

Appendix H

Highway 407 Bridge Widening Alternatives Design Brief

To:	Jeff Booker, MTO	Date:	February 24, 2017
From:	Stefan Sirianni, E.I.T., MMM Group	Job No.:	3215102 – Mavis Road EA Study
Subject:	Evaluation of Widening Alternatives for the Mavis Road / Highway 407 Crossing Structure	CC:	Frank Martins, MTO Dana Glofcheskie, Mississauga Gino Dela Cruz, Region of Peel Neil Ahmed, MMM

Attachments:

- Partial Plan of Mavis Road at 407ETR Crossing (Updated and Original)
 - Preliminary Structural Drawings of Widening Alternatives for Mavis Rd / 407ETR Crossing (4 total)
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Introduction

The City of Mississauga is carrying out a Class Environmental Assessment (Class EA) Study for Mavis Road from Courtneypark Drive West to Ray Lawson Boulevard to examine existing and future (2041) traffic operations along the corridor. MMM has developed the preliminary preferred plan for improvements to Mavis Road which involves widening Mavis Road from 4 to 6 lanes through the Study Area and provision of a 3.5 m multi-use trail (MUT) to the west and 1.5 m sidewalk to the east with various intersection and streetscape improvements. The section through Highway 407 ETR and north is within the City of Brampton and is within the jurisdiction of the Region of Peel, also participating in the study.

In order to accommodate proposed improvements through the Mavis Road / Highway 407 interchange, the existing crossing structure will need to be widened. Due to a number of geometric constraints (e.g. vertical clearance, ramp radii, etc.), an evaluation of widening alternatives was carried out by MMM. This evaluation as summarized in this memo, considered factors such as cost, ramp impacts, vertical clearance, and constructability, with widening to the west ultimately being selected as the preferred alternative.

Development of Widening Alternatives

A geomatic survey was carried out by MMM in January 2017 to determine vertical clearances on the west side of the existing structure over Highway 407. Using this information, as well as feedback received from 407ETR, MTO, and the Region of Peel, the following alternatives were developed by MMM for widening the Mavis Road / Highway 407 crossing structure:

- 1) Widen entirely to the west
- 2) Widen to both sides, maintaining existing Mavis Road centreline
- 3) Widen to both sides, maintaining existing N-E on-ramp
- 4) Widen entirely to the east

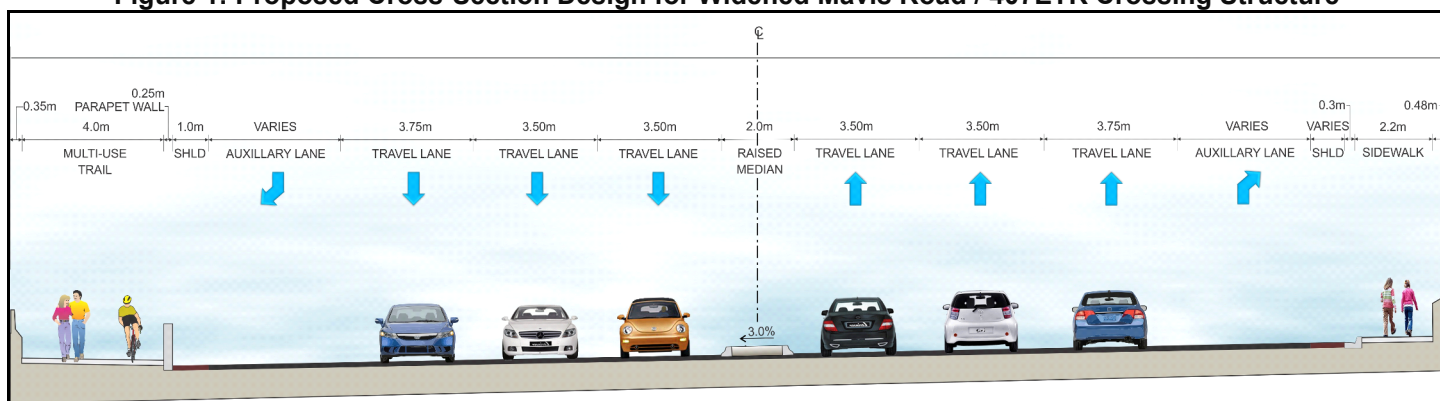
Preliminary structural drawings were developed for each of the above alternatives (attached), all of which utilize the same base cross-section in order to accommodate proposed improvements to Mavis Road.

As shown in Figure 1 below, this cross-section consists of: four 3.5 m travel lanes, two 3.75 m shoulder lanes, two auxiliary lanes of varying width, a 2.0 m raised median, 1.0 m shoulders on both sides, 4.0 m MUT with barrier wall to the west, and 1.5 m sidewalk to the east.

This roadway design is consistent with the existing cross-section for Mavis Road north of the interchange, which also consists of four 3.5 m travel lanes plus two 3.75 m shoulder lanes and 2.0 m raised median. Active

transportation facility design was based on MTO design standards and similar proposed improvements at other Highway 407 crossing structures.

Figure 1: Proposed Cross-Section Design for Widened Mavis Road / 407ETR Crossing Structure



Analysis and Evaluation of Widening Alternatives

The analysis and evaluation of widening alternatives carried out by MMM considered the following factors:

- Alignment and Ramp Impacts
- Minimum Vertical Clearance
- Durability
- Constructability
- Structural Cost

Each of the four widening alternatives were assessed against these factors, details of which are provided in Table 1, below.

From an alignment perspective, Alternative 4 (widening entirely to the east) is least desirable, as it would require the greatest centerline shift for Mavis Road (6.9 m east), as well as modification to the smaller and most constrained on-ramp in the interchange (the S-W loop ramp) – which was previously noted to be undesirable by 407ETR.

From a constructability perspective, Alternatives 2 and 3 (widening to both sides) are least desirable, as they would require longer construction durations / lane closures, additional crane set-ups, and inefficient use of column footings. In addition, these alternatives would not fully resolve constraint issues associated with the S-W on-ramp.

Alternative 1 (widening to the west) would have no impacts to the S-W on-ramp, instead impacting the larger N-E loop ramp to the west. In addition to having less ramp impacts, this structural alternative is also the least costly at \$2.28M (excluding grading) and would require a shorter construction duration compared to the other alternatives.

Preferred Widening Alternative

Overall, it was determined that Alternative 1, widening entirely to the west, is most preferred. As shown in Figure 2 (and in the updated preliminary plan, attached), by widening the structure by 11 m to the less constrained west side, this alternative would maintain both the existing full parallel lane and S-W on-ramp

configuration to the east, as well as required vertical clearances to the west. Realignment of the larger N-E on-ramp would instead be required, which would involve a 95 m spiral transition into the existing 85 m radius.

It is important to note that widening to the west will require more significant grading work in the vicinity of the N-E on-ramp and nearby Hydro One towers. Further consultation with Hydro One is recommended during the detailed design phase to ensure that their clearance and access requirements are adhered to.

Figure 2: Preferred Alternative - Widening to the West (Alternative 1)

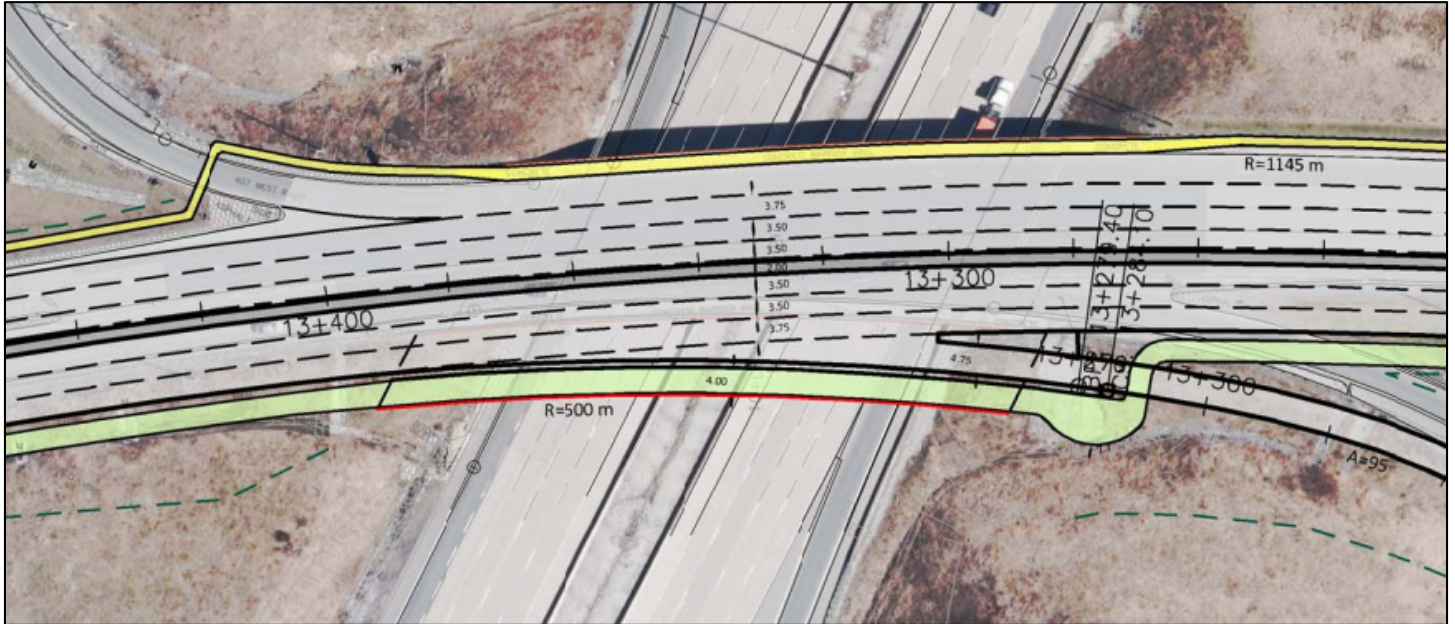
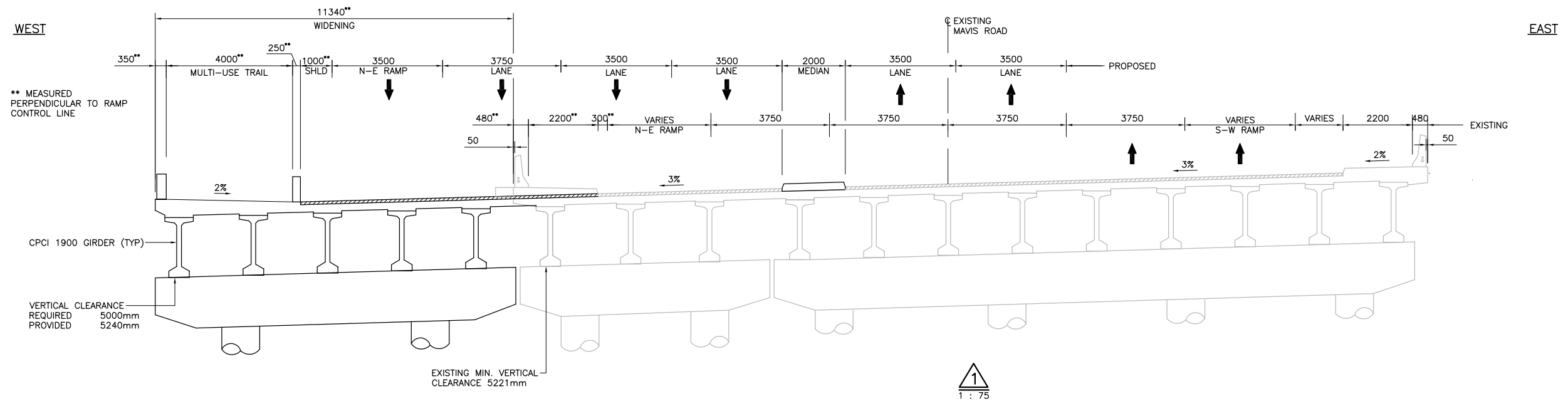
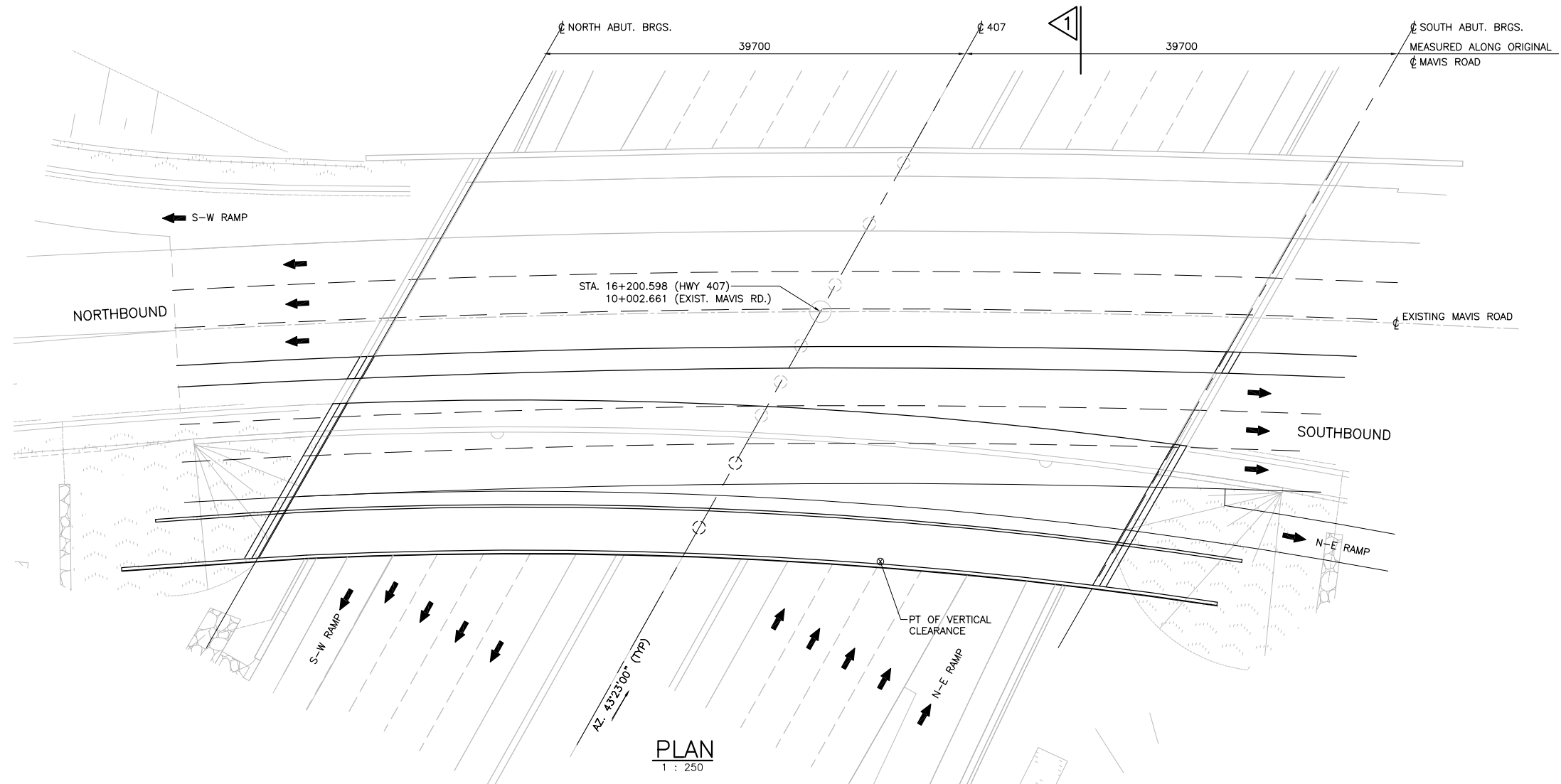


Table 1: Analysis and Evaluation of Widening Alternatives for the Mavis Road / 407ETR Crossing Structure

Factors		Alternative 1: Widen Entirely to the West	Alternative 2: Widen to Both Sides Maintain Existing Mavis C/L	Alternative 3: Widen to Both Sides Maintain Existing N-E On-Ramp	Alternative 4: Widen Entirely to the East
Description		<ul style="list-style-type: none"> Widen the crossing structure entirely to the west 	<ul style="list-style-type: none"> Widen the crossing structure on both sides (i.e. east and west) Existing Mavis Road centerline maintained 	<ul style="list-style-type: none"> Widen the crossing structure on both sides (i.e. east and west) Existing N-E on-ramp alignment maintained 	<ul style="list-style-type: none"> Widen the crossing structure entirely to the east
Total Width of Widening		<ul style="list-style-type: none"> 11.34 m 	<ul style="list-style-type: none"> 10.0 m 	<ul style="list-style-type: none"> 9.78 m 	<ul style="list-style-type: none"> 9.78 m
Alignment Impacts	Mavis Road	<ul style="list-style-type: none"> Centerline shift approx. 4.25 m west 	<ul style="list-style-type: none"> Centerline shift approx. 4.25 m east 	<ul style="list-style-type: none"> No impact – existing centerline maintained 	<ul style="list-style-type: none"> Centerline shift approx. 6.9 m east
	N-E Ramp	<ul style="list-style-type: none"> Significant re-alignment required 	<ul style="list-style-type: none"> No impact – existing alignment maintained 	<ul style="list-style-type: none"> Moderate re-alignment required 	<ul style="list-style-type: none"> Minor re-alignment required
	S-W Ramp	<ul style="list-style-type: none"> No impact – existing alignment maintained 	<ul style="list-style-type: none"> Significant re-alignment required 	<ul style="list-style-type: none"> Moderate re-alignment required 	<ul style="list-style-type: none"> Significant re-alignment required
Minimum Vertical Clearance Provided (5000 mm Required)		<ul style="list-style-type: none"> 5221 mm (under existing west girder) 	<ul style="list-style-type: none"> 5221 mm (under existing west girder) 	<ul style="list-style-type: none"> 5219 mm (under new west girder) 	<ul style="list-style-type: none"> 5221 mm (under existing west girder)
Durability		<ul style="list-style-type: none"> Same as existing bridge construction 	<ul style="list-style-type: none"> Same as existing bridge construction 	<ul style="list-style-type: none"> Same as existing bridge construction 	<ul style="list-style-type: none"> Same as existing bridge construction
Constructability		<ul style="list-style-type: none"> Minimal impact to Mavis Rd traffic Mavis Road west sidewalk closure required for construction 407 shoulder closure required for construction 407 rolling closures required for girder erection Significant embankment widening required for N-E ramp re-alignment and Multi-Use Trail Grading work to the west may require mitigation measures in the vicinity of Hydro One infrastructure 	<ul style="list-style-type: none"> Minimal impact to Mavis Rd traffic Mavis Road west and east sidewalk closures required (stage construction) 407 shoulder closure required for construction Two separate footings required Inefficient use of footing for single east column 407 rolling closures required for girder erection Extra crane set-ups required Moderate embankment widening required for Multi-Use Trail Minor embankment widening required for S-W ramp re-alignment 	<ul style="list-style-type: none"> Minimal impact to Mavis Rd traffic Mavis Road west and east sidewalk closures required (stage construction) 407 shoulder closure required for construction Two separate footings required Inefficient use of footing for single west column 407 rolling closures required for girder erection Extra crane set-ups required Minor embankment widening required for Multi-Use Trail Moderate embankment widening required for S-W ramp re-alignment 	<ul style="list-style-type: none"> Moderate impact to Mavis Rd traffic Mavis Road west and east sidewalk closures required (stage construction) 407 shoulder closure required for construction 407 rolling closures required for girder erection Very minor embankment widening required for Multi-Use Trail Moderate embankment widening required for S-W ramp re-alignment

Factors	Alternative 1: Widen Entirely to the West	Alternative 2: Widen to Both Sides Maintain Existing Mavis C/L	Alternative 3: Widen to Both Sides Maintain Existing N-E On-Ramp	Alternative 4: Widen Entirely to the East
Structural Cost (excludes grading, etc. for Mavis Road and Ramp re-alignments)	<ul style="list-style-type: none">\$ 2.28M	<ul style="list-style-type: none">\$ 2.97M	<ul style="list-style-type: none">\$ 2.53M	<ul style="list-style-type: none">\$ 2.64M
Overall Summary	<ul style="list-style-type: none">Pro: Least structural cost; Construction duration shorter.Con: Significant ramp re-alignment (and cost) required.	<ul style="list-style-type: none">Pro: Maintains existing Mavis Road centerline.Con: Highest structural cost; Construction duration longer; Requires small re-alignment of both ramps.	<ul style="list-style-type: none">Pro: Re-alignment of N-E Ramp not required (embankment widening required for MUT); Moderate structural cost.Con: Construction duration longer; Moderate S-W Ramp re-alignment (and cost) required.	<ul style="list-style-type: none">Pro: Minor embankment widening required for MUT; Moderate structural cost; Construction duration shorter.Con: Moderate S-W Ramp re-alignment (and cost) required; Largest shift of Mavis Road centerline.

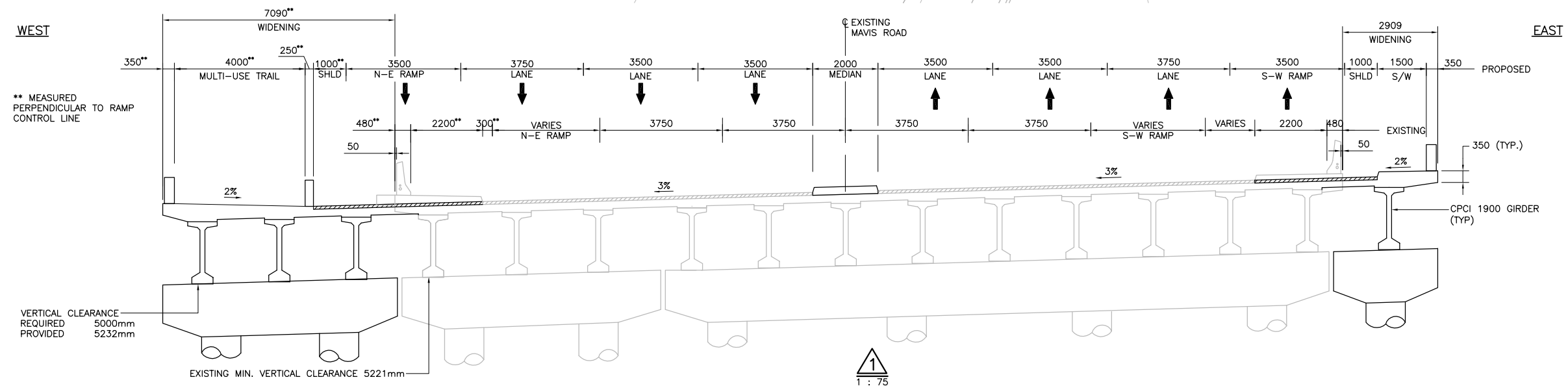
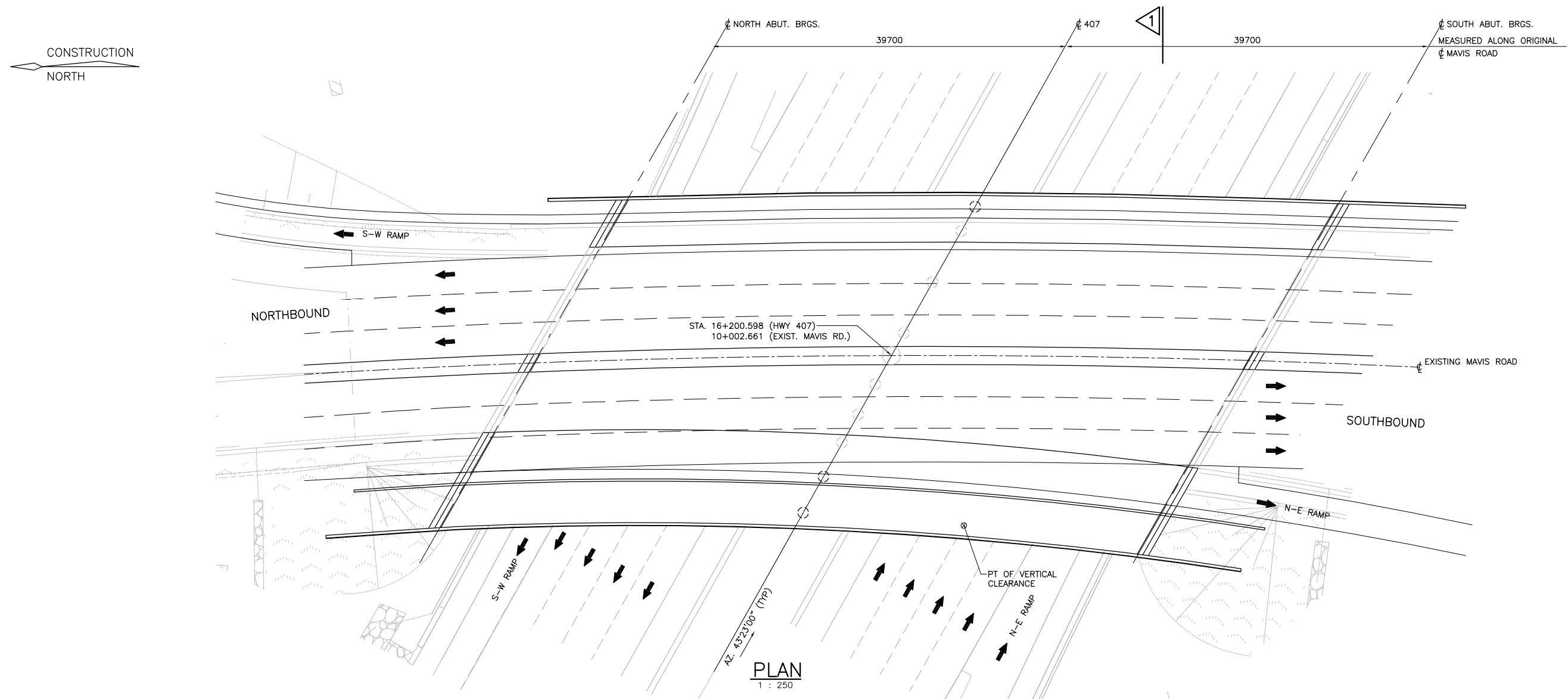


OPTION 1
WIDEN TO THE WEST
(MAINTAIN S-W RAMP ALIGNMENT)

PEEL REGION - MAVIS ROAD
CLASS ENVIRONMENTAL ASSESSMENT STUDY
NORTH OF HIGHWAY 401 TO HIGHWAY 407

Scale
AS SHOWN

PLATE

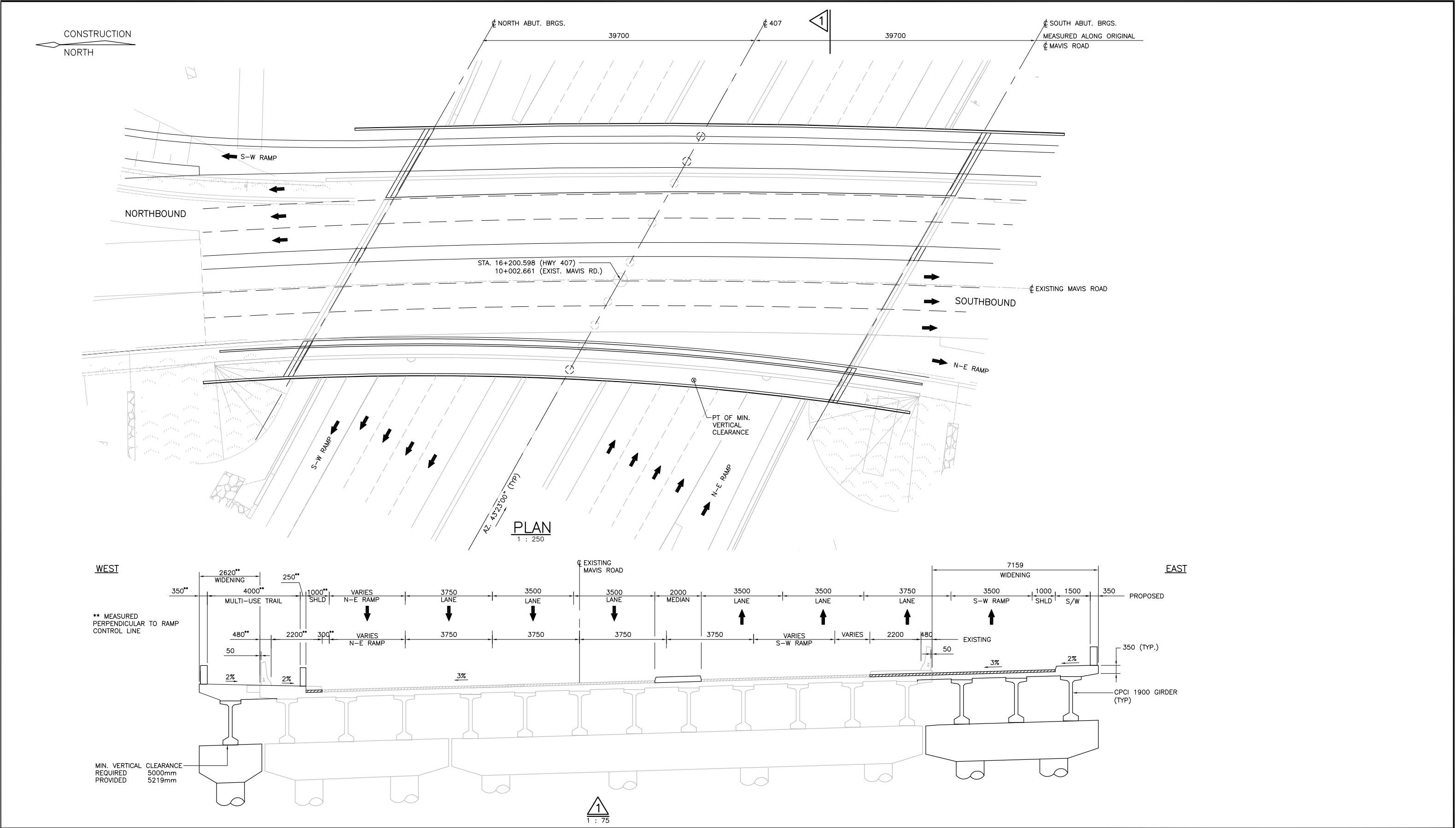


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**OPTION 2
WIDEN BOTH SIDES
(MAINTAIN MAVIS RD. CENTRELINE)**

PEEL REGION - MAVIS ROAD
CLASS ENVIRONMENTAL ASSESSMENT STUDY
NORTH OF HIGHWAY 401 TO HIGHWAY 407

PLATE

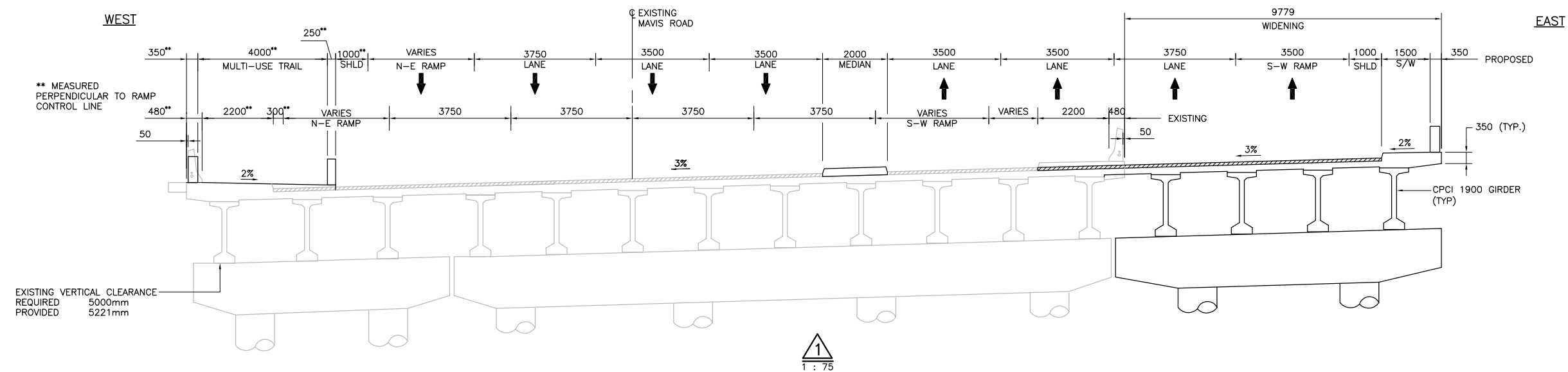
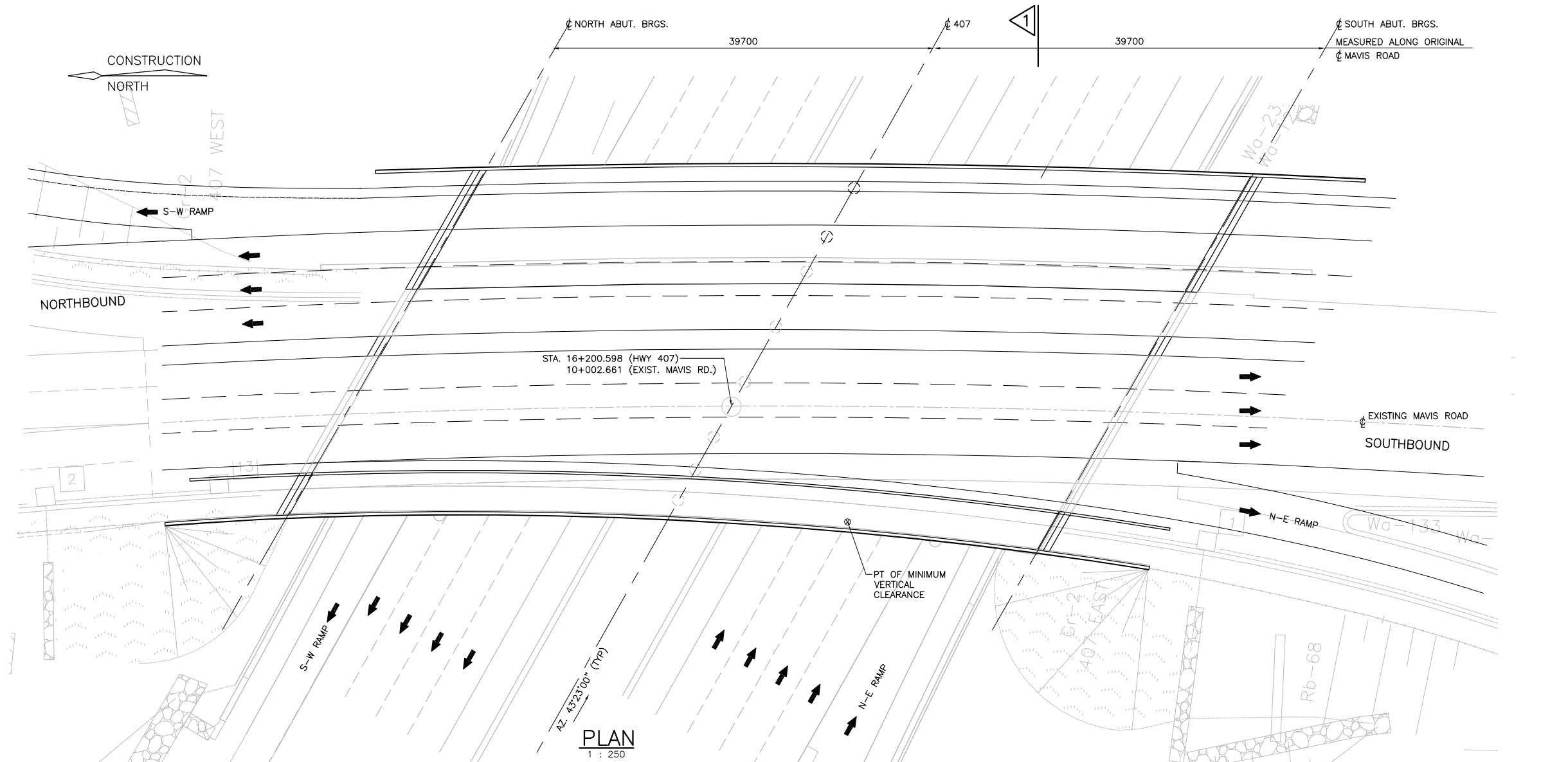


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OPTION 3
WIDEN BOTH SIDES
(MAINTAIN N-E RAMP ALIGNMENT)

PEEL REGION - MAVIS ROAD
CLASS ENVIRONMENTAL ASSESSMENT STUDY
NORTH OF HIGHWAY 401 TO HIGHWAY 407

PLATE



OPTION 4
WIDEN TO THE EAST

Scale
AS SHOWN

PEEL REGION - MAVIS ROAD
CLASS ENVIRONMENTAL ASSESSMENT STUDY
NORTH OF HIGHWAY 401 TO HIGHWAY 407

PLATE

Date: March 23, 2017 **Project:** Mavis Road EA Study
Location: Superior Room, 8th Floor **Mississauga PO #:** 4500442131
 201 City Centre Drive **MMM Project #:** 3215102-000
 City of Mississauga
Time: 3:00 p.m. to 4:00 p.m. **Author:** Stefan Sirianni, WSP|MMM

Attendees:

Dana Glofcheskie	City of Mississauga
Gino Dela Cruz	Peel Region
Jeff Booker	407ETR (via teleconference)
Dragan Mrkela	407ETR
Frank Martins	MTO
Neil Ahmed	MMM Group Limited
Stefan Sirianni	MMM Group Limited

Distribution: All Attendees, including Tony Angelo (407ETR) who was unable to attend.

Purpose: Meeting with 407ETR and MTO SHMO to review updated draft plan.

Item	Details	Action By
1.0	Previous Meeting with 407ETR and MTO SHMO (November 2, 2016)	
1.1	<p>At this meeting MMM presented a draft plan for the proposed widening of the Highway 407 / Mavis Road crossing structure. Due to perceived geometric constraints at the time of the meeting (specifically regarding clearances over Highway 407), widening to the east was proposed which included the following:</p> <ul style="list-style-type: none"> • Cross-section consisting of four 3.75 m plus two additional 3.75 m travel lanes, with two auxiliary lanes of varying width (direct tapers for the S-W and N-E loop ramps). • To improve AT connectivity over Highway 407, a 3.5 m MUT was proposed to the west and a 1.5 m sidewalk to the east. Crossing locations for these AT facilities were designed according to Ontario Traffic Manual (OTM) Book 18 – Cycling Facilities. • To provide buffer space between these facilities and vehicular traffic, a 1.5 m splash strip was proposed on either side of the structure- no physical barriers or raised median were proposed across the structure. 	
1.2	<p>407ETR expressed concerns regarding the proposed cross-section and noted that impacts to the S-W loop ramp that would result from widening to the west would be undesirable. 407ETR noted there is significantly more space available to the west to accommodate a widened structure (i.e. less constrained). In particular, modifying the larger N-E loop ramp (85 m radius) to the west would be preferred to modifying the smaller S-W loop ramp (60 m radius) to the east. As a result, the 407ETR asked that MMM conduct a survey of the existing structure to determine exact clearances and examine other structure widening approaches that would accommodate widening the structure to the west (e.g. a shallow box girder).</p>	

Any omissions or errors in these notes should be forwarded to the author immediately.

Item	Details	Action By
1.3	<p>MMM completed a geomatics survey of the existing structure in January 2017 which confirmed that minimum clearance requirements can be met when widening to the west.</p> <p>Using this information, MMM developed and evaluated a set of widening alternatives as per feedback received from 407ETR and MTO at the previous meeting. A design package containing these materials was sent to 407ETR and MTO via email on February 28, 2017. The design package included the following information, which are attached to today's minutes:</p> <ul style="list-style-type: none"> • Memo on the Analysis and Evaluation of Widening Alternatives for the Mavis Road - 407ETR Crossing Structure • Preliminary Structural Drawings for Widening Alternatives • Partial Plans at the Mavis Road / Highway 407 Interchange (Original + Updated version with preferred alternative) <p>The focus of today's meeting is to discuss the results of this analysis and evaluation and the preferred widening alternative with 407ETR and MTO</p>	
1.4	All other action items from the previous meeting with 407ETR and MTO have been addressed.	
2.0	Review of Analysis and Evaluation of Widening Alternatives and Preferred Plan for the Mavis Road / Highway 407ETR Crossing Structure	
2.1	Using handouts of the materials that were sent to 407ETR and MTO for review on February 28 th , MMM provided a brief overview of the analysis and evaluation of widening alternatives.	
2.2	<p>In order to accommodate proposed improvements through the Mavis Road / Highway 407 interchange, the existing crossing structure will need to be widened. Due to a number of geometric constraints (e.g. vertical clearance, ramp radii, etc.), an evaluation of widening alternatives was carried out by MMM. This evaluation, as summarized in the attached memo, considered factors such as cost, ramp impacts, vertical clearance, and constructability.</p> <p>Using this information, as well as feedback received from 407ETR, MTO, and the Region of Peel, the following alternatives were developed by MMM for widening the Mavis Road / Highway 407 crossing structure:</p> <ol style="list-style-type: none"> 1) Widen entirely to the west 2) Widen to both sides, maintaining existing Mavis Road centreline 3) Widen to both sides, maintaining existing N-E on-ramp 4) Widen entirely to the east <p>Preliminary structural drawings were developed for each of the above alternatives (attached), all of which utilize the same base cross-section in order to accommodate proposed improvements to Mavis Road.</p>	
2.3	The proposed cross-section consists of four 3.5 m travel lanes, two 3.75 m shoulder lanes, two auxiliary lanes of varying width, a 2.0 m raised median, 1.0 m shoulders on both sides, 4.0 m MUT with barrier wall to the west, and 1.5 m sidewalk to the east.	

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Item	Details	Action By
	MMM noted that this roadway design is consistent with the existing cross-section for Mavis Road north of the interchange, which also consists of four 3.5 m travel lanes plus two 3.75 m shoulder lanes and 2.0 m raised median.	
2.4	<p>Overall, it was determined that Alternative 1, widening entirely to the west, is most preferred. Using a 1:1000 roll plan of this alternative, MMM outlined that by widening the structure by 11 m to the less constrained west side, this alternative would maintain both the existing full parallel lane and S-W on-ramp configuration to the east, as well as required vertical clearances to the west. Realignment of the larger N-E on-ramp would instead be required, which would involve a 95 m spiral transition into the existing 85 m radius.</p> <p>While this is the least costly of the alternatives and would require the shortest construction duration, MMM noted that widening to the west will require more significant grading work in the vicinity of the N-E on-ramp and nearby Hydro One towers. As a result further consultation with Hydro One would be recommended during the detailed design phase to ensure that their clearance and access requirements are adhered to. MMM will confirm the side slope for grading at this location in the final design.</p>	
2.5	<ul style="list-style-type: none"> Overall, 407ETR and MTO confirmed they were pleased with the recommendation for widening entirely to the west. 407ETR and MTO confirmed that 3.5 m lane widths for all travel lanes would be acceptable, though Peel noted that they would prefer to maintain 3.75 m widths for the shoulder lanes if possible. 	
2.6	<ul style="list-style-type: none"> 407ETR noted that the proposed side clearances on the structure do not meet minimum standards of 1.5 m. MMM will revisit the plan to determine whether 1.5 m shoulders can be accommodated across the structure. <i>[Post-Meeting Note: MMM subsequently revised the plan to include 1.5 m shoulders on the crossing structure. The updated preliminary structural drawing and preliminary plan are attached to these minutes].</i> 	
2.7	<ul style="list-style-type: none"> MTO noted that crash tested / approved barrier walls would need to be implemented. MMM replied that this would be addressed during detailed design. 	
2.8	<ul style="list-style-type: none"> 407ETR asked what the length of the speed change lane for the S-E on-ramp would be on Mavis Road under the preferred plan. MMM replied that the current 225 m parallel lane will need to be converted to a direct taper to accommodate the widening of Mavis Road from 4 to 6 lanes through this section. MMM will confirm the length of this direct taper following the meeting. <i>[Post-Meeting Note: MMM confirmed that the length of the proposed direct taper lane for the S-E on-ramp is 235 m, which meets MTO's design standard of 85 m].</i> 	
2.9	<ul style="list-style-type: none"> 407ETR noted that they will require Design Criteria for the proposed design to confirm the cross-section and side clearances in the final design meet standards. 	

Any omissions or errors in these notes should be forwarded to the author immediately.

Item	Details	Action By
	<ul style="list-style-type: none"> <i>[Post-Meeting Note: Design Criteria for the preferred plan through the Mavis / Highway 407 interchange are attached to these minutes].</i> 	
3.0	Next Steps	
3.1	<p>MMM to confirm the details noted above and revise the plan as per 407ETR and MTO's comments.</p> <p>The updated plan and preliminary structural drawing will then be distributed to 407ETR and MTO for confirmation and approval for the Environmental Study Report.</p> <p><i>[Post-Meeting Note: the updated plan and preliminary structural drawings have been attached to these minutes for 407ETR and MTO confirmation and approval].</i></p>	
Meeting adjourned at 4:00 p.m.		

Date:	November 2, 2016	Project:	Mavis Road EA Study
Location:	Brenda Sakauye Room 201 City Centre Drive City of Mississauga	Mississauga PO #:	4500442131
		MMM Project #:	3215102-000
Time:	9:00 a.m. to 10:30 a.m.	Author:	Stefan Sirianni, WSP MMM

Attendees:

Dana Glofcheskie	City of Mississauga
Gino Dela Cruz	Peel Region
Jeff Booker	407ETR
Tony Angelo	407ETR
Maria Efimova	407ETR
Dragan Mrkela	407ETR
Frank Martins	MTO
Neil Ahmed	MMM Group Limited
Stefan Sirianni	MMM Group Limited

Distribution: All Attendees

Purpose: Meeting with 407ETR and MTO SHMO to review draft plan

Item	Details	Action By
1.0	Minutes of Previous Meeting with 407ETR and MTO SHMO (July 19, 2016)	
1.1	There were no outstanding action items from the previous meeting with 407ETR and MTO SHMO.	
1.2	MMM will follow-up with MTO as needed regarding the design/incorporation of active transportation (AT) facilities at interchanges.	MMM
1.3	407ETR noted that future widening work on Highway 407 is potentially slated for construction in either 2019/2020 or 2020/2021.	
2.0	Overview of Study and Study Status	
2.1	Background Information Mavis Road is a major north-south arterial road within the Cities of Mississauga and Brampton, supporting both regional and local mobility and providing key transportation connections to 407ETR and Highway 401. Within the Study Area, which extends from Courtneypark Drive to Ray Lawson Boulevard, Mavis Road consists of four travel lanes, raised median, sidewalks on both sides and some sections of multi-use trails. Mavis Road was recently widened to six lanes both north of Ray Lawson Boulevard in Brampton and south of Courtneypark Drive in Mississauga. Mavis Road is a City of Mississauga road south of 407ETR and Regional road to the north.	
2.2	Study Purpose As an arterial road, Mavis Road is intended to carry higher traffic volumes to	

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Item	Details	Action By
	<p>support both local and regional mobility. Existing traffic volumes are at capacity during the morning and afternoon rush hours through this section of Mavis Road. Projected traffic growth will worsen these conditions.</p> <p>As a result, there is a need and opportunity to improve Mavis Road to accommodate existing and future traffic demands and provide better connectivity for all modes within the overall Region / City road network. This includes the implementation of Region / City strategic objectives which promote sustainable and safe multi-modal transportation options that provide residents with opportunities to walk, cycle or use public transit as well as an opportunity to improve community amenities / aesthetics for this corridor.</p>	
2.3	<p>Preliminary Plan Status</p> <p>Since the Project Team last met with 407ETR and MTO SHMO, MMM has developed the preliminary preferred plan for improvements to Mavis Road. This plan involves widening Mavis Road from 4 to 6 lanes through the Study Area and provision of a multi-use trail (MUT) to the west and sidewalk to the east with various intersection and streetscape improvements.</p> <p>Mavis Road will be widened primarily into the median throughout the Study Area, with the existing edge of pavement being maintained with the exception of a few locations, such as intersections where turn lane improvements are proposed.</p> <p>The existing Fletcher's Creek crossing structure is able to accommodate the proposed widening.</p>	
2.4	<p>Consultation Overview</p> <p>Overall, public/community support for the proposed improvements has been positive.</p> <p>The Project Team will be presenting the preliminary plan at Public Information Centre (PIC) #2 next Wednesday, November 9th. The purpose of today's meeting is to get feedback from the 407ETR and MTO SHMO on the proposed improvements as they pertain to the Mavis Road / 407ETR crossing structure, prior to presenting the plan to the public.</p>	
3.0	Review of Draft Plan at the Mavis Road / Highway 407ETR Interchange	
3.1	<p>Using a 1:1000 roll plan MMM provided an overview of the preliminary plan at the Mavis Road / Highway 407ETR interchange from south to north. In general, Mavis Road is proposed to be widened from 4 to 6 lanes through the interchange with a MUT to the west and sidewalk to the east to provide improved AT connectivity between the City of Mississauga and City of Brampton.</p>	
3.2	South-East On-Ramp	
3.2.1	<p>The existing Highway 407 S-E on-ramp currently has a 225 m parallel speed change lane (SCL) on Mavis Road which far exceeds design standards. In order to accommodate the widening of Mavis Road through this section (widening primarily to the east), a 110 m direct taper is being proposed.</p>	

Any omissions or errors in these notes should be forwarded to the author immediately.

Item	Details	Action By
3.2.2	<p>MMM outlined the rationale behind the proposed direct taper design, which includes the following:</p> <ul style="list-style-type: none"> The existing parallel lane currently acts as a congestion bypass for traffic on the existing 4 lane cross-section. The proposed 6-laning of Mavis Road reduces the need for a parallel bypass lane for traffic entering the 407ETR. The proposed direct taper meets design standards. The City is aiming to reduce travel speeds along Mavis Road through a reduced posted speed and narrower lane widths. Providing an extended parallel lane for traffic entering the 407ETR would not be in keeping with this goal. The sidewalk to the east of Mavis Road has been extended north over the 407ETR into Brampton and includes a pedestrian crossing over the SE on-ramp. The proposed design will help reduce speeds through this location and improve safety at the pedestrian crossing. The City added that this extended lane is on City-owned land and was previously provided because the right of way was available / protected for the eventual 6-laning of Mavis Road. 	
3.2.3	The 407ETR replied that they hope a compromise can be reached that involves a design somewhere between the existing 225 m parallel lane and proposed 110 m direct taper.	
3.2.4	At a high level, 407ETR wants to make the highway as valuable as possible to customers and this involves retaining unimpeded access wherever possible. The 407ETR may not be able to acquire additional lands in the future, so their position at this time is to maintain existing access conditions where possible. As far as the 407ETR is concerned, this lane is part of their controlled access lands.	
3.2.5	MMM replied that the proposed direct taper lane follows design standards and is in keeping with the City's goal to reduce speeds on Mavis Road and improve pedestrian safety and access. Potential impacts to adjacent private property are also a concern.	
3.2.6	MTO stated they recognize 407ETR's position on the matter and that more than the minimum design standard would be desirable; however, they would not pursue this if property acquisitions beyond what is needed to achieve the minimum standard would be required. MTO added that bypass lanes for highway on-ramps are no longer required by MTO design standards once 6 lanes are provided on the cross-road. As such, the Project Team will consider some further improvements at this location without impacting private property.	MMM
3.3	Proposed Cross-Section for Widened 407ETR Crossing Structure	
3.3.1	Using a handout, MMM provided an overview of the proposed cross-section for widening the structure to the east (attached).	

Item	Details	Action By
3.3.2	The existing structure currently accommodates four 3.75 m travel lanes plus one 3.75 m auxiliary lane (parallel lane for the S-W on-ramp) to the east and one auxiliary lane (direct taper lane for the N-E ramp) of varying width to the west. 2.2 m sidewalks are provided on either side of the structure with no buffer between them and the travel lanes.	
3.3.3	The proposed cross-section consists of four 3.75 m plus two additional 3.75 m travel lanes, with two auxiliary lanes of varying width (direct tapers for the S-W and N-E loop ramps). To improve AT connectivity over Highway 407, a 3.5 m MUT is proposed to the west and a 1.5 m sidewalk is proposed to the east. Crossing locations for these AT facilities have been designed according to Ontario Traffic Manual (OTM) Book 18 – Cycling Facilities. To provide buffer space between these facilities and vehicular traffic, a 1.5 m splash strip is proposed on either side of the structure- no physical barriers are being proposed. No raised median is currently proposed across the structure.	
3.3.4	MMM noted that while there is a 2.0 m median on Mavis Road north and south of the structure (and MTO standards indicate the width of a median on a bridge should match that of the approach roadway), however as noted above, a median is currently not shown through the crossing as part of an overall effort to minimize structure widening and impacts to adjacent ramps. MTO noted that consideration will need to be given to providing a median as they are important drainage elements on wide crossing structures. 407ETR noted there are already existing drainage issues on the crossing structure.	
3.3.5	MTO noted that reduction to 3.50 m travel lanes on the crossing structure would be acceptable given the proposed reduction in posted speed.	
3.3.6	MMM is to develop cross-section alternatives for 407ETR and MTO to review. The City noted that the cross-section developed for the QEW/Dixie Road crossing structure incorporates many of the same elements and may be a useful reference.	MMM
3.4	Crossing Structure	
3.4.1	Mavis Road is a curved / superelevated roadway through the 407ETR crossing. Clearance heights for the 407ETR on the west side of the structure preclude widening to this side. In order to readily accommodate the proposed cross-section, widening the crossing structure to the east has therefore been proposed.	
3.4.2	The 407ETR noted there is significantly more space available to the west to accommodate a widened structure (i.e. less constrained). In particular, modifying the larger N-E loop ramp (85 m radius) to the west would be preferred to modifying the smaller S-W loop ramp (60 m radius) to the east. As a result, the 407ETR asked that MMM examine other structure widening approaches that would accommodate widening the structure to the west (e.g. a shallow box girder).	MMM
3.4.3	The 407ETR noted that the preferred cross-section should be determined	

Any omissions or errors in these notes should be forwarded to the author immediately.

Item	Details	Action By
	before discussing/exploring widening options any further.	
3.5	S-W Loop Ramp	
3.5.1	<p>Widening to the east would require the following modifications to the S-W loop ramp in order to avoid significant reconstruction of ramps in the NW quadrant and/or impacts to tolling gantries:</p> <ul style="list-style-type: none"> SCL: Currently a 180 m parallel lane; a 165 m direct taper is proposed (minimum design standard is 110 m) Radius: Currently 60 m; a compound curve of 50 m and 60 m is proposed (minimum design standard is 50 m) 	
3.5.2	MTO could not confirm at the meeting whether a compound curve would be acceptable, but noted that avoiding gantry impacts would be preferred. MTO added that shortening existing SCLs and the use of direct tapers over parallel lanes should be pursued only if necessary.	MTO
3.6	<p>General Comments</p> <p>407ETR has no comment at this time on the sidewalk/MUT crossings within the interchange limits. These will be reviewed during the detail design phase.</p>	
4.0	Next Steps	
4.1	MMM to have their Geomatics group survey the existing clearance heights of the Mavis Road / 407ETR crossing structure.	MMM
4.2	The 407ETR confirmed that MMM could add a note to the plan at the 407ETR crossing structure for PIC #2 stating "Design pending further consultation with 407ETR and MTO SHMO".	
5.0	Next Meeting	
5.1	A follow-up meeting will be arranged by the Project Team after relevant materials and additional design alternatives have been developed and distributed to 407ETR and MTO SHMO for review and comment.	Project Team
Meeting adjourned at 10:30 a.m.		

Sirianni, Stefan

From: Sirianni, Stefan
Sent: October-28-16 3:05 PM
To: Jeff Booker; Dragan Mrkela; Frank.Martins@ontario.ca
Cc: Dana Glofcheskie; Dela Cruz, Gino; Leslie Green; Ahmed, Neil; Thompson, Gillian
Subject: Mavis Road EA Study - Files for Meeting on November 2, 2016
Attachments: Mavis Road EA - Files for Meeting on November 2, 2016.zip

Good afternoon,

In preparation for our upcoming meeting on November 2nd, please find attached the following files for your reference:

- Meeting Agenda
- Minutes of Previous Meeting (July 19, 2016)
- Draft Preliminary Plan of the Mavis Road / 407ETR Interchange
- Existing and Proposed Cross-Sections of 407ETR Crossing Structure

Please note that the Draft Preliminary Plan's quality has been compressed/reduced for emailing purposes. If you would like a higher quality version please let me know and we can arrange to send it via MMM's file sharing site (Tempo).

If you have any questions prior to our meeting please do not hesitate to contact me.

Thank you,
Stefan



Stefan Sirianni, E.I.T.
Designer
Transportation – Planning

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Sirianni, Stefan

From: Jeff Booker <jbooker@407ETR.com>
Sent: January-09-17 3:23 PM
To: Sirianni, Stefan; Dana Glofcheskie; Dela Cruz, Gino; Dragan Mrkela; Frank.Martins@ontario.ca
Cc: Ahmed, Neil; Tony Angelo
Subject: RE: 3215102 Mavis Rd EA - Revised Minutes for Meeting with 407ETR & HTO SHMO - November 2 2016

Categories: Print and File / Update Comment Sheet

407 ETR has serious concerns with the proposed compound curve due to widening of the east side of the structure.

407 ETR prefers the structure to be widened on the Westside. 407 /MTO have just performed a bridge widening at 407/427 with clearance issues with good success. Please ensure that updates to the EA, preliminary design and cross section include an option of westside widening moving forward.


Sincerely,

Jeff Booker
Manager, Highway Engineering Services
Highway 407 ETR
6300 Steeles Avenue
Woodbridge, ON
L4H 1J1
Tel (905) 265-4070 Ext 5485
Fax (905)264-5379
jbooker@407etr.com

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Environmental:

Please consider the environment before printing this email! 

From: Sirianni, Stefan [<mailto:SirianniS@mmm.ca>]
Sent: Monday, January 09, 2017 1:50 PM
To: Dana Glofcheskie; Dela Cruz, Gino; Jeff Booker; Dragan Mrkela; Frank.Martins@ontario.ca
Cc: Ahmed, Neil
Subject: 3215102 Mavis Rd EA - Revised Minutes for Meeting with 407ETR & HTO SHMO - November 2 2016

Good afternoon,

The minutes of the November 2, 2016 meeting between 407ETR, MTO SHMO, and the Mavis Road EA Project Team have been revised as per comments received from MTO (Item 3.4.3 has been removed). As a result, please allow the attached set of revised minutes to supersede those previously distributed on December 19, 2016.

If you have any questions please let me know.

Sirianni, Stefan

From: Sirianni, Stefan
Sent: February-28-17 4:24 PM
To: 'Jeff Booker'; Frank.Martins@ontario.ca
Cc: 'Tony Angelo'; Ahmed, Neil; Thompson, Gillian; 'Dana Glofcheskie'; 'Dela Cruz, Gino'
Subject: RE: Mavis Rd EA - Follow-up Meeting to Discuss Evaluation of Widening Alternatives for 407ETR Crossing Structure (Materials Attached for Review)
Attachments: Mavis Road EA - Drawings and Plans of Widening Alternatives for the Mavis Road - 407ETR Crossing Structure - Feb-28-17.zip; Mavis Road EA - Memo on the Analysis and Evaluation of Widening Alternatives for the Mavis Road - 407ETR Crossing Structure.pdf

Good afternoon Jeff and Frank,

MMM has completed the analysis and evaluation of widening alternatives for the Mavis Road / Highway 407 crossing structure, for which the following draft materials are attached for 407ETRs and MTOs review at this time:

- Memo on the Analysis and Evaluation of Widening Alternatives for the Mavis Road - 407ETR Crossing Structure
- Preliminary Structural Drawings for Widening Alternatives
- Partial Plans at the Mavis Road / Highway 407 Interchange (Original + Updated version with preferred alternative)

The City of Mississauga and Region of Peel staff have completed a review of these materials and support the preferred alternative. The Region of Peel staff is currently undergoing a more detailed review of these materials and will provide confirmation over the coming week. Based on analysis provided by MMM, the Region of Peel and City of Mississauga staff are in support of the plan for the preferred widening alternative, pending confirmation by the Region and are requesting 407ETR and MTO to provide their input.

Overall, it was determined that widening entirely to the west is the preferred alternative. The geomatics survey completed by MMM last month confirmed that minimum clearance requirements can be met when widening to this side. This alternative avoids impacts to the more constrained S-W on-ramp, and it is also the least expensive to construct.

Please circulate these materials for review/comment as needed. In the meantime, the Project Team would like to arrange a follow-up meeting with 407ETR and MTO at the City of Mississauga offices to discuss the results of this evaluation and any feedback that arises during your review. Please indicate 407ETR's and MTO's availability in the table below and send it back as soon as possible:

	Mon Mar 6	Tues Mar 7	Wed Mar 8	Thurs Mar 9	Fri Mar 10		Mon Mar 13	Tues Mar 14	Wed Mar 15	Thurs Mar 16	Fri Mar 17
AM						AM					
PM						PM					

If you have any questions please let me know.

Best,
Stefan



Stefan Sirianni, E.I.T.
Designer
Transportation – Planning

MMM Group
610 Chartwell Road, Suite 300
Oakville, ON L6J 4A5 Canada

From: Sirianni, Stefan
Sent: February-16-17 7:19 PM
To: 'Jeff Booker' <jbooker@407ETR.com>; Frank.Martins@ontario.ca
Cc: Ahmed, Neil <AhmedN@mmm.ca>; Thompson, Gillian <ThompsonG@mmm.ca>; 'Dana Glofcheskie' <Dana.Glofcheskie@mississauga.ca>; 'Dela Cruz, Gino' <gino.delacruz@peelregion.ca>
Subject: Mavis Rd EA - Follow-up Meeting to Discuss Evaluation of Widening Alternatives for 407ETR Crossing Structure

Hello Jeff, Frank,

As per discussion at our previous meeting, MMM is currently the process of completing an evaluation of widening alternatives for the Mavis Road / 407ETR crossing structure. The evaluation considered the following scenarios:

- Widen Entirely to the West;
- Widen to Both Sides (maintain existing Mavis Road centreline);
- Widen to Both Sides (maintain existing N-E on-ramp); and
- Widen Entirely to the East.

We are aiming to provide 407ETR and MTO with a technical memo summarizing the results of this evaluation by the end of next week to review. In anticipation of this, we would like to start arranging a follow-up meeting with 407ETR and MTO now to discuss the evaluation and any comments that arise during your review.

As such, if you could please markdown your availability to meet in the table below and send it back to me that would be greatly appreciated:

	Mon Feb 27	Tues Feb 28	Wed Mar 1	Thurs Mar 2	Fri Mar 3
AM					
PM					
	Mon Mar 6	Tues Mar 7	Wed Mar 8	Thurs Mar 9	Fri Mar 10
AM					
PM					

Please let me know if you have any questions.

Best Regards,
Stefan



Stefan Sirianni, E.I.T.
Designer
Transportation – Planning

MMM Group
610 Chartwell Road, Suite 300
Oakville, ON L6J 4A5 Canada

Best,
Stefan



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Date:	July 19, 2016	Project:	Mavis Road EA Study
Location:	Ontario Room 300 City Centre Drive	Mississauga PO #:	4500442131
Time:	1:40 p.m. to 2:45 p.m.	MMM Project #:	3215102-000
		Author:	Stefan Sirianni, WSP MMM

Attendees:

Dana Glofcheskie	City of Mississauga
Leslie Green	City of Mississauga
Gino Dela Cruz	Peel Region
Jeff Booker	407ETR
Dragan Mrkela	407ETR
Maria Efimova	407ETR
Frank Martins	MTO (via conference call)
Neil Ahmed	MMM Group Limited
Stefan Sirianni	MMM Group Limited

Distribution: All Attendees

Purpose: Meeting with 407ETR and MTO SHMO to discuss the study as it relates to the 407ETR / Mavis Road interchange.

Item	Details	Action By
1.0	Study Purpose & Overview	
1.1	<p>Mavis Road is a major north-south arterial road within the Cities of Mississauga and Brampton, supporting both regional and local mobility and providing key transportation connections to 407ETR and Highway 401.</p> <p>Within the Study Area, which extends from Courtneypark Drive to Ray Lawson Boulevard, Mavis Road consists of four travel lanes, raised median, sidewalks on both sides and some sections of multi-use trails.</p> <p>Mavis Road was recently widened to six lanes both north of Ray Lawson Boulevard in Brampton and south of Courtneypark Drive in Mississauga.</p> <p>Mavis Road is a City of Mississauga road south of 407ETR and Regional road to the north.</p>	
1.2	<p>As an arterial road, Mavis Road is intended to carry higher traffic volumes to support both local and regional mobility. Existing traffic volumes are at capacity during the morning and afternoon rush hours through this section of Mavis Road. Projected traffic growth will worsen these conditions.</p> <p>As a result, there is a need and opportunity to improve Mavis Road to accommodate existing and future traffic demands and provide better connectivity for all modes within the overall Region / City road network. This includes the implementation of Region / City strategic objectives which promote sustainable and safe multi-modal transportation options that provide residents with opportunities to walk, cycle or use public transit as well as an opportunity to improve community amenities / aesthetics for this corridor.</p>	

Any omissions or errors in these notes should be forwarded to the author immediately.

Item	Details	Action By
1.3	The purpose of this study is to assess the four lane roadway through the study area. Multimodal improvements are also being considered as part of this study.	
2.0	Existing Conditions / Study Area Constraints	
2.1	Using handouts (attached), MMM provided an overview of existing conditions and constraints within the Study Area.	
2.2	Mavis Road includes curves through the Study Area, which introduces some complexity to the study. There are also a number of schools that generate vehicular and pedestrian traffic during peak hours. Mavis Road also crosses a natural area (Fletcher's Creek), and the Parkway Belt West to the south of the 407ETR.	
2.3	Existing Conditions – Active Transportation Facilities There are a number of existing active transportation (AT) routes within the study area and improving the continuity/connectivity of this network will be addressed as part of this study. A major component of this includes the provision of AT facilities for cyclists and pedestrians over the 407ETR crossing to provide an improved connection between communities in Mississauga and Brampton.	
3.0	Consultation Overview	
3.1	The Notice of Study Commencement was issued in April 2016.	
3.2	Public Information Centre (PIC) #1 - June 14, 2016 The results of an online survey that was conducted, along with comments received at PIC #1, indicate that the public is generally in support of improving the Mavis Road corridor (~3% of respondents indicated they were opposed). Typical comments regarding the 407ETR include the following: <ul style="list-style-type: none"> • The 407ETR crossing needs to be widened from 4 lanes to 6 lanes to match improvements in Brampton as a traffic bottleneck occurs at this location. • The sidewalk is too close to the road. Cars travel along Mavis Road at high speeds, creating an unsafe environment for pedestrians. • The cycling trail is not continuous through this section of Mavis Road. This disconnect has resulted in unsafe cycling conditions for those travelling between Mississauga and Brampton over the 407ETR crossing. Better connections to the rest of the trail network are needed. These comments are not unexpected considering the existing trail/sidewalk conditions, and there is an opportunity to improve these conditions as part of this study.	
3.3	Preliminary Design Phase The study is currently in the concept design phase for improvements to the Mavis Road corridor.	

Any omissions or errors in these notes should be forwarded to the author immediately.

Item	Details	Action By
	<p>In order to develop alternative solutions during this phase, MMM requested the following information from 407ETR:</p> <ul style="list-style-type: none"> General Arrangement drawings (GAs) of the existing 407ETR / Mavis Road crossing structure 407ETR design standards for interchange elements As-built confirmation of vertical clearances at 407ETR structure 	407ETR
3.4	MMM to provide traffic report for 407ETR for review.	MMM
4.0	Need & Justification	
4.1	<p>Mavis Road is currently operating at capacity, in particular during morning and afternoon rush hours when significant delays are being experienced.</p> <p>With Mavis Road being six lanes north and south of the Study Area, the four lane roadway through the study area is reducing efficiency of the overall road network.</p> <p>The figure on Slide 12 of the presentation (attached) illustrates future traffic conditions if additional capacity through this section is not provided by 2031.</p>	
4.2	<p>Existing Conditions – 407ETR Interchange</p> <p>The existing 407ETR / Mavis Road interchange is a Parclo A4 configuration. The current radii for the S-W and N-E loop ramps are 60 m and 85 m, respectively. It was noted that these exceed the typical design standard for interchange ramp radii.</p> <p>MMM noted that while Mavis Road serves as a key vehicle link within the City of Mississauga's transportation network (i.e. providing access to Highway 401 and 407ETR), a goal of this EA Study is to examine improvements that will help address community considerations in the corridor.</p> <p>MMM noted that the S-E direct ramp begins well to the south of the interchange, and the Project Team may want to consider modifications during the study. The 407ETR noted that they typically prefer to maintain existing geometries and ownership of lands provided to them by the province during projects such as this; however, due to the exceptional length of the taper and auxiliary lane in question (approximately 345 m in length), 407ETR will consider the possibility of a reduction as the project progresses.</p> <p>407ETR noted that ramp geometry should be maintained as much as possible to avoid impacts to gantries, as relocating them is costly (\$0.5M to \$1M).</p> <p>MMM noted the potential for impacts to the N-W direct on-ramp and associated gantry when widening Mavis Road to 6 lanes through this section. The Project Team will work closely with 407ETR on this detail during the preliminary design process.</p>	
4.3	<p>Alternative Solutions</p> <p>A variety of alternative solutions were evaluated as part of this EA Study in order to accommodate future transportation needs along the Mavis Road</p>	

Any omissions or errors in these notes should be forwarded to the author immediately.

Item	Details	Action By
	<p>corridor (Slide 14).</p> <p>Based on this evaluation of the alternative solutions with in an EA study process, the Project Team has selected a Preferred Alternative Solution which is a combination of the following:</p> <ul style="list-style-type: none"> • Intersection Improvements • Alternative Modes of Transportation • Improvements to Mavis Road <p>The Preferred Alternative Solution will promote sustainable and safe multi-modal transportation options for vehicles, pedestrians, cyclists and transit users and may include:</p> <ul style="list-style-type: none"> • Implementing intersection improvements such as dedicated turning lanes, improvement of traffic signal timing (synchronization) in order to improve traffic operations; • Providing Multi-Use Trail connections and improving sidewalks; and • Widening Mavis Road from 4 to 6 general traffic lanes between Courtneypark Drive West and Ray Lawson Boulevard (one new lane in each direction). 	
4.4	Design Concepts for 407ETR Crossing	
4.4.1	In consideration of the above, the Project Team presented potential design concept ideas (cross-section) for improvements to the Mavis Road corridor and 407ETR.	
4.4.2	<p>In developing the potential design concepts for the improved 407ETR crossing, a number of key constraints will be considered, including:</p> <ul style="list-style-type: none"> • Provision for pedestrians and cyclists • Geometric design requirements • Through lane and auxiliary lane requirements/modifications <p>MMM noted the intent of the cross-section design concept shown on Slide 18 is to start dialogue regarding potential improvements, and illustrates the overall need for additional lanes and provision of active transportation infrastructure for the crossing structure only. Other potential details, such as the reconfiguration of nearby taper / speed change lanes or ramps will be determined as the study progresses.</p> <p>407ETR noted that through lanes less than 3.5 m wide have not been permitted on crossing structures before and that they are required to adhere to MTO design standards at minimum. Provision of adequate space for snow storage is an important design consideration as well.</p> <p>The City noted that they may look at reducing the posted speed through this section from 70 km/h to 60 km/h.</p>	
4.4.3	MMM noted that because Mavis Road is super-elevated at this location to accommodate the curve in the roadway, clearance issues will need to be considered when developing widening alternatives (e.g. widening to the west	

Any omissions or errors in these notes should be forwarded to the author immediately.

Item	Details	Action By
	may result in a reduced vertical clearance over the 407ETR versus widening to the east or widening to both sides). 407ETR noted this may be a constraint and will provide the Project Team with as-built drawings that show current clearances for this structure.	407ETR
4.4.4	<p>The Project Team noted that the provision of active transportation facilities over the 407ETR is important to the community.</p> <p>Regarding additional safety features between active transportation facilities and the roadway, 407ETR noted that a raised curb or barrier between must be provided at minimum.</p> <p>Pedestrian and cyclist safety are the highest risk items for 407ETR so reducing associated risks is of high priority for them. Separate crossings for pedestrians are therefore typically preferred by 407ETR. It was noted that the Region is not pursuing a separate pedestrian crossings across the 407ETR.</p> <p>407ETR noted that several other 407ETR interchange crossings are currently being developed elsewhere in places such as York Region; these York Region projects include provisions for dedicated multiuse pathways at interchanges.</p>	
4.4.5	<p>When asked about the provision of cycling facilities on the bridges for the 407ETR East project, MTO replied that none are currently being considered, though there are existing locations in MTO's network that have active transportation facilities on interchange crossings. MMM to follow-up with MTO regarding these projects.</p> <p>Noting that the Second Line crossing over Highway 401 is being replaced by a pedestrian-only crossing, MTO inquired whether the City was planning on extending the cycling route north over the 407ETR. It was noted that the Region is not pursuing a separate pedestrian crossings across the 407ETR.</p>	MMM
4.4.6	<p>Timing of Improvements</p> <p>The City noted that improvements to Mavis Road are budgeted in their ten year capital plan, and work is anticipated to begin sometime between 2018 and 2021.</p> <p>407ETR noted they will be reaching ultimate capacity on the 407ETR through this area by 2019 and that approximately 2 years of work will be required to complete improvements to the 407ETR through this section. Widening work has already been completed on the 407ETR, so remaining work is primarily raising high mast lighting poles and the completion of median work. 407ETR to confirm this timeline for the Project Team. 407ETR noted that they cannot delay improvement projects, as once the need has been triggered they are required to implement improvements or risk being penalized by the province.</p> <p>The Project Team will need to work closely with 407ETR to determine timing/scheduling.</p> <p>407ETR noted that having the pier cap widening for the crossing structure completed before ultimate capacity conditions are reached on the 407ETR would be ideal. This would avoid the need for multiple lane closures.</p> <p>407ETR noted that they are the owners of the Mavis Road / 407ETR bridge and would need to enter into an agreement with Peel Region for any</p>	407ETR

Any omissions or errors in these notes should be forwarded to the author immediately.

Item	Details	Action By
	associated improvements.	
5.0	Next Steps	
5.1	<p>A public meeting (PIC #2) to present the preliminary design alternatives will be held in Fall 2016.</p> <p>A meeting with 407ETR will be needed in advance to discuss the design concepts as they relate to the 407ETR.</p> <p>The Project Team will coordinate the details of this meeting closer to that date as the design process progresses.</p>	MMM
5.2	Information on the 407ETR interchange such as as-built drawings, CAD files, and other details that would require consideration during the design process will be provided as needed by 407ETR upon further request from the Project Team.	MMM 407ETR
6.0	Other Business	
6.1	<p>407ETR noted that they are responsible for the operation and maintenance of the 407ETR crossing structure and that MTO would therefore have little involvement in the design process.</p> <p>All reviews and commenting throughout the Study as it pertains to the 407ETR crossing will be through Jeff Booker. MTO confirmed that their corridor management division will provide minimal comment through the project.</p> <p>All data requests can be directed to Dragan Mrkela.</p> <p>407ETR noted that ensuring proper operation of the crossing structure is maintained throughout the project is a top priority for them.</p>	
Meeting adjourned at 2:45 p.m.		