MULOCK DRIVE MULTI-USE PATH FEASIBILITY STUDY

The Corporation of the Town of Newmarket

COMMITTEE OF THE WHOLE

MAY 25, 2021

Newmarket

wsp

MULOCK DRIVE MUP CORRIDOR PROJECT

- WSP retained by Town in Winter 2021 to assess the feasibility of a multi-use path along one side of Mulock Drive
- Bathurst Street to Harry Walker Parkway South
- 6.3km in length
- Significant number of commercial driveways (Yonge-Bayview)

GOALS & OBJECTIVES

Connect to key destinations

Navigate constrained segments, grades and utilities

Minimize potential conflicts between users (i.e.: at driveways)

Re-use existing infrastructure

Account for future development along the corridor

Accommodate intersection treatments

Mulock Drive east of Sawmill Valley Drive (WSP)

DESIGN CONSIDERATIONS

Connectivity to Mulock Farms site

Connectivity to existing trails

Grade changes

Mulock Drive at Sawmill Valley Drive (WSP)

Constructability & Cost

Guardrails

Existing utility poles

Add crossride intersection treatments

DESIGN CONSIDERATIONS

Bus stops & bus shelters

Frequency of commercial driveways

Boulevard width

Mulock Drive adjacent to Rourke Place (WSP)

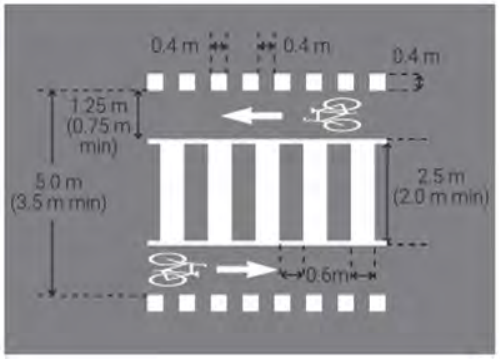
Using existing trails (where feasible)

Proximity to residential populations

Minimizing impacts to mature Trees

PROPOSED CROSSING TREATMENTS: INTERSECTIONS

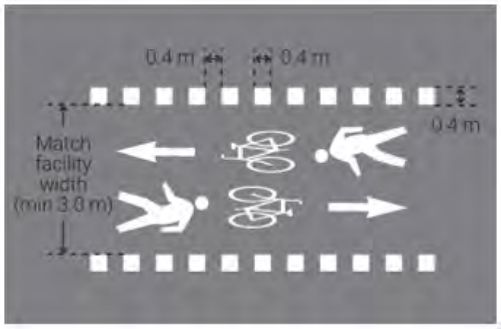
Combined Crossride




Bayview and 19th, Richmond Hill

Combined crossrides are typically used at signalized intersections where pedestrians and cyclists approach the crossing on a shared facility.

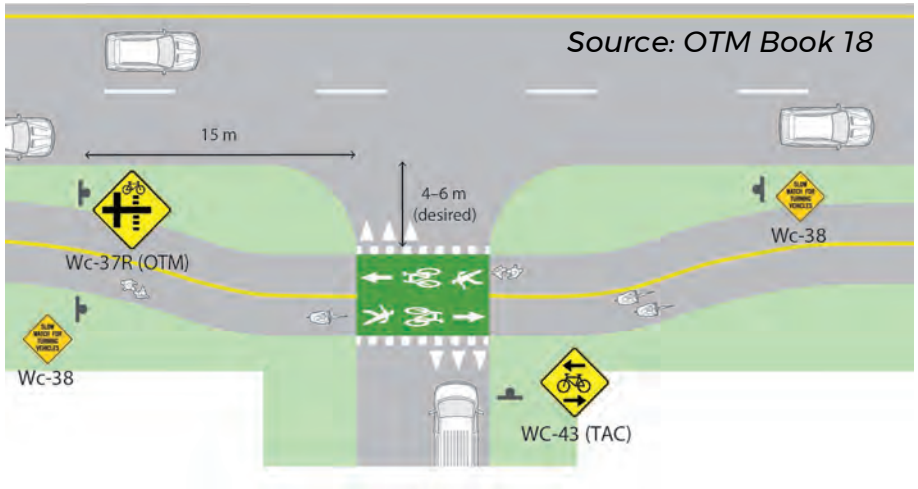
Mixed Crossride




Leslie and 16th, Richmond Hill

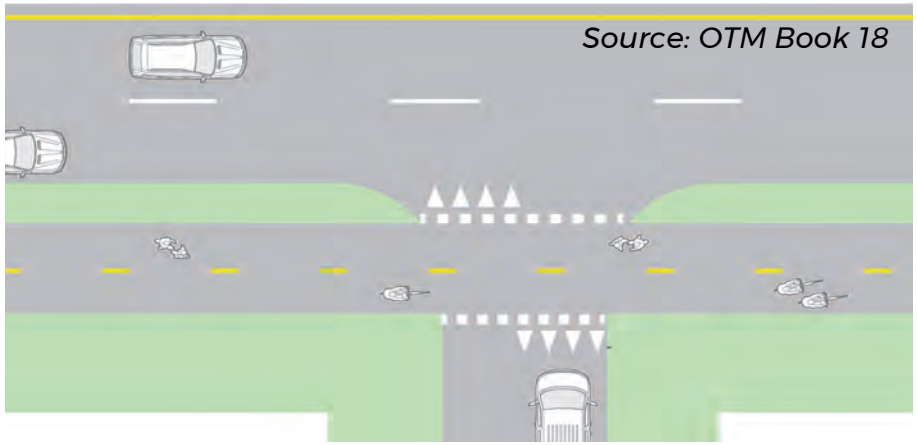
Mixed crossrides are typically used at unsignalized crossings and driveways, where pedestrians and cyclists approach crossing on a shared facility.

PROPOSED CROSSING TREATMENTS: DRIVEWAYS



High-Volume Driveway Crossing

- Green surface treatment is typically used at high-volume driveways such as commercial and industrial driveways.
- Yield lines ("shark's teeth") are placed at the approach to an in-boulevard multi-use pathway crossing (on the road and driveway) to reinforce that motorists are required to yield.



Low-Volume Driveway Crossing

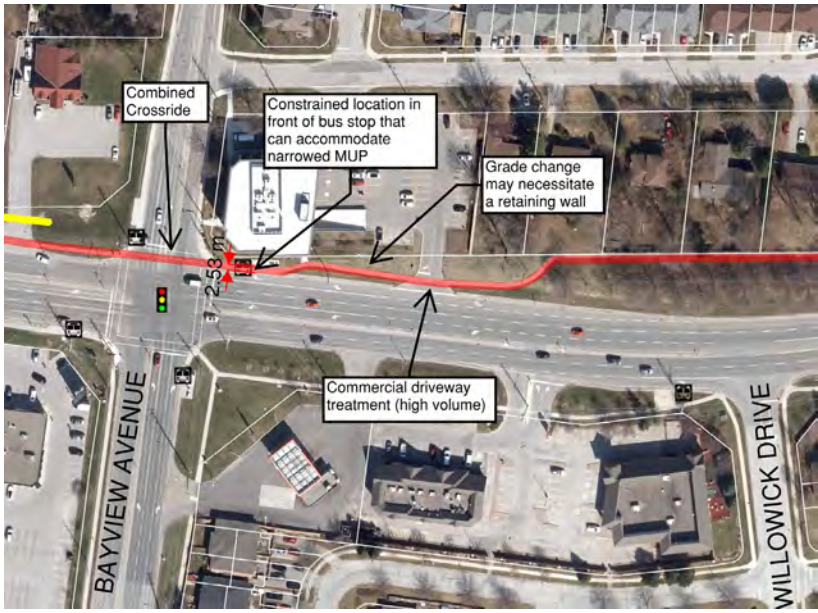
- Green surface treatment is typically not used at low-volume driveways such as residential driveways.
- Similar application of yield lines ("shark's teeth") as illustrated above.

PROPOSED CROSSING TREATMENTS: RAILWAYS

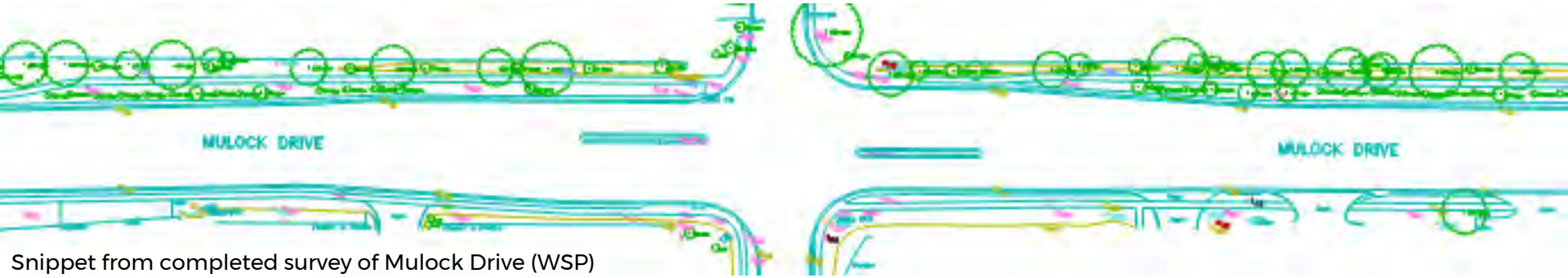
Example: Jockvale Road MUP crossing a railway, Ottawa

WHAT HAS BEEN DONE TO DATE?

- Completed survey of the corridor
- Identified and assessed 3 conceptual alignment options
- Reviewed alignment options with Town and Regional staff
- Inventoried and classified driveways
- Arborist report completed and submitted
- Primary field investigation completed



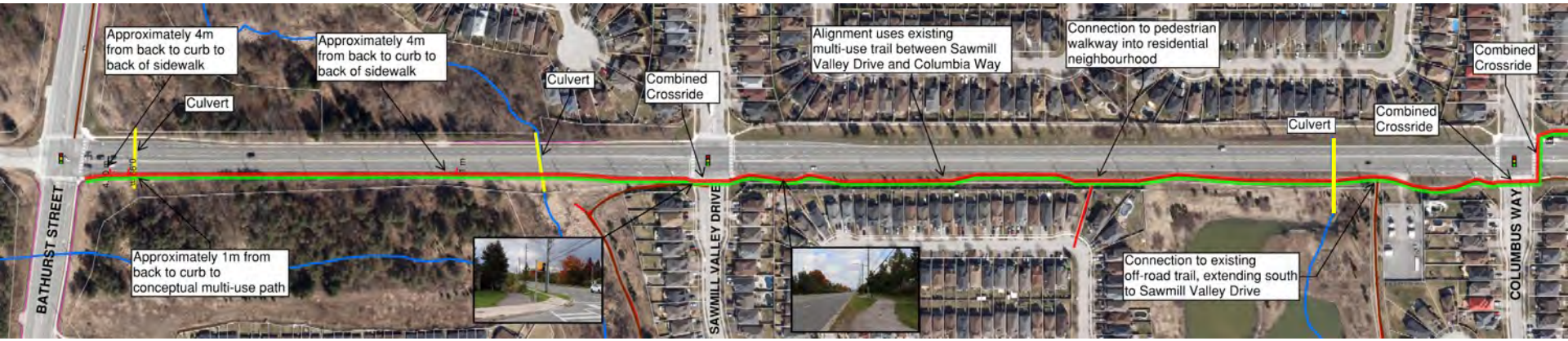
Snippet from conceptual alignment mark-up drawing (WSP)



Snippet from completed survey of Mulock Drive (WSP)

CORRIDOR WALK-THROUGH

BATHURST STREET - COLUMBUS WAY

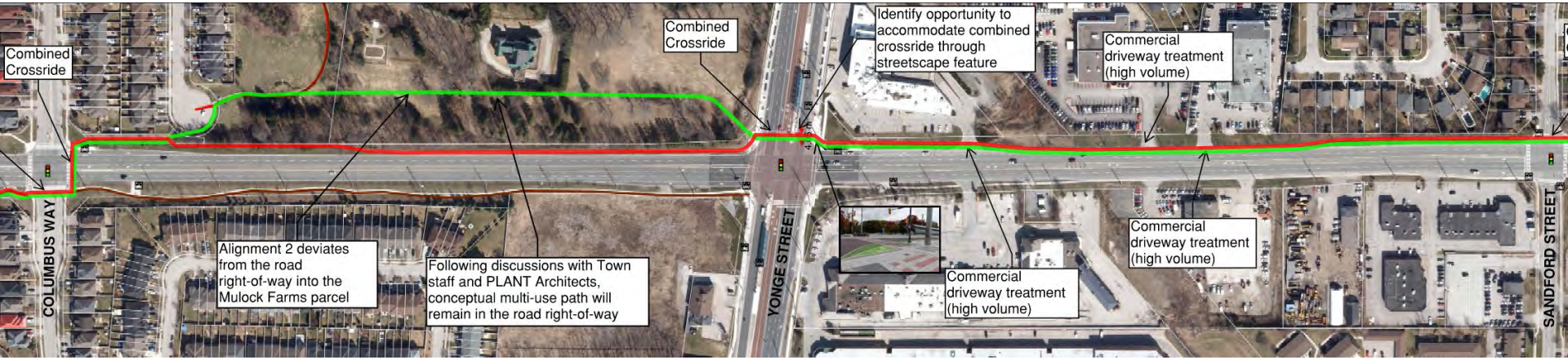


Above: Alignment 1 illustrated in red; Alignment 2 illustrated in green.

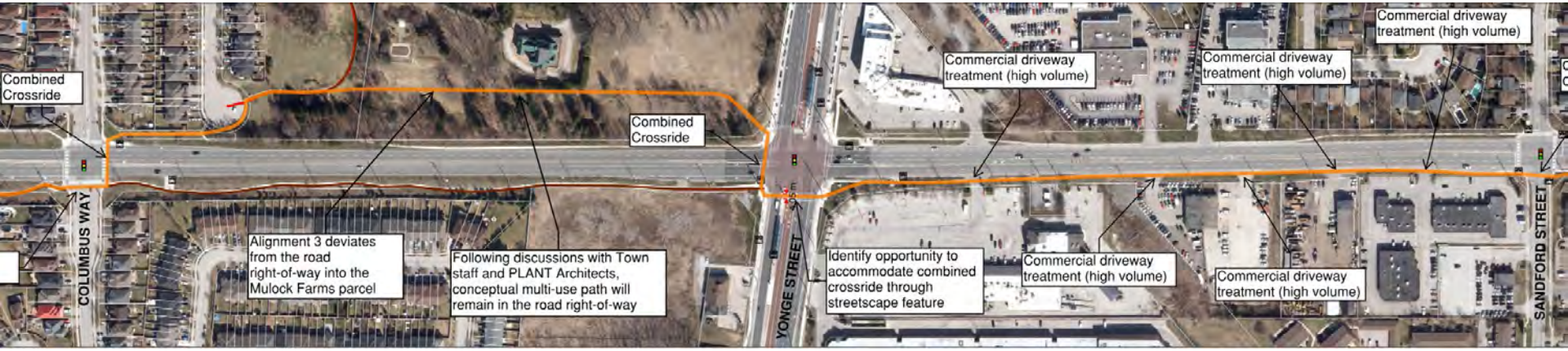
Above: Alignment 3 illustrated in orange

CORRIDOR WALK-THROUGH

COLUMBUS WAY – SANDFORD STREET



Above: Alignment 1 illustrated in red; Alignment 2 illustrated in green



Above: Alignment 3 illustrated in orange

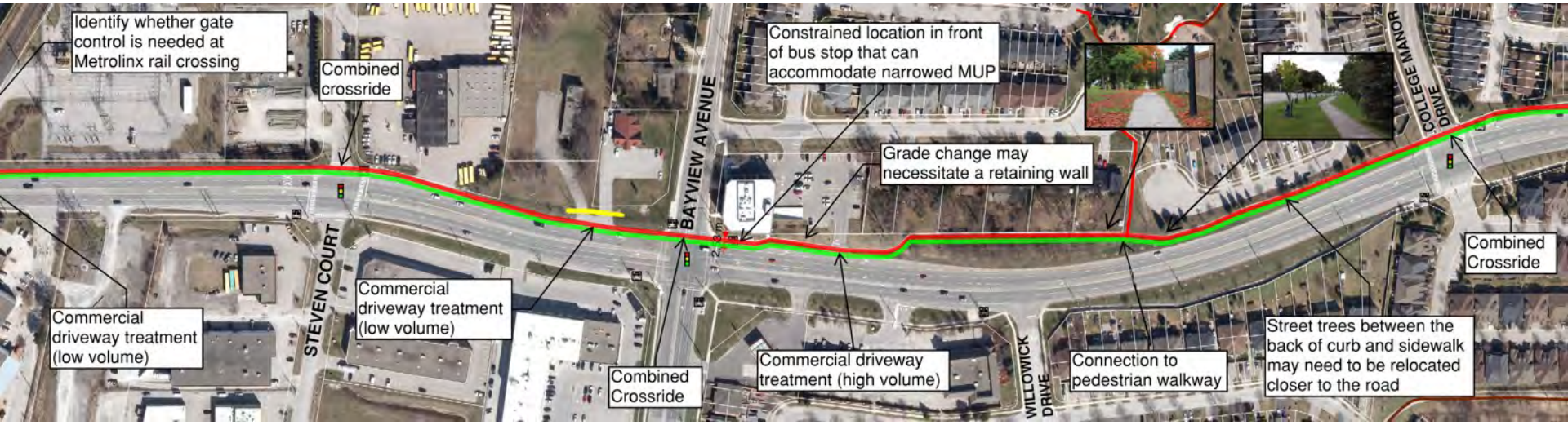
CORRIDOR WALK-THROUGH

SANDFORD STREET – METROLINX RAIL CORRIDOR

Above: Alignment 1 illustrated in red; Alignment 2 illustrated in green.

Above: Alignment 3 illustrated in orange

CORRIDOR WALK-THROUGH



Above: Alignment 1 illustrated in red; Alignment 2 illustrated in green

Above: Alignment 3 illustrated in orange

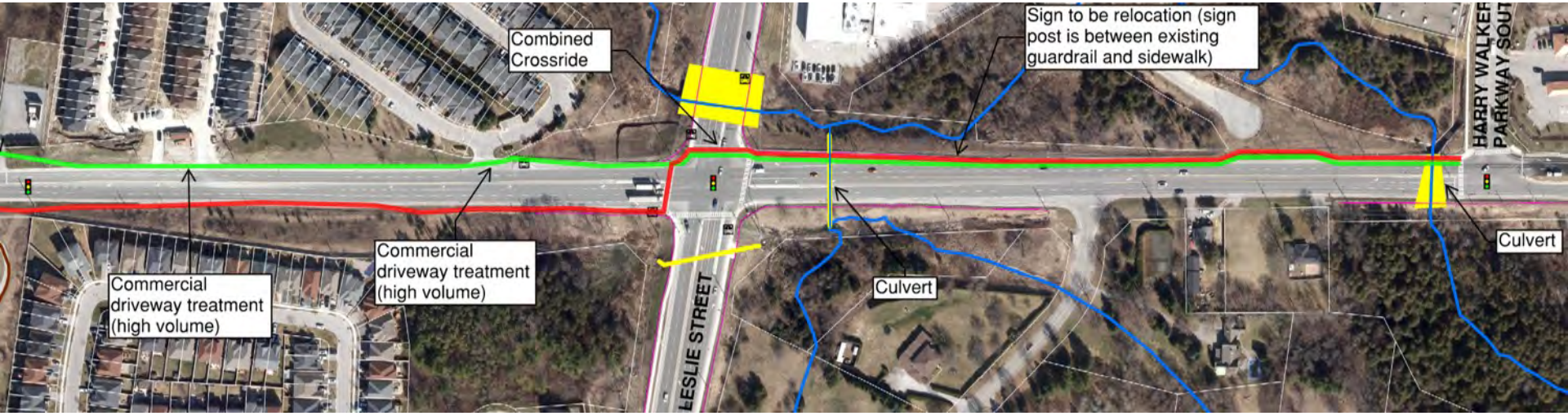
CORRIDOR WALK-THROUGH

COLLEGE MANOR DRIVE – NEWMARKET HIGH SCHOOL CROSSING

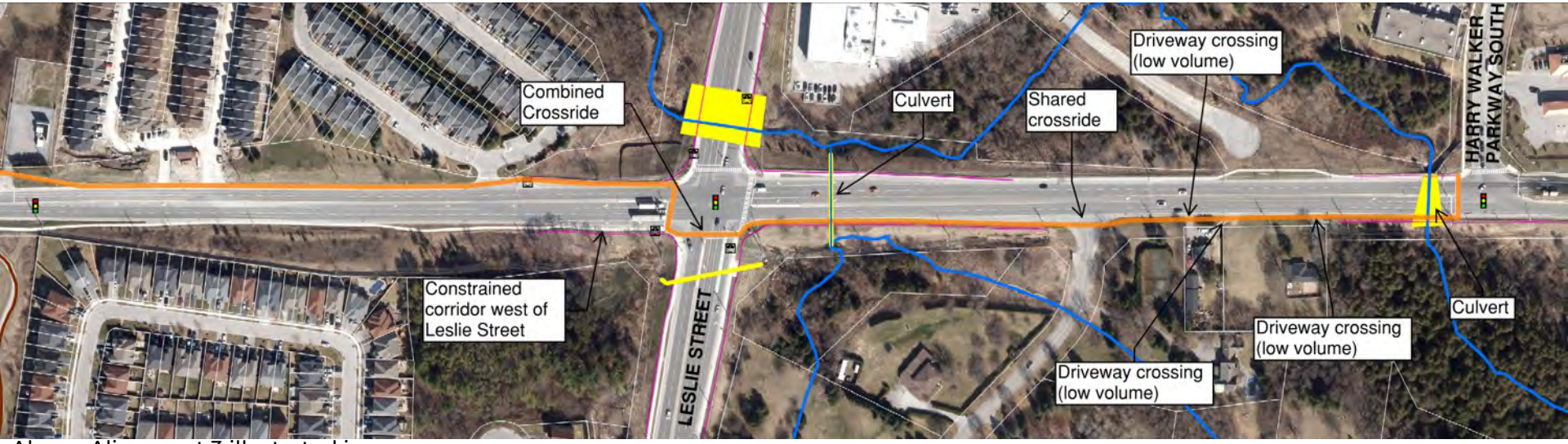
Above: Alignment 1 illustrated in red; Alignment 2 illustrated in green

Above: Alignment 3 illustrated in orange

CORRIDOR WALK-THROUGH



Above: Alignment 1 & 2 illustrated in red



Above: Alignment 3 illustrated in orange

Corridor Evaluation Criteria

- **Conflict Mitigation** – Conflict mitigation between motorists, cyclists and pedestrians.
- **Constructability & Cost** – Corridor suitability and the level of effort to implement a multi-use path. Assumed cost to construct a multi-use path inherited from number of utility poles, guard rails, and fire hydrants along corridor.
- **Residential Access/Proximity** - Residential neighbourhood access and proximity to the multi-use path along Mulock Drive.
- **Transit Impacts** - Impacts to transit stops, including concrete bus pads, transit shelters, and other amenities found at transit stops.
- **Tree Impacts** - Impacts to trees and potential removal/relocation of existing trees along the corridor to accommodate the multi-use path.
- **Connectivity** - Potential to connect to existing and proposed AT network routes identified in the Active Transportation Implementation Plan.
- **Destination Access** - Number of destinations and attractions to be accessed by the multi-use path.
- **Driveway Frequency** - Frequency and size of driveways that intersect multi-use path
- **Intersection Frequency** - Frequency of intersections that intersect multi-use path

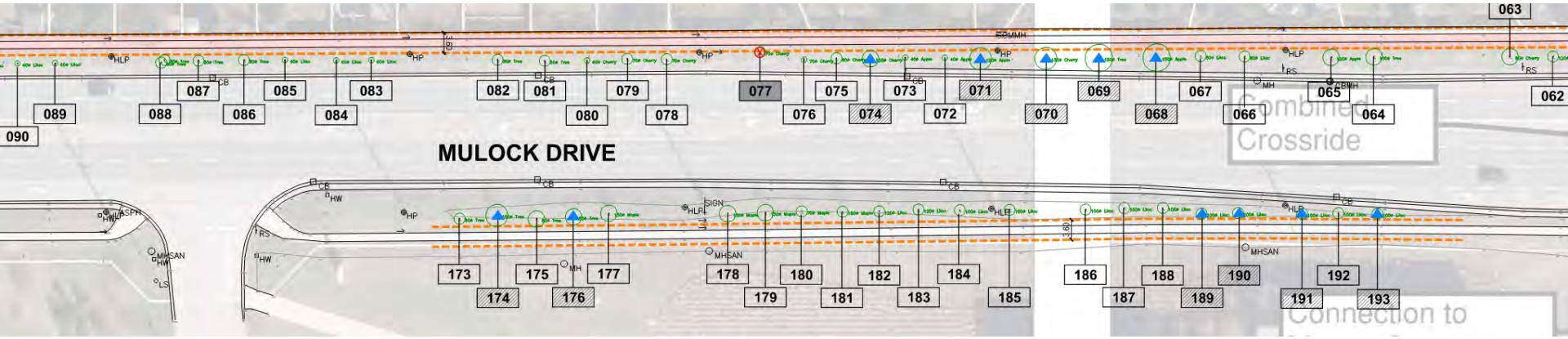
Corridor Evaluation Results

- Alignment option 1 ranked as having the highest score
  - Highest score for conflict mitigation and constructability & cost metrics
- Alignment option 3 ranked as having the lowest score
  - Lowest overall score in the constructability & cost and driveway frequency metrics

	CRITERIA	Conflict Mitigation	Constructability & Cost	Residential Access/Proximity	Transit Impacts	Tree Impacts	Connectivity	Destination Access	Driveway Frequency	Intersection Frequency	Total Score	Rank
CORRIDOR-WIDE	Alignment Option 1	3	3	3	3	2	3	3	3	3	26	1
	Alignment Option 2	2	3	3	3	1	3	3	3	3	24	2
	Alignment Option 3	2	2	3	3	2	3	3	2	3	23	3

ARBORIST REVIEW

- Tree impacts associated with the 3 alignment options have been evaluated
- Tree types have been identified and impacts have been classified
- 3.6m clearance zone from the centerline of the sidewalk was used to assess tree impacts
- The intention is to maintain if not exceed the number of trees in the final design (i.e. relocate or plant new trees)

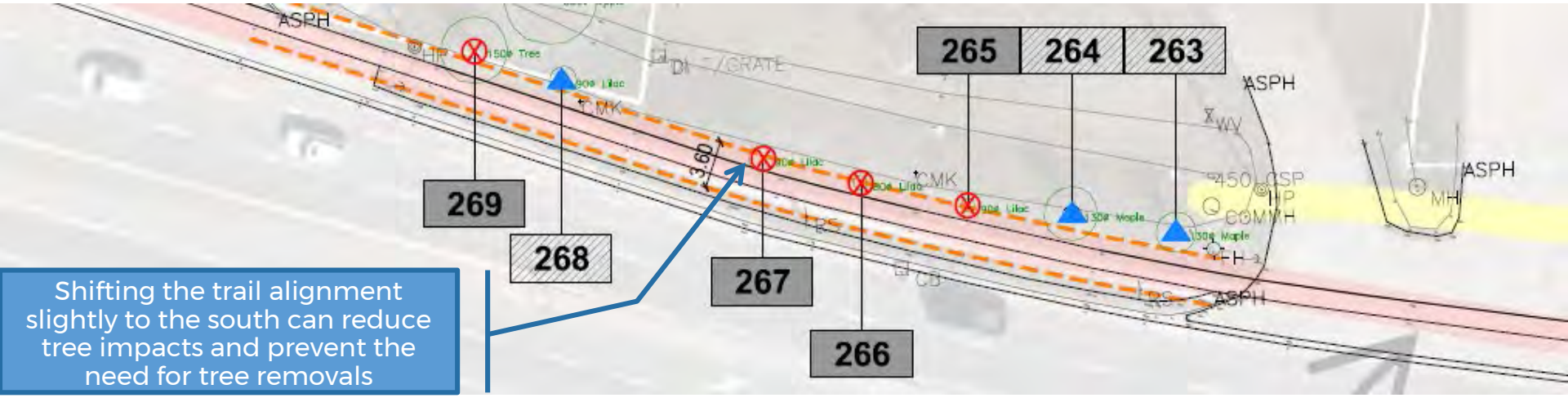


Snippet from Tree Preservation Plan (WSP)

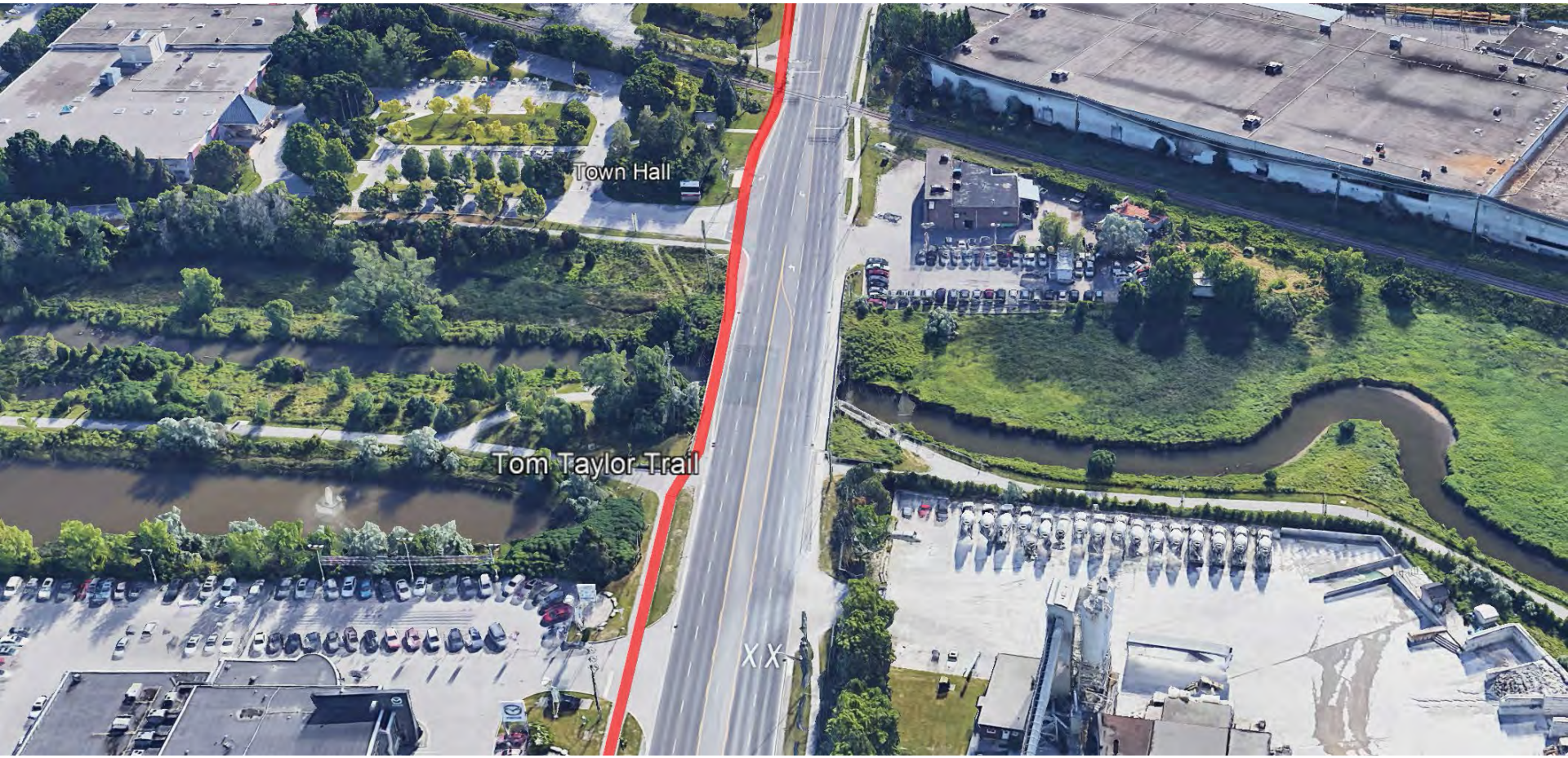
ARBORIST REVIEW

Alignment	Trees identified for removal ⊗	Trees identified for potential impacts ▲
Option 1 (Preferred)	89	123
Option 2	95	153
Option 3	67	89

*There is an opportunity to reduce the number of trees that will be impacted by realigning the MUP where feasible



CORRIDOR FLY-THROUGH



NEXT STEPS & CONTACT INFO

- Present preliminary findings at the virtual Public Information Centre (PIC) #1 on June 10th, 2021 from 7:00 to 8:00 p.m.
- Confirm preferred alignment based on public and Town staff input
- Complete functional design and prepare high-level cost-estimate of preferred alignment

Mark Kryzanowski (Town)
Manager, Transportation Services
Engineering Services
Development & Infrastructure Services

Tel: 905-953-5300 extension 2508
Email: mkryzanowski@newmarket.ca

J. David McLaughlin (WSP)
Manager
National Active Transportation Practice
Transportation Planning and Science

T +1-905-882-7306
E Dave.McLaughlin@wsp.com

QUESTIONS?