

May 31, 2018



City of Mississauga  
Planning Building Department  
300 City Centre Drive  
Mississauga, ON L5B 3C1

Attention: Mr. Romas Juknevičius  
Planner, City Wide Policy Planning

Dear Sir:

Re: **Addendum to the Highway 407 Transitway Corridor Assessment Within the Ninth Line Lands Study Area (Amec Foster Wheeler, 2016), City of Mississauga**

This memorandum is provided as an Addendum to the "Highway 407 Transitway Corridor Assessment Within the Ninth Line Lands Study", completed by Amec Foster Wheeler (now Wood) for the City of Mississauga in October 2016. The need for this addendum has been largely driven by concerns raised by Conservation Halton (CH) with respect to the originally-proposed use of a Flood Protection Landform (FPL) to protect existing and future land north of Britannia Road, as well as concerns related to the need for a wider watercourse meander belt width and maintenance access north of Derry Road. The approaches to addressing CH concerns are summarized in the following subsections, which deal specifically with the Transitway segments to which they apply (namely Segment 3 for the FPL and Segment 5 for provision of additional meander belt width). The limits of the Transitway segments as defined under the 2016 Transitway Corridor Assessment Study are as defined and illustrated in Table 1.

Table 1: Definition of Limits of the Transitway Corridor Segments.

Corridor Segment	South Limit	North Limit
1	Highway 403 / Highway 407 Interchange	Highway 407 Crossing of the Sixteen Mile Creek East Tributary
2	Highway 407 Crossing of the Sixteen Mile Creek Tributary	Britannia Road
3	Britannia Road	Outlet of Online Pond South of Derry Road
4	Outlet of Online Pond South of Derry Road	Derry Road
5	Derry Road	Highway 407 / Highway 401 Interchange

3450 Harvester Road  
Burlington, ON L7N 3W5  
+1 905 335 2353  
www.woodplc.com

Wood Environment & Infrastructure Solutions  
a Division of Wood Canada Limited  
Registered office: 2020 Winston Park Drive, Suite 700, Oakville, Ontario L6H 6X7  
Registered in Canada No. 773289-9; GST: 899879050 RT0008; DUNS: 25-362-6642



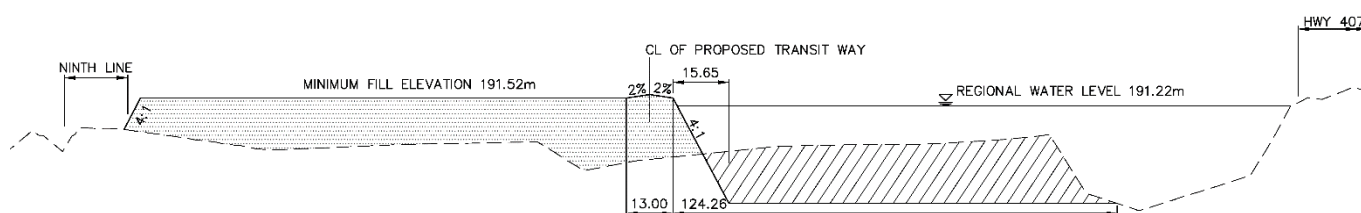
Continued...

### Amendments to Transitway Corridor Segment 3

Since completion of the *Highway 407 Transitway Corridor Assessment* in 2016, Conservation Halton and MNRF have indicated that they do not formally support the use of "Flood Protection Land Forms (FPL)" in the Ninth Line Lands setting to provide permanent flood protection for land abutting the regulated watercourse. As a result, the recommended approach to modifying the Regulatory Limit through Segment 3 of the study corridor has been revised, and the more traditional approach of watercourse corridor realignment and strategic cut/fill balance is being recommended. Under this scenario, the Transitway embankments will serve as the east limit of the watercourse corridor and the land east of the Transitway will be filled to a minimum of 0.3 m above the Regional Storm flood depth, effectively removing it from the Regulatory floodplain. The design criteria to be adhered to when completing the grading design for the cut/fill balance are summarized in Table 1, and illustrated in Figure 1.

**Table 2: Design Criteria for Land east of the Transitway, north of Britannia.**

Design Criteria	Recommended Value
Minimum Fill Elevation	191.53 m (0.3 m above Regional Storm Flood Level)
Development Restrictions	None
Site Servicing Restrictions	None
Recommended Fill Material Specifications	Engineered Structural Fill



*Figure 1: Cross-Section Through Segment 3 with Cut /Fill Balance.*

Under the updated strategy, approximately 27 ha (+/-) of land would be removed from the Regulatory Floodplain and made available for unrestricted development. Updates to the proposed Regional Storm Floodplain Mapping and associated change in restricted and unrestricted developable areas through this segment are illustrated in Figures 2 and 3<sup>a</sup>, at the end of the report.

### Amendments to Transitway Corridor Segment 4

No changes are being proposed to the alignment of the Transitway through Segment 4 (online pond south of Derry Road to Derry Road) due to numerous constraints, pending outcome of the MTO Highway 407 Transitway Environmental Assessment (EA).

### Amendments to Transitway Corridor Segment 5

Through Segment 5 of the study corridor (Derry Road to Highway 401), the existing watercourse currently consists of an agricultural drainage ditch with an online wetland feature (not Provincially Significant). In this area, the Regional Storm flood line extends towards Ninth Line, with a spill zone north of the railway crossing, as a result of inadequate sizing of the railway culvert. In order to improve the creek quality and reduce the floodplain, the watercourse was identified for realignment through this segment. To address the need for stormwater conveyance and riparian storage for the realigned creek, the Transitway alignment was initially set at approximately 70 m east

<sup>a</sup> Drawing corresponds to Figures 14 and 19 in Amec Foster Wheeler's *Highway 407 Transitway Corridor Assessment within the Ninth Line Lands* (October, 2016).





Continued...

from the limits of Highway 407. Additional setback was provided through the segment adjacent to the Derry Road interchange, and the segment north of the CP Rail crossing, for which an ~100 m corridor was provided to address clearance around existing Hydro One towers. Based on further review by Amec Foster Wheeler and CH, it was determined that the 70 m wide flood plain, provided between Highway 407 and the future Transitway, was insufficient to accommodate the identified meander belt width in this reach, as well as maintenance access for the realigned channel. As a result, the originally-proposed Transitway alignment will require a further easterly shift along the length of Segment 5, with the westerly limit of the Transitway now approximately defined by meander belt width, the floodplain valley slope, and the 15 m CH Regulatory Setback, a portion of which is on the Transitway lands. In addition to providing additional corridor width for future meander of the creek, the easterly realignment of the Transitway will provide additional land for the overall Ninth Line Community Natural Heritage System (NHS).

The revised Transitway plan and profile through Segment 5 are illustrated in attached Figure 4 and Figure 5<sup>b</sup>, with associated updated right-of-way widths summarized in Table 2. The revised alignment is generally linear between Derry Road and the Highway 401/Highway interchange, with exception of a further easterly shift immediately north the CP Rail line, again to mitigate potential impacts to existing Hydro One transmission towers. As with the previous alignment, the Transitway design criteria are adhered to through this segment.

**Table 3: Revised Transitway Right-of-Way Limits Through Segment 5.**

Transitway Station Limits	Recommended Right-of-Way Width (m)	Corridor Width Left of Centerline (m)	Corridor Width Right of Centerline (m) <sup>c</sup>
12+300 to 12+380	80.0	36.0	44.0
12+380 to 12+500	59.0 – 80.0	23.0 – 36.0	36.0 – 44.0
12+500 to 13+040	59.0	23.0	36.0
13+040 to 13+160	59.0 – 90.0	23.0 – 36.0	36.0 – 54.0
13+160 to 13+580	90.0	36.0	54.0
13+580 to 13+700	64.0 – 90.0	25.0 – 36.0	39.0 – 54.0
13+700 to 14+100	64.0	25.0	39.0
14+100 to 14+220	64.0 – 97.0	25.0 – 40.0	39.0 – 57.0
14+220 to 14+880	97.0	40.0	57.0

The proposed shift and realignment will impact the total area of developable land along the corridor within the Ninth Line Lands, as well as the proposed Park-and-Ride lot north of Derry Road. Utilizing the 2016 Transitway alignment, total developable lands bounded by Derry Road, the Transitway and Ninth Line were estimated at 45 ha (+/-) (including ~15 ha made available through refinement of the Regional Storm floodplain). With the revised alignment, developable lands within this area will be reduced by 6 ha to 39 ha (+/-). The conceptual Derry Road Park-and-Ride lot will also require minor adjustment to account for the additional impact to approximately 90 (+/-) parking spots, as a result of the Transitway realignment. Refinement of the required Park-and-Ride capacity and recommended layout is to be completed through the MTO Transitway EA.

Changes to the Regional Storm Floodplain associated with the amended Transitway alignment are illustrated in attached Figure 6<sup>d</sup>, while changes to the developable land are illustrated in Figures 7, 8 and 9<sup>e</sup>.

<sup>b</sup> Drawings correspond to Figures 8 and 9 in Amec Foster Wheeler's *Highway 407 Transitway Corridor Assessment within the Ninth Line Lands* (October, 2016).

<sup>c</sup> Includes 14.0 m MTO buffer to adjacent development on east side of Transitway.

<sup>d</sup> Drawing corresponds to Figure 15 in Amec Foster Wheeler's *Highway 407 Transitway Corridor Assessment within the Ninth Line Lands* (October, 2016).

<sup>e</sup> Drawings correspond to Figures 19, 20 and 21 in Amec Foster Wheeler's *Highway 407 Transitway Corridor Assessment within the Ninth Line Lands* (October, 2016).



Continued...

## Closure

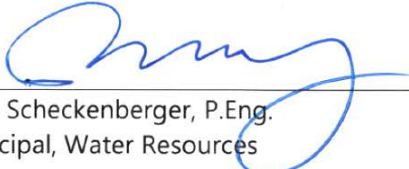

We trust that changes recommended in the foregoing addendum will adequately address the matters raised by CH and MNRF with respect to approaches to flood managements land within Segment 3, as well as provision of adequate meander belt width and NHS within Segment 5.

Please contact us if you have any additional questions and/or concerns.

Yours truly,

Wood Environment & Infrastructure  
a Division of Wood Canada Limited

Per:

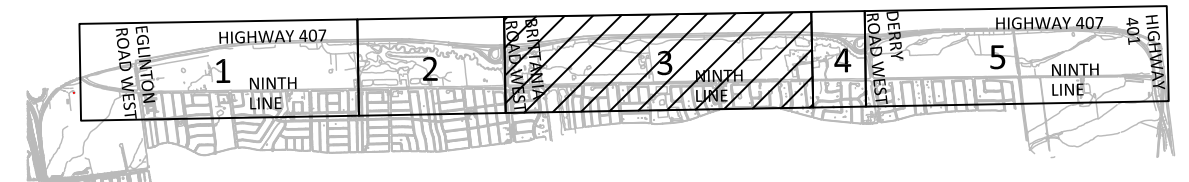
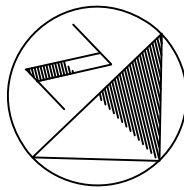
  
\_\_\_\_\_  
Ron Scheckenberger, P.Eng.  
Principal, Water Resources  
\_\_\_\_\_  
Maria King, P.Eng.  
Senior Transportation Engineer

MK/lis

c.c. Muneef Ahmad, City of Mississauga  
Liz Howson, Macaulay Shiomi Howson







KEYPLAN



LEGEND

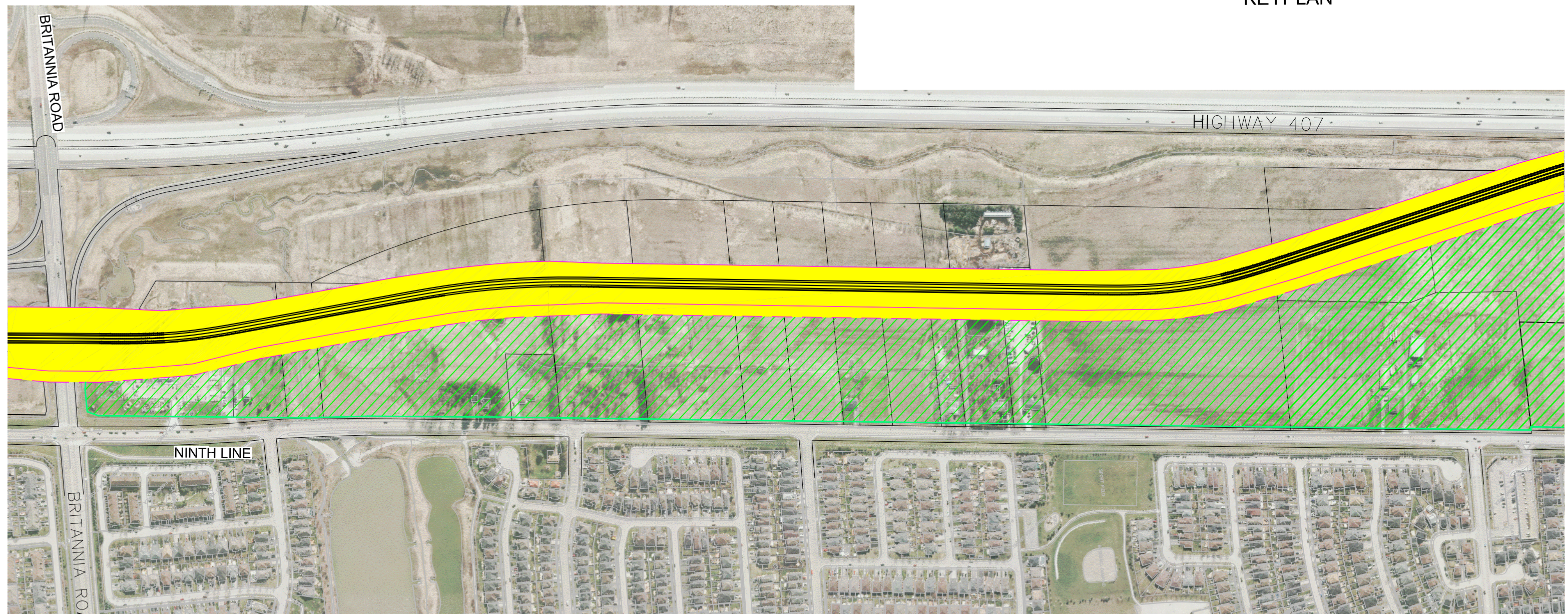
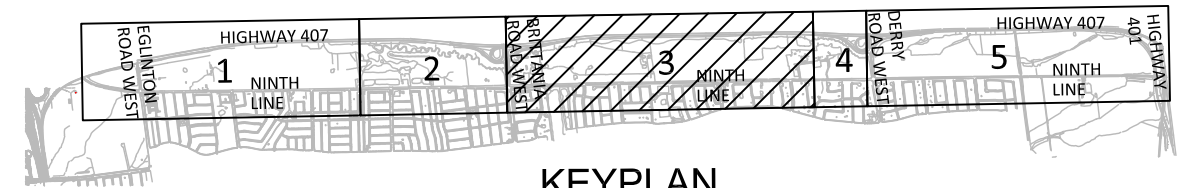
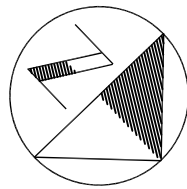
- EXISTING REGIONAL STORM FLOODLINE (2015)
- PROPOSED REGIONAL STORM FLOODLINE WITH CUT/FILL
- EXISTING RIGHT OF WAY
- PROPOSED TRANSITWAY
- REGIONAL STORM FLOODPLAIN REMOVED - POTENTIAL DEVELOPABLE AREA (UNRESTRICTED)
- REGIONAL STORM FLOODPLAIN RETAINED
- REGIONAL STORM FLOODPLAIN MODIFIED

HIGHWAY 407 TRANSITWAY CORRIDOR  
ASSESSMENT WITHIN THE NINTH LINE LANDS  
ADDENDUM (2018)  
PROPOSED REGIONAL STORM FLOODLINE MAPPING  
WITHIN SEGMENT 3











Project No. TP114008  
Scale  
0 100 200 300  
Figure No. 2





# LEGEND

- |   |   |
|---|---|
|  Proposed Property                               |  Un-Developable Area                         |
|  Land Development Setback                        |  Potential Developable Area                  |
|  Existing Floodplain with Downstream Improvement |  Potential Developable Area (Restricted)     |
|  Development Restriction Boundary                |  Potential Parking Lot and Parking Structure |

HIGHWAY 407 TRANSITWAY CORRIDOR  
ASSESSMENT WITHIN THE NINTH LINE LANDS  
ADDENDUM (2018)  
DEVELOPABLE LAND ASSESSMENT  
WITHIN SEGMENT 3  
2018 TRANSITWAY STUDY ADDENDUM



Project No. TP114008

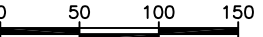
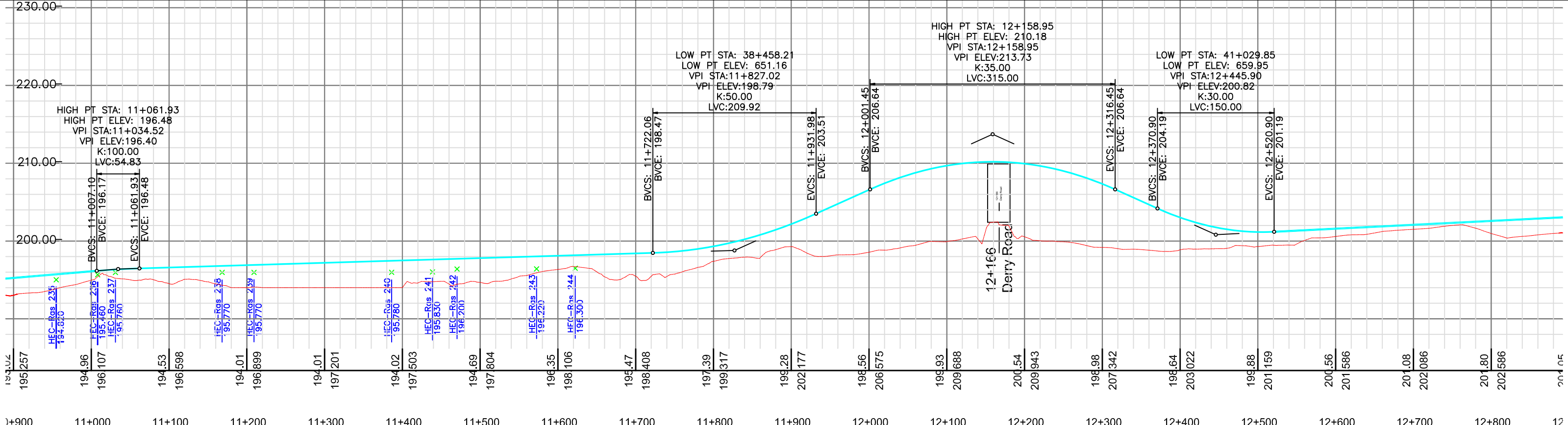
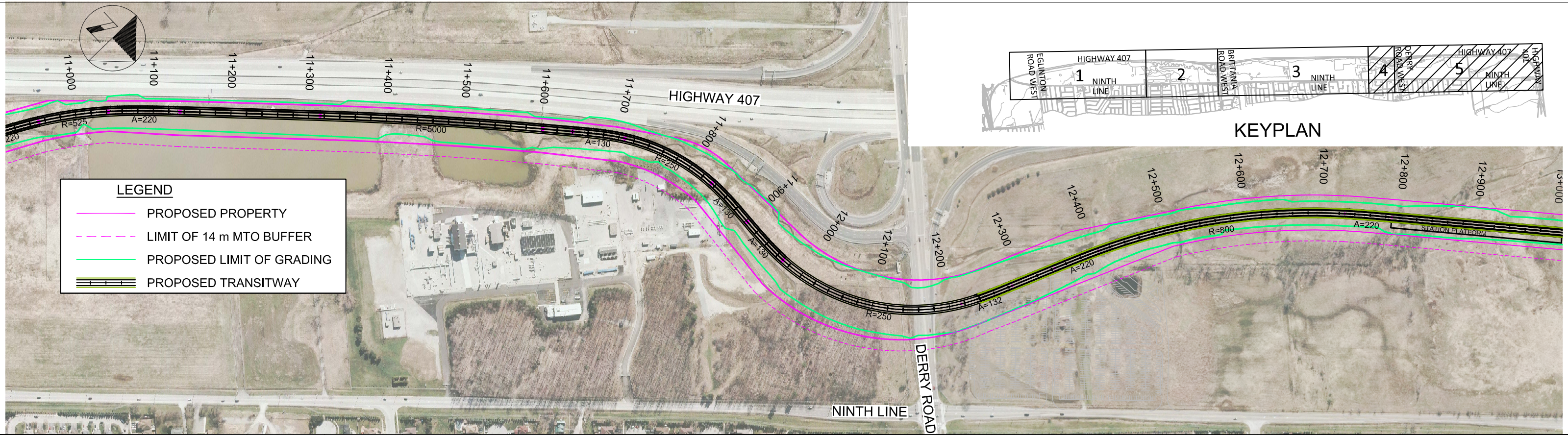
Scale  


Figure No. 3



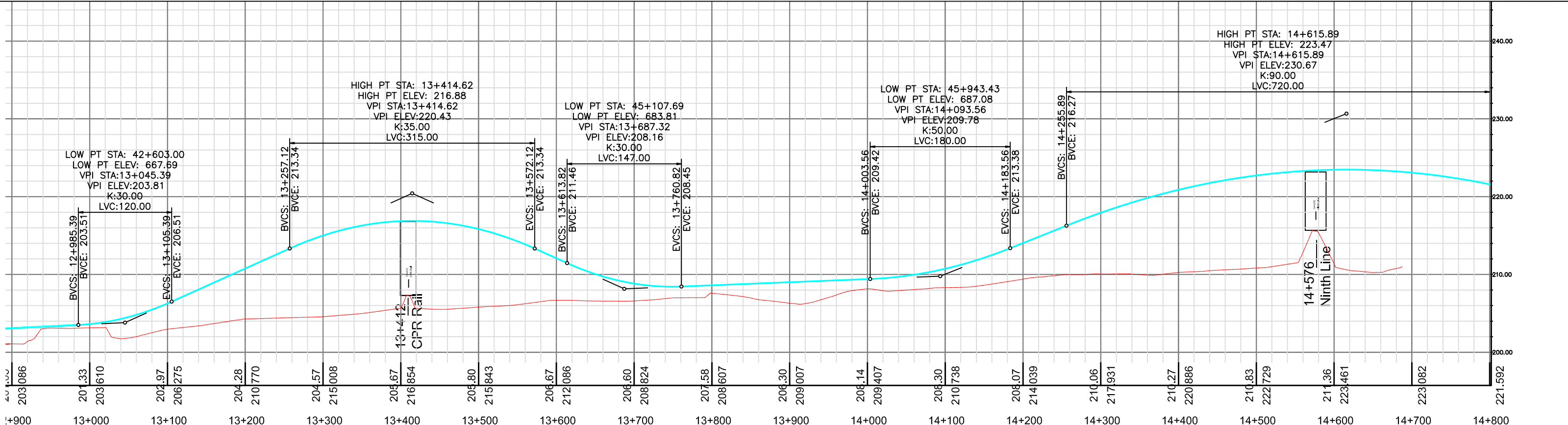
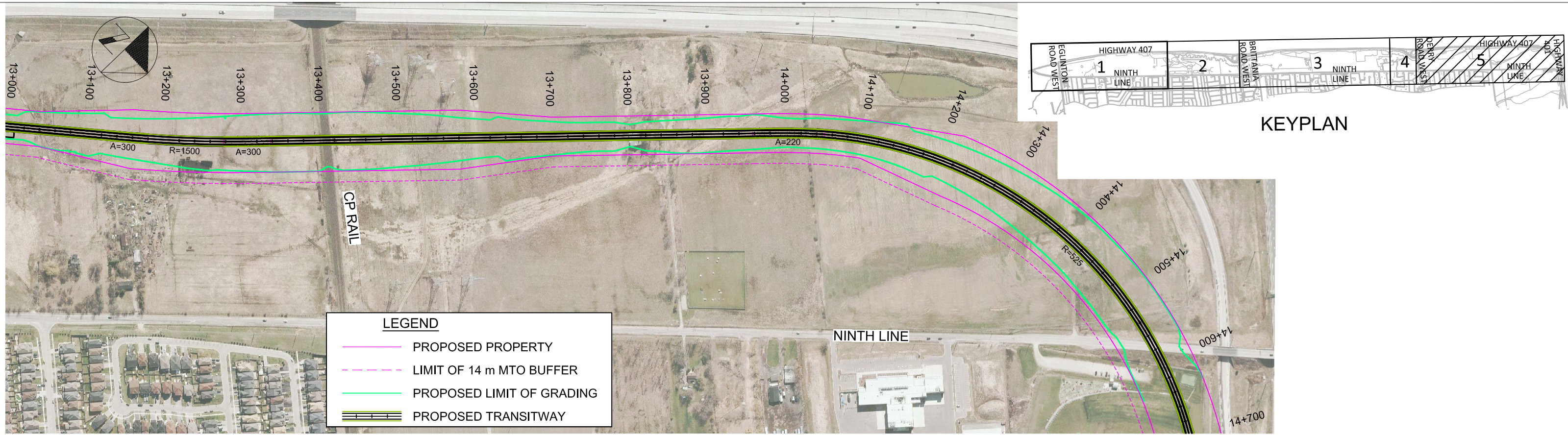


HIGHWAY 407 TRANSITWAY CORRIDOR  
ASSESSMENT WITHIN THE NINTH LINE LANDS  
ADDENDUM (2018)  
PREFERRED TRANSITWAY ALIGNMENT  
PLAN & PROFILE  
SEGMENT 4 & 5



Project No.	TP114008		
Scale	<div><div></div><div>050100150</div></div> <div><div></div><div>051015</div></div> <div>HOR.</div> <div>VER.</div>		
Figure No.	4		

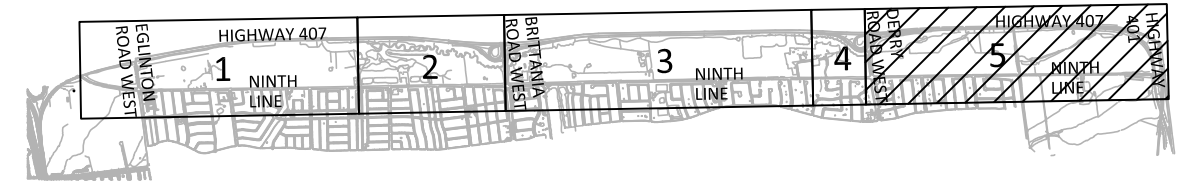
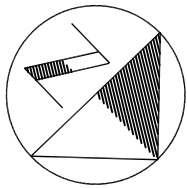




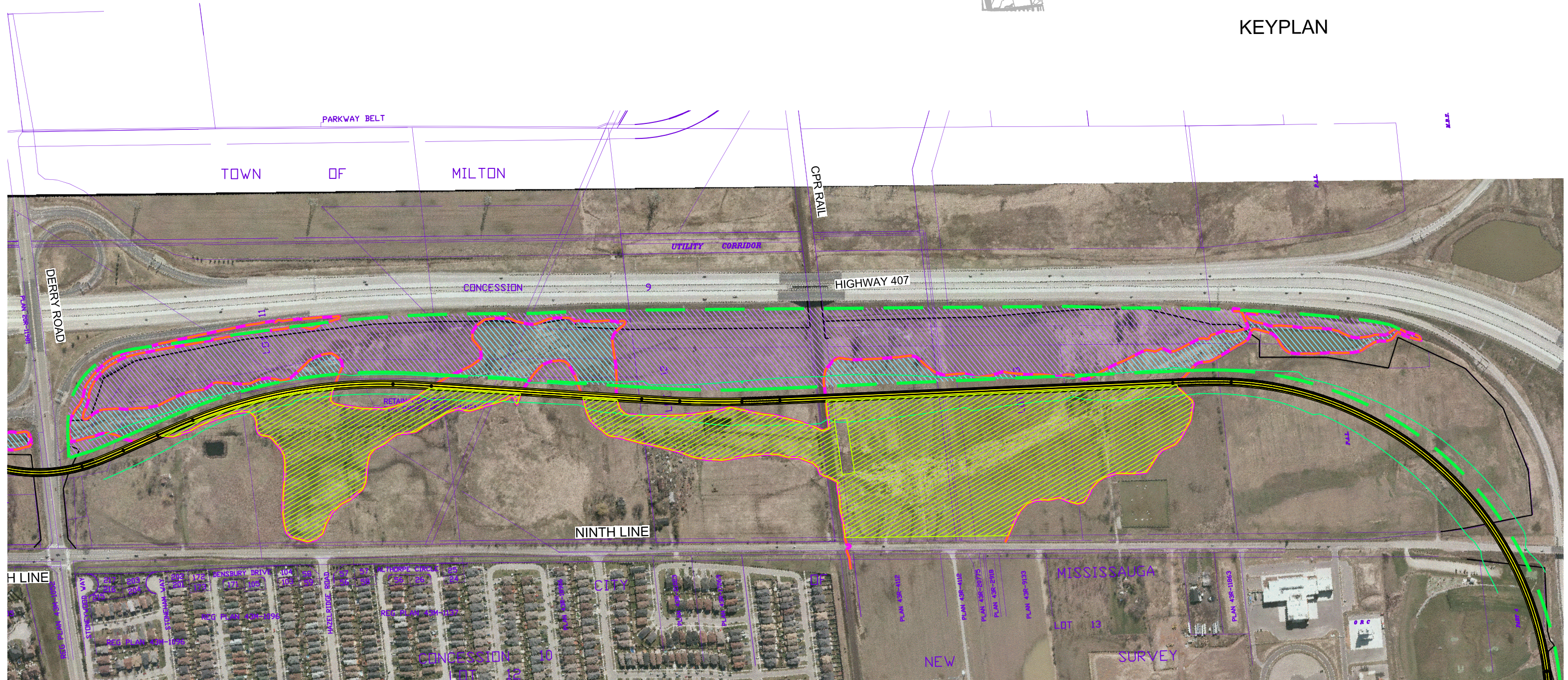
HIGHWAY 407 TRANSITWAY CORRIDOR  
ASSESSMENT WITHIN THE NINTH LINE LANDS  
ADDENDUM (2018)  
PREFERRED TRANSITWAY ALIGNMENT  
PLAN & PROFILE  
SEGMENT 5







KEYPLAN



LEGEND

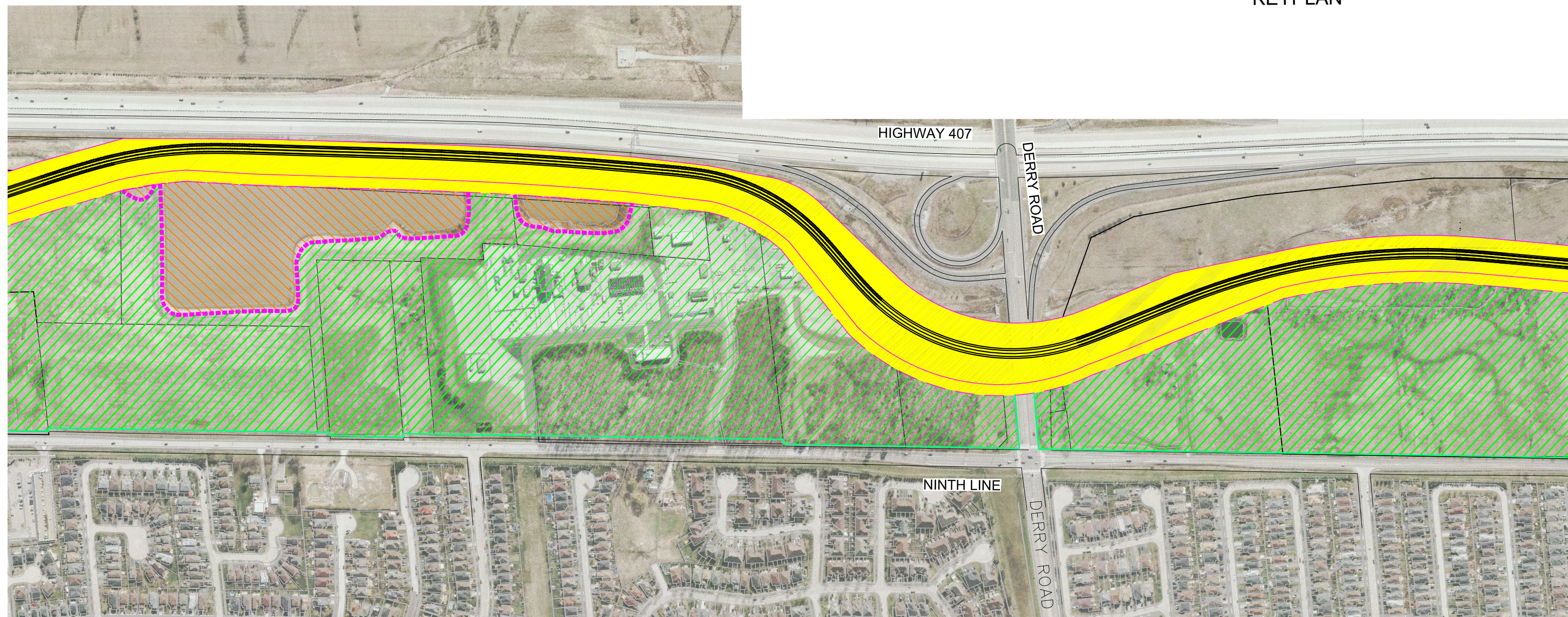
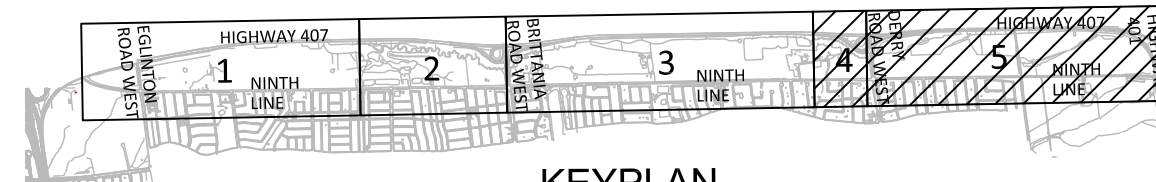
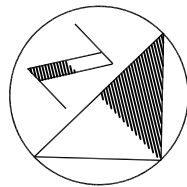
- EXISTING REGIONAL STORM FLOODLINE (2015)
- PROPOSED REGIONAL STORM FLOODLINE WITH CUT/FILL
- EXISTING RIGHT OF WAY
- PROPOSED TRANSITWAY
- REGIONAL STORM FLOODPLAIN REMOVED - POTENTIAL DEVELOPABLE AREA (UNRESTRICTED)
- REGIONAL STORM FLOODPLAIN RETAINED
- REGIONAL STORM FLOODPLAIN MODIFIED

HIGHWAY 407 TRANSITWAY CORRIDOR  
ASSESSMENT WITHIN THE NINTH LINE LANDS  
ADDENDUM (2018)  
PROPOSED REGIONAL STORM FLOODLINE MAPPING  
WITHIN SEGMENT 5



Project No. TP114008  
Scale  
0 100 200 300  
Figure No. 6





#### LEGEND

- |  |   |  |   |
|--|---|--|---|
|  | Proposed Property                               |  | Un-Developable Area                         |
|  | Land Development Setback                        |  | Potential Developable Area                  |
|  | Existing Floodplain with Downstream Improvement |  | Potential Developable Area (Restricted)     |
|  | Development Restriction Boundary                |  | Potential Parking Lot and Parking Structure |

HIGHWAY 407 TRANSITWAY CORRIDOR  
ASSESSMENT WITHIN THE NINTH LINE LANDS  
ADDENDUM (2018)  
DEVELOPABLE LAND ASSESSMENT  
WITHIN SEGMENTS 4 AND 5

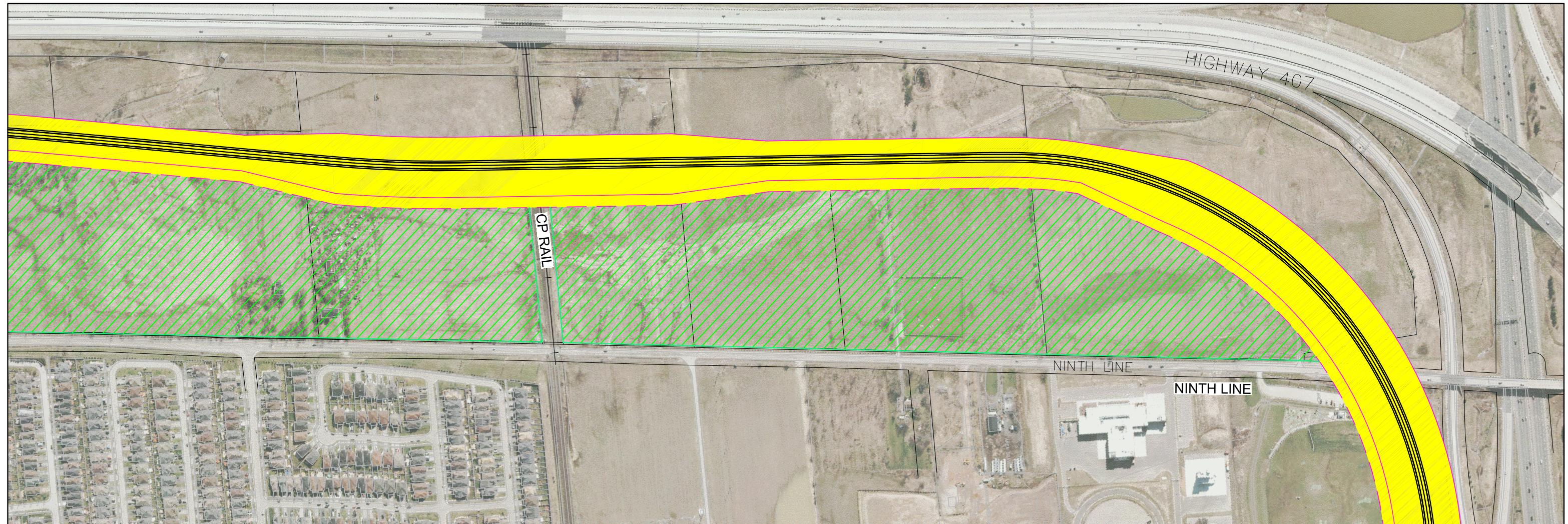
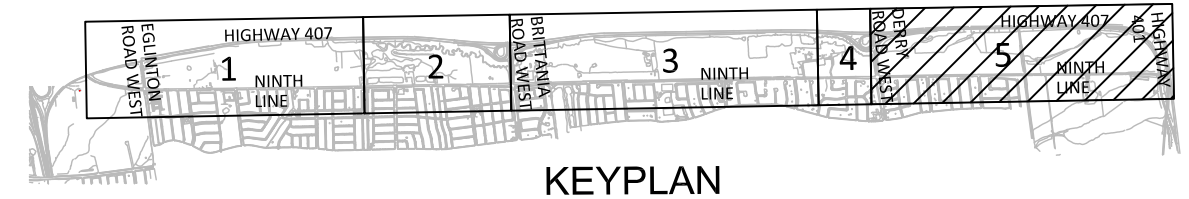
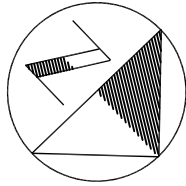


Project No. TP114008









Scale  
0 50 100 150

Figure No. 7





**LEGEND**

- |   |   |
|---|---|
|  Proposed Property                               |  Un-Developable Area                         |
|  Land Development Setback                        |  Potential Developable Area                  |
|  Existing Floodplain with Downstream Improvement |  Potential Developable Area (Restricted)     |
|  Development Restriction Boundary                |  Potential Parking Lot and Parking Structure |

**HIGHWAY 407 TRANSITWAY CORRIDOR  
ASSESSMENT WITHIN THE NINTH LINE LANDS  
ADDENDUM (2018)**  
DEVELOPABLE LAND ASSESSMENT  
WITHIN SEGMENT 5



Project No. TP114008

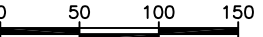
Scale  


Figure No. 8