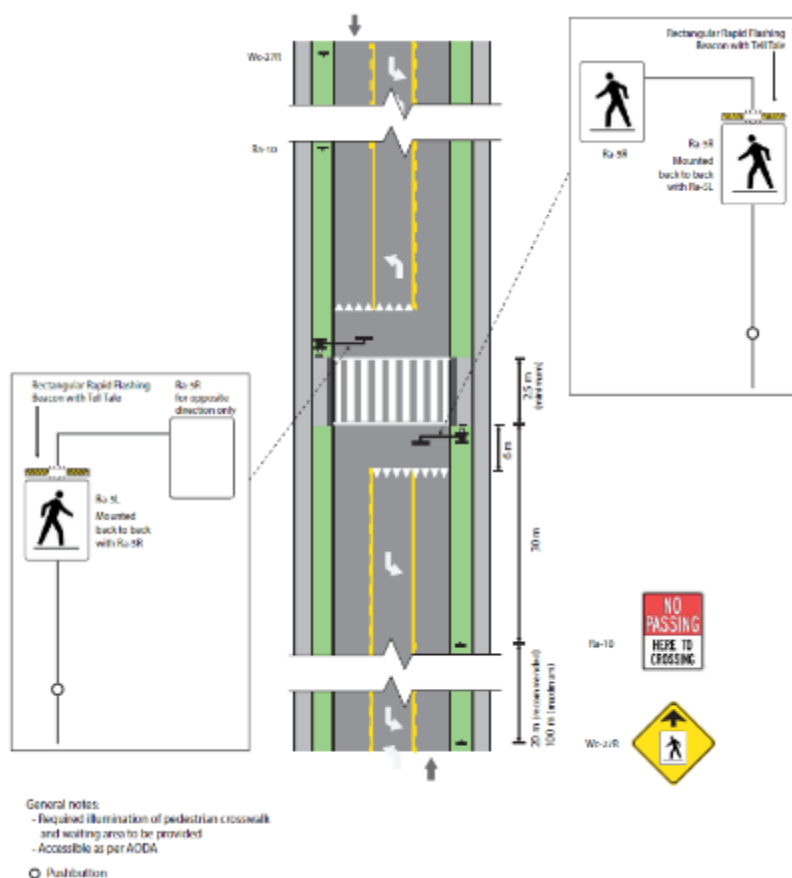
Source: Ontario Drivers Handbook, 2017

Pedestrian Crossing Types



Pedestrian Crossover Level 2 Type B - Intersection

Pedestrian Crossing Types



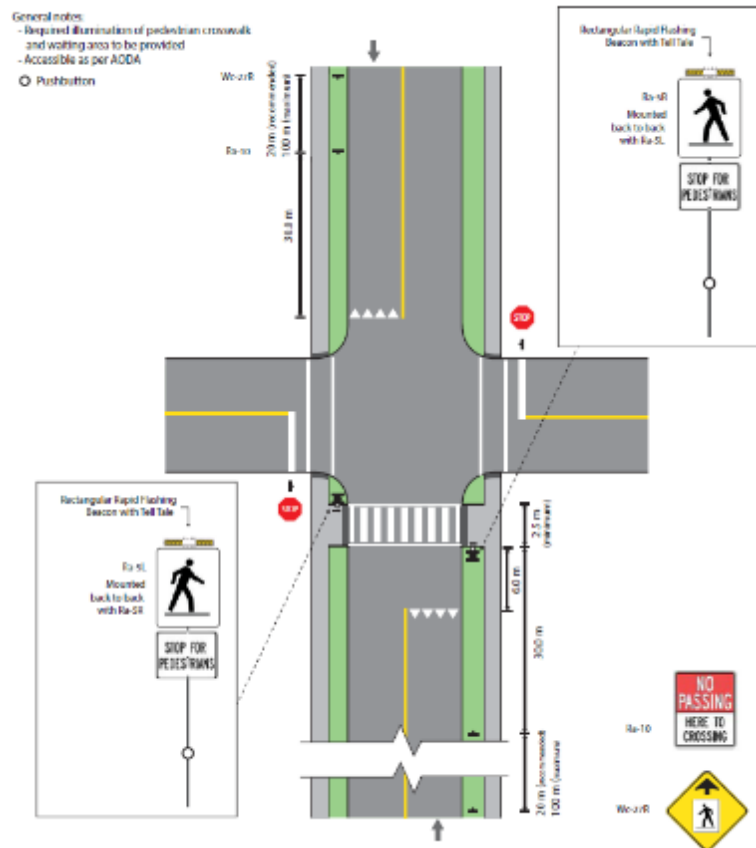
Source:
<https://www.oakville.ca/residents/pedestrian-crossovers.html>



Level 2 Type B PXO in Milton

Pedestrian Crossover Level 2 Type B – Mid-block

Pedestrian Crossing Types



Source:
<https://www.oakville.ca/residents/pedestrian-crossovers.html>

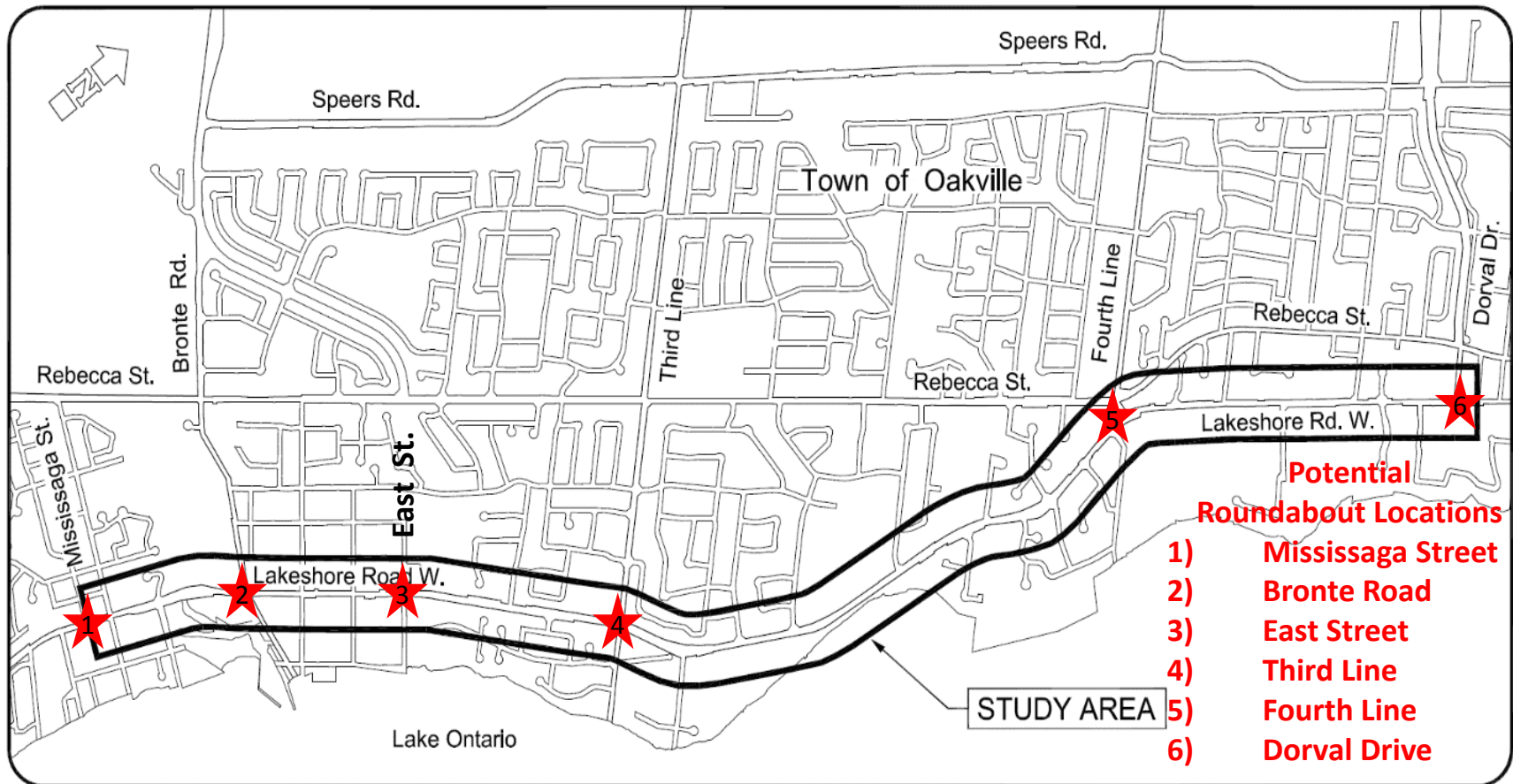


Source: Town of Oakville Pedestrian Safety Program, 2017

Pedestrian Crossover Level 2 Type C - Intersection

Roundabout Evaluation

Long List



Roundabout Evaluation

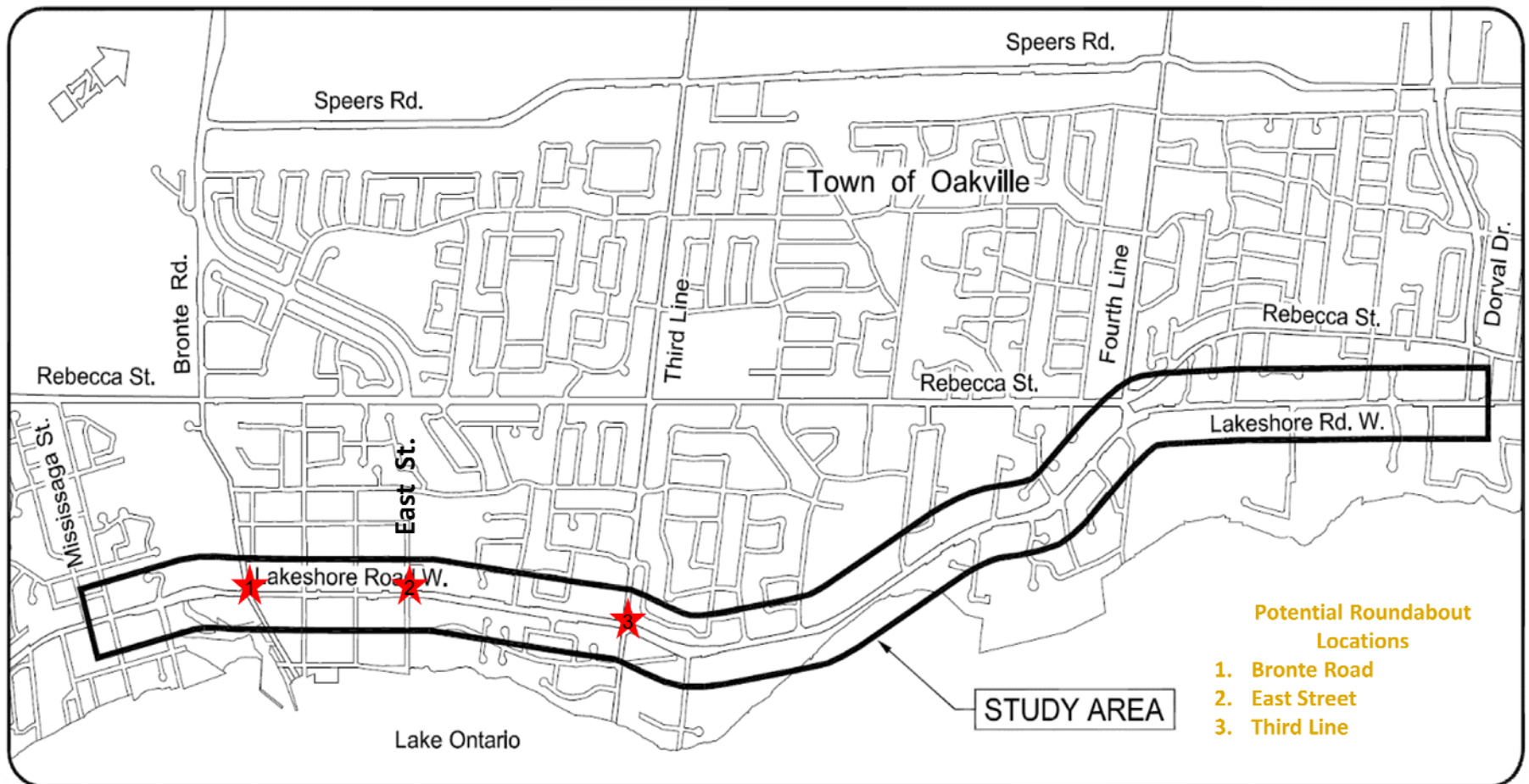
Screening Evaluation

| Criteria | Considerations |
|-----------------------------|--|
| Property Impacts | <ul style="list-style-type: none"> • Is there enough property available to accommodate the type of roundabout being considered? • Will property need to be acquired? |
| Safety | <ul style="list-style-type: none"> • Is speeding currently an issue? • History of high speed / angled collisions • Nearby vulnerable road users (seniors / children) |
| Operational Issues | <ul style="list-style-type: none"> • High U-turn / left turn volumes • Long queues / delays • Can active transportation be accommodated? • Can truck traffic be accommodated? |
| Other considerations | <ul style="list-style-type: none"> • Will mature trees and other vegetation be impacted? • Intersection grade • Proximity to nearby rail crossing or signalized intersection • Unusual geometry • Impact to nearby entrances / accesses |

Roundabout Evaluation

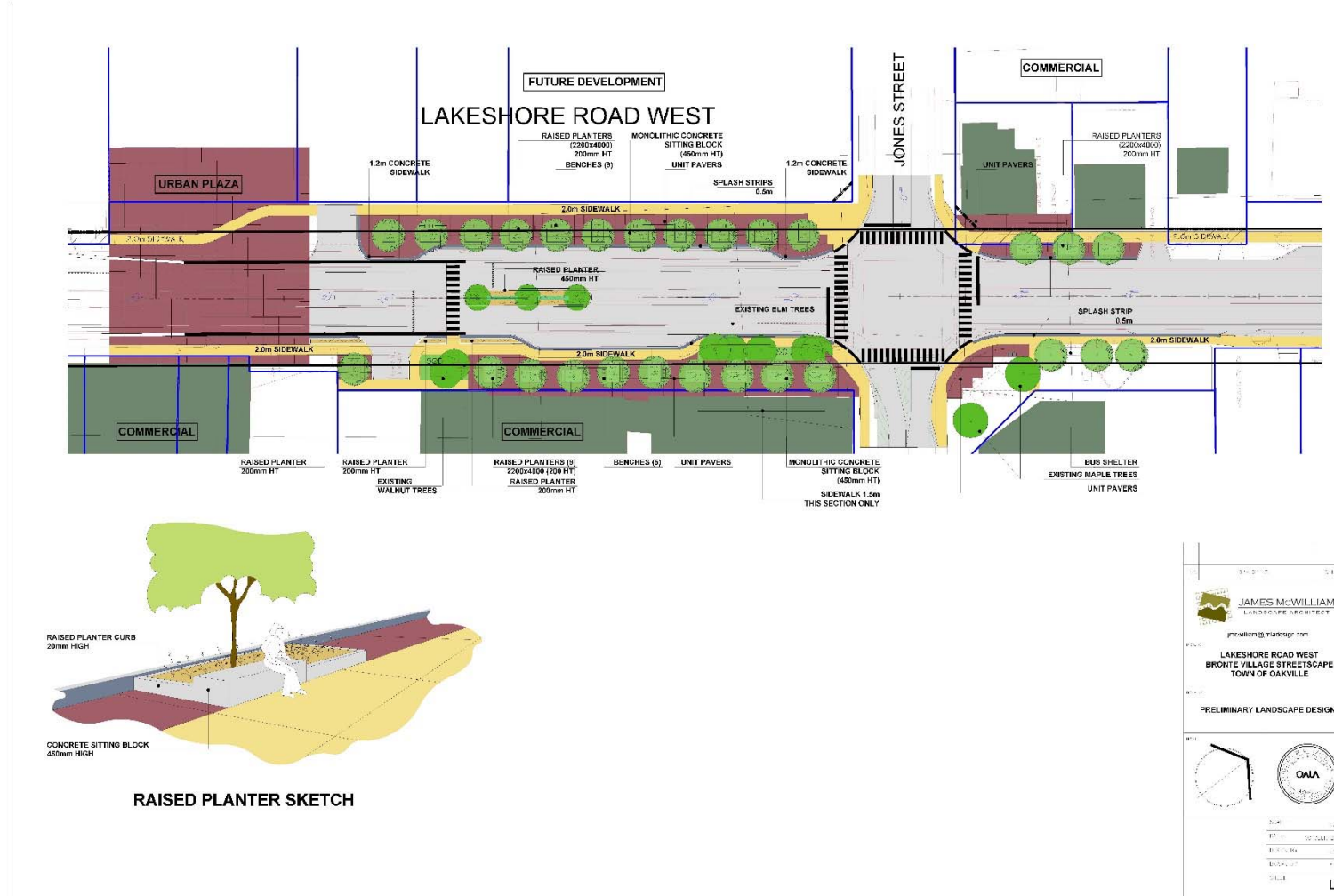
| Intersection | Considerations | | | Carry Forward |
|---------------------------|----------------|------------------------------|---|---------------|
| | LT/UT volumes | Skewed Intersection Geometry | Other Considerations | |
| Mississauga Street | Low | X | <ul style="list-style-type: none"> Limited property available Very tight ROW Would require removal of mature trees | No |
| Bronte Road | Moderate | ✓ | <ul style="list-style-type: none"> Very tight ROW Hydro vault in north east quadrant of intersection Gateway feature | Yes |
| East Street | Low | X | <ul style="list-style-type: none"> Very tight ROW Building on edge of property line in southwest quadrant of intersection Gateway feature | Yes |
| Third Line | Moderate | X | <ul style="list-style-type: none"> May require removal of a few trees | Yes |
| Fourth Line | Moderate | X | <ul style="list-style-type: none"> In close proximity to Rebecca Street intersection | No |
| Dorval Drive | Moderate | X | <ul style="list-style-type: none"> Tight ROW In close proximity to St. Jude's Cemetery Grade along south side of intersection is problematic | No |

Roundabout Short List – to be Carried Forward



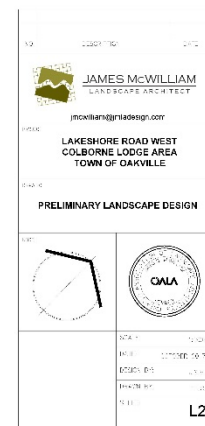
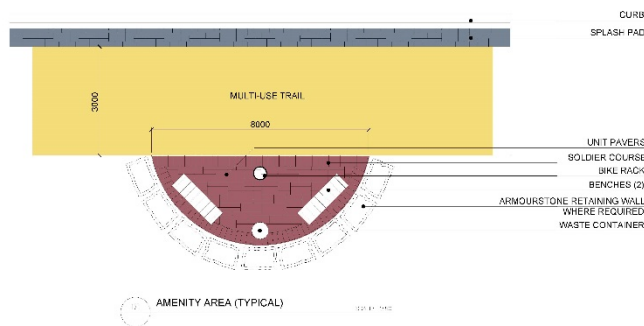
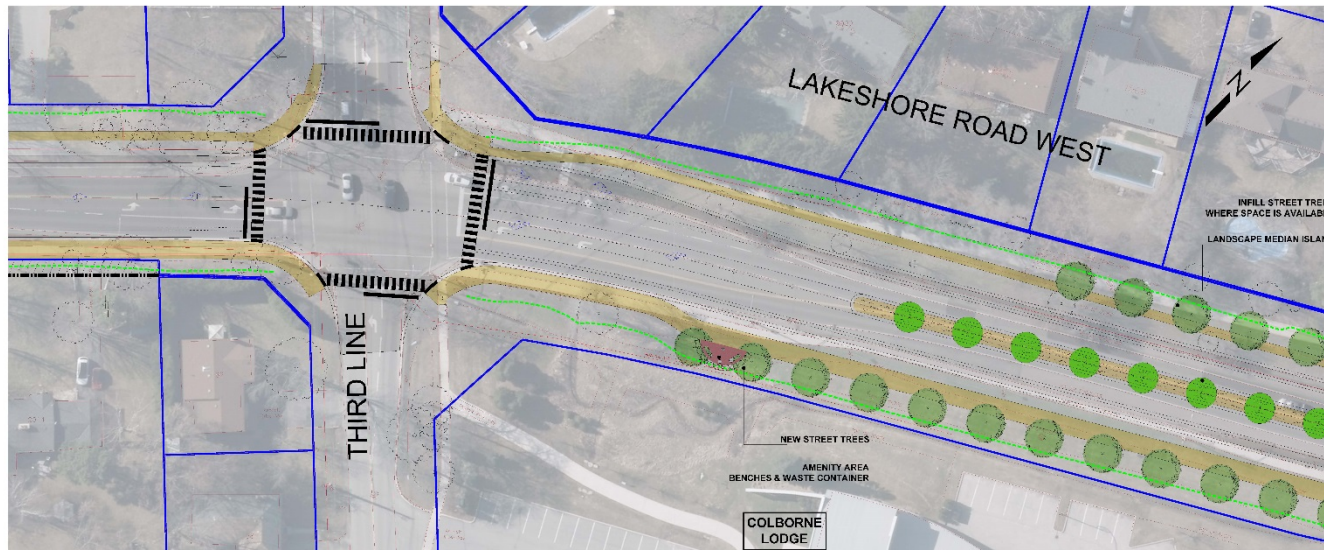
Preliminary Streetscaping Concepts

Lakeshore Road West Streetscaping Design



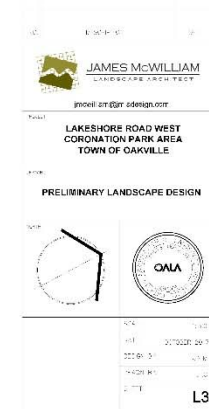
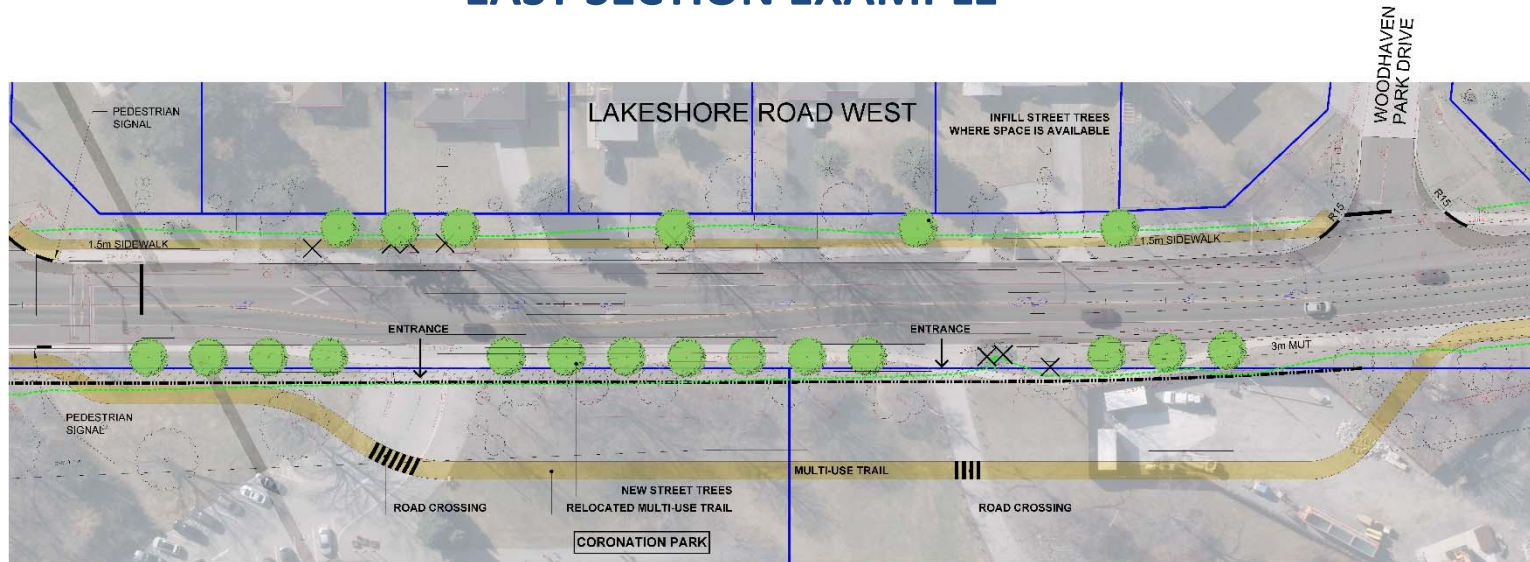
Lakeshore Road West Streetscaping Design

CENTRAL SECTION EXAMPLE



Lakeshore Road West Streetscaping Design

EAST SECTION EXAMPLE



Environmental Inventories



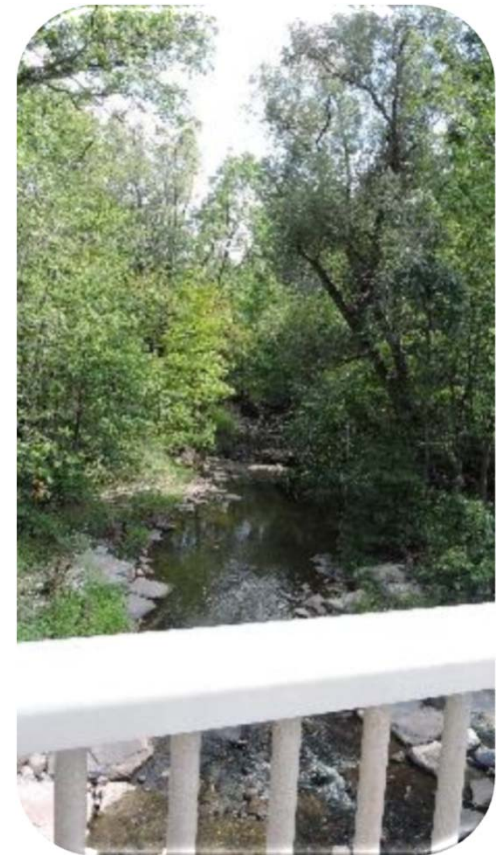
Noise Study

- Operational Road Traffic Noise Impact Assessment in progress
 - The changes in traffic volumes or nearness to houses based on the planned improvements are being modelled to assess if mitigation is needed
- Construction Noise Impact Assessment
 - recommendations for noise mitigation and/or monitoring of the proposed construction works will be made



Water Crossings

- Three significant crossings exist; Bronte Creek, Fourteen Mile Creek and McCraney Creek
- Bronte Creek and Fourteen Mile Creek crossings structures will be retained
- McCraney Creek structure will be replaced by a slightly larger bridge
 - Various environmental mitigation measures will be documented in the EA to be addressed in detail design and construction



Road Drainage

- The existing drainage system is a mixed urban system (curb and gutter with storm sewer) and rural system (roadside ditches)
- The existing sewer and ditch systems are under capacity in certain road sections
- Drainage improvements are being considered such storm sewer upgrades and drainage controls
- Existing rural road section – roadside ditches will be replaced with an urbanized drainage system
- Stormwater quality controls being considered such as infiltration/ detention systems and manhole systems (oil/grit chambers)
- Pilot projects (vegetative filtering beds and underground infiltration systems) are being considered in selected locations.



Species at Risk

Aquatic SAR

- American Eel
- Redside Dace
- Silver Shiner
- Lake Sturgeon
- Deepwater Sculpin
- Upper Great Lakes Kiyi



**Redside
Dace**



Silver Shiner



American Eel

Invertebrate SAR

- Monarch Butterfly

Bird SAR

- Barn Swallow
- Chimney Swift

Plant SAR

- Butternut
- Kentucky Coffee-tree

Mammal SAR

- Little Brown Myotis
- Northern Myotis
- Eastern Small-footed Myotis
- Tri-colored Bat



Northern Map Turtle



Chimney Swift



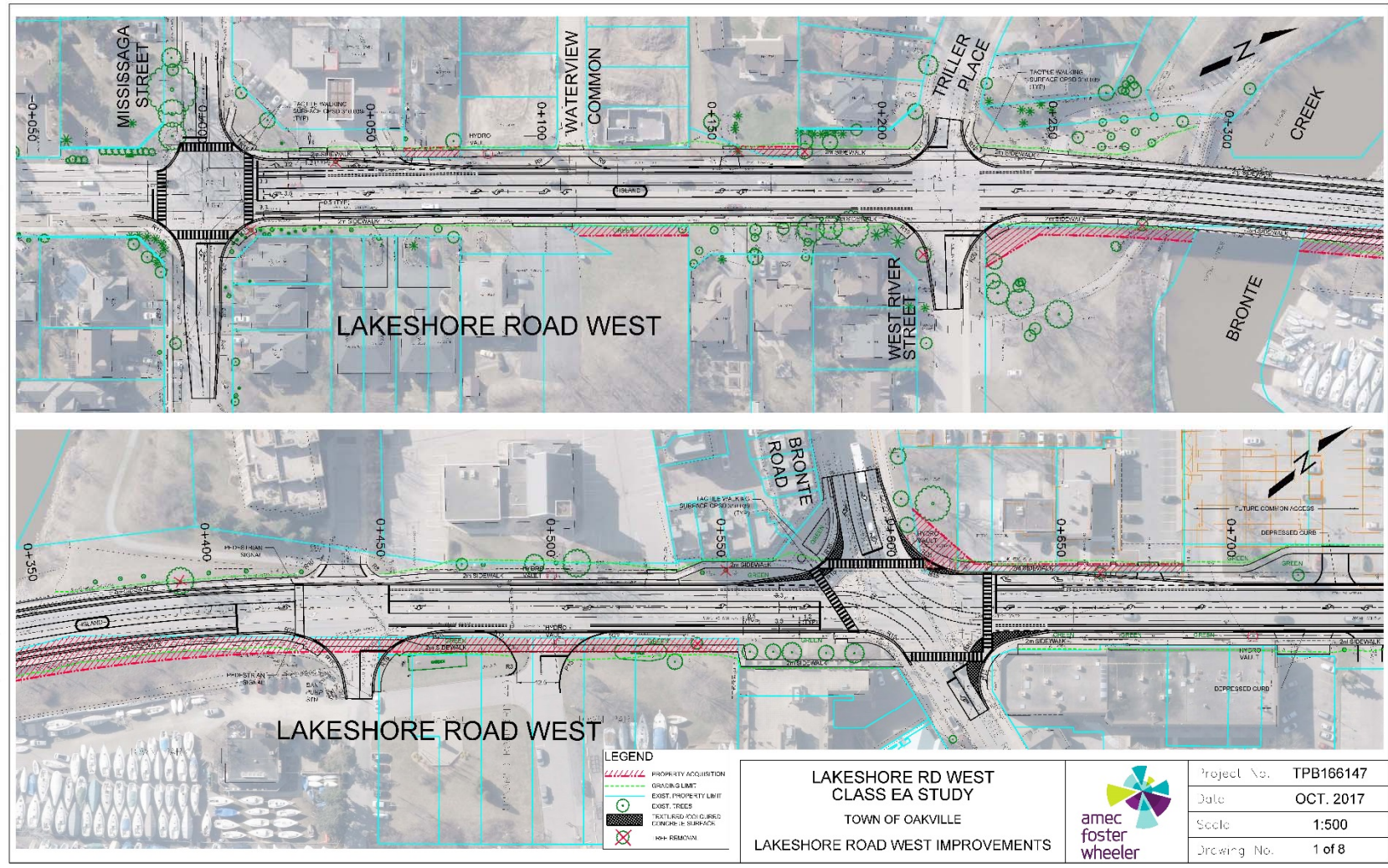
OAKVILLE



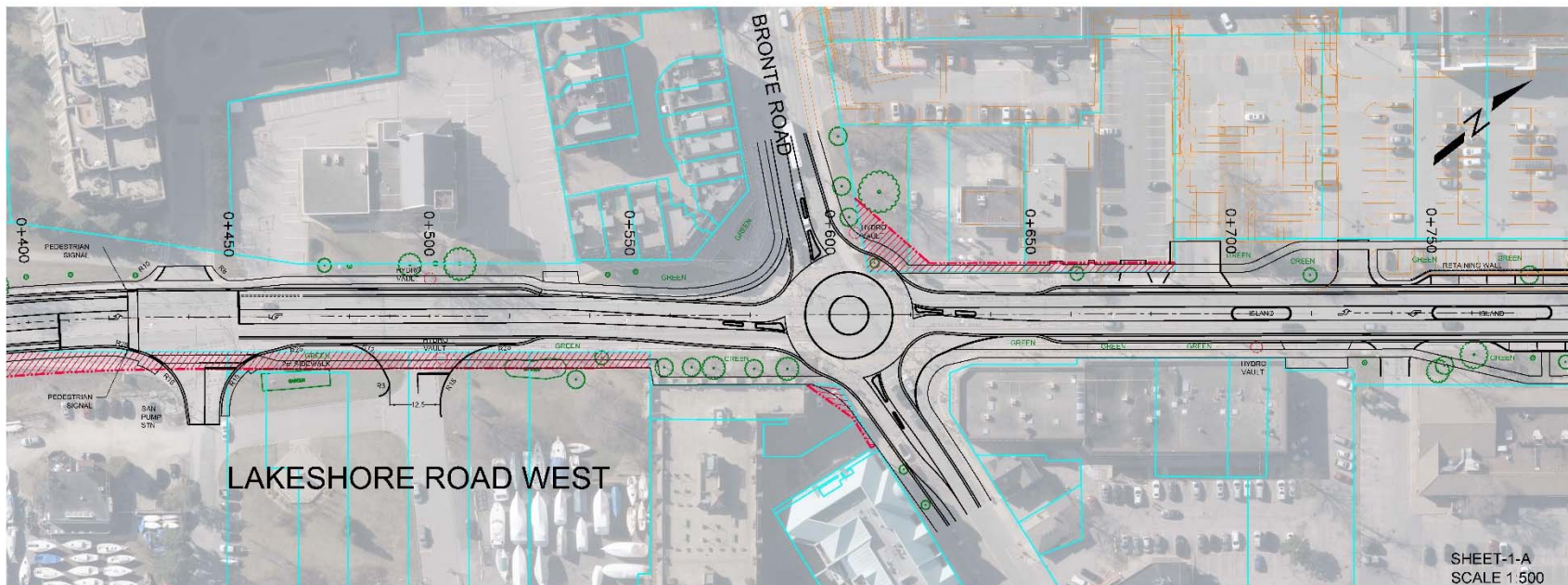
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Lakeshore Road West Preliminary Design Layout

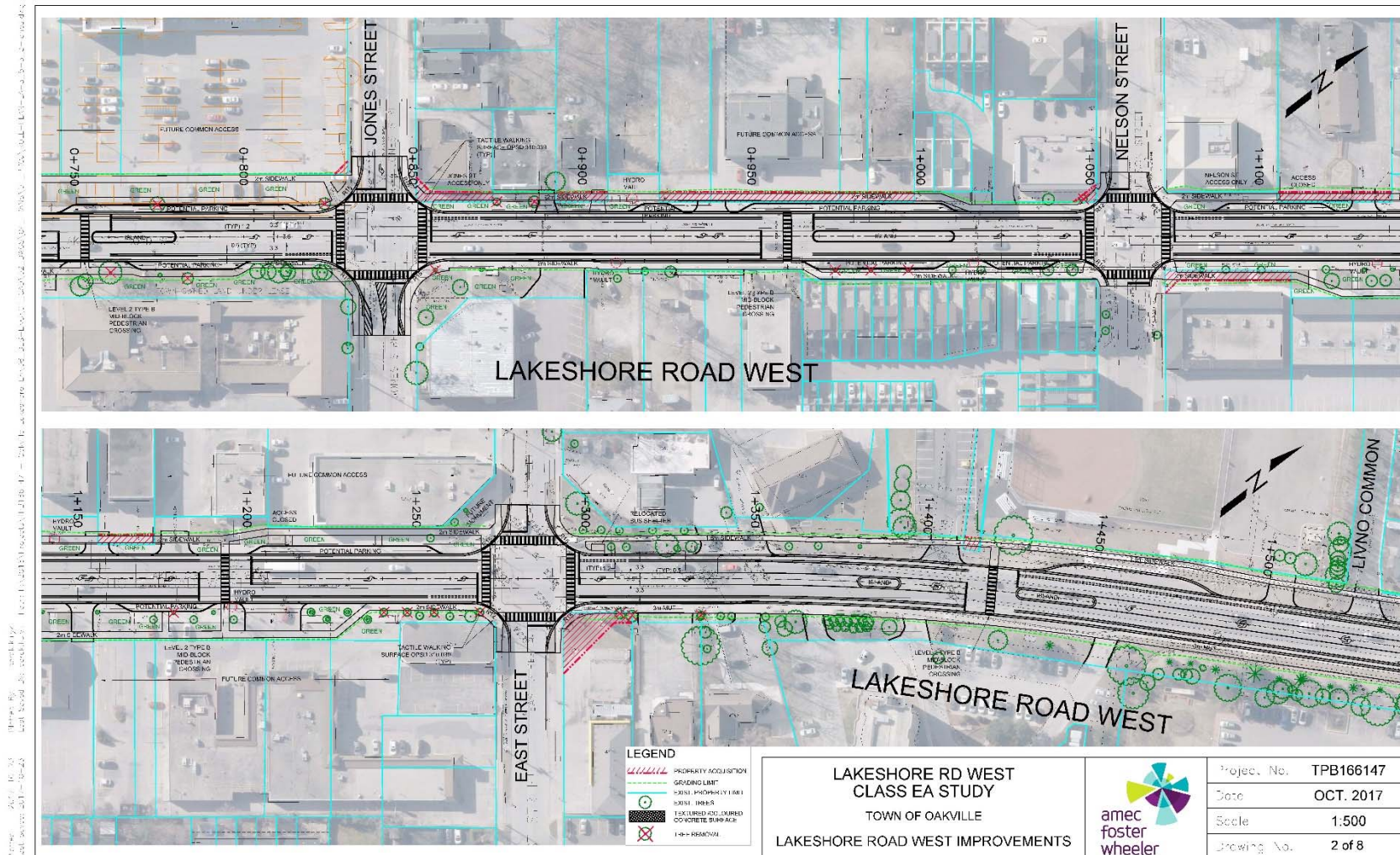
Section 1 – Mississaga St. to Bronte Rd.



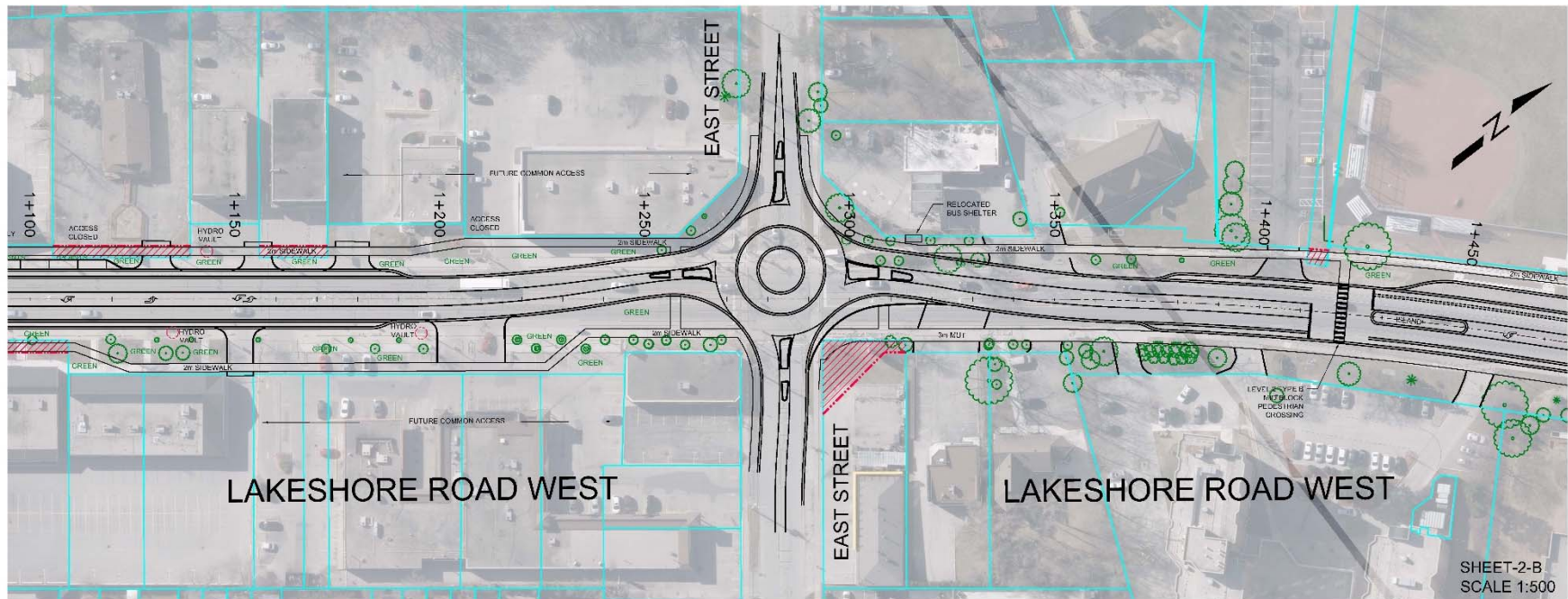
Section 1-A Bronte Rd. Roundabout Option



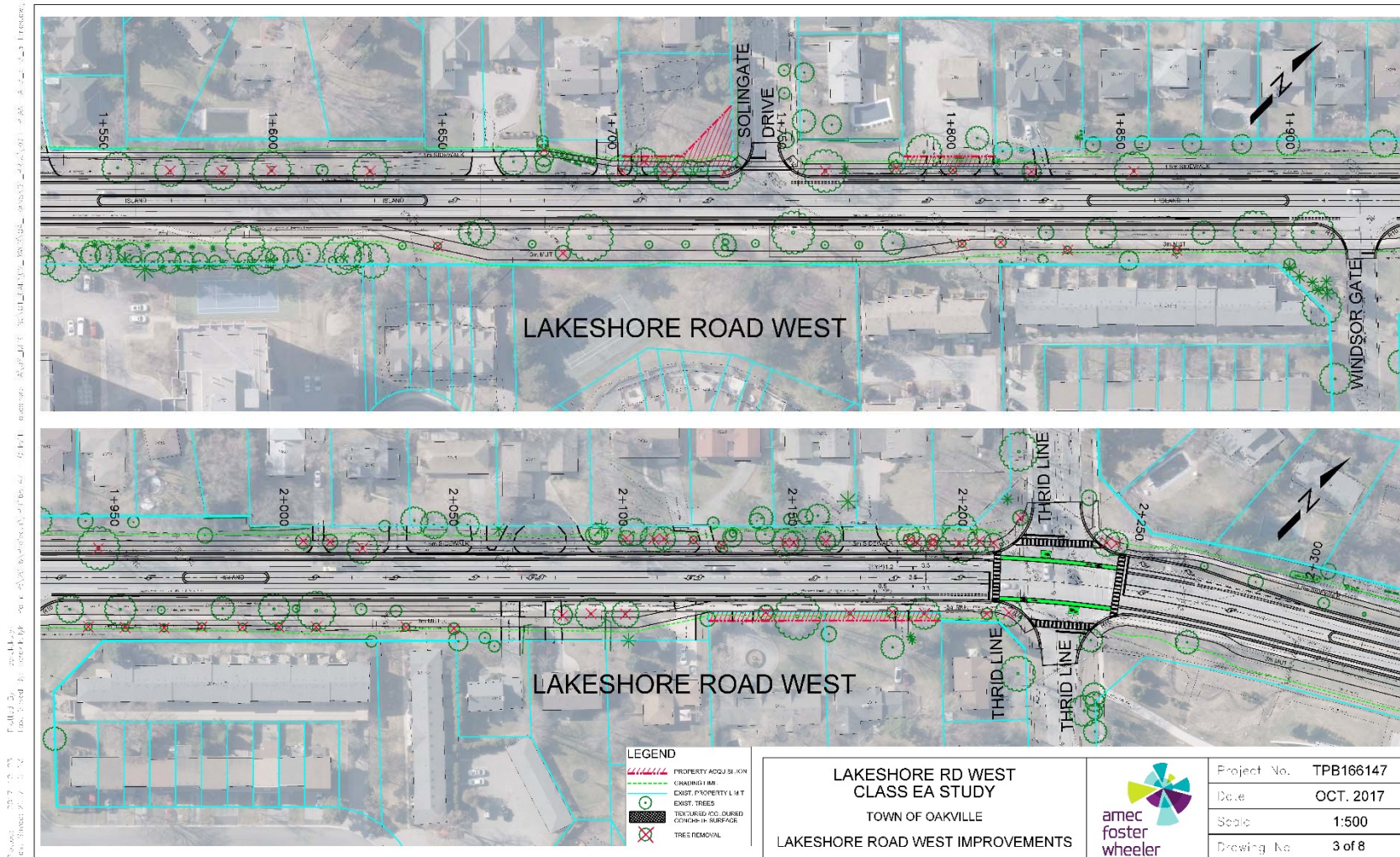
Section 2 – Jones St. to Livno Common



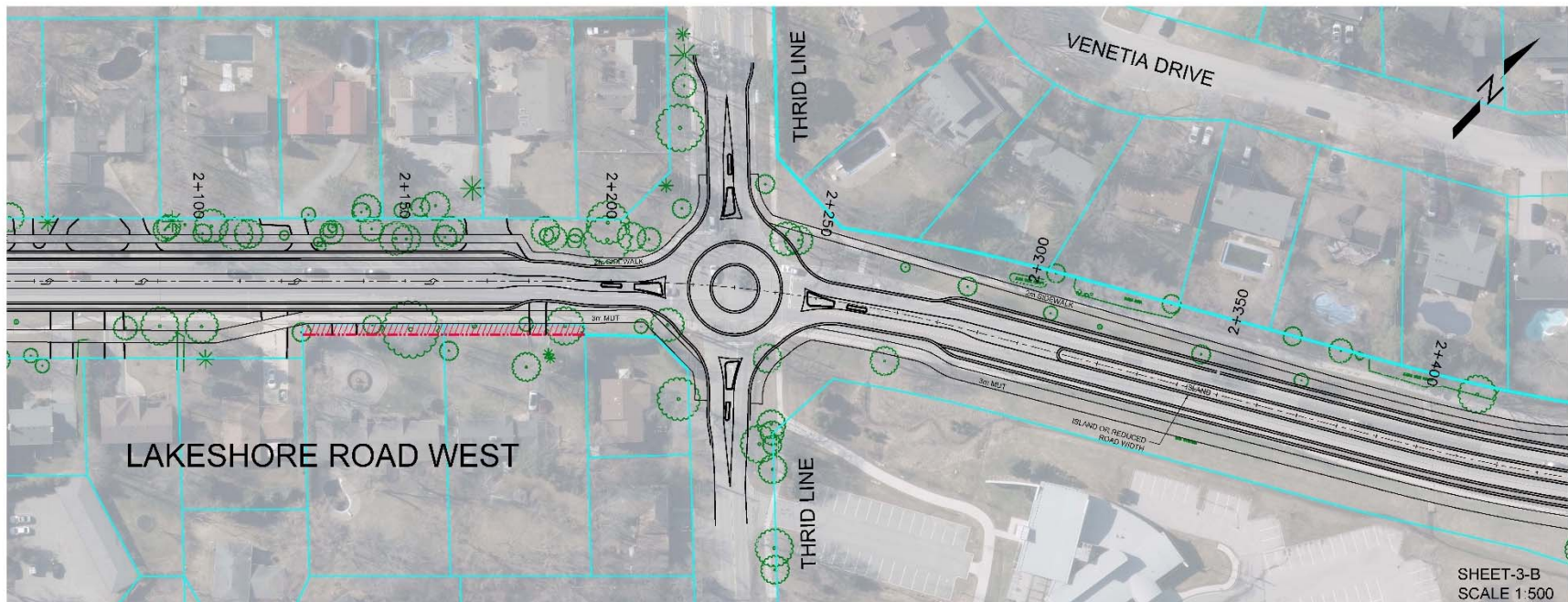
Section 2-B – East St. Roundabout Option



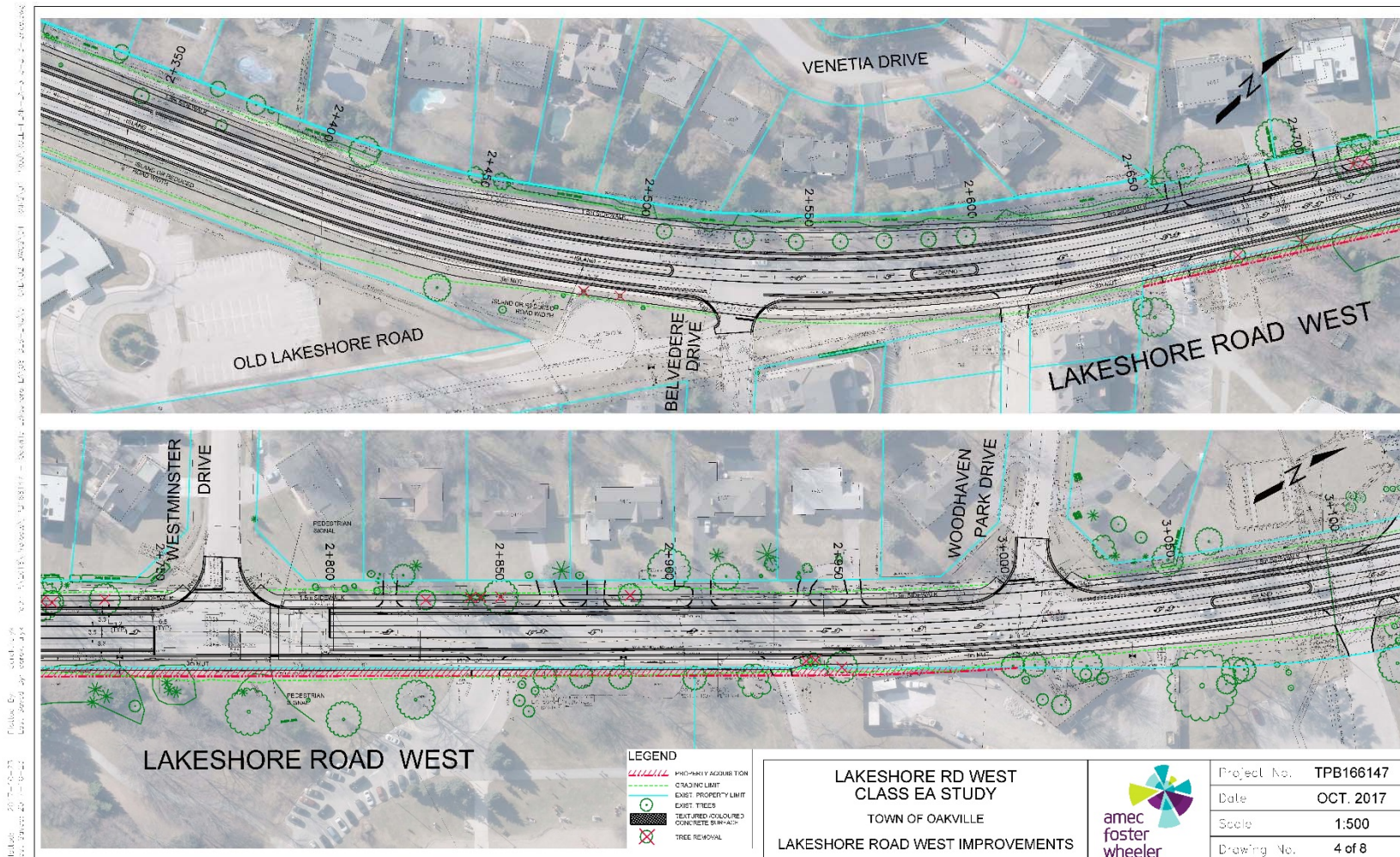
Section 3 – Solingate Dr. to Third Line



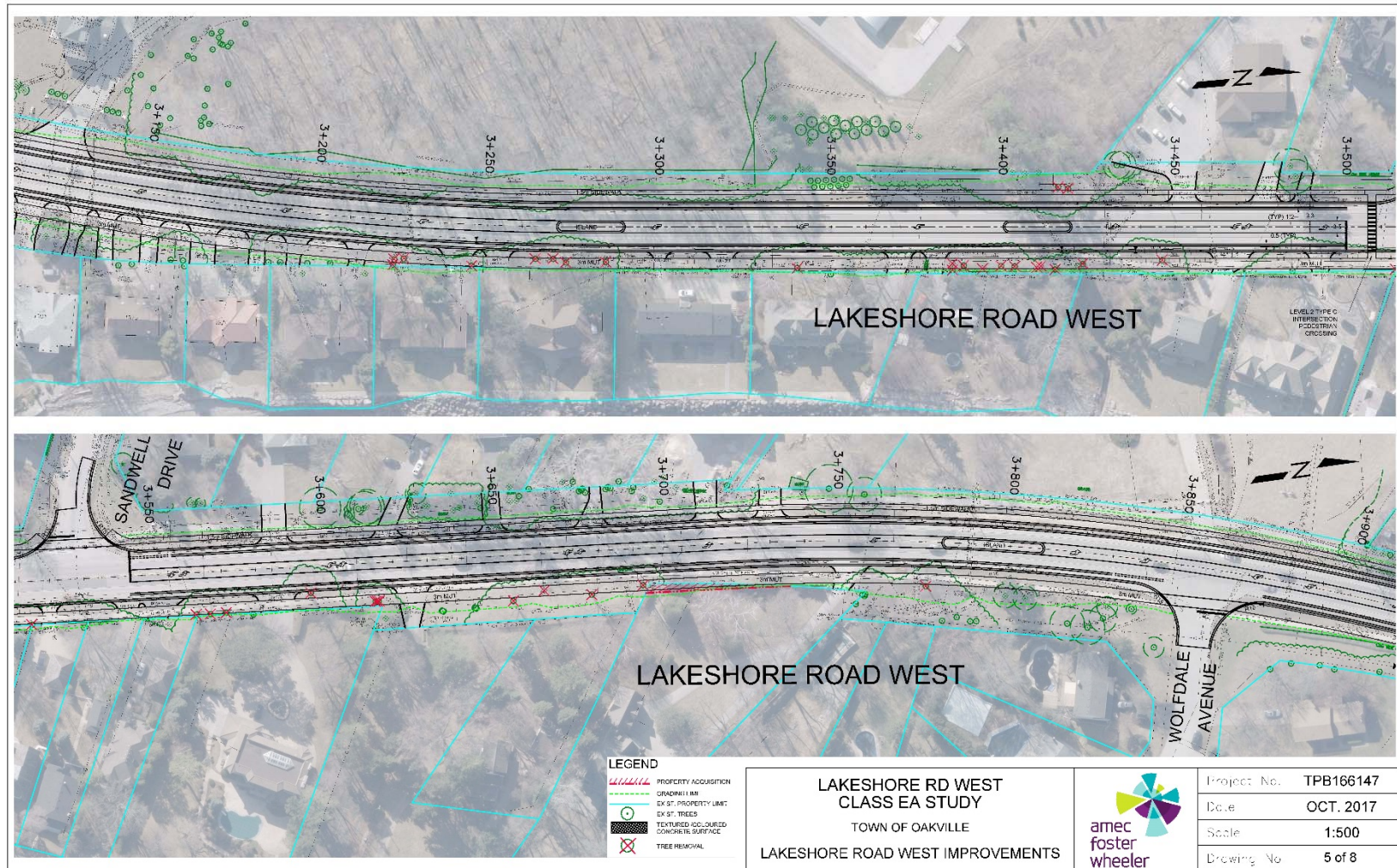
Section 3-B – Third Line Roundabout Option



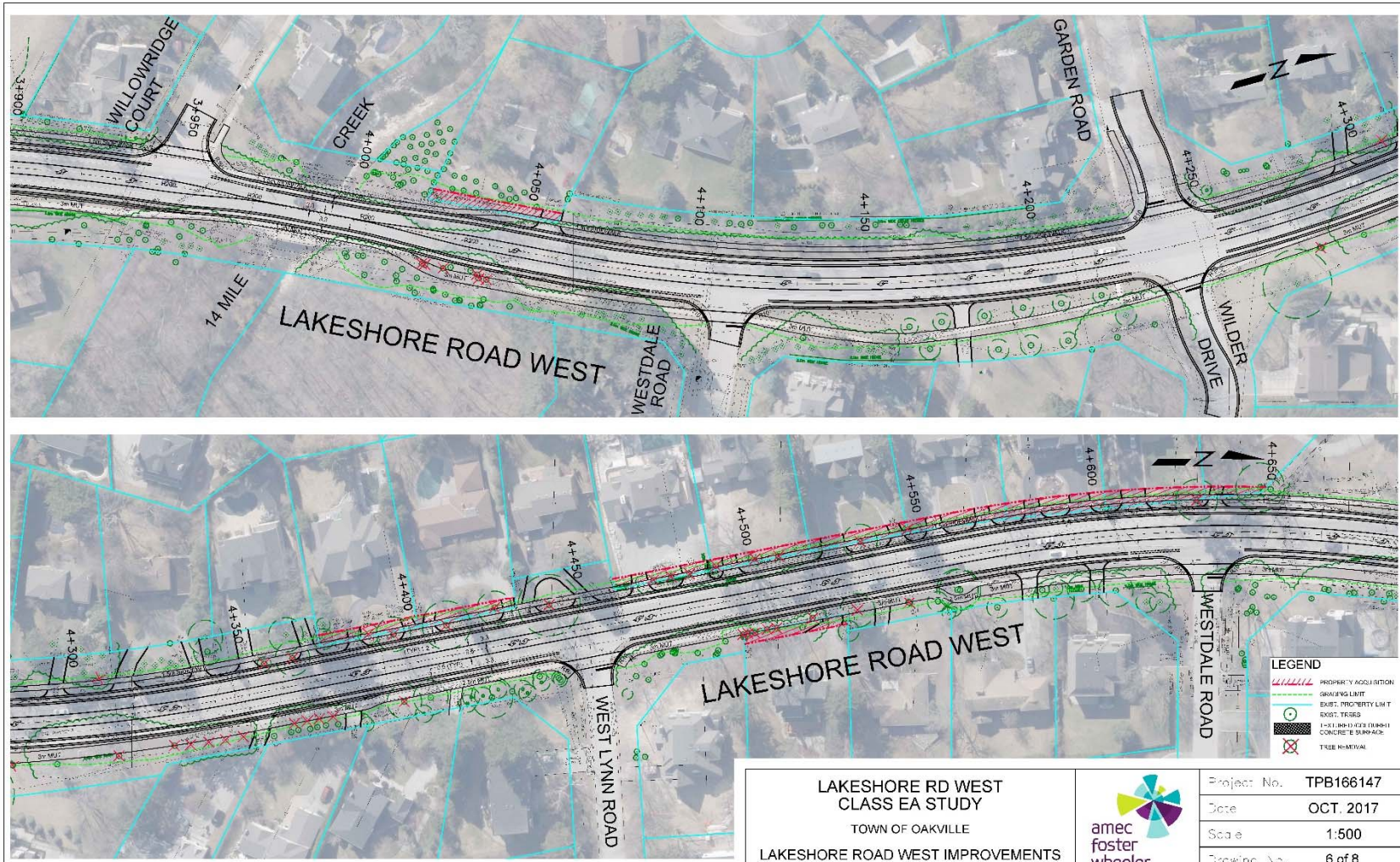
Section 4 – Third Line to Woodhaven Park Dr.



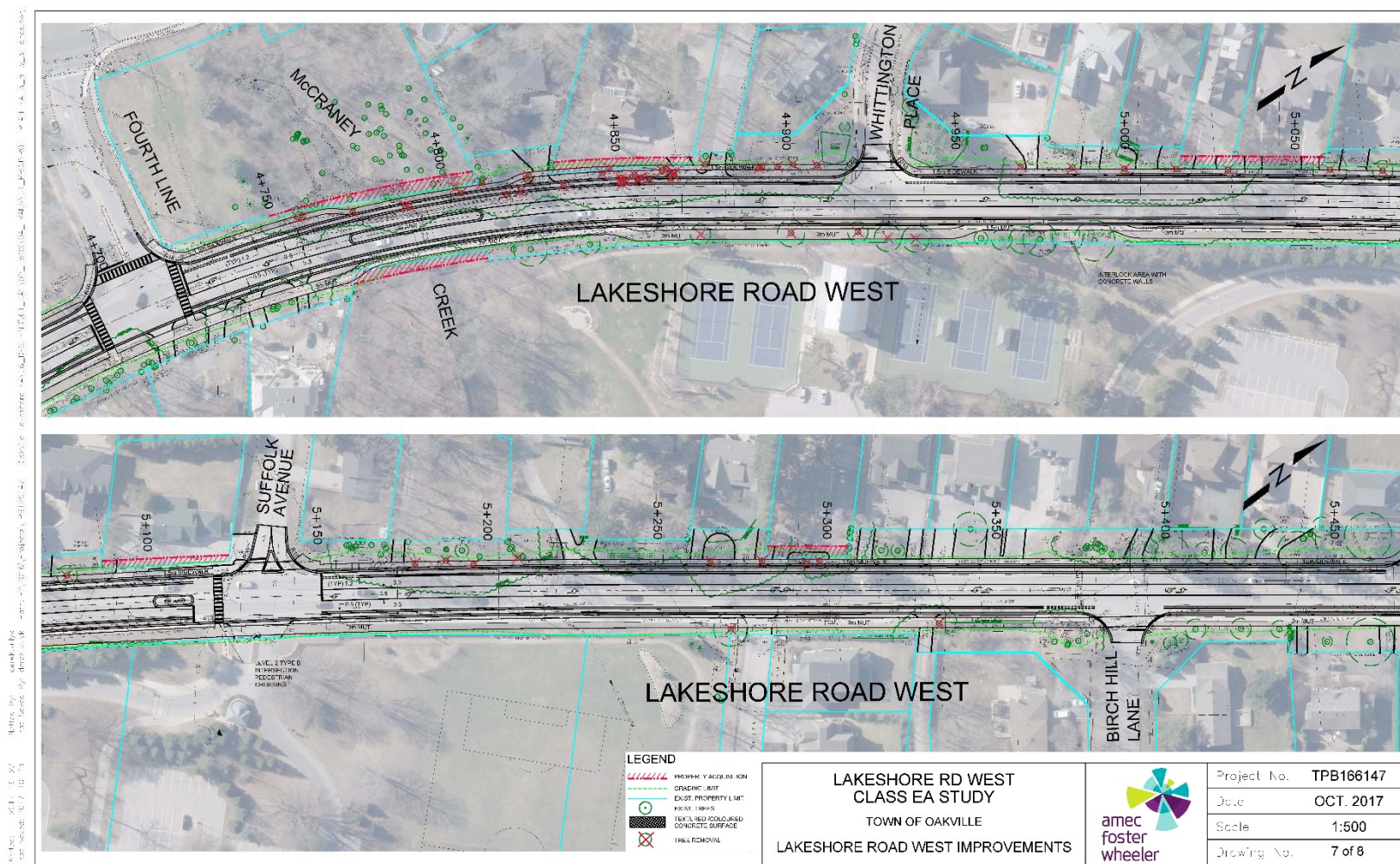
Section 5 – Woodhaven Park Dr. to Wolfdale Ave.



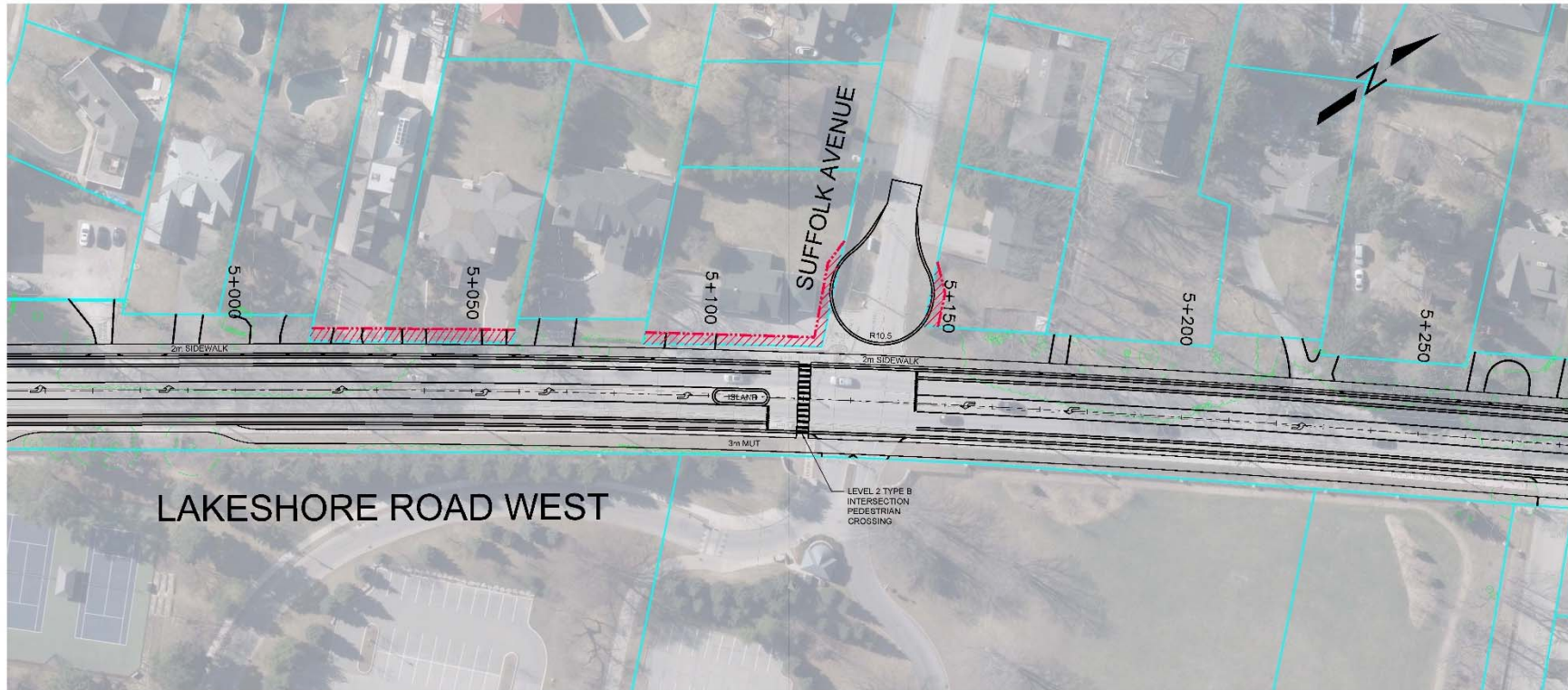
Section 6 – Willowridge Crt. to Westdale Rd.



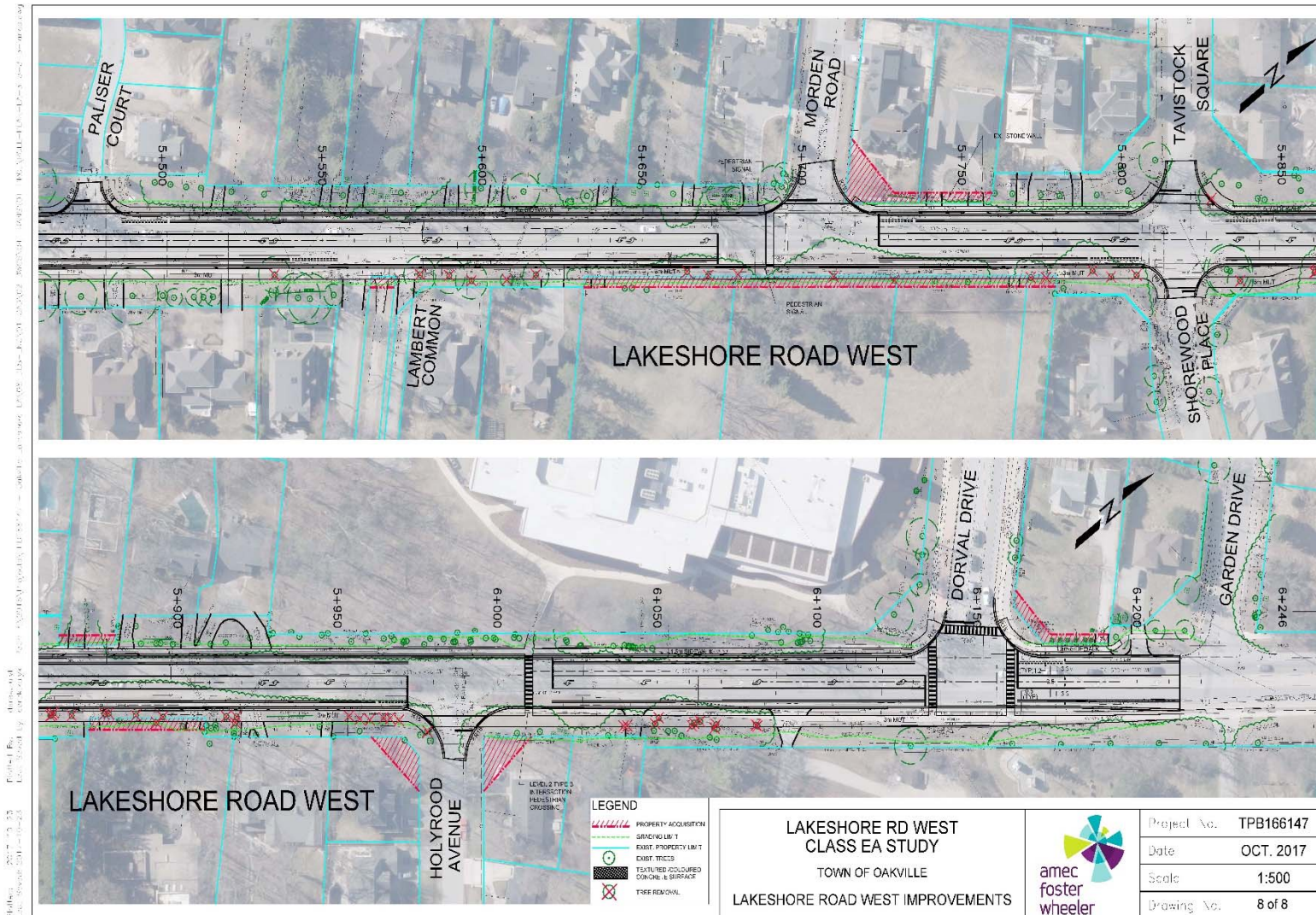
Section 7 – Fourth Line to Birch Lane.



Section 7a Suffolk Ave – Cu-De-Sac Option



Section 8 – Paliser Crt. to Dorval Dr.



Next Steps

- Provide feedback on what we've discussed today
- Upcoming Meetings

| | | | |
|--|---|---------------------------------|---|
| Technical Agency Meeting (TAC) | Town of Oakville, Amec Foster Wheeler, and Agencies | Nov. 9, 2017 1:00 to 3:00pm | <ul style="list-style-type: none"> • Discuss the PIC story boards; • Review stormwater and LID options; • Review proposed design; and • Review bridge structures. <p>Agencies to be invited: Conservation Halton, MNRF, Halton Region</p> |
| Public Information Centre (PIC) # 2 | Town of Oakville, Amec Foster Wheeler and Public | Nov. 29, 2017 6:00 to 8:00pm | <p>Public Information Centre</p> <p>Location: Sir John Colborne Recreation Centre for Seniors</p> |