

# APPENDIX

## N NOISE ANALYSIS REPORT

The exhibits and text in this report show a potential realignment of the QEW westbound exit ramp at Guelph Line, in the northeast quadrant of the interchange. Since the completion of this report, this option has been assessed further and is not being carried forward as part of the proposed undertaking. This ramp does not require realignment to accommodate the proposed expansion of the QEW in either the interim or ultimate phase.

The exhibits and text in this report indicate a realignment of King Road to accommodate the replacement of the structure over Highway 403. Since the completion of this report, this option has been assessed further and the preliminary design has been developed based on replacing the bridge on the current roadway alignment. As a result of this change, property on the west side of King Road will not be impacted.



## QEW and Highway 403 (Freeman) Interchange Preliminary Design and EA Study (2016-E-0005)

Noise Assessment Report

Prepared for:

Ontario Ministry of Transportation

March 2020



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Preliminary Design and EA Study

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## APPENDICES

Appendix A – Traffic Data

Appendix B – Correspondence

Appendix C – TNM 2.5 Analysis

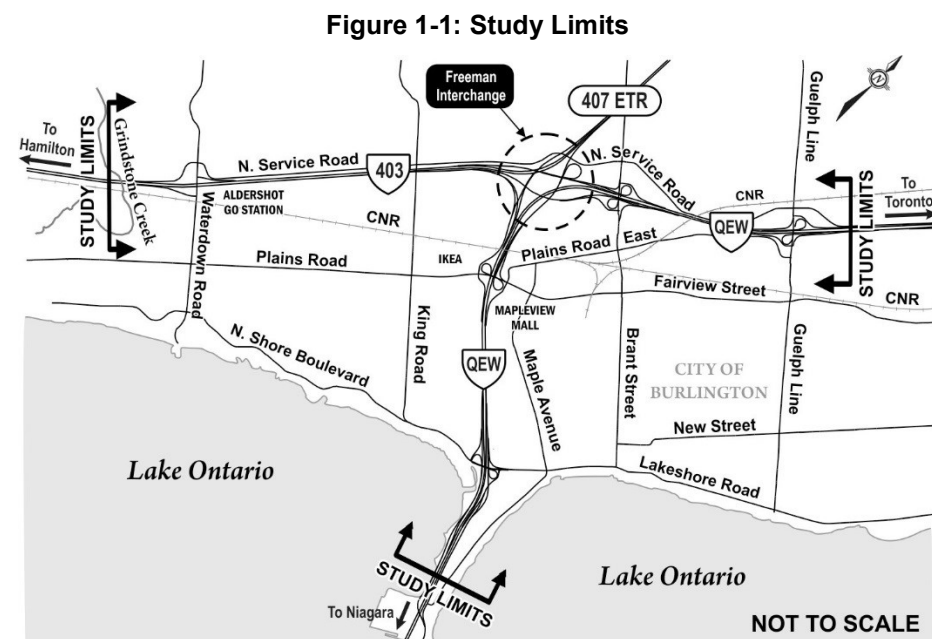
# 1 INTRODUCTION

The Ontario Ministry of Transportation (MTO) has retained WSP Canada Group Limited to undertake a Preliminary Design and Class Environmental Assessment (Class EA) Study for the Queen Elizabeth Way (QEW) from the north end of the Burlington Skyway to Guelph Line and Highway 403 from QEW to Grindstone Creek, in the City of Burlington.

The objectives of the study are as follow:

- ▶ Bridge rehabilitations / widening / replacement;
- ▶ Drainage and illumination improvements;
- ▶ Operational and safety improvements to the QEW and Highway 403, including managed lanes (HOV/HOT);
- ▶ Improvements to the QEW and Highway 403 through the Freeman Interchange;
- ▶ Improvements to interchange ramps, drainage and illumination and other related works; and
- ▶ Environmental mitigation measures.

The study area includes approximately 7.2 km of QEW, from east of Guelph line to the Burlington Bay Skyway, including four arterial interchanges: Guelph Line, Brant Street, Plains Road/Fairview Street, and North Shore Boulevard East. The study area also includes approximately 5.3 km of Highway 403 from the Freeman Interchange to Grindstone Creek, including the Waterdown Road interchange. The central feature of the study area is the Freeman Interchange itself, which connects the QEW, Highway 403 and Highway 407ETR. The QEW and Highway 403 are combined on the east (Toronto-bound) leg of the interchange. The study limits are shown in **Figure 1-1**.



A number of improvements to the interchanges and crossing roads are proposed within the above study limits, either as a result of the mainline widening or to provide the necessary capacity to support future traffic growth, which will be related to potential noise impact surrounding the nearby noise sensitive areas (primarily residential dwellings, and a nursing home) and was described as follows:

- ▶ Improvements to QEW and Highway 403 (Freeman) Interchange ramps:

- Additional lane on the E-W ramp (QEW Niagara-bound to Highway 403 WB);
- Additional lane of the W-E ramp (Highway 403 EB to QEW Toronto-bound); replacement of the existing ramp is proposed to provide the additional capacity;
- Realignment and additional lane on the S-W ramp (QEW Toronto-bound to Highway 403 WB);
- Additional lane on the W-S ramp (Highway 403 WB to QEW Niagara-bound);
- Addition of new S-N ramp (QEW Toronto-bound to 407ETR NB). The new ramp requires three new structures over the QEW, the QEW Niagara-bound to Highway 403 WB ramp, and the North Service Road.

- ▶ Improvements to Plains Road / Fairview Street Interchange:

- Speed-change lane modifications to accommodate mainline widening;
- Easterly shift of the east ramp terminal to accommodate QEW centerline shift and widening which results in realignments of W-N, E-N and S-E/W ramps;
- Widening of existing SB overpass into median and new structure east of NB overpass required;

- ▶ Improvements to Brant Street Interchange:

- Speed-change lane modifications to accommodate mainline widening;
- Realignments of all ramps to accommodate wider QEW;
- Widening of existing EB and WB overpasses into median and new ramp structures immediately north and south of the existing overpasses required.

- ▶ Improvements to Guelph Line interchange:

- Speed-change lane modifications to accommodate mainline widening;
- Realignments of the E-N/S and W-N/S ramps.
  - Due to the minor change in realignment of the E-N/S ramp and a large distance setback to the nearest noise receptor, the E-N/S modification has been excluded in the noise assessment model.

- ▶ Improvements to King Road crossing:

- Replacement of existing King Road underpass to accommodate widening of Highway 403 cross-section.

A noise assessment was carried out to review potential noise impacts at the adjacent Noise Sensitive Areas (NSA) in compliance with the MTO Environmental Guide for Noise (October 2006), hereafter referred to as the "Guide". This report summarizes the findings of the noise analysis carried out for the NSAs adjacent to the aforementioned roadways in the City of Burlington.

The main objectives of the noise study are as follows:

- ▶ Determine the change in noise levels (i.e. noise impact) at the assessed NSAs resulting from the proposed improvements to the existing highway and arterial road corridors;
- ▶ Determine whether noise mitigation measures would be warranted;
- ▶ Recommend the extent of the noise control measures required, where feasible; and
- ▶ Determine the potential noise impact of the associated road construction.

In addition to the assessment of potential noise impacts associated with the proposed improvements, a review of existing noise barriers that were constructed under the MTO Noise Barrier Retrofit Policy (which is outlined in Appendix B of the Guide) was undertaken. This review is summarized in Section 7 of this report, however it should be noted that this is not part of the Class EA Study.

## 2 NOISE GUIDELINES

Under the Class EA process, MTO's approach for the assessment of noise impacts is documented in the Guide, which is used when examining the noise impacts of road improvements on existing residential areas. Noise impacts are generally quantified by an expressed sound level or change in sound level. The measure of sound level in this study is the equivalent sound level ( $L_{eq}$ ). The definition of  $L_{eq}$  is the A-weighted level of a steady sound carrying the same total energy over a specified time period as the observed varying sound. Noise levels are predicted in decibels in the A-weighted dBA scale, which best approximates the human perception of sound over a specified time period. An increase of 3 dBA is considered to be just perceivable to an average person. It should be noted that a 3 dBA increase in noise equates to a doubling of traffic volumes.

In order to determine noise impacts, a comparison is made between the predicted future noise levels with the proposed undertaking in place (10 years after construction) and the predicted future noise levels associated with the "do nothing" alternative at the same date for the Outdoor Living Area (OLA).

As per the Guide, where increases in noise levels are predicted, the mitigation efforts to be applied for the predicted change in noise level above the ambient and the projected noise level with the proposed improvements are as follows:

**Table 2-1: MTO Environmental Guide for Noise – Criteria for Review of Mitigation**

Change in Noise Level Above Ambient / Projected Noise Level with Proposed Improvements	Mitigation Effort Required
<5 dBA change & <65 dBA	- None
≥5 dBA change OR ≥65 dBA	- Investigate noise control measures on right-of-way (ROW) - Introduce noise control measures within ROW and mitigate to ambient if technically, economically and administratively feasible - Noise control measures, where introduced, should achieve a minimum of 5 dBA attenuation averaged over first row receptors

The determination of whether or not mitigation is provided must be based on the review of technical, economical and administrative feasibility as follows:

**Table 2-2: MTO Environmental Guide for Noise – Description of Technical, Economic and Administrative Feasibility**

<b>Technical Feasibility</b>	Review the constructability of the noise mitigation (i.e. design of wall, roadside safety, shadow effect, topography, achieve a 5 dBA reduction, ability to provide a continuous barrier, etc.).
<b>Economic Feasibility</b>	Carry out a cost/benefit assessment of the noise mitigation (i.e., determine cost per benefited receiver).
<b>Administrative Feasibility</b>	Determine the ability to locate the noise mitigation on lands within public ownership (i.e., provincial or municipal right-of-way).

Therefore, as per the Guide, the assessment of noise impact includes three components/steps:

- ▶ Step #1 - Estimate the future sound level at the 'most exposed side (MES) of the NSA (i.e. the dwelling unit); determine the noise level at the side of the dwelling unit most exposed to the highway or freeway without the benefit of shielding from the dwelling unit. If assessment at the MES predicts that the change in sound level resulting from the proposed undertaking is less than 5 dB and the overall sound level is less than 65 dBA, then no noise mitigation is considered (**Table 2-1**);
- ▶ Step #2 – If the MES assessment predicts that the change in sound level resulting from the proposed undertaking is greater than or equal to 5 dB and/or the overall sound level is greater than or equal to 65 dBA, then assessment should be completed at the outdoor living area (OLA) of the NSA which is typically the rear yard, and may include shielding from the building, where applicable. If the OLA assessment predicts that the change in sound level is still greater than or equal to 5 dB and/or the overall sound level is still greater than or equal to 65 dBA, then mitigation should be investigated along with its feasibility (**Table 2-1**);
- ▶ Step #3- Determine the feasibility of noise control in accordance with the Guide (**Table 2-2**).

Computer software TNM Version 2.5 (TNM 2.5) was used to assess noise levels given the complexity of the interchange improvements (i.e, ramp realignments, varying grades, etc.) and the probability that noise levels may be higher than or equal to 65 dBA at some of the adjacent NSAs that are impacted by the future proposed improvements under this Class EA. TNM was developed based on the US Federal Highway Administration (FHWA) Highway Noise Prediction Model and was approved for use in this noise assessment by MTO. A copy of the approval from the MTO is attached in **Appendix B**. The computer software is used to predict noise levels generated from road sources at the OLAs (typically backyards) of NSAs. Several variables are considered in the TNM software including the following:

- ▶ the 24-hour period traffic volumes on the freeways (noise source);
- ▶ the 16-hour period traffic volumes for arterial roadways (noise source);
- ▶ a breakdown (percentage) of medium trucks and heavy trucks;
- ▶ the posted speed limit;
- ▶ the ground zone inputs between the receptor and the road; where different from default;
- ▶ any shielding provided by intervening buildings and/or topographical features;
- ▶ the input of roadway, barrier and receptor locations, elevations and heights; and
- ▶ roadway gradient.

If a cost/benefit assessment of any proposed mitigation determines that it will not be economically feasible, the proposed mitigation will not be recommended.

### 3 NOISE SENSITIVE AREAS

Based on the Guide, a NSA is defined as a noise sensitive land use (urban or rural) with an OLA associated with the land use. NSAs include:

- ▶ private homes such as single family residences;
- ▶ townhouses;
- ▶ multiple unit buildings, such as, apartments with OLAs for use by all occupants; and
- ▶ hospitals, nursing homes where there are OLAs for the patients/residents;

To identify the NSAs in the vicinity of the existing highway and arterial road corridors, a review of land uses was undertaken and is summarized below.

- ▶ Beginning at the southern extent of the study area at the Burlington Bay Skyway in the City of Burlington and moving northwards to the Freeman Interchange, the southern section up to North Shore Boulevard East is dominated by industrial uses with some residential properties. Area between North Shore Boulevard East and Fairview Street/Plains Road East is dominated by residential land uses on either side of the QEW. From Fairview Street/Plains Road East to the Freeman Interchange, the land uses are mostly industrial and commercial. There is a parcel of land with residential properties located in the southeast quadrant of the Freeman Interchange. Canadian National Railway (CNR) rail corridor runs below the QEW just south of the Freeman Interchange.
- ▶ On the east side of the Freeman Interchange up to the eastern extent of the study area at Guelph Line, it is dominated by residential uses with intervening industrial uses in some areas.
- ▶ Northwest quadrant of the Freeman Interchange is dominated by residential properties separated by industrial areas. The section between the Freeman Interchange and the western extent of the study area at Grindstone Creek is dominated by residential land uses separated by green space on the south and north sides. There are residential properties on the northeast quadrant of the Highway 403 and Waterdown Road interchange.

The Guide notes that one method to determine the area of impact from road traffic noise is to use a perpendicular distance of 600 m from the closest edge of pavement. Based on a review of aerial photography, two hundred and four (204) receptors were identified to represent the NSAs and are shown in **Figure 3-1** to **Figure 3-13**. It should be noted that some of the receptors are identified with “A” to “E” annotation to further analyze potential noise impacts at some of the NSA locations. For example, R183 is further analyzed from R183a to R183e; similarly, R5, R108, R182 and R189 are also assessed in more details. The number of receptors do not include the receptors that are moved from MES to OLA. The receptors were placed at the MES of each dwelling unit, 3.0 metres from the dwelling façade at a height of 1.2 metres above the existing grade as per the Guide. All of the NSAs are residential houses with an exception of a nursing home for the aged located on the southeast quadrant of the QEW and North Shore Boulevard East interchange.

It should be noted that there are existing noise barriers within the study area. **Table 3-1** summarizes the heights and locations of the existing noise barriers.

**Table 3-1: Existing Noise Barrier Locations**

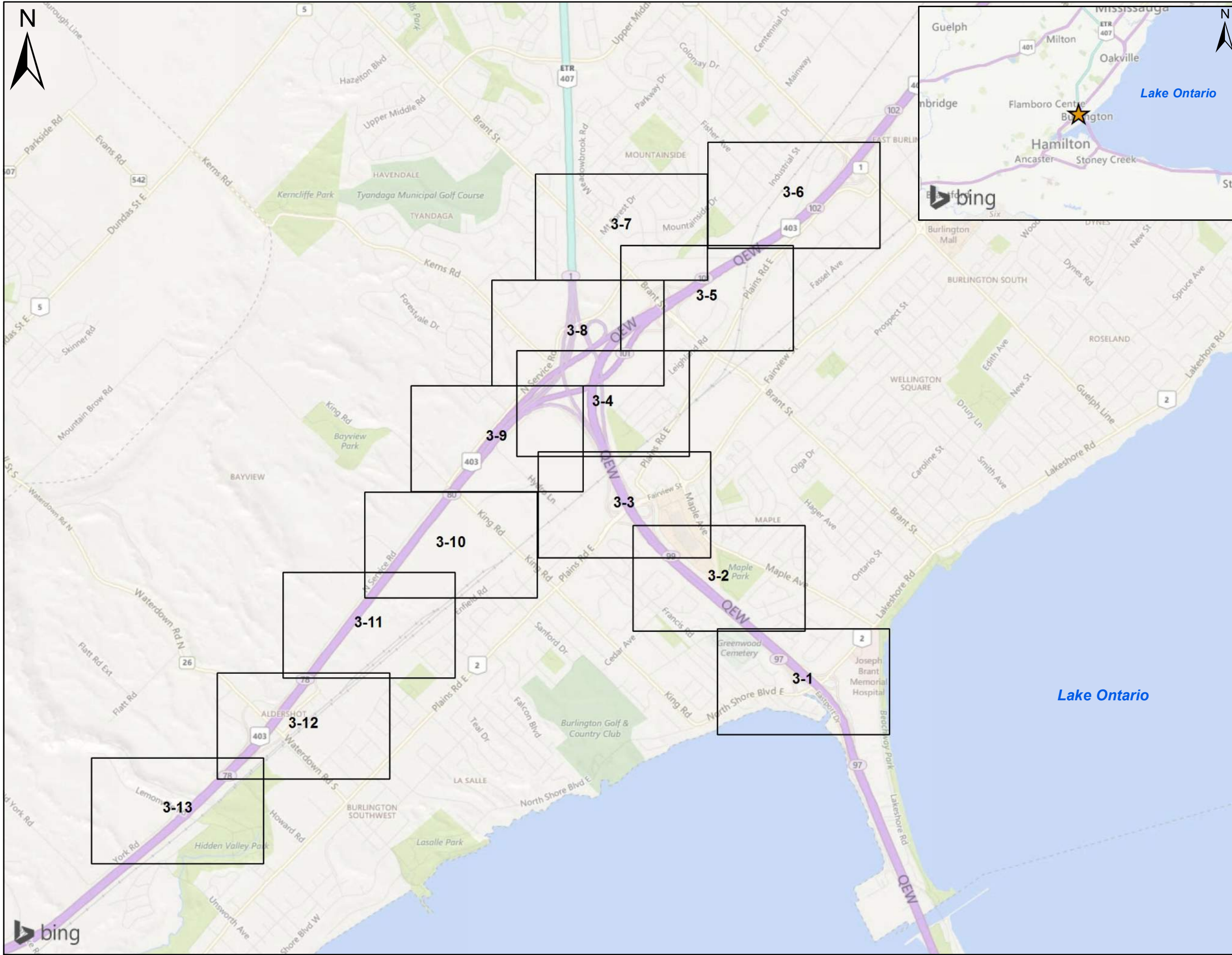
Existing Noise Barrier #	Height (m)	Location
1	2.1 – 4.4 <sup>(1)</sup>	Along the QEW Niagara-bound from the QEW-North Shore Boulevard N-E/W off-ramp to Fairview Street-QEW W-S on-ramp (approximately from Station 7+800 to Station 9+590). The noise barrier is placed on top of an existing earth berm. The height of the existing berm range between 2 – 4 metres. The existing berm is located approximately from Station 8+655 to Station 9+590. This barrier was built as part of the MTO Noise Barrier Retrofit Policy.
2	1.4 – 4.5 <sup>(1)</sup>	Along the QEW Toronto-bound from Bellview Street to Augustus Drive (approximately from Station 7+740 to Station 8+540). The noise barrier is placed on top of an existing earth berm, which range between 2 – 3 metres in height. The existing berm is located approximately from Station 7+740 to Station 8+270. This barrier was built by the developer as part of Subdivision Agreement.
3	1.8 – 2.0	Along the south side of Plains Road between Francis Road and Fairview Street-QEW W-S on-ramp. This barrier was built by the developer as part of Subdivision Agreement.
4	1.2 – 4.1 <sup>(1)</sup>	Along the Highway 407 southbound from north of the Freeman Interchange to Brant Street. The noise barrier is placed on top of an existing earth berm. The height of the existing berm varies up to 10 metres. This barrier was built under the Highway 407 project and is owned by 407ETR.
5	3.0	Along the QEW Niagara-bound extending from the North Shore Boulevard E/W-S on-ramp (approximately from Station 7+280 to Station 7+730). This barrier was built as part of the MTO Noise Barrier Retrofit Policy.
6	1.7 – 3.3	Along the Highway 407 northbound from north of the Freeman Interchange to Brant Street. This barrier was built under the Highway 407 project and is owned by 407ETR.
7	Up to 6.8	Earth berm along the south side of QEW, just east of the railway underpass located midway between Guelph Line and Brant Street (approximately from Station 12+360 to Station 12+960). This berm was built as part of the widening and realignment of the Toronto-bound lanes of the QEW. It should be noted that this noise barrier only includes an earth berm which was built as part of the MTO Noise Barrier Retrofit Policy.

Notes:

- (1) Many noise barrier sections were built on top of existing earth berms, the height of the wall does not include the height of the berm. Existing barriers and earth berms have been taken into consideration in the noise assessment.

The existing noise barriers and earth berms listed in **Table 3-1** were included in the noise analysis to account for the attenuation provided for the receptors. Locations of the existing barriers are shown in **Figure 3-1** to **Figure 3-13**.





**SITE LOCATION  
(FUTURE WITHOUT  
UNDERTAKING)**

- Legend**
- ★ Site Location
  - Figures

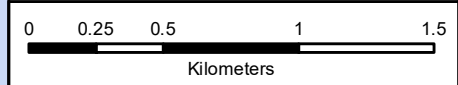
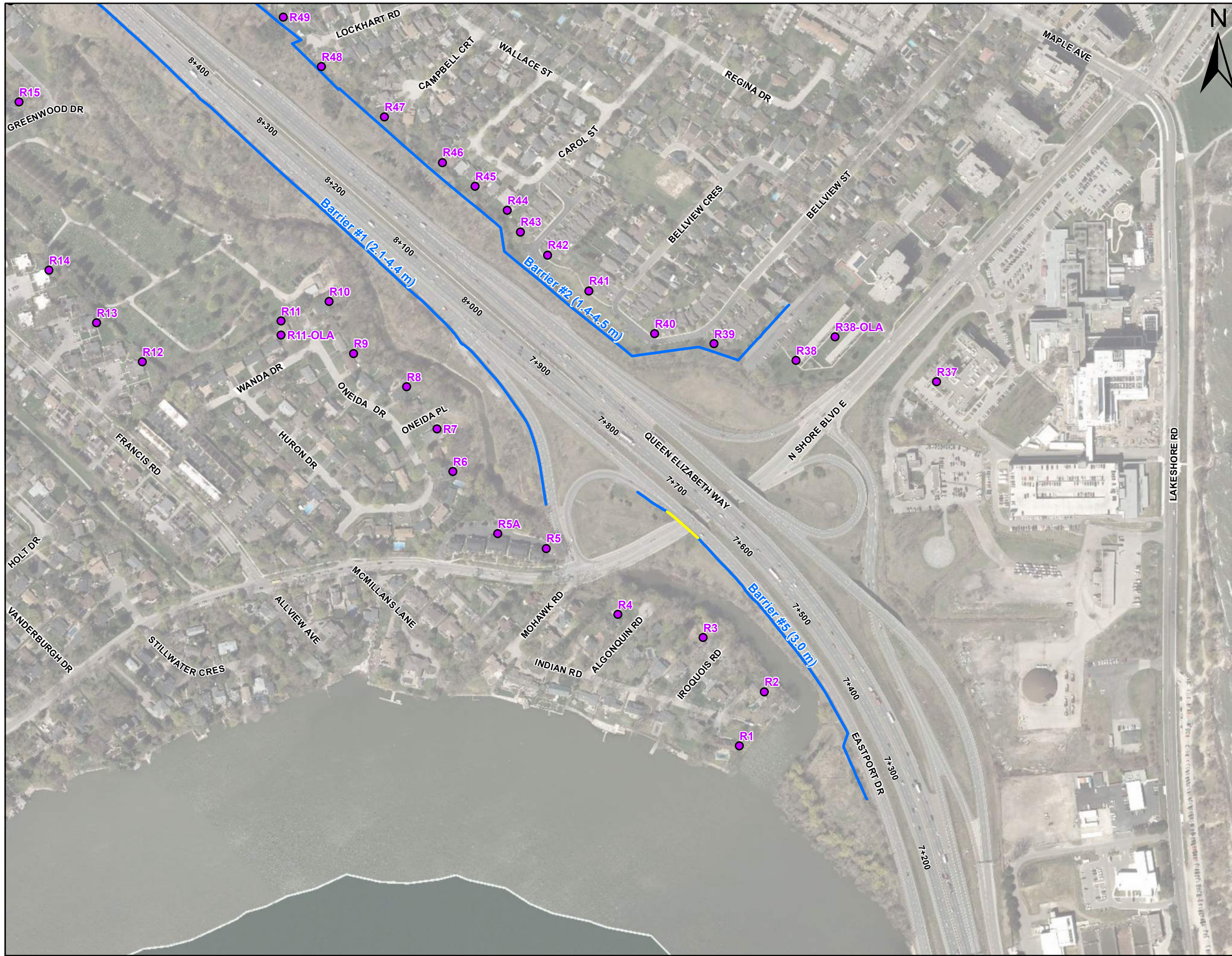


Figure 3  
 Project Name: QEW and Highway 403 (Freeman) Interchange  
 Preliminary Design and EA  
 Noise Assessment Report  
 Project No.: 17M-00215-00  
 Data Source: BING MAPS, WSP, LIO



**NOISE RECEPTORS AND EXISTING NOISE BARRIERS (FUTURE WITHOUT UNDERTAKING)**

- Legend**
- Noise Receptors
  - Existing Noise Barrier
  - Existing Noise Barrier - Reflective Noise Barrier

**Noise Receptor Locations:**  
 R1, R2, R3, R4, R5, R5A, R6, R7, R8, R9, R10, R11, R11-OLA, R12, R13, R14, R15, R37, R38, R38-OLA, R39, R40, R41, R42, R43, R44, R45, R46, R47, R48, R49

**Noise Barriers:**  
 1(partial), 2(partial), 5

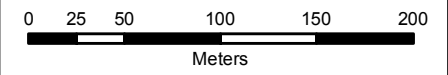
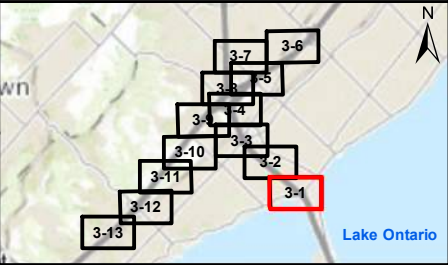
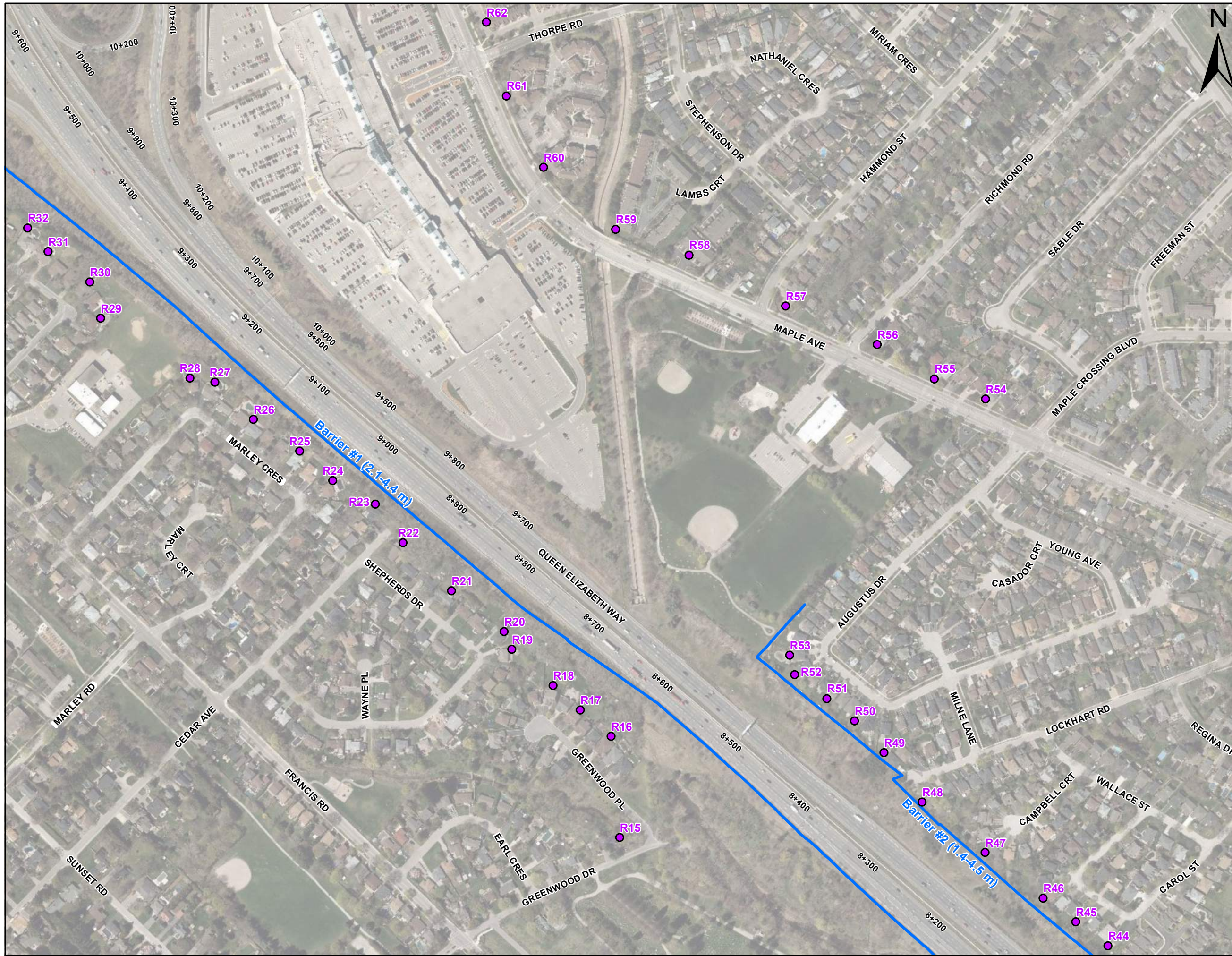


Figure: 3-1  
 Project Name: QEW and Highway 403 (Freeman) Interchange  
 Preliminary Design and EA  
 Noise Assessment Report  
 Project No.: 17M-00215-00  
 Data Source: ESRI MAPS, WSP, LIO



**NOISE RECEPTORS AND EXISTING NOISE BARRIERS (FUTURE WITHOUT UNDERTAKING)**

- Legend**
- Noise Receptors
- Noise Barriers**
- Existing Noise Barrier
  - Existing Noise Barrier - Reflective Noise Barrier

**Noise Receptor Locations:**  
 R15, R16, R17, R18, R19, R20, R21, R22, R23, R24, R25, R26, R27, R28, R29, R30, R31, R32, R44, R45, R46, R47, R48, R49, R50, R51, R52, R53, R54, R55, R56, R57, R58, R59, R60, R61, R62

**Noise Barriers:**  
 1(partial), 2(partial)

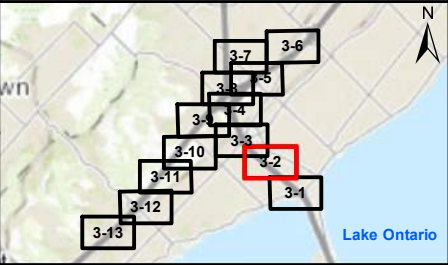


Figure: 3-2  
 Project Name: QEW and Highway 403 (Freeman) interchange Preliminary Design and EA  
 Noise Assessment Report  
 Project No.: 17M-00215-00  
 Data Source: ESRI MAPS, WSP, LIO

# NOISE RECEPTORS AND EXISTING NOISE BARRIERS (FUTURE WITHOUT UNDERTAKING)

- Legend**
- Noise Receptors
- Noise Barriers**
- Existing Noise Barrier
  - Existing Noise Barrier - Reflective Noise Barrier

**Noise Receptor Locations:**  
 R26, R27, R28, R29, R30, R31, R32, R33, R34, R35, R36, R60, R61, R62, R63, R64, R65, R66, R67, R68, R69, R70, R71, R194

**Noise Barriers:**  
 1(partial), 3

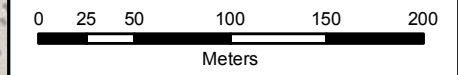
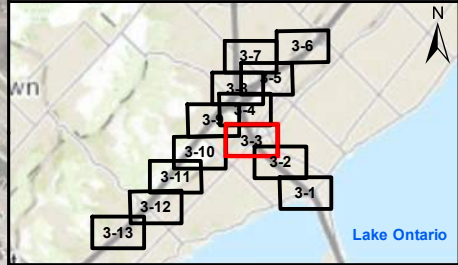
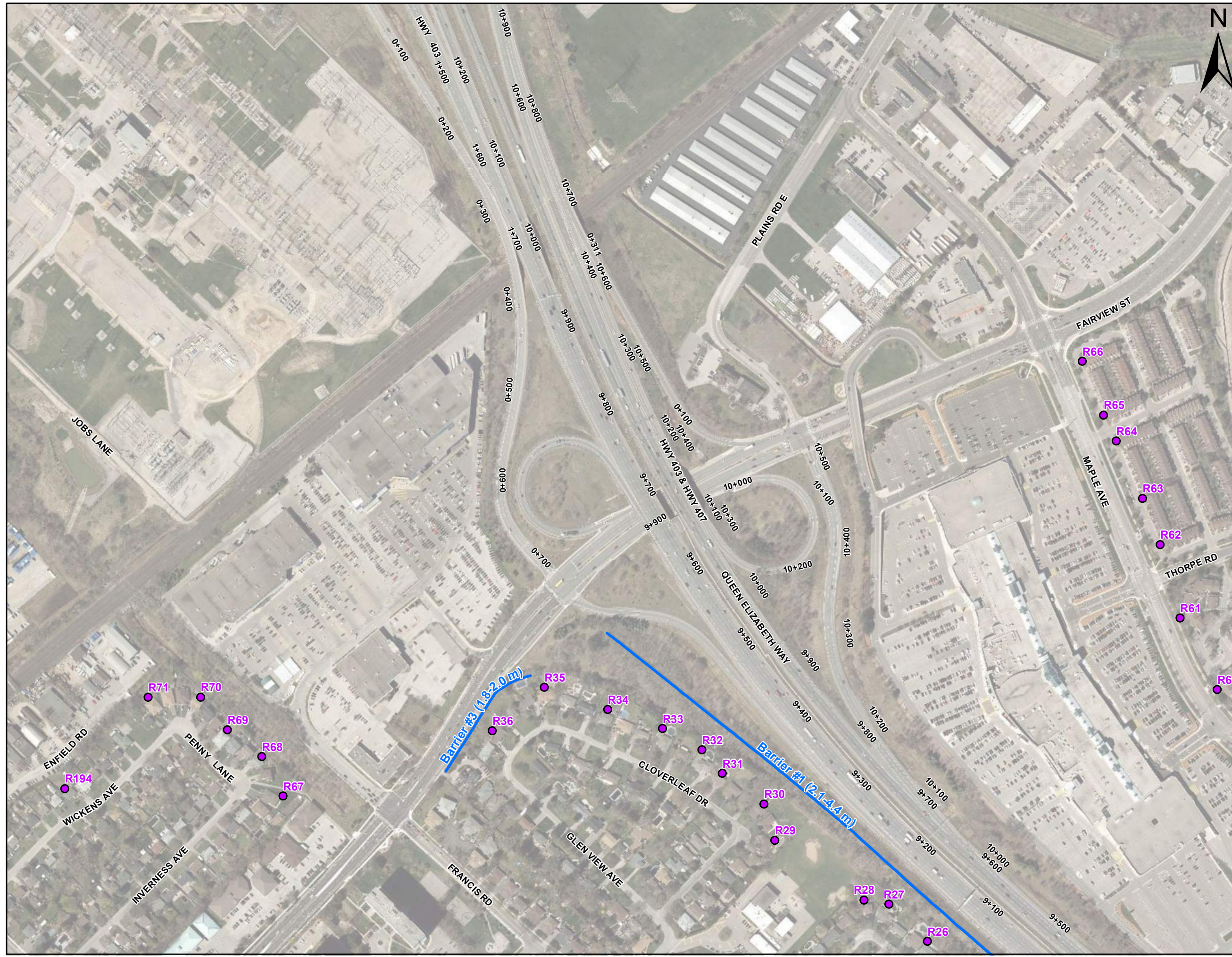


Figure 3-3  
 Project Name: QEW and Highway 403 (Freeman) interchange  
 Preliminary Design and EA  
 Noise Assessment Report  
 Project No.: 17M-00215-00  
 Data Source: ESRI MAPS, WSP, LIO





### NOISE RECEPTORS AND EXISTING NOISE BARRIERS (FUTURE WITHOUT UNDERTAKING)

- Legend**
- Noise Receptors
  - Existing Noise Barrier
  - Existing Noise Barrier - Reflective Noise Barrier

**Noise Receptor Locations:**  
 R72, R73, R74, R75, R76, R77, R78, R79, R80, R81, R82, R83, R84, R85, R86, R87, R88, R89, R90, R91, R147

**Noise Barriers:**  
 None

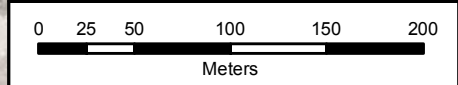
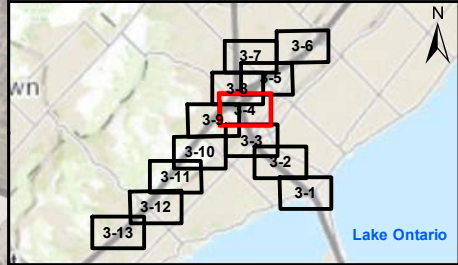


Figure: 3-4  
 Project Name: QEW and Highway 403 (Freeman) interchange Preliminary Design and EA  
 Noise Assessment Report  
 Project No.: 17M-00215-00  
 Data Source: ESRI MAPS, WSP, LIO



**NOISE RECEPTORS AND EXISTING NOISE BARRIERS (FUTURE WITHOUT UNDERTAKING)**

- Legend**
- Noise Receptors
  - Existing Earth Berm
- Noise Barriers**
- Existing Noise Barrier
  - Existing Noise Barrier - Reflective Noise Barrier

**Noise Receptor Locations:**  
 R87, R88, R89, R90, R91, R92, R93, R94, R95, R96, R97, R98, R99, R100, R101, R102, R103, R104, R122, R123, R124, R125, R126, R127, R128, R129, R130, R131, R132, R133, R134

**Noise Barriers:**  
 Barrier#7-berm(partial)

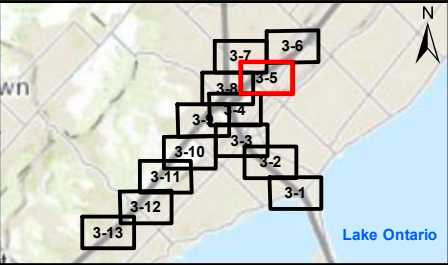


Figure: 3-5  
 Project Name: QEW and Highway 403 (Freeman) Interchange  
 Preliminary Design and EA  
 Noise Assessment Report  
 Project No.: 17M-00215-00  
 Data Source: ESRI MAPS, WSP, LIO



# NOISE RECEPTORS AND EXISTING NOISE BARRIERS (FUTURE WITHOUT UNDERTAKING)

- Legend**
- Noise Receptors
  - Existing Earth Berm
- Noise Barriers**
- Existing Noise Barrier
  - Existing Noise Barrier - Reflective Noise Barrier

**Noise Receptor Locations:**  
 R103, R104, R105, R105-OLA, R106, R106-OLA, R107, R107-OLA, R108, R108-OLA, R109, R110, R111, R112, R113, R114, R115, R116, R117, R118

**Noise Barriers:**  
 Barrier#7-berm

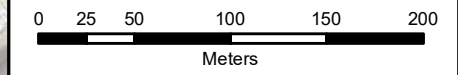
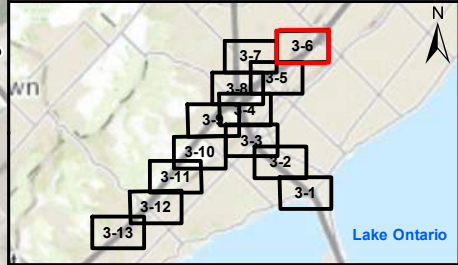
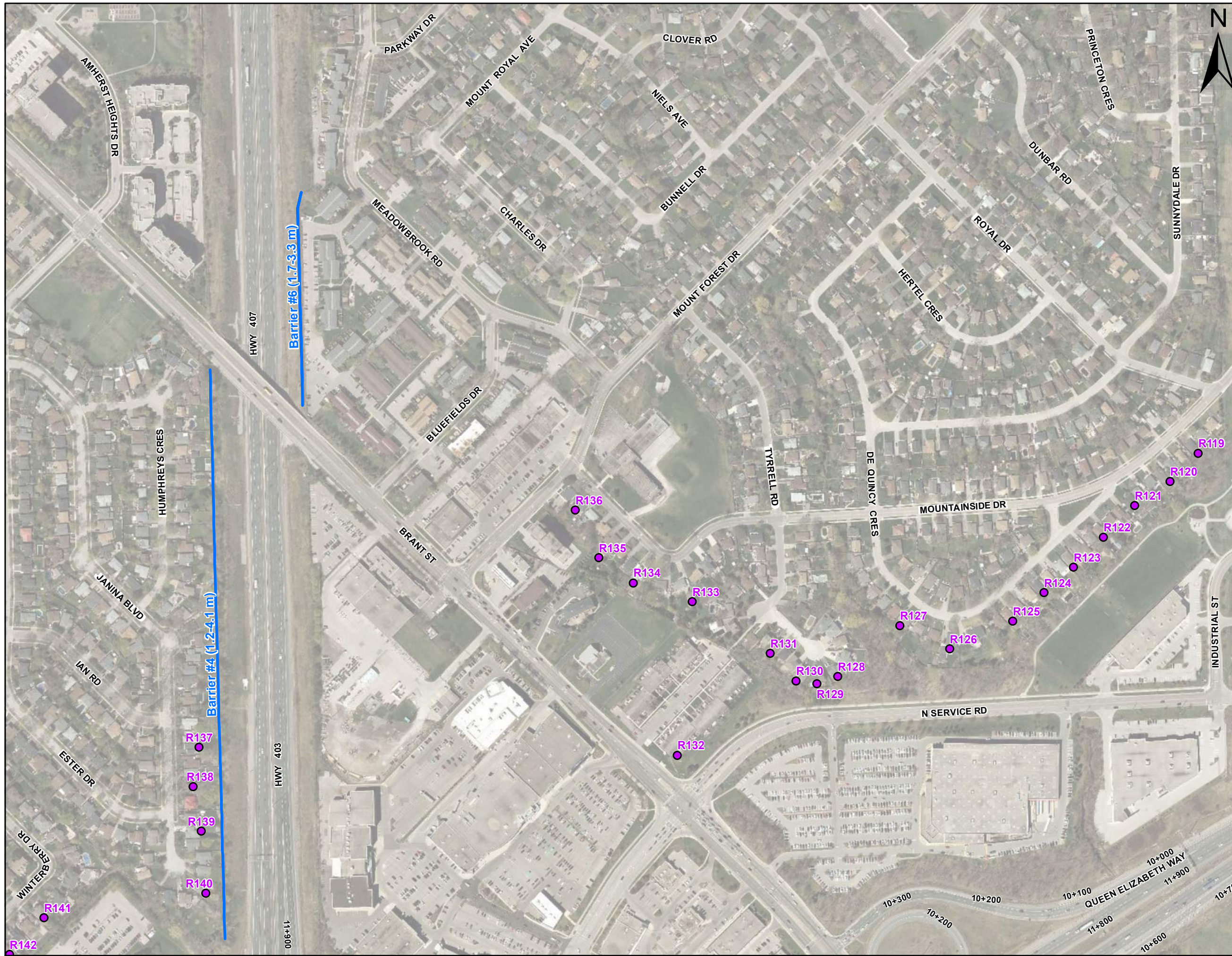


Figure: 3-6  
 Project Name: QEW and Highway 403 (Freeman) Interchange  
 Preliminary Design and EA  
 Noise Assessment Report  
 Project No.: 17M-00215-00  
 Data Source: ESRI MAPS, WSP, LIO



**NOISE RECEPTORS AND EXISTING NOISE BARRIERS (FUTURE WITHOUT UNDERTAKING)**

- Legend**
- Noise Receptors
  - Existing Noise Barrier
  - Existing Noise Barrier - Reflective Noise Barrier

**Noise Receptor Locations:**  
 R119, R120, R121, R122, R123, R124, R125, R126, R127, R128, R129, R130, R131, R132, R133, R134, R135, R136, R137, R138, R139, R140, R141, R142

**Noise Barriers:**  
 4, 6

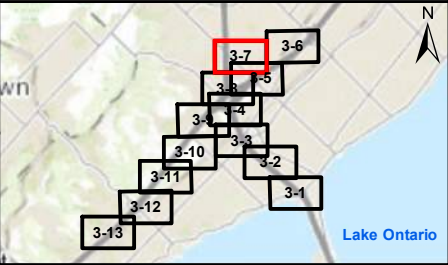
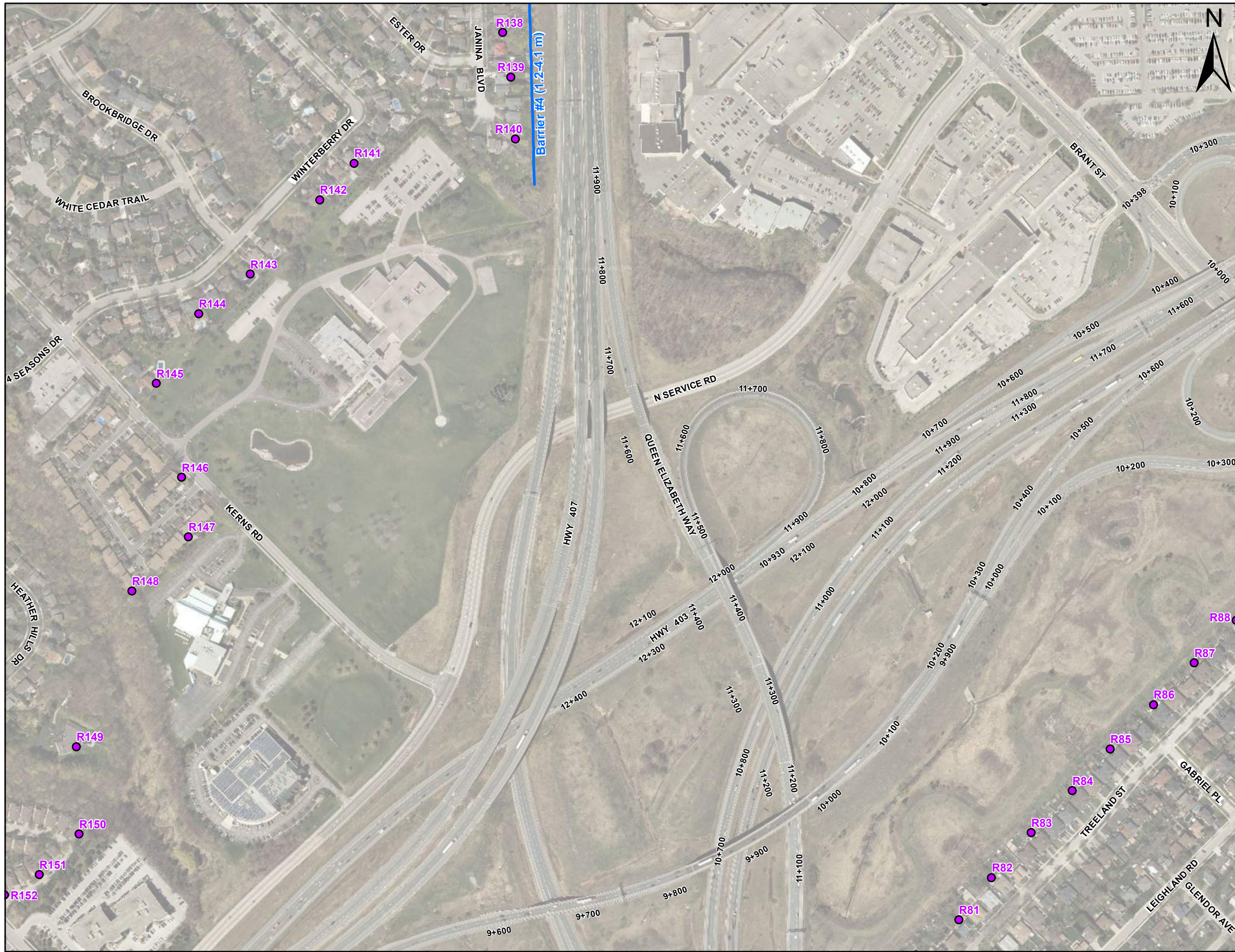


Figure 3-7  
 Project Name: QEW and Highway 403 (Freeman) interchange Preliminary Design and EA  
 Noise Assessment Report  
 Project No.: 17M-00215-00  
 Data Source: ESRI MAPS, WSP, LIO





# NOISE RECEPTORS AND EXISTING NOISE BARRIERS (FUTURE WITHOUT UNDERTAKING)

- Legend**
- Noise Receptors
- Noise Barriers**
- Existing Noise Barrier
  - Existing Noise Barrier - Reflective Noise Barrier

**Noise Receptor Locations:**  
 R81, R82, R83, R84, R85, R86, R87, R88, R138, R139, R140, R141, R142, R143, R144, R145, R146, R147, R148, R149, R150, R151, R152

**Noise Barriers:**  
 4(partial)

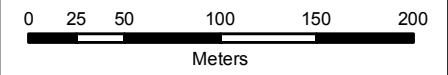
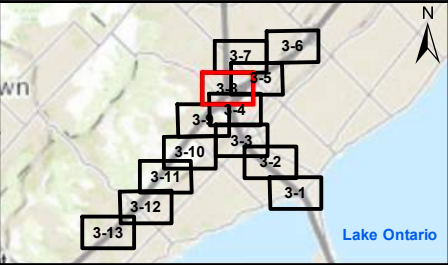


Figure: 3-8  
 Project Name: QEW and Highway 403 (Freeman) Interchange  
 Preliminary Design and EA  
 Noise Assessment Report  
 Project No.: 17M-00215-00  
 Data Source: ESRI MAPS, WSP, LIO

**NOISE RECEPTORS AND EXISTING NOISE BARRIERS (FUTURE WITHOUT UNDERTAKING)**

- Legend**
- Noise Receptors
- Noise Barriers**
- Existing Noise Barrier
  - Existing Noise Barrier - Reflective Noise Barrier

**Noise Receptor Locations:**  
R150, R151, R152, R153, R154, R155

**Noise Barriers:**  
None

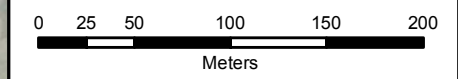
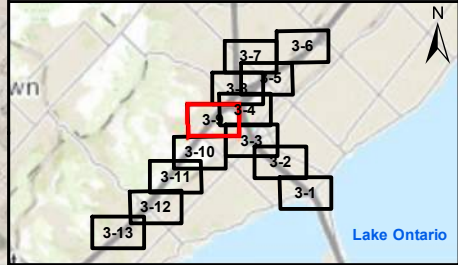
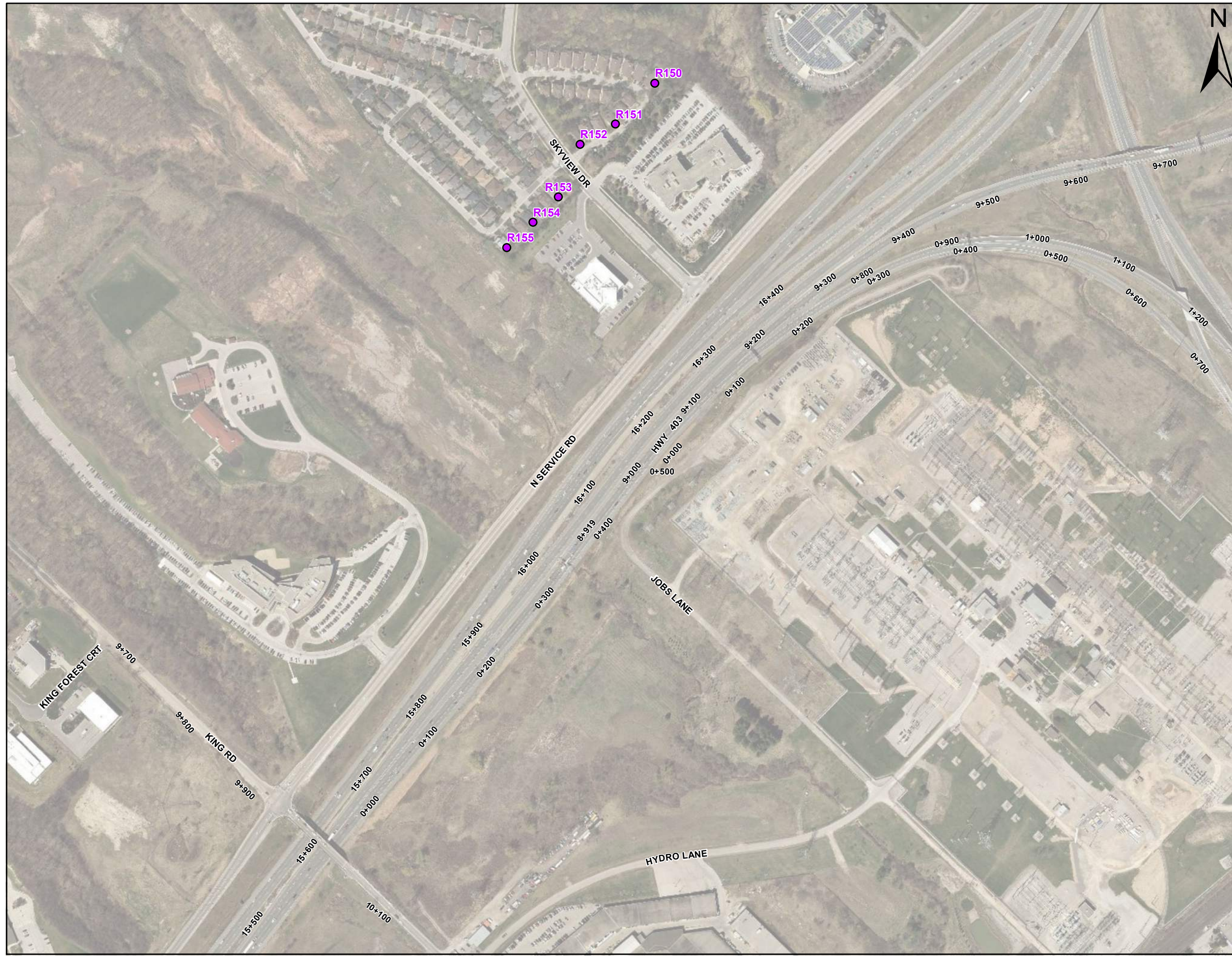


Figure: 3-9  
Project Name: QEW and Highway 403 (Freeman) Interchange  
Preliminary Design and EA  
Noise Assessment Report  
Project No.: 17M-00215-00  
Data Source: ESRI MAPS, WSP, LIO





# NOISE RECEPTORS AND EXISTING NOISE BARRIERS (FUTURE WITHOUT UNDERTAKING)

- Legend**
- Noise Receptors
  - Existing Noise Barrier
  - Existing Noise Barrier - Reflective Noise Barrier

**Noise Receptor Locations:**  
 R190, R191, R192, R193  
**Noise Barriers:**  
 None

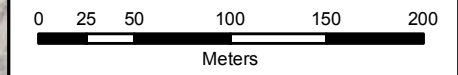
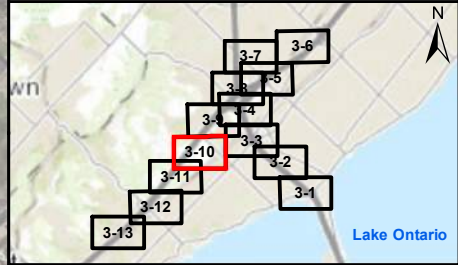


Figure: 3-10  
 Project Name: QEW and Highway 403 (Freeman) Interchange  
 Preliminary Design and EA  
 Noise Assessment Report  
 Project No.: 17M-00215-00  
 Data Source: ESRI MAPS, WSP, LIO



### NOISE RECEPTORS AND EXISTING NOISE BARRIERS (FUTURE WITHOUT UNDERTAKING)

- Legend**
- Noise Receptors
- Noise Barriers**
- Existing Noise Barrier
  - Existing Noise Barrier - Reflective Noise Barrier

**Noise Receptor Locations:**  
 R156, R157, R158, R159, R160, R161, R162, R163, R164, R165

**Noise Barriers:**  
 None

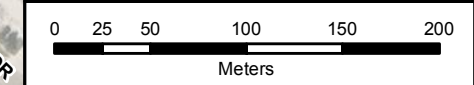
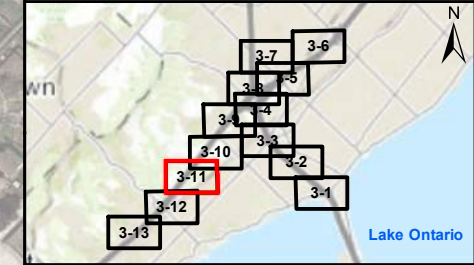
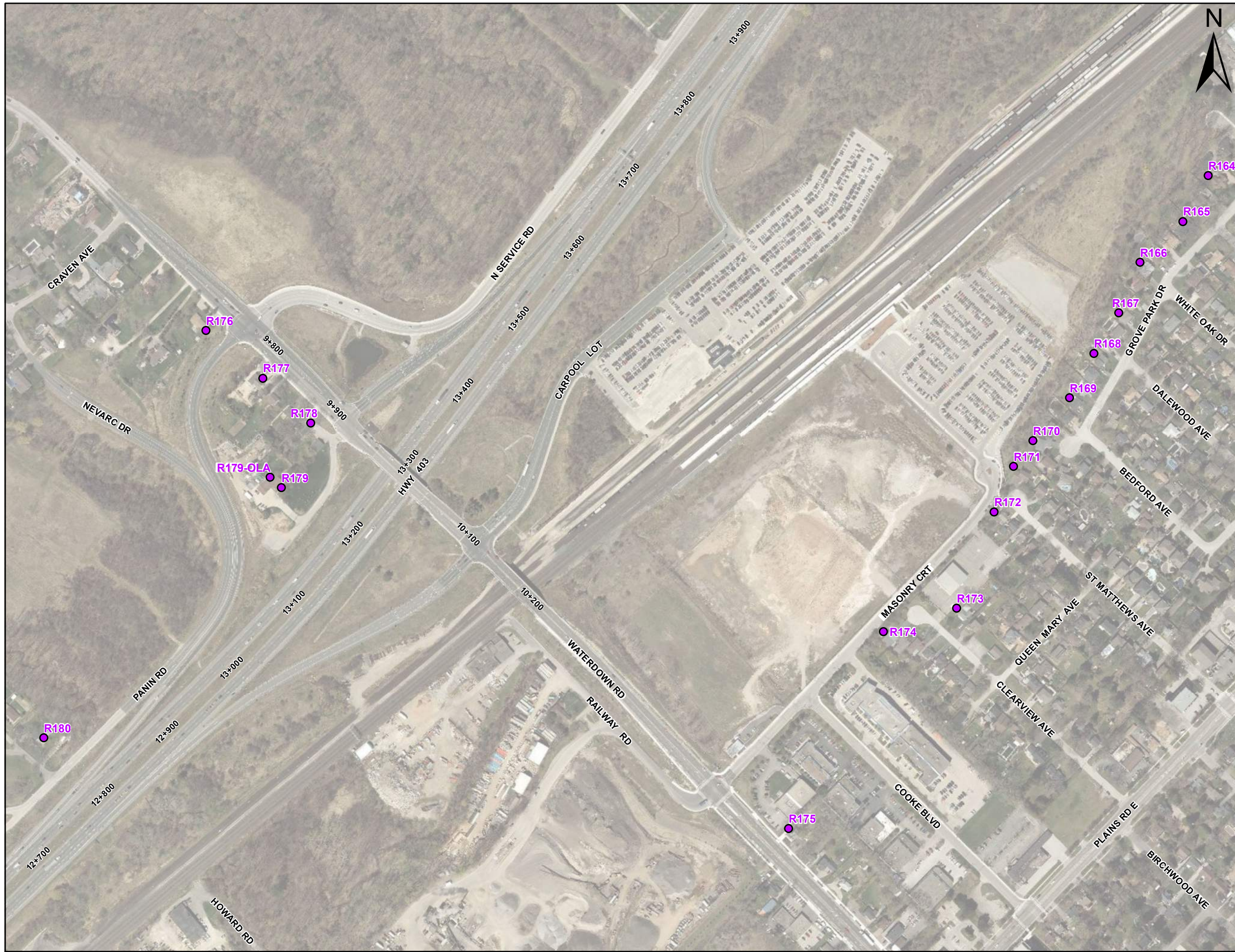


Figure: 3-11  
 Project Name: QEW and Highway 403 (Freeman) Interchange Preliminary Design and EA  
 Noise Assessment Report  
 Project No.: 17M-00215-00  
 Data Source: ESRI MAPS, WSP, LIO



**NOISE RECEPTORS AND EXISTING NOISE BARRIERS (FUTURE WITHOUT UNDERTAKING)**

- Legend**
- Noise Receptors
- Noise Barriers**
- Existing Noise Barrier
  - Existing Noise Barrier - Reflective Noise Barrier

**Noise Receptor Locations:**  
 R164, R165, R166, R167, R168, R169, R170, R171, R172, R173, R174, R175, R176, R177, R178, R179, R179-OLA, R180

**Noise Barriers:**  
 None

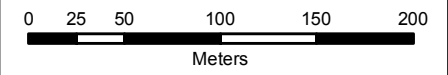
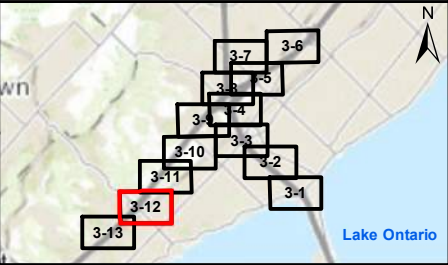


Figure: 3-12  
 Project Name: QEW and Highway 403 (Freeman) Interchange Preliminary Design and EA  
 Noise Assessment Report  
 Project No.: 17M-00215-00  
 Data Source: ESRI MAPS, WSP, LIO

**NOISE RECEPTORS AND EXISTING NOISE BARRIERS (FUTURE WITHOUT UNDERTAKING)**

- Legend**
- Noise Receptors
- Noise Barriers**
- Existing Noise Barrier
  - Existing Noise Barrier - Reflective Noise Barrier

**Noise Receptor Locations:**  
 R180, R181, R182, R182A, R182B, R183, R183A, R183B, R183C, R183D, R183E, R184, R185, R186, R187, R188, R188-OLA, R189, R189-OLA, R189A, R189A-OLA

**Noise Barriers:**  
 None

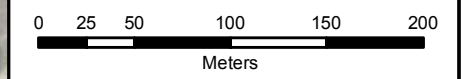
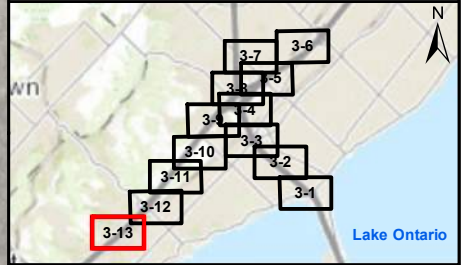


Figure: 3-13  
 Project Name: QEW and Highway 403 (Freeman) Interchange Preliminary Design and EA  
 Noise Assessment Report  
 Project No.: 17M-00215-00  
 Data Source: ESRI MAPS, WSP, LIO



## 4 NOISE ANALYSIS

### 4.1 Assumptions and Basis of Analysis

The scope of the study is limited to road traffic noise sources only. Noise sources within the study area include QEW, Highway 403, Highway 407, King Road, Waterdown Road, North Service Road and associated interchange ramps. These road sources were included in the noise modelling. It should be noted that the Guide stipulates that rail traffic noise is typically excluded from the determination of noise levels where an existing highway/roadway is the main noise source. Thus, this noise analysis does not include rail traffic noise although it could be a significant noise source for some of the homes in the study area.

Based on the Guide, future noise levels from the proposed undertaking are typically based on traffic projections 10 years after construction of the undertaking. Year 2041 traffic projections have been used in assessing the future traffic volumes since it was the best available data at the time of the assessment.

The Guide notes that the higher of Annual Average Daily Traffic (AADT) or Summer Average Daily Traffic (SADT) volumes should be used when predicting future noise levels. Since only AADT volumes were available, AADT volumes were used in this noise assessment. Year 2041 forecasts of AADT volumes were developed by the study team for conditions with and without the proposed improvements for highways and arterial roads as input to this analysis. AM and PM peak hour traffic volumes for interchange ramps and crossing roads were used to forecast AADT volumes for the ramp roadways. Medium and heavy truck percentages were also developed for the forecast year by the study team. Where the overall commercial vehicle percentages were not available, appropriate medium to heavy truck ratio from the Guide was applied.

Considering the foregoing, noise modeling was carried out for the following scenarios:

- ▶ “Future without the Undertaking” – with the existing roadway alignments and profiles.
- ▶ “Future with the Undertaking” – with the proposed roadway alignments and profiles, which include modifications of the Freeman Interchange, improvements to the QEW and Highway 403, and realignments of King Road, Waterdown Road, North Service Road and associated interchange ramps, as well as Plains Road/Fairview Street, Brant Street and Guelph Line interchange ramps.

The future traffic volumes for the “Future without the Undertaking” and “Future with the Undertaking” scenarios are summarized in **Table 4-1**. Current posted speed limit and truck percentage have been used for the purpose of this noise analysis. Copies of traffic data are attached in **Appendix A**.

As noted earlier, noise levels were calculated using TNM 2.5 software. The program was used to predict noise levels generated from the road sources at MESs and/or OLAs within NSAs.

Noise levels were calculated at all the receptor locations with and without the proposed undertaking of the project. **Table 4-2** summarizes the future noise levels at the receptor locations, the predicted changes in the future noise levels due to the proposed undertaking and whether or not consideration of noise mitigation is required based on the Guide. Copies of input tables and noise level results from TNM 2.5 are attached in **Appendix C**.

It should be noted that the receptors that are predicted to experience the future noise levels of  $\geq 65$  dBA and/or increase of  $\geq 5$  dBA were moved to their OLA location with the inclusion of applicable shielding provided by the surroundings, if OLA location is different than MES location. This step was completed to determine if the provision of mitigation is still required at OLA. Receptors that were moved to OLA are identified with ‘-OLA’ followed by the receptor number (ex. R1-OLA) in **Figure 4-1** to **Figure 4-13** and **Table 4-2**. **Figure 4-1** to **Figure 4-13** also illustrate the “Future with the Undertaking” scenario.

Table 4-1: Summary of Future Traffic Data

Roadway <sup>(1)</sup>	Projected AADT (Year 2041)		Posted Speed Limit (km/h)	Medium / Heavy Truck Percentage (%)
	Future Without Undertaking	Future With Undertaking		
QEW (Eastport Dr. - North Shore Blvd. E.)	208,500	234,800	100	Toronto-bound: 3.65 / 12.04 Niagara-bound: 3.44 / 8.89
QEW (North Shore Blvd. E. - Fairview St.)	252,900	293,700	100	
QEW (Fairview St. - Brant St.)	126,800	162,100	100	
QEW (Brant St. - Guelph Ln.)	261,900	337,700	100	
QEW (Guelph Ln. - Walkers Ln.)	229,200	301,300	100	
Highway 403 (Freeman IC - Waterdown Rd.)	174,900	227,900	100	EB: 2.03 / 6.88 WB: 3.73 / 7.86
Highway 403 (Waterdown Rd. - Highway 6)	181,900	220,100	100	EB: 2.64 / 8.62 WB: 4.68 / 6.30
Highway 407 [NB]	24,140	24,724	100	5.00 / 15.00
Highway 407 [SB]	29,320	26,172	100	5.00 / 15.00
QEW - Highway 403 [E-W]	34,310	44,766	100	3.73 / 7.86
QEW - Highway 403 [S-W]	9,940	18,012	100	3.65 / 12.04
QEW - Highway 407 [S-N]	21,610	31,914	100	5.00 / 15.00
QEW - Brant St. [E-N/S]	7,700	10,466	50	2.08 / 0.70
QEW - Eastport Dr. [N-S]	11,100	13,134	100	3.44 / 8.89
QEW - Fairview St. [S-E/W]	18,660	12,998	60	1.86 / 1.10
QEW - Guelph Ln. [E-N/S]	7,660	8,234	50	3.44 / 8.89
QEW - Guelph Ln. [W-N/S]	19,710	21,328	50	3.65 / 12.04
QEW - North Shore Blvd. [N-E/W]	5,980	6,568	60	3.44 / 8.89
QEW - North Shore Blvd. [S-E/W]	9,410	4,068	70	3.65 / 12.04
Highway 403 - QEW [W-E]	35,560	49,964	100	2.06 / 6.88
Highway 403 - QEW [W-S]	14,200	19,780	100	2.64 / 8.62
Highway 403 - Highway 407 [W-N]	10,180	9,364	100	5.00 / 15.00
Highway 403 - Brant St. [W-N/S]	4,640	6,320	50	2.08 / 0.70
Highway 403 - Plains Rd. [W-E/W]	1,750	1,642	60	1.86 / 1.10
Highway 403 - Waterdown Rd. [E-N/S]	5,210	8,448	60	4.68 / 6.30
Highway 407 - QEW [N-S]	16,250	13,372	100	5.00 / 15.00
Highway 407 - Highway 403 [N-W]	10,490	10,248	100	5.00 / 15.00
Highway 407 - Fairview St. [N-E/W]	2,580	2,552	60	1.86 / 1.10
Brant St.	55,400	54,800	60	NB: 2.08 / 0.70 SB: 1.68 / 0.78
Brant St - Highway 403 [S-W]	3,020	6,988	30	2.08 / 0.70
Brant St. - QEW [N-E]	5,440	5,718	30	1.68 / 0.78
Brant St. - QEW [S-E]	4,790	5,044	30	2.08 / 0.70
Fairview St. / Plains Rd.	48,700	42,400	50	EB: 1.57 / 0.73 WB: 1.86 / 1.10
Fairview St. - QEW [E-S]	13,400	11,424	30	1.86 / 1.10

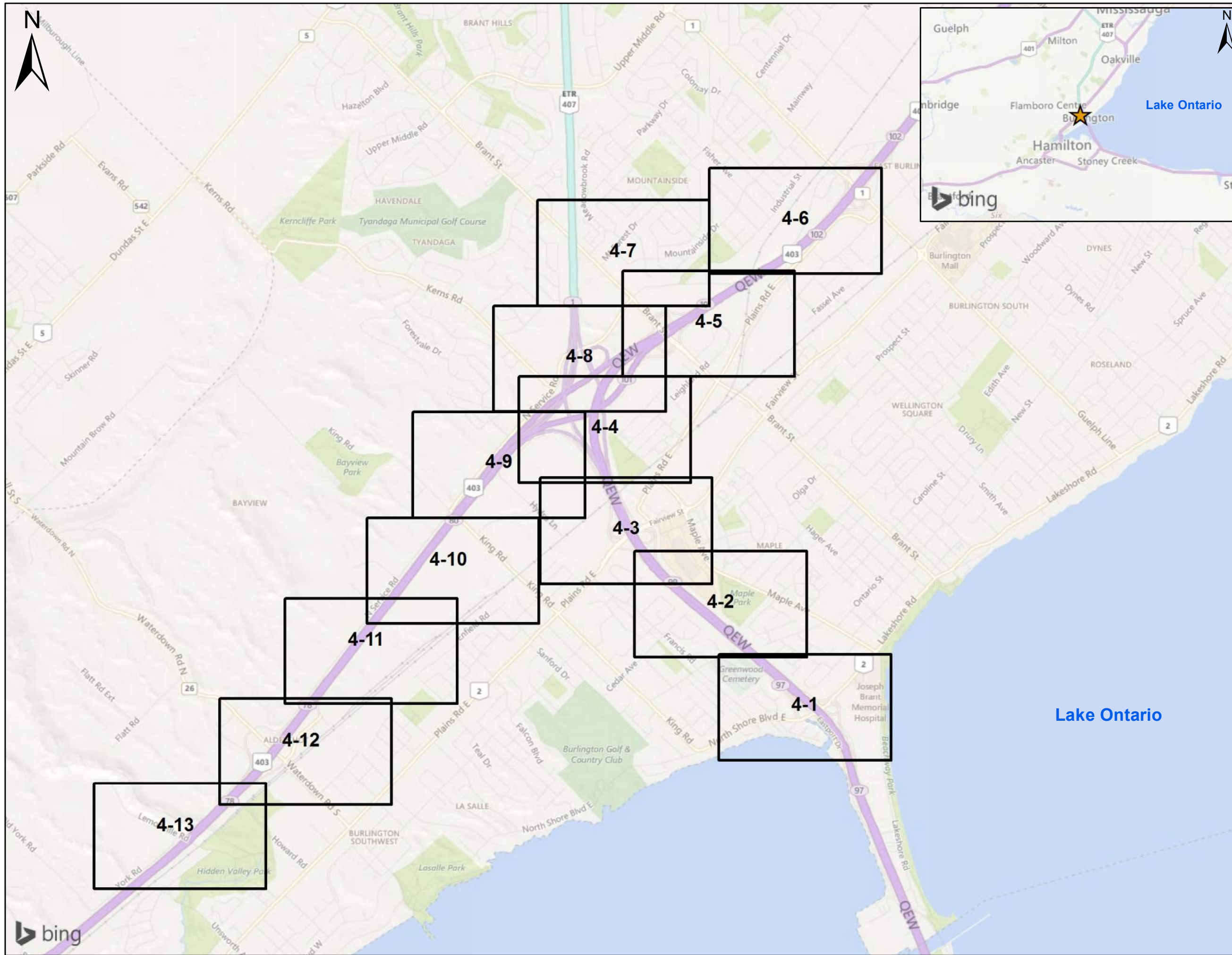
Table 4-1: Summary of Future Traffic Data

Roadway <sup>(1)</sup>	Projected AADT (Year 2041)		Posted Speed Limit (km/h)	Medium / Heavy Truck Percentage (%)
	Future Without Undertaking	Future With Undertaking		
Fairview St. - Highway 407 N [E-N]	2,640	3,228	30	1.86 / 1.10
Plains Rd. - QEW [W-S]	6,400	5,164	30	1.57 / 0.73
Plains Rd. - Highway 407 N [W-N]	870	888	30	1.57 / 0.73
Guelph Ln.	71,800	71,600	60	NB: 2.59 / 1.43 SB: 2.57 / 1.26
Guelph Ln. - QEW [S-E]	5,890	5,720	40	2.59 / 1.43
Guelph Ln. - QEW [N-E]	3,490	3,022	20	2.57 / 1.26
Guelph Ln. - QEW [N-W]	11,310	11,280	40	2.57 / 1.26
Guelph Ln. - QEW [S-W]	9,060	8,858	30	1.43 / 2.59
King Road	13,000	13,000	50	2.04 / 1.47
North Service Road [EB] (Guelph Ln. - Industrial St.)	3,420	3,800	60	0.85 / 1.35
North Service Road [EB] (Industrial St. - Brant St.)	6,500	6,400	60	2.27 / 3.63
North Service Road [EB] (Brant St. - Kerns Rd.)	14,500	13,800	60	1.85 / 2.95
North Service Road [EB] (Kerns Rd. - King Rd.)	11,200	10,400	60	2.23 / 3.57
North Service Road [EB] (Waterdown Rd.)	8,400	7,300	50	0.69 / 1.42
North Service Road [WB] (Guelph Ln. - Industrial St.)	1,500	1,200	60	0.69 / 1.11
North Service Road [WB] (Industrial St. - Brant St.)	10,700	10,200	60	1.96 / 3.14
North Service Road [WB] (Brant St. - Kerns Rd.)	16,100	15,500	60	1.46 / 2.34
North Service Road [WB] (Kerns Rd. - King Rd.)	14,600	13,100	60	1.58 / 2.52
North Service Road [WB] (Waterdown Rd.)	11,100	9,900	50	0.65 / 0.92
North Shore Blvd.	33,600	30,900	60	EB: 1.57 / 0.73 WB: 1.86 / 1.10
North Shore Blvd to QEW [E-N]	2,330	4,172	50	5.00 / 15.00
North Shore Blvd to QEW [W-N]	4,440	4,680	30	5.00 / 15.00
North Shore Blvd to QEW [E/W-S]	12,700	10,752	30	5.00 / 15.00
Waterdown Road	14,100	13,600	50	NB: 1.09 / 0.19 SB: 1.15 / 0.17
Waterdown Rd. - Highway 403 [N/S-W]	8,660	7,878	40	0.69 / 1.91

Notes:

(1) Road gradient based on profile drawings.





**SITE LOCATION  
(FUTURE WITH  
UNDERTAKING)**

- Legend**
- ★ Site Location
  - Figures



Figure 4  
 Project Name: QEW and Highway 403 (Freeman) Interchange  
 Preliminary Design and EA  
 Noise Assessment Report  
 Project No.: 17M-00215-00  
 Data Source: BING MAPS, WSP, LIO

# REVIEW OF NOISE MITIGATION (FUTURE WITH UNDERTAKING)

## Legend

- - Existing MTO ROW
- Noise Receptors
- Noise Receptors - Over Criteria
- Proposed Alignment**
- Edge of Pavement
- HOV Lane
- Lane Markings
- HOV Lane Buffer
- Noise Barriers**
- Existing Noise Barrier
- Existing Noise Barrier - Reflective Noise Barrier

**Noise Receptor Locations:**  
 R1,R2,R3,R4,R5,R5A,R6,R7,R8,R9,R10,R11,R11-OLA,R12,R13,R14,R15,R37,R38,R38-OLA,R39,R40,R41,R42,R43,R44,R45,R46,R47,R48,R49

**Noise Barriers:**  
 1(partial),2(partial),5

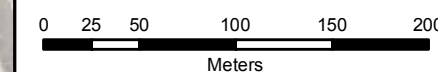
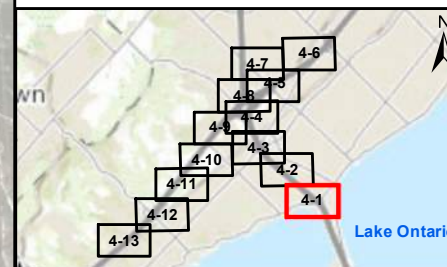
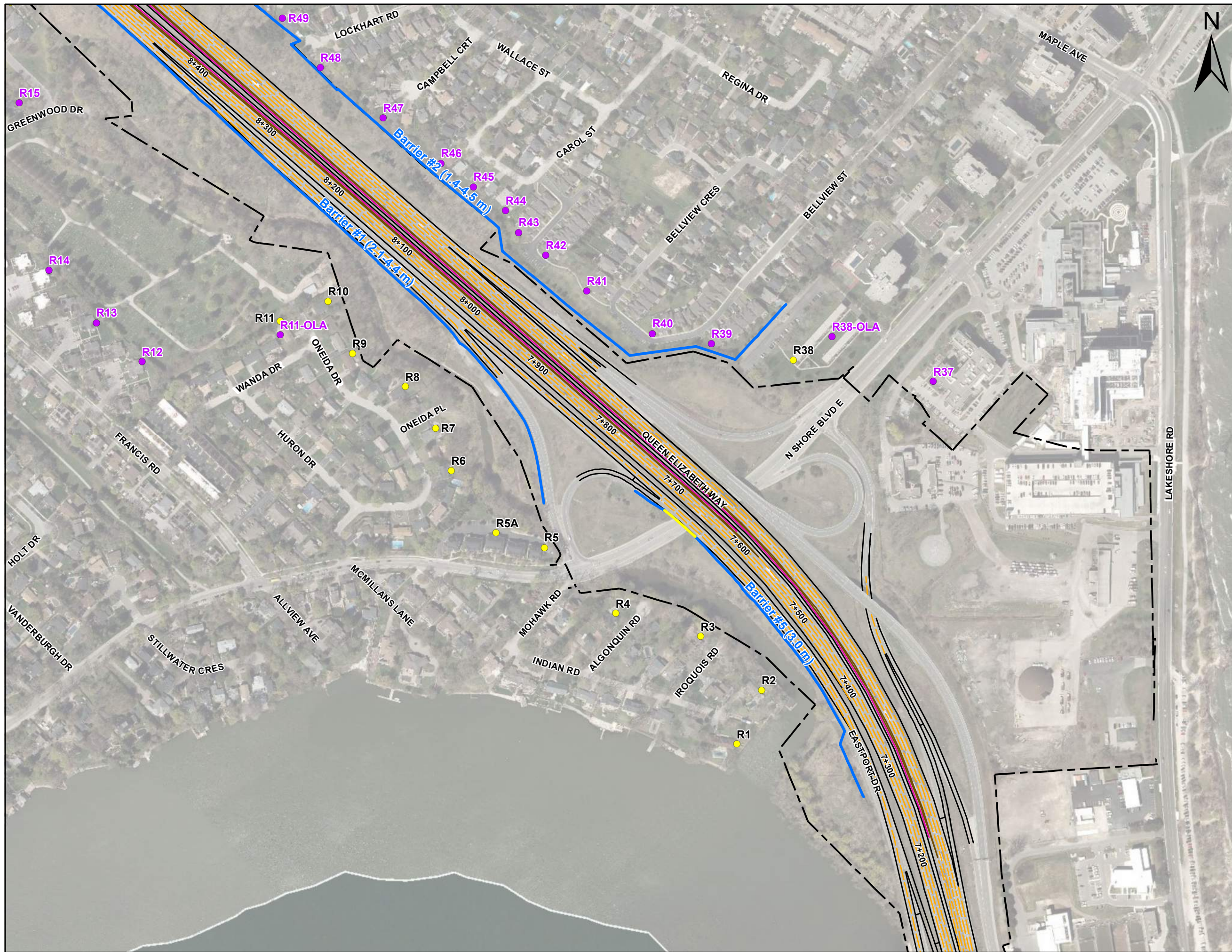


Figure 4-1  
 Project Name: QEW and Highway 403 (Freeman) Interchange  
 Preliminary Design and EA  
 Noise Assessment Report  
 Project No.: 17M-00215-00  
 Data Source: ESRI MAPS, WSP, LIO



# REVIEW OF NOISE MITIGATION (FUTURE WITH UNDERTAKING)

## Legend

- - Existing MTO ROW
- Noise Receptors
- Noise Receptors - Over Criteria
- Proposed Alignment**
- Edge of Pavement
- HOV Lane
- Lane Markings
- HOV Lane Buffer
- Noise Barriers**
- Existing Noise Barrier
- Existing Noise Barrier - Reflective Noise Barrier

## Noise Receptor Locations:

R15, R16, R17, R18, R19, R20, R21, R22, R23, R24, R25, R26, R27, R28, R29, R30, R31, R32, R44, R45, R46, R47, R48, R49, R50, R51, R52, R53, R54, R55, R56, R57, R58, R59, R60, R61, R62

## Noise Barriers:

1(partial), 2(partial)

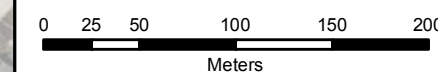
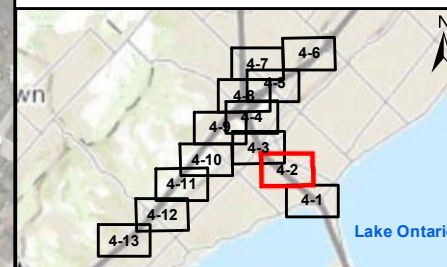
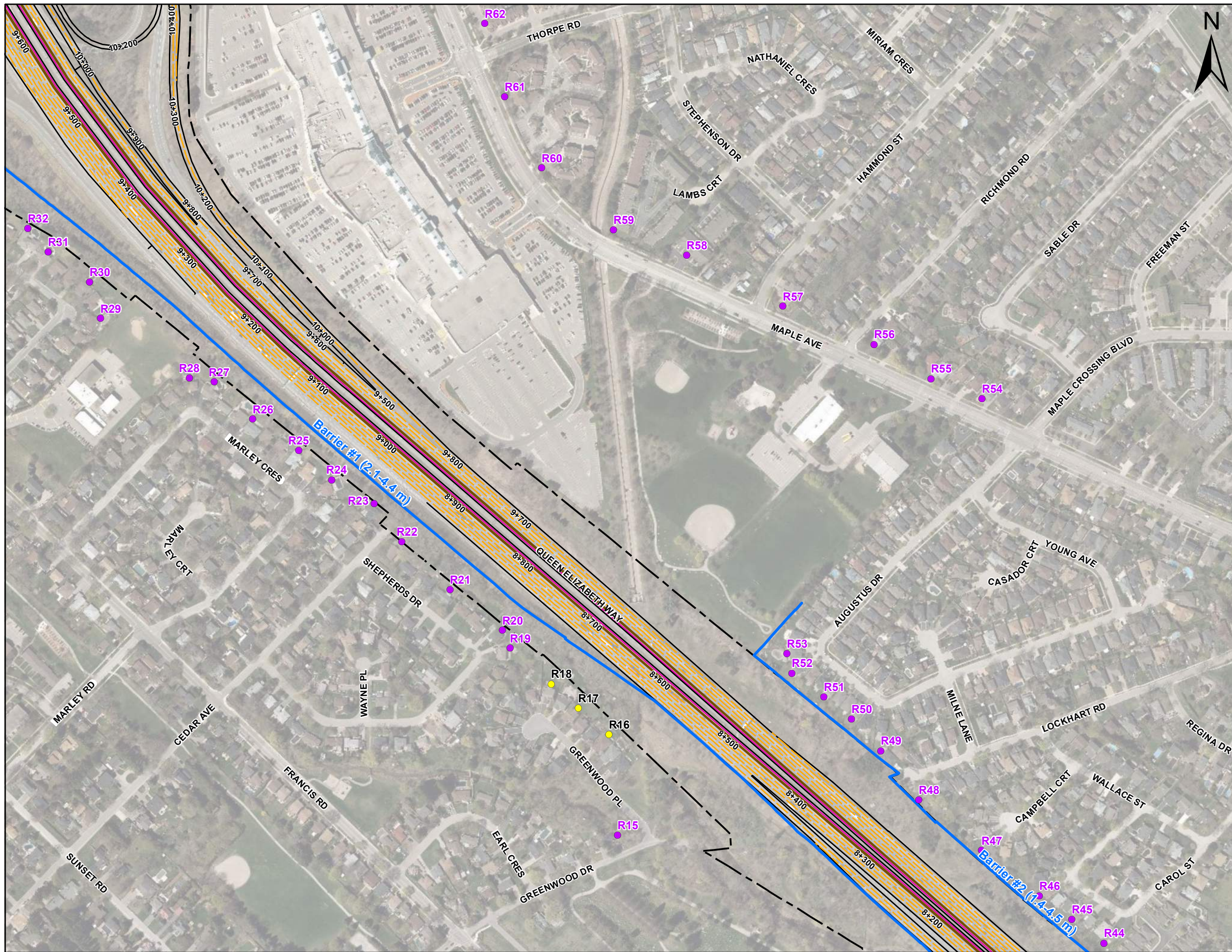


Figure 4-2  
 Project Name: QEW and Highway 403 (Freeman) Interchange  
 Preliminary Design and EA  
 Noise Assessment Report  
 Project No.: 17M-00215-00  
 Data Source: ESRI MAPS, WSP, LIO



# REVIEW OF NOISE MITIGATION (FUTURE WITH UNDERTAKING)

## Legend

- - Existing MTO ROW
- Noise Receptors
- Noise Receptors - Over Criteria
- Proposed Alignment**
- Edge of Pavement
- HOV Lane
- Lane Markings
- HOV Lane Buffer
- Noise Barriers**
- Existing Noise Barrier
- Existing Noise Barrier - Reflective Noise Barrier

**Noise Receptor Locations:**  
 R26, R27, R28, R29, R30, R31, R32, R33, R34, R35, R36, R60, R61, R62, R63, R64, R65, R66, R67, R68, R69, R70, R71, R194

**Noise Barriers:**  
 1(partial), 3

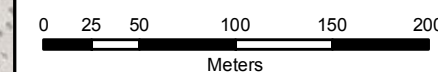
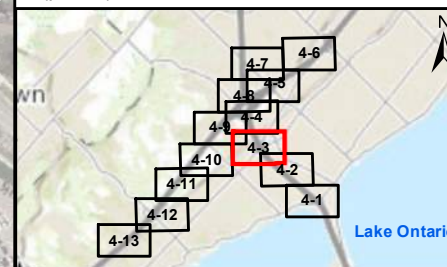
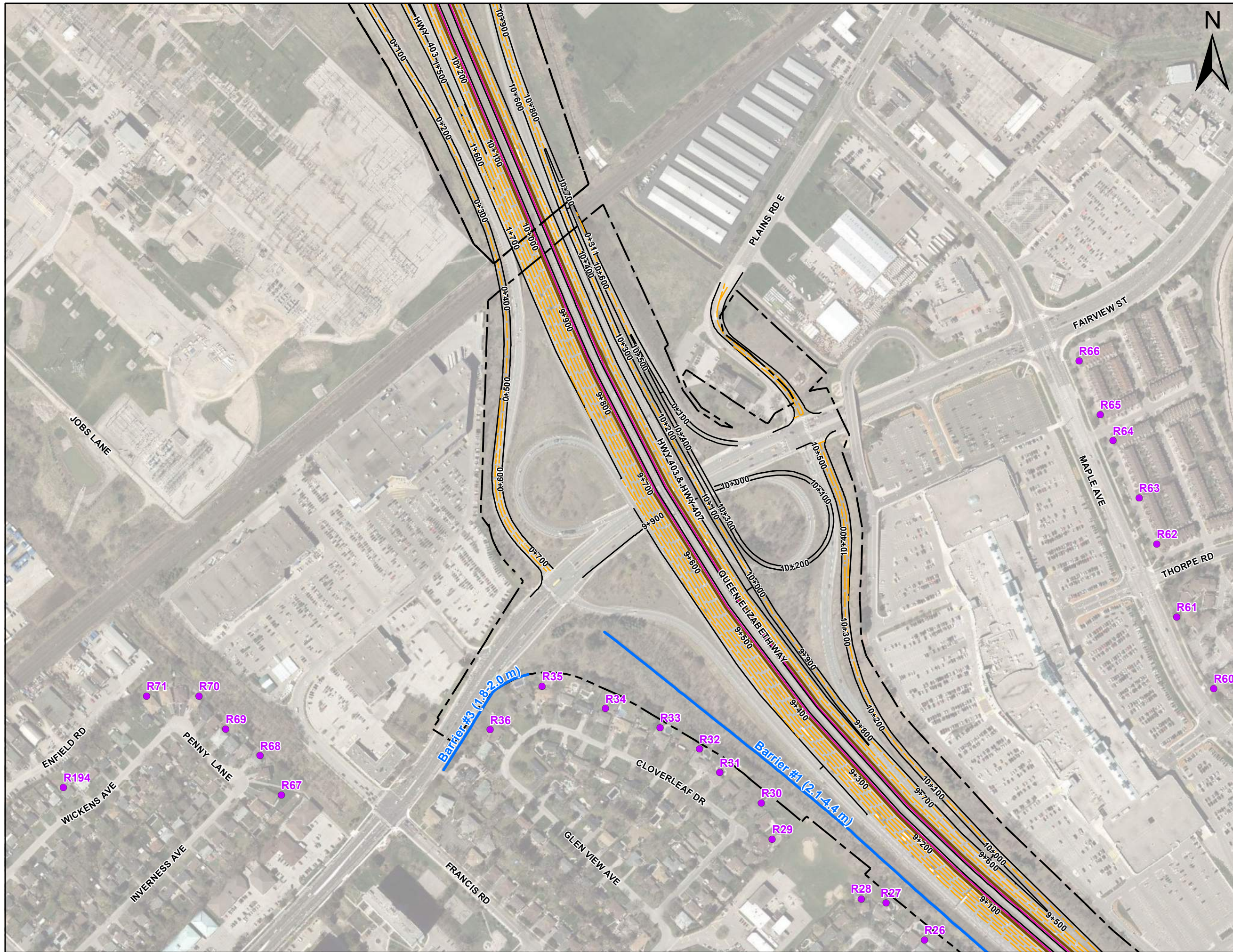


Figure 4-3  
 Project Name: QEW and Highway 403 (Freeman) Interchange  
 Preliminary Design and EA  
 Noise Assessment Report  
 Project No.: 17M-00215-00  
 Data Source: ESRI MAPS, WSP, LIO





# REVIEW OF NOISE MITIGATION (FUTURE WITH UNDERTAKING)

- Legend**
- - Existing MTO ROW
  - Noise Receptors
  - Noise Receptors - Over Criteria
- Proposed Alignment**
- Edge of Pavement
  - HOV Lane
  - Lane Markings
  - HOV Lane Buffer
- Noise Barriers**
- Existing Noise Barrier
  - Existing Noise Barrier - Reflective Noise Barrier

**Noise Receptor Locations:**  
 R72, R73, R74, R75, R76, R77, R78, R79, R80, R81, R82, R83, R84, R85, R86, R87, R88, R89, R90, R91, R147

**Noise Barriers:**  
 None

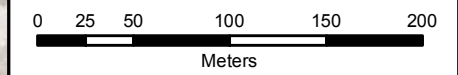
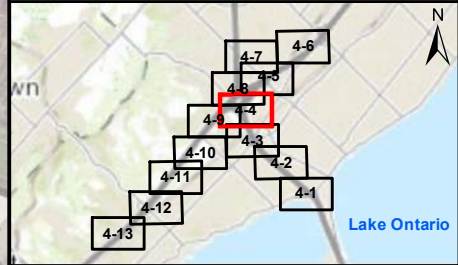
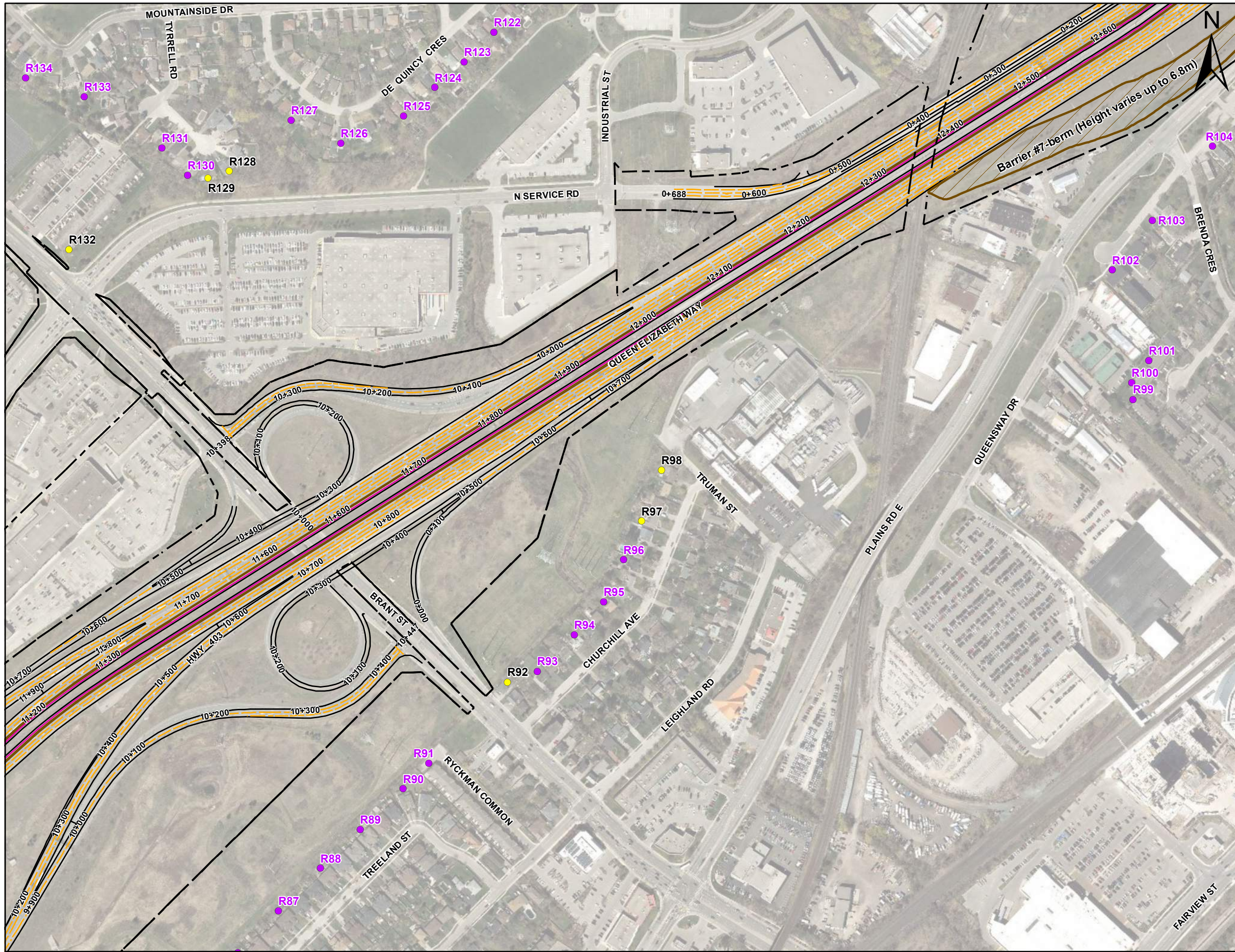


Figure 4-4  
 Project Name: QEW and Highway 403 (Freeman) Interchange  
 Preliminary Design and EA  
 Noise Assessment Report  
 Project No.: 17M-00215-00  
 Data Source: ESRI MAPS, WSP, LIO



# REVIEW OF NOISE MITIGATION (FUTURE WITH UNDERTAKING)

- Legend**
- - Existing MTO ROW
  - Noise Receptors
  - Noise Receptors - Over Criteria
  - Existing Earth Berm
- Proposed Alignment**
- Edge of Pavement
  - HOV Lane
  - Lane Markings
  - HOV Lane Buffer
- Noise Barriers**
- Existing Noise Barrier
  - Existing Noise Barrier - Reflective Noise Barrier

**Noise Receptor Locations:**  
 R87, R88, R89, R90, R91, R92, R93, R94, R95, R96, R97, R98, R99, R100, R101, R102, R103, R104, R122, R123, R124, R125, R126, R127, R128, R129, R130, R131, R132, R133, R134

**Noise Barriers:**  
 Barrier#7-berm(partial)

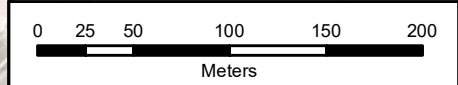
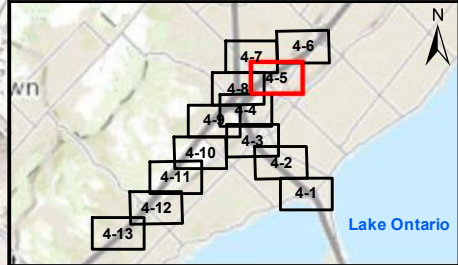


Figure 4-5  
 Project Name: QEW and Highway 403 (Freeman) Interchange  
 Preliminary Design and EA  
 Noise Assessment Report  
 Project No.: 17M-00215-00  
 Data Source: ESRI MAPS, WSP, LIO

# REVIEW OF NOISE MITIGATION (FUTURE WITH UNDERTAKING)

## Legend

- - Existing MTO ROW
- Noise Receptors
- Noise Receptors - Over Criteria
- ▭ Existing Earth Berm
- Proposed Alignment**
- Edge of Pavement
- HOV Lane
- Lane Markings
- HOV Lane Buffer
- Noise Barriers**
- Existing Noise Barrier
- Existing Noise Barrier - Reflective Noise Barrier

**Noise Receptor Locations:**  
 R103, R104, R105, R105-OLA, R106, R106-OLA, R107, R107-OLA, R108, R108-OLA, R109, R110, R111, R112, R113, R114, R115, R116, R117, R118

**Noise Barriers:**  
 Barrier#7-berm

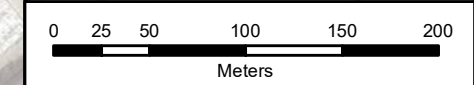
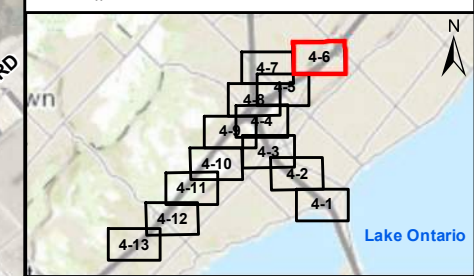
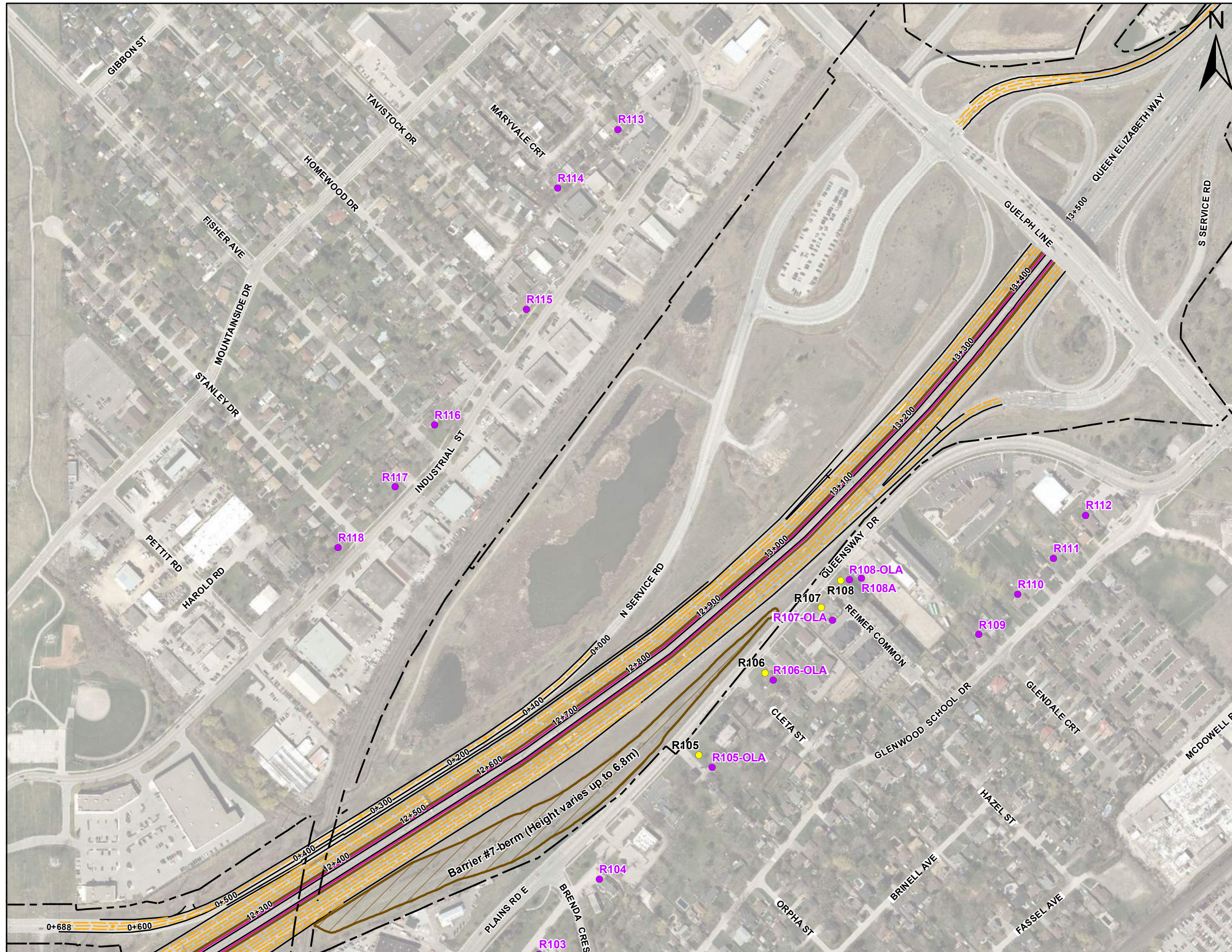


Figure: 4-6  
 Project Name: QEW and Highway 403 (Freeman) Interchange  
 Preliminary Design and EA  
 Noise Assessment Report  
 Project No.: 17M-00215-00  
 Data Source: ESRI MAPS, WSP, LIO



# REVIEW OF NOISE MITIGATION (FUTURE WITH UNDERTAKING)

## Legend

- - Existing MTO ROW
- Noise Receptors
- Noise Receptors - Over Criteria
- Proposed Alignment**
- Edge of Pavement
- HOV Lane
- Lane Markings
- HOV Lane Buffer
- Noise Barriers**
- Existing Noise Barrier
- Existing Noise Barrier - Reflective Noise Barrier

**Noise Receptor Locations:**  
 R119, R120, R121, R122, R123, R124, R125, R126, R127, R128, R129, R130, R131, R132, R133, R134, R135, R136, R137, R138, R139, R140, R141, R142

**Noise Barriers:**  
 4, 6

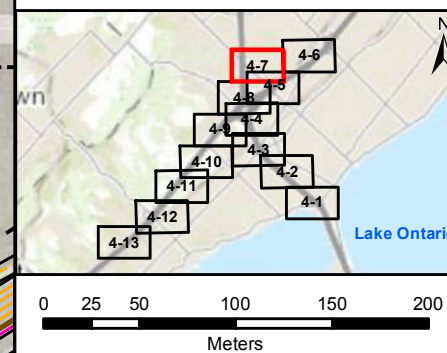
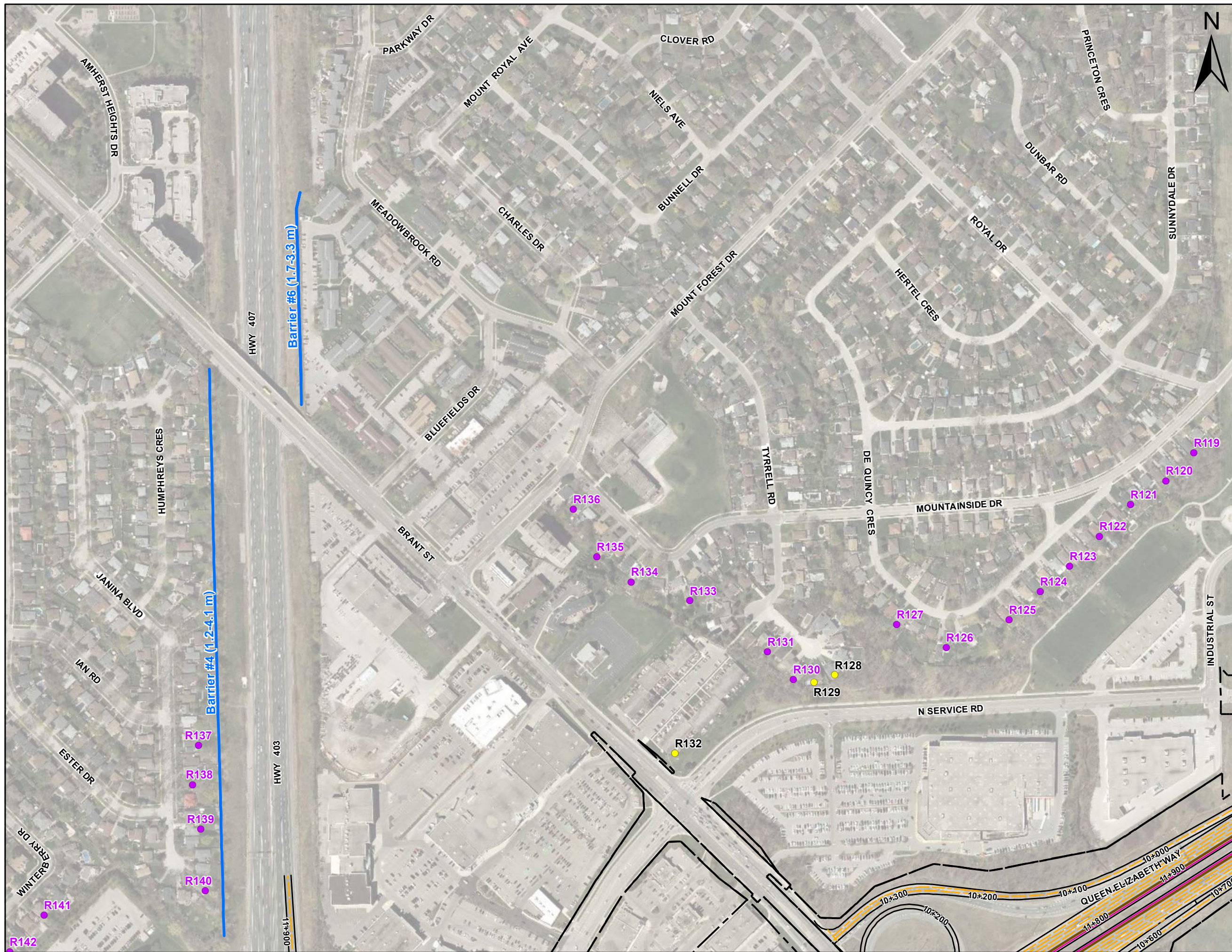


Figure 4-7  
 Project Name: QEW and Highway 403 (Freeman) Interchange  
 Preliminary Design and EA  
 Noise Assessment Report  
 Project No.: 17M-00215-00  
 Data Source: ESRI MAPS, WSP, LIO





# REVIEW OF NOISE MITIGATION (FUTURE WITH UNDERTAKING)

## Legend

- Existing MTO ROW
- Noise Receptors
- Noise Receptors - Over Criteria
- Proposed Alignment**
- Edge of Pavement
- HOV Lane
- Lane Markings
- HOV Lane Buffer
- Noise Barriers**
- Existing Noise Barrier
- Existing Noise Barrier - Reflective Noise Barrier

**Noise Receptor Locations:**  
 R81, R82, R83, R84, R85, R86, R87, R88, R138, R139, R140, R141, R142, R143, R144, R145, R146, R147, R148, R149, R150, R151, R152

**Noise Barriers:**  
 4(partial)

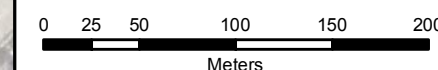
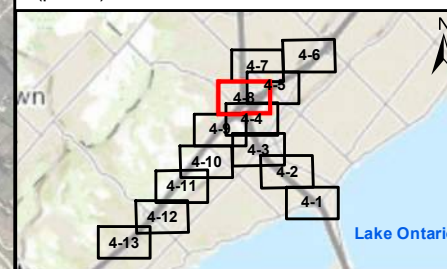
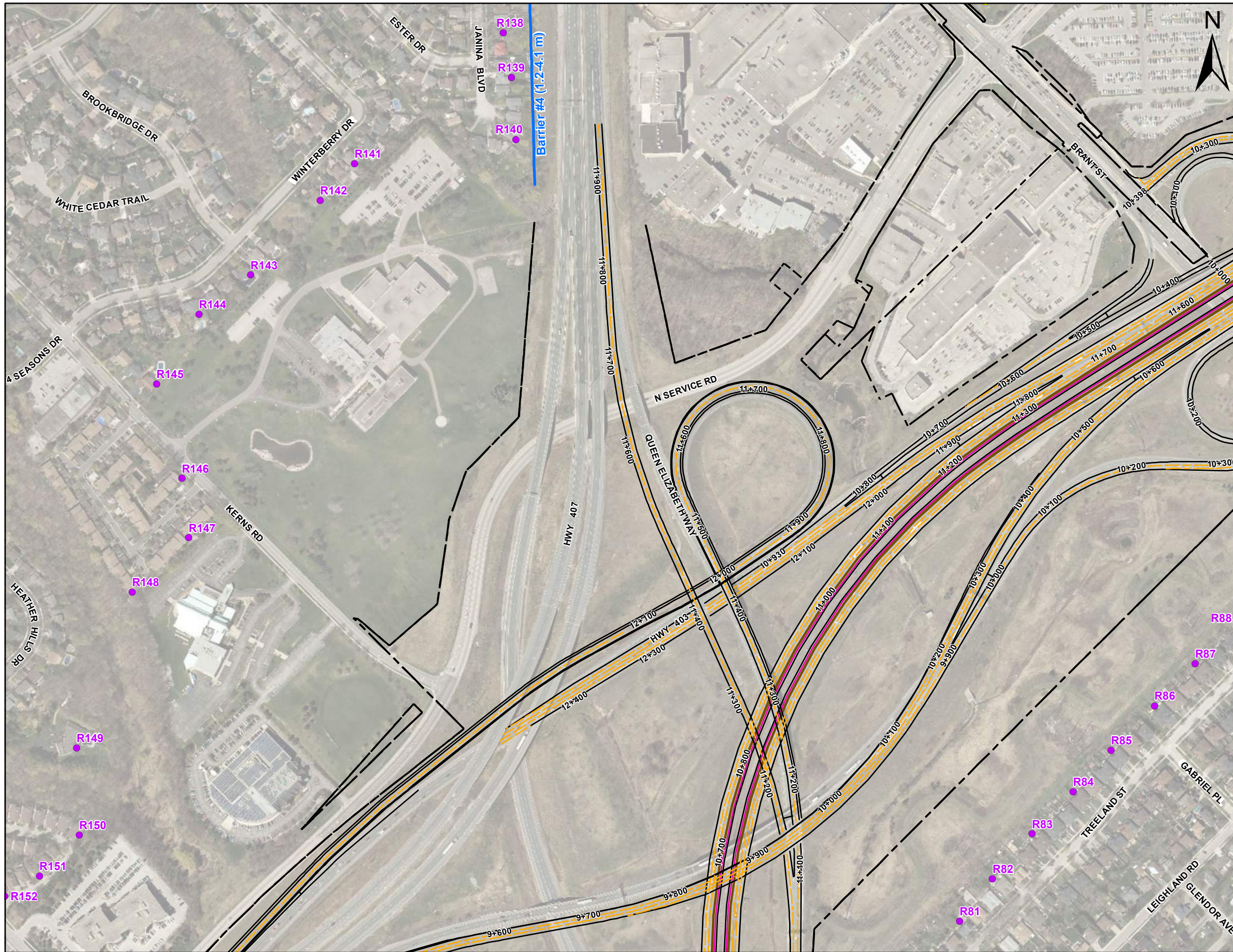


Figure 4-8  
 Project Name: QEW and Highway 403 (Freeman) Interchange  
 Preliminary Design and EA  
 Noise Assessment Report  
 Project No.: 17M-00215-00  
 Data Source: ESRI MAPS, WSP, LIO



# REVIEW OF NOISE MITIGATION (FUTURE WITH UNDERTAKING)

## Legend

- - Existing MTO ROW
  - Noise Receptors
  - Noise Receptors - Over Criteria
- ### Proposed Alignment
- Edge of Pavement
  - HOV Lane
  - Lane Markings
  - HOV Lane Buffer
- ### Noise Barriers
- Existing Noise Barrier
  - Existing Noise Barrier - Reflective Noise Barrier

**Noise Receptor Locations:**  
R150, R151, R152, R153, R154, R155  
**Noise Barriers:**  
None

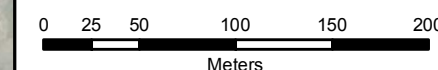
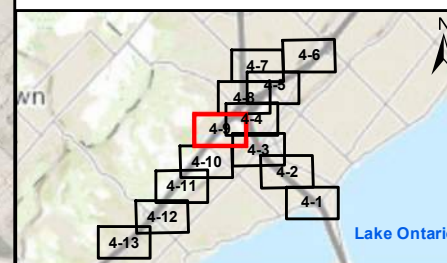
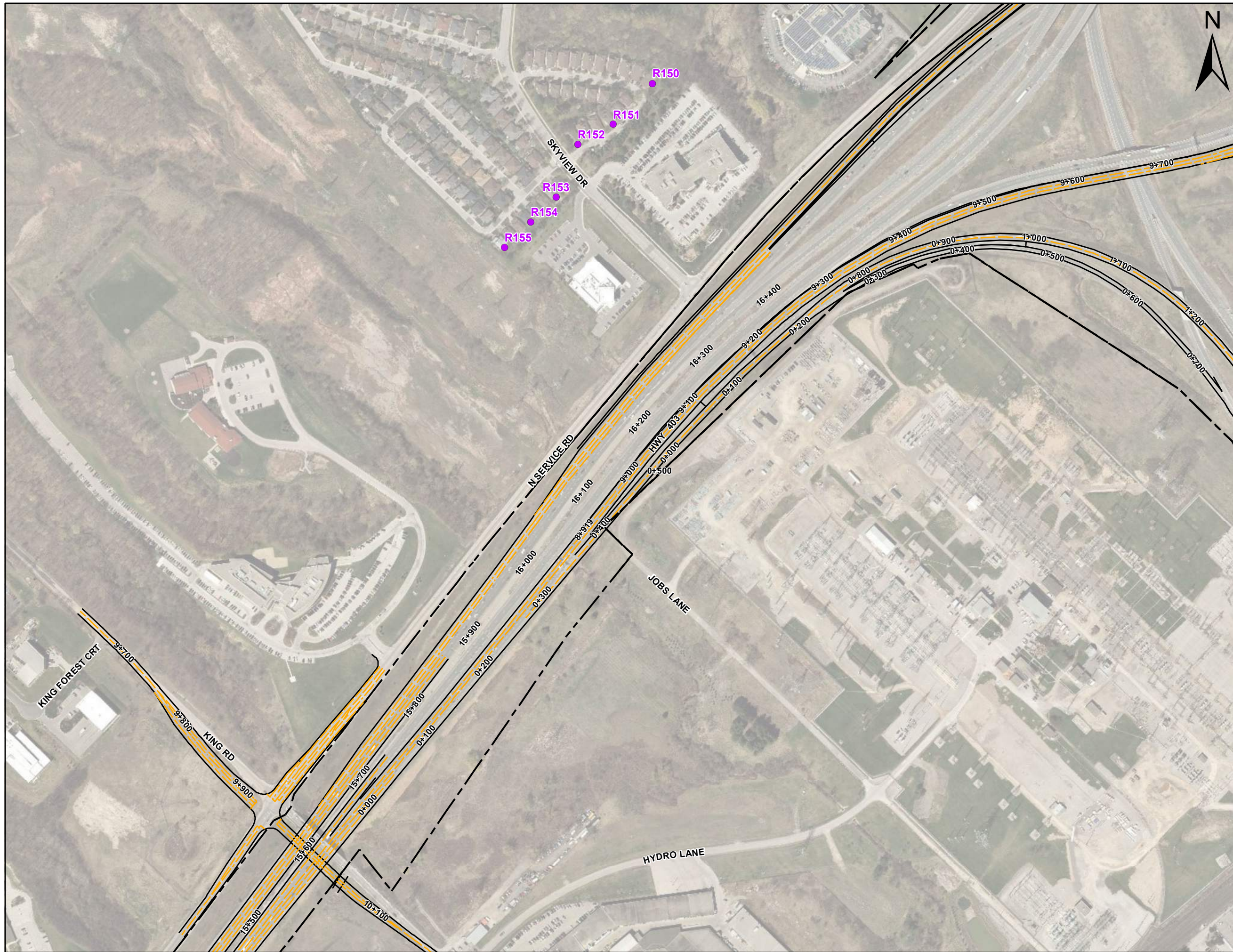
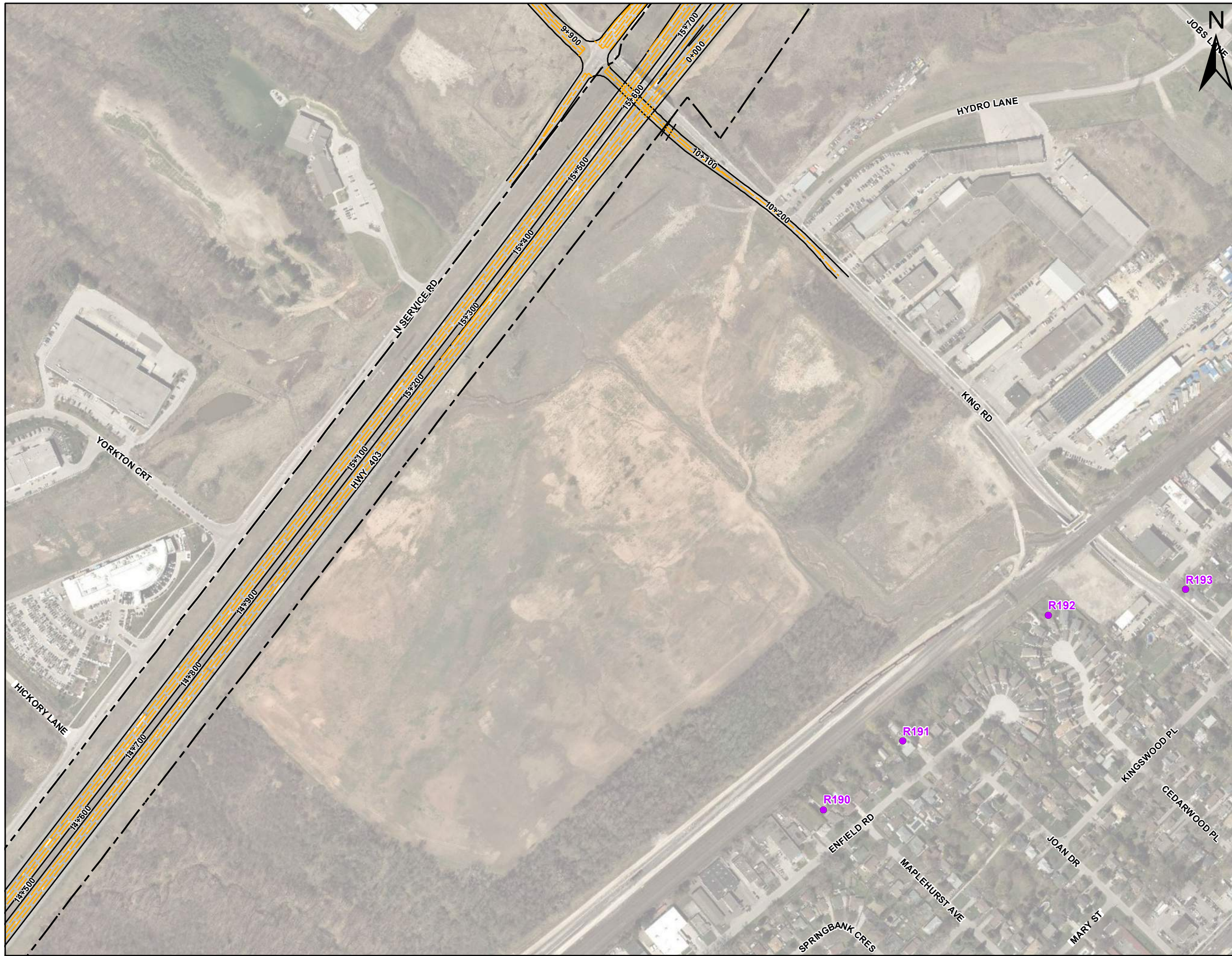


Figure: 4-9  
Project Name: QEW and Highway 403 (Freeman) Interchange  
Preliminary Design and EA  
Noise Assessment Report  
Project No.: 17M-00215-00  
Data Source: ESRI MAPS, WSP, LIO





# REVIEW OF NOISE MITIGATION (FUTURE WITH UNDERTAKING)

## Legend

- - Existing MTO ROW
- Noise Receptors
- Noise Receptors - Over Criteria
- Proposed Alignment**
- Edge of Pavement
- HOV Lane
- Lane Markings
- HOV Lane Buffer
- Noise Barriers**
- Existing Noise Barrier
- Existing Noise Barrier - Reflective Noise Barrier

**Noise Receptor Locations:**  
R190, R191, R192, R193

**Noise Barriers:**  
None

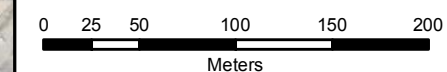
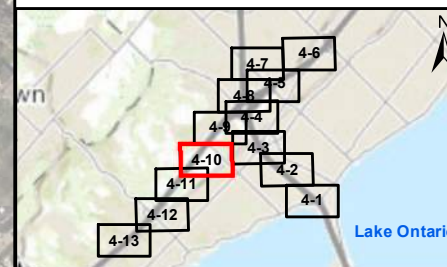
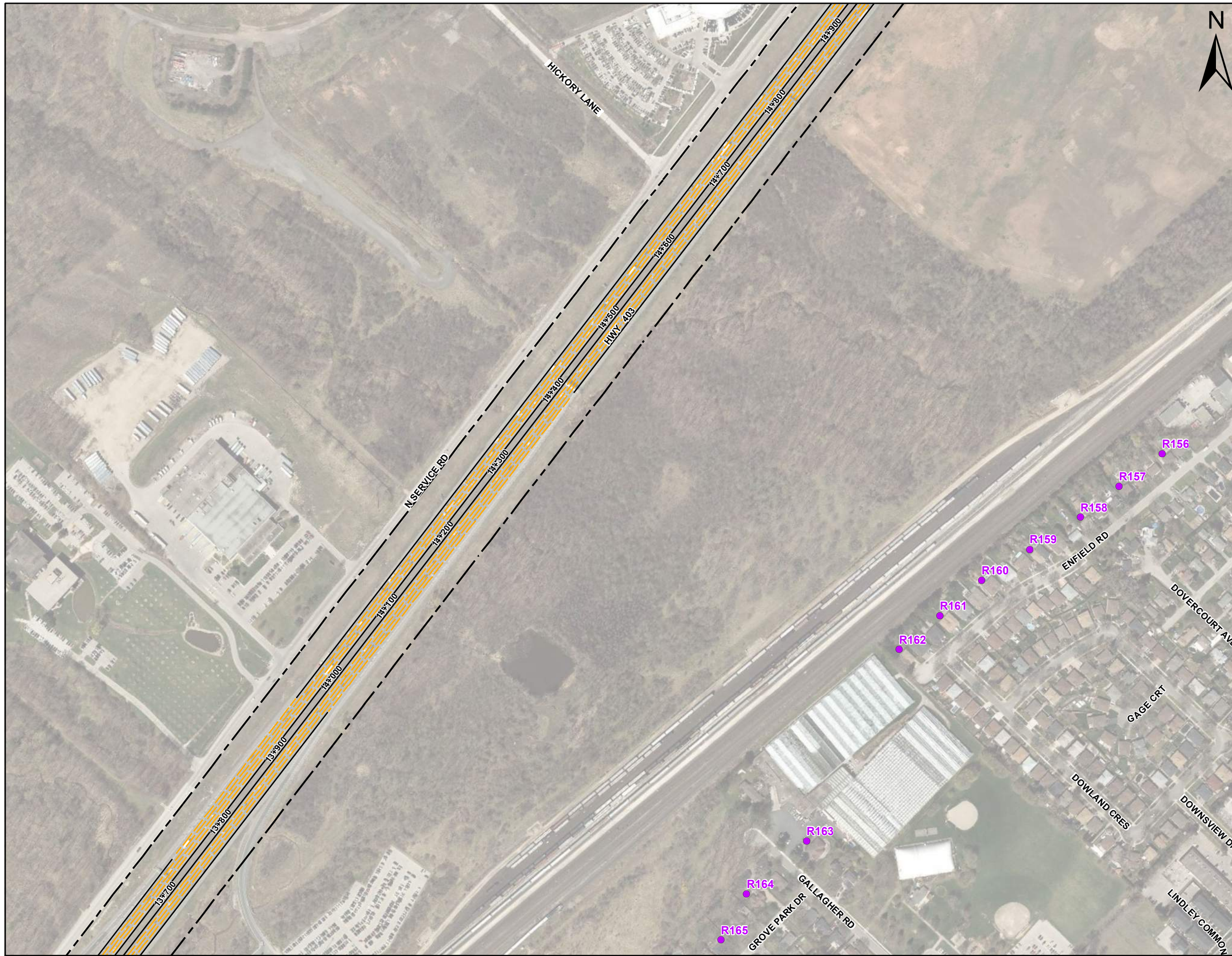


Figure: 4-10  
Project Name: QEW and Highway 403 (Freeman) Interchange  
Preliminary Design and EA  
Noise Assessment Report  
Project No.: 17M-00215-00  
Data Source: ESRI MAPS, WSP, LIO



# REVIEW OF NOISE MITIGATION (FUTURE WITH UNDERTAKING)

- Legend**
- - Existing MTO ROW
  - Noise Receptors
  - Noise Receptors - Over Criteria
- Proposed Alignment**
- Edge of Pavement
  - HOV Lane
  - Lane Markings
  - HOV Lane Buffer
- Noise Barriers**
- Existing Noise Barrier
  - Existing Noise Barrier - Reflective Noise Barrier

**Noise Receptor Locations:**  
 R156, R157, R158, R159, R160, R161, R162, R163, R164, R165

**Noise Barriers:**  
 None

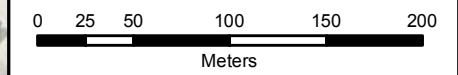
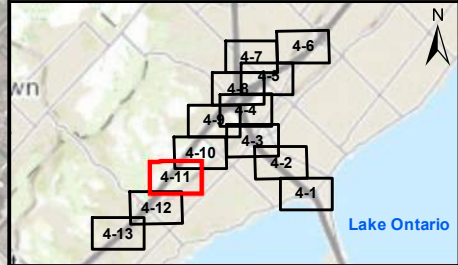


Figure 4-11  
 Project Name: QEW and Highway 403 (Freeman) Interchange  
 Preliminary Design and EA  
 Noise Assessment Report  
 Project No.: 17M-00215-00  
 Data Source: ESRI MAPS, WSP, LIO

# REVIEW OF NOISE MITIGATION (FUTURE WITH UNDERTAKING)

## Legend

- - Existing MTO ROW
- Noise Receptors
- Noise Receptors - Over Criteria
- Proposed Alignment**
- Edge of Pavement
- HOV Lane
- Lane Markings
- HOV Lane Buffer
- Noise Barriers**
- Existing Noise Barrier
- Existing Noise Barrier - Reflective Noise Barrier

**Noise Receptor Locations:**  
R164, R165, R166, R167, R168, R169, R170, R171, R172, R173, R174, R175, R176, R177, R178, R179, R179-OLA, R180

**Noise Barriers:**  
None

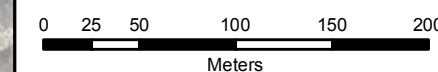
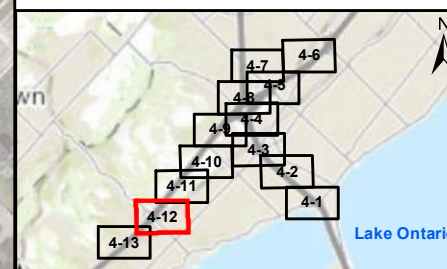
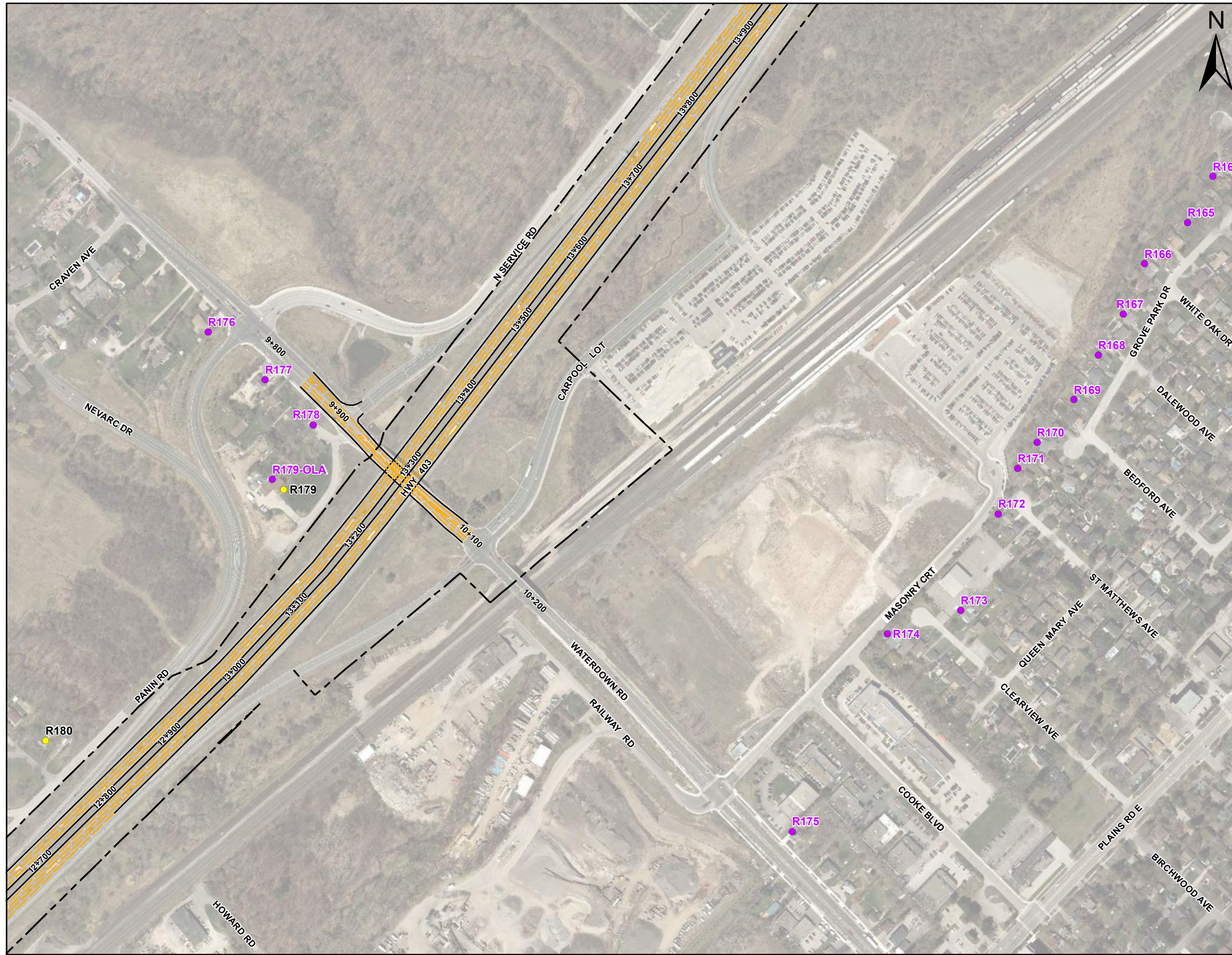


Figure 4-12  
Project Name: QEW and Highway 403 (Freeman) Interchange  
Preliminary Design and EA  
Noise Assessment Report  
Project No.: 17M-00215-00  
Data Source: ESRI MAPS, WSP, LIO



# REVIEW OF NOISE MITIGATION (FUTURE WITH UNDERTAKING)

## Legend

- - Existing MTO ROW
  - Noise Receptors
  - Noise Receptors - Over Criteria
- ### Proposed Alignment
- Edge of Pavement
  - HOV Lane
  - Lane Markings
  - HOV Lane Buffer
- ### Noise Barriers
- Existing Noise Barrier
  - Existing Noise Barrier - Reflective Noise Barrier

**Noise Receptor Locations:**  
 R180, R181, R182, R182A, R182B, R183, R183A, R183B, R183C, R183D, R183E, R184, R185, R186, R187, R188, R188-OLA, R189, R189-OLA, R189A, R189A-OLA

**Noise Barriers:**  
 None

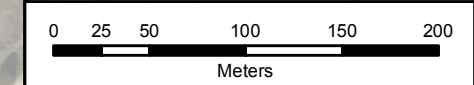
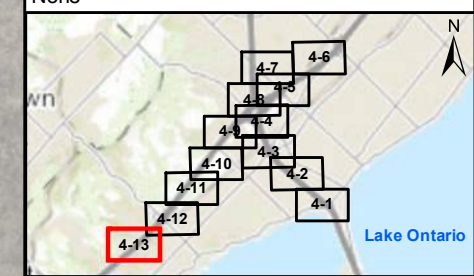


Figure 4-13  
 Project Name: QEW and Highway 403 (Freeman) Interchange Preliminary Design and EA  
 Noise Assessment Report  
 Project No.: 17M-00215-00  
 Data Source: ESRI MAPS, WSP, LIO

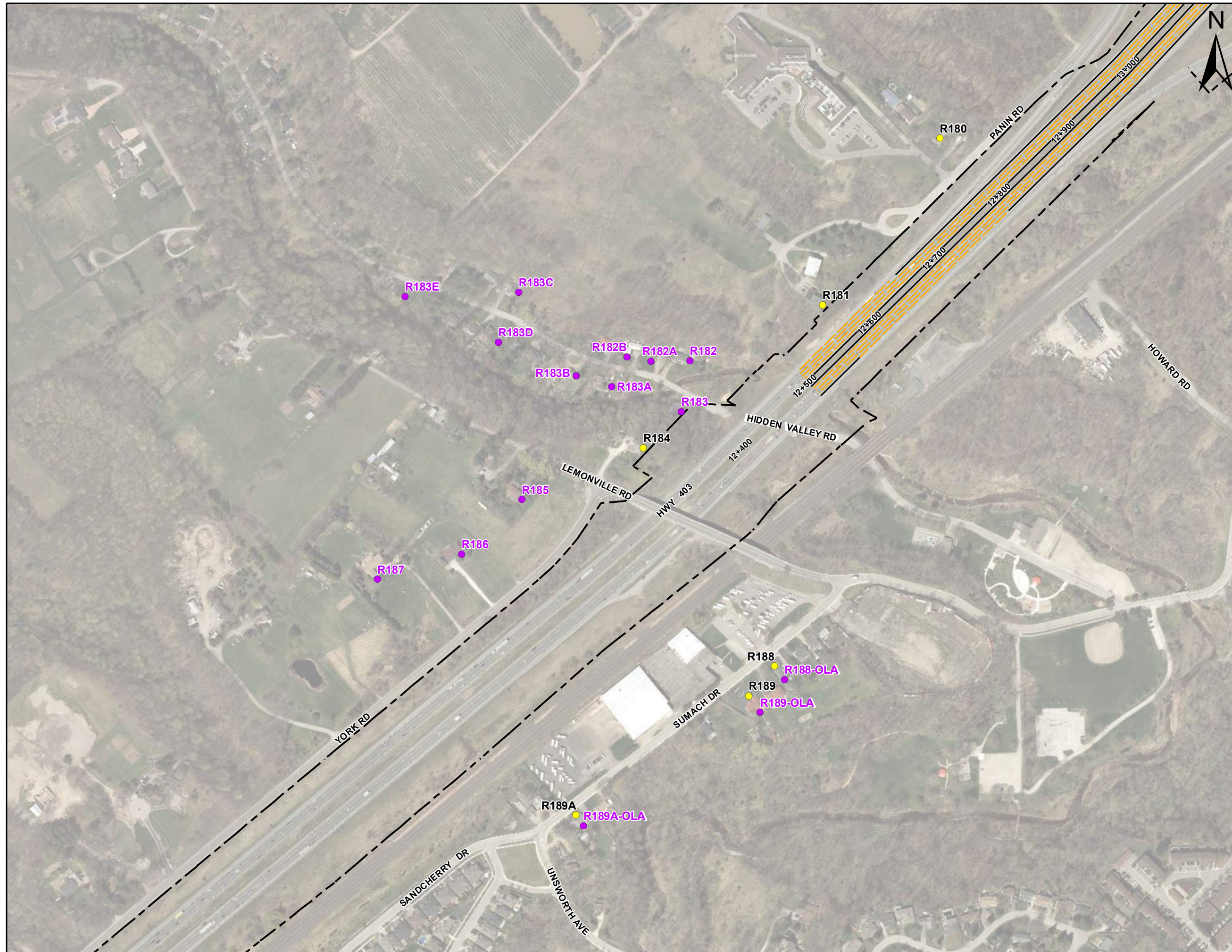


Table 4-2: Summary of Calculated Noise Levels

Receptor	MES/OLA	Approximate # of Residential Houses Represented	Projected Noise Level - Year 2041 L <sub>eq</sub> (24-hr)		Projected Change in Noise Level (dBA)	Consideration of Noise Mitigation Required ≥65 dBA and/or ≥5 dBA Change		
			Future Without Undertaking (dBA)	Future With Undertaking (dBA)		≥65 dBA	≥5 dBA	Yes / No
R1	MES/OLA	1	66	67	1	✓		Yes
R2	MES/OLA	3	69	70	1	✓		Yes
R3	MES/OLA	5	67	68	1	✓		Yes
R4	MES/OLA	2	67	68	1	✓		Yes
R5	MES/OLA	5	70	70	0	✓		Yes
R5A <sup>(4)</sup>	MES/OLA	8	66	67	1	✓		Yes
R6	MES/OLA	3	69	70	1	✓		Yes
R7	MES/OLA	2	68	69	1	✓		Yes
R8	MES/OLA	3	68	69	1	✓		Yes
R9	MES/OLA	2	67	68	1	✓		Yes
R10	MES/OLA	3	68	69	1	✓		Yes
R11	MES	6	65	65	0	✓		Yes
R11-OLA	OLA	6	55	56	1			No
R12	MES/OLA	8	59	60	1			No
R13	MES/OLA	8	58	59	1			No
R14	MES/OLA	8	58	59	1			No
R15	MES/OLA	1	62	62	0			No
R16	MES/OLA	3	66	67	1	✓		Yes
R17	MES/OLA	3	66	67	1	✓		Yes
R18	MES/OLA	3	66	66	0	✓		Yes
R19	MES/OLA	1	64	64	0			No
R20	MES/OLA	2	63	63	0			No
R21	MES/OLA	3	61	62	1			No
R22	MES/OLA	2	61	62	1			No
R23	MES/OLA	1	61	62	1			No
R24	MES/OLA	1	62	62	0			No
R25	MES/OLA	3	62	62	0			No
R26	MES/OLA	3	61	62	1			No
R27	MES/OLA	2	61	62	1			No
R28	MES/OLA	8	61	61	0			No
R29	MES/OLA	8	60	61	1			No
R30	MES/OLA	3	60	61	1			No
R31	MES/OLA	2	60	61	1			No
R32	MES/OLA	2	60	60	0			No

Table 4-2: Summary of Calculated Noise Levels

Receptor	MES/OLA	Approximate # of Residential Houses Represented	Projected Noise Level - Year 2041 L <sub>eq</sub> (24-hr)		Projected Change in Noise Level (dBA)	Consideration of Noise Mitigation Required ≥65 dBA and/or ≥5 dBA Change		
			Future Without Undertaking (dBA)	Future With Undertaking (dBA)		≥65 dBA	≥5 dBA	Yes / No
R33	MES/OLA	3	59	60	1			No
R34	MES/OLA	2	60	60	0			No
R35	MES/OLA	4	64	63	-1 <sup>(1)</sup>			No
R36	MES/OLA	2	61	61	0			No
R37	MES/OLA	1	63	64	1			No
R38	MES	1	66	67	1	✓		Yes
R38-OLA	OLA	1	59	60	1			No
R39	MES/OLA	5	58	59	1			No
R40	MES/OLA	3	61	62	1			No
R41	MES/OLA	1	62	63	1			No
R42	MES/OLA	1	63	64	1			No
R43	MES/OLA	1	62	64	2			No
R44	MES/OLA	2	63	64	1			No
R45	MES/OLA	3	62	63	1			No
R46	MES/OLA	3	62	63	1			No
R47	MES/OLA	4	62	63	1			No
R48	MES/OLA	1	60	62	2			No
R49	MES/OLA	2	60	61	1			No
R50	MES/OLA	3	63	64	1			No
R51	MES/OLA	3	63	64	1			No
R52	MES/OLA	2	62	63	1			No
R53	MES/OLA	1	63	64	1			No
R54	MES/OLA	4	57	58	1			No
R55	MES/OLA	3	57	58	1			No
R56	MES/OLA	2	58	59	1			No
R57	MES/OLA	3	58	60	2			No
R58	MES/OLA	7	59	61	2			No
R59	MES/OLA	2	61	62	1			No
R60	MES/OLA	8	60	61	1			No
R61	MES/OLA	6	59	59	0			No
R62	MES/OLA	3	60	60	0			No
R63	MES/OLA	18	60	60	0			No
R64	MES/OLA	3	60	60	0			No
R65	MES/OLA	6	61	61	0			No



Table 4-2: Summary of Calculated Noise Levels

Receptor	MES/OLA	Approximate # of Residential Houses Represented	Projected Noise Level - Year 2041 L <sub>eq</sub> (24-hr)		Projected Change in Noise Level (dBA)	Consideration of Noise Mitigation Required ≥65 dBA and/or ≥5 dBA Change		
			Future Without Undertaking (dBA)	Future With Undertaking (dBA)		≥65 dBA	≥5 dBA	Yes / No
R66	MES/OLA	5	63	63	0			No
R67	MES/OLA	2	59	60	1			No
R68	MES/OLA	2	60	60	0			No
R69	MES/OLA	3	60	60	0			No
R70	MES/OLA	3	60	60	0			No
R71	MES/OLA	2	59	59	0			No
R72	MES/OLA	6	59	60	1			No
R73	MES/OLA	6	59	60	1			No
R74	MES/OLA	7	60	61	1			No
R75	MES/OLA	1	60	61	1			No
R76	MES/OLA	1	60	62	2			No
R77	MES/OLA	1	61	62	1			No
R78	MES/OLA	12	63	64	1			No
R79	MES/OLA	4	65	66	1	✓		Yes
R80	MES/OLA	6	62	64	2			No
R81	MES/OLA	6	61	63	2			No
R82	MES/OLA	6	60	61	1			No
R83	MES/OLA	6	59	60	1			No
R84	MES/OLA	6	58	59	1			No
R85	MES/OLA	6	58	59	1			No
R86	MES/OLA	6	57	59	2			No
R87	MES/OLA	6	57	59	2			No
R88	MES/OLA	6	58	59	1			No
R89	MES/OLA	6	59	60	1			No
R90	MES/OLA	5	61	63	2			No
R91	MES/OLA	1	62	64	2			No
R92	MES/OLA	1	66	67	1	✓		Yes
R93	MES/OLA	2	63	64	1			No
R94	MES/OLA	3	62	63	1			No
R95	MES/OLA	3	62	63	1			No
R96	MES/OLA	3	62	63	1			No
R97	MES/OLA	3	64	65	1	✓		Yes
R98	MES/OLA	2	66	66	0	✓		Yes
R99	MES/OLA	4	58	59	1			No

Table 4-2: Summary of Calculated Noise Levels

Receptor	MES/OLA	Approximate # of Residential Houses Represented	Projected Noise Level - Year 2041 L <sub>eq</sub> (24-hr)		Projected Change in Noise Level (dBA)	Consideration of Noise Mitigation Required ≥65 dBA and/or ≥5 dBA Change		
			Future Without Undertaking (dBA)	Future With Undertaking (dBA)		≥65 dBA	≥5 dBA	Yes / No
R100	MES/OLA	4	58	59	1			No
R101	MES/OLA	5	59	60	1			No
R102	MES/OLA	8	61	62	1			No
R103	MES/OLA	7	61	63	2			No
R104	MES/OLA	16	61	63	2			No
R105	MES	6	64	65	1	✓		Yes
R105-OLA	OLA	6	60	60	0			No
R106	MES	1	68	69	1	✓		Yes
R106-OLA	OLA	1	61	62	1			No
R107	MES	11	70	71	1	✓		Yes
R107-OLA	OLA	11	53	53	0			No
R108	MES	3	70	72	2	✓		Yes
R108-OLA	OLA	3	57	59	2			No
R108A	MES/OLA	1	57	58	1			No
R109	MES/OLA	3	59	60	1			No
R110	MES/OLA	3	58	59	1			No
R111	MES/OLA	3	58	59	1			No
R112	MES/OLA	3	59	61	2			No
R113	MES/OLA	6	53	55	2			No
R114	MES/OLA	6	54	56	2			No
R115	MES/OLA	25	60	62	2			No
R116	MES/OLA	7	60	61	1			No
R117	MES/OLA	3	60	62	2			No
R118	MES/OLA	3	60	62	2			No
R119	MES/OLA	4	60	63	3			No
R120	MES/OLA	3	59	62	3			No
R121	MES/OLA	3	59	62	3			No
R122	MES/OLA	3	59	61	2			No
R123	MES/OLA	3	59	61	2			No
R124	MES/OLA	3	60	61	1			No
R125	MES/OLA	3	62	63	1			No
R126	MES/OLA	3	62	64	2			No
R127	MES/OLA	3	61	63	2			No
R128	MES/OLA	2	62	65	3	✓		Yes

Table 4-2: Summary of Calculated Noise Levels

Receptor	MES/OLA	Approximate # of Residential Houses Represented	Projected Noise Level - Year 2041 L <sub>eq</sub> (24-hr)		Projected Change in Noise Level (dBA)	Consideration of Noise Mitigation Required ≥65 dBA and/or ≥5 dBA Change		
			Future Without Undertaking (dBA)	Future With Undertaking (dBA)		≥65 dBA	≥5 dBA	Yes / No
R129	MES/OLA	1	63	65	2	✓		Yes
R130	MES/OLA	2	62	64	2			No
R131	MES/OLA	3	61	63	2			No
R132	MES/OLA	3	67	68	1	✓		Yes
R133	MES/OLA	3	57	59	2			No
R134	MES/OLA	2	58	59	1			No
R135	MES/OLA	3	57	57	0			No
R136	MES/OLA	3	57	58	1			No
R137	MES/OLA	3	58	59	1			No
R138	MES/OLA	3	58	59	1			No
R139	MES/OLA	4	60	60	0			No
R140	MES/OLA	6	63	64	1			No
R141	MES/OLA	4	60	61	1			No
R142	MES/OLA	2	59	61	2			No
R143	MES/OLA	8	58	59	1			No
R144	MES/OLA	5	58	60	2			No
R145	MES/OLA	1	58	60	2			No
R146	MES/OLA	9	59	60	1			No
R147	MES/OLA	6	59	61	2			No
R148	MES/OLA	8	59	60	1			No
R149	MES/OLA	1	59	60	1			No
R150	MES/OLA	1	60	61	1			No
R151	MES/OLA	3	60	61	1			No
R152	MES/OLA	3	61	61	0			No
R153	MES/OLA	3	62	63	1			No
R154	MES/OLA	3	62	63	1			No
R155	MES/OLA	2	62	63	1			No
R156	MES/OLA	3	53	55	2			No
R157	MES/OLA	3	54	55	1			No
R158	MES/OLA	3	54	55	1			No
R159	MES/OLA	6	54	55	1			No
R160	MES/OLA	6	55	56	1			No
R161	MES/OLA	6	55	56	1			No
R162	MES/OLA	4	55	56	1			No

Table 4-2: Summary of Calculated Noise Levels

Receptor	MES/OLA	Approximate # of Residential Houses Represented	Projected Noise Level - Year 2041 L <sub>eq</sub> (24-hr)		Projected Change in Noise Level (dBA)	Consideration of Noise Mitigation Required ≥65 dBA and/or ≥5 dBA Change		
			Future Without Undertaking (dBA)	Future With Undertaking (dBA)		≥65 dBA	≥5 dBA	Yes / No
R163	MES/OLA	1	54	56	2			No
R164	MES/OLA	2	55	56	1			No
R165	MES/OLA	3	55	56	1			No
R166	MES/OLA	3	55	57	2			No
R167	MES/OLA	3	56	58	2			No
R168	MES/OLA	3	57	58	1			No
R169	MES/OLA	3	57	59	2			No
R170	MES/OLA	2	58	59	1			No
R171	MES/OLA	2	58	60	2			No
R172	MES/OLA	2	58	60	2			No
R173	MES/OLA	1	57	58	1			No
R174	MES/OLA	1	58	59	1			No
R175	MES/OLA	1	56	57	1			No
R176	MES/OLA	1	61	61	0			No
R177	MES/OLA	2	61	62	1			No
R178	MES/OLA	3	63	64	1			No
R179	MES	1	66	67	1	✓		Yes
R179-OLA	OLA	1	57	57	0			No
R180	MES/OLA	1	73	74	1	✓		Yes
R181	MES/OLA	1	76	77	1	✓		Yes
R182	MES	1	61	61	0			No
R182A	MES/OLA	1	60	60	0			No
R182B	MES/OLA	1	59	60	1			No
R183	MES	1	62	63	1			No
R183A	MES/OLA	1	58	59	1			No
R183B	MES/OLA	1	58	58	0			No
R183C	MES/OLA	1	55	56	1			No
R183D	MES/OLA	1	54	55	1			No
R183E	MES/OLA	1	52	53	1			No
R184	MES/OLA	1	70	71	1	✓		Yes
R185	MES/OLA	1	60	61	1			No
R186	MES/OLA	1	58	60	2			No
R187	MES/OLA	1	58	59	1			No
R188	MES	4	65	66	1	✓		Yes

Table 4-2: Summary of Calculated Noise Levels

Receptor	MES/OLA	Approximate # of Residential Houses Represented	Projected Noise Level - Year 2041 L <sub>eq</sub> (24-hr)		Projected Change in Noise Level (dBA)	Consideration of Noise Mitigation Required ≥65 dBA and/or ≥5 dBA Change		
			Future Without Undertaking (dBA)	Future With Undertaking (dBA)		≥65 dBA	≥5 dBA	Yes / No
R188-OLA	OLA	4	57	58	1			No
R189	MES	2	65	65	0	✓		Yes
R189-OLA	OLA	2	43	44	1			No
R189A	MES	2	64	65	1	✓		Yes
R189A-OLA	OLA	2	53	53	0			No
R190	MES/OLA	5	54	55	1			No
R191	MES/OLA	12	54	55	1			No
R192	MES/OLA	5	55	56	1			No
R193	MES/OLA	6	55	56	1			No
R194	MES/OLA	9	57	57	0			No

Notes:

- (1) Negative change in the predicted noise level may be due to the changes in roadway design; QEW Niagara-bound centerline is shifted away from the receptor.
- (2) Additional receptor was placed for R5 area for further assessment as per the direction given by the MTO.

## 4.2 Review of Noise Levels

As discussed, the predicted future sound levels with and without the proposed undertaking as well as the predicted changes in sound levels are shown in **Table 4–2**. The table shows that the predicted changes in sound level are less than 5 dB (i.e. none of the receptors show a change in sound level in excess of 5 dB). However, the following receptors show future sound levels greater than or equal to 65 dBA at the MES of the receptors:

### List 1: Receptors that are greater than or equal to 65 dBA at the MES Locations:

- |                         |                       |
|-------------------------|-----------------------|
| ▶ R1-R5, R5A and R6-R11 | ▶ R105-R108           |
| ▶ R16-R18               | ▶ R128-R129           |
| ▶ R38                   | ▶ R132                |
| ▶ R79                   | ▶ R179-R181           |
| ▶ R92                   | ▶ R184                |
| ▶ R97-R98               | ▶ R188-R189 and R189A |

Among these receptors, some of the MESs are also OLAs as noted in **Table 4–2**. However, some of the receptors are only MES (e.g. R11, R38, R105, etc.) and therefore, in accordance with the Guide, the sound levels were estimated at appropriate OLAs. The sound levels at the following receptors from **List 1** above are predicted to be less than 65 dBA at their appropriate OLA locations.

### List 2: From List 1, receptors that are less than 65 dBA at the OLA Locations:

- |            |             |
|------------|-------------|
| ▶ R11-OLA  | ▶ R108-OLA  |
| ▶ R38-OLA  | ▶ R179-OLA  |
| ▶ R105-OLA | ▶ R188-OLA  |
| ▶ R106-OLA | ▶ R189-OLA  |
| ▶ R107-OLA | ▶ R189A-OLA |

Among these receptors R107, R108, R189, and R189A receives substantial reduction (in excess of 10 dB) of sound level at their corresponding OLAs (i.e. R107-OLA, R108-OLA, R189-OLA, and R189A-OLA) and therefore, reviewed further. A summary of review is provided below:

- ▶ The receptor R107 represents the MES, which is the front façade of the townhouse block (Refer to **Figure 3-6**). The predicted sound level at the MES (i.e. R107) was 68 dBA; the predicted sound level at the OLA (i.e. R107-OLA), which is the backyard of the townhouse was 53 dBA. Since the OLA location is the backyard, it is completely shielded by the entire townhouse block itself and received a notable noise reduction resulting in 53 dBA.
- ▶ Similarly, for the receptor R108 (i.e. the MES of the receptor), the predicted sound level was in the range of 70 dBA. The corresponding sound level at the OLA (i.e. R108-OLA), which is the backyard of the townhouse, was 59 dBA; this backyard is not only receives partial shielded by the townhouse block, but also receives shielding effects from an existing noise barrier.
- ▶ The noise effect scenario at both R189 and R189A and their corresponding OLAs (i.e. R189-OLA and R189A-OLA) are similar to receptor R107 (i.e. shielding by the building itself). Therefore, these locations received a notable reduction.

Sound levels at the following receptors from **List 1** are predicted to be greater than or equal to 65 dBA at their appropriate OLA locations; for some receptors, the MES and the OLAs are the same as noted in **Table 4–2** and therefore the OLA suffix is not included.

### List 3: From List 1, receptors that are greater than or equal to 65 dBA at the OLA Locations:

- |                          |             |
|--------------------------|-------------|
| ▶ R1-R5, R5A, and R6-R10 | ▶ R128-R129 |
| ▶ R16-R18                | ▶ R132      |
| ▶ R79                    | ▶ R180-R181 |
| ▶ R92                    | ▶ R184      |
| ▶ R97-R98                |             |

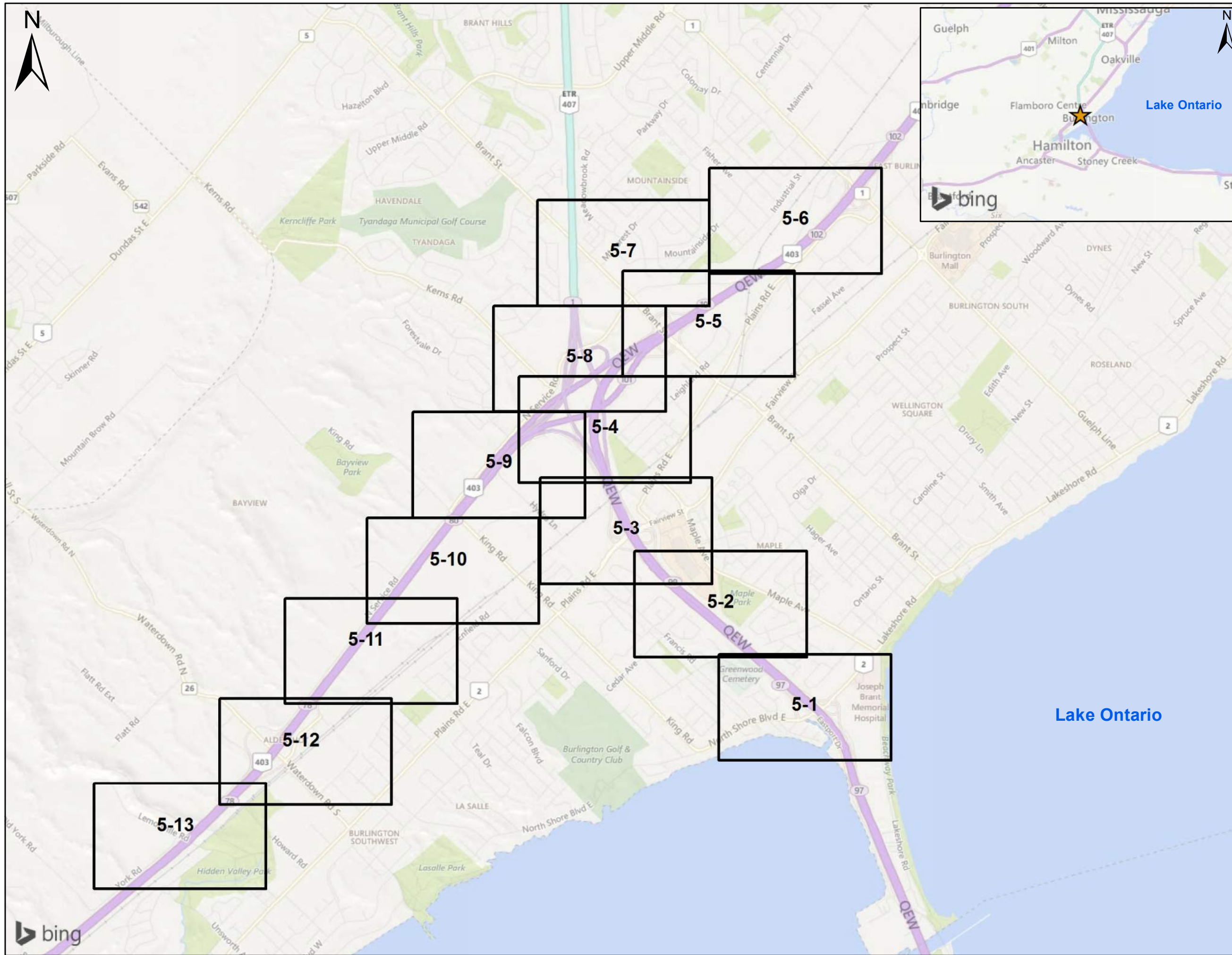
In accordance with the Guide, these receptors require investigation of noise control for their technical, economical and administrative feasibility.

## 4.3 Review of Noise Mitigation

For the receptors noted in **List 3**, noise control feasibility was investigated within the MTO ROW and these receptors are shown in **Figure 5-1** to **Figure 5-13** (yellow highlights). The barriers considered for the feasibility investigation are also shown in **Figure 5-1** to **Figure 5-13** (marked as Reviewed Noise Barriers #1 to #7). The following are noted:

- ▶ 5 metres is the maximum height for noise barriers on MTO highways;
- ▶ The Guide requires that noise mitigation measures be reviewed within the ROW;
- ▶ Two types of Approved Designated Noise Barriers are considered for this project: absorptive noise barriers for ground mounted barriers and crash-tested structural noise barriers (reflective) for structure mounted barriers; and
- ▶ For calculation purposes, the lengths of the barrier were determined by applying a 2.5:1 ratio to the distance between the noise barrier and the receiver location (i.e. therefore the barrier length is 5 times the distance between the barrier and the receiver). For example, a distance between the noise barrier and the receiver being 100 metres generally requires a 500 metres noise barrier length.

The predicted noise levels including the reviewed noise barriers are summarized in **Table 4–3**.

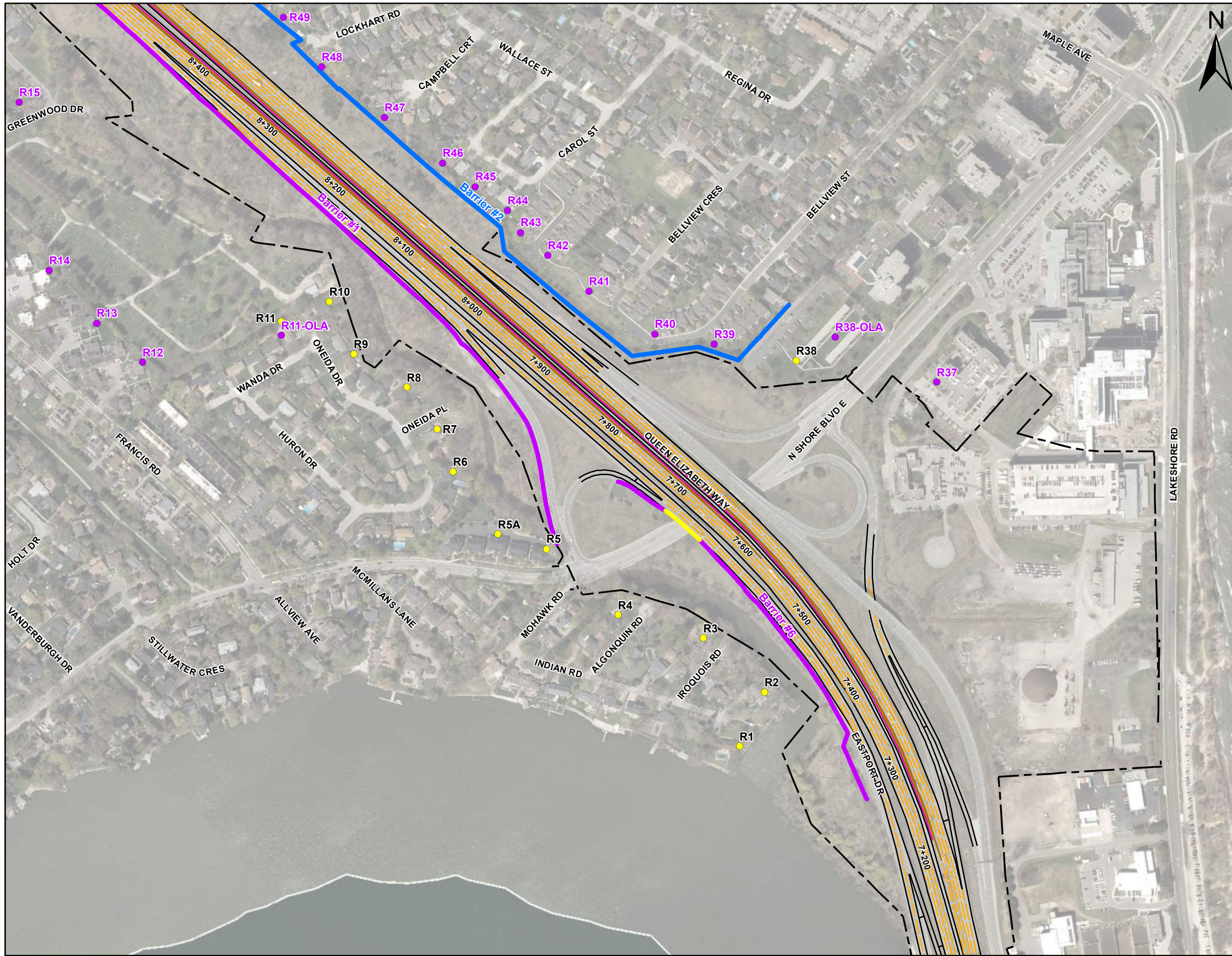


**SITE LOCATION  
(FUTURE WITH  
UNDERTAKING)**

- Legend**
- ★ Site Location
  - Figures



Figure 5  
 Project Name: QEW and Highway 403 (Freeman) Interchange  
 Preliminary Design and EA  
 Noise Assessment Report  
 Project No.: 17M-00215-00  
 Data Source: BING MAPS, WSP, LIO



# REVIEW OF MITIGATION (FUTURE WITH UNDERTAKING)

- Legend**
- - Existing MTO ROW
  - Noise Receptors
  - Noise Receptors - Over Criteria
- Proposed Alignment**
- Edge of Pavement
  - HOV Lane
  - Lane Markings
  - HOV Lane Buffer
- Reviewed Noise Barriers**
- Reviewed Noise Barrier
  - Reviewed Noise Barrier - Crash Tested
  - Existing Noise Barriers

**Noise Receptor Locations:**  
 R1,R2,R3,R4,R5,R5A,R6,R7,R8,R9,R10,  
 R11,R11-OLA,R12,R13,R14,R15,R37,R38,  
 R38-OLA,R39,R40,R41,R42,R43,R44,R45,  
 R46,R47,R48,R49

**Noise Barriers:**  
 1(partial),2(partial),6

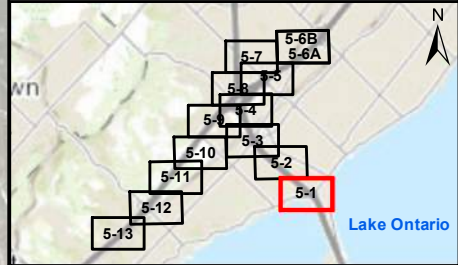
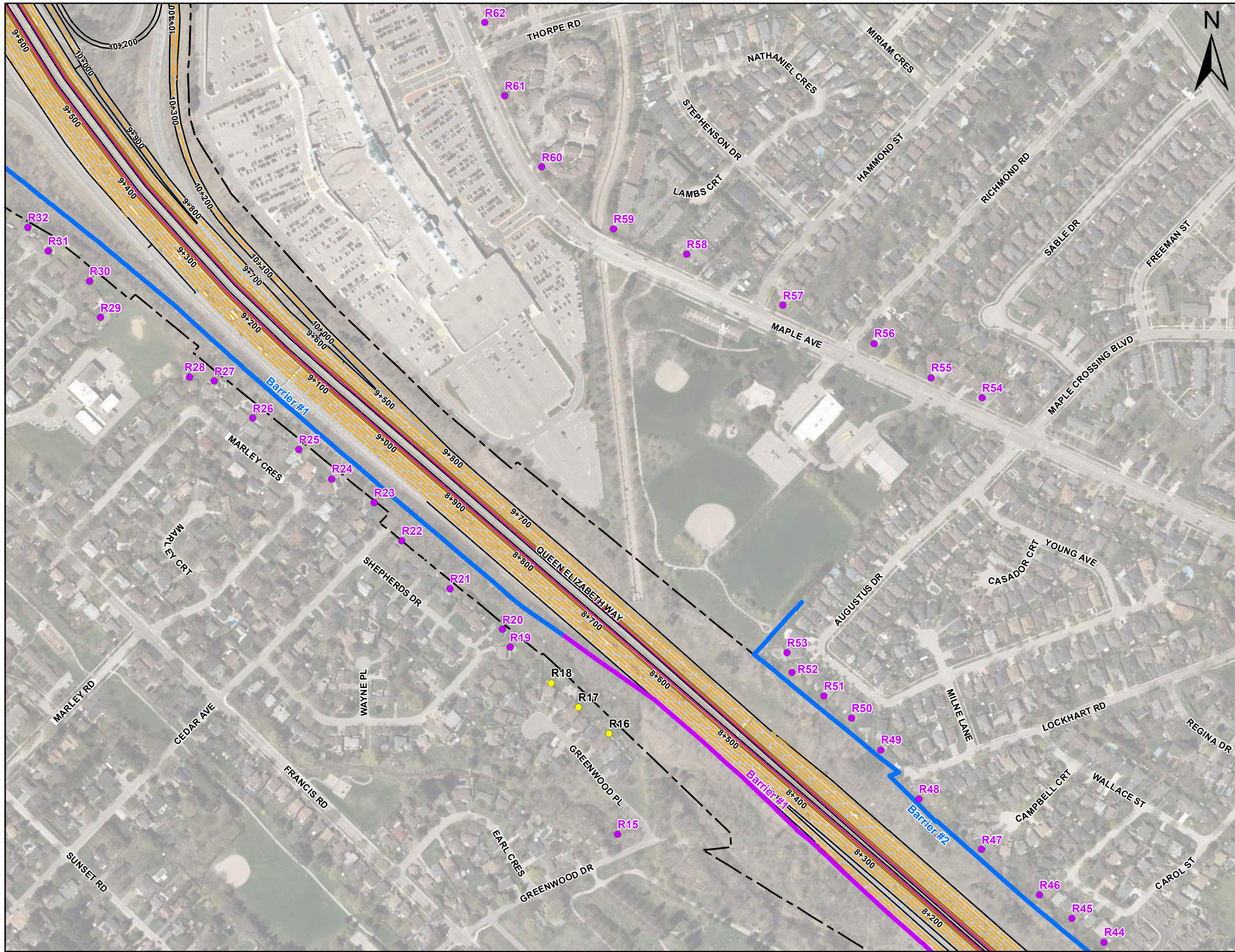


Figure 5-1  
 Project Name: QEW and Highway 403 (Freeman) Interchange  
 Preliminary Design and EA  
 Noise Assessment Report  
 Project No.: 17M-00215-00  
 Data Source: ESRI MAPS, WSP, LIO





# REVIEW OF MITIGATION (FUTURE WITH UNDERTAKING)

- Legend**
- - Existing MTO ROW
  - Noise Receptors
  - Noise Receptors - Over Criteria
- Proposed Alignment**
- Edge of Pavement
  - HOV Lane
  - Lane Markings
  - HOV Lane Buffer
- Reviewed Noise Barriers**
- Reviewed Noise Barrier
  - Reviewed Noise Barrier - Crash Tested
  - Existing Noise Barriers

**Noise Receptor Locations:**  
 R15, R16, R17, R18, R19, R20, R21, R22, R23, R24, R25, R26, R27, R28, R29, R30, R31, R32, R44, R45, R46, R47, R48, R49, R50, R51, R52, R53, R54, R55, R56, R57, R58, R59, R60, R61, R62

**Noise Barriers:**  
 1(partial), 2(partial)

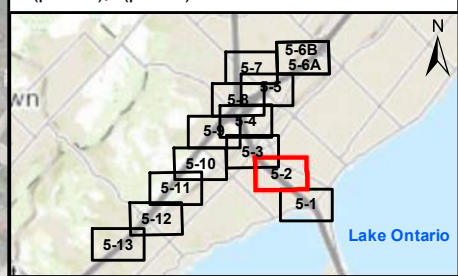
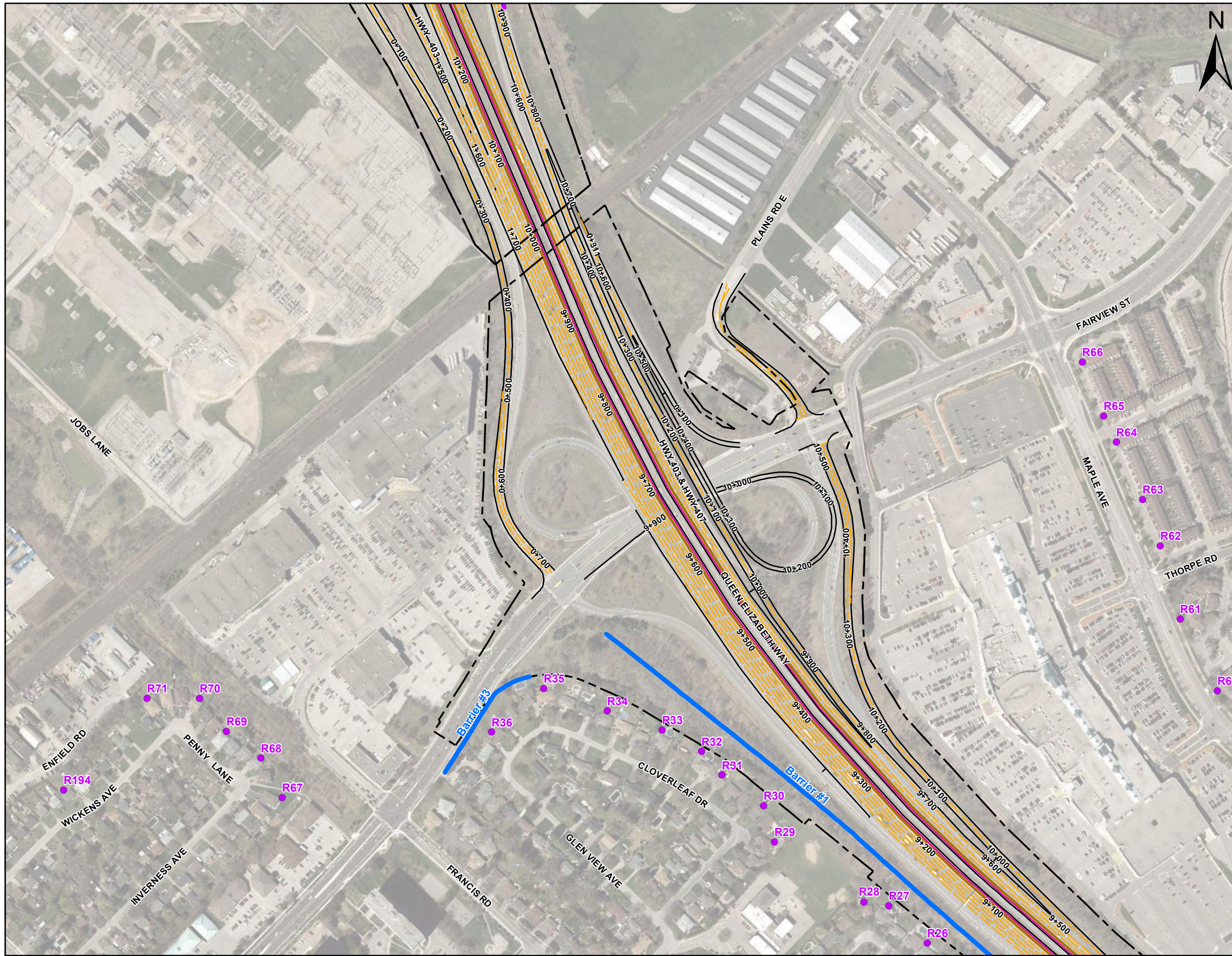


Figure: 5-2  
 Project Name: QEW and Highway 403 (Freeman) Interchange  
 Preliminary Design and EA  
 Noise Assessment Report  
 Project No.: 17M-00215-00  
 Data Source: ESRI MAPS, WSP, LIO



## REVIEW OF MITIGATION (FUTURE WITH UNDERTAKING)

- Legend**
- - Existing MTO ROW
  - Noise Receptors
  - Noise Receptors - Over Criteria
- Proposed Alignment**
- Edge of Pavement
  - HOV Lane
  - Lane Markings
  - HOV Lane Buffer
- Reviewed Noise Barriers**
- Reviewed Noise Barrier
  - Reviewed Noise Barrier - Crash Tested
  - Existing Noise Barriers

**Noise Receptor Locations:**  
 R26, R27, R28, R29, R30, R31, R32, R33, R34, R35, R36, R60, R61, R62, R63, R64, R65, R66, R67, R68, R69, R70, R71, R194

**Noise Barriers:**  
 1(partial), 3

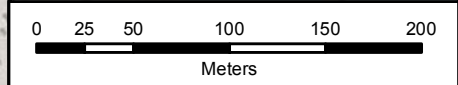
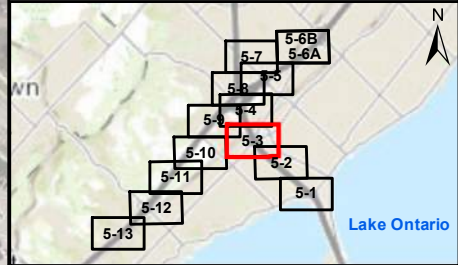
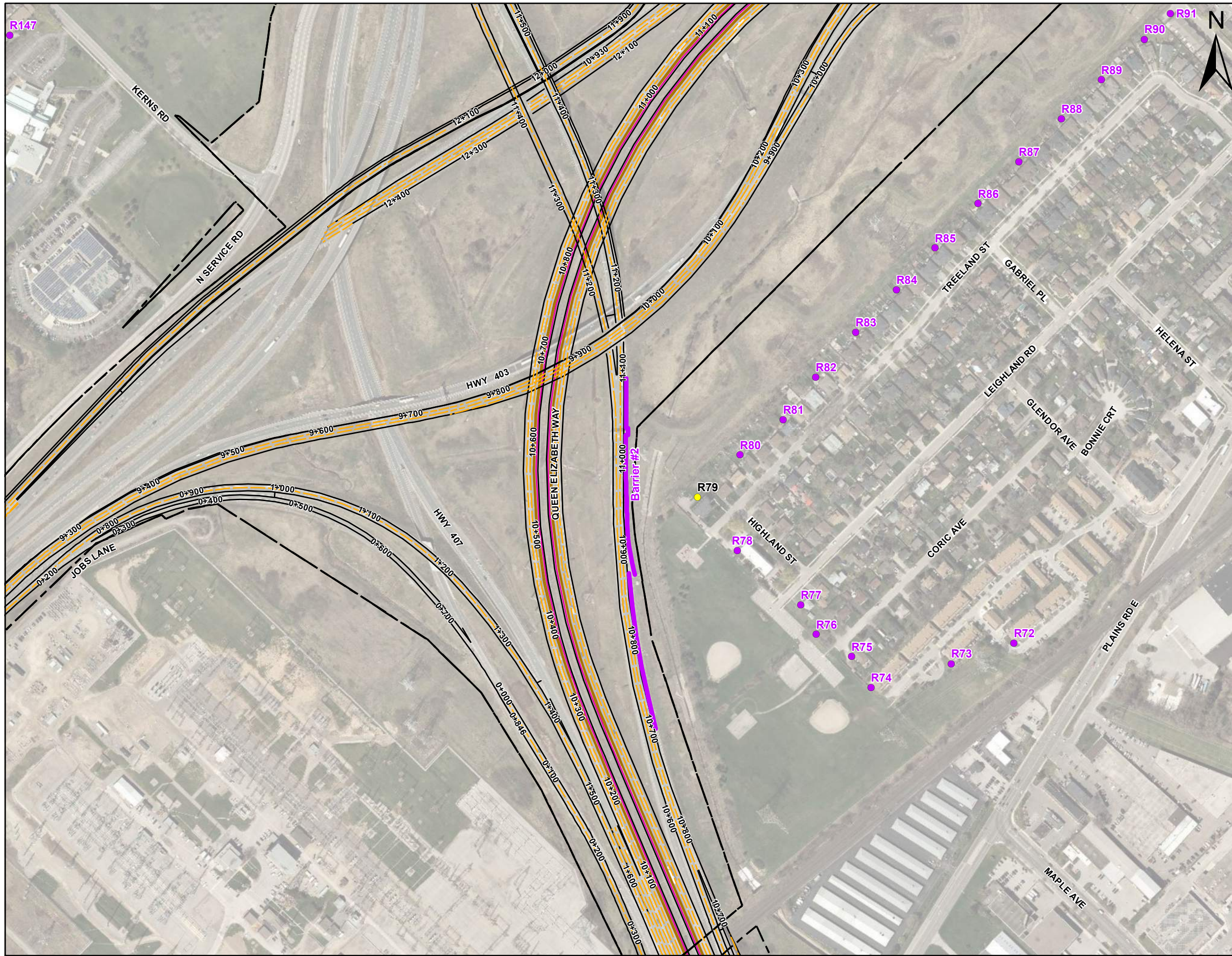


Figure 5-3  
 Project Name: QEW and Highway 403 (Freeman) Interchange  
 Preliminary Design and EA  
 Noise Assessment Report  
 Project No.: 17M-00215-00  
 Data Source: ESRI MAPS, WSP, LIO



# REVIEW OF MITIGATION (FUTURE WITH UNDERTAKING)

- Legend**
- - Existing MTO ROW
  - Noise Receptors
  - Noise Receptors - Over Criteria
- Proposed Alignment**
- Edge of Pavement
  - HOV Lane
  - Lane Markings
  - HOV Lane Buffer
- Reviewed Noise Barriers**
- Reviewed Noise Barrier
  - Reviewed Noise Barrier - Crash Tested
  - Existing Noise Barriers

**Noise Receptor Locations:**  
 R72, R73, R74, R75, R76, R77, R78, R79, R80, R81, R82, R83, R84, R85, R86, R87, R88, R89, R90, R91, R147

**Noise Barriers:**  
 2

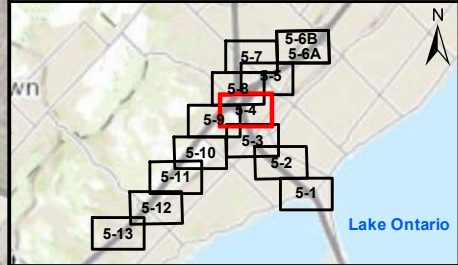
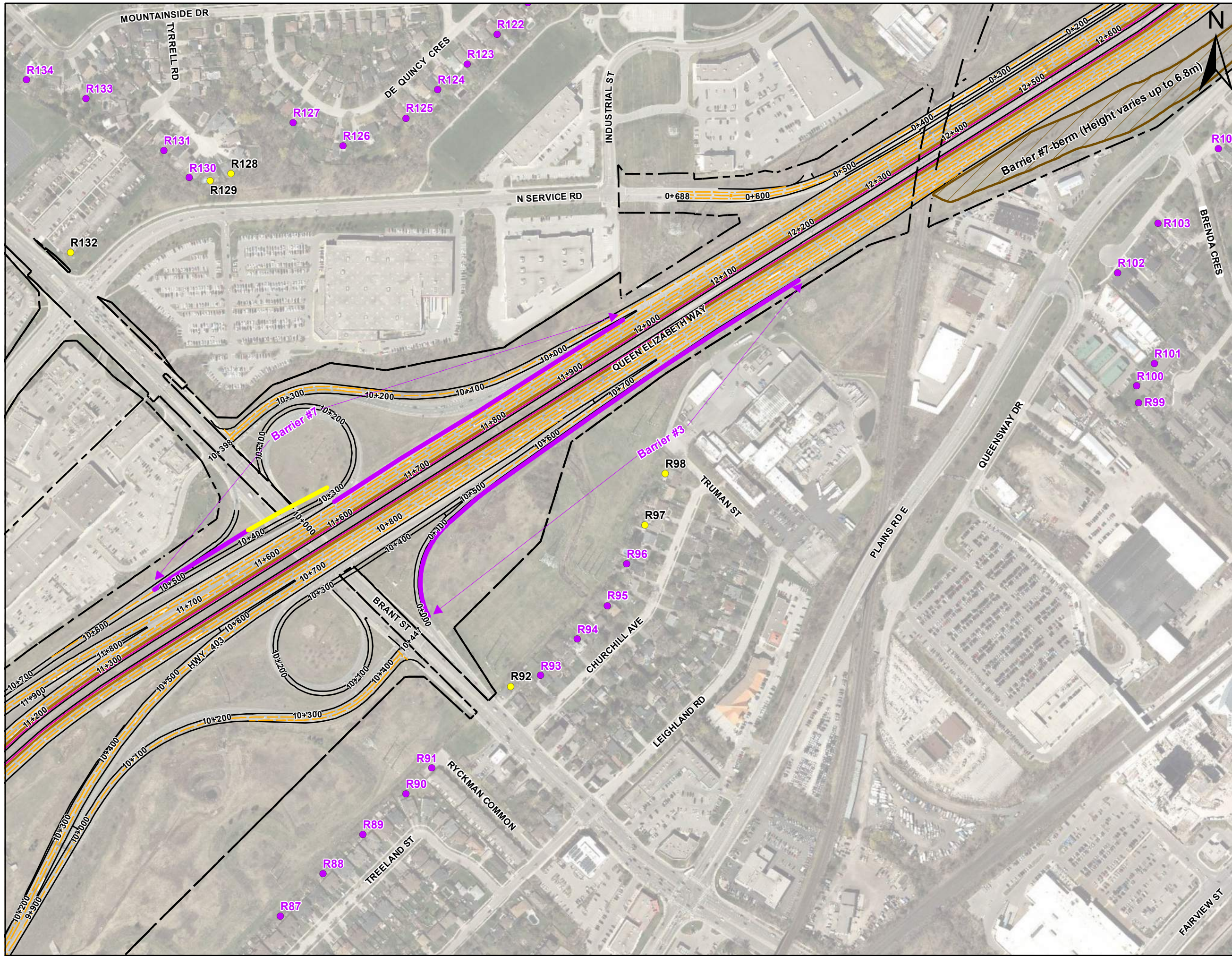


Figure 5-4  
 Project Name: QEW and Highway 403 (Freeman) Interchange  
 Preliminary Design and EA  
 Noise Assessment Report  
 Project No.: 17M-00215-00  
 Data Source: ESRI MAPS, WSP, LIO



# REVIEW OF MITIGATION (FUTURE WITH UNDERTAKING)

- Legend**
- Existing MTO ROW
  - Noise Receptors
  - Noise Receptors - Over Criteria
  - ▭ Existing Earth Berm
- Proposed Alignment**
- Edge of Pavement
  - HOV Lane
  - Lane Markings
  - HOV Lane Buffer
- Reviewed Noise Barriers**
- Reviewed Noise Barrier
  - Reviewed Noise Barrier - Crash Tested
  - Existing Noise Barriers

**Noise Receptor Locations:**  
 R87, R88, R89, R90, R91, R92, R93, R94, R95, R96, R97, R98, R99, R100, R101, R102, R103, R104, R122, R123, R124, R125, R126, R127, R128, R129, R130, R131, R132, R133, R134

**Noise Barriers:**  
 3, 7, Barrier #7-berm (partial)

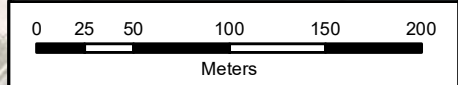
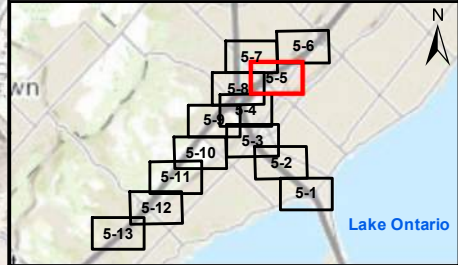
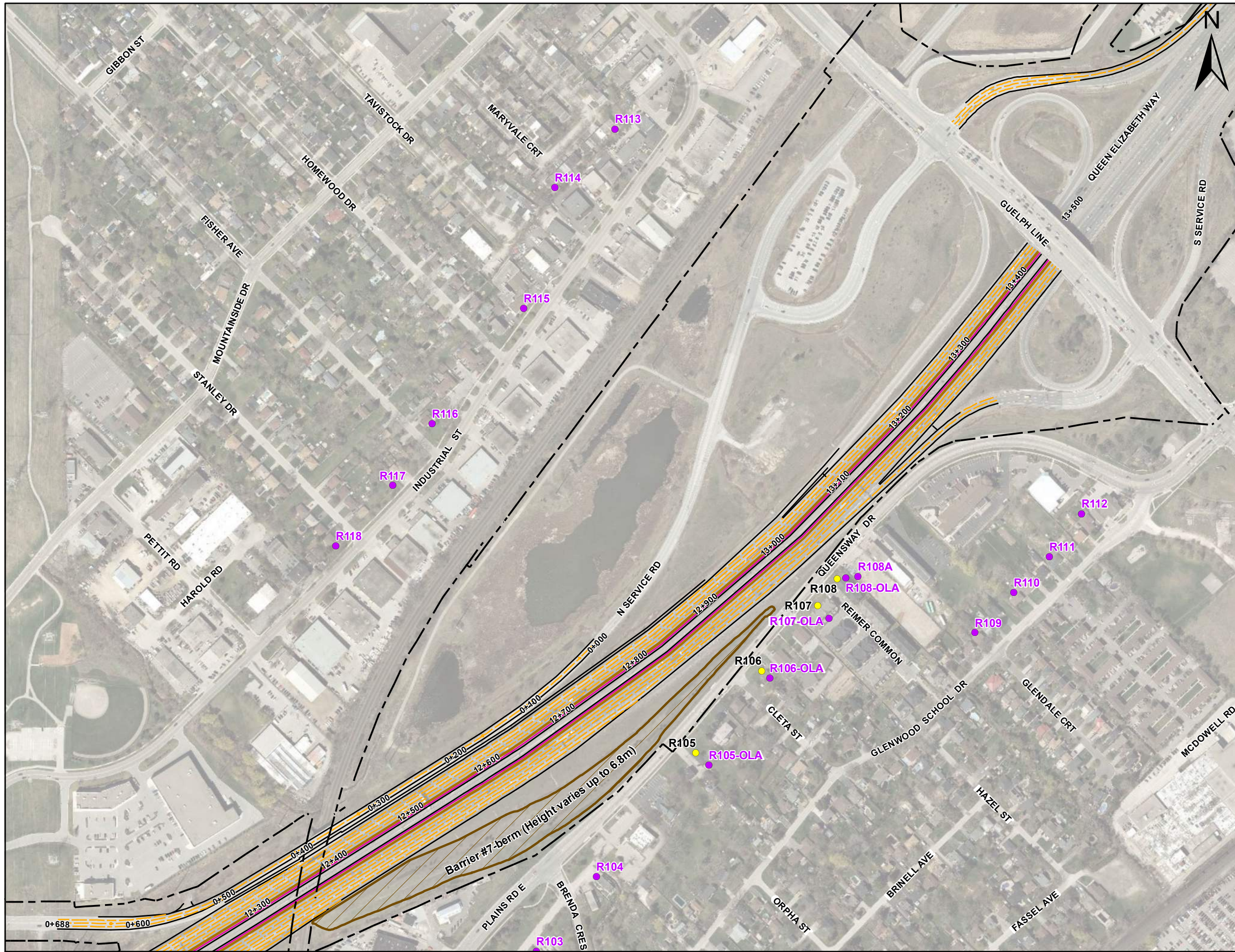


Figure: 5-5  
 Project Name: QEW and Highway 403 (Freeman) Interchange  
 Preliminary Design and EA  
 Noise Assessment Report  
 Project No.: 17M-00215-00  
 Data Source: ESRI MAPS, WSP, LIO



# REVIEW OF MITIGATION (FUTURE WITH UNDERTAKING)

- Legend**
- Existing MTO ROW
  - Noise Receptors
  - Noise Receptors - Over Criteria
  - ▭ Existing Earth Berm
- Proposed Alignment**
- Edge of Pavement
  - HOV Lane
  - Lane Markings
  - HOV Lane Buffer
- Reviewed Noise Barriers**
- Reviewed Noise Barrier
  - Reviewed Noise Barrier - Crash Tested
  - Existing Noise Barriers

**Noise Receptor Locations:**  
 R103, R104, R105, R105-OLA, R106, R106-OLA, R107, R107-OLA, R108, R108-OLA, R109, R110, R111, R112, R113, R114, R115, R116, R117, R118

**Noise Barriers:**  
 Barrier #7-berm

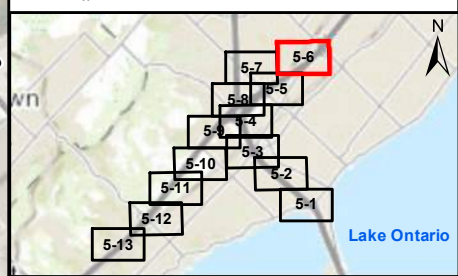


Figure: 5-6  
 Project Name: QEW and Highway 403 (Freeman) Interchange  
 Preliminary Design and EA  
 Noise Assessment Report  
 Project No.: 17M-00215-00  
 Data Source: ESRI MAPS, WSP, LIO

# REVIEW OF MITIGATION (FUTURE WITH UNDERTAKING)

- Legend**
- - Existing MTO ROW
  - Noise Receptors
  - Noise Receptors - Over Criteria
- Proposed Alignment**
- Edge of Pavement
  - HOV Lane
  - Lane Markings
  - HOV Lane Buffer
- Reviewed Noise Barriers**
- Reviewed Noise Barrier
  - Reviewed Noise Barrier - Crash Tested
  - Existing Noise Barriers

**Noise Receptor Locations:**  
 R119, R120, R121, R122, R123, R124, R125, R126, R127, R128, R129, R130, R131, R132, R133, R134, R135, R136, R137, R138, R139, R140, R141, R142

**Noise Barriers:**  
 3(partial), 4, 6, 7(partial)

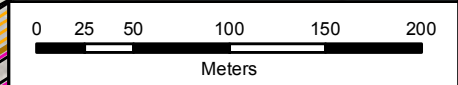
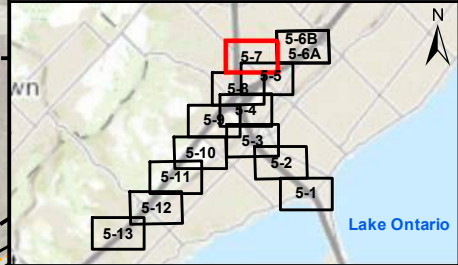
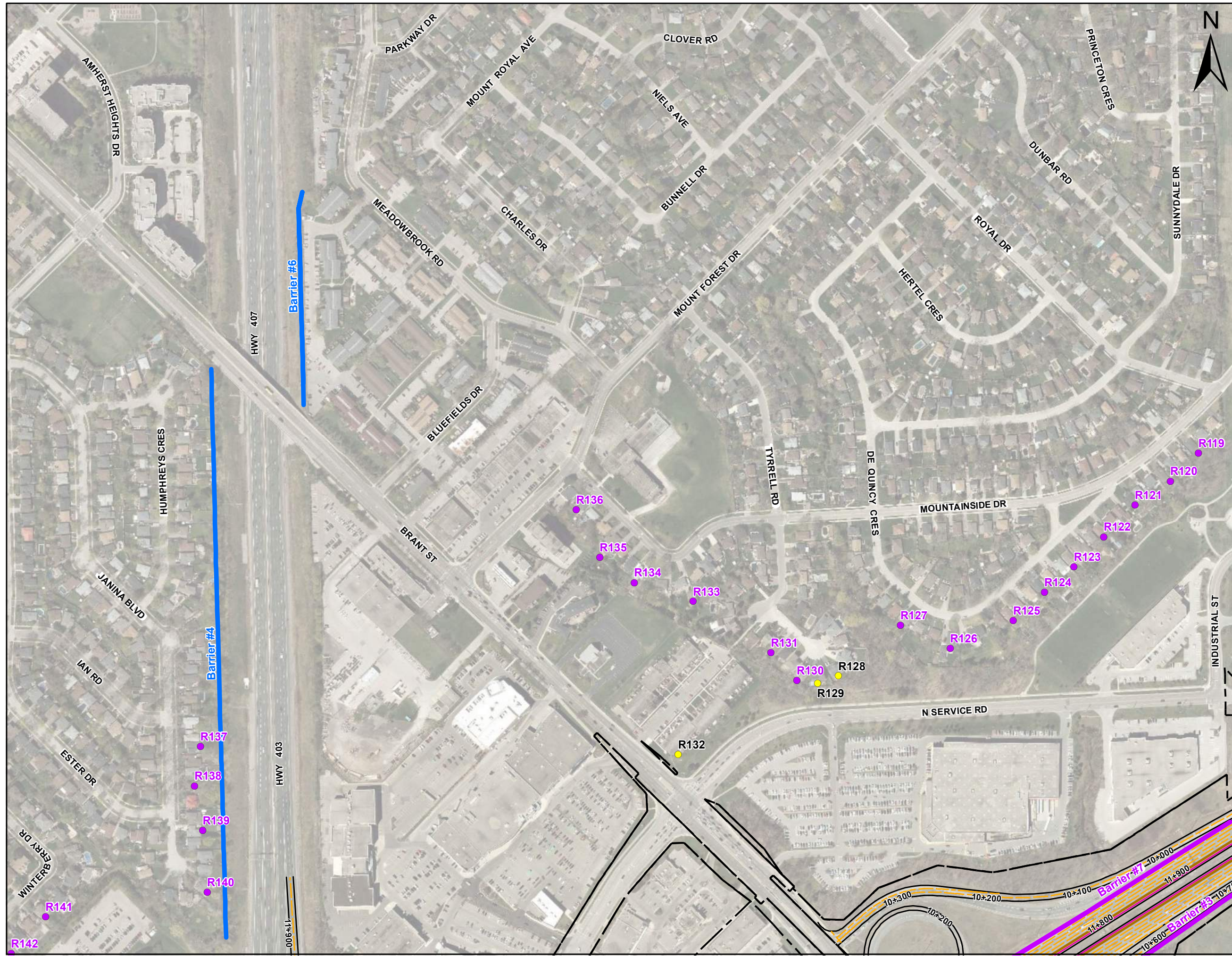
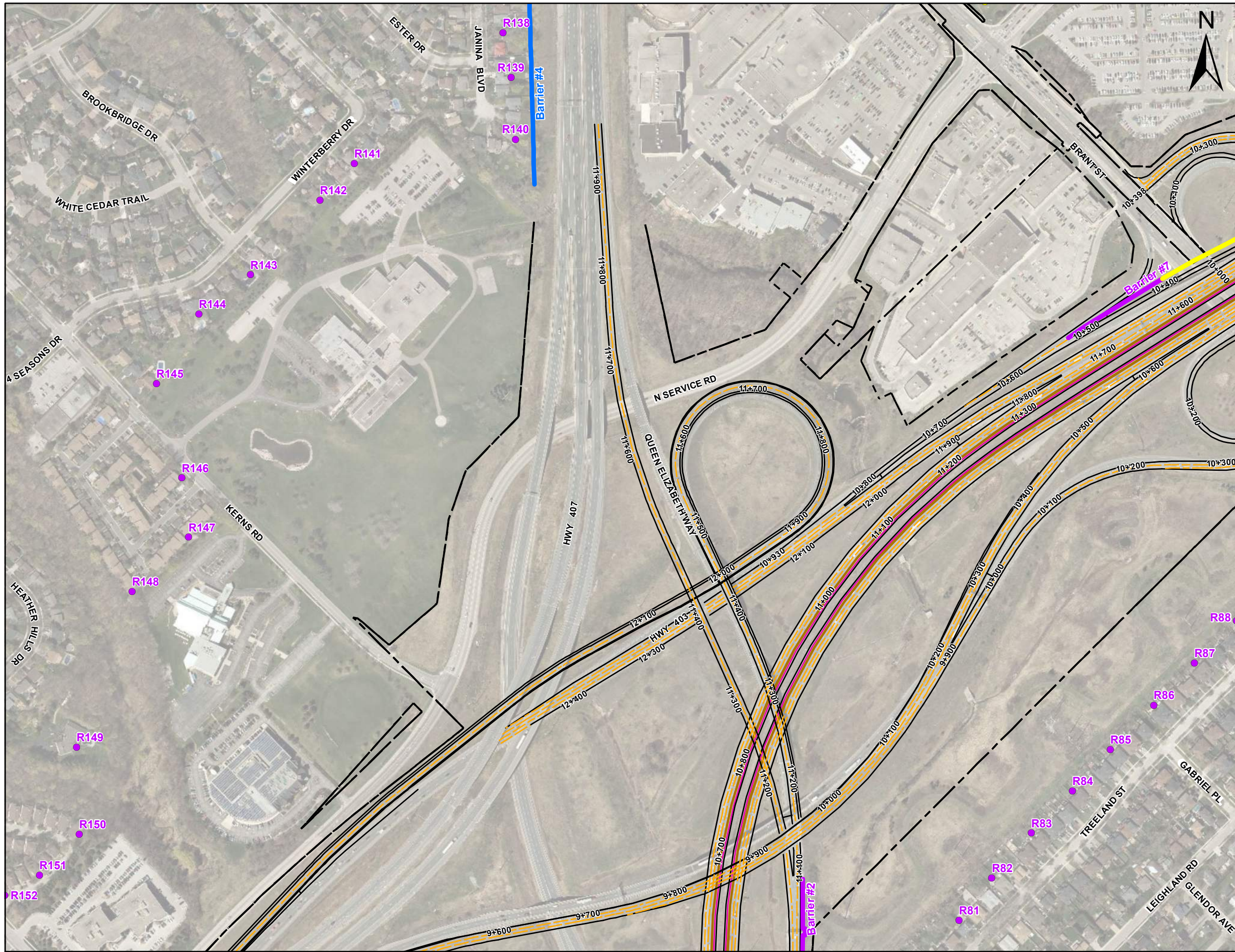


Figure: 5-7  
 Project Name: QEW and Highway 403 (Freeman) Interchange  
 Preliminary Design and EA  
 Noise Assessment Report  
 Project No.: 17M-00215-00  
 Data Source: ESRI MAPS, WSP, LIO





# REVIEW OF MITIGATION (FUTURE WITH UNDERTAKING)

- Legend**
- Existing MTO ROW
  - Noise Receptors
  - Noise Receptors - Over Criteria
- Proposed Alignment**
- Edge of Pavement
  - HOV Lane
  - Lane Markings
  - HOV Lane Buffer
- Reviewed Noise Barriers**
- Reviewed Noise Barrier
  - Reviewed Noise Barrier - Crash Tested
  - Existing Noise Barriers

**Noise Receptor Locations:**  
 R81, R82, R83, R84, R85, R86, R87, R88, R138, R139, R140, R141, R142, R143, R144, R145, R146, R147, R148, R149, R150, R151, R152

**Noise Barriers:**  
 2(partial), 4(partial), 7(partial)

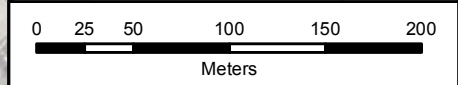
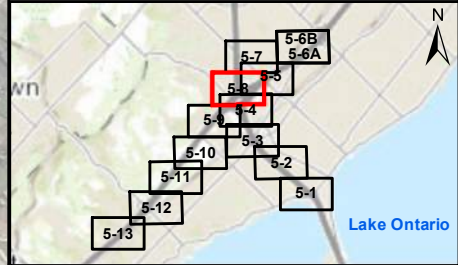
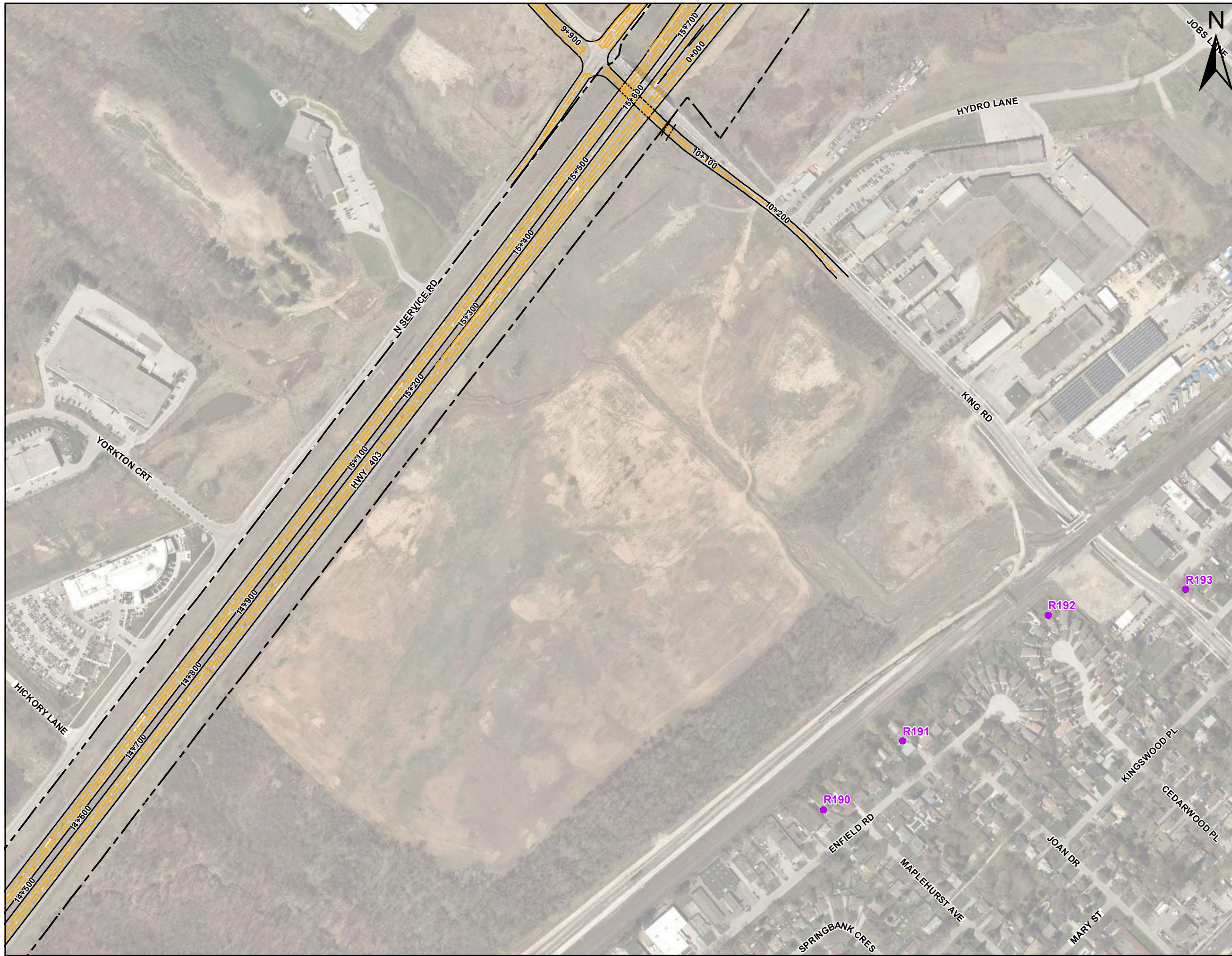


Figure: 5-8  
 Project Name: QEW and Highway 403 (Freeman) Interchange  
 Preliminary Design and EA  
 Noise Assessment Report  
 Project No.: 17M-00215-00  
 Data Source: ESRI MAPS, WSP, LIO







# REVIEW OF MITIGATION (FUTURE WITH UNDERTAKING)

- Legend**
- - Existing MTO ROW
  - Noise Receptors
  - Noise Receptors - Over Criteria
- Proposed Alignment**
- Edge of Pavement
  - HOV Lane
  - - Lane Markings
  - HOV Lane Buffer
- Reviewed Noise Barriers**
- Reviewed Noise Barrier
  - Reviewed Noise Barrier - Crash Tested
  - Existing Noise Barriers

**Noise Receptor Locations:**  
R190, R191, R192, R193  
**Noise Barriers:**  
None

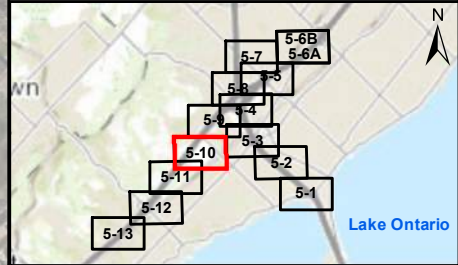
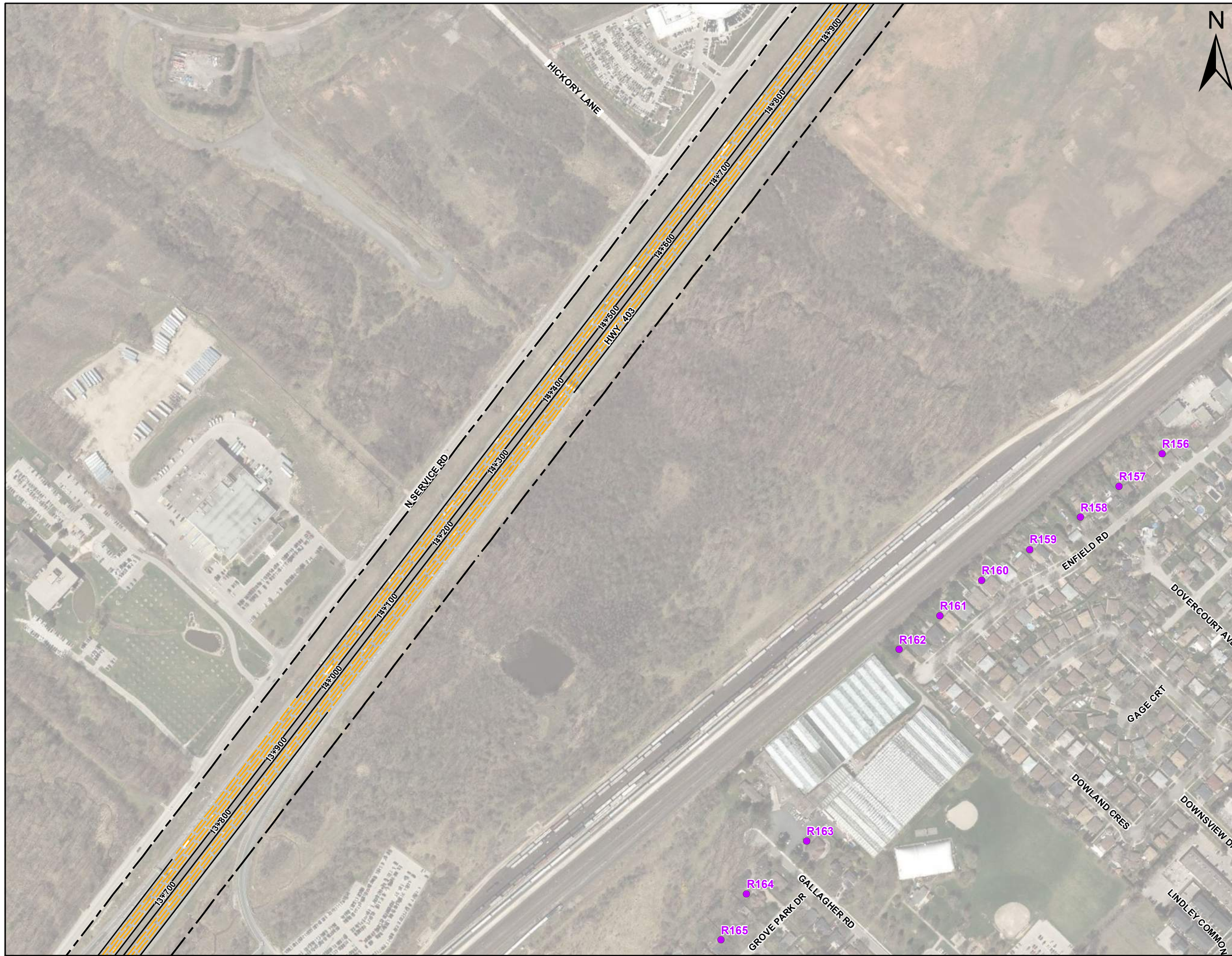


Figure 5-10  
Project Name: QEW and Highway 403 (Freeman) Interchange  
Preliminary Design and EA  
Noise Assessment Report  
Project No.: 17M-00215-00  
Data Source: ESRI MAPS, WSP, LIO



# REVIEW OF MITIGATION (FUTURE WITH UNDERTAKING)

- Legend**
- - Existing MTO ROW
  - Noise Receptors
  - Noise Receptors - Over Criteria
- Proposed Alignment**
- Edge of Pavement
  - HOV Lane
  - Lane Markings
  - HOV Lane Buffer
- Reviewed Noise Barriers**
- Reviewed Noise Barrier
  - Reviewed Noise Barrier - Crash Tested
  - Existing Noise Barriers

**Noise Receptor Locations:**  
 R156, R157, R158, R159, R160, R161, R162, R163, R164, R165  
**Noise Barriers:**  
 None

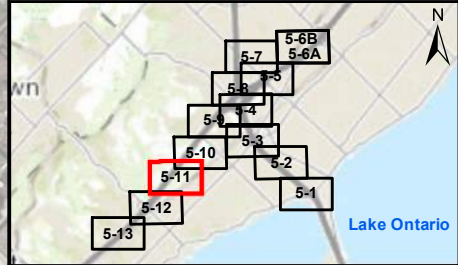
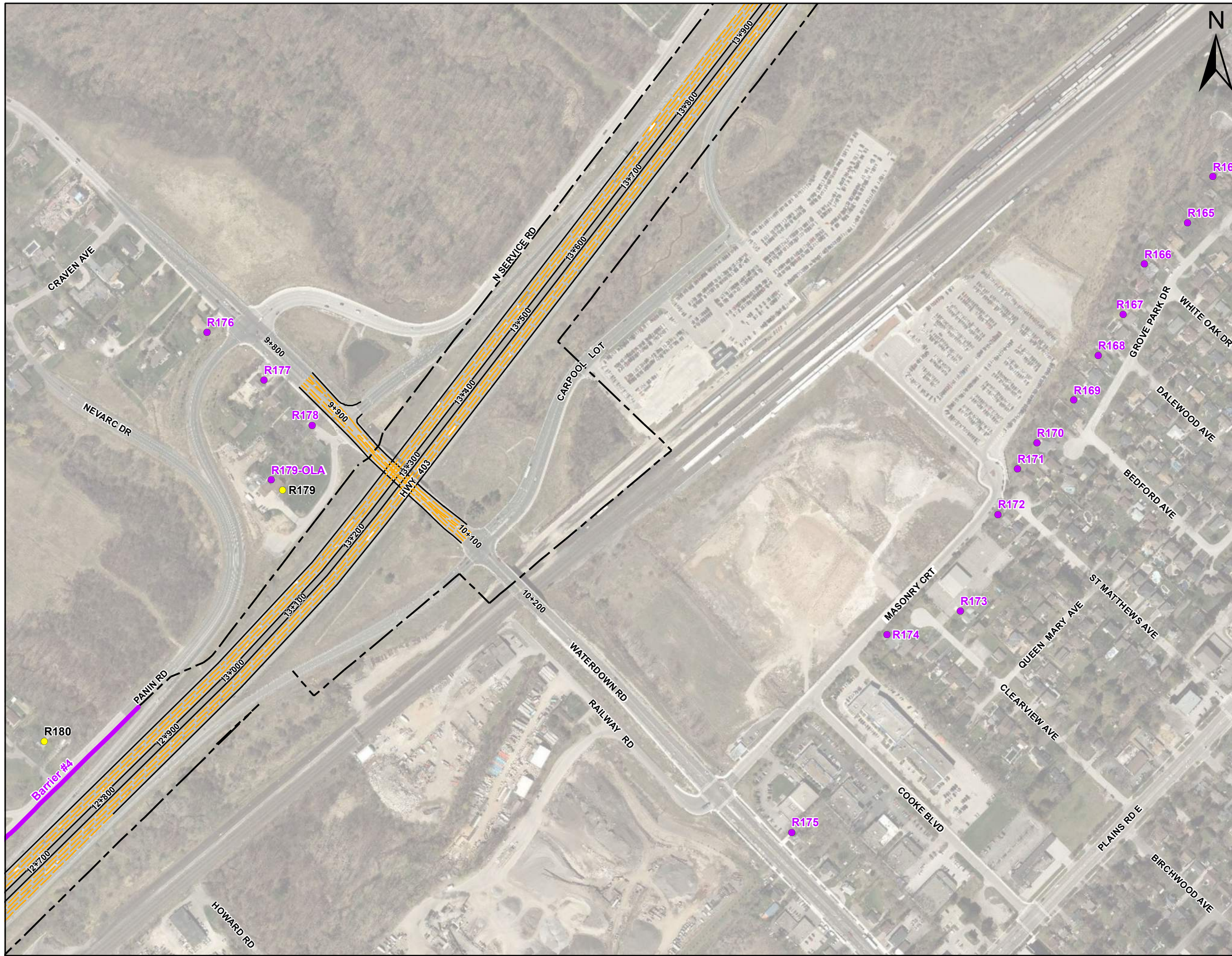


Figure 5-11  
 Project Name: QEW and Highway 403 (Freeman) Interchange  
 Preliminary Design and EA  
 Noise Assessment Report  
 Project No.: 17M-00215-00  
 Data Source: ESRI MAPS, WSP, LIO



# REVIEW OF MITIGATION (FUTURE WITH UNDERTAKING)

- Legend**
- - Existing MTO ROW
  - Noise Receptors
  - Noise Receptors - Over Criteria
- Proposed Alignment**
- Edge of Pavement
  - HOV Lane
  - Lane Markings
  - HOV Lane Buffer
- Reviewed Noise Barriers**
- Reviewed Noise Barrier
  - Reviewed Noise Barrier - Crash Tested
  - Existing Noise Barriers

**Noise Receptor Locations:**  
 R164, R165, R166, R167, R168, R169, R170, R171, R172, R173, R174, R175, R176, R177, R178, R179, R179-OLA, R180

**Noise Barriers:**  
 4(partial)

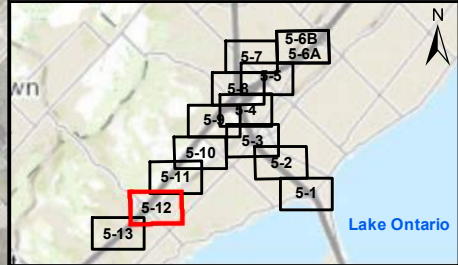


Figure 5-12  
 Project Name: QEW and Highway 403 (Freeman) Interchange  
 Preliminary Design and EA  
 Noise Assessment Report  
 Project No.: 17M-00215-00  
 Data Source: ESRI MAPS, WSP, LIO

# REVIEW OF MITIGATION (FUTURE WITH UNDERTAKING)

- Legend**
- - Existing MTO ROW
  - Noise Receptors
  - Noise Receptors - Over Criteria
- Proposed Alignment**
- Edge of Pavement
  - HOV Lane
  - Lane Markings
  - HOV Lane Buffer
- Reviewed Noise Barriers**
- Reviewed Noise Barrier
  - Reviewed Noise Barrier - Crash Tested
  - Existing Noise Barriers

**Noise Receptor Locations:**  
 R180, R181, R182, R182A, R182B, R183, R183A, R183B, R183C, R183D, R183E, R184, R185, R186, R187, R188, R188-OLA, R189, R189-OLA, R189A, R189A-OLA

**Noise Barriers:**  
 4, 5

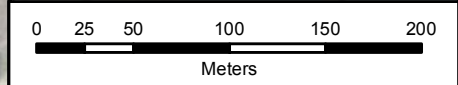
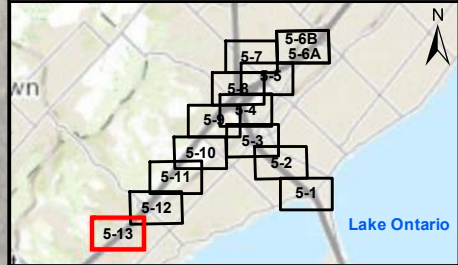


Figure: 5-13  
 Project Name: QEW and Highway 403 (Freeman) Interchange  
 Preliminary Design and EA  
 Noise Assessment Report  
 Project No.: 17M-00215-00  
 Data Source: ESRI MAPS, WSP, LIO

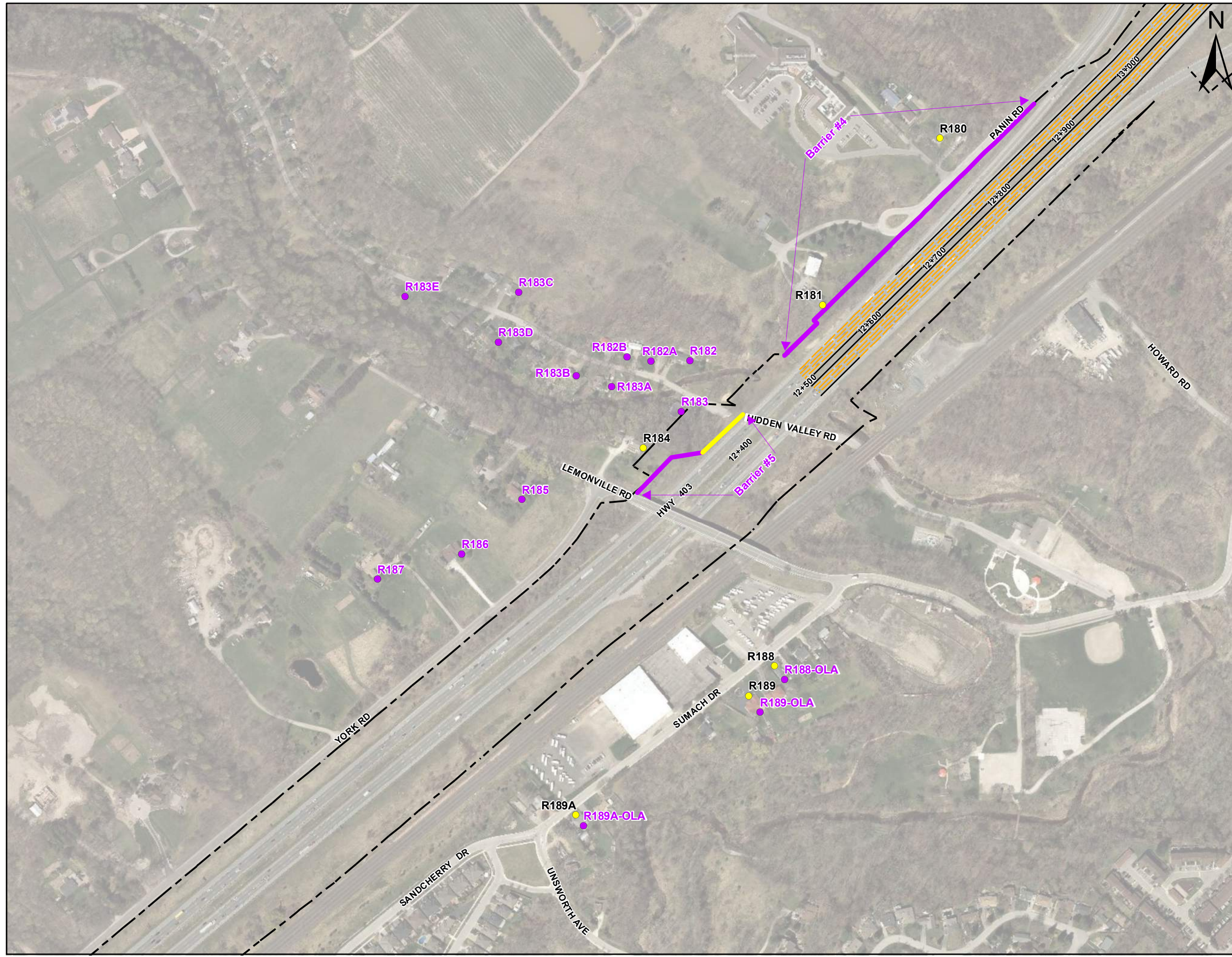


Table 4-3: Review of Noise Mitigation for the Proposed Undertaking

Receptor	Reviewed Noise Barrier # <sup>(1)</sup>	Approximate # of Residential Houses Represented	Technical Feasibility					Economic Feasibility				Noise Barrier Recommended
			Projected Noise Level - Year 2041 L <sub>eq</sub> (24-hr)		Noise Level Reduction (dBA)	Average Noise Level Reduction Over First Row Receptors (dBA)	Technically Feasible	Approximate # of Benefitted House	Length of Reviewed Noise Barrier (m) <sup>(2)</sup>	Total Reviewed Noise Barrier Cost (\$) <sup>(3)</sup>	Estimated Reviewed Noise Barrier Cost per Benefitted House (\$)	
			Future with Undertaking (dBA)	Future with Undertaking (dBA) With 5 m High Reviewed Noise Barriers								
R1	6	1	67 <sup>(7)</sup>	65	-2	-3	No	0	460 <sup>(4)</sup>	N/A	N/A	No
R2	6	3	70 <sup>(7)</sup>	66	-4							
R3	6	5	68 <sup>(7)</sup>	65	-3							
R4	6	2	68 <sup>(7)</sup>	66	-2							
R5	1	5	70 <sup>(7)</sup>	68	-2	-3	No	5	983	N/A	N/A	No
R5A	1	8	67 <sup>(7)</sup>	64	-3							
R6	1	3	70 <sup>(7)</sup>	67	-3							
R7	1	2	69 <sup>(7)</sup>	64	-5							
R8	1	3	69 <sup>(7)</sup>	64	-5							
R9	1	2	68 <sup>(7)</sup>	64	-4							
R10	1	3	69 <sup>(7)</sup>	65	-4							
R16	1	3	67 <sup>(7)</sup>	63	-4							
R17	1	3	67 <sup>(7)</sup>	63	-4							
R18	1	3	66 <sup>(7)</sup>	63	-3							
R79	2	4	66	62	-4	-4	No	0	396	N/A	N/A	No
R92	3	1	67	67	0	-3	No	0	583	N/A	N/A	No
R97	3	3	65	61	-4							
R98	3	2	66	62	-4							
R128	7	2	65	63	-2	-2	No	0	590 <sup>(5)</sup>	N/A	N/A	No
R129	7	1	65	63	-2							
R132	7	3	68	67	-1							
R180	4	1	74	67	-7	-9	Yes	2	395	\$ 1,086,250	\$ 543,125	No
R181	4	1	77	67	-10							
R184	5	1	71	66	-5	-5	Yes	1	150 <sup>(6)</sup>	\$ 931,000	\$ 931,000	No

Notes:

- (1) All Reviewed Noise Barriers are 5 metres high, except the north end of Reviewed Noise Barrier #1. The north end drops to 3.4 metres in height to match the existing top elevation of the adjacent Existing Noise Barrier #1, which is 94 metres above sea level. Existing Noise Barrier #1 approximately from Station 8+715 to Station 9+590 will remain as is.
- (2) Length of absorptive noise barrier, unless stated otherwise.
- (3) Costs for noise barriers are based on \$2,750 per linear metre for a 5.0 metres high absorptive noise barrier and \$2,250 per square metre for crash-tested structural noise barrier.
- (4) The total length for Reviewed Noise Barrier #6 includes 413 metres of absorptive noise barrier (approximately from Station 7+280 to Station 7+640 and Station 7+700 to Station 7+755) and 47 metres of crash-tested structural noise barrier (approximately from Station 7+640 to Station 7+700).
- (5) The total length for Reviewed Noise Barrier #7 includes 491 metres of absorptive noise barrier (approximately from Station 11+390 to Station 11+500 and Station 11+600 to Station 11+980) and 99 metres of crash-tested structural noise barrier (approximately from Station 11+500 to Station 11+600).
- (6) The total length for Reviewed Noise Barrier #5 includes 89 metres of absorptive noise barrier (approximately from Station 12+285 to Station 12+370) and 61 metres of crash-tested structural noise barrier (approximately from Station 12+370 to Station 12+430).
- (7) Sound Levels include Existing Noise Barriers.

#### 4.4 Reviewed Noise Barriers

Based on the predicted noise levels shown in **Table 4-4**, the review of the technical and economic feasibility of the potential noise barriers for receptors is summarized as follows:

- ▶ Reviewed Noise Barriers #1, #2, #3, #6 and #7 are considered to be not technically feasible since they do not provide a minimum attenuation of 5 dBA averaged over the first row receptors. Therefore, economic feasibility was not conducted. Accordingly, these barriers are not warranted.
- ▶ Reviewed Noise Barrier #4 is 5 metres high and approximately 395 metres long, located on top of the existing embankment along the Highway 403 WB lanes, approximately from Station 12+500 to Station 12+890. It is considered to be technically feasible as it provides an average of 9 dBA attenuation over the first row receptors. However, Reviewed Noise Barrier #4 is not warranted, because the cost of the barrier is greater than what MTO typically spends per benefited household.
- ▶ Reviewed Noise Barrier #5 is 5 metres high and approximately 150 metres long, located along the Highway 403 WB lanes, approximately from Station 12+285 to Station 12+430. A section of the barrier over the Hidden Valley Road approximately from Station 12+370 to Station 12+430 is reviewed as crash-tested structural noise barrier. Since the entire barrier provides an average of 5 dBA noise reduction averaged over the first row, it is considered as technically feasible. However, the cost of the barrier is greater than what MTO typically spends per benefited household. Therefore, Reviewed Noise Barrier #5 is not warranted.

## 5 CONSTRUCTION NOISE

With respect to noise impacts that may result during construction of the proposed improvements to the QEW and Highway 403, a process should be implemented and enforced to manage noise complaints. Additionally, the following should be adhered to:

- ▶ General construction measures, setbacks from NSAs, timing constraints, or specific scheduling of construction activities where required and where practical, will be included in the contract documents and NSAs should be identified in the contract package using SP 199F33 or similar language.
- ▶ MTO is not required to obtain municipal noise by-law exemptions. If construction activities on MTO projects are required that are not compatible with noise restrictions outlined in municipal noise by-laws, notification will be provided to the local community and the local municipality (or municipalities) will be engaged. Further requirements for construction noise management will be developed in the Detail Design phase, when additional information about construction staging and sequencing is known.
- ▶ The Contractor will be required to keep the idling of construction equipment to a minimum and to maintain equipment in good working order to reduce noise from construction activities.
- ▶ Special Provisions 199F33 will be included in the contract documents.
- ▶ Despite compliance with any noise control measures identified in the contract documents, a persistent complaint during construction will require a field investigation to determine noise level emissions. If noise level emissions for the construction equipment in use exceed the sound level criteria for construction equipment contained in the MECF Model Municipal Noise Control Bylaw, MTO requires the contractor to comply with the sound level criteria where quieter alternative equipment is reasonably available.

## 6 CONCLUSIONS

The findings of the noise assessment for the proposed improvements included in the Class EA are as follows:

- ▶ Two hundred and four (204) receptors are identified to represent the NSAs. The analysis showed that the predicted changes in sound levels resulting from the proposed undertaking are consistently less than 5 dB (i.e. none of the receptors show a change in sound level greater than or equal to 5 dB). It further showed that the sound levels at the majority of the receptors are less than the MTO's objective level of 65 dBA.
- ▶ Among 204 representative receptors, the future noise levels with the proposed undertaking are predicted to be greater than or equal to 65 dBA at the following receptor locations. (**List 1**: Receptors that are greater than or equal to 65 dBA at the MES Locations):
  - ▶ R1-R5, R5A, and R6-R11
  - ▶ R16-18
  - ▶ R38
  - ▶ R79
  - ▶ R92
  - ▶ R97-R98
  - ▶ R105-R108
  - ▶ R128-R129
  - ▶ R132
  - ▶ R179-R181
  - ▶ R184
  - ▶ R188-R189 and R189A
- ▶ From the receptors in **List 1**, the following receptors are predicted to experience sound level less than 65 dBA at their appropriate OLA locations (i.e. **List 2**: From List 1, receptors that are less than 65 dBA at the OLA locations):
  - ▶ R11-OLA
  - ▶ R38-OLA
  - ▶ R105-OLA
  - ▶ R106-OLA
  - ▶ R107-OLA
  - ▶ R108-OLA
  - ▶ R179-OLA
  - ▶ R188-OLA
  - ▶ R189-OLA
  - ▶ R189A-OLA
- ▶ For the remaining receptors from **List 1**, noise control feasibility was investigated; these receptors are as follows (i.e. **List 3**: From List 1, receptors that are greater than or equal to 65 dBA at the OLA Locations):
  - ▶ R1-R5, R5A, and R6-R10
  - ▶ R16-R18
  - ▶ R79
  - ▶ R92
  - ▶ R97-R98
  - ▶ R128-R129
  - ▶ R132
  - ▶ R180-R181
  - ▶ R184
- ▶ In accordance with the Guide, noise barriers were investigated for **List 3** NSAs (i.e. greater than or equal to 65 dBA at their OLAs). A total of 7 separate barriers were investigated and are marked in **Figure 5-2** to **Figure 5-13** as "Reviewed Noise Barriers #1, #2, #3, #4, #5, #6 and #7". The investigation included, technical, economical and administrative feasibility of each barrier. As per the Guide, a barrier is considered to meet the feasibility requirements, if all three requirements are met.
- ▶ An assessment of technical feasibility indicated that Barriers #1, #2, #3, #6 and #7 do not meet the technical feasibility requirements (i.e. it did not achieve a 5 dB reduction in noise levels averaged over the first row of receptors). Therefore, in accordance with the Guide, it is concluded that the feasibility of noise Barriers #1, #2, #3, #6 and #7 is not established at this stage and therefore not recommended.
- ▶ Reviewed Noise Barrier #4 provides an average noise reduction of 9 dBA over the first-row receptors. However, further assessment indicated that it does not meet the economic feasibility requirements of the Guide. In summary,

the investigation did not result in fully establishing the feasibility of Barrier #4. Therefore, Barrier #4 was not recommended for this stage of the Project.

- ▶ Reviewed Noise Barrier #5 provides an average of 5 dBA noise attenuation over the first row receptors. However, further assessment indicated that it does not meet the economic feasibility requirements of the Guide. In summary, the investigation did not result in fully establishing the feasibility of Barrier #5. Therefore, Barrier #5 was not recommended for this stage of the Project.
- ▶ Based on the assessment, this report therefore concludes that the noise objectives are met for the majority of the receptors and the noise control feasibility was not established for receptors that exceeded the objective level of 65 dBA. Therefore, new barriers were not recommended for this stage of the development.
- ▶ Construction noise impacts are temporary in nature but may be noticeable at times at residential NSAs. Methods to minimize construction noise impacts should be included in the Contract.

## 7 NOISE BARRIER RETROFIT POLICY

In keeping with Government policy, the Ministry of Transportation developed a Retrofit Noise Barrier List to alleviate noise impacts on existing noise sensitive areas located adjacent to existing freeways. This policy applies to existing residential developments approved prior to February 8, 1977. Sites meeting all criteria for inclusion on the Retrofit Noise Barrier list are prioritized based on a benefit cost analysis and sites are selected for construction as funds become available.

The Noise Barrier Retrofit Policy is not part of the Environmental Assessment Process. This policy is administered separately by the MTO and is based on the principle that existing Noise Sensitive Areas (NSAs) exposed to high noise levels due to their proximity to an existing freeway should receive consideration for noise mitigation. Subsequent to February 8, 1977, developers are responsible for considering noise mitigation and must design new residential areas in an acoustically sensitive manner to avoid future noise problems. This noise mitigation should be done in accordance with the guidelines issued by the Ministries of Municipal Affairs and Housing and Environment, Conservation and Parks, in consultation with the affected municipality. Under MTO policy, the Ministry does not construct noise barriers adjacent to existing freeways for neighbourhoods approved after February 8, 1977.

The Retrofit Policy was applied for the NSAs within the study limits identified as Noise Barrier Retrofit Sites. The Retrofit Policy notes that:

- ▶ Retrofit barriers should be scheduled as part of another capital construction project only where there is a significant cost savings or where a serious construction problem is avoided. Only sites which are already on the multi-year capital construction program, should be considered for possible inclusion with another project.
- ▶ Previously constructed Ministry noise walls and additional walls on existing berms, will be reprioritized when the following criteria are met:
  - an existing barrier did not achieve a 5 dBA attenuation averaged over first row NSAs.
  - there is a serious existing problem.
  - there is ongoing public concern.
  - a new barrier could reduce noise levels by an additional 3 dBA (over existing conditions) averaged over first row NSAs.

### 7.1 Noise Barrier Retrofit Sites

Three areas within this study area are identified as noise barrier retrofit sites.

#### Noise Barrier Retrofit Site QEW-21

A 3 metre high noise barrier was constructed in 1984 along the Niagara-bound lanes of the QEW under MTO's Noise Barrier Retrofit Policy. This barrier extends over North Shore Boulevard ending along the E/W-S on-ramp (approximately Station 7+280 to Station 7+730).

The 3 metre high noise barrier resumes at the QEW-North Shore Boulevard N-E/W off-ramp and continues north toward Fairview Street along the edge of shoulder (approximately from Station 7+800 to Station 8+715). At approximately Station 8+715 to Station 9+590, the noise barrier alignment shifts from the edge of shoulder towards the edge of the highway ROW on top of the existing earth berm. The noise barrier was completed in 2005. The height for this section of the noise barrier varies up to 4 metres, ending at the QEW W-S on-ramp at Fairview Street (see Existing Noise Barriers #1 and #5 in **Figure 3-1** to **Figure 3-3**).

#### Noise Barrier Retrofit Site QEW-22 B

An earth berm was built in 2000 along the south side of QEW, just east of the railway underpass located midway between Guelph Line and Brant Street. This earth berm was built as part of the widening and realignment of the Toronto-bound lanes of the QEW between Brant Street and Guelph Line (see Existing Barrier #7 (Berm) in **Figure 3-6**).

#### Noise Barrier Retrofit Site 403-20 Hidden Valley

This area has previously been identified as a Candidate Area under the Retrofit Noise Barrier List. Noise mitigation is not currently planned at this location.

### 7.2 Review of Noise Barrier Retrofit Sites

The three noise barrier retrofit sites were reviewed to determine if review of noise mitigation is warranted. Further assessment was conducted to determine feasibility of noise mitigation measures for the sites that require review of noise mitigation.

#### Noise Barrier Retrofit Site QEW-21

A number of public complaints regarding QEW noise were reported to MTO on the west side of the QEW, both on the north and south sides of North Shore Blvd. This area (namely, R1-R4 and R6-R18) is identified as QEW-21 under the Retrofit Noise Barrier List. There is an existing noise barrier in this area which was assessed under the Class EA process as Reviewed Noise Barriers #1 and #6 (see Section 4.3). Receptors R1-R4 and R6-R18 have an average sound level of over 65 dBA in the OLA with the existing noise barriers.

A review was completed to check if the existing noise barriers were still achieving a 5 dBA attenuation over the first row of receptors (namely, R1-R4 and R6-R18). Noise levels with and without the Existing Noise Barriers #1 and #5, as well as the average attenuation in the first row are provided and summarized in **Table 7-1** showing the average attenuation over the first row is below 5 dBA.



Table 7-1: Feasibility of Existing Noise Barriers #1 and #5

Receptor	Existing Noise Barrier #	Approximate # of Residential Houses Represented	Feasibility of Existing Noise Barriers #1 and #5			
			Projected Noise Level - Year 2041 L <sub>eq</sub> (24-hr)		Noise Level Reduction (dBA)	Average Noise Level Reduction Over First Row Receptors (dBA)
			Future Undertaking With Existing Noise Barriers (dBA)	Future Undertaking Without Existing Noise Barriers (dBA)		
R1	5	1	67	69	2	4
R2	5	3	70	72	2	
R3	5	5	68	71	3	
R4	5	2	68	69	1	
R6	1	3	70	71	1	
R7	1	2	69	71	2	
R8	1	3	69	72	3	
R9	1	2	68	71	3	
R10	1	3	69	73	4	
R11	1	6	65	70	5	
R12	1	8	60	64	4	
R13	1	8	59	64	5	
R14	1	8	59	64	5	
R15	1	1	62	66	4	
R16	1	3	67	70	3	
R17	1	3	67	71	4	
R18	1	3	66	70	4	

In accordance with the Retrofit Policy, the replacement of the existing noise barrier with a new 5 metres high noise barrier was assessed. Reviewed Retrofit Noise Barriers #1 and #6 are reviewed together since the area from R1- R4 and R6-R18, is considered as one retrofit site. Reviewed Retrofit Noise Barrier #1 is 5 metres high and approximately 938 metres long. This noise barrier was reviewed in place of the Existing Noise Barrier #1 (partial), approximately from Station 7+800 to Station 8+715. It should be noted that the Existing Noise Barrier #1 approximately from Station 8+715 to Station 9+590 will remain unchanged.

Reviewed Retrofit Noise Barrier #6 is 5 metres high and approximately 460 metres long. This noise barrier was reviewed in place of the Existing Noise Barrier #5, along North Shore Boulevard E/W-QEW S on-ramp and QEW N-Eastport S, approximately from Station 7+280 to Station 7+755. The north end is extended by approximately 25 metres from its existing location approximately at Station 7+730. A section of the barrier over the bridge approximately from Station 7+640 to 7+700 was reviewed as crash-tested structural noise barrier.

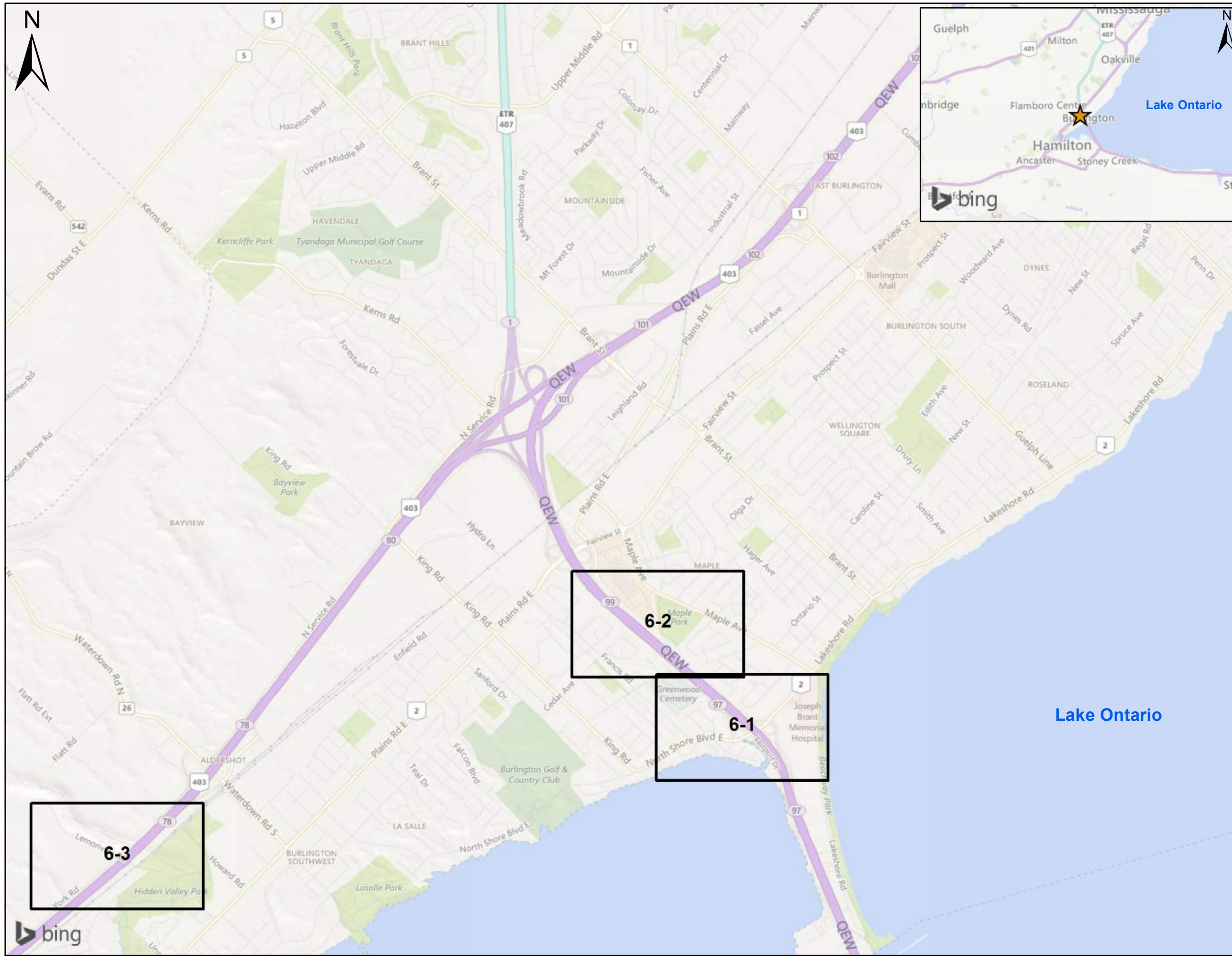
#### **Noise Barrier Retrofit Site QEW-22 B**

The existing berm is providing the minimum required noise attenuation for receptors R104–R106. Since this area has been assessed as part of the Class EA study and the future noise levels at OLA locations are predicted to be below 65 dBA, review of noise mitigation is not required.

#### **Noise Barrier Retrofit Site 403-20 Hidden Valley**

There is currently no noise barrier at this location. Therefore, a new noise barrier, Reviewed Retrofit Barrier #5, which is 5 metres high and approximately 418 m long, was assessed. This noise barrier would extend along the Highway 403 WB lanes, approximately from Station 12+285 to Station 12+680. A section of the barrier along north side of Highway 403 near Hidden Valley Road approximately from Station 12+370 to Station 12+510 was reviewed as crash-tested structural noise barrier.

The alignments and locations of the three reviewed retrofit barriers are shown in **Figure 6-1 to Figure 6-3**. Technical and economic feasibility of the Reviewed Retrofit Noise Barriers are summarized in **Table 7-2**.



**SITE LOCATION  
REVIEW OF  
MITIGATION FOR  
RETROFIT SITES**

- Legend**
- ★ Site Location
  - Figures

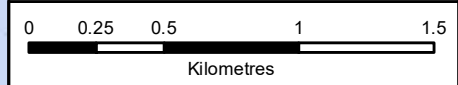
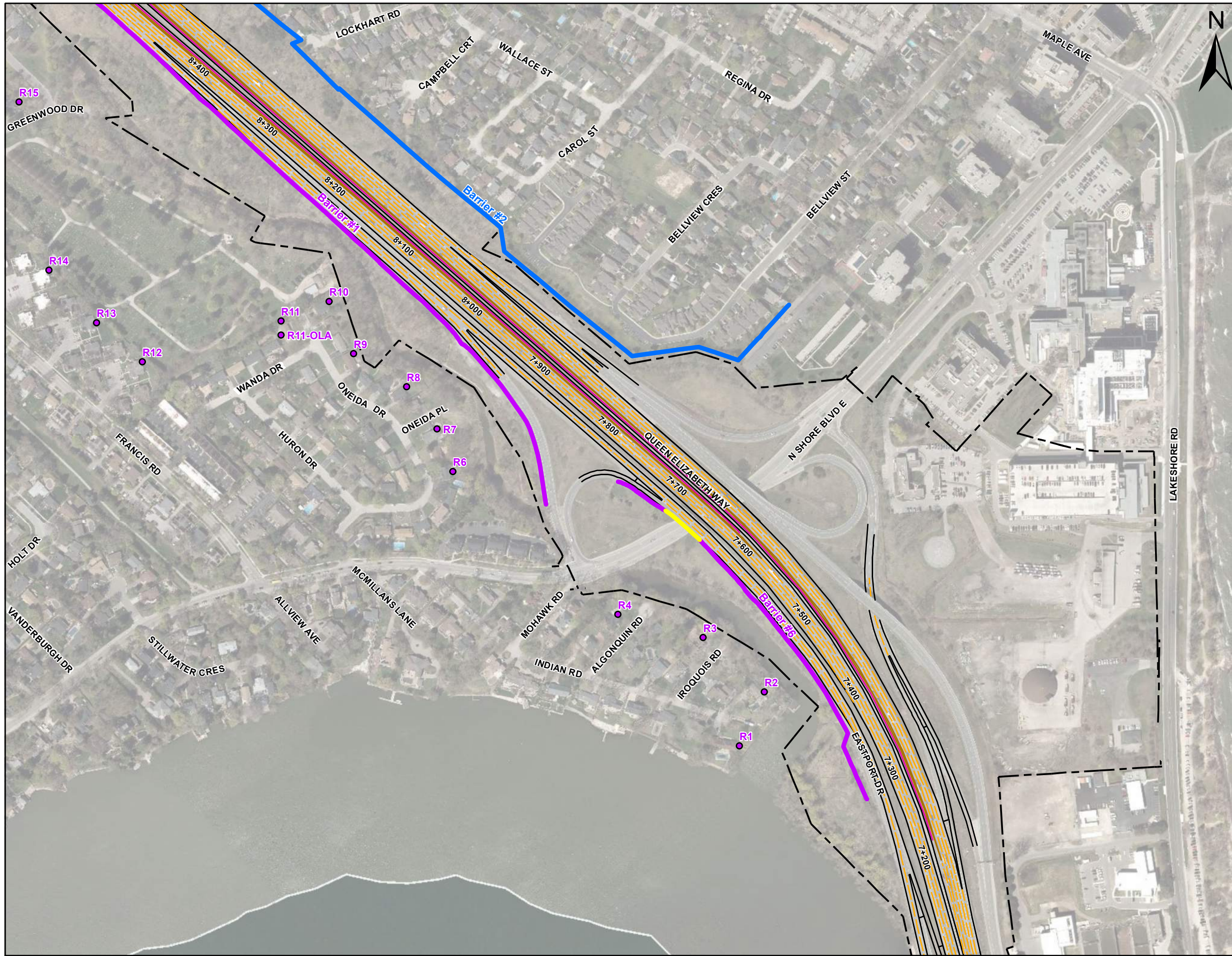


Figure 6  
 Project Name: QEW and Highway 403 (Freeman) Interchange  
 Preliminary Design and EA  
 Noise Assessment Report  
 Project No.: 17M-00215-00  
 Data Source: BING MAPS, WSP, LIO



# REVIEW OF MITIGATION FOR RETROFIT SITES (FUTURE WITH UNDERTAKING)

- Legend**
- - Existing MTO ROW
  - Retrofit Noise Receptors
- Proposed Alignment**
- Edge of Pavement
  - HOV Lane
  - Lane Markings
  - HOV Lane Buffer
- Noise Barriers**
- Reviewed Retrofit Noise Barrier
  - Reviewed Retrofit Noise Barrier - Crash Tested
  - Existing Noise Barriers

**Noise Receptor Locations:**  
 R1,R2,R3,R4,R6,R7,R8,R9,R10,R11,  
 R11-OLA,R12,R13,R14,R15  
**Noise Barriers:**  
 1(partial),2(partial),6

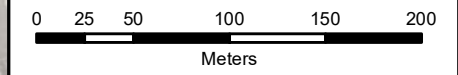
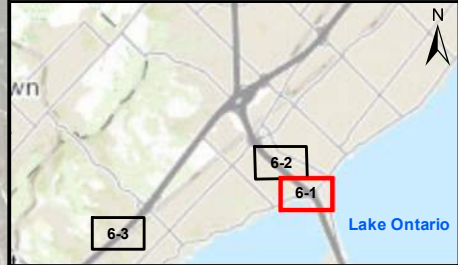
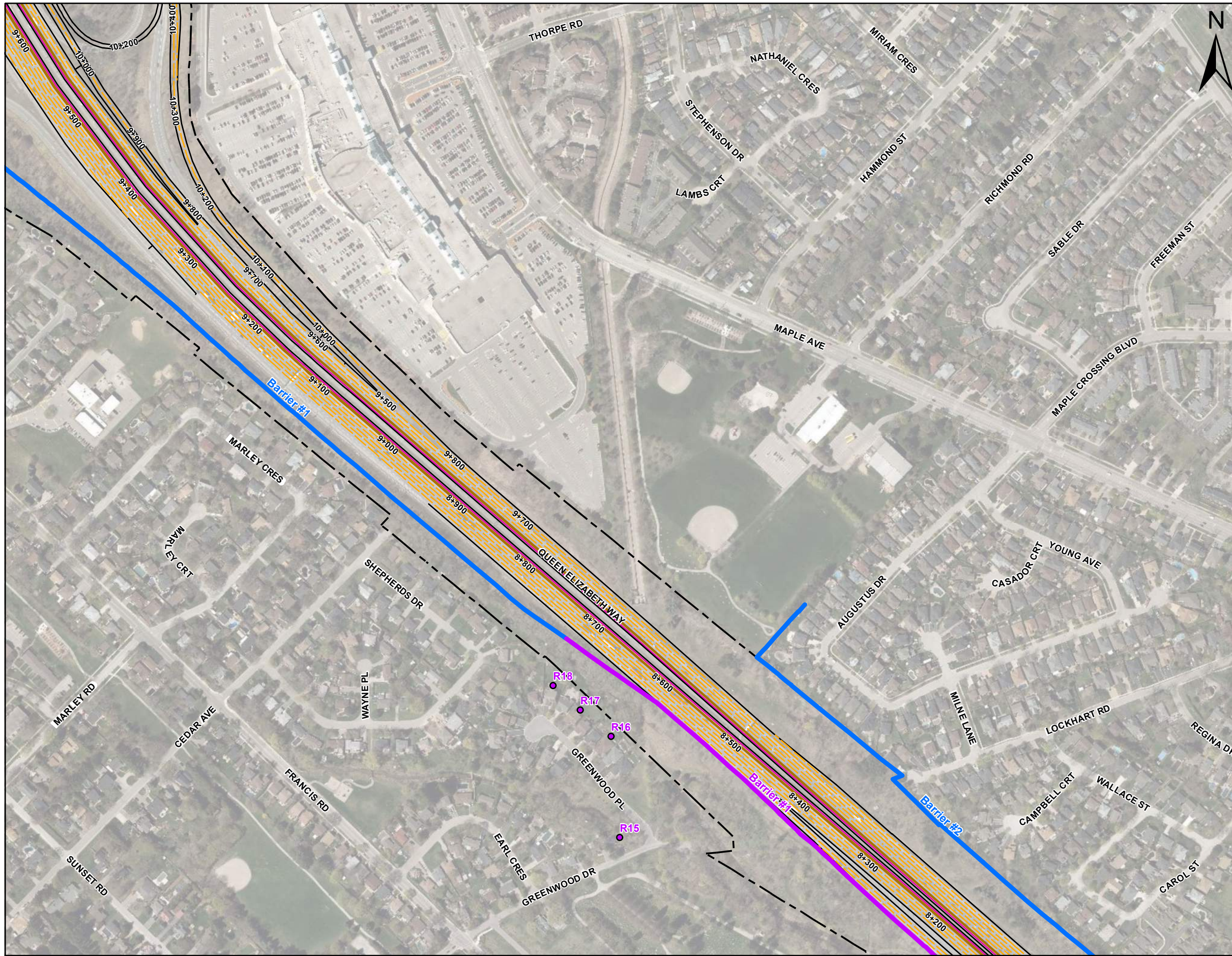


Figure 6-1  
 Project Name: QEW and Highway 403 (Freeman) Interchange  
 Preliminary Design and EA  
 Noise Assessment Report  
 Project No.: 17M-00215-00  
 Data Source: ESRI MAPS, WSP, LIO



# REVIEW OF MITIGATION FOR RETROFIT SITES (FUTURE WITH UNDERTAKING)

- Legend**
- - Existing MTO ROW
  - Retrofit Noise Receptors
- Proposed Alignment**
- Edge of Pavement
  - HOV Lane
  - Lane Markings
  - HOV Lane Buffer
- Noise Barriers**
- Reviewed Retrofit Noise Barrier
  - Reviewed Retrofit Noise Barrier - Crash Tested
  - Existing Noise Barriers

**Noise Receptor Locations:**  
R15, R16, R17, R18  
**Noise Barriers:**  
1(partial), 2(partial)

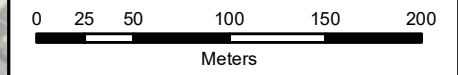
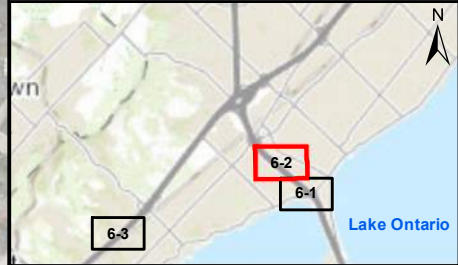


Figure: 6-2  
Project Name: QEW and Highway 403 (Freeman) Interchange  
Preliminary Design and EA  
Noise Assessment Report  
Project No.: 17M-00215-00  
Data Source: ESRI MAPS, WSP, LIO

# REVIEW OF MITIGATION FOR RETROFIT SITES (FUTURE WITH UNDERTAKING)

- Legend**
- - Existing MTO ROW
  - Retrofit Noise Receptors
- Proposed Alignment**
- Edge of Pavement
  - HOV Lane
  - Lane Markings
  - HOV Lane Buffer
- Noise Barriers**
- Reviewed Retrofit Noise Barrier
  - Reviewed Retrofit Noise Barrier - Crash Tested
  - Existing Noise Barriers

**Noise Receptor Locations:**  
 R182, R182-OLA, R182-A, R182-B, R183, R183-OLA, R183-A, R183-B, R183-C, R183-D, R184

**Noise Barriers:**  
 5

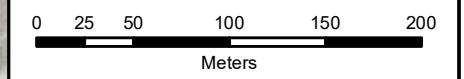
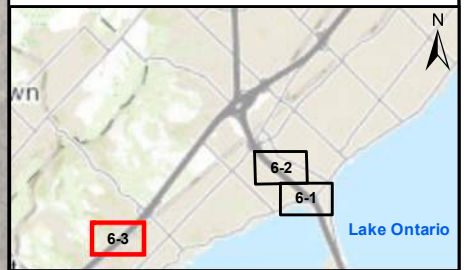


Figure 6-3  
 Project Name: QEW and Highway 403 (Freeman) Interchange  
 Preliminary Design and EA  
 Noise Assessment Report  
 Project No.: 17M-00215-00  
 Data Source: ESRI MAPS, WSP, LIO

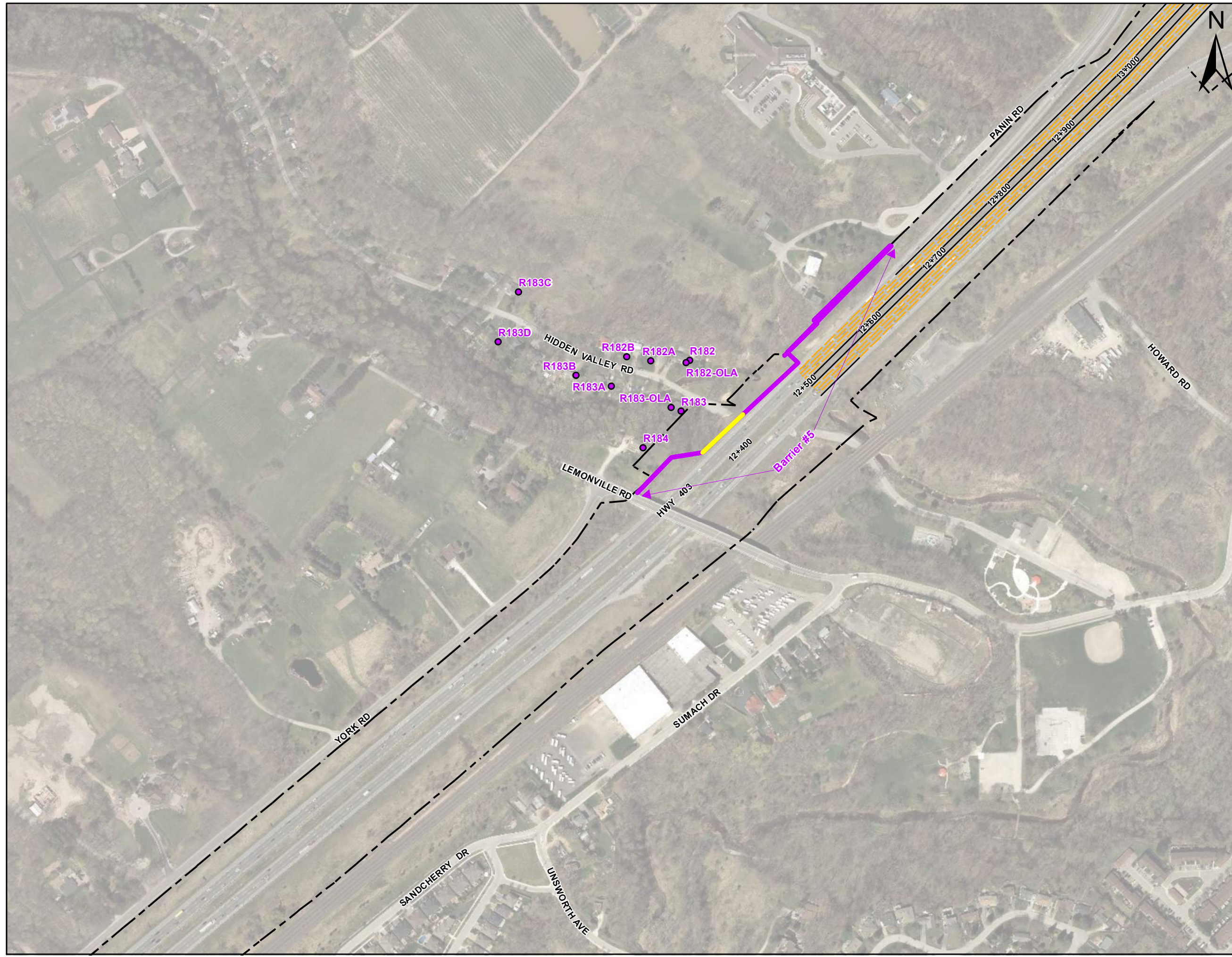


Table 7-2: Review of Noise Mitigation under Noise Barrier Retrofit Policy

Receptor	Reviewed Retrofit Noise Barrier # <sup>(1)</sup>	Approximate # of Residential Houses Represented	Technical Feasibility				Economic Feasibility				Noise Barrier Recommended	
			Projected Noise Level - Year 2041 L <sub>eq</sub> (24-hr) Future with Undertaking (dBA)		Noise Level Reduction (dBA)	Average Noise Level Reduction Over First Row Receptors (dBA)	Technically Feasible	Approximate # of Benefitted House	Length of Reviewed Noise Barrier (m) <sup>(2)</sup>	Total Reviewed Noise Barrier Cost (\$) <sup>(3)</sup>		Estimated Reviewed Noise Barrier Cost per Benefitted House (\$)
			With Existing Noise Barriers	With 5 m High Reviewed Retrofit Noise Barriers								
R1	6	1	67	65	-2	-3	Yes	61	1,398 <sup>(4)</sup>	\$ 4,244,000	\$ 69,574	Yes
R2	6	3	70	66	-4							
R3	6	5	68	65	-3							
R4	6	2	68	66	-2							
R6	1	3	70	67	-3							
R7	1	2	69	64	-5							
R8	1	3	69	64	-5							
R9	1	2	68	64	-4							
R10	1	3	69	65	-4							
R11-OLA	1	6	56	55	-4							
R12	1	8	60	57	-3							
R13	1	8	59	56	-3							
R14	1	8	59	57	-3							
R15	1	1	62	59	-3							
R16	1	3	67	63	-4							
R17	1	3	67	63	-4							
R18	1	3	66	63	-3							
R182-OLA	5	1	61	54	-7							
R182A	5	1	60	54	-6							
R182B	5	1	60	53	-7							
R183-OLA	5	1	55	51	-4							
R183A	5	1	59	53	-6							
R183B	5	2	58	53	-5							
R183C	5	4	56	51	-5							
R183D	5	3	55	51	-4							
R183E	5	1	53	50	-3							
R184	5	1	71	68	-3							

Notes:

- (1) All Reviewed Retrofit Noise Barriers are 5 metres high, except the north end of Reviewed Retrofit Noise Barrier #1. The north end drops to 3.4 m in height to match the existing top elevation of the adjacent Existing Noise Barrier #1, which is 94 metres above sea level. Existing Noise Barrier #1 approximately from Station 8+715 to Station 9+590 will remain as is.
- (2) Length of noise barrier, unless stated otherwise.
- (3) Costs for noise barriers are based on \$2,750 per linear metre for a 5.0 metres high absorptive noise barrier and \$2,250 per square metre for crash-tested structural noise barrier.
- (4) The total length includes both the Reviewed Retrofit Noise Barrier #1 and #6. Length of the Reviewed Retrofit Noise Barrier #6 includes 413 metres of absorptive noise barrier (approximately from Station 7+280 to Station 7+640 and Station 7+700 to Station 7+755) and 47 metres of crash-tested structural noise barrier (approximately from Station 7+640 to Station 7+700).
- (5) The total length for Reviewed Retrofit Noise Barrier #5 includes 278 metres of absorptive noise barrier (approximately from Station 12+285 to Station 12+370 and Station 12+510 to Station 12+680) and 140 metres of crash-tested structural noise barrier (approximately from Station 12+370 to Station 12+510).

#### **Noise Barrier Retrofit Site QEW-21**

Since Reviewed Retrofit Noise Barriers #1 and #6 provide an average attenuation of 3 dBA over the first row receptors, they are considered to be technically feasible. The cost of the barriers is lower than what MTO typically spends per benefited household. Furthermore, the Existing Noise Barrier #1 and #5 are substandard and there have been ongoing public concerns in this area regarding excess noise issue. Therefore, **Reviewed Retrofit Site QEW-21 Noise Barriers #1 and #6 are recommended for upgrading.**

#### **Noise Barrier Retrofit Site 403-20 Hidden Valley**

Since Reviewed Retrofit Barrier #5 provides an average of 5 dBA noise reduction averaged over the first row, it is considered as technically feasible. However, the cost of the barrier is greater than what MTO typically spends per benefited household. Therefore, **Reviewed Retrofit Site 403-20 Noise Barrier #5 is not recommended.** MTO is currently initiating a separate Class EA Study to examine improvements to Highway 403 from Grindstone Creek westerly to Old Guelph Road in Hamilton. Retrofit Site 403-20 will be reviewed again as part of the noise assessment for that study to determine whether the proposed improvements result in the need for noise mitigation.

The recommended retrofit barriers are shown in **Figure 7-1** and **Figure 7-2**. MTO will decide when the retrofit barriers will be built, pending on funding and priority of candidate sites.





**SITE LOCATION  
RECOMMENDED  
MITIGATION FOR  
RETROFIT SITES**

- Legend**
- ★ Site Location
  - Figures

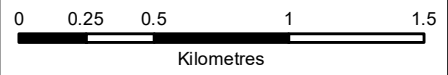
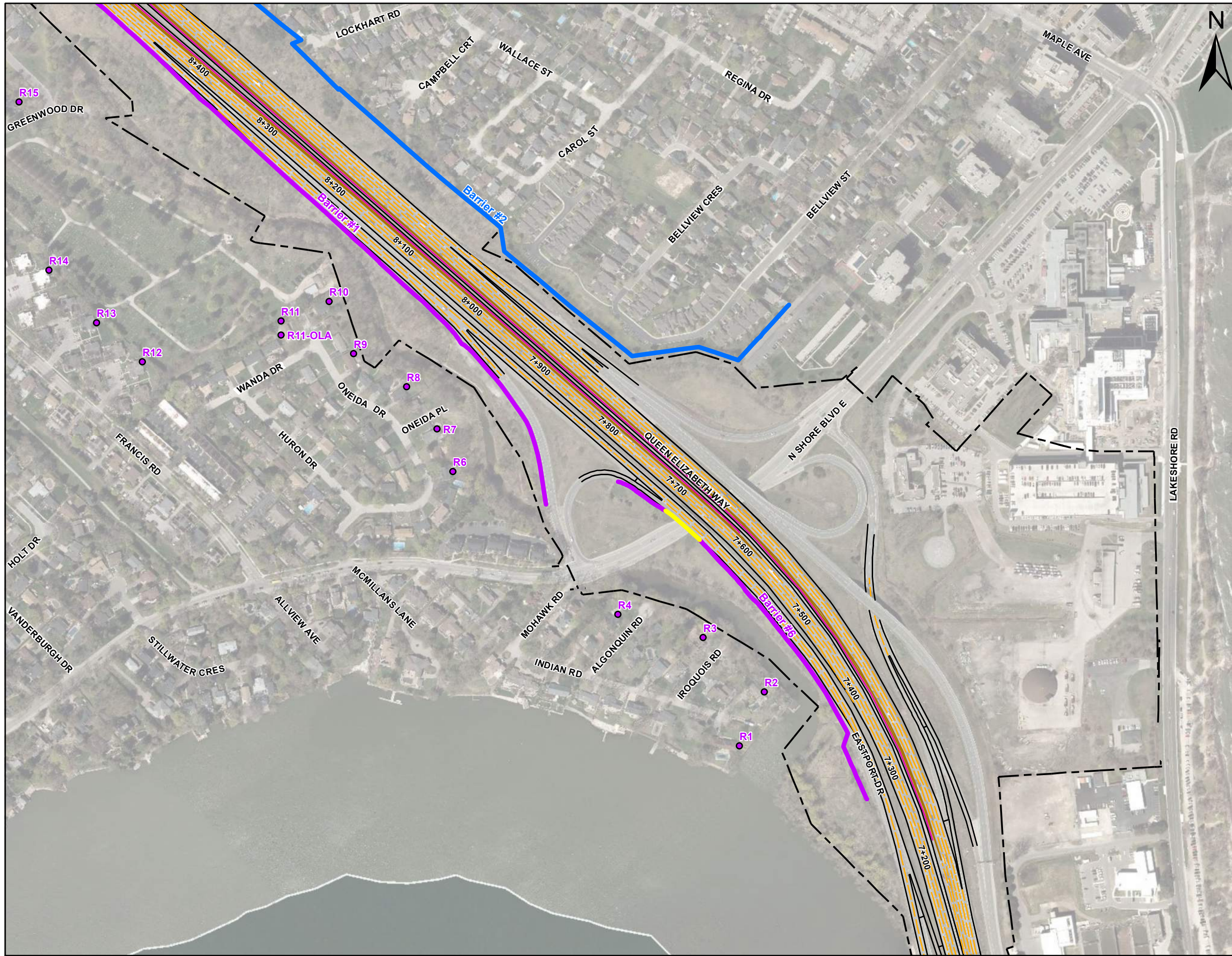


Figure 7  
 Project Name: QEW and Highway 403 (Freeman) Interchange  
 Preliminary Design and EA  
 Noise Assessment Report  
 Project No.: 17M-00215-00  
 Data Source: BING MAPS, WSP, LIO



# RECOMMENDED NOISE MITIGATION FOR RETROFIT SITES

- Legend**
- - Existing MTO ROW
  - Retrofit Noise Receptors
- Proposed Alignment**
- Edge of Pavement
  - HOV Lane
  - Lane Markings
  - HOV Lane Buffer
- Noise Barriers**
- Recommended Retrofit Noise Barrier
  - Recommended Retrofit Noise Barrier - Crash Tested
  - Existing Noise Barriers

**Noise Receptor Locations:**  
 R1,R2,R3,R4,R6,R7,R8,R9,R10,R11,  
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**Noise Barriers:**  
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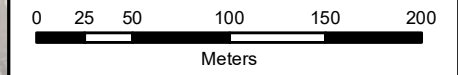
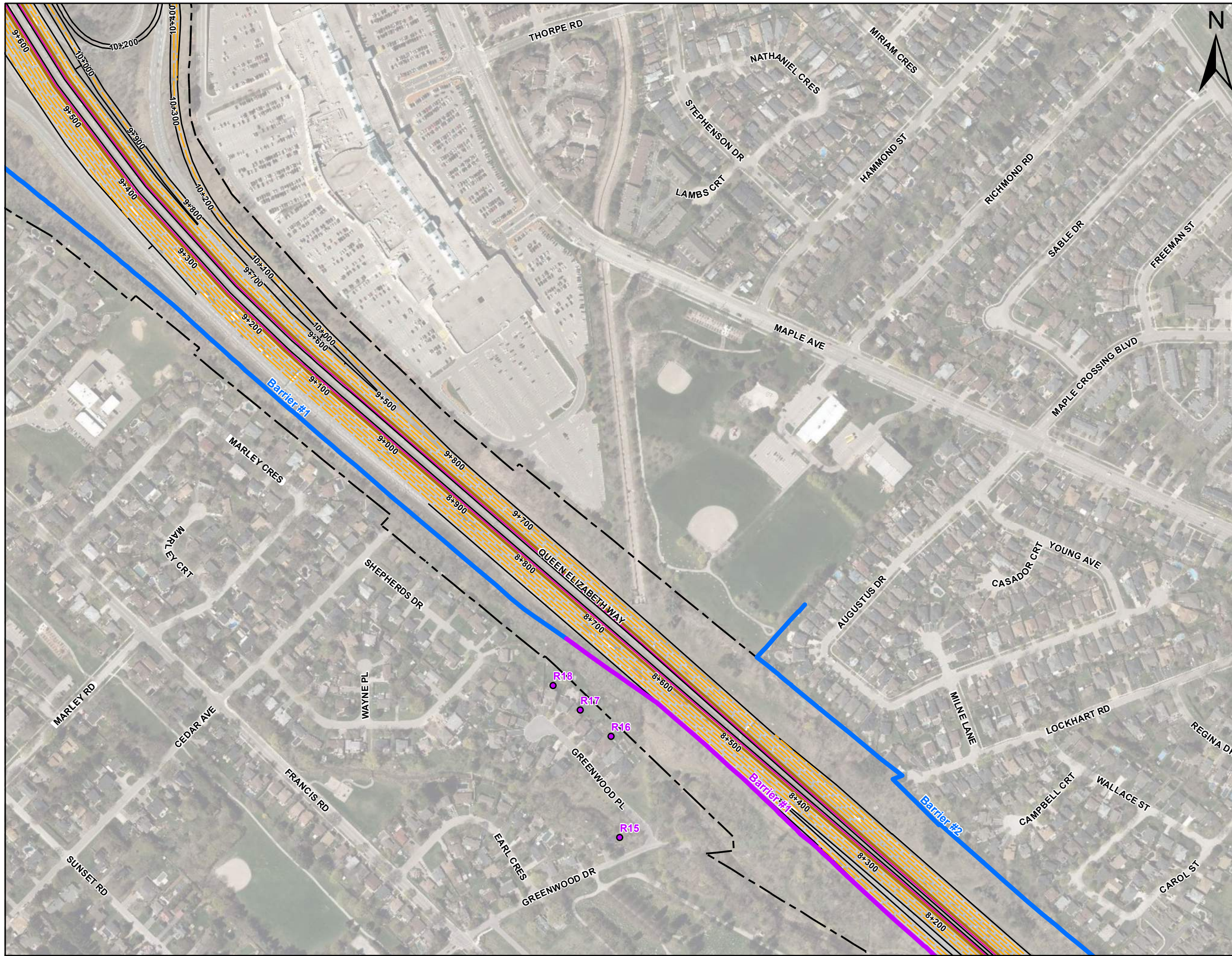


Figure 7-1  
 Project Name: QEW and Highway 403 (Freeman) Interchange  
 Preliminary Design and EA  
 Noise Assessment Report  
 Project No.: 17M-00215-00  
 Data Source: ESRI MAPS, WSP, LIO



## RECOMMENDED NOISE MITIGATION FOR RETROFIT SITES

- Legend**
- - Existing MTO ROW
  - Retrofit Noise Receptors
- Proposed Alignment**
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  - Existing Noise Barriers

**Noise Receptor Locations:**  
R15, R16, R17, R18  
**Noise Barriers:**  
1(partial), 2(partial)

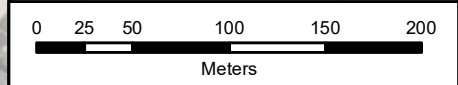


Figure: 7-2  
Project Name: QEW and Highway 403 (Freeman) Interchange  
Preliminary Design and EA  
Noise Assessment Report  
Project No.: 17M-00215-00  
Data Source: ESRI MAPS, WSP, LIO



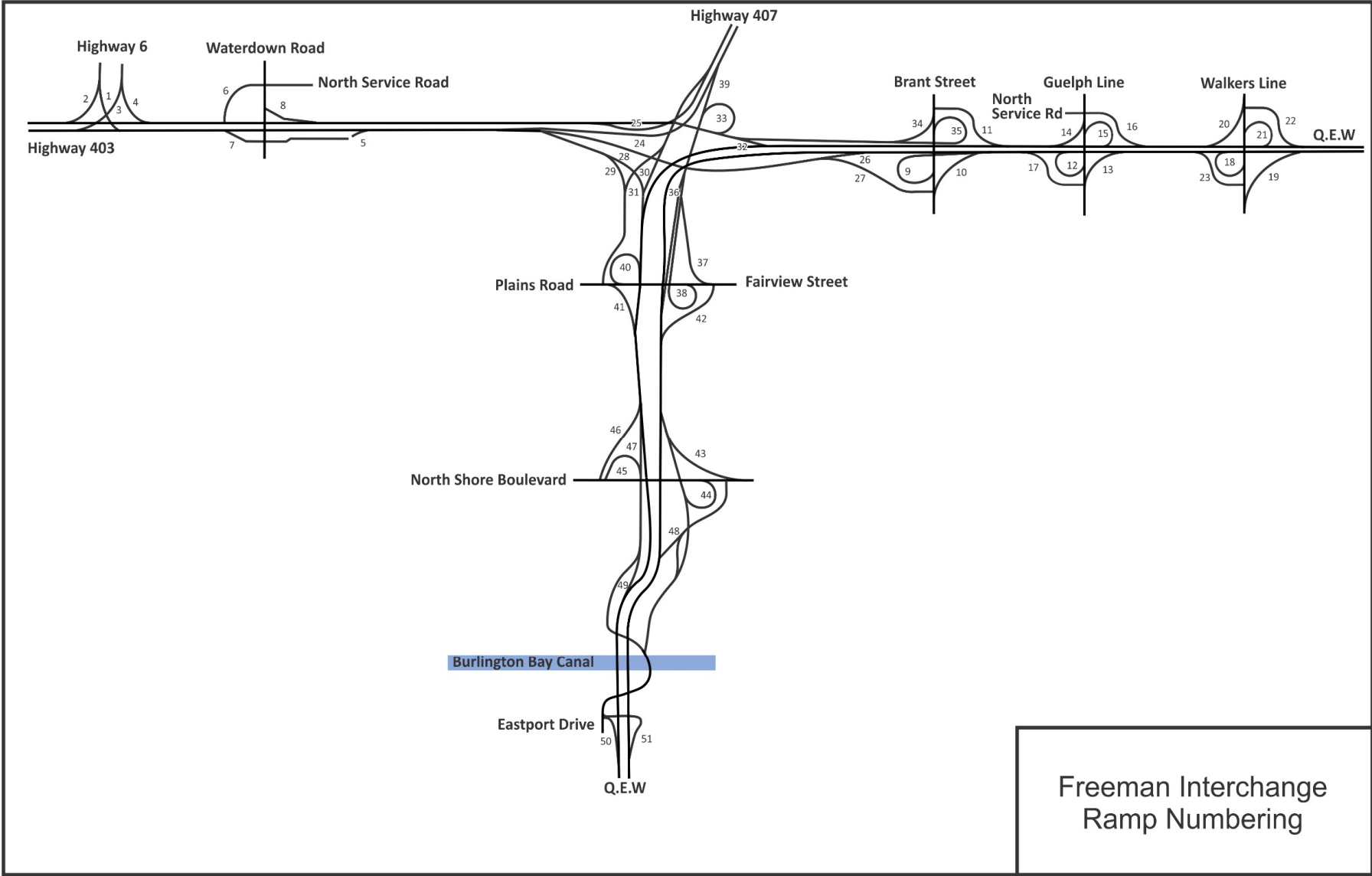


**Existing and Future AADT projections**

	from	to	<b>KH Volume</b>	<b>Based on simulated volumes</b>	
			2015	2041 No Build	2041 Build
QEW	Eastport Dr	North Shore Blvd	147,300	208,500	234,800
QEW	North Shore Blvd	Fairview St	158,300	252,900	293,700
QEW	Fairview St	Freeman IC	169,300	126,800	162,100
QEW	Freeman IC	Brant St	161,900		
QEW	Brant St	Guelph Line	159,700	261,900	337,700
QEW	Guelph Line	Walkers Line	193,000	229,200	301,300
Hwy 403	Freeman IC	Waterdown Rd	138,600	174,900	227,900
Hwy 403	Waterdown Rd	Hwy 6	147,300	181,900	220,100

	Location	Existing		Projected AADT			
		Year	AADT	2021	2031	2041-Do Nothing	2041-Scenario 2A
North Shore Blvd	across QEW	2016	23,700	25,700	29,700	33,600	30,900
Fairview St/Plains Rd	across QEW	2015	34,500	37,800	43,200	48,700	42,400
Brant St	across QEW	2014	37,400	42,100	48,700	55,400	54,800
Guelph Line	across QEW	2016	55,700	58,900	65,400	71,800	71,600
Waterdown Rd	across Hwy 403	2013	10600	11,600	12,900	14,100	13,600
King Rd	across Hwy 403	2014	10,300	11,000	12,000	13,000	13,000

		Observed Volume (vph)		Simulated Volume (vph)				
		2015		2041 No build (Do Nothing)		2041 Build (Scenario 2A Alt 5 - ultimate)		
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	
<b>Ramp Roadway</b>								
1	Hwy 6 to Hwy 403	N-E	1,143	1,058	1,160	1,403	2,084	1,963
2		N-W	1,012	1,171	1,215	1,411	995	1,015
3	Hwy 403 to Hwy 6	W-N	791	1,039	1,001	1,220	771	963
4		E-N	887	1,240	931	1,088	1,470	1,412
5	Waterdown Road to Hwy 403	N/S-E	549	409	484	679	675	789
6		N/S-W	318	790	429	866	412	788
7	Hwy 403 to Waterdown Road	W-N/S	603	342	986	421	747	348
8		E-N/S	370	411	521	449	542	845
9	Brant Street to QEW	N-E	358	422	498	544	535	572
10		S-E	334	469	373	479	276	504
11	QEW to Brant Street	E-N/S	657	416	770	759	937	1,047
12	Guelph Line to QEW	N-E	234	251	349	154	302	163
13		S-E	154	319	479	589	414	572
14		N-W	563	910	758	1,131	859	1,128
15		S-W	304	632	548	906	466	886
16		E-N/S	364	486	640	766	604	823
17	QEW to Guelph Line	W-N/S	1,825	1,041	1,971	1,668	2,133	1,770
18	Walkers Line to QEW	N-E	234	263	240	255	263	357
19		S-E	183	424	1,173	290	1,220	517
20		N-W	594	739	666	759	855	834
21		S-W	282	383	405	445	452	504
22		E-N/S	686	512	669	534	926	809
23	QEW to Walkers Line	W-N/S	1,527	1,263	1,618	1,524	1,835	1,697
24	Hwy 403 to Hwy 407	W-N	980	644	800	1,018	639	936
25	Hwy 407 to Hwy 403	N-W	556	1,126	1,016	1,049	1,007	1,025
26	Hwy 403 to QEW	W-E	3,233	2,484	3,556	2,728	4,996	3,696
27	Hwy 403 to Brant Street	W-N/S	353	448	464	412	632	604
28	Hwy 403 to QEW	W-S	804	870	936	1,420	1,547	1,978
29	Hwy 403 to Plains Road	W-E/W	251	317	116	175	134	164
30	Hwy 407 to QEW	N-S	596	1,676	1,625	1,567	1,337	1,334
31	Hwy 407 to Fairview Street	N-E/W	111	281	226	258	208	255
32	QEW to Hwy 403	E-W	3,068	2,843	3,431	3,068	4,078	4,477
33		S-W	816	1054	994	790	1,458	1,801
34	Brant Street to Hwy 403	N-W	275	368	290	429	267	506
35		S-W	137	320	229	302	456	699
36	QEW to Hwy 407	S-N	2,180	1,615	2,161	1,930	2,269	3,191
37	Fairview Street to Hwy 407	E-N	201	242	195	264	223	323
38		W-N	119	104	44	87	50	89
39	QEW/Fairview Street to Hwy 407	W/S-N	1,684	907	1,396	1,377	1,087	1,536
40	Fairview Street to QEW	E-S	68	1042	317	1,340	126	1,142
41		W-S	171	328	640	503	516	417
42	QEW to Fairview Street	S-E/W	778	468	1,866	980	1,300	811
43	North Shore Blvd to QEW	E-N	89	74	178	233	253	417
44		W-N	269	341	368	444	335	468
45	QEW to North Shore Blvd	E/W-S	480	1,031	799	1,270	577	1,075
46		N-E/W	334	325	444	598	515	657
47	QEW to Eastport Drive	N-S	333	1,730	862	1,110	987	1,313
48	QEW to North Shore Blvd	S-E/W	881	633	941	678	142	407
49	Eastport Drive to QEW (N of Lakeshore)	N-S	612	1,891	572	1,075	475	874
50	Eastport Drive to QEW	N/S-S	37	217	122	219	64	168
51	QEW to Eastport Drive	S-N/S	373	45	652	529	344	64





2016 Cordon Count Program - Halton

station	starttime	endtime	records	tot_veh	tot_aut	tot_trk	Auto			Heavy			Truck %	15-hr average truck %	Medium			Heavy Average	Heavy
							truck_l	truck_m	truck_h	truck_mtr	truck_m	truck_h			truck_mtr	Total			
<b>QEW North of the Skyway Bridge</b>																			
1034E	601	700	4	2235	1657	576	94	109	336	37	26%	4.88%	16.69%	4.88%	16.69%	3.65%	12.04%		
1014E	701	800	4	3416	2696	713	155	124	417	17	21%	3.63%	12.70%	2.89%	4.88%				
1014E	801	900	4	4349	3389	943	195	204	523	21	22%	4.69%	12.51%	2.89%	4.88%				
1014E	901	1000	4	3391	2582	786	119	110	533	24	23%	3.24%	16.43%	4.73%	9.51%				
1014E	1001	1100	4	2984	2082	888	117	116	630	25	30%	3.89%	21.95%	4.37%	10.55%				
1014E	1101	1200	4	3390	2626	755	160	149	423	23	22%	4.40%	13.16%	4.36%	13.01%				
1014E	1201	1300	4	3032	2198	824	183	140	480	21	27%	4.62%	16.52%	4.55%	11.96%				
1014E	1301	1400	4	3248	2243	992	223	181	587	1	31%	5.57%	18.10%	5.17%	13.04%				
1014E	1401	1500	4	3989	3118	863	178	145	505	35	22%	3.63%	13.54%	3.88%	10.00%				
1014E	1501	1600	4	4953	4100	843	272	170	377	24	17%	3.43%	8.10%	3.79%	8.35%				
1014E	1601	1700	4	6197	5456	731	257	151	310	13	12%	2.44%	5.21%	1.97%	6.79%				
1014E	1701	1800	4	6436	5777	652	248	161	232	11	10%	2.50%	3.78%	2.14%	6.15%				
1014E	1801	1900	4	5842	5169	665	272	113	267	13	11%	1.93%	4.79%	1.66%	7.17%				
1014E	1901	2000	4	3531	3079	437	177	80	168	12	12%	2.27%	5.10%	1.55%	7.73%				
1014W	601	700	4	5791	5113	671	165	121	368	17	12%	2.09%	6.65%	2.25%	5.81%				
1014W	701	800	4	6086	5319	760	287	176	277	20	12%	2.89%	4.88%	2.38%	4.24%				
1014W	801	900	4	5309	4430	871	263	181	400	27	16%	3.41%	8.04%	2.05%	6.60%				
1014W	901	1000	4	6236	5185	1040	152	295	573	20	17%	4.37%	10.55%	3.15%	10.34%				
1014W	1001	1100	4	4351	3465	875	226	190	439	20	20%	4.36%	13.01%	3.19%	9.92%				
1014W	1101	1200	4	3828	2988	850	165	167	479	19	22%	4.36%	13.01%	3.37%	12.97%				
1014W	1201	1300	4	3780	3030	739	172	172	425	27	20%	4.55%	11.96%	3.16%	11.73%				
1014W	1301	1400	4	5400	4196	1193	210	279	687	17	22%	5.17%	13.04%	3.16%	11.73%				
1014W	1401	1500	4	4639	3783	832	188	180	443	21	18%	3.88%	10.00%	3.88%	10.00%				
1014W	1501	1600	4	4645	3874	756	192	176	374	14	16%	3.79%	8.35%	3.79%	8.35%				
1014W	1601	1700	4	4631	3861	651	217	109	305	20	14%	2.41%	7.17%	2.41%	7.17%				
1014W	1701	1800	4	4608	4067	519	115	91	299	14	11%	1.97%	6.79%	1.97%	6.79%				
1014W	1801	1900	4	4247	3816	422	70	91	252	9	10%	2.14%	6.15%	2.14%	6.15%				
1014W	1901	2000	4	2982	2544	424	101	73	236	14	14%	1.66%	8.38%	1.66%	8.38%				
<b>Highway 403 East of Highway 6</b>																			
1033E	601	700	4	5113	4372	722	310	115	272	25	14%	2.25%	5.81%	2.25%	5.81%				
1033E	701	800	4	5335	4629	688	335	127	211	15	13%	2.38%	4.24%	2.38%	4.24%				
1033E	801	900	4	4592	3908	660	263	94	285	18	14%	2.05%	6.60%	2.05%	6.60%				
1033E	901	1000	4	3395	2692	676	218	107	336	15	20%	3.15%	10.34%	3.15%	10.34%				
1033E	1001	1100	4	3265	2575	673	245	104	307	17	21%	3.15%	10.34%	3.19%	9.92%				
1033E	1101	1200	4	2968	2255	692	207	100	364	21	23%	3.37%	12.97%	3.37%	12.97%				
1033E	1201	1300	4	3002	2396	597	150	95	335	17	20%	3.16%	11.73%	3.16%	11.73%				
1033E	1301	1400	4	3140	2496	625	160	134	314	17	20%	4.27%	10.54%	4.27%	10.54%				
1033E	1401	1500	4	3314	2670	625	190	107	308	20	19%	3.23%	9.90%	3.23%	9.90%				
1033E	1501	1600	4	3474	2896	544	168	100	268	8	16%	2.88%	7.94%	2.88%	7.94%				
1033E	1601	1700	4	3400	2933	443	135	83	247	4	12%	2.44%	6.62%	2.44%	6.62%				
1033E	1701	1800	4	3501	3056	421	112	58	247	4	12%	1.66%	7.17%	1.66%	7.17%				
1033E	1801	1900	4	2472	2143	306	80	35	185	6	14%	1.42%	7.73%	1.42%	7.73%				
1033E	1901	2000	4	2190	1871	306	71	34	196	5	12%	1.55%	9.18%	1.55%	9.18%				
1033W	601	700	4	2670	2047	615	124	182	297	12	23%	6.82%	11.57%	6.82%	11.57%				
1033W	701	800	4	3495	2975	502	111	163	210	18	14%	4.66%	6.52%	4.66%	6.52%				
1033W	801	900	4	3039	2544	464	107	162	175	20	15%	5.33%	6.42%	5.33%	6.42%				
1033W	901	1000	4	2476	1986	470	106	161	188	15	19%	6.50%	8.20%	6.50%	8.20%				
1033W	1001	1100	4	2615	2093	502	122	164	188	28	19%	6.27%	8.20%	6.27%	8.20%				
1033W	1101	1200	4	2718	2218	476	98	155	206	17	18%	5.70%	8.20%	5.70%	8.20%				
1033W	1201	1300	4	3008	2350	650	138	206	285	21	22%	6.85%	10.17%	6.85%	10.17%				
1033W	1301	1400	4	3513	3048	451	113	144	179	15	13%	4.10%	5.52%	4.10%	5.52%				
1033W	1401	1500	4	3113	2699	395	94	133	160	8	13%	4.27%	5.40%	4.27%	5.40%				
1033W	1501	1600	4	4407	3962	428	96	147	178	7	7%	3.34%	4.20%	3.34%	4.20%				
1033W	1601	1700	4	5237	4822	391	94	133	159	5	7%	2.54%	3.13%	2.54%	3.13%				
1033W	1701	1800	4	4456	4075	366	89	131	141	5	8%	2.94%	3.28%	2.94%	3.28%				
1033W	1801	1900	4	4882	4482	386	89	135	155	7	8%	2.77%	3.32%	2.77%	3.32%				
1033W	1901	2000	4	3603	3233	353	85	126	142	0	10%	3.50%	3.94%	3.50%	3.94%				
<b>Plains Rd East of the QEW</b>																			
1303E	601	700	4	5443	502	33	24	6	3	0	6%	1.10%	0.55%	1.10%	0.55%				
1303E	701	800	4	1013	930	70	44	21	5	0	7%	2.07%	0.49%	2.07%	0.49%				
1303E	801	900	4	1178	1062	99	57	27	15	0	8%	2.29%	1.27%	2.29%	1.27%				
1303E	901	1000	4	1180	1049	111	57	30	21	3	9%	2.54%	2.03%	2.54%	2.03%				
1303E	1001	1100	4	1107	1007	91	61	21	9	0	8%	1.90%	0.81%	1.90%	0.81%				
1303E	1101	1200	4	1090	1010	72	43	21	8	0	7%	1.93%	0.73%	1.93%	0.73%				
1303E	1201	1300	4	1271	1185	80	46	21	11	2	6%	1.65%	1.02%	1.65%	1.02%				
1303E	1301	1400	4	1183	1105	72	38	28	6	0	6%	2.37%	0.51%	2.37%	0.51%				
1303E	1401	1500	4	1186	1109	66	36	21	9	0	6%	1.77%	0.76%	1.77%	0.76%				
1303E	1501	1600	4	1269	1180	71	43	17	11	0	6%	1.34%	0.87%	1.34%	0.87%				
1303E	1601	1700	4	1396	1350	35	20	11	4	0	3%	0.79%	0.29%	0.79%	0.29%				
1303E	1701	1800	4	1352	1310	36	18	12	6	0	3%	0.89%	0.44%	0.89%	0.44%				
1303E	1801	1900																	

1304E	1101	1200	4	4099	3566	518	88	105	299	26	13%	2.56%	7.93%
1304E	1201	1300	4	3431	2928	490	79	90	298	23	14%	2.62%	9.36%
1304E	1301	1400	4	3556	2972	570	69	121	357	23	16%	3.40%	10.69%
1304E	1401	1500	4	3859	3337	498	79	96	300	23	13%	2.49%	8.37%
1304E	1501	1600	4	3917	3453	439	63	67	291	18	11%	1.71%	7.89%
1304E	1601	1700	4	4506	3978	502	37	112	340	13	11%	2.49%	7.83%
1304E	1701	1800	4	4810	4446	346	45	77	215	9	7%	1.60%	4.66%
1304E	1801	1900	4	3503	3269	219	44	63	107	5	6%	1.80%	3.20%
1304E	1901	2000	4	2645	2430	199	37	32	116	14	8%	1.21%	4.91%
1304W	601	700	4	2012	1616	389	102	68	202	17	19%	3.38%	10.88%
1304W	701	800	4	3385	2929	441	87	108	223	23	13%	3.19%	7.27%
1304W	801	900	4	3975	3475	472	112	94	239	27	12%	2.36%	6.69%
1304W	901	1000	4	3094	2511	552	104	135	289	14	18%	4.36%	10.12%
1304W	1001	1100	4	3261	2583	659	119	178	356	20	20%	5.46%	11.10%
1304W	1101	1200	4	3332	2616	706	146	178	353	29	21%	5.34%	11.46%
1304W	1201	1300	4	3222	2543	664	129	203	313	19	21%	6.30%	10.30%
1304W	1301	1400	4	3159	2476	666	104	224	312	26	21%	7.09%	10.70%
1304W	1401	1500	4	3249	2645	577	70	172	316	19	18%	5.29%	10.31%
1304W	1501	1600	4	4197	3742	445	110	123	193	19	11%	2.93%	5.05%
1304W	1601	1700	4	5031	4511	498	114	126	200	8	10%	2.50%	4.13%
1304W	1701	1800	4	4018	3657	338	92	93	145	8	8%	2.31%	3.81%
1304W	1801	1900	4	3584	3254	315	110	41	156	8	9%	1.14%	4.58%
1304W	1901	2000	4	2939	2719	202	81	14	101	6	7%	0.48%	3.64%

**Brant St North of QEW**

1313N	601	700	4	459	424	28	17	9	2	0	6%	1.96%	0.44%
1313N	701	800	4	903	799	83	53	21	9	0	9%	2.33%	1.00%
1313N	801	900	4	1159	1034	106	49	47	10	0	9%	4.06%	0.86%
1313N	901	1000	4	1068	941	117	74	30	13	0	11%	2.81%	1.22%
1313N	1001	1100	4	1147	1059	83	38	34	11	0	7%	2.96%	0.96%
1313N	1101	1200	4	1276	1170	98	52	31	15	0	8%	2.43%	1.18%
1313N	1201	1300	4	1367	1268	95	61	26	7	1	7%	1.90%	0.59%
1313N	1301	1400	4	1233	1146	83	42	28	8	0	7%	2.27%	0.65%
1313N	1401	1500	4	1278	1159	112	72	27	12	1	9%	2.11%	1.02%
1313N	1501	1600	4	1274	1179	83	52	21	10	0	7%	1.65%	0.78%
1313N	1601	1700	4	1282	1197	71	37	27	7	0	6%	2.11%	0.55%
1313N	1701	1800	4	1376	1311	53	34	14	4	1	4%	1.02%	0.36%
1313N	1801	1900	4	1286	1257	35	23	10	2	0	3%	0.77%	0.15%
1313N	1901	2000	4	1130	1096	31	22	8	1	0	3%	0.71%	0.09%
1319S	601	700	4	598	563	25	15	2	8	0	4%	0.33%	1.34%
1319S	701	800	4	1204	1102	89	48	28	11	2	7%	2.33%	1.08%
1319S	801	900	4	1384	1276	91	53	27	10	1	7%	1.95%	0.79%
1319S	901	1000	4	1174	1079	81	47	25	9	0	7%	2.13%	0.77%
1319S	1001	1100	4	1191	1075	104	61	30	12	1	9%	2.52%	1.09%
1319S	1101	1200	4	1366	1248	111	55	41	13	2	8%	3.00%	1.10%
1319S	1201	1300	4	1419	1328	87	47	30	10	0	6%	2.11%	0.70%
1319S	1301	1400	4	1385	1280	101	64	22	13	2	7%	1.59%	1.08%
1319S	1401	1500	4	1417	1315	89	39	31	18	1	6%	2.19%	1.34%
1319S	1501	1600	4	1497	1385	96	54	35	7	0	6%	2.34%	0.47%
1319S	1601	1700	4	1739	1656	69	47	17	4	1	4%	0.98%	0.29%
1319S	1701	1800	4	1689	1618	59	33	20	6	0	3%	1.18%	0.36%
1319S	1801	1900	4	1529	1487	34	20	10	4	0	2%	0.65%	0.26%
1319S	1901	2000	4	1264	1246	13	8	2	3	0	1%	0.16%	0.24%

**Guelp Line North of QEW**

1314N	601	700	4	792	721	65	25	15	25	0	8%	1.89%	3.16%
1314N	701	800	4	1190	1092	89	41	26	21	1	7%	2.18%	1.85%
1314N	801	900	4	1452	1282	147	57	64	24	2	10%	4.41%	1.79%
1314N	901	1000	4	1236	1078	147	78	48	21	0	12%	3.88%	1.70%
1314N	1001	1100	4	1182	1008	168	108	32	28	0	14%	2.71%	2.37%
1314N	1101	1200	4	1414	1256	153	88	44	19	2	11%	3.11%	1.49%
1314N	1201	1300	4	1586	1423	156	84	44	27	0	10%	2.77%	1.70%
1314N	1301	1400	4	1525	1373	149	63	59	26	1	10%	3.86%	1.77%
1314N	1401	1500	4	1528	1373	136	75	46	15	0	9%	3.02%	0.98%
1314N	1501	1600	4	1794	1560	220	143	55	21	1	12%	3.07%	1.23%
1314N	1601	1700	4	2090	1862	222	159	47	16	0	11%	2.25%	0.77%
1314N	1701	1800	4	1923	1837	80	44	24	12	0	4%	1.25%	0.62%
1314N	1801	1900	4	1635	1577	53	33	14	6	0	3%	0.86%	0.37%
1314N	1901	2000	4	1451	1405	39	21	14	4	0	3%	0.96%	0.28%
1314S	601	700	4	804	744	55	21	23	11	0	7%	2.86%	1.37%
1314S	701	800	4	1450	1327	114	43	47	23	1	8%	3.24%	1.66%
1314S	801	900	4	1934	1761	150	81	47	21	1	8%	2.43%	1.14%
1314S	901	1000	4	1486	1337	143	71	41	30	1	10%	2.76%	2.09%
1314S	1001	1100	4	1470	1337	128	78	30	20	0	9%	2.04%	1.36%
1314S	1101	1200	4	1631	1464	159	76	53	28	2	10%	3.25%	1.84%
1314S	1201	1300	4	1653	1491	149	70	54	25	0	9%	3.27%	1.51%
1314S	1301	1400	4	1587	1444	135	69	48	17	1	9%	3.02%	1.13%
1314S	1401	1500	4	1563	1385	163	82	54	25	2	10%	3.45%	1.73%
1314S	1501	1600	4	1926	1741	175	95	58	21	1	9%	3.01%	1.14%
1314S	1601	1700	4	2201	2024	167	75	69	21	2	8%	3.13%	1.04%
1314S	1701	1800	4	2115	1958	152	87	44	21	0	7%	2.08%	0.99%
1314S	1801	1900	4	1794	1717	71	52	11	8	0	4%	0.61%	0.45%
1314S	1901	2000	4	1318	1265	46	33	10	3	0	3%	0.76%	0.23%

**Waterdown Rd South of Dundas St**

1019N	601	700	4	114	99	4	3	1	0	0	4%	0.88%	0.00%
1019N	701	800	4	234	204	16	12	3	1	0	7%	1.28%	0.43%
1019N	801	900	4	279	253	18	12	6	0	0	6%	2.15%	0.00%
1019N	901	1000	4	290	240	20	13	6	1	0	7%	2.07%	0.34%
1019N	1001	1100	4	237	206	18	15	3	0	0	8%	1.27%	0.00%
1019N	1101	1200	4	305	277	21	15	5	1	0	7%	1.64%	0.33%
1019N	1201	1300	4	337	307	27	19	5	3	0	8%	1.48%	0.89%
1019N	1301	1400	4	350	321	20	16	4	0	0	6%	1.14%	0.00%
1019N	1401	1500	4	392	361	20	14	4	1	1	5%	1.02%	0.51%
1019N	1501	1600	4	447	418	23	18	4	1	0	5%	0.89%	0.22%
1019N	1601	1700	4	489	469	11	9	2	0	0	2%	0.41%	0.00%
1019N	1701	1800	4	526	507	15	11	4	0	0	3%	0.76%	0.00%
1019N	1801	1900	4	465	457	4	3	1	0	0	1%	0.22%	0.00%
1019N	1901	2000	4	328	324	1	1	0	0	0	0%	0.00%	0.00%

1019S	601	700	4	239	228	9	8	1	0	0	0	4%	0.00%	1.15%	0.17%
1019S	701	800	4	367	347	9	6	3	0	0	0	2%	0.82%	0.00%	
1019S	801	900	4	357	328	16	10	5	1	0	0	4%	1.40%	0.28%	
1019S	901	1000	4	277	246	12	10	2	0	0	0	4%	0.72%	0.00%	
1019S	1001	1100	4	218	200	10	7	3	0	0	0	5%	1.38%	0.00%	
1019S	1101	1200	4	214	191	18	11	6	1	0	0	8%	2.80%	0.47%	
1019S	1201	1300	4	236	202	29	19	8	2	0	0	12%	3.39%	0.85%	
1019S	1301	1400	4	225	202	15	12	2	1	0	0	7%	0.89%	0.44%	
1019S	1401	1500	4	273	257	11	10	1	0	0	0	4%	0.37%	0.00%	
1019S	1501	1600	4	282	261	8	6	2	0	0	0	3%	0.71%	0.00%	
1019S	1601	1700	4	321	296	14	9	4	1	0	0	4%	1.25%	0.31%	
1019S	1701	1800	4	305	283	17	14	3	0	0	0	6%	0.98%	0.00%	
1019S	1801	1900	4	263	255	4	3	1	0	0	0	2%	0.38%	0.00%	
1019S	1901	2000	4	183	179	1	0	1	0	0	0	1%	0.55%	0.00%	5%

**Waterdown Rd at CNR (North of Plains Rd)**

1320N	601	700	4	472	438	31	6	11	13	1	1	7%	2.33%	2.97%	3.14%
1320N	701	800	4	798	708	76	29	21	23	3	3	10%	2.63%	3.26%	
1320N	801	900	4	798	738	51	26	9	16	0	0	6%	1.13%	2.01%	
1320N	901	1000	4	538	476	52	18	17	17	0	0	10%	3.16%	3.16%	
1320N	1001	1100	4	483	403	72	28	20	24	0	0	15%	4.14%	4.97%	
1320N	1101	1200	4	547	475	68	19	29	29	1	1	12%	3.47%	5.48%	
1320N	1201	1300	4	573	500	68	29	11	28	0	0	12%	1.92%	4.89%	
1320N	1301	1400	4	527	444	75	26	24	25	0	0	14%	4.55%	4.74%	
1320N	1401	1500	4	579	498	73	26	24	22	1	1	13%	4.15%	3.97%	
1320N	1501	1600	4	636	561	60	24	11	25	0	0	9%	1.73%	3.93%	
1320N	1601	1700	4	671	606	57	25	17	15	0	0	8%	2.53%	2.24%	
1320N	1701	1800	4	757	710	40	16	16	8	0	0	5%	2.11%	1.06%	
1320N	1801	1900	4	667	638	22	12	5	5	0	0	3%	0.75%	0.75%	
1320N	1901	2000	4	506	485	18	14	1	3	0	0	4%	0.20%	0.59%	

1320S	601	700	4	433	393	33	6	7	20	0	0	8%	1.62%	4.62%	3.46%
1320S	701	800	4	619	539	62	27	13	21	1	1	10%	2.10%	3.55%	
1320S	801	900	4	570	509	49	22	15	12	0	0	9%	2.63%	2.11%	
1320S	901	1000	4	574	494	72	27	21	24	0	0	13%	3.66%	4.18%	
1320S	1001	1100	4	483	398	79	28	20	30	1	1	16%	4.14%	6.42%	
1320S	1101	1200	4	556	478	71	22	25	24	0	0	13%	4.50%	4.32%	
1320S	1201	1300	4	595	504	86	28	26	31	1	1	14%	4.37%	5.38%	
1320S	1301	1400	4	554	472	74	33	16	24	1	1	13%	2.89%	4.51%	
1320S	1401	1500	4	598	509	78	33	19	25	1	1	13%	3.18%	4.35%	
1320S	1501	1600	4	603	521	74	32	21	21	0	0	12%	3.48%	3.48%	
1320S	1601	1700	4	702	638	54	23	11	18	2	2	8%	1.57%	2.85%	
1320S	1701	1800	4	790	738	45	23	15	7	0	0	6%	1.90%	0.89%	
1320S	1801	1900	4	703	667	29	11	11	6	1	0	4%	1.56%	1.00%	
1320S	1901	2000	4	513	497	12	4	4	4	0	0	2%	0.78%	0.78%	10%

**North Service Rd East of King Rd**

1322E	601	700	4	214	188	22	8	6	8	0	0	10%	2.80%	3.74%	1.59%
1322E	701	800	4	528	471	50	27	17	6	0	0	9%	3.22%	1.14%	
1322E	801	900	4	726	652	62	33	17	12	0	0	9%	2.34%	1.65%	
1322E	901	1000	4	478	426	45	22	12	11	0	0	9%	2.51%	2.30%	
1322E	1001	1100	4	346	310	35	24	4	6	1	1	10%	1.16%	2.02%	
1322E	1101	1200	4	405	359	46	23	9	14	0	0	11%	2.22%	3.46%	
1322E	1201	1300	4	484	446	38	15	15	8	0	0	8%	3.10%	1.65%	
1322E	1301	1400	4	397	352	45	19	17	8	1	1	11%	4.28%	2.27%	
1322E	1401	1500	4	378	335	42	23	11	7	8	0	11%	2.91%	2.12%	
1322E	1501	1600	4	538	482	49	31	15	3	0	0	9%	2.79%	0.56%	
1322E	1601	1700	4	627	579	37	19	13	4	1	0	6%	2.07%	0.80%	
1322E	1701	1800	4	547	528	16	10	5	1	0	0	3%	0.91%	0.18%	
1322E	1801	1900	4	418	410	6	4	2	0	0	0	1%	0.48%	0.00%	
1322E	1901	2000	4	283	272	11	8	2	1	0	0	4%	0.71%	0.35%	

1322W	601	700	4	137	128	4	4	0	0	0	0	3%	0.00%	1.82%	1.36%
1322W	701	800	4	362	331	16	10	4	2	0	0	4%	1.10%	0.55%	
1322W	801	900	4	531	494	33	17	10	6	0	0	6%	1.88%	1.13%	
1322W	901	1000	4	346	302	41	18	12	11	0	0	12%	3.47%	3.18%	
1322W	1001	1100	4	297	268	28	9	5	9	1	0	9%	3.03%	3.37%	
1322W	1101	1200	4	364	317	46	30	5	11	0	0	13%	1.37%	3.02%	
1322W	1201	1300	4	487	441	46	19	17	9	1	1	9%	3.49%	2.05%	
1322W	1301	1400	4	472	442	29	7	12	10	0	0	6%	2.54%	2.12%	
1322W	1401	1500	4	459	404	48	29	11	8	0	0	10%	2.40%	1.74%	
1322W	1501	1600	4	655	598	49	26	17	6	0	0	7%	2.60%	0.92%	
1322W	1601	1700	4	1033	979	51	28	17	6	0	0	5%	1.65%	0.58%	
1322W	1701	1800	4	1158	1129	27	18	6	3	0	0	2%	0.52%	0.26%	
1322W	1801	1900	4	704	682	19	12	6	1	0	0	3%	0.85%	0.14%	7%
1322W	1901	2000	4	339	329	10	8	2	0	0	0	3%	0.59%	0.00%	



**From:** Masiello, Graziano (MTO) <Graziano.Masiello@ontario.ca>  
**Sent:** Wednesday, September 25, 2019 2:20 PM  
**To:** Lotfi Moghaddam, Parnia  
**Subject:** RE: Obtaining approval to use TNM - QEW Highway 403 Freeman Interchange

**Follow Up Flag:** Follow up  
**Flag Status:** Flagged

Agreed , permission granted to import the stamina files into TNM and re run the analysis in TNM. Please send me the files once completed before finalizing

Thank you

**Graziano Masiello**

Sr. Environmental Planner - Acoustics  
Environmental Services Section | Central Region | Ontario Ministry of Transportation  
telephone 416.235.5210| e-mail [graziano.masiello@ontario.ca](mailto:graziano.masiello@ontario.ca)

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**From:** Lotfi Moghaddam, Parnia <[Parnia.Lotfi-Moghaddam@wsp.com](mailto:Parnia.Lotfi-Moghaddam@wsp.com)>

**Sent:** September 25, 2019 2:15 PM

**To:** Masiello, Graziano (MTO) <[Graziano.Masiello@ontario.ca](mailto:Graziano.Masiello@ontario.ca)>

**Cc:** Vazz, Christine <[Christine.Vazz@wsp.com](mailto:Christine.Vazz@wsp.com)>

**Subject:** Obtaining approval to use TNM - QEW Highway 403 Freeman Interchange

**Importance:** High

Hi Graziano,

Please be advised that we would like to request for your authorization to use TNM 2.5 for the noise assessment of QEW Highway 403 (Freeman interchange) project. Due to complexity of the study area, TNM will be better option for noise modelling. We will also be able to import our STAMINA file inputs into TNM. Please confirm your approval to proceed with TNM. Thank you so much.

Best regards,

**Parnia Lotfi Moghaddam, P.Eng.**

Project Manager

Environment – Noise and Vibration



T+ 1 289-982-4740

100 Commerce Valley Drive West  
Thornhill, Ontario  
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*Please consider the environment before printing...*

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## Future without the Undertaking - Roadway Input

Roadway Name	Width	Points Name	No.	Coordinates (pavement)			Segment Pvrmt Type	On Struct?
				X	Y	Z		
QEW Toronto Bound (1)	m	17	1	280,286.00	4,796,429.00	86.4	Average	
			2	280,247.00	4,796,521.00	83.2	Average	
			3	280,208.00	4,796,614.00	80.2	Average	
			4	280,172.00	4,796,706.00	77.9	Average	
			5	280,142.00	4,796,801.00	77.6	Average	
			6	280,114.00	4,796,898.00	78	Average	
			7	280,100.00	4,796,945.00	78.1	Average	
			8	280,082.00	4,796,993.00	78.1	Average	
			9	280,067.00	4,797,030.00	78.2	Average	
			10	280,039.00	4,797,084.00	78.8	Average	
			11	280,018.00	4,797,119.00	79.6	Average	
			12	279,985.00	4,797,169.00	81.4	Average	
			13	279,961.00	4,797,201.00	82.7	Average	
			14	279,921.00	4,797,246.00	84	Average	
			15	279,892.00	4,797,275.00	84.4	Average	
QEW Toronto Bound (2)	m	13.7	1	279,892.00	4,797,275.00	84.4	Average	Y
			2	279,848.00	4,797,316.00	84.8	Average	Y
			3	279,774.00	4,797,383.00	84.6	Average	
			4	279,701.00	4,797,451.00	84.4	Average	
			5	279,626.00	4,797,517.00	84	Average	
			6	279,550.00	4,797,583.00	84.4	Average	
			7	279,474.00	4,797,648.00	84.9	Average	
			8	279,399.00	4,797,714.00	85.8	Average	
			9	279,323.00	4,797,779.00	86.8	Average	
			10	279,247.00	4,797,844.00	87.8	Average	
			11	279,171.00	4,797,910.00	88.9	Average	
			12	279,096.00	4,797,975.00	90	Average	
			13	279,020.00	4,798,041.00	90.8	Average	
			14	278,945.00	4,798,106.00	91.9	Average	
			15	278,869.00	4,798,171.00	92.7	Average	
QEW Toronto Bound (3)	m	13.7	1	278,869.00	4,798,171.00	92.7	Average	
			2	278,793.00	4,798,237.00	93.4	Average	
			3	278,755.00	4,798,271.00	93.8	Average	
			4	278,719.00	4,798,303.00	94.2	Average	
			5	278,682.00	4,798,340.00	94.7	Average	
			6	278,650.00	4,798,374.00	95.1	Average	
			7	278,616.00	4,798,411.00	95.6	Average	
			8	278,584.00	4,798,448.00	96.5	Average	
			9	278,552.00	4,798,488.00	97.6	Average	
			10	278,523.00	4,798,526.00	98.8	Average	
			11	278,494.00	4,798,567.00	100.1	Average	
			12	278,466.00	4,798,607.00	101.3	Average	
			13	278,423.80	4,798,674.00	103.4	Average	Y
			14	278,410.50	4,798,695.50	104	Average	Y
			15	278,365.00	4,798,778.00	106.4	Average	
QEW Toronto Bound (4)	m	13.6	16	278,323.00	4,798,868.00	108.5	Average	
			1	278,323.00	4,798,868.00	108.5	Average	
			2	278,285.00	4,798,960.00	109.4	Average	
			3	278,248.00	4,799,053.00	109.2	Average	
			4	278,211.00	4,799,146.00	107.8	Average	
5	278,174.00	4,799,239.00	105.6	Average				



## Future without the Undertaking - Roadway Input

Roadway Name	Width	Points Name	No.	Coordinates (pavement)			Segment Pvrmt Type	On Struct?	
				X	Y	Z			
QEW Toronto Bound (5)	m		6	51	278,153.00	4,799,295.00	104	Average	
			7	52	278,141.00	4,799,332.00	103	Average	
			8	53	278,130.00	4,799,380.00	102	Average	
			9	54	278,122.00	4,799,428.00	101.4	Average	
			10	55	278,117.00	4,799,477.00	101.4	Average	
			11	56	278,116.00	4,799,527.00	101.7	Average	
			12	57	278,119.00	4,799,575.00	102	Average	
			13	58	278,125.00	4,799,625.00	103.2	Average	
			14	59	278,134.00	4,799,672.00	103.2	Average	
			15	60	278,147.00	4,799,720.00	103.8		
			1	61	278,147.00	4,799,720.00	103.8	Average	
			2	62	278,163.00	4,799,767.00	104.3	Average	
			3	800	278,174.60	4,799,793.00	104.6	Average	
			4	63	278,183.00	4,799,812.00	104.8	Average	
			5	64	278,206.00	4,799,856.00	105.6	Average	
6	65	278,231.00	4,799,897.00	106.1	Average				
7	66	278,261.00	4,799,938.00	106.3	Average				
8	67	278,292.00	4,799,975.00	106.7	Average				
9	68	278,326.00	4,800,010.00	107.2	Average				
10	69	278,363.00	4,800,042.00	107.9	Average				
11	70	278,402.00	4,800,072.00	108.6	Average				
12	71	278,443.00	4,800,100.00	109.2	Average				
13	72	278,527.00	4,800,153.00	109.8	Average				
14	73	278,612.00	4,800,206.00	110.2	Average				
15	801	278,659.90	4,800,237.50	110.2	Average	Y			
16	74	278,688.10	4,800,255.50	110.2	Average	Y			
17	75	278,780.00	4,800,313.00	110					
QEW Niagara Bound (1)			15	90	279,883.00	4,797,265.00	84.1	Average	Y
			14	89	279,911.00	4,797,237.00	83.5	Average	
			13	88	279,950.00	4,797,193.00	82	Average	
			12	87	279,974.00	4,797,161.00	80.7	Average	
			11	86	280,007.00	4,797,111.00	78.9	Average	
			10	85	280,028.00	4,797,077.00	78.1	Average	
			9	84	280,055.00	4,797,024.00	77.7	Average	
			8	83	280,070.00	4,796,988.00	77.6	Average	
			7	82	280,087.00	4,796,942.00	77.6	Average	
			6	81	280,102.00	4,796,894.00	77.6	Average	
			5	80	280,129.00	4,796,798.00	77.7	Average	
			4	79	280,156.00	4,796,701.00	78.5	Average	
QEW Niagara Bound (2)			3	78	280,190.00	4,796,606.00	80.4	Average	
			2	77	280,229.00	4,796,514.00	83.4	Average	
			1	76	280,269.00	4,796,422.00	86.6		
			15	105	278,849.00	4,798,148.00	92.2	Average	
			14	104	278,925.00	4,798,083.00	91.3	Average	
			13	103	279,002.00	4,798,019.00	90.3	Average	
			12	102	279,078.00	4,797,955.00	89.5	Average	
11	101	279,154.00	4,797,890.00	88.6	Average				
10	100	279,230.00	4,797,825.00	87.5	Average				
9	99	279,306.00	4,797,759.00	86.8	Average				
8	98	279,381.00	4,797,693.00	85.8	Average				
7	97	279,456.00	4,797,628.00	85	Average				

## Future without the Undertaking - Roadway Input

Roadway Name	Width	Points Name	No.	Coordinates (pavement)			Segment Pvrmt Type	On Struct?	
				X	Y	Z			
QEW Niagara Bound (3)	m	26.1	6	96	279,532.00	4,797,562.00	84.4	Average	
			5	95	279,608.00	4,797,497.00	84.2	Average	
			4	94	279,685.00	4,797,433.00	84.4	Average	
			3	93	279,762.00	4,797,369.00	84.6	Average	Y
			2	92	279,839.00	4,797,306.00	84.7	Average	Y
			1	91	279,883.00	4,797,265.00	84.1		
			16	120	278,302.00	4,798,859.00	108.3	Average	
			15	119	278,344.00	4,798,768.00	106.6	Average	
			14	118	278,385.10	4,798,682.00	104	Average	Y
			13	802	278,399.40	4,798,658.00	103.4	Average	Y
			12	117	278,440.00	4,798,591.00	101.5	Average	
			11	116	278,467.00	4,798,551.00	100.3	Average	
			10	115	278,498.00	4,798,508.00	99	Average	
			9	114	278,528.00	4,798,469.00	97.8	Average	
			8	113	278,561.00	4,798,429.00	96.7	Average	
			7	112	278,592.00	4,798,392.00	96	Average	
6	111	278,627.00	4,798,353.00	95.4	Average				
5	110	278,661.00	4,798,319.00	94.9	Average				
4	109	278,699.00	4,798,281.00	94.5	Average				
3	108	278,735.00	4,798,248.00	94	Average				
2	107	278,773.00	4,798,214.00	93.3	Average				
1	106	278,849.00	4,798,148.00	92.2					
QEW Niagara Bound (4)		13	15	135	278,125.00	4,799,727.00	104.5	Average	
			14	134	278,112.00	4,799,677.00	104	Average	
			13	133	278,102.00	4,799,628.00	103.4	Average	
			12	132	278,096.00	4,799,578.00	102.8	Average	
			11	131	278,093.00	4,799,527.00	102.4	Average	
			10	130	278,094.00	4,799,477.00	102.2	Average	
			9	129	278,099.00	4,799,426.00	102.3	Average	
			8	128	278,107.00	4,799,377.00	102.8	Average	
			7	127	278,119.00	4,799,326.00	103.8	Average	
			6	126	278,131.00	4,799,287.00	104.5	Average	
			5	125	278,152.00	4,799,231.00	105.6	Average	
			4	124	278,189.00	4,799,138.00	107.4	Average	
			3	123	278,226.00	4,799,045.00	108.7	Average	
2	122	278,263.00	4,798,952.00	109	Average				
1	121	278,302.00	4,798,859.00	108.3					
QEW Niagara Bound (5)		16	15	150	278,764.00	4,800,339.00	109.9	Average	
			14	149	278,663.30	4,800,275.50	110.2	Average	Y
			13	148	278,638.30	4,800,258.50	110.2	Average	Y
			12	147	278,513.00	4,800,176.00	109.6	Average	
			11	146	278,428.00	4,800,123.00	109.4	Average	
			10	145	278,386.00	4,800,093.00	109.3	Average	
			9	144	278,347.00	4,800,061.00	108.9	Average	
			8	143	278,310.00	4,800,029.00	108.4	Average	
			7	142	278,274.00	4,799,991.00	108	Average	
			6	141	278,242.00	4,799,952.00	107.4	Average	
5	140	278,212.00	4,799,910.00	106.9	Average				
4	139	278,186.00	4,799,868.00	106.4	Average				
3	138	278,162.00	4,799,821.00	105.8	Average				
2	137	278,142.00	4,799,775.00	105.1	Average				

## Future without the Undertaking - Roadway Input

Roadway Name	Points Name	Width	No.	Coordinates (pavement)			Segment Pvrmt Type	On Struct?
				X	Y	Z		
QEW S - Fairview NS (1)	7.5	m	1	136	278,125.00	4,799,727.00	104.5	
			1	151	279,056.20	4,798,010.00	90.5	Average
			2	152	278,985.00	4,798,078.00	91.3	Average
			3	153	278,910.00	4,798,143.00	92.2	Average
			4	154	278,834.00	4,798,209.00	93	Average
			5	155	278,760.00	4,798,276.00	93.6	Average
			6	156	278,724.00	4,798,311.00	94	Average
			7	157	278,691.00	4,798,348.00	94.3	Average
			8	158	278,663.00	4,798,382.00	94.6	Average
			9	159	278,639.00	4,798,414.00	94.9	Average
			10	160	278,627.00	4,798,430.00	95	Average
			11	161	278,616.00	4,798,447.00	95.1	Average
			12	162	278,606.00	4,798,464.00	95.3	Average
			13	163	278,598.00	4,798,482.00	95.5	Average
			14	164	278,592.00	4,798,501.00	95.6	Average
15	165	278,587.00	4,798,521.00	95.7				
QEW S - Fairview NS (2)	11.5	m	1	166	278,587.00	4,798,521.00	95.7	Average
			2	167	278,585.00	4,798,541.00	95.8	Average
			3	168	278,584.00	4,798,561.00	95.9	Average
			4	169	278,585.00	4,798,581.00	95.9	Average
			5	170	278,587.00	4,798,600.00	95.9	Average
			6	171	278,590.00	4,798,620.00	95.9	Average
			7	172	278,591.00	4,798,640.00	95.8	Average
			8	173	278,590.00	4,798,660.00	95.7	Average
			9	174	278,586.00	4,798,680.00	95.5	Average
			10	175	278,579.00	4,798,699.00	95.4	Average
			11	176	278,572.00	4,798,717.00	95.4	Average
			12	177	278,564.00	4,798,736.00	95.6	Average
			13	178	278,561.10	4,798,746.00	95.9	
			1	179	278,885.60	4,798,157.50	92.6	Average
			2	180	278,805.00	4,798,229.00	93.3	Average
3	181	278,730.00	4,798,296.00	94.1	Average			
4	182	278,691.00	4,798,334.00	94.5	Average			
5	183	278,624.00	4,798,405.00	95.4	Average			
6	184	278,593.00	4,798,441.00	96.2	Average			
7	185	278,530.00	4,798,519.00	98.4	Average			
8	186	278,503.00	4,798,556.00	99.7	Average			
9	187	278,473.00	4,798,601.00	101	Average			
10	188	278,450.00	4,798,638.00	102.1	Average			
11	189	278,427.40	4,798,676.50	103.3	Average Y			
12	803	278,415.60	4,798,699.00	103.8	Average Y			
13	190	278,377.00	4,798,776.00	105.9	Average			
14	191	278,338.00	4,798,868.00	107.9	Average			
15	192	278,301.00	4,798,961.00	109.1	Average			
16	193	278,265.00	4,799,054.00	108.6				
QEW S - Highway 407 N (2)	12.1	m	1	194	278,265.00	4,799,054.00	108.6	Average
			2	195	278,254.00	4,799,085.00	108	Average
			3	196	278,235.00	4,799,150.00	106.4	Average
			4	197	278,212.00	4,799,247.00	103.7	Average
			5	198	278,196.00	4,799,346.00	102.2	Average
			6	199	278,188.00	4,799,445.00	102.8	Average

## Future without the Undertaking - Roadway Input

Roadway Name	Width	Points		No.	Coordinates (pavement)			Segment Pvrmt Type	On Struct?	
		Name			X	Y	Z			
QEW S - Highway 407 N (3)	m			7	200	278,185.00	4,799,545.00	105.4	Average	
				8	201	278,184.00	4,799,645.00	108.4	Average	
				9	202	278,183.00	4,799,665.00	108.9	Average	
				10	203	278,182.00	4,799,685.00	109.6	Average	
				11	204	278,180.00	4,799,705.00	110.3	Average	
				12	205	278,177.00	4,799,725.00	110.9	Average	
				13	206	278,174.00	4,799,745.00	111.5	Average	Y
				14	207	278,170.00	4,799,764.00	112.2	Average	Y
				15	208	278,165.00	4,799,784.00	112.6		
			11.2	1	209	278,165.00	4,799,784.00	112.6	Average	Y
				2	210	278,160.00	4,799,803.00	113.3	Average	Y
				3	211	278,154.00	4,799,822.00	113.9	Average	Y
				4	212	278,147.00	4,799,841.00	114.4	Average	Y
				5	213	278,140.00	4,799,860.00	114.8	Average	Y
				6	214	278,132.00	4,799,878.00	115.2	Average	Y
		7	215	278,087.00	4,799,967.00	116.6	Average	Y		
		8	216	278,042.00	4,800,057.00	118.1	Average			
		9	217	278,018.30	4,800,117.50	118.8	Average	Y		
		10	218	278,008.00	4,800,150.00	119	Average	Y		
		11	219	277,995.00	4,800,200.00	119.2	Average			
		12	220	277,986.00	4,800,252.00	119.3	Average			
		13	221	277,980.00	4,800,308.00	119.4	Average			
		14	222	277,974.00	4,800,381.00	119.8	Average			
		15	223	277,961.30	4,800,463.00	120				
Highway 403 W - QEW S (1)				1	224	277,077.00	4,798,867.00	109.3	Average	
				2	225	277,141.10	4,798,943.50	108.9	Average	
				3	226	277,206.60	4,799,019.50	108.5	Average	
				4	227	277,269.30	4,799,096.50	108.2	Average	
				5	228	277,331.00	4,799,176.00	108.3	Average	
				6	229	277,394.00	4,799,254.00	108.4	Average	
				7	230	277,410.00	4,799,272.00	108.4	Average	
				8	231	277,434.00	4,799,298.00	108.3	Average	
				9	232	277,461.00	4,799,325.00	108.3	Average	
				10	233	277,492.00	4,799,353.00	108.4	Average	
				11	234	277,540.00	4,799,390.00	108.4	Average	
				12	235	277,589.00	4,799,423.00	108.2	Average	
				13	236	277,607.00	4,799,434.00	108.1	Average	
				14	237	277,624.00	4,799,444.00	108	Average	
				15	238	277,642.00	4,799,453.00	108		
Highway 403 W - QEW S (2)				1	239	277,642.00	4,799,453.00	108	Average	
				2	240	277,660.00	4,799,462.00	107.8	Average	
				3	241	277,678.00	4,799,469.00	107.5	Average	
				4	242	277,697.00	4,799,476.00	107.1	Average	
				5	243	277,716.00	4,799,481.00	106.7	Average	
				6	244	277,736.00	4,799,485.00	106.2	Average	
				7	245	277,756.00	4,799,488.00	105.8	Average	
				8	246	277,776.00	4,799,489.00	105.4	Average	
				9	247	277,796.00	4,799,489.00	105.2	Average	
				10	248	277,816.00	4,799,488.00	105.2	Average	
				11	249	277,835.00	4,799,485.00	105.4	Average	
				12	250	277,855.00	4,799,481.00	105.8	Average	

## Future without the Undertaking - Roadway Input

Roadway Name	Width	Points Name	No.	Coordinates (pavement)			Segment Pvrmt Type	On Struct?	
				X	Y	Z			
				m	m	m			
Highway 403 W - QEW S (3)	7.5		13	251	277,874.00	4,799,476.00	106.4	Average	
			14	252	277,893.00	4,799,469.00	107.1	Average	
			15	253	277,912.00	4,799,461.00	107.7		
			1	254	277,912.00	4,799,461.00	107.7	Average	
			2	255	277,929.00	4,799,452.00	108.2	Average	
			3	256	277,947.00	4,799,442.00	108.5	Average	
			4	257	277,963.00	4,799,431.00	108.7	Average	
			5	258	277,978.00	4,799,418.00	108.6	Average	Y
			6	259	277,993.00	4,799,404.00	108.4	Average	Y
			7	260	278,008.00	4,799,391.00	108.2	Average	
			8	261	278,021.00	4,799,376.00	107.7	Average	
			9	262	278,034.00	4,799,361.00	107	Average	
			10	263	278,047.00	4,799,345.00	106.2	Average	
			11	264	278,059.00	4,799,329.00	105.3	Average	
			12	265	278,071.00	4,799,313.00	104.5	Average	
Highway 403 W - QEW S (4)	7.5		13	266	278,082.00	4,799,297.00	103.8	Average	
			14	267	278,093.00	4,799,280.00	103.4	Average	
			15	268	278,104.00	4,799,263.00	103.5		
			1	269	278,104.00	4,799,263.00	103.5	Average	
			2	270	278,114.00	4,799,246.00	104	Average	
			3	271	278,130.00	4,799,216.00	104.7	Average	
			4	272	278,142.00	4,799,192.00	105.4	Average	
			5	273	278,167.00	4,799,137.00	106.8	Average	
			6	274	278,208.00	4,799,046.00	108.3	Average	
			7	275	278,270.60	4,798,928.50	109		
			1	276	277,401.50	4,799,262.00	108.4	Average	
			2	277	277,446.00	4,799,306.00	108.1	Average	
			3	278	277,475.00	4,799,333.00	108.2	Average	
			4	279	277,490.00	4,799,347.00	108.3	Average	
			5	280	277,521.00	4,799,372.00	108.3	Average	
6	281	277,553.00	4,799,395.00	108.2	Average				
7	282	277,638.00	4,799,448.00	107.9	Average				
8	283	277,656.00	4,799,457.00	107.6	Average				
9	284	277,674.00	4,799,464.00	107.4	Average				
10	285	277,693.00	4,799,471.00	107	Average				
11	286	277,713.00	4,799,476.00	106.5	Average				
12	287	277,732.00	4,799,479.00	106.2	Average				
13	288	277,752.00	4,799,481.00	105.6	Average				
14	289	277,772.00	4,799,482.00	105.1	Average				
15	290	277,792.00	4,799,480.00	104.8					
Highway 403 W - Plains (2)	10.6		1	291	277,792.00	4,799,480.00	104.8	Average	
			2	292	277,812.00	4,799,477.00	104.6	Average	
			3	293	277,832.00	4,799,473.00	104.6	Average	
			4	294	277,851.00	4,799,467.00	104.4	Average	
			5	295	277,869.00	4,799,460.00	104.3	Average	
			6	296	277,887.00	4,799,451.00	104.1	Average	
			7	297	277,904.00	4,799,441.00	104	Average	
			8	298	277,936.00	4,799,417.00	103.6	Average	
			9	299	277,968.60	4,799,386.50	103.2	Average	
			10	300	277,992.00	4,799,360.00	102.7	Average	
			11	301	278,017.00	4,799,328.00	102.2	Average	

## Future without the Undertaking - Roadway Input

Roadway Name	Width	Points Name	No.	Coordinates (pavement)			Segment Pvrmt Type	On Struct?				
				X	Y	Z						
Highway 403 W - Plains (3)	10.6	m	12	302	278,038.00	4,799,295.00	101.7	Average				
			13	303	278,059.00	4,799,261.00	101.2	Average				
			1	304	278,061.00	4,799,262.00	101.2	Average				
			2	305	278,113.00	4,799,177.00	101.6	Average				
			3	306	278,155.00	4,799,109.00	103.8	Average				
			4	307	278,166.00	4,799,092.00	104.6	Average				
			5	308	278,197.00	4,799,041.00	107	Average				
			6	309	278,216.00	4,799,005.00	108.2	Average				
			7	310	278,224.00	4,798,987.00	108.6	Average				
			8	311	278,230.00	4,798,968.00	109.1	Average				
			9	312	278,236.00	4,798,949.00	109.2	Average				
			10	313	278,241.00	4,798,930.00	109.1	Average				
			11	314	278,244.00	4,798,910.00	108.9	Average				
			12	315	278,246.00	4,798,890.00	108.4	Average				
			13	316	278,247.00	4,798,870.00	107.9	Average				
Highway 403 W - Plains (4)	13.5	m	14	317	278,247.00	4,798,850.00	107.1	Average				
			15	318	278,246.00	4,798,830.00	106.3	Average				
			1	319	278,246.00	4,798,830.00	106.3	Average				
			2	320	278,244.00	4,798,810.00	105.3	Average				
			3	321	278,232.00	4,798,751.00	102.3	Average				
			4	322	278,228.00	4,798,732.00	101.3	Average				
			5	323	278,225.00	4,798,712.00	100.3	Average				
			6	324	278,224.00	4,798,692.00	99.5	Average				
			7	325	278,228.00	4,798,673.00	98.9	Average				
			8	326	278,236.00	4,798,654.00	98.4	Average				
			9	327	278,248.00	4,798,638.00	98	Average				
			10	328	278,287.90	4,798,595.50	96.6	Average				
			Highway 407 N - QEW S (1)	11.2	m	1	329	277,941.90	4,800,550.00	120.6	Average	
						2	330	277,936.00	4,800,450.00	120.1	Average	
						3	331	277,933.00	4,800,350.00	119.7	Average	
4	332	277,929.00				4,800,250.00	119.4	Average				
5	333	277,917.80				4,800,150.50	118.8	Average				
6	804	277,910.10				4,800,109.50	117.8	Average	Y			
7	805	277,903.50				4,800,073.50	117	Average	Y			
8	334	277,900.00				4,800,052.00	116.6	Average				
9	335	277,882.00				4,799,954.00	112.8	Average				
10	336	277,876.00				4,799,904.00	110.7	Average				
11	337	277,873.00				4,799,854.00	108.2	Average				
12	338	277,873.70				4,799,812.00	106	Average				
13	339	277,879.30				4,799,751.00	103.2	Average				
14	340	277,887.00				4,799,705.00	102.8	Average				
15	341	277,899.00				4,799,657.00	102.2	Average				
Highway 407 N - QEW S (2)	13	m	16	342	277,915.00	4,799,609.00	101.8	Average				
			17	343	277,933.00	4,799,563.00	101.5	Average				
			1	344	277,933.00	4,799,563.00	101.5	Average				
			2	345	277,956.00	4,799,518.00	101.3	Average				
			3	346	277,981.00	4,799,475.00	101.1	Average				
			4	347	278,037.00	4,799,392.00	101.2	Average				
			5	348	278,070.00	4,799,342.00	101.7	Average				
6	349	278,091.00	4,799,308.00	101.4	Average							
7	350	278,136.00	4,799,219.00	104.6	Average							

## Future without the Undertaking - Roadway Input

Roadway Name	Width	Points Name	No.	Coordinates (pavement)			Segment Pvrmt Type	On Struct?	
				X	Y	Z			
Highway 403 EB (3)	11.3	11.3	8	351	278,178.00	4,799,128.00	107	Average	
			9	352	278,219.00	4,799,037.00	108.5	Average	
			10	353	278,262.20	4,798,949.50	108.9		
			1	354	276,843.00	4,798,565.00	112.3	Average	
			2	355	276,903.00	4,798,645.00	111.4	Average	
			3	356	276,963.00	4,798,725.00	110.4	Average	
			4	357	277,025.00	4,798,803.00	109.6	Average	
			5	358	277,088.00	4,798,881.00	109.2	Average	
			6	359	277,153.00	4,798,958.00	108.9	Average	
			7	360	277,218.00	4,799,034.00	108.4	Average	
			8	361	277,280.00	4,799,111.00	108.2	Average	
			9	362	277,341.00	4,799,190.00	108.4	Average	
			10	363	277,403.00	4,799,268.00	108.4	Average	
			11	364	277,437.00	4,799,306.00	108.4	Average	
			12	365	277,470.00	4,799,339.00	108.6	Average	
Highway 403 EB (4)	13.5	13.5	13	366	277,502.00	4,799,370.00	108.7	Average	
			14	367	277,542.00	4,799,405.00	108.9	Average	
			15	368	277,578.00	4,799,434.00	109		
			1	369	277,578.00	4,799,434.00	109	Average	
			2	370	277,622.00	4,799,466.00	108.8	Average	
			3	371	277,666.00	4,799,494.00	108.5	Average	
			4	372	277,708.00	4,799,516.00	108.1	Average	
			5	373	277,755.00	4,799,537.00	107.9	Average	
			6	374	277,801.00	4,799,552.00	107.7	Average	
			7	375	277,846.00	4,799,563.00	107.7	Average	
			8	376	277,914.10	4,799,577.00	108.5	Average	Y
			9	377	277,938.00	4,799,581.00	109	Average	Y
			10	378	277,996.00	4,799,594.00	110.7	Average	
			11	379	278,025.00	4,799,603.00	111.8	Average	
			12	380	278,058.00	4,799,615.00	113.2	Average	
Highway 403 EB (5)	11.3	11.3	13	381	278,090.00	4,799,629.00	114.5	Average	Y
			14	382	278,125.00	4,799,646.00	115.8	Average	Y
			15	383	278,156.00	4,799,664.00	116.8		
			1	384	278,156.00	4,799,664.00	116.8	Average	Y
			2	385	278,177.00	4,799,678.00	117.2	Average	Y
			3	386	278,204.00	4,799,697.00	117.7	Average	Y
			4	387	278,224.00	4,799,714.00	117.8	Average	
			5	388	278,254.00	4,799,741.00	117.8	Average	
			6	389	278,280.00	4,799,768.00	117.7	Average	
			7	390	278,320.00	4,799,816.00	116.6	Average	
			8	391	278,342.00	4,799,849.00	115.5	Average	
			9	392	278,373.00	4,799,901.00	113.2	Average	
			10	393	278,404.00	4,799,959.00	110.9	Average	
			11	394	278,421.00	4,799,989.00	110.1	Average	
			12	395	278,434.00	4,800,010.00	109.7	Average	
Highway 403 EB (6)	11.3	11.3	13	396	278,447.00	4,800,030.00	109.4	Average	
			14	397	278,461.00	4,800,050.00	109.1	Average	
			15	398	278,478.00	4,800,071.00	109		
			1	399	278,478.00	4,800,071.00	109	Average	
			2	400	278,500.00	4,800,096.00	109	Average	
			3	401	278,549.00	4,800,142.00	109.4	Average	

## Future without the Undertaking - Roadway Input

Roadway Name	Width	Points Name	No.	Coordinates (pavement)			Segment Pvrmt Type	On Struct?	
				X	Y	Z			
QEW N-North Shore Blvd E/W	m	8.3	4	402	278,592.00	4,800,177.00	109.8	Average	
			5	403	278,628.00	4,800,203.00	110.1	Average	
			6	808	278,665.00	4,800,228.50	110.15	Average	Y
			7	404	278,692.80	4,800,247.50	110.2	Average	Y
			8	405	278,754.80	4,800,296.50	110.1		
			1	406	279,157.80	4,797,886.00	88.6	Average	
			2	407	279,238.90	4,797,803.00	87.7	Average	
			3	408	279,312.60	4,797,734.50	86.8	Average	
			4	409	279,386.00	4,797,668.00	84.9	Average	
			5	410	279,459.00	4,797,600.00	84.3	Average	
			6	411	279,534.00	4,797,534.00	83.8	Average	
			7	412	279,574.00	4,797,495.00	83.6	Average	
			8	413	279,605.00	4,797,463.00	83.4	Average	
			9	414	279,646.00	4,797,413.00	83	Average	
			10	415	279,665.00	4,797,383.00	82.6	Average	
North Shore Blvd E/W-QEW S (1)	m	7	11	416	279,679.00	4,797,337.00	81.5	Average	
			12	417	279,687.00	4,797,286.00	80.4	Average	
			13	418	279,693.00	4,797,263.00	80	Average	
			14	419	279,709.00	4,797,221.00	80		
			1	420	279,720.00	4,797,223.50	79.6	Average	
			2	421	279,713.00	4,797,238.00	79.8	Average	
			3	422	279,706.00	4,797,257.00	80.4	Average	
			4	423	279,701.00	4,797,277.00	81.3	Average	
			5	424	279,701.00	4,797,296.00	82.1	Average	
			6	425	279,711.00	4,797,314.00	82.6	Average	
			7	426	279,727.00	4,797,325.00	83.5	Average	
			8	427	279,746.00	4,797,328.00	84.1	Average	
			9	428	279,765.00	4,797,321.00	84.2	Average	
			10	429	279,782.00	4,797,310.00	84.4	Average	
			11	430	279,799.00	4,797,299.00	84.4	Average	
12	431	279,815.00	4,797,287.00	84.4	Average				
13	432	279,827.10	4,797,276.00	84.3	Average	Y			
14	433	279,839.20	4,797,265.00	84.1	Average	Y			
15	434	279,859.00	4,797,247.00	83.5					
North Shore Blvd E/W-QEW S (2)	m	3.8	1	435	279,859.00	4,797,247.00	83.5	Average	
			2	436	279,873.00	4,797,233.00	82.8	Average	
			3	437	279,887.00	4,797,218.00	82.1	Average	
			4	438	279,901.00	4,797,204.00	81.6	Average	
			5	439	279,914.00	4,797,189.00	81	Average	
			6	440	279,927.00	4,797,174.00	80.5	Average	
			7	441	279,939.00	4,797,159.00	79.9		
			1	442	279,157.90	4,797,886.50	88.6	Average	
			2	443	279,315.80	4,797,736.00	86.4	Average	
			3	444	279,462.00	4,797,603.00	84.3	Average	
			4	445	279,613.00	4,797,471.00	83.7	Average	
			5	446	279,688.00	4,797,405.00	84.3	Average	
			6	447	279,764.00	4,797,340.00	84.8	Average	
			7	809	279,828.00	4,797,279.00	84.3	Average	Y
			8	810	279,840.90	4,797,267.50	84.2	Average	Y
9	448	279,888.00	4,797,223.00	84.3	Average				
10	449	279,952.00	4,797,146.00	81.8	Average				
QEW N to Eastport S	m	10	1	442	279,157.90	4,797,886.50	88.6	Average	
			2	443	279,315.80	4,797,736.00	86.4	Average	
			3	444	279,462.00	4,797,603.00	84.3	Average	
			4	445	279,613.00	4,797,471.00	83.7	Average	
			5	446	279,688.00	4,797,405.00	84.3	Average	
			6	447	279,764.00	4,797,340.00	84.8	Average	
			7	809	279,828.00	4,797,279.00	84.3	Average	Y
			8	810	279,840.90	4,797,267.50	84.2	Average	Y
			9	448	279,888.00	4,797,223.00	84.3	Average	
			10	449	279,952.00	4,797,146.00	81.8	Average	



## Future without the Undertaking - Roadway Input

Roadway Name	Width	Points Name	No.	Coordinates (pavement)			Segment Pvrmt Type	On Struct?	
				X	Y	Z			
QEW S to North Shore Blvd EW	m		8	450	280,007.00	4,797,063.00	79.2	Average	
				451	280,048.00	4,796,972.00	77.5	Average	
				452	280,077.00	4,796,876.00	77.3	Average	
				453	280,105.00	4,796,752.00	77.3	Average	
				454	280,127.00	4,796,654.00	77.2	Average	
				455	280,157.00	4,796,559.00	77.2		
				456	280,191.90	4,796,657.50	78.8	Average	
				457	280,140.30	4,796,850.50	77.7	Average	
				458	280,091.10	4,797,044.50	77.3	Average	
				459	280,074.00	4,797,083.50	77.1	Average	
				460	280,051.80	4,797,136.50	76.9	Average	
				461	280,042.20	4,797,161.00	77	Average	
				462	280,036.20	4,797,191.50	77.1	Average	
				463	280,033.90	4,797,234.00	77.4	Average	
				464	280,037.60	4,797,286.50	77.9	Average	
				465	280,035.50	4,797,309.00	78.1	Average	
466	280,027.80	4,797,332.50	78.5	Average					
467	280,016.60	4,797,349.00	78.6	Average					
468	279,999.80	4,797,366.00	78.7	Average					
469	279,996.00	4,797,373.50	78.9	Average					
470	279,997.10	4,797,394.50	79.2						
472	279,926.40	4,797,319.00	78.5	Average					
473	279,959.00	4,797,336.00	78.6	Average					
474	279,977.00	4,797,344.00	78.8	Average					
475	279,997.00	4,797,343.00	79	Average					
476	280,013.00	4,797,332.00	79.6	Average					
477	280,024.00	4,797,316.00	80.4	Average					
478	280,027.00	4,797,296.00	81.1	Average					
479	280,020.00	4,797,278.00	81.9	Average					
480	280,006.00	4,797,264.00	82.6	Average					
481	279,987.00	4,797,259.00	83.3	Average					
482	279,967.00	4,797,263.00	83.7	Average					
483	279,932.60	4,797,284.00	84.4	Average					
811	279,907.20	4,797,303.00	84.6	Average	Y				
484	279,888.30	4,797,318.50	84.6	Average	Y				
485	279,773.50	4,797,384.00	84.4						
486	279,996.80	4,797,408.50	78.9	Average					
487	279,957.00	4,797,385.00	78.9	Average					
488	279,935.00	4,797,373.00	79.5	Average					
489	279,911.00	4,797,366.00	80.4	Average					
490	279,889.00	4,797,365.00	81.2	Average					
491	279,876.00	4,797,366.00	81.8	Average					
492	279,862.00	4,797,369.00	82.3	Average					
493	279,847.00	4,797,376.00	82.8	Average					
494	279,819.00	4,797,394.00	83.6	Average					
495	279,737.00	4,797,452.00	83.8	Average					
496	279,617.10	4,797,526.00	83.7						
497	275,988.00	4,797,456.00	113.6	Average					
498	276,049.00	4,797,536.00	114	Average					
499	276,110.00	4,797,615.00	114.3	Average					
500	276,171.00	4,797,694.00	114.7	Average					
North Shore Blvd W to QEW N			7.5						
North Shore Blvd E to QEW N			7.5						
Highway 403 EB (2)			17.5						

## Future without the Undertaking - Roadway Input

Roadway Name	Width	Points Name	No.	Coordinates (pavement)			Segment Pvrmt Type	On Struct?
				X	Y	Z		
	m			m	m	m		
			5	501 276,232.00	4,797,773.00	115	Average	
			6	502 276,293.00	4,797,852.00	115.2	Average	
			7	503 276,355.00	4,797,930.00	115.6	Average	
			8	504 276,416.00	4,798,011.00	115.9	Average	
			9	505 276,477.00	4,798,090.00	116.1	Average	
			10	506 276,538.00	4,798,169.00	116.2	Average	
			11	507 276,599.00	4,798,248.00	116.1	Average	
			12	508 276,660.00	4,798,328.00	115.1	Average	
			13	509 276,721.00	4,798,407.00	114.2	Average	
			14	510 276,782.00	4,798,486.00	113.2	Average	
			15	511 276,843.00	4,798,565.00	112.3		
QEW Toronto Bound (6)	19.6		1	512 278,780.00	4,800,313.00	110	Average	
			2	513 278,866.00	4,800,364.00	109.1	Average	
			3	514 278,951.00	4,800,419.00	108.2	Average	
			4	515 279,034.00	4,800,475.00	108.6	Average	
			5	516 279,118.00	4,800,529.00	110.1	Average	
			6	517 279,202.00	4,800,582.00	112	Average	
			7	518 279,287.00	4,800,635.00	113.4	Average	
			8	519 279,372.00	4,800,688.00	114.1	Average	
			9	520 279,457.00	4,800,741.00	114.2	Average	
			10	521 279,541.00	4,800,795.00	113.4	Average	
			11	522 279,625.00	4,800,849.00	112	Average	
			12	523 279,668.00	4,800,878.00	111	Average	
			13	524 279,708.00	4,800,907.00	109.8	Average	
			14	525 279,748.00	4,800,937.00	108.7	Average	
			15	526 279,787.00	4,800,968.00	107.9		
QEW Niagara Bound (6)	10.8		15	541 279,770.00	4,800,989.00	107	Average	
			14	540 279,732.00	4,800,959.00	107.8	Average	
			13	539 279,692.00	4,800,927.00	108.9	Average	
			12	538 279,653.00	4,800,898.00	110	Average	
			11	537 279,612.00	4,800,869.00	111.1	Average	
			10	536 279,530.00	4,800,813.00	113.1	Average	
			9	535 279,445.00	4,800,759.00	114.3	Average	
			8	534 279,360.00	4,800,706.00	114.2	Average	
			7	533 279,276.00	4,800,653.00	113.5	Average	
			6	532 279,191.00	4,800,601.00	112.1	Average	
			5	531 279,105.00	4,800,550.00	110.1	Average	
			4	530 279,019.00	4,800,498.00	108.5	Average	
			3	529 278,934.00	4,800,445.00	108	Average	
			2	528 278,849.00	4,800,393.00	109.1	Average	
			1	527 278,764.00	4,800,339.00	109.9		
Highway 403 W - Brant NS	10.5		1	542 278,342.90	4,799,848.00	115.5	Average	
			2	543 278,442.00	4,799,993.00	108.9	Average	
			3	544 278,457.00	4,800,013.00	108.2	Average	
			4	545 278,474.00	4,800,031.00	107.5	Average	
			5	546 278,493.00	4,800,047.00	107.1	Average	
			6	547 278,514.00	4,800,060.00	106.3	Average	
			7	548 278,538.00	4,800,068.00	106.2	Average	
			8	549 278,563.00	4,800,072.00	105.8	Average	
			9	550 278,588.00	4,800,073.00	105.4	Average	
			10	551 278,637.00	4,800,068.00	104.5	Average	

## Future without the Undertaking - Roadway Input

Roadway Name	Width	Points Name	No.	Coordinates (pavement)			Segment Pvrmt Type	On Struct?	
				X	Y	Z			
				m	m	m			
QEW S - Highway 403 W (1)	8			552	278,662.00	4,800,068.00	104.1	Average	
				553	278,687.00	4,800,073.00	103.7	Average	
				554	278,708.00	4,800,085.00	103.3	Average	
				555	278,726.00	4,800,103.00	103	Average	
				556	278,765.30	4,800,147.50	103.1		
				557	278,233.90	4,799,157.50	106	Average	
				558	278,220.00	4,799,237.00	103.7	Average	
				559	278,203.00	4,799,336.00	102.1	Average	
				560	278,197.00	4,799,395.00	102.1	Average	
				561	278,192.00	4,799,495.00	103.8	Average	
				562	278,191.00	4,799,595.00	107	Average	
				563	278,190.00	4,799,655.00	109	Average	
				564	278,187.00	4,799,695.00	110.2	Average	
				565	278,182.00	4,799,735.00	111.5	Average	Y
				566	278,174.00	4,799,774.00	112.6	Average	Y
567	278,163.00	4,799,812.00	113.9	Average	Y				
568	278,150.00	4,799,850.00	114.9	Average	Y				
569	278,109.00	4,799,941.00	116.4	Average					
570	278,100.00	4,799,959.00	116.7	Average					
571	278,069.00	4,800,033.00	117						
572	278,069.00	4,800,033.00	117	Average					
573	278,064.00	4,800,052.00	117	Average					
574	278,062.00	4,800,072.00	116.9	Average					
575	278,065.00	4,800,092.00	116.5	Average					
576	278,073.00	4,800,110.00	116.2	Average					
577	278,085.00	4,800,126.00	115.7	Average					
578	278,101.00	4,800,138.00	115	Average					
579	278,120.00	4,800,145.00	114.3	Average					
580	278,139.00	4,800,148.00	113.4	Average					
581	278,159.00	4,800,145.00	112.8	Average					
582	278,178.00	4,800,138.00	112.2	Average					
583	278,194.00	4,800,125.00	111.5	Average					
584	278,206.00	4,800,110.00	110.8	Average					
585	278,214.00	4,800,091.00	110.2	Average					
586	278,217.00	4,800,072.00	109.6						
587	278,217.00	4,800,072.00	109.6	Average					
588	278,215.00	4,800,052.00	109.1	Average					
589	278,208.00	4,800,033.00	108.5	Average					
590	278,197.00	4,800,017.00	107.8	Average					
591	278,183.00	4,800,002.00	107.4	Average					
592	278,147.00	4,799,971.00	107.1	Average					
593	278,106.00	4,799,938.00	106.8	Average					
594	278,024.00	4,799,881.00	107.4	Average					
595	277,917.00	4,799,805.00	109.8						
610	276,822.00	4,798,581.00	113.3	Average					
609	276,761.00	4,798,502.00	114.2	Average					
608	276,700.00	4,798,423.00	115.2	Average					
607	276,639.00	4,798,343.00	116.1	Average					
606	276,578.00	4,798,264.00	116.4	Average					
605	276,517.00	4,798,185.00	116.4	Average					
604	276,456.00	4,798,106.00	116.2	Average					
Highway 403 WB (2)	16.3								

## Future without the Undertaking - Roadway Input

Roadway Name	Width	Points Name	No.	Coordinates (pavement)			Segment Pvrmt Type	On Struct?	
				X	Y	Z			
Highway 403 WB (3)	m		8	603	276,395.00	4,798,027.00	116	Average	
			7	602	276,334.00	4,797,947.00	115.6	Average	
			6	601	276,273.00	4,797,868.00	115.2	Average	
			5	600	276,212.00	4,797,789.00	115	Average	
			4	599	276,151.00	4,797,710.00	114.6	Average	
			3	598	276,090.00	4,797,631.00	114.2	Average	
			2	597	276,029.00	4,797,551.00	114	Average	
			1	596	275,968.00	4,797,472.00	113.6		
			15	625	277,689.00	4,799,632.00	110.6	Average	
			14	624	277,646.00	4,799,591.00	110.2	Average	
			13	623	277,576.00	4,799,520.00	110	Average	
			12	622	277,506.00	4,799,448.00	110	Average	
			11	621	277,436.00	4,799,374.00	110	Average	
10	620	277,368.00	4,799,298.00	110	Average				
9	619	277,306.00	4,799,219.00	109.4	Average				
8	618	277,247.00	4,799,138.00	109.5	Average				
7	617	277,188.00	4,799,057.00	110	Average				
6	616	277,128.00	4,798,977.00	110.2	Average				
5	615	277,067.00	4,798,898.00	110.6	Average				
4	614	277,006.00	4,798,818.00	110.9	Average				
3	613	276,944.00	4,798,739.00	111.4	Average				
2	612	276,883.00	4,798,660.00	112.3	Average				
1	611	276,822.00	4,798,581.00	113.3					
15	640	278,625.00	4,800,251.50	110.2	Average				
14	639	278,531.00	4,800,199.00	109.7	Average				
13	638	278,444.00	4,800,150.00	109.6	Average				
12	637	278,358.00	4,800,100.00	109.1	Average				
11	636	278,274.00	4,800,045.00	107.8	Average				
10	635	278,211.00	4,800,002.00	107.5	Average				
9	634	278,130.00	4,799,943.00	107.1	Average				
8	633	278,047.00	4,799,888.00	107.4	Average				
7	632	277,963.00	4,799,834.00	108.7	Average				
6	631	277,905.30	4,799,795.50	110.2	Average	Y			
5	630	277,841.00	4,799,753.00	111.2	Average	Y			
4	629	277,797.00	4,799,722.00	111.4	Average				
3	628	277,762.00	4,799,695.00	111.4	Average				
2	627	277,719.00	4,799,659.00	111	Average				
1	626	277,689.00	4,799,632.00	110.6					
1	641	277,035.80	4,798,817.00	109.6	Average				
2	642	277,392.00	4,799,277.00	108.9	Average				
3	643	277,461.00	4,799,350.00	109	Average				
4	644	277,535.00	4,799,417.00	109.2	Average				
5	645	277,613.00	4,799,480.00	110.5	Average				
6	646	277,692.00	4,799,542.00	112.6	Average				
7	647	277,730.00	4,799,573.00	114.4	Average				
8	648	277,767.00	4,799,607.00	116	Average				
9	649	277,801.00	4,799,644.00	117.2	Average				
10	650	277,832.00	4,799,683.00	118.4	Average				
11	651	277,861.00	4,799,725.00	119.3	Average	Y			
12	652	277,886.00	4,799,767.00	119.9	Average	Y			
13	653	277,904.00	4,799,803.00	120.4	Average	Y			
Highway 403 W - Highway 407 N (1)			13						

## Future without the Undertaking - Roadway Input

Roadway Name	Width	Points Name	No.	Coordinates (pavement)			Segment Pvrmt Type	On Struct?	
				X	Y	Z			
				m	m	m			
Highway 403 W - Highway 407 N (2)	13			654	277,927.00	4,799,858.00	120.7	Average	
				655	277,943.00	4,799,906.00	120.7		
				656	277,943.00	4,799,906.00	120.7	Average	
				657	277,954.00	4,799,954.00	120.4	Average	
				658	277,963.00	4,800,004.00	120.1	Average	
				659	277,968.00	4,800,053.00	119.8	Average	Y
				660	277,969.00	4,800,103.00	119.5	Average	Y
				661	277,968.20	4,800,132.50	119.4	Average	Y
				662	277,965.00	4,800,253.00	119.5	Average	
				663	277,963.00	4,800,353.00	119.7	Average	
				664	277,960.00	4,800,462.00	120		
				679	277,921.00	4,799,925.00	120.4	Average	
				678	277,905.00	4,799,877.00	120.4	Average	
				677	277,882.00	4,799,822.00	120.2	Average	Y
				676	277,864.00	4,799,786.00	119.7	Average	Y
675	277,839.00	4,799,743.00	119.2	Average	Y				
Highway 407 N - Highway 403 W (1)	13			674	277,811.00	4,799,701.00	118.3	Average	
				673	277,780.00	4,799,662.00	117.2	Average	
				672	277,747.00	4,799,625.00	115.8	Average	
				671	277,711.00	4,799,590.00	114.5	Average	
				670	277,673.00	4,799,557.00	113	Average	
				669	277,595.00	4,799,495.00	110.8	Average	
				668	277,513.00	4,799,433.00	109.7	Average	
				667	277,442.00	4,799,366.00	109.4	Average	
				666	277,374.00	4,799,293.00	109.6	Average	
				665	277,278.10	4,799,180.00	109.5		
				688	277,946.00	4,800,461.00	120.1	Average	
				687	277,947.00	4,800,372.00	119.9	Average	
				686	277,950.00	4,800,272.00	119.6	Average	
				685	277,952.00	4,800,172.00	119.3	Average	
				684	277,951.80	4,800,128.00	119.3	Average	Y
QEW Toronto Bound (7)	19.6			812	277,950.40	4,800,101.50	119.4	Average	Y
				683	277,949.00	4,800,072.00	119.5	Average	
				682	277,943.00	4,800,022.00	119.9	Average	
				681	277,933.00	4,799,973.00	120.2	Average	
				680	277,921.00	4,799,925.00	120.4		
				704	279,787.00	4,800,968.00	107.9	Average	
				705	279,862.00	4,801,036.00	106.8	Average	
				706	279,935.00	4,801,105.00	106.3	Average	
				707	280,005.00	4,801,177.00	106.3	Average	
				708	280,071.00	4,801,253.00	106.1	Average	
				709	280,136.00	4,801,330.00	106.3	Average	
				710	280,198.00	4,801,408.00	106.6	Average	
				711	280,260.00	4,801,486.00	106.9	Average	
				712	280,323.00	4,801,564.00	107.2	Average	
				713	280,386.00	4,801,642.00	107.6	Average	
QEW Niagara Bound (7)	18.5			714	280,598.60	4,801,906.00	110.6		
				725	280,564.50	4,801,910.50	109	Average	
				724	280,363.00	4,801,660.00	107.6	Average	
				723	280,300.00	4,801,582.00	107.3	Average	
				722	280,238.00	4,801,504.00	107	Average	

## Future without the Undertaking - Roadway Input

Roadway Name	Width	Points Name	No.	Coordinates (pavement)			Segment Pvrmt Type	On Struct?	
				X	Y	Z			
Highway 407 NB	m			721	280,176.00	4,801,426.00	106.7	Average	
				720	280,113.00	4,801,348.00	106.3	Average	
				719	280,051.00	4,801,270.00	105.7	Average	
				718	279,985.00	4,801,195.00	105.6	Average	
				717	279,917.00	4,801,123.00	105.5	Average	
				716	279,845.00	4,801,055.00	105.9	Average	
				715	279,770.00	4,800,989.00	107		
				726	277,960.00	4,800,462.00	120	Average	
				727	277,958.00	4,800,571.00	120.5	Average	
				728	277,956.00	4,800,671.00	120.7	Average	
				729	277,953.00	4,800,771.00	121.1	Average	
				730	277,951.00	4,800,871.00	121.4	Average	
				731	277,948.00	4,800,971.00	122.3	Average	
				732	277,946.00	4,801,071.00	124	Average	
				733	277,944.00	4,801,171.00	126.4	Average	
Highway 407 SB			17.4	734	277,942.00	4,801,244.00	128		
				735	277,927.00	4,801,244.00	128.1	Average	
				736	277,930.00	4,801,150.00	125.8	Average	
				737	277,932.00	4,801,050.00	123.5	Average	
				738	277,934.00	4,800,950.00	121.9	Average	
				739	277,937.00	4,800,850.00	121.3	Average	
				740	277,939.00	4,800,750.00	121	Average	
				741	277,941.00	4,800,650.00	120.7	Average	
				742	277,944.00	4,800,550.00	120.4	Average	
				743	277,946.00	4,800,461.00	120.1		
				744	279,164.10	4,800,586.50	111	Average	
				745	279,061.00	4,800,528.00	109.1	Average	
				746	278,974.00	4,800,479.00	108	Average	
				747	278,885.00	4,800,432.00	108.2	Average	
				748	278,867.00	4,800,423.00	108.4	Average	
QEW E - Brant NS			14.2	749	278,839.00	4,800,413.00	108.7	Average	
				750	278,810.00	4,800,406.00	108.9	Average	
				751	278,790.00	4,800,405.00	108.9	Average	
				752	278,751.00	4,800,411.00	108.7	Average	
				753	278,692.00	4,800,425.00	108	Average	
				754	278,670.00	4,800,429.00	107.8	Average	
				755	278,653.00	4,800,426.00	107.5	Average	
				756	278,634.00	4,800,419.00	107.3	Average	
				757	278,617.00	4,800,409.00	107	Average	
				758	278,568.60	4,800,367.00	107.2		
				759	278,614.50	4,800,317.50	104.8	Average	
				760	278,610.00	4,800,359.00	105.5	Average	
				761	278,617.00	4,800,379.00	106.2	Average	
				762	278,631.00	4,800,394.00	106.9	Average	
				763	278,649.00	4,800,404.00	107.6	Average	
Brant E - Highway 403 W (1)			8.2	764	278,670.00	4,800,405.00	108.2	Average	
				765	278,689.00	4,800,398.00	108.6	Average	
				766	278,704.00	4,800,384.00	109	Average	
				767	278,713.00	4,800,365.00	109.3	Average	
				768	278,714.00	4,800,344.00	109.6	Average	
				769	278,706.00	4,800,324.00	109.9	Average	

## Future without the Undertaking - Roadway Input

Roadway Name	Width	Points Name	No.	Coordinates (pavement)			Segment Pvrmt Type	On Struct?	
				X	Y	Z			
Brant E - Highway 403 W (2)	8.2	m	12	770	278,692.00	4,800,309.00	110.2	Average	
			13	771	278,655.90	4,800,285.50	110	Average	Y
			14	772	278,625.00	4,800,268.00	109.9	Average	Y
			15	773	278,535.00	4,800,224.00	108.5		
			1	774	278,535.00	4,800,224.00	108.5	Average	
			2	775	278,447.00	4,800,176.00	107.7	Average	
			3	776	278,416.00	4,800,157.00	107.6	Average	
			4	777	278,364.00	4,800,121.00	108.1	Average	
			5	778	278,284.00	4,800,062.00	107.8	Average	
			6	779	278,203.00	4,800,003.00	107.4	Average	
			7	780	278,141.30	4,799,951.50	107.2		
			1	781	278,676.20	4,800,230.50	103.4	Average	
			2	782	278,709.00	4,800,189.00	103	Average	
			3	783	278,719.00	4,800,171.00	102.7	Average	
			4	784	278,723.00	4,800,151.00	102.6	Average	
5	785	278,720.00	4,800,132.00	102.6	Average				
6	786	278,709.00	4,800,114.00	102.9	Average				
7	787	278,690.00	4,800,101.00	103.4	Average				
8	788	278,670.00	4,800,098.00	104.1	Average				
9	789	278,647.00	4,800,104.00	104.9	Average				
10	790	278,631.00	4,800,116.00	105.8	Average				
11	791	278,621.00	4,800,134.00	106.9	Average				
12	792	278,619.00	4,800,154.00	107.9	Average				
13	793	278,624.00	4,800,173.00	108.7	Average				
14	794	278,634.00	4,800,188.00	109.3	Average				
15	795	278,653.00	4,800,205.00	109.7					
Brant W-N (2)	7.2	m	1	796	278,653.00	4,800,205.00	109.7	Average	
			2	797	278,678.80	4,800,220.00	109.8	Average	Y
			3	798	278,715.00	4,800,247.00	109.8	Average	Y
			4	799	278,801.00	4,800,297.00	109	Average	
			5	800	278,884.00	4,800,354.00	108.1	Average	
			6	801	278,964.00	4,800,414.00	107.8	Average	
			7	802	279,046.00	4,800,471.00	108.4	Average	
			8	803	279,129.00	4,800,526.00	112	Average	
			9	804	279,194.30	4,800,576.50	111		
			1	805	278,834.50	4,800,107.00	102.6	Average	
			2	806	278,787.00	4,800,177.00	103.2	Average	
			3	807	278,780.00	4,800,196.00	103.6	Average	
			4	808	278,778.00	4,800,215.00	104.2	Average	
			5	809	278,780.00	4,800,235.00	105	Average	
			6	810	278,787.00	4,800,254.00	105.8	Average	
7	811	278,797.00	4,800,271.00	106.6	Average				
8	812	278,811.00	4,800,286.00	107.3	Average				
9	813	278,826.00	4,800,298.00	107.7	Average				
10	814	278,850.00	4,800,318.00	108.1	Average				
11	815	278,905.00	4,800,363.00	108.3	Average				
12	816	278,935.00	4,800,387.00	108.5	Average				
13	817	278,991.90	4,800,433.50	107.8					
QEW W to Guelph N/S	16.5	m	1	818	279,819.30	4,800,996.00	107.3	Average	
			2	819	279,927.00	4,801,079.00	106.6	Average	
			3	820	280,001.00	4,801,147.00	106.4	Average	

## Future without the Undertaking - Roadway Input

Roadway Name	Width	Points		No.	Coordinates (pavement)			Segment Pvrmt Type	On Struct?				
		Name			X	Y	Z						
Guelph NB	12.4	m		4	821	280,055.00	4,801,197.00	106.4	Average				
				5	822	280,077.00	4,801,211.00	106.6	Average				
				6	823	280,091.00	4,801,217.00	106.8	Average				
				7	824	280,104.00	4,801,221.00	107	Average				
				8	825	280,121.00	4,801,224.00	107.2	Average				
				9	826	280,139.00	4,801,224.00	107.4	Average				
				10	827	280,175.00	4,801,222.00	107.6	Average				
				11	828	280,191.00	4,801,222.00	107.7	Average				
				12	829	280,205.00	4,801,225.00	107.8	Average				
				13	830	280,224.00	4,801,234.00	108	Average				
				14	831	280,233.00	4,801,244.00	108.1	Average				
				15	832	280,262.70	4,801,282.50	108.5					
				1	833	280,350.00	4,801,210.00	103.9	Average				
				2	834	280,282.00	4,801,283.00	108.2	Average				
				3	835	280,198.00	4,801,377.00	114.2	Average	Y			
Guelph SB	12.4	m		4	836	280,139.90	4,801,435.50	116.3	Average	Y			
				5	837	280,032.00	4,801,527.00	118.4					
				1	838	280,021.00	4,801,517.00	118.4	Average				
				2	839	280,103.00	4,801,447.00	116.5	Average				
				3	840	280,130.00	4,801,420.00	115.8	Average	Y			
				4	841	280,189.50	4,801,362.00	113.6	Average	Y			
				5	842	280,269.00	4,801,276.00	108.4	Average				
				6	843	280,338.00	4,801,203.00	104					
				15	858	278,993.00	4,800,642.00	107	Average				
			NSR East EB (1)	4.7	m		14	857	279,135.00	4,800,640.00	109.6	Average	
							13	856	279,155.00	4,800,642.00	110.2	Average	
							12	855	279,175.00	4,800,644.00	110.7	Average	
							11	854	279,194.00	4,800,649.00	111.3	Average	
							10	853	279,213.00	4,800,655.00	111.9	Average	
							9	852	279,232.00	4,800,662.00	112.4	Average	
	8	851				279,250.00	4,800,671.00	112.9	Average				
	7	850				279,336.00	4,800,723.00	114.5	Average				
	6	849				279,421.00	4,800,775.00	114.8	Average				
	5	848				279,506.00	4,800,829.00	114	Average				
	4	847				279,556.00	4,800,861.00	112.8	Average				
	3	846				279,589.00	4,800,885.00	111.9	Average				
	2	845				279,604.00	4,800,897.00	111.5	Average				
	1	844				279,662.00	4,800,953.00	109.7					
NSR East EB (2)	3.4	m					2	873	278,397.00	4,800,509.00	114.8	Average	
				1	815	278,402.70	4,800,515.50	114.8					
NSR East EB (3)	7.8	m		15	874	277,987.00	4,800,124.00	111.2	Average				
				14	875	278,082.00	4,800,155.00	114.2	Average				
				13	876	278,111.00	4,800,165.00	115	Average				
				12	877	278,130.00	4,800,174.00	115.4	Average				
				11	878	278,151.00	4,800,187.00	115.9	Average				
				10	879	278,170.00	4,800,202.00	116.2	Average				
				9	880	278,182.00	4,800,213.00	116.4	Average				
				8	881	278,199.00	4,800,232.00	116.6	Average				
				7	882	278,217.00	4,800,254.00	116.9	Average				
				6	883	278,236.00	4,800,278.00	117.1	Average				
	5	884	278,256.00	4,800,308.00	117.4	Average							



## Future without the Undertaking - Roadway Input

Roadway Name	Width	Points Name	No.	Coordinates (pavement)			Segment Pvrmt Type	On Struct?
				X	Y	Z		
NSR East EB (4)	m	7	4	885	278,290.00	4,800,363.00	117.6	Average
			3	886	278,333.00	4,800,432.00	117	Average
			2	887	278,352.00	4,800,458.00	116.4	Average
			1	888	278,397.00	4,800,509.00	114.8	
			15	903	277,823.00	4,799,861.00	113.4	Average
			14	902	277,828.00	4,799,880.00	113.4	Average
			13	901	277,831.00	4,799,902.00	113.2	Average
			12	900	277,842.00	4,799,977.00	112.1	Average
			11	899	277,847.00	4,800,000.00	111.5	Average
			10	898	277,851.00	4,800,014.00	111.2	Average
			9	897	277,857.00	4,800,028.00	110.8	Average
			8	896	277,865.00	4,800,042.00	110.5	Average
			7	895	277,872.00	4,800,053.00	110.3	Average
			6	894	277,882.00	4,800,066.00	110.1	Average
			5	893	277,898.00	4,800,082.00	109.8	Average
NSR East WB (1)	m	4.7	4	892	277,920.00	4,800,098.00	110	Average
			3	891	277,931.00	4,800,104.00	110.1	Average
			2	890	277,942.00	4,800,109.00	110.2	Average
			1	889	277,987.00	4,800,124.00	111.2	
			1	904	279,660.00	4,800,955.00	109.7	Average
			2	905	279,602.00	4,800,900.00	111.5	Average
			3	906	279,586.00	4,800,887.00	111.9	Average
			4	907	279,554.00	4,800,864.00	112.8	Average
			5	908	279,504.00	4,800,831.00	114	Average
			6	909	279,419.00	4,800,778.00	114.8	Average
			7	910	279,334.00	4,800,726.00	114.5	Average
			8	911	279,248.00	4,800,674.00	112.9	Average
			9	912	279,232.00	4,800,666.00	112.4	Average
			10	913	279,212.00	4,800,658.00	111.9	Average
			11	914	279,193.00	4,800,652.00	111.3	Average
NSR East WB (2)	m	4.7	12	915	279,174.00	4,800,648.00	110.7	Average
			13	916	279,154.00	4,800,645.00	110.2	Average
			14	917	279,135.00	4,800,644.00	109.6	Average
			15	918	278,993.00	4,800,646.00	107	
			1	919	278,993.00	4,800,646.00	107	Average
			2	920	278,954.00	4,800,645.00	107.2	Average
			3	921	278,855.00	4,800,640.00	108.1	Average
			4	922	278,755.00	4,800,635.00	109.1	Average
			5	923	278,655.00	4,800,629.00	110	Average
			6	924	278,555.00	4,800,624.00	111	Average
			7	925	278,525.00	4,800,619.00	111.9	Average
			8	926	278,513.00	4,800,616.00	112.9	Average
			9	927	278,502.00	4,800,612.00	113.8	Average
			10	928	278,483.00	4,800,604.00	113.9	Average
			11	929	278,473.00	4,800,597.00	113.9	Average
NSR East WB (3)	m	7.5	12	930	278,460.00	4,800,588.00	114	Average
			13	931	278,443.00	4,800,572.00	114.2	Average
			14	821	278,405.80	4,800,535.50	115.2	
			1	934	278,347.00	4,800,470.00	116.3	Average
			2	935	278,331.00	4,800,449.00	116.8	Average
			3	936	278,324.00	4,800,439.00	117	Average

## Future without the Undertaking - Roadway Input

Roadway Name	Width	Points Name	No.	Coordinates (pavement)			Segment Pvrmt Type	On Struct?
				X	Y	Z		
NSR East WB (4)	m		4	937 278,324.00	4,800,437.00	117.2	Average	
		5	938 278,281.00	4,800,368.00	117.6	Average		
		6	939 278,255.00	4,800,327.00	117.5	Average		
		7	940 278,255.00	4,800,326.00	117.5	Average		
		8	941 278,228.00	4,800,284.00	117	Average		
		9	942 278,210.00	4,800,256.00	116.6	Average		
		10	943 278,196.00	4,800,237.00	116.4	Average		
		11	944 278,171.00	4,800,210.00	116	Average		
		12	945 278,167.00	4,800,206.00	116	Average		
		13	946 278,149.00	4,800,193.00	115.7	Average		
		14	947 278,127.00	4,800,179.00	115.3	Average		
		15	948 278,109.00	4,800,170.00	115			
		1	6.7	949 278,109.00	4,800,170.00	115	Average	
		2		950 278,080.00	4,800,160.00	114.2	Average	
		3		951 277,985.00	4,800,129.00	111.3	Average	
4		952 277,928.00	4,800,109.00	110.2	Average			
5		953 277,914.00	4,800,101.00	110.2	Average			
6		954 277,894.00	4,800,086.00	110.1	Average			
7		955 277,878.00	4,800,070.00	110.3	Average			
8		956 277,866.00	4,800,056.00	110.5	Average			
9		957 277,859.00	4,800,045.00	110.7	Average			
10		958 277,851.00	4,800,030.00	111.1	Average			
11		959 277,845.00	4,800,016.00	111.4	Average			
12		960 277,841.00	4,800,002.00	111.8	Average			
13		961 277,836.00	4,799,978.00	112.2	Average			
14		962 277,826.00	4,799,902.00	112.9	Average			
15		963 277,822.00	4,799,881.00	113.2				
Brant NB		1	11.5	964 278,932.00	4,800,009.00	101.6	Average	
		2		965 278,861.00	4,800,080.00	102.2	Average	
		3		966 278,789.00	4,800,149.00	103	Average	
		4		967 278,714.00	4,800,215.00	103.3	Average	
		5		968 278,643.00	4,800,286.00	103.8	Average	
		6		969 278,575.00	4,800,358.00	106.8	Average	
		7		970 278,506.00	4,800,431.00	110.4	Average	
		8		971 278,409.00	4,800,532.00	115	Average	
		9		972 278,298.00	4,800,635.00	118.3	Average	
		10		973 278,190.00	4,800,741.00	121.5	Average	
		11		974 277,987.00	4,800,939.00	127.7		
Brant SB		12	11.5	986 277,990.70	4,800,924.00	127.7	Average	
		11		985 278,065.00	4,800,847.00	125.4	Average	
		10		984 278,191.00	4,800,724.00	121.5	Average	
		9		983 278,275.00	4,800,643.00	118.9	Average	
		8		982 278,398.00	4,800,520.00	115	Average	
		7		981 278,498.00	4,800,421.00	110.4	Average	
		6		980 278,565.00	4,800,348.00	106.8	Average	
		5		979 278,632.00	4,800,273.00	103.8	Average	
		4		978 278,704.00	4,800,204.00	103.3	Average	
		3		977 278,778.00	4,800,137.00	103	Average	
Highway 403 EB (1)		2		976 278,852.00	4,800,070.00	102.2	Average	
		1		975 278,924.00	4,800,000.00	101.6		
		1	14.3	987 275,070.00	4,796,401.00	107	Average	

## Future without the Undertaking - Roadway Input

Roadway Name	Width	Points Name	No.	Coordinates (pavement)			Segment Pvrmt Type	On Struct?	
				X	Y	Z			
King Road NB	m			988	275,141.00	4,796,472.00	106.5	Average	
				989	275,212.00	4,796,542.00	106.4	Average	
				990	275,283.00	4,796,612.00	106.7	Average	
				991	275,354.00	4,796,682.00	107.3	Average	
				992	275,425.00	4,796,752.00	108.1	Average	
				993	275,495.00	4,796,825.00	108.8	Average	
				994	275,560.00	4,796,902.00	109.5	Average	
				995	275,622.00	4,796,981.00	110	Average	
				996	275,683.00	4,797,060.00	110.8	Average	
				997	275,744.00	4,797,139.00	111.6	Average	
				998	275,805.00	4,797,219.00	112.3	Average	
				999	275,866.00	4,797,298.00	112.9	Average	
				1000	275,927.00	4,797,377.00	113.3	Average	
				1001	275,988.00	4,797,456.00	113.6		
				1002	277,224.00	4,798,639.00	103.2	Average	
				1003	277,173.00	4,798,687.00	105.7	Average	
				1004	277,101.00	4,798,756.00	110.2	Average	
807	277,039.70	4,798,813.50	116	Average	Y				
1005	277,013.00	4,798,840.00	117.9	Average	Y				
1006	276,955.00	4,798,893.00	120.2	Average					
1007	276,884.00	4,798,963.00	123.2	Average					
1008	276,812.00	4,799,033.00	125.2	Average					
1009	276,766.00	4,799,078.00	126.9						
1010	276,763.00	4,799,075.00	126.9	Average					
1011	276,809.00	4,799,030.00	125.2	Average					
1012	276,881.00	4,798,960.00	123.2	Average					
1013	276,953.00	4,798,891.00	120.2	Average					
1014	277,010.90	4,798,836.00	117.8	Average	Y				
806	277,040.00	4,798,807.50	115.7	Average	Y				
1015	277,098.00	4,798,753.00	110.2	Average					
1016	277,170.00	4,798,684.00	105.7	Average					
1017	277,221.00	4,798,636.00	103.2						
1032	275,968.00	4,797,472.00	113.6	Average					
1031	275,907.00	4,797,393.00	113.2	Average					
1030	275,846.00	4,797,314.00	113	Average					
1029	275,785.00	4,797,234.00	112.3	Average					
1028	275,723.00	4,797,155.00	111.7	Average					
1027	275,663.00	4,797,076.00	110.9	Average					
1026	275,601.00	4,796,997.00	110	Average					
1025	275,540.00	4,796,918.00	109.3	Average					
1024	275,476.00	4,796,842.00	108.6	Average					
1023	275,408.00	4,796,770.00	107.9	Average					
1022	275,336.00	4,796,700.00	107.3	Average					
1021	275,265.00	4,796,630.00	107.2	Average					
1020	275,194.00	4,796,560.00	107.2	Average					
1019	275,123.00	4,796,490.00	107.5	Average					
1018	275,051.00	4,796,420.00	107.9						
1033	274,339.00	4,795,764.00	107.7	Average					
1034	274,469.00	4,795,873.00	110.4	Average					
1035	274,546.00	4,795,938.00	111.9	Average					
1036	274,623.00	4,796,002.00	113.4	Average					
Highway 403 WB (1)			16.3						
Highway 403 EB (0)			14.4						

## Future without the Undertaking - Roadway Input

Roadway Name	Width	Points Name	No.	Coordinates (pavement)			Segment Pvrmt Type	On Struct?	
				X	Y	Z			
NSR East EB (7)	m		5	1037	274,699.00	4,796,066.00	113.8	Average	
			6	1038	274,776.00	4,796,130.00	113.3	Average	
			7	1039	274,853.00	4,796,194.00	111.7	Average	
			8	1040	274,927.00	4,796,261.00	110	Average	
			9	1041	274,998.00	4,796,331.00	108.2	Average	
			10	1042	275,070.00	4,796,401.00	107		
			13	1055	275,446.60	4,797,145.50	120.6	Average	
			12	1054	275,468.00	4,797,164.00	120.2	Average	
			11	1053	275,485.00	4,797,170.00	120	Average	
			10	1052	275,504.00	4,797,169.00	119.6	Average	
NSR East WB (7)			9	1051	275,522.00	4,797,164.00	119	Average	
			8	1050	275,578.00	4,797,142.00	116.6	Average	
			7	1049	275,598.00	4,797,137.00	115.6	Average	
			6	1048	275,618.00	4,797,136.00	114.8	Average	
			5	1047	275,639.00	4,797,139.00	114.2	Average	
			4	1046	275,658.00	4,797,146.00	113.7	Average	
			3	1045	275,674.00	4,797,157.00	113.4	Average	
			2	1044	275,688.00	4,797,172.00	113.2	Average	
			1	1043	275,738.00	4,797,235.00	113.2		
			5	1056	275,735.00	4,797,237.00	113.2	Average	
			2	1057	275,686.00	4,797,174.00	113.2	Average	
			3	1058	275,672.00	4,797,160.00	113.2	Average	
			4	1059	275,656.00	4,797,149.00	113.5	Average	
5	1060	275,638.00	4,797,142.00	114	Average				
6	1061	275,618.00	4,797,140.00	114.6	Average				
7	1062	275,599.00	4,797,143.00	115.2	Average				
8	1063	275,580.00	4,797,148.00	116.3	Average				
9	1064	275,524.00	4,797,170.00	119.1	Average				
10	1065	275,505.00	4,797,176.00	119.8	Average				
11	1066	275,484.00	4,797,177.00	120.2	Average				
12	1067	275,464.00	4,797,170.00	120.4	Average				
13	1068	275,438.60	4,797,150.50	120.9					
Waterdown N/S - Highway 403 W (1)			1	1069	275,425.10	4,797,138.00	120.9	Average	
			2	1070	275,406.00	4,797,117.00	120.3	Average	
			3	1071	275,393.00	4,797,102.00	120	Average	
			4	1072	275,382.00	4,797,085.00	119.7	Average	
			5	1073	275,375.00	4,797,066.00	119.4	Average	
			6	1074	275,372.00	4,797,047.00	119	Average	
			7	1075	275,374.00	4,797,027.00	118.4	Average	
			8	1076	275,380.00	4,797,008.00	117.6	Average	
			9	1077	275,407.00	4,796,954.00	115	Average	
			10	1078	275,415.00	4,796,936.00	114.1	Average	
			11	1079	275,421.00	4,796,917.00	113.4	Average	
Waterdown N/S - Highway 403 W (2)			12	1080	275,424.00	4,796,897.00	113	Average	
			13	1081	275,424.00	4,796,877.00	112.7	Average	
			14	1082	275,420.00	4,796,857.00	112.6	Average	
			15	1083	275,414.00	4,796,838.00	112.4		
			1	1084	275,414.00	4,796,838.00	112.4	Average	
2	1085	275,405.00	4,796,820.00	112.3	Average				
3	1086	275,394.00	4,796,804.00	112	Average				
4	1087	275,381.00	4,796,788.00	111.8	Average				

## Future without the Undertaking - Roadway Input

Roadway Name	Width	Points Name	No.	Coordinates (pavement)			Segment Pvmnt Type	On Struct?
				X	Y	Z		
Highway 403 WB (0)	14.6		5	1088	275,318.00	4,796,711.00	109	Average
			6	1089	275,238.00	4,796,622.00	106.9	Average
			7	1090	275,141.50	4,796,509.50	107.2	
			10	1100	275,051.00	4,796,420.00	107.9	Average
			9	1099	274,980.00	4,796,350.00	109.2	Average
			8	1098	274,908.00	4,796,280.00	110.8	Average
			7	1097	274,834.00	4,796,213.00	112.5	Average
			6	1096	274,758.00	4,796,148.00	114.3	Average
			5	1095	274,681.00	4,796,084.00	114.9	Average
			4	1094	274,604.00	4,796,020.00	114.8	Average
Hwy 403 E - Waterdown Road N/S			3	1093	274,527.00	4,795,956.00	113.2	Average
			2	1092	274,450.00	4,795,893.00	111.8	Average
			1	1091	274,322.00	4,795,784.00	109.1	
			1	1101	275,939.20	4,797,436.00	113.3	Average
			2	1102	275,857.00	4,797,341.00	113	Average
			3	1103	275,791.00	4,797,266.00	112.3	Average
			4	1104	275,723.00	4,797,192.00	112.3	Average
			5	1105	275,691.00	4,797,157.00	113.3	Average
			6	1106	275,651.00	4,797,124.00	114.8	Average
			7	1107	275,585.00	4,797,076.00	116.4	Average
QEW Toronto Bound (0)			8	1108	275,561.00	4,797,056.00	116.5	Average
			9	1109	275,544.00	4,797,041.50	116.9	
			1	1110	280,621.00	4,795,628.00	112.3	Average
			2	1111	280,583.00	4,795,720.00	109.3	Average
			3	1112	280,544.00	4,795,813.00	106.3	Average
			4	1113	280,505.00	4,795,905.00	103.4	Average
			5	1114	280,467.00	4,795,997.00	100.4	Average
			6	1115	280,428.00	4,796,089.00	97.4	Average
			7	1116	280,390.00	4,796,182.00	94.3	Average
			8	1117	280,346.00	4,796,285.00	90.9	Average
QEW Niagara Bound (0)			9	1118	280,286.00	4,796,429.00	86.4	
			9	1127	280,269.00	4,796,422.00	86.6	Average
			8	1126	280,325.00	4,796,277.00	91.4	Average
			7	1125	280,364.00	4,796,184.00	94.5	Average
			6	1124	280,403.00	4,796,092.00	97.6	Average
			5	1123	280,441.00	4,796,000.00	100.7	Average
			4	1122	280,480.00	4,795,908.00	103.8	Average
			3	1121	280,518.00	4,795,815.00	106.9	Average
			2	1120	280,562.00	4,795,711.00	110.3	Average
			1	1119	280,600.00	4,795,619.00	113.4	
Eastport NB			1	1128	280,541.00	4,795,873.00	76.2	Average
			2	1129	280,503.00	4,795,966.00	77.1	Average
			3	1130	280,462.00	4,796,057.00	77.4	Average
			4	1131	280,425.00	4,796,150.00	77.2	Average
			5	1132	280,384.00	4,796,241.00	77.2	Average
NSR East EB (5)			6	1133	280,345.00	4,796,333.00	77.3	Average
			7	1134	280,310.00	4,796,427.00	77.5	Average
			8	1135	280,275.00	4,796,521.00	77.4	Average
			9	1136	280,255.00	4,796,576.00	77.3	
			15	1151	277,200.00	4,799,137.00	112.6	Average
			14	1150	277,263.00	4,799,215.00	110	Average

## Future without the Undertaking - Roadway Input

Roadway Name	Width	Points Name	No.	Coordinates (pavement)			Segment Pvrmt Type	On Struct?	
				X	Y	Z			
NSR East EB (6)	m		13	1149	277,327.00	4,799,291.00	110.4	Average	
		12	1148	277,392.00	4,799,367.00	110.6	Average		
		11	1147	277,456.00	4,799,444.00	111.1	Average		
		10	1146	277,522.00	4,799,519.00	111.6	Average		
		9	1145	277,593.00	4,799,590.00	111.4	Average		
		8	1144	277,666.00	4,799,657.00	110.8	Average		
		7	1143	277,739.00	4,799,726.00	112	Average		
		6	1142	277,768.00	4,799,760.00	112.6	Average		
		5	1141	277,781.00	4,799,776.00	112.9	Average		
		4	1140	277,800.00	4,799,806.00	113.3	Average		
		3	1139	277,808.00	4,799,821.00	113.3	Average		
		2	1138	277,814.00	4,799,836.00	113.4	Average		
		1	1137	277,823.00	4,799,861.00	113.4	Average		
		5	5.7	1156	276,987.40	4,798,869.50	119.1	Average	
		4	1155	277,013.00	4,798,903.00	119.1	Average		
NSR East WB (5)	m	3	1154	277,077.00	4,798,979.00	119.2	Average		
		2	1153	277,139.00	4,799,058.00	117.4	Average		
		1	1152	277,200.00	4,799,137.00	112.6	Average		
		1	1157	277,821.80	4,799,881.00	113.2	Average		
		2	1158	277,817.30	4,799,864.00	113.2	Average		
		3	1159	277,807.90	4,799,838.00	113.2	Average		
		4	1160	277,801.70	4,799,823.00	113.1	Average		
		5	1161	277,794.30	4,799,809.00	113	Average		
		6	1162	277,775.50	4,799,779.00	112.7	Average		
		7	1163	277,763.10	4,799,763.00	112.4	Average		
		8	1164	277,734.70	4,799,730.50	112	Average		
		9	1165	277,662.30	4,799,661.50	110.8	Average		
NSR East WB (6)	m	10	1166	277,589.20	4,799,593.50	111.3	Average		
		11	1167	277,518.80	4,799,522.00	111.6	Average		
		12	1168	277,451.70	4,799,447.50	111	Average		
		13	1169	277,387.70	4,799,371.00	110.6	Average		
		14	1170	277,323.30	4,799,294.50	110.4	Average		
		15	1171	277,258.90	4,799,218.00	110	Average		
		1	1172	277,259.00	4,799,218.00	110	Average		
		2	1173	277,196.00	4,799,140.00	112.6	Average		
		3	1174	277,134.00	4,799,061.00	117.3	Average		
		4	1175	277,072.00	4,798,983.00	119.2	Average		
		5	1176	277,008.00	4,798,906.00	119.2	Average		
		6	1177	276,981.20	4,798,873.00	119.2	Average		
		1	7.5	686	278,404.60	4,798,668.50	96.3	Average	
		2	687	278,459.40	4,798,692.50	95.7	Average		
		3	688	278,480.90	4,798,700.00	95.6	Average		
4	689	278,500.60	4,798,705.50	95.5	Average				
5	690	278,513.80	4,798,707.00	95.4	Average				
6	691	278,524.80	4,798,707.00	95.5	Average				
7	692	278,534.40	4,798,705.00	95.6	Average				
8	693	278,544.40	4,798,700.50	95.8	Average				
9	694	278,550.70	4,798,696.00	95.8	Average				
10	695	278,558.40	4,798,688.50	95.9	Average				
11	696	278,563.80	4,798,680.50	96.1	Average				
12	697	278,568.50	4,798,669.50	96.3	Average				

Plains W - Hwy 407 N

## Future without the Undertaking - Roadway Input

Roadway Name	Width	Points		No.	Coordinates (pavement)			Segment Pvrmt Type	On Struct?	
		Name			X	Y	Z			
	m			13	698	278,570.40	4,798,658.50	96.3	Average	
				14	699	278,570.20	4,798,647.50	96.6	Average	
				15	700	278,567.40	4,798,636.50	96.9	Average	
				16	701	278,562.60	4,798,627.00	97.2	Average	
				17	702	278,557.00	4,798,619.50	97.6	Average	
				18	703	278,549.50	4,798,613.00	97.9	Average	
				19	704	278,542.10	4,798,608.50	98.3	Average	
				20	705	278,535.10	4,798,605.50	98.6	Average	
				21	706	278,524.00	4,798,603.00	98.9	Average	
				22	707	278,517.70	4,798,602.50	99.3	Average	
				23	708	278,512.40	4,798,603.00	99.6	Average	
				24	709	278,505.90	4,798,604.00	99.7	Average	
				25	710	278,499.20	4,798,606.00	100	Average	
				26	711	278,492.50	4,798,609.50	100.2	Average	
				27	712	278,483.90	4,798,615.00	100.4	Average	
				28	713	278,475.30	4,798,622.50	100.8	Average	
				29	714	278,468.90	4,798,629.00	101	Average	
				30	715	278,461.50	4,798,638.50	101.3	Average	
				31	716	278,450.90	4,798,655.50	101.6	Average	
				32	717	278,436.00	4,798,680.50	102.1	Average	Y
				33	718	278,422.20	4,798,706.00	103	Average	Y
				34	719	278,400.10	4,798,749.50	103.8	Average	
				35	720	278,379.60	4,798,793.50	104.7	Average	
				36	721	278,367.10	4,798,822.50	106	Average	
				37	722	278,354.80	4,798,852.50	106.7	Average	
				38	723	278,312.00	4,798,961.00	109	Average	
				39	993	278,260.00	4,799,113.00	106.9	Average	
				40	994	278,243.00	4,799,160.00	105.8	Average	
				41	995	278,228.00	4,799,208.00	106.9	Average	
				42	996	278,223.00	4,799,228.00	104	Average	
				43	997	278,218.60	4,799,247.50	103.5		
Fairview EB		11	point736		736	278,067.80	4,798,289.00	94.4	Average	
			point737		737	278,099.30	4,798,323.00	94.5	Average	
			point738		738	278,155.30	4,798,392.50	95.1	Average	
			point739		739	278,203.20	4,798,469.00	95.2	Average	
			point740		740	278,241.20	4,798,520.00	95.6	Average	
			point741		741	278,286.40	4,798,571.50	96.1	Average	
			point742		742	278,336.00	4,798,619.50	96.5	Average	
			point743		743	278,379.60	4,798,653.50	96.4	Average	
			point744		744	278,439.50	4,798,691.50	96.2	Average	
			point745		745	278,485.40	4,798,715.00	96	Average	
			point746		746	278,518.30	4,798,729.00	95.9	Average	
			point747		747	278,621.50	4,798,772.00	95.6	Average	
			point748		748	278,665.30	4,798,793.00	95.5	Average	
			point749		749	278,804.30	4,798,851.00	95.3	Average	
			point750		750	278,877.50	4,798,881.00	95.1		
Fairview E - Hwy 407 N		7.5	3		753	278,511.50	4,798,744.00	96.4	Average	
			4		754	278,486.10	4,798,743.50	96.7	Average	
			5		755	278,473.10	4,798,745.00	97.1	Average	
			6		756	278,462.80	4,798,747.50	97.5	Average	
			7		757	278,456.20	4,798,750.00	97.7	Average	

## Future without the Undertaking - Roadway Input

Roadway Name	Width	Points Name	No.	Coordinates (pavement)			Segment Pvrmt Type	On Struct?
				X	Y	Z		
Fairview WB	m		8	758 278,449.40	4,798,753.50	98.1	Average	
			9	759 278,446.30	4,798,755.50	98.3	Average	
			10	760 278,442.90	4,798,758.00	98.5	Average	
			11	761 278,437.80	4,798,762.50	98.8	Average	
			12	762 278,433.10	4,798,767.00	99.2	Average	
			13	763 278,425.80	4,798,775.50	99.8	Average	
			14	764 278,419.50	4,798,784.50	100.5	Average	
			15	765 278,412.20	4,798,797.50	101.3	Average	
			16	766 278,299.30	4,799,000.00	108.8		
			11 point767	767 278,871.50	4,798,894.50	94.8	Average	
			point768	768 278,638.90	4,798,796.00	95.5	Average	
			point769	769 278,514.10	4,798,743.50	96.2	Average	
			point770	770 278,462.80	4,798,719.00	96.6	Average	
			point771	771 278,387.20	4,798,676.50	96.8	Average	
			point772	772 278,327.60	4,798,630.50	97	Average	
			point773	773 278,285.60	4,798,592.50	96.8	Average	
	point774	774 278,259.10	4,798,565.00	96.5	Average			
	point775	775 278,240.80	4,798,544.00	96.3	Average			
	point776	776 278,221.80	4,798,519.50	96	Average			
	point777	777 278,144.70	4,798,396.00	94.8	Average			
	point778	778 278,100.60	4,798,341.50	94.3				
North Shore WB	m	6.6 point788	788 280,123.00	4,797,545.50	82.8	Average		
		point787	787 280,025.80	4,797,437.50	80	Average		
		point786	786 279,973.80	4,797,382.50	78.9	Average		
		point785	785 279,933.70	4,797,339.50	78.5	Average		
		point784	784 279,908.60	4,797,318.00	78.4	Average		
		point783	783 279,770.40	4,797,240.50	78.3	Average		
		point782	782 279,725.90	4,797,224.00	79.4	Average		
		point781	781 279,690.70	4,797,216.00	80.6	Average		
		point780	780 279,662.30	4,797,213.50	81.4	Average		
		point779	779 279,562.00	4,797,226.00	83.1			
		8.8 point798	798 279,562.20	4,797,222.00	83	Average		
		point797	797 279,642.70	4,797,211.00	81.9	Average		
		point796	796 279,655.70	4,797,209.50	81.6	Average		
		point795	795 279,683.70	4,797,209.50	80.9	Average		
		point794	794 279,711.10	4,797,214.00	80.1	Average		
		point793	793 279,743.60	4,797,220.00	79.1	Average		
point792	792 279,780.90	4,797,238.00	78.3	Average				
point791	791 279,923.80	4,797,318.00	78.4	Average				
point790	790 280,023.00	4,797,422.50	79.8	Average				
point789	789 280,130.10	4,797,538.50	82.8					
Waterdown NB	m	9 1	799 275,677.00	4,796,914.00	115.4	Average		
		2	800 275,662.00	4,796,929.00	115.5	Average		
		3	801 275,650.00	4,796,938.00	115.8	Average		
		4	829 275,619.50	4,796,966.00	116.2	Average	Y	
		5	802 275,589.10	4,796,994.50	116.4	Average	Y	
		6	803 275,557.00	4,797,025.00	116.7	Average		
		7	804 275,536.00	4,797,051.00	117.2	Average		
		8	805 275,466.00	4,797,123.00	119.6	Average		
		9	806 275,405.00	4,797,182.00	122.2			
Waterdown SB	m	9 1	807 275,395.00	4,797,171.00	122.2	Average		





## Future without the Undertaking - Roadway Input

Roadway Name	Width	Points Name	No.	Coordinates (pavement)			Segment Pvrmt Type	On Struct?		
				X	Y	Z				
Guelph N - QEW W	m	point858		858	280,109.20	4,801,534.00	116.2	Average		
		point857		857	280,122.80	4,801,547.50	115.1	Average		
		point856		856	280,146.50	4,801,556.50	113.4	Average		
		point855		855	280,163.00	4,801,556.50	112.5	Average		
		point854		854	280,179.60	4,801,551.50	111.4	Average		
		point853		853	280,191.80	4,801,540.50	110.4	Average		
		point852		852	280,201.00	4,801,526.00	109.2	Average		
		point851		851	280,205.10	4,801,511.00	108.4	Average		
		point850		850	280,204.40	4,801,495.00	107.7	Average		
		point849		849	280,199.40	4,801,480.00	107.1	Average		
		point848		848	280,189.60	4,801,462.00	106.7	Average		
Guelph N - QEW W		point847		847	280,117.00	4,801,355.00	106.4			
		1		873	280,056.70	4,801,485.50	117.1	Average		
		2		872	280,076.60	4,801,452.00	116.5	Average		
		3		871	280,087.30	4,801,428.50	115.9	Average		
		4		870	280,092.40	4,801,402.50	115.2	Average		
		5		869	280,088.90	4,801,374.00	114	Average		
		6		868	280,078.70	4,801,350.50	113	Average		
		7		867	279,921.00	4,801,153.50	105.5	Average		
		8		866	279,873.50	4,801,100.50	105.2	Average		
		9		865	279,809.80	4,801,038.00	105.6	Average		
		10		864	279,745.20	4,800,978.50	107.2	Average		
Guelph N - QEW E		11		863	279,683.20	4,800,922.00	109.1			
		8.5	point891		891	280,201.50	4,801,348.00	112.8	Average	
		point890		890	280,220.30	4,801,313.50	110.8	Average		
		point889		889	280,225.60	4,801,296.00	110	Average		
		point888		888	280,226.90	4,801,276.00	109.1	Average		
		point887		887	280,222.30	4,801,260.50	108.4	Average		
		point886		886	280,215.20	4,801,249.50	107.9	Average		
		point885		885	280,204.00	4,801,240.50	107.5	Average		
		point884		884	280,191.10	4,801,235.50	107.1	Average		
		point883		883	280,174.30	4,801,234.50	106.7	Average		
		point882		882	280,158.40	4,801,238.50	106.5	Average		
Guelph S - QEW E		point881		881	280,148.40	4,801,245.00	106.4	Average		
		point880		880	280,138.20	4,801,258.50	106.2	Average		
		point879		879	280,133.30	4,801,272.00	106.1	Average		
		point878		878	280,132.80	4,801,286.50	106	Average		
		point877		877	280,135.30	4,801,297.50	106	Average		
		point876		876	280,145.30	4,801,317.50	106	Average		
		point875		875	280,170.10	4,801,353.50	106.2	Average		
		point874		874	280,252.30	4,801,475.00	106.6			
		8	point914		914	280,309.70	4,801,254.50	108.3	Average	
		point913		913	280,262.50	4,801,315.50	110	Average		
		point912		912	280,251.10	4,801,330.00	111	Average		
point911		911	280,247.80	4,801,335.00	111.3	Average				
point910		910	280,245.00	4,801,339.50	111.6	Average				
point909		909	280,241.90	4,801,346.00	111.8	Average				
point908		908	280,239.90	4,801,351.50	112.1	Average				
point907		907	280,238.20	4,801,357.50	112.2	Average				
point906		906	280,236.80	4,801,367.50	112.4	Average				
point905		905	280,236.00	4,801,377.50	112.4	Average				



## Future without the Undertaking - Roadway Input

Roadway Name	Width	Points		No.	Coordinates (pavement)			Segment Pvrmt Type	On Struct?
		Name			X	Y	Z		
	m			4	m	m	m	97.6 Average	
				5	981	278,367.00	4,798,557.00	97.9 Average	
				6	982	278,385.00	4,798,556.00	98.2 Average	
				7	983	278,405.00	4,798,553.00	98.5 Average	
				8	984	278,427.00	4,798,544.00	98.8 Average	
				9	985	278,446.00	4,798,530.00	99 Average	
				10	986	278,465.00	4,798,509.00	98.3 Average	
				11	987	278,514.00	4,798,451.00	96.4 Average	
				12	988	278,582.00	4,798,378.00	95.1 Average	
				13	989	278,663.00	4,798,299.00	94.3 Average	
				14	990	278,731.00	4,798,248.50	93.4	
					991	278,749.70	4,798,235.00		

## Future without the Undertaking - Traffic Input (LAeq1h Volumes)

Roadway Name	Points Name	No.	Segment Autos		MTrucks		HTrucks	
			V	S	V	S	V	S
			veh/hr	km/h	veh/hr	km/h	veh/hr	km/h
QEW Toronto Bound (1)		1	3662	100	159	100	523	100
		2	3662	100	159	100	523	100
		3	3662	100	159	100	523	100
		4	3662	100	159	100	523	100
		5	3662	100	159	100	523	100
		6	3662	100	159	100	523	100
		7	3662	100	159	100	523	100
		8	3662	100	159	100	523	100
		9	3662	100	159	100	523	100
		10	3662	100	159	100	523	100
		11	3662	100	159	100	523	100
		12	3662	100	159	100	523	100
		13	3662	100	159	100	523	100
		14	3662	100	159	100	523	100
		15						
QEW Toronto Bound (2)		1	4442	100	192	100	634	100
		2	4442	100	192	100	634	100
		3	4442	100	192	100	634	100
		4	4442	100	192	100	634	100
		5	4442	100	192	100	634	100
		6	4442	100	192	100	634	100
		7	4442	100	192	100	634	100
		8	4442	100	192	100	634	100
		9	4442	100	192	100	634	100
		10	4442	100	192	100	634	100
		11	4442	100	192	100	634	100
		12	4442	100	192	100	634	100
		13	4442	100	192	100	634	100
		14	4442	100	192	100	634	100
		15						
QEW Toronto Bound (3)		1	4442	100	192	100	634	100
		2	4442	100	192	100	634	100
		3	4442	100	192	100	634	100
		4	4442	100	192	100	634	100
		5	4442	100	192	100	634	100
		6	4442	100	192	100	634	100
		7	4442	100	192	100	634	100
		8	4442	100	192	100	634	100
		9	4442	100	192	100	634	100
		10	4442	100	192	100	634	100
		11	4442	100	192	100	634	100
		12	4442	100	192	100	634	100
		13	4442	100	192	100	634	100
		14	4442	100	192	100	634	100
		15						
QEW Toronto Bound (4)		1	2227	100	96	100	318	100
		2	2227	100	96	100	318	100
		3	2227	100	96	100	318	100
		4	2227	100	96	100	318	100
		5	2227	100	96	100	318	100
		6	2227	100	96	100	318	100
		7	2227	100	96	100	318	100
		8	2227	100	96	100	318	100
		9	2227	100	96	100	318	100
		10	2227	100	96	100	318	100
		11	2227	100	96	100	318	100
		12	2227	100	96	100	318	100
		13	2227	100	96	100	318	100
		14	2227	100	96	100	318	100
		15	2227	100	96	100	318	100

## Future without the Undertaking - Traffic Input (LAeq1h Volumes)

Roadway Name	Points Name	No.	Segment Autos		MTrucks		HTrucks			
			V	S	V	S	V	S		
			veh/hr	km/h	veh/hr	km/h	veh/hr	km/h		
QEW Toronto Bound (5)		3	48	2227	100	96	100	318	100	
		4	49	2227	100	96	100	318	100	
		5	50	2227	100	96	100	318	100	
		6	51	2227	100	96	100	318	100	
		7	52	2227	100	96	100	318	100	
		8	53	2227	100	96	100	318	100	
		9	54	2227	100	96	100	318	100	
		10	55	2227	100	96	100	318	100	
		11	56	2227	100	96	100	318	100	
		12	57	2227	100	96	100	318	100	
		13	58	2227	100	96	100	318	100	
		14	59	2227	100	96	100	318	100	
		15	60							
			1	61	2227	100	96	100	318	100
			2	62	2227	100	96	100	318	100
QEW Niagara Bound (1)		3	800	2227	100	96	100	318	100	
		4	63	2227	100	96	100	318	100	
		5	64	2227	100	96	100	318	100	
		6	65	2227	100	96	100	318	100	
		7	66	2227	100	96	100	318	100	
		8	67	2227	100	96	100	318	100	
		9	68	2227	100	96	100	318	100	
		10	69	2227	100	96	100	318	100	
		11	70	2227	100	96	100	318	100	
		12	71	2227	100	96	100	318	100	
		13	72	2227	100	96	100	318	100	
		14	73	2227	100	96	100	318	100	
		15	801	2227	100	96	100	318	100	
		16	74	2227	100	96	100	318	100	
		17	75							
	QEW Niagara Bound (2)		15	90	3808	100	149	100	386	100
			14	89	3808	100	149	100	386	100
		13	88	3808	100	149	100	386	100	
		12	87	3808	100	149	100	386	100	
		11	86	3808	100	149	100	386	100	
		10	85	3808	100	149	100	386	100	
		9	84	3808	100	149	100	386	100	
		8	83	3808	100	149	100	386	100	
		7	82	3808	100	149	100	386	100	
		6	81	3808	100	149	100	386	100	
		5	80	3808	100	149	100	386	100	
		4	79	3808	100	149	100	386	100	
		3	78	3808	100	149	100	386	100	
	2	77	3808	100	149	100	386	100		
	1	76								
QEW Niagara Bound (2)		15	105	4619	100	181	100	468	100	
		14	104	4619	100	181	100	468	100	
		13	103	4619	100	181	100	468	100	

## Future without the Undertaking - Traffic Input (LAeq1h Volumes)

Roadway Name	Points Name	No.	Segment Autos		MTrucks		HTrucks		
			V	S	V	S	V	S	
			veh/hr	km/h	veh/hr	km/h	veh/hr	km/h	
QEW Niagara Bound (3)		12	102	4619	100	181	100	468	100
		11	101	4619	100	181	100	468	100
		10	100	4619	100	181	100	468	100
		9	99	4619	100	181	100	468	100
		8	98	4619	100	181	100	468	100
		7	97	4619	100	181	100	468	100
		6	96	4619	100	181	100	468	100
		5	95	4619	100	181	100	468	100
		4	94	4619	100	181	100	468	100
		3	93	4619	100	181	100	468	100
		2	92	4619	100	181	100	468	100
		1	91						
		16	120	4619	100	181	100	468	100
		15	119	4619	100	181	100	468	100
		14	118	4619	100	181	100	468	100
QEW Niagara Bound (4)		13	802	4619	100	181	100	468	100
		12	117	4619	100	181	100	468	100
		11	116	4619	100	181	100	468	100
		10	115	4619	100	181	100	468	100
		9	114	4619	100	181	100	468	100
		8	113	4619	100	181	100	468	100
		7	112	4619	100	181	100	468	100
		6	111	4619	100	181	100	468	100
		5	110	4619	100	181	100	468	100
		4	109	4619	100	181	100	468	100
		3	108	4619	100	181	100	468	100
		2	107	4619	100	181	100	468	100
		1	106						
		15	135	2316	100	91	100	235	100
		14	134	2316	100	91	100	235	100
QEW Niagara Bound (5)		13	133	2316	100	91	100	235	100
		12	132	2316	100	91	100	235	100
		11	131	2316	100	91	100	235	100
		10	130	2316	100	91	100	235	100
		9	129	2316	100	91	100	235	100
		8	128	2316	100	91	100	235	100
		7	127	2316	100	91	100	235	100
		6	126	2316	100	91	100	235	100
		5	125	2316	100	91	100	235	100
		4	124	2316	100	91	100	235	100
		3	123	2316	100	91	100	235	100
		2	122	2316	100	91	100	235	100
		1	121						
		15	150	2316	100	91	100	235	100
		14	149	2316	100	91	100	235	100
	13	148	2316	100	91	100	235	100	
	12	147	2316	100	91	100	235	100	
	11	146	2316	100	91	100	235	100	

### Future without the Undertaking - Traffic Input (LAeq1h Volumes)

Roadway Name	Points Name	No.	Segment Autos		MTrucks		HTrucks		
			V	S	V	S	V	S	
			veh/hr	km/h	veh/hr	km/h	veh/hr	km/h	
		10	145	2316	100	91	100	235	100
		9	144	2316	100	91	100	235	100
		8	143	2316	100	91	100	235	100
		7	142	2316	100	91	100	235	100
		6	141	2316	100	91	100	235	100
		5	140	2316	100	91	100	235	100
		4	139	2316	100	91	100	235	100
		3	138	2316	100	91	100	235	100
		2	137	2316	100	91	100	235	100
		1	136						
		1	151	754	60	14	60	9	60
		2	152	754	60	14	60	9	60
		3	153	754	60	14	60	9	60
		4	154	754	60	14	60	9	60
		5	155	754	60	14	60	9	60
		6	156	754	60	14	60	9	60
		7	157	754	60	14	60	9	60
		8	158	754	60	14	60	9	60
		9	159	754	60	14	60	9	60
		10	160	754	60	14	60	9	60
		11	161	754	60	14	60	9	60
		12	162	754	60	14	60	9	60
		13	163	754	60	14	60	9	60
		14	164	754	60	14	60	9	60
		15	165						
		1	166	754	60	14	60	9	60
		2	167	754	60	14	60	9	60
		3	168	754	60	14	60	9	60
		4	169	754	60	14	60	9	60
		5	170	754	60	14	60	9	60
		6	171	754	60	14	60	9	60
		7	172	754	60	14	60	9	60
		8	173	754	60	14	60	9	60
		9	174	754	60	14	60	9	60
		10	175	754	60	14	60	9	60
		11	176	754	60	14	60	9	60
		12	177	754	60	14	60	9	60
		13	178						
		1	179	720	100	45	100	135	100
		2	180	720	100	45	100	135	100
		3	181	720	100	45	100	135	100
		4	182	720	100	45	100	135	100
		5	183	720	100	45	100	135	100
		6	184	720	100	45	100	135	100
		7	185	720	100	45	100	135	100
		8	186	720	100	45	100	135	100
		9	187	720	100	45	100	135	100
		10	188	720	100	45	100	135	100

QEW S - Fairview NS (1)

QEW S - Fairview NS (2)

QEW S - Highway 407 N (1)



### Future without the Undertaking - Traffic Input (LAeq1h Volumes)

Roadway Name	Points Name	No.	Segment Autos		MTrucks		HTrucks		
			V	S	V	S	V	S	
			veh/hr	km/h	veh/hr	km/h	veh/hr	km/h	
		11	189	720	100	45	100	135	100
		12	803	720	100	45	100	135	100
		13	190	720	100	45	100	135	100
		14	191	720	100	45	100	135	100
		15	192	720	100	45	100	135	100
		16	193						
QEW S - Highway 407 N (2)									
		1	194	720	100	45	100	135	100
		2	195	720	100	45	100	135	100
		3	196	720	100	45	100	135	100
		4	197	720	100	45	100	135	100
		5	198	720	100	45	100	135	100
		6	199	720	100	45	100	135	100
		7	200	720	100	45	100	135	100
		8	201	720	100	45	100	135	100
		9	202	720	100	45	100	135	100
		10	203	720	100	45	100	135	100
		11	204	720	100	45	100	135	100
		12	205	720	100	45	100	135	100
		13	206	720	100	45	100	135	100
		14	207	720	100	45	100	135	100
		15	208						
QEW S - Highway 407 N (3)									
		1	209	720	100	45	100	135	100
		2	210	720	100	45	100	135	100
		3	211	720	100	45	100	135	100
		4	212	720	100	45	100	135	100
		5	213	720	100	45	100	135	100
		6	214	720	100	45	100	135	100
		7	215	720	100	45	100	135	100
		8	216	720	100	45	100	135	100
		9	217	720	100	45	100	135	100
		10	218	720	100	45	100	135	100
		11	219	720	100	45	100	135	100
		12	220	720	100	45	100	135	100
		13	221	720	100	45	100	135	100
		14	222	720	100	45	100	135	100
		15	223						
Highway 403 W - QEW S (1)									
		1	224	525	100	16	100	51	100
		2	225	525	100	16	100	51	100
		3	226	525	100	16	100	51	100
		4	227	525	100	16	100	51	100
		5	228	525	100	16	100	51	100
		6	229	525	100	16	100	51	100
		7	230	525	100	16	100	51	100
		8	231	525	100	16	100	51	100
		9	232	525	100	16	100	51	100
		10	233	525	100	16	100	51	100
		11	234	525	100	16	100	51	100
		12	235	525	100	16	100	51	100

### Future without the Undertaking - Traffic Input (LAeq1h Volumes)

Roadway Name	Points Name	No.	Segment Autos		MTrucks		HTrucks		
			V	S	V	S	V	S	
			veh/hr	km/h	veh/hr	km/h	veh/hr	km/h	
Highway 403 W - QEW S (2)	13		236	525	100	16	100	51	100
	14		237	525	100	16	100	51	100
	15		238						
	1		239	525	100	16	100	51	100
	2		240	525	100	16	100	51	100
	3		241	525	100	16	100	51	100
	4		242	525	100	16	100	51	100
	5		243	525	100	16	100	51	100
	6		244	525	100	16	100	51	100
	7		245	525	100	16	100	51	100
	8		246	525	100	16	100	51	100
	9		247	525	100	16	100	51	100
	10		248	525	100	16	100	51	100
	11		249	525	100	16	100	51	100
	12		250	525	100	16	100	51	100
Highway 403 W - QEW S (3)	13		251	525	100	16	100	51	100
	14		252	525	100	16	100	51	100
	15		253						
	1		254	525	100	16	100	51	100
	2		255	525	100	16	100	51	100
	3		256	525	100	16	100	51	100
	4		257	525	100	16	100	51	100
	5		258	525	100	16	100	51	100
Highway 403 W - QEW S (4)	6		259	525	100	16	100	51	100
	7		260	525	100	16	100	51	100
	8		261	525	100	16	100	51	100
	9		262	525	100	16	100	51	100
	10		263	525	100	16	100	51	100
	11		264	525	100	16	100	51	100
	12		265	525	100	16	100	51	100
	13		266	525	100	16	100	51	100
Highway 403 W - QEW S (1)	14		267	525	100	16	100	51	100
	15		268						
	1		269	525	100	16	100	51	100
	2		270	525	100	16	100	51	100
	3		271	525	100	16	100	51	100
	4		272	525	100	16	100	51	100
	5		273	525	100	16	100	51	100
	6		274	525	100	16	100	51	100
Highway 403 W - Plains (1)	7		275						
	1		276	71	60	1	60	1	60
	2		277	71	60	1	60	1	60
	3		278	71	60	1	60	1	60
	4		279	71	60	1	60	1	60
	5		280	71	60	1	60	1	60
	6		281	71	60	1	60	1	60
	7		282	71	60	1	60	1	60
8		283	71	60	1	60	1	60	

### Future without the Undertaking - Traffic Input (LAeq1h Volumes)

Roadway Name	Points Name	No.	Segment Autos		MTrucks		HTrucks		
			V veh/hr	S km/h	V veh/hr	S km/h	V veh/hr	S km/h	
		9	284	71	60	1	60	1	60
		10	285	71	60	1	60	1	60
		11	286	71	60	1	60	1	60
		12	287	71	60	1	60	1	60
		13	288	71	60	1	60	1	60
		14	289	71	60	1	60	1	60
		15	290						
Highway 403 W - Plains (2)		1	291	71	60	1	60	1	60
		2	292	71	60	1	60	1	60
		3	293	71	60	1	60	1	60
		4	294	71	60	1	60	1	60
		5	295	71	60	1	60	1	60
		6	296	71	60	1	60	1	60
		7	297	71	60	1	60	1	60
		8	298	71	60	1	60	1	60
		9	299	71	60	1	60	1	60
		10	300	71	60	1	60	1	60
		11	301	71	60	1	60	1	60
		12	302	71	60	1	60	1	60
		13	303						
Highway 403 W - Plains (3)		1	304	175	60	3	60	2	60
		2	305	175	60	3	60	2	60
		3	306	175	60	3	60	2	60
		4	307	175	60	3	60	2	60
		5	308	175	60	3	60	2	60
		6	309	175	60	3	60	2	60
		7	310	175	60	3	60	2	60
		8	311	175	60	3	60	2	60
		9	312	175	60	3	60	2	60
		10	313	175	60	3	60	2	60
		11	314	175	60	3	60	2	60
		12	315	175	60	3	60	2	60
		13	316	175	60	3	60	2	60
		14	317	175	60	3	60	2	60
		15	318						
Highway 403 W - Plains (4)		1	319	175	60	3	60	2	60
		2	320	175	60	3	60	2	60
		3	321	175	60	3	60	2	60
		4	322	175	60	3	60	2	60
		5	323	175	60	3	60	2	60
		6	324	175	60	3	60	2	60
		7	325	175	60	3	60	2	60
		8	326	175	60	3	60	2	60
		9	327	175	60	3	60	2	60
		10	328						
Highway 407 N - QEW S (1)		1	329	542	100	34	100	102	100
		2	330	542	100	34	100	102	100
		3	331	542	100	34	100	102	100



### Future without the Undertaking - Traffic Input (LAeq1h Volumes)

Roadway Name	Points Name	No.	Segment Autos		MTrucks		HTrucks	
			V	S	V	S	V	S
			veh/hr	km/h	veh/hr	km/h	veh/hr	km/h
		10	378	1350	100	30	100	102
		11	379	1350	100	30	100	102
		12	380	1350	100	30	100	102
		13	381	1350	100	30	100	102
		14	382	1350	100	30	100	102
		15	383					
Highway 403 EB (5)		1	384	1350	100	30	100	102
		2	385	1350	100	30	100	102
		3	386	1350	100	30	100	102
		4	387	1350	100	30	100	102
		5	388	1350	100	30	100	102
		6	389	1350	100	30	100	102
		7	390	1350	100	30	100	102
		8	391	1350	100	30	100	102
		9	392	1350	100	30	100	102
		10	393	1350	100	30	100	102
		11	394	1350	100	30	100	102
		12	395	1350	100	30	100	102
		13	396	1350	100	30	100	102
		14	397	1350	100	30	100	102
		15	398					
Highway 403 EB (6)		1	399	1350	100	30	100	102
		2	400	1350	100	30	100	102
		3	401	1350	100	30	100	102
		4	402	1350	100	30	100	102
		5	403	1350	100	30	100	102
		6	808	1350	100	30	100	102
		7	404	1350	100	30	100	102
		8	405					
QEW N-North Shore Blvd E/W		1	406	218	60	9	60	22
		2	407	218	60	9	60	22
		3	408	218	60	9	60	22
		4	409	218	60	9	60	22
		5	410	218	60	9	60	22
		6	411	218	60	9	60	22
		7	412	218	60	9	60	22
		8	413	218	60	9	60	22
		9	414	218	60	9	60	22
		10	415	218	60	9	60	22
		11	416	218	60	9	60	22
		12	417	218	60	9	60	22
		13	418	218	60	9	60	22
		14	419					
North Shore Blvd E/W-QEW S (1)		1	420	423	30	26	30	79
		2	421	423	30	26	30	79
		3	422	423	30	26	30	79
		4	423	423	30	26	30	79
		5	424	423	30	26	30	79

### Future without the Undertaking - Traffic Input (LAeq1h Volumes)

Roadway Name	Points Name	No.	Segment Autos		MTrucks		HTrucks	
			V	S	V	S	V	S
			veh/hr	km/h	veh/hr	km/h	veh/hr	km/h
		6	425	423	30	26	30	79
		7	426	423	30	26	30	79
		8	427	423	30	26	30	79
		9	428	423	30	26	30	79
		10	429	423	30	26	30	79
		11	430	423	30	26	30	79
		12	431	423	30	26	30	79
		13	432	423	30	26	30	79
		14	433	423	30	26	30	79
		15	434					
		1	435	423	30	26	30	79
		2	436	423	30	26	30	79
		3	437	423	30	26	30	79
		4	438	423	30	26	30	79
		5	439	423	30	26	30	79
		6	440	423	30	26	30	79
		7	441					
		1	442	405	100	16	100	41
		2	443	405	100	16	100	41
		3	444	405	100	16	100	41
		4	445	405	100	16	100	41
		5	446	405	100	16	100	41
		6	447	405	100	16	100	41
		7	809	405	100	16	100	41
		8	810	405	100	16	100	41
		9	448	405	100	16	100	41
		10	449	405	100	16	100	41
		11	450	405	100	16	100	41
		12	451	405	100	16	100	41
		13	452	405	100	16	100	41
		14	453	405	100	16	100	41
		15	454	405	100	16	100	41
		16	455					
		1	456	331	70	14	70	47
		2	457	331	70	14	70	47
		3	458	331	70	14	70	47
		4	459	331	70	14	70	47
		5	460	331	70	14	70	47
		6	461	331	70	14	70	47
		7	462	331	70	14	70	47
		8	463	331	70	14	70	47
		9	464	331	70	14	70	47
		10	465	331	70	14	70	47
		11	466	331	70	14	70	47
		12	467	331	70	14	70	47
		13	468	331	70	14	70	47
		14	469	331	70	14	70	47
		15	470					

North Shore Blvd E/W-QEW S (2)

QEW N to Eastport S

QEW S to North Shore Blvd EW

## Future without the Undertaking - Traffic Input (LAeq1h Volumes)

Roadway Name	Points Name	No.	Segment Autos		MTrucks		HTrucks		
			V	S	V	S	V	S	
			veh/hr	km/h	veh/hr	km/h	veh/hr	km/h	
North Shore Blvd W to QEW N		2	472	148	30	9	30	28	30
		3	473	148	30	9	30	28	30
		4	474	148	30	9	30	28	30
		5	475	148	30	9	30	28	30
		6	476	148	30	9	30	28	30
		7	477	148	30	9	30	28	30
		8	478	148	30	9	30	28	30
		9	479	148	30	9	30	28	30
		10	480	148	30	9	30	28	30
		11	481	148	30	9	30	28	30
		12	482	148	30	9	30	28	30
		13	483	148	30	9	30	28	30
		14	811	148	30	9	30	28	30
		15	484	148	30	9	30	28	30
		16	485						
	North Shore Blvd E to QEW N		1	486	78	50	5	50	15
		2	487	78	50	5	50	15	50
		3	488	78	50	5	50	15	50
		4	489	78	50	5	50	15	50
		5	490	78	50	5	50	15	50
		6	491	78	50	5	50	15	50
		7	492	78	50	5	50	15	50
		8	493	78	50	5	50	15	50
		9	494	78	50	5	50	15	50
		10	495	78	50	5	50	15	50
		11	496						
Highway 403 EB (2)		1	497	3233	100	96	100	314	100
		2	498	3233	100	96	100	314	100
		3	499	3233	100	96	100	314	100
		4	500	3233	100	96	100	314	100
		5	501	3233	100	96	100	314	100
		6	502	3233	100	96	100	314	100
		7	503	3233	100	96	100	314	100
		8	504	3233	100	96	100	314	100
		9	505	3233	100	96	100	314	100
		10	506	3233	100	96	100	314	100
		11	507	3233	100	96	100	314	100
QEW Toronto Bound (6)		12	508	3233	100	96	100	314	100
		13	509	3233	100	96	100	314	100
		14	510	3233	100	96	100	314	100
		15	511						
		1	512	4600	100	199	100	657	100
		2	513	4600	100	199	100	657	100
		3	514	4600	100	199	100	657	100
		4	515	4600	100	199	100	657	100
		5	516	4600	100	199	100	657	100
		6	517	4600	100	199	100	657	100
		7	518	4600	100	199	100	657	100

**Future without the Undertaking - Traffic Input (LAeq1h Volumes)**

Roadway Name	Points Name	No.	Segment Autos		MTrucks		HTrucks		
			V	S	V	S	V	S	
			veh/hr	km/h	veh/hr	km/h	veh/hr	km/h	
QEW Niagara Bound (6)		8	519	4600	100	199	100	657	100
		9	520	4600	100	199	100	657	100
		10	521	4600	100	199	100	657	100
		11	522	4600	100	199	100	657	100
		12	523	4600	100	199	100	657	100
		13	524	4600	100	199	100	657	100
		14	525	4600	100	199	100	657	100
		15	526						
		15	541	4783	100	188	100	485	100
		14	540	4783	100	188	100	485	100
		13	539	4783	100	188	100	485	100
		12	538	4783	100	188	100	485	100
		11	537	4783	100	188	100	485	100
		10	536	4783	100	188	100	485	100
		9	535	4783	100	188	100	485	100
	8	534	4783	100	188	100	485	100	
	7	533	4783	100	188	100	485	100	
	6	532	4783	100	188	100	485	100	
	5	531	4783	100	188	100	485	100	
	4	530	4783	100	188	100	485	100	
	3	529	4783	100	188	100	485	100	
	2	528	4783	100	188	100	485	100	
	1	527							
Highway 403 W - Brant NS		1	542	188	60	4	60	1	60
		2	543	188	60	4	60	1	60
		3	544	188	60	4	60	1	60
		4	545	188	60	4	60	1	60
		5	546	188	60	4	60	1	60
		6	547	188	60	4	60	1	60
		7	548	188	60	4	60	1	60
		8	549	188	60	4	60	1	60
		9	550	188	60	4	60	1	60
		10	551	188	60	4	60	1	60
		11	552	188	60	4	60	1	60
		12	553	188	60	4	60	1	60
		13	554	188	60	4	60	1	60
		14	555	188	60	4	60	1	60
		15	556						
QEW S - Highway 403 W (1)		1	557	349	100	15	100	50	100
		2	558	349	100	15	100	50	100
		3	559	349	100	15	100	50	100
		4	560	349	100	15	100	50	100
		5	561	349	100	15	100	50	100
		6	562	349	100	15	100	50	100
		7	563	349	100	15	100	50	100
		8	564	349	100	15	100	50	100
		9	565	349	100	15	100	50	100
		10	566	349	100	15	100	50	100



### Future without the Undertaking - Traffic Input (LAeq1h Volumes)

Roadway Name	Points Name	No.	Segment Autos		MTrucks		HTrucks		
			V	S	V	S	V	S	
			veh/hr	km/h	veh/hr	km/h	veh/hr	km/h	
		11	567	349	100	15	100	50	100
		12	568	349	100	15	100	50	100
		13	569	349	100	15	100	50	100
		14	570	349	100	15	100	50	100
		15	571						
QEW S - Highway 403 W (2)		1	572	349	100	15	100	50	100
		2	573	349	100	15	100	50	100
		3	574	349	100	15	100	50	100
		4	575	349	100	15	100	50	100
		5	576	349	100	15	100	50	100
		6	577	349	100	15	100	50	100
		7	578	349	100	15	100	50	100
		8	579	349	100	15	100	50	100
		9	580	349	100	15	100	50	100
		10	581	349	100	15	100	50	100
		11	582	349	100	15	100	50	100
		12	583	349	100	15	100	50	100
		13	584	349	100	15	100	50	100
		14	585	349	100	15	100	50	100
		15	586						
QEW S - Highway 403 W (3)		1	587	349	100	15	100	50	100
		2	588	349	100	15	100	50	100
		3	589	349	100	15	100	50	100
		4	590	349	100	15	100	50	100
		5	591	349	100	15	100	50	100
		6	592	349	100	15	100	50	100
		7	593	349	100	15	100	50	100
		8	594	349	100	15	100	50	100
		9	595						
Highway 403 WB (2)		15	610	3244	100	171	100	230	100
		14	609	3244	100	171	100	230	100
		13	608	3244	100	171	100	230	100
		12	607	3244	100	171	100	230	100
		11	606	3244	100	171	100	230	100
		10	605	3244	100	171	100	230	100
		9	604	3244	100	171	100	230	100
		8	603	3244	100	171	100	230	100
		7	602	3244	100	171	100	230	100
		6	601	3244	100	171	100	230	100
		5	600	3244	100	171	100	230	100
		4	599	3244	100	171	100	230	100
		3	598	3244	100	171	100	230	100
		2	597	3244	100	171	100	230	100
		1	596						
Highway 403 WB (3)		15	625	3221	100	136	100	286	100
		14	624	3221	100	136	100	286	100
		13	623	3221	100	136	100	286	100
		12	622	3221	100	136	100	286	100

## Future without the Undertaking - Traffic Input (LAeq1h Volumes)

Roadway Name	Points Name	No.	Segment Autos		MTrucks		HTrucks	
			V	S	V	S	V	S
			veh/hr	km/h	veh/hr	km/h	veh/hr	km/h
		11	621	3221	100	136	100	286
		10	620	3221	100	136	100	286
		9	619	3221	100	136	100	286
		8	618	3221	100	136	100	286
		7	617	3221	100	136	100	286
		6	616	3221	100	136	100	286
		5	615	3221	100	136	100	286
		4	614	3221	100	136	100	286
		3	613	3221	100	136	100	286
		2	612	3221	100	136	100	286
		1	611					
Highway 403 WB (4)		15	640	1264	100	53	100	112
		14	639	1264	100	53	100	112
		13	638	1264	100	53	100	112
		12	637	1264	100	53	100	112
		11	636	1264	100	53	100	112
		10	635	1264	100	53	100	112
		9	634	1264	100	53	100	112
		8	633	1264	100	53	100	112
		7	632	1264	100	53	100	112
		6	631	1264	100	53	100	112
		5	630	1264	100	53	100	112
		4	629	1264	100	53	100	112
		3	628	1264	100	53	100	112
		2	627	1264	100	53	100	112
		1	626					
Highway 403 W - Highway 407 N (1)		1	641	339	100	21	100	64
		2	642	339	100	21	100	64
		3	643	339	100	21	100	64
		4	644	339	100	21	100	64
		5	645	339	100	21	100	64
		6	646	339	100	21	100	64
		7	647	339	100	21	100	64
		8	648	339	100	21	100	64
		9	649	339	100	21	100	64
		10	650	339	100	21	100	64
		11	651	339	100	21	100	64
		12	652	339	100	21	100	64
		13	653	339	100	21	100	64
		14	654	339	100	21	100	64
		15	655					
Highway 403 W - Highway 407 N (2)		1	656	339	100	21	100	64
		2	657	339	100	21	100	64
		3	658	339	100	21	100	64
		4	659	339	100	21	100	64
		5	660	339	100	21	100	64
		6	661	339	100	21	100	64
		7	662	339	100	21	100	64

### Future without the Undertaking - Traffic Input (LAeq1h Volumes)

Roadway Name	Points Name	No.	Segment Autos		MTrucks		HTrucks		
			V	S	V	S	V	S	
			veh/hr	km/h	veh/hr	km/h	veh/hr	km/h	
Highway 407 N - Highway 403 W (1)		8	663	339	100	21	100	64	100
		9	664						
		15	679	350	100	22	100	66	100
		14	678	350	100	22	100	66	100
		13	677	350	100	22	100	66	100
		12	676	350	100	22	100	66	100
		11	675	350	100	22	100	66	100
		10	674	350	100	22	100	66	100
		9	673	350	100	22	100	66	100
		8	672	350	100	22	100	66	100
		7	671	350	100	22	100	66	100
Highway 407 N - Highway 403 W (2)		6	670	350	100	22	100	66	100
		5	669	350	100	22	100	66	100
		4	668	350	100	22	100	66	100
		3	667	350	100	22	100	66	100
		2	666	350	100	22	100	66	100
		1	665						
		10	688	350	100	22	100	66	100
		9	687	350	100	22	100	66	100
		8	686	350	100	22	100	66	100
		7	685	350	100	22	100	66	100
		6	684	350	100	22	100	66	100
QEW Toronto Bound (7)		5	812	350	100	22	100	66	100
		4	683	350	100	22	100	66	100
		3	682	350	100	22	100	66	100
		2	681	350	100	22	100	66	100
		1	680						
		1	704	4600	100	199	100	657	100
		2	705	4600	100	199	100	657	100
		3	706	4600	100	199	100	657	100
		4	707	4600	100	199	100	657	100
		5	708	4600	100	199	100	657	100
		6	709	4600	100	199	100	657	100
	7	710	4600	100	199	100	657	100	
QEW Niagara Bound (7)		8	711	4600	100	199	100	657	100
		9	712	4600	100	199	100	657	100
		10	713	4600	100	199	100	657	100
		11	714						
		11	725	4783	100	188	100	485	100
		10	724	4783	100	188	100	485	100
		9	723	4783	100	188	100	485	100
		8	722	4783	100	188	100	485	100
		7	721	4783	100	188	100	485	100
		6	720	4783	100	188	100	485	100
		5	719	4783	100	188	100	485	100
	4	718	4783	100	188	100	485	100	
	3	717	4783	100	188	100	485	100	
	2	716	4783	100	188	100	485	100	

### Future without the Undertaking - Traffic Input (LAeq1h Volumes)

Roadway Name	Points Name	No.	Segment Autos		MTrucks		HTrucks	
			V	S	V	S	V	S
			veh/hr	km/h	veh/hr	km/h	veh/hr	km/h
Highway 407 NB		1	715					
		1	726	805	100	50	100	151
		2	727	805	100	50	100	151
		3	728	805	100	50	100	151
		4	729	805	100	50	100	151
		5	730	805	100	50	100	151
		6	731	805	100	50	100	151
		7	732	805	100	50	100	151
		8	733	805	100	50	100	151
Highway 407 SB		9	734					
		1	735	977	100	61	100	183
		2	736	977	100	61	100	183
		3	737	977	100	61	100	183
		4	738	977	100	61	100	183
		5	739	977	100	61	100	183
		6	740	977	100	61	100	183
		7	741	977	100	61	100	183
		8	742	977	100	61	100	183
QEW E - Brant NS		9	743					
		1	744	312	50	7	50	2
		2	745	312	50	7	50	2
		3	746	312	50	7	50	2
		4	747	312	50	7	50	2
		5	748	312	50	7	50	2
		6	749	312	50	7	50	2
		7	750	312	50	7	50	2
		8	751	312	50	7	50	2
		9	752	312	50	7	50	2
		10	753	312	50	7	50	2
		11	754	312	50	7	50	2
		12	755	312	50	7	50	2
		13	756	312	50	7	50	2
		14	757	312	50	7	50	2
	15	758						
Brant E - Highway 403 W (1)		1	759	122	30	3	30	1
		2	760	122	30	3	30	1
		3	761	122	30	3	30	1
		4	762	122	30	3	30	1
		5	763	122	30	3	30	1
		6	764	122	30	3	30	1
		7	765	122	30	3	30	1
		8	766	122	30	3	30	1
		9	767	122	30	3	30	1
		10	768	122	30	3	30	1
		11	769	122	30	3	30	1
		12	770	122	30	3	30	1
		13	771	122	30	3	30	1
		14	772	122	30	3	30	1

### Future without the Undertaking - Traffic Input (LAeq1h Volumes)

Roadway Name	Points Name	No.	Segment Autos		MTrucks		HTrucks		
			V	S	V	S	V	S	
			veh/hr	km/h	veh/hr	km/h	veh/hr	km/h	
Brant E - Highway 403 W (2)		15	773						
		1	774	122	30	3	30	1	30
		2	775	122	30	3	30	1	30
		3	776	122	30	3	30	1	30
		4	777	122	30	3	30	1	30
		5	778	122	30	3	30	1	30
		6	779	122	30	3	30	1	30
Brant W-N (1)		7	780						
		1	781	298	30	5	30	2	30
		2	782	298	30	5	30	2	30
		3	783	298	30	5	30	2	30
		4	784	298	30	5	30	2	30
		5	785	298	30	5	30	2	30
		6	786	298	30	5	30	2	30
Brant W-N (2)		7	787	298	30	5	30	2	30
		8	788	298	30	5	30	2	30
		9	789	298	30	5	30	2	30
		10	790	298	30	5	30	2	30
		11	791	298	30	5	30	2	30
		12	792	298	30	5	30	2	30
		13	793	298	30	5	30	2	30
Brant E-N		14	794	298	30	5	30	2	30
		15	795						
		1	796	298	30	5	30	2	30
		2	797	298	30	5	30	2	30
		3	798	298	30	5	30	2	30
		4	799	298	30	5	30	2	30
		5	800	298	30	5	30	2	30
Brant W to Guelph N/S		6	801	298	30	5	30	2	30
		7	802	298	30	5	30	2	30
		8	803	298	30	5	30	2	30
		9	804						
		1	805	262	30	6	30	2	30
		2	806	262	30	6	30	2	30
		3	807	262	30	6	30	2	30
	4	808	262	30	6	30	2	30	
	5	809	262	30	6	30	2	30	
	6	810	262	30	6	30	2	30	
	7	811	262	30	6	30	2	30	
	8	812	262	30	6	30	2	30	
	9	813	262	30	6	30	2	30	
	10	814	262	30	6	30	2	30	
	11	815	262	30	6	30	2	30	
	12	816	262	30	6	30	2	30	
	13	817							
	1	818	692	50	30	50	99	50	
	2	819	692	50	30	50	99	50	
	3	820	692	50	30	50	99	50	

## Future without the Undertaking - Traffic Input (LAeq1h Volumes)

Roadway Name	Points Name	No.	Segment Autos		MTrucks		HTrucks	
			V	S	V	S	V	S
			veh/hr	km/h	veh/hr	km/h	veh/hr	km/h
		4	821	692	50	30	50	99
		5	822	692	50	30	50	99
		6	823	692	50	30	50	99
		7	824	692	50	30	50	99
		8	825	692	50	30	50	99
		9	826	692	50	30	50	99
		10	827	692	50	30	50	99
		11	828	692	50	30	50	99
		12	829	692	50	30	50	99
		13	830	692	50	30	50	99
		14	831	692	50	30	50	99
		15	832					
Guelph NB		1	833	1938	60	52	60	29
		2	834	1938	60	52	60	29
		3	835	1938	60	52	60	29
		4	836	1938	60	52	60	29
		5	837					
Guelph SB		1	838	1942	60	52	60	25
		2	839	1942	60	52	60	25
		3	840	1942	60	52	60	25
		4	841	1942	60	52	60	25
		5	842	1942	60	52	60	25
		6	843					
NSR East EB (1)		15	858	209	60	2	60	3
		14	857	209	60	2	60	3
		13	856	209	60	2	60	3
		12	855	209	60	2	60	3
		11	854	209	60	2	60	3
		10	853	209	60	2	60	3
		9	852	209	60	2	60	3
		8	851	209	60	2	60	3
		7	850	209	60	2	60	3
		6	849	209	60	2	60	3
		5	848	209	60	2	60	3
		4	847	209	60	2	60	3
		3	846	209	60	2	60	3
		2	845	209	60	2	60	3
		1	844					
NSR East EB (2)		2	873	768	60	19	60	30
		1	815					
NSR East EB (3)		15	874	776	60	15	60	24
		14	875	776	60	15	60	24
		13	876	776	60	15	60	24
		12	877	776	60	15	60	24
		11	878	776	60	15	60	24
		10	879	776	60	15	60	24
		9	880	776	60	15	60	24
		8	881	776	60	15	60	24

### Future without the Undertaking - Traffic Input (LAeq1h Volumes)

Roadway Name	Points Name	No.	Segment Autos		MTrucks		HTrucks		
			V	S	V	S	V	S	
			veh/hr	km/h	veh/hr	km/h	veh/hr	km/h	
NSR East EB (4)		7	882	776	60	15	60	24	60
		6	883	776	60	15	60	24	60
		5	884	776	60	15	60	24	60
		4	885	776	60	15	60	24	60
		3	886	776	60	15	60	24	60
		2	887	776	60	15	60	24	60
		1	888						
		15	903	776	60	15	60	24	60
		14	902	776	60	15	60	24	60
		13	901	776	60	15	60	24	60
		12	900	776	60	15	60	24	60
		11	899	776	60	15	60	24	60
		10	898	776	60	15	60	24	60
		9	897	776	60	15	60	24	60
		8	896	776	60	15	60	24	60
	7	895	776	60	15	60	24	60	
	6	894	776	60	15	60	24	60	
	5	893	776	60	15	60	24	60	
	4	892	776	60	15	60	24	60	
	3	891	776	60	15	60	24	60	
	2	890	776	60	15	60	24	60	
	1	889							
NSR East WB (1)		1	904	83	60	1	60	1	60
		2	905	83	60	1	60	1	60
		3	906	83	60	1	60	1	60
		4	907	83	60	1	60	1	60
		5	908	83	60	1	60	1	60
		6	909	83	60	1	60	1	60
		7	910	83	60	1	60	1	60
		8	911	83	60	1	60	1	60
		9	912	83	60	1	60	1	60
		10	913	83	60	1	60	1	60
		11	914	83	60	1	60	1	60
		12	915	83	60	1	60	1	60
		13	916	83	60	1	60	1	60
		14	917	83	60	1	60	1	60
		15	918						
NSR East WB (2)		1	919	571	60	12	60	19	60
		2	920	571	60	12	60	19	60
		3	921	571	60	12	60	19	60
		4	922	571	60	12	60	19	60
		5	923	571	60	12	60	19	60
		6	924	571	60	12	60	19	60
		7	925	571	60	12	60	19	60
		8	926	571	60	12	60	19	60
		9	927	571	60	12	60	19	60
		10	928	571	60	12	60	19	60
		11	929	571	60	12	60	19	60





## Future without the Undertaking - Traffic Input (LAeq1h Volumes)

Roadway Name	Points Name	No.	Segment Autos		MTrucks		HTrucks		
			V	S	V	S	V	S	
			veh/hr	km/h	veh/hr	km/h	veh/hr	km/h	
		8	982	1520	60	26	60	12	60
		7	981	1520	60	26	60	12	60
		6	980	1520	60	26	60	12	60
		5	979	1520	60	26	60	12	60
		4	978	1520	60	26	60	12	60
		3	977	1520	60	26	60	12	60
		2	976	1520	60	26	60	12	60
		1	975						
Highway 403 EB (1)		1	987	3233	100	96	100	314	100
		2	988	3233	100	96	100	314	100
		3	989	3233	100	96	100	314	100
		4	990	3233	100	96	100	314	100
		5	991	3233	100	96	100	314	100
		6	992	3233	100	96	100	314	100
		7	993	3233	100	96	100	314	100
		8	994	3233	100	96	100	314	100
		9	995	3233	100	96	100	314	100
		10	996	3233	100	96	100	314	100
		11	997	3233	100	96	100	314	100
		12	998	3233	100	96	100	314	100
		13	999	3233	100	96	100	314	100
		14	1000	3233	100	96	100	314	100
		15	1001						
King Road NB		1	1002	353	50	7	50	5	50
		2	1003	353	50	7	50	5	50
		3	1004	353	50	7	50	5	50
		4	807	353	50	7	50	5	50
		5	1005	353	50	7	50	5	50
		6	1006	353	50	7	50	5	50
		7	1007	353	50	7	50	5	50
		8	1008	353	50	7	50	5	50
		9	1009						
King Road SB		1	1010	353	50	7	50	5	50
		2	1011	353	50	7	50	5	50
		3	1012	353	50	7	50	5	50
		4	1013	353	50	7	50	5	50
		5	1014	353	50	7	50	5	50
		6	806	353	50	7	50	5	50
		7	1015	353	50	7	50	5	50
		8	1016	353	50	7	50	5	50
		9	1017						
Highway 403 WB (1)		15	1032	3244	100	171	100	230	100
		14	1031	3244	100	171	100	230	100
		13	1030	3244	100	171	100	230	100
		12	1029	3244	100	171	100	230	100
		11	1028	3244	100	171	100	230	100
		10	1027	3244	100	171	100	230	100
		9	1026	3244	100	171	100	230	100

### Future without the Undertaking - Traffic Input (LAeq1h Volumes)

Roadway Name	Points Name	No.	Segment Autos		MTrucks		HTrucks	
			V	S	V	S	V	S
			veh/hr	km/h	veh/hr	km/h	veh/hr	km/h
		8	1025	3244	100	171	100	230
		7	1024	3244	100	171	100	230
		6	1023	3244	100	171	100	230
		5	1022	3244	100	171	100	230
		4	1021	3244	100	171	100	230
		3	1020	3244	100	171	100	230
		2	1019	3244	100	171	100	230
		1	1018					
Highway 403 EB (0)		1	1033	3363	100	100	100	327
		2	1034	3363	100	100	100	327
		3	1035	3363	100	100	100	327
		4	1036	3363	100	100	100	327
		5	1037	3363	100	100	100	327
		6	1038	3363	100	100	100	327
		7	1039	3363	100	100	100	327
		8	1040	3363	100	100	100	327
		9	1041	3363	100	100	100	327
		10	1042					
NSR East EB (7)		13	1055	463	50	3	50	7
		12	1054	463	50	3	50	7
		11	1053	463	50	3	50	7
		10	1052	463	50	3	50	7
		9	1051	463	50	3	50	7
		8	1050	463	50	3	50	7
		7	1049	463	50	3	50	7
		6	1048	463	50	3	50	7
		5	1047	463	50	3	50	7
		4	1046	463	50	3	50	7
		3	1045	463	50	3	50	7
		2	1044	463	50	3	50	7
		1	1043					
NSR East WB (7)		1	1056	615	50	4	50	6
		2	1057	615	50	4	50	6
		3	1058	615	50	4	50	6
		4	1059	615	50	4	50	6
		5	1060	615	50	4	50	6
		6	1061	615	50	4	50	6
		7	1062	615	50	4	50	6
		8	1063	615	50	4	50	6
		9	1064	615	50	4	50	6
		10	1065	615	50	4	50	6
		11	1066	615	50	4	50	6
		12	1067	615	50	4	50	6
		13	1068					
Waterdow N/S - Highway 403 W (1)		1	1069	351	40	2	40	7
		2	1070	351	40	2	40	7
		3	1071	351	40	2	40	7
		4	1072	351	40	2	40	7

### Future without the Undertaking - Traffic Input (LAeq1h Volumes)

Roadway Name	Points Name	No.	Segment Autos		MTrucks		HTrucks		
			V	S	V	S	V	S	
			veh/hr	km/h	veh/hr	km/h	veh/hr	km/h	
		5	1073	351	40	2	40	7	40
		6	1074	351	40	2	40	7	40
		7	1075	351	40	2	40	7	40
		8	1076	351	40	2	40	7	40
		9	1077	351	40	2	40	7	40
		10	1078	351	40	2	40	7	40
		11	1079	351	40	2	40	7	40
		12	1080	351	40	2	40	7	40
		13	1081	351	40	2	40	7	40
		14	1082	351	40	2	40	7	40
		15	1083						
		1	1084	351	40	2	40	7	40
		2	1085	351	40	2	40	7	40
		3	1086	351	40	2	40	7	40
		4	1087	351	40	2	40	7	40
		5	1088	351	40	2	40	7	40
		6	1089	351	40	2	40	7	40
		7	1090						
		10	1100	3373	100	177	100	239	100
		9	1099	3373	100	177	100	239	100
		8	1098	3373	100	177	100	239	100
		7	1097	3373	100	177	100	239	100
		6	1096	3373	100	177	100	239	100
		5	1095	3373	100	177	100	239	100
		4	1094	3373	100	177	100	239	100
		3	1093	3373	100	177	100	239	100
		2	1092	3373	100	177	100	239	100
		1	1091						
		1	1101	193	60	10	60	14	60
		2	1102	193	60	10	60	14	60
		3	1103	193	60	10	60	14	60
		4	1104	193	60	10	60	14	60
		5	1105	193	60	10	60	14	60
		6	1106	193	60	10	60	14	60
		7	1107	193	60	10	60	14	60
		8	1108	193	60	10	60	14	60
		9	1109						
		1	1110	3662	100	159	100	523	100
		2	1111	3662	100	159	100	523	100
		3	1112	3662	100	159	100	523	100
		4	1113	3662	100	159	100	523	100
		5	1114	3662	100	159	100	523	100
		6	1115	3662	100	159	100	523	100
		7	1116	3662	100	159	100	523	100
		8	1117	3662	100	159	100	523	100
		9	1118						
		9	1127	3808	100	149	100	386	100
		8	1126	3808	100	149	100	386	100

### Future without the Undertaking - Traffic Input (LAeq1h Volumes)

Roadway Name	Points Name	No.	Segment Autos		MTrucks		HTrucks	
			V	S	V	S	V	S
			veh/hr	km/h	veh/hr	km/h	veh/hr	km/h
Eastport NB		7	1125	3808	100	149	100	386
		6	1124	3808	100	149	100	386
		5	1123	3808	100	149	100	386
		4	1122	3808	100	149	100	386
		3	1121	3808	100	149	100	386
		2	1120	3808	100	149	100	386
		1	1119					
		1	1128	1230		31	50	32
		2	1129	1230		31	50	32
		3	1130	1230		31	50	32
		4	1131	1230		31	50	32
	NSR East EB (5)		5	1132	1230	50	31	50
		6	1133	1230	50	31	50	32
		7	1134	1230	50	31	50	32
		8	1135	1230	50	31	50	32
		9	1136					
		15	1151	593	60	14	60	22
		14	1150	593	60	14	60	22
		13	1149	593	60	14	60	22
		12	1148	593	60	14	60	22
		11	1147	593	60	14	60	22
		10	1146	593	60	14	60	22
NSR East EB (6)			9	1145	593	60	14	60
		8	1144	593	60	14	60	22
		7	1143	593	60	14	60	22
		6	1142	593	60	14	60	22
		5	1141	593	60	14	60	22
		4	1140	593	60	14	60	22
		3	1139	593	60	14	60	22
		2	1138	593	60	14	60	22
		1	1137					
		5	1156	593	60	14	60	22
		4	1155	593	60	14	60	22
	NSR East WB (5)		3	1154	593	60	14	60
		2	1153	593	60	14	60	22
		1	1152					
		1	1157	788	60	13	60	21
		2	1158	788	60	13	60	21
		3	1159	788	60	13	60	21
		4	1160	788	60	13	60	21
		5	1161	788	60	13	60	21
		6	1162	788	60	13	60	21
		7	1163	788	60	13	60	21
		8	1164	788	60	13	60	21
		9	1165	788	60	13	60	21
	10	1166	788	60	13	60	21	
	11	1167	788	60	13	60	21	
	12	1168	788	60	13	60	21	

**Future without the Undertaking - Traffic Input (LAeq1h Volumes)**

Roadway Name	Points Name	No.	Segment Autos		MTrucks		HTrucks	
			V	S	V	S	V	S
			veh/hr	km/h	veh/hr	km/h	veh/hr	km/h
	13	1169	788	60	13	60	21	60
	14	1170	788	60	13	60	21	60
	15	1171						
NSR East WB (6)	1	1172	788	60	13	60	21	60
	2	1173	788	60	13	60	21	60
	3	1174	788	60	13	60	21	60
	4	1175	788	60	13	60	21	60
	5	1176	788	60	13	60	21	60
	6	1177						
Plains W - Hwy 407 N	1	686	35	30	1	30	1	30
	2	687	35	30	1	30	1	30
	3	688	35	30	1	30	1	30
	4	689	35	30	1	30	1	30
	5	690	35	30	1	30	1	30
	6	691	35	30	1	30	1	30
	7	692	35	30	1	30	1	30
	8	693	35	30	1	30	1	30
	9	694	35	30	1	30	1	30
	10	695	35	30	1	30	1	30
	11	696	35	30	1	30	1	30
	12	697	35	30	1	30	1	30
	13	698	35	30	1	30	1	30
	14	699	35	30	1	30	1	30
	15	700	35	30	1	30	1	30
	16	701	35	30	1	30	1	30
	17	702	35	30	1	30	1	30
	18	703	35	30	1	30	1	30
	19	704	35	30	1	30	1	30
	20	705	35	30	1	30	1	30
	21	706	35	30	1	30	1	30
	22	707	35	30	1	30	1	30
	23	708	35	30	1	30	1	30
	24	709	35	30	1	30	1	30
	25	710	35	30	1	30	1	30
	26	711	35	30	1	30	1	30
	27	712	35	30	1	30	1	30
	28	713	35	30	1	30	1	30
	29	714	35	30	1	30	1	30
	30	715	35	30	1	30	1	30
	31	716	35	30	1	30	1	30
	32	717	35	30	1	30	1	30
	33	718	35	30	1	30	1	30
	34	719	35	30	1	30	1	30
	35	720	35	30	1	30	1	30
	36	721	35	30	1	30	1	30
	37	722	35	30	1	30	1	30
	38	723	35	30	1	30	1	30
	39	993	0	0	0	0	0	0

**Future without the Undertaking - Traffic Input (LAeq1h Volumes)**

Roadway Name	Points Name	No.	Segment Autos		MTrucks		HTrucks		
			V	S	V	S	V	S	
			veh/hr	km/h	veh/hr	km/h	veh/hr	km/h	
		40	994	0	0	0	0	0	0
		41	995	0	0	0	0	0	0
		42	996	0	0	0	0	0	0
		43	997						
Fairview EB	point736		736	1487	50	24	50	11	50
	point737		737	1487	50	24	50	11	50
	point738		738	1487	50	24	50	11	50
	point739		739	1487	50	24	50	11	50
	point740		740	1487	50	24	50	11	50
	point741		741	1487	50	24	50	11	50
	point742		742	1487	50	24	50	11	50
	point743		743	1487	50	24	50	11	50
	point744		744	1487	50	24	50	11	50
	point745		745	1487	50	24	50	11	50
	point746		746	1487	50	24	50	11	50
	point747		747	1487	50	24	50	11	50
	point748		748	1487	50	24	50	11	50
	point749		749	1487	50	24	50	11	50
	point750		750						
Fairview E - Hwy 407 N		3	753	107	30	2	30	1	30
		4	754	107	30	2	30	1	30
		5	755	107	30	2	30	1	30
		6	756	107	30	2	30	1	30
		7	757	107	30	2	30	1	30
		8	758	107	30	2	30	1	30
		9	759	107	30	2	30	1	30
		10	760	107	30	2	30	1	30
		11	761	107	30	2	30	1	30
		12	762	107	30	2	30	1	30
		13	763	107	30	2	30	1	30
		14	764	107	30	2	30	1	30
		15	765	107	30	2	30	1	30
		16	766						
Fairview WB	point767		767	1477	50	28	50	17	50
	point768		768	1477	50	28	50	17	50
	point769		769	1477	50	28	50	17	50
	point770		770	1477	50	28	50	17	50
	point771		771	1477	50	28	50	17	50
	point772		772	1477	50	28	50	17	50
	point773		773	1477	50	28	50	17	50
	point774		774	1477	50	28	50	17	50
	point775		775	1477	50	28	50	17	50
	point776		776	1477	50	28	50	17	50
	point777		777	1477	50	28	50	17	50
	point778		778						
North Shore WB	point788		788	1019	60	19	60	11	60
	point787		787	1019	60	19	60	11	60
	point786		786	1019	60	19	60	11	60

### Future without the Undertaking - Traffic Input (LAeq1h Volumes)

Roadway Name	Points Name	No.	Segment Autos		MTrucks		HTrucks		
			V	S	V	S	V	S	
			veh/hr	km/h	veh/hr	km/h	veh/hr	km/h	
North Shore EB	point785		785	1019	60	19	60	11	60
	point784		784	1019	60	19	60	11	60
	point783		783	1019	60	19	60	11	60
	point782		782	1019	60	19	60	11	60
	point781		781	1019	60	19	60	11	60
	point780		780	1019	60	19	60	11	60
	point779		779						
	point798		798	1026		17	60	8	60
	point797		797	1026		17	60	8	60
	point796		796	1026		17	60	8	60
Waterdown NB	point795		795	1026	60	17	60	8	60
	point794		794	1026	60	17	60	8	60
	point793		793	1026	60	17	60	8	60
	point792		792	1026	60	17	60	8	60
	point791		791	1026	60	17	60	8	60
	point790		790	1026	60	17	60	8	60
	point789		789						
	1		799	391		4	50	1	50
	2		800	391		4	50	1	50
	3		801	391		4	50	1	50
Waterdown SB	4		829	391	50	4	50	1	50
	5		802	391	50	4	50	1	50
	6		803	391	50	4	50	1	50
	7		804	391	50	4	50	1	50
	8		805	391	50	4	50	1	50
	9		806						
	1		807	391		5	50	1	50
	2		808	391		5	50	1	50
	3		809	391		5	50	1	50
NSR East EB (2)-2	4		810	391	50	5	50	1	50
	5		811	391	50	5	50	1	50
	6		828	391	50	5	50	1	50
	7		812	391	50	5	50	1	50
	8		813	391	50	5	50	1	50
	9		814						
	2		816	768		19	60	30	60
	1		817						
	NSR East EB (2)-2-2	15		818	768	60	19	60	30
14			872	768	60	19	60	30	60
13			871	768	60	19	60	30	60
12			870	768	60	19	60	30	60
11			869	768	60	19	60	30	60
10			868	768	60	19	60	30	60
9			867	768	60	19	60	30	60
8			866	768	60	19	60	30	60
7			865	768	60	19	60	30	60
5	6		864	768	60	19	60	30	60
	5		863	768	60	19	60	30	60

### Future without the Undertaking - Traffic Input (LAeq1h Volumes)

Roadway Name	Points Name	No.	Segment Autos			MTrucks			HTrucks		
			V	veh/hr	S km/h	V	veh/hr	S km/h	V	veh/hr	S km/h
NSR East WB (2)-2		4	862	768	60	19	60	30	60	30	60
		3	861	768	60	19	60	30	60	30	60
		2	860	768	60	19	60	30	60	30	60
		1	859								
		1	822	571	60	12	60	19	60	19	60
NSR East WB (2)-2-2		2	823								
		13	827	571	60	12	60	19	60	19	60
QEW E - Guelph NS		14	932	571	60	12	60	19	60	19	60
		15	933								
		point846	846	280	50	11	50	28	50	28	50
		point845	845	280	50	11	50	28	50	28	50
		point844	844	280	280	50	11	50	28	28	50
		point843	843	280	280	50	11	50	28	28	50
		point842	842	280	280	50	11	50	28	28	50
		point841	841	280	280	50	11	50	28	28	50
		point840	840	280	280	50	11	50	28	28	50
		point839	839	280	280	50	11	50	28	28	50
		point838	838	280	280	50	11	50	28	28	50
		point837	837	280	280	50	11	50	28	28	50
		point836	836	280	280	50	11	50	28	28	50
		point835	835	280	280	50	11	50	28	28	50
		point834	834	280	280	50	11	50	28	28	50
Guelph S - QEW W		point833	833	280	50	11	50	28	50	28	50
		point832	832	280	50	11	50	28	50	28	50
		point831	831	280	280	50	11	50	28	28	50
		point830	830								
		point862	862	362	362	30	5	30	10	10	30
		point861	861	362	362	30	5	30	10	10	30
		point860	860	362	362	30	5	30	10	10	30
		point859	859	362	362	30	5	30	10	10	30
		point858	858	362	362	30	5	30	10	10	30
		point857	857	362	362	30	5	30	10	10	30
Guelph N - QEW W		point856	856	362	362	30	5	30	10	10	30
		point855	855	362	362	30	5	30	10	10	30
		point854	854	362	362	30	5	30	10	10	30
		point853	853	362	362	30	5	30	10	10	30
		point852	852	362	362	30	5	30	10	10	30
		point851	851	362	362	30	5	30	10	10	30
		point850	850	362	362	30	5	30	10	10	30
		point849	849	362	362	30	5	30	10	10	30
		point848	848	362	362	30	5	30	10	10	30
		point847	847								
Guelph N - QEW W		1	873	453	40	12	40	6	40	6	40
		2	872	453	40	12	40	6	40	6	40
		3	871	453	40	12	40	6	40	6	40
		4	870	453	40	12	40	6	40	6	40
		5	869	453	40	12	40	6	40	6	40
		6	868	453	40	12	40	6	40	6	40



### Future without the Undertaking - Traffic Input (LAeq1h Volumes)

Roadway Name	Points Name	No.	Segment Autos		MTrucks		HTrucks	
			V	S	V	S	V	S
			veh/hr	km/h	veh/hr	km/h	veh/hr	km/h
	7	867	453	40	12	40	6	40
	8	866	453	40	12	40	6	40
	9	865	453	40	12	40	6	40
	10	864	453	40	12	40	6	40
	11	863						
Guelph N - QEW E	point891	891	140	20	4	20	2	20
	point890	890	140	20	4	20	2	20
	point889	889	140	20	4	20	2	20
	point888	888	140	20	4	20	2	20
	point887	887	140	20	4	20	2	20
	point886	886	140	20	4	20	2	20
	point885	885	140	20	4	20	2	20
	point884	884	140	20	4	20	2	20
	point883	883	140	20	4	20	2	20
	point882	882	140	20	4	20	2	20
	point881	881	140	20	4	20	2	20
	point880	880	140	20	4	20	2	20
	point879	879	140	20	4	20	2	20
	point878	878	140	20	4	20	2	20
	point877	877	140	20	4	20	2	20
	point876	876	140	20	4	20	2	20
	point875	875	140	20	4	20	2	20
point874	874							
Guelph S - QEW E	point914	914	236	40	6	40	4	40
	point913	913	236	40	6	40	4	40
	point912	912	236	40	6	40	4	40
	point911	911	236	40	6	40	4	40
	point910	910	236	40	6	40	4	40
	point909	909	236	40	6	40	4	40
	point908	908	236	40	6	40	4	40
	point907	907	236	40	6	40	4	40
	point906	906	236	40	6	40	4	40
	point905	905	236	40	6	40	4	40
	point904	904	236	40	6	40	4	40
	point903	903	236	40	6	40	4	40
	point902	902	236	40	6	40	4	40
	point901	901	236	40	6	40	4	40
	point900	900	236	40	6	40	4	40
	point899	899	236	40	6	40	4	40
	point898	898	236	40	6	40	4	40
point897	897	236	40	6	40	4	40	
point896	896	236	40	6	40	4	40	
point895	895	236	40	6	40	4	40	
point894	894	236	40	6	40	4	40	
point893	893	236	40	6	40	4	40	
point892	892							
Hwy 407 N - Fairview EW	1	943	105	100	2	100	1	100
	2	944	105	100	2	100	1	100

### Future without the Undertaking - Traffic Input (LAeq1h Volumes)

Roadway Name	Points Name	No.	Segment Autos		MTrucks		HTrucks		
			V	S	V	S	V	S	
			veh/hr	km/h	veh/hr	km/h	veh/hr	km/h	
		3	945	105	100	2	100	1	100
		4	946	105	100	2	100	1	100
		5	947	105	100	2	100	1	100
		6	948	105	100	2	100	1	100
		7	949	105	100	2	100	1	100
		8	950	105	100	2	100	1	100
		9	951						
Fairview E-QEW S		1	952	545	30	9	30	4	30
		2	953	545	30	9	30	4	30
		3	954	545	30	9	30	4	30
		4	955	545	30	9	30	4	30
		5	956	545	30	9	30	4	30
		6	957	545	30	9	30	4	30
		7	958	545	30	9	30	4	30
		8	959	545	30	9	30	4	30
		9	960	545	30	9	30	4	30
		10	961	545	30	9	30	4	30
		11	962	545	30	9	30	4	30
		12	963	545	30	9	30	4	30
		13	964	545	30	9	30	4	30
		14	965	545	30	9	30	4	30
		15	966	545	30	9	30	4	30
		16	967	545	30	9	30	4	30
		17	968	545	30	9	30	4	30
		18	969	545	30	9	30	4	30
		19	970	545	30	9	30	4	30
		20	971	545	30	9	30	4	30
		21	972	545	30	9	30	4	30
		22	973	545	30	9	30	4	30
		23	974	545	30	9	30	4	30
		24	975	545	30	9	30	4	30
		25	976	545	30	9	30	4	30
		26	977						
Fairview W-QEW S		1	978	261	30	4	30	2	30
		2	979	261	30	4	30	2	30
		3	980	261	30	4	30	2	30
		4	981	261	30	4	30	2	30
		5	982	261	30	4	30	2	30
		6	983	261	30	4	30	2	30
		7	984	261	30	4	30	2	30
		8	985	261	30	4	30	2	30
		9	986	261	30	4	30	2	30
		10	987	261	30	4	30	2	30
		11	988	261	30	4	30	2	30
		12	989	261	30	4	30	2	30
		13	990	261	30	4	30	2	30
		14	991						

## Future with the Undertaking - Roadway Input

Roadway Name	Width	Points Name	No.	Coordinates (pavement)			Segment Pvmt Type	On Struct?	
				X	Y	Z			
QEW Toronto Bound (1)	m	17		1	280,346.00	4,796,285.00	90.9	Average	
				2	280,281.00	4,796,443.00	85.9	Average	
				3	280,242.00	4,796,535.00	82.7	Average	
				4	280,204.00	4,796,627.00	79.7	Average	
				5	280,186.00	4,796,671.00	78.6	Average	
				6	280,168.00	4,796,719.00	77.9	Average	
				7	280,140.00	4,796,815.00	77.8	Average	
				8	280,115.00	4,796,912.00	77.9	Average	
				9	280,103.00	4,796,951.00	78	Average	
				10	280,090.00	4,796,987.00	78.1	Average	
				11	280,082.00	4,797,008.00	78.1	Average	
				12	280,065.00	4,797,045.00	78.2	Average	
				13	280,036.00	4,797,099.00	79	Average	
				14	280,015.00	4,797,134.00	79.9	Average	
				15	279,980.00	4,797,183.00	81.7		
QEW Toronto Bound (2)-1		19.5		1	279,980.00	4,797,183.00	81.7	Average	
				2	279,955.00	4,797,215.00	82.9	Average	
				3	279,914.00	4,797,260.00	84.4	Average	
				4	279,887.20	4,797,286.00	84.6	Average	Y
				5	279,864.50	4,797,307.00	84.8	Average	Y
				6	279,764.00	4,797,395.00	84.6	Average	
				7	279,689.00	4,797,461.00	84.3	Average	
				8	279,614.00	4,797,527.00	84.1	Average	
				9	279,539.00	4,797,593.00	84.3		
				1	279,089.00	4,797,990.00	90.1	Average	
				2	279,013.00	4,798,055.00	91	Average	
				3	278,937.00	4,798,120.00	92	Average	
				4	278,861.00	4,798,185.00	92.9	Average	
				5	278,785.00	4,798,250.00	93.8	Average	
				6	278,741.00	4,798,290.00	94.3	Average	
7	278,712.00	4,798,317.00	94.6	Average					
8	278,670.00	4,798,359.00	95.2	Average					
9	278,643.00	4,798,387.00	95.5	Average					
10	278,603.00	4,798,432.00	96.3	Average					
11	278,578.00	4,798,462.00	97	Average					
12	278,553.00	4,798,493.00	97.8	Average					
13	278,517.00	4,798,540.00	99.4	Average					
14	278,483.00	4,798,589.00	101	Average					
15	278,461.00	4,798,622.00	102						
QEW Toronto Bound (4)		16		1	278,461.00	4,798,622.00	102	Average	
				2	278,430.00	4,798,673.00	103.6	Average	Y
				3	278,410.00	4,798,707.00	104.6	Average	Y
				4	278,364.00	4,798,795.00	107.3	Average	
				5	278,339.00	4,798,848.00	108.5	Average	
				6	278,323.00	4,798,885.00	109.1	Average	
				7	278,284.00	4,798,977.00	109.8	Average	
				8	278,245.00	4,799,069.00	109.3	Average	
				9	278,206.00	4,799,161.00	107.6	Average	
				10	278,167.00	4,799,253.00	105.2	Average	
				11	278,152.00	4,799,293.00	104	Average	
				12	278,137.00	4,799,346.00	102.8	Average	
				13	278,125.00	4,799,403.00	102	Average	
				14	278,120.00	4,799,441.00	101.8	Average	
				15	278,118.00	4,799,461.00	101.8		

## Future with the Undertaking - Roadway Input

Roadway Name	Width	Points Name	No.	Coordinates (pavement)			Segment Pvmt Type	On Struct?
				X	Y	Z		
QEW Toronto Bound (5)	m	16	1	65	278,118.00	4,799,461.00	101.8	Average
			2	66	278,116.00	4,799,500.00	102	Average
			3	67	278,116.00	4,799,539.00	102.4	Average
			4	68	278,118.00	4,799,578.00	102.9	Average
			5	69	278,126.00	4,799,636.00	103.5	Average
			6	70	278,139.00	4,799,693.00	104.2	Average
			7	71	278,150.00	4,799,730.00	104.6	Average
			8	72	278,163.00	4,799,767.00	105.1	Average
			9	73	278,187.00	4,799,820.00	105.7	Average
			10	74	278,205.00	4,799,855.00	106.2	Average
			11	75	278,237.00	4,799,904.00	106.8	Average
			12	76	278,260.00	4,799,936.00	107.3	Average
			13	77	278,297.00	4,799,981.00	107.9	Average
			14	78	278,325.00	4,800,009.00	108.4	Average
			15	79	278,368.00	4,800,047.00	108.9	
QEW Niagara Bound (1)		18	15	94	279,962.00	4,797,170.00	81.7	Average
			14	93	279,995.00	4,797,121.00	79.8	Average
			13	92	280,017.00	4,797,088.00	78.9	Average
			12	91	280,046.00	4,797,036.00	78.1	Average
			11	90	280,062.00	4,797,000.00	77.9	Average
			10	89	280,070.00	4,796,980.00	77.9	Average
			9	88	280,083.00	4,796,944.00	77.9	Average
			8	87	280,095.00	4,796,906.00	77.9	Average
			7	86	280,122.00	4,796,810.00	77.9	Average
			6	85	280,149.00	4,796,714.00	78.2	Average
			5	84	280,165.00	4,796,664.00	79	Average
			4	83	280,183.00	4,796,619.00	80	Average
			3	82	280,221.00	4,796,526.00	82.9	Average
			2	81	280,259.00	4,796,434.00	86.1	Average
			1	80	280,325.00	4,796,277.00	91.4	
QEW Niagara Bound (2)		19.5	16	109	279,070.00	4,797,968.00	90	Average
			15	108	279,145.00	4,797,902.00	89	Average
			14	107	279,221.00	4,797,837.00	88.1	Average
			13	106	279,297.00	4,797,772.00	87.1	Average
			12	105	279,373.00	4,797,707.00	86.2	Average
			11	104	279,448.00	4,797,641.00	85.2	Average
			10	103	279,524.00	4,797,575.00	84.4	Average
			9	102	279,599.00	4,797,509.00	84.1	Average
			8	101	279,674.00	4,797,444.00	84.3	Average
			7	100	279,749.00	4,797,378.00	84.6	Average
			6	99	279,824.00	4,797,312.00	84.8	Average
			5	191	279,846.50	4,797,292.00	84.8	Average
			4	98	279,869.00	4,797,272.00	84.6	Average
			3	97	279,897.00	4,797,244.00	84.1	Average
			2	96	279,937.00	4,797,200.00	82.8	Average
1	95	279,962.00	4,797,170.00	81.7				
QEW Niagara Bound (3)		27.5	15	124	278,438.00	4,798,607.00	101.8	Average
			14	123	278,460.00	4,798,574.00	100.8	Average
			13	122	278,495.00	4,798,524.00	99.4	Average
			12	121	278,531.00	4,798,476.00	98	Average
			11	120	278,557.00	4,798,445.00	97	Average
			10	119	278,582.00	4,798,414.00	96.2	Average
			9	118	278,623.00	4,798,369.00	95.2	Average
			8	117	278,650.00	4,798,340.00	94.8	Average

## Future with the Undertaking - Roadway Input

Roadway Name	Width	Points Name	No.	Coordinates (pavement)			Segment Pvmt Type	On Struct?
				X	Y	Z		
QEW Niagara Bound (4)	m		7	116	278,693.00	4,798,297.00	94.3	Average
		6	115	278,722.00	4,798,270.00	94	Average	
		5	114	278,766.00	4,798,230.00	93.5	Average	
		4	113	278,843.00	4,798,164.00	92.7	Average	
		3	112	278,918.00	4,798,099.00	91.8	Average	
		2	111	278,994.00	4,798,033.00	91	Average	
		1	110	279,070.00	4,797,968.00	90		
		15	139	278,092.00	4,799,459.00	102	Average	
		14	138	278,094.00	4,799,439.00	102.1	Average	
		13	137	278,100.50	4,799,398.00	102.4	Average	
		12	136	278,112.00	4,799,339.00	103.3	Average	
		11	135	278,128.00	4,799,285.00	104.4	Average	
		10	134	278,144.00	4,799,243.00	105.4	Average	
		9	133	278,182.00	4,799,151.00	107.4	Average	
		8	132	278,221.00	4,799,059.00	109	Average	
		7	131	278,260.00	4,798,966.00	109.4	Average	
6	130	278,298.00	4,798,874.00	108.6	Average			
5	129	278,314.00	4,798,837.00	107.9	Average			
4	128	278,340.00	4,798,783.00	106.6	Average			
3	127	278,386.00	4,798,694.00	104.2	Average			
2	126	278,407.00	4,798,659.00	103.3	Average			
1	125	278,438.00	4,798,607.00	101.8				
15	154	278,352.00	4,800,067.00	109	Average			
14	153	278,307.00	4,800,027.00	108.5	Average			
13	152	278,279.00	4,799,998.00	108.1	Average			
12	151	278,240.00	4,799,951.00	107.4	Average			
11	150	278,216.00	4,799,919.00	106.9	Average			
10	149	278,184.00	4,799,867.00	106.3	Average			
9	148	278,165.00	4,799,832.00	105.8	Average			
8	147	278,140.00	4,799,776.00	105.2	Average			
7	146	278,126.00	4,799,738.00	104.7	Average			
6	145	278,115.00	4,799,699.00	104.3	Average			
5	144	278,101.00	4,799,640.00	103.6	Average			
4	143	278,093.00	4,799,580.00	102.9	Average			
3	142	278,091.00	4,799,539.00	102.5	Average			
2	141	278,090.90	4,799,499.00	102.1	Average			
1	140	278,092.00	4,799,459.00	102				
1	155	279,051.80	4,798,023.50	90.6	Average			
2	156	278,993.00	4,798,086.00	91.4	Average			
3	157	278,917.00	4,798,152.00	92.4	Average			
4	158	278,844.00	4,798,220.00	93.4	Average			
5	159	278,774.00	4,798,291.00	93.6	Average			
6	160	278,733.00	4,798,335.00	93.9	Average			
7	161	278,706.00	4,798,364.00	93.7	Average			
8	162	278,653.00	4,798,425.00	93.1	Average			
9	163	278,642.00	4,798,441.00	93.2	Average			
10	164	278,633.00	4,798,459.00	93.5	Average			
11	165	278,625.00	4,798,477.00	93.9	Average			
12	166	278,618.00	4,798,496.00	95	Average			
13	167	278,613.00	4,798,515.00	95	Average			
14	168	278,609.00	4,798,535.00	95.4	Average			
15	169	278,607.00	4,798,555.00	95.6				
1	170	278,607.00	4,798,555.00	95.6	Average			
2	171	278,607.00	4,798,575.00	95.6	Average			
QEW S - Fairview NS (1)			7.5					
QEW S - Fairview NS (2)			11.5					



## Future with the Undertaking - Roadway Input

Roadway Name	Width	Points Name	No.	Coordinates (pavement)			Segment Pvmt Type	On Struct?	
				X	Y	Z			
Highway 403 W - QEW S (1)	m	7.5	1	225	277,084.80	4,798,869.50	109.2	Average	
			2	226	277,147.00	4,798,939.00	108.7	Average	
			3	227	277,212.00	4,799,015.00	108.2	Average	
			4	228	277,276.00	4,799,092.00	107.8	Average	
			5	229	277,341.00	4,799,168.00	107.6	Average	
			6	230	277,406.00	4,799,244.00	107.8	Average	
			7	231	277,474.00	4,799,317.00	108.1	Average	
			8	232	277,547.00	4,799,386.00	108.4	Average	
			9	233	277,593.00	4,799,424.00	108.6	Average	
			10	234	277,609.00	4,799,436.00	108.6	Average	
			11	235	277,626.00	4,799,447.00	108.4	Average	
			12	236	277,643.00	4,799,456.00	108.3	Average	
			13	237	277,661.00	4,799,465.00	108	Average	
			14	238	277,680.00	4,799,472.00	107.7	Average	
			15	239	277,699.00	4,799,479.00	107.4		
Highway 403 W - QEW S (2)		7.5	1	240	277,699.00	4,799,479.00	107.4	Average	
			2	241	277,718.00	4,799,483.00	106.9	Average	
			3	242	277,738.00	4,799,487.00	106.5	Average	
			4	243	277,758.00	4,799,489.00	106	Average	
			5	244	277,778.00	4,799,490.00	105.5	Average	
			6	245	277,798.00	4,799,490.00	105.3	Average	
			7	246	277,818.00	4,799,488.00	105.3	Average	
			8	247	277,838.00	4,799,485.00	105.5	Average	
			9	248	277,857.00	4,799,480.00	105.9	Average	
			10	249	277,876.00	4,799,475.00	106.5	Average	
			11	250	277,895.00	4,799,468.00	107.2	Average	
			12	251	277,913.00	4,799,459.00	107.8	Average	
			13	252	277,931.00	4,799,450.00	108.3	Average	
			14	253	277,948.00	4,799,439.00	108.6	Average	
			15	254	277,964.00	4,799,428.00	108.7		
Highway 403 W - QEW S (3)		7.5	1	255	277,964.00	4,799,428.00	108.7	Average	Y
			2	256	277,980.00	4,799,415.00	108.7	Average	Y
			3	257	277,994.00	4,799,402.00	108.5	Average	Y
			4	258	278,008.00	4,799,387.00	108.1	Average	
			5	259	278,022.00	4,799,373.00	107.6	Average	
			6	260	278,035.00	4,799,357.00	106.9	Average	
			7	261	278,059.00	4,799,326.00	105.2	Average	
			8	262	278,082.00	4,799,293.00	103.4	Average	
			9	263	278,093.00	4,799,276.00	103.1	Average	
			10	264	278,104.00	4,799,259.00	103.6	Average	
			11	265	278,114.00	4,799,242.00	104	Average	
			12	266	278,133.00	4,799,207.00	105	Average	
			13	267	278,158.00	4,799,153.00	106.5	Average	
			14	268	278,201.10	4,799,063.00	108.9	Average	
			15	269	278,266.00	4,798,947.00	109.1		
QEW S - HIGHWAY 407 N (4)		13.5	1	270	277,999.10	4,800,122.00	119.1	Average	Y
			2	271	277,994.00	4,800,145.00	119.2	Average	Y
			3	272	277,991.00	4,800,164.00	119.2	Average	
			4	273	277,988.00	4,800,184.00	119.3	Average	
			5	274	277,986.00	4,800,204.00	119.3	Average	
			6	275	277,984.00	4,800,223.00	119.3	Average	
			7	276	277,980.00	4,800,283.00	119.4	Average	
			8	277	277,970.30	4,800,382.50	119.9	Average	
			9	278	277,963.10	4,800,459.50	120.1		

## Future with the Undertaking - Roadway Input

Roadway Name	Width	Points Name	No.	Coordinates (pavement)			Segment Pvmt Type	On Struct?
				X	Y	Z		
Highway 403 W - Plains (1)	m	10.4	1	279	277,415.00	4,799,253.00	107.9	Average
			2	280	277,456.00	4,799,297.00	107.8	Average
			3	281	277,484.00	4,799,326.00	107.8	Average
			4	282	277,498.60	4,799,339.50	107.7	Average
			5	283	277,528.00	4,799,367.00	107.7	Average
			6	284	277,558.00	4,799,392.00	107.6	Average
			7	285	277,642.00	4,799,446.00	107.4	Average
			8	286	277,661.00	4,799,455.00	107.3	Average
			9	287	277,680.00	4,799,462.00	107	Average
			10	288	277,699.00	4,799,468.00	106.7	Average
			11	289	277,719.00	4,799,473.00	106.2	Average
			12	290	277,737.00	4,799,477.00	105.7	Average
			13	291	277,759.00	4,799,479.00	105.3	Average
			14	292	277,779.00	4,799,479.00	104.9	Average
			15	293	277,799.00	4,799,478.00	104.7	Average
Highway 403 W - Plains (2)	m	10.4	1	294	277,799.00	4,799,478.00	104.7	Average
			2	295	277,819.00	4,799,475.00	104.5	Average
			3	296	277,836.00	4,799,471.00	104.4	Average
			4	297	277,858.00	4,799,464.00	104.3	Average
			5	298	277,877.00	4,799,456.00	104.1	Average
			6	299	277,894.00	4,799,447.00	104	Average
			7	300	277,912.00	4,799,436.00	103.8	Average
			8	301	277,925.00	4,799,426.00	103.7	Average
			9	302	277,957.00	4,799,397.00	103.2	Average
			10	303	277,995.00	4,799,355.00	102.4	Average
			11	304	278,022.00	4,799,320.00	101.9	Average
			12	305	278,052.00	4,799,273.00	101.2	Average
			13	306	278,059.00	4,799,261.00	101.2	Average
Highway 403 W - Plains (3)	m	10.4	1	307	278,059.00	4,799,261.00	101.2	Average
			2	308	278,112.00	4,799,177.00	101.5	Average
			3	309	278,153.00	4,799,108.00	103.7	Average
			4	310	278,163.00	4,799,090.00	104.6	Average
			5	311	278,204.00	4,798,999.00	108.3	Average
			6	312	278,212.00	4,798,981.00	108.7	Average
			7	313	278,218.00	4,798,962.00	108.9	Average
			8	314	278,224.00	4,798,943.00	108.9	Average
			9	315	278,228.00	4,798,923.00	108.8	Average
			10	316	278,231.00	4,798,903.00	108.5	Average
			11	317	278,233.00	4,798,883.00	108.1	Average
			12	318	278,234.00	4,798,863.00	107.5	Average
			13	319	278,234.00	4,798,843.00	106.7	Average
			14	320	278,233.00	4,798,823.00	105.8	Average
			15	321	278,231.00	4,798,804.00	104.8	Average
Highway 403 W - Plains (4)	m	13.5	1	322	278,231.00	4,798,804.00	104.8	Average
			2	323	278,227.00	4,798,744.00	101.9	Average
			3	324	278,225.00	4,798,724.00	101.1	Average
			4	325	278,224.00	4,798,704.00	100.3	Average
			5	326	278,226.00	4,798,684.00	99.6	Average
			6	327	278,232.00	4,798,665.00	99.1	Average
			7	328	278,242.00	4,798,647.00	98.6	Average
			8	329	278,254.00	4,798,632.00	98.1	Average
			9	330	278,268.00	4,798,617.00	97.6	Average
			10	331	278,287.20	4,798,597.50	96.8	Average
			1	332	277,940.70	4,800,576.00	120.6	Average

Highway 407 N - QEW S (1)



## Future with the Undertaking - Roadway Input

Roadway Name	Width	Points Name	No.	Coordinates (pavement)			Segment Pvmt Type	On Struct?
				X	Y	Z		
	m			m	m	m		
Highway 407 N - OEWS (2)			2	333 277,936.00	4,800,450.00	120.1	Average	
			3	334 277,933.00	4,800,350.00	119.7	Average	
			4	335 277,929.00	4,800,250.00	119.4	Average	
			5	336 277,918.00	4,800,151.00	118.8	Average	
			6	193 277,909.60	4,800,103.50	117.7	Average	Y
			7	194 277,905.20	4,800,080.00	117.2	Average	Y
			8	337 277,900.00	4,800,052.00	116.6	Average	
			9	338 277,882.00	4,799,954.00	112.8	Average	
			10	339 277,876.00	4,799,904.00	110.7	Average	
			11	340 277,873.00	4,799,854.00	108.2	Average	
			12	341 277,874.00	4,799,804.00	105.9	Average	
			13	342 277,879.00	4,799,755.00	104	Average	
			14	343 277,887.00	4,799,705.00	102.8	Average	
			15	344 277,899.00	4,799,657.00	102.2	Average	
			16	345 277,915.00	4,799,609.00	101.8	Average	
			17	346 277,933.00	4,799,563.00	101.5	Average	
		13		1	347 277,933.00	4,799,563.00	101.5	Average
			2	348 277,956.00	4,799,518.00	101.3	Average	
			3	349 277,981.00	4,799,475.00	101.1	Average	
			4	350 278,037.00	4,799,392.00	101.2	Average	
			5	351 278,070.00	4,799,342.00	101.7	Average	
			6	352 278,091.00	4,799,308.00	101.4	Average	
			7	353 278,136.00	4,799,219.00	104.6	Average	
			8	354 278,178.00	4,799,128.00	107	Average	
			9	355 278,220.10	4,799,038.50	108.5	Average	
			10	356 278,251.30	4,798,980.50	108.9	Average	
	11.3		1	357 276,779.00	4,798,486.00	113.4	Average	
			2	358 276,841.00	4,798,565.00	112.4	Average	
			3	359 276,903.00	4,798,643.00	111.5	Average	
			4	360 276,965.00	4,798,722.00	110.5	Average	
			5	361 277,020.90	4,798,792.00	109.6	Average	
			6	362 277,065.00	4,798,846.00	109.3	Average	
			7	363 277,137.00	4,798,935.00	109.1	Average	
			8	364 277,188.00	4,798,996.00	108.7	Average	
			9	365 277,252.00	4,799,074.00	108.4	Average	
			10	366 277,314.00	4,799,152.00	108.4	Average	
			11	367 277,375.00	4,799,231.00	108.7	Average	
			12	368 277,414.00	4,799,277.00	108.8	Average	
			13	369 277,440.00	4,799,307.00	109	Average	
			14	370 277,482.00	4,799,349.00	109.1	Average	
			15	371 277,511.00	4,799,377.00	109.3	Average	
	15		1	372 277,511.00	4,799,377.00	109.3	Average	
			2	373 277,556.00	4,799,416.00	109.4	Average	
			3	374 277,589.00	4,799,440.00	109.3	Average	
			4	375 277,638.00	4,799,471.00	108.9	Average	
			5	376 277,675.00	4,799,490.00	108.5	Average	
			6	377 277,727.00	4,799,513.00	108	Average	
			7	378 277,768.00	4,799,527.00	107.9	Average	
			8	379 277,803.00	4,799,537.00	108.2	Average	
			9	380 277,866.00	4,799,550.00	109	Average	
			10	197 277,921.80	4,799,561.00	109.93	Average	Y
			11	198 277,944.20	4,799,564.50	111.8	Average	Y
			12	381 277,964.00	4,799,568.00	111.8	Average	
			13	382 278,019.00	4,799,580.00	113.8	Average	

## Future with the Undertaking - Roadway Input

Roadway Name	Width	Points Name	No.	Coordinates (pavement)			Segment Pvmt Type	On Struct?	
				X	Y	Z			
Highway 403 EB (5)	m	11.3	14	383	278,061.00	4,799,593.00	115.2	Average	
			15	384	278,095.00	4,799,607.00	116.4	Average	Y
			16	385	278,151.00	4,799,636.00	117.8	Average	Y
			17	386	278,192.80	4,799,666.00	118.3		
			1	387	278,192.80	4,799,666.00	118.6	Average	Y
			2	388	278,230.00	4,799,697.00	118.7	Average	
			3	389	278,258.00	4,799,724.00	118.6	Average	
			4	390	278,297.00	4,799,771.00	117.9	Average	
			5	391	278,319.00	4,799,805.00	117.2	Average	
			6	392	278,347.00	4,799,857.00	115.5	Average	
			7	393	278,392.00	4,799,946.00	112.2	Average	
			8	394	278,422.00	4,799,999.00	110.6	Average	
			9	395	278,444.00	4,800,032.00	109.9	Average	
			10	396	278,468.00	4,800,063.00	109.6	Average	
			11	397	278,509.00	4,800,108.00	109.7	Average	
			12	398	278,538.00	4,800,134.00	109.9	Average	
			13	399	278,586.00	4,800,172.00	110.1	Average	
14	400	278,669.00	4,800,227.00	110.4	Average	Y			
point202	202	278,696.80	4,800,245.00	110.45	Average	Y			
15	401	278,908.60	4,800,391.00	110.5					
QEW N-North Shore Blvd E/W	10.8		1	402	279,164.70	4,797,885.00	88.6	Average	
			2	403	279,240.10	4,797,803.50	87.7	Average	
			3	404	279,312.60	4,797,734.50	86.8	Average	
			4	405	279,386.00	4,797,668.00	84.9	Average	
			5	406	279,459.00	4,797,600.00	84.3	Average	
			6	407	279,534.00	4,797,534.00	83.8	Average	
			7	408	279,574.00	4,797,495.00	83.6	Average	
			8	409	279,605.00	4,797,463.00	83.4	Average	
			9	410	279,646.00	4,797,413.00	83	Average	
			10	411	279,665.00	4,797,383.00	82.6	Average	
			11	412	279,679.00	4,797,337.00	81.5	Average	
			12	413	279,687.00	4,797,286.00	80.4	Average	
			13	414	279,693.00	4,797,263.00	80	Average	
			14	415	279,708.60	4,797,223.00	80		
North Shore Blvd E/W-QEW S (1)	7		1	416	279,719.60	4,797,224.50	79.6	Average	
			2	417	279,713.00	4,797,238.00	79.8	Average	
			3	418	279,706.00	4,797,257.00	80.4	Average	
			4	419	279,701.00	4,797,277.00	81.3	Average	
			5	420	279,701.00	4,797,296.00	82.1	Average	
			6	421	279,711.00	4,797,314.00	82.6	Average	
			7	422	279,727.00	4,797,325.00	83.5	Average	
			8	423	279,746.00	4,797,328.00	84.1	Average	
			9	424	279,765.00	4,797,321.00	84.2	Average	
			10	425	279,782.00	4,797,310.00	84.4	Average	
			11	426	279,799.00	4,797,299.00	84.4	Average	
			12	427	279,815.00	4,797,287.00	84.4	Average	
			13	428	279,826.60	4,797,277.00	84.3	Average	Y
			14	429	279,845.00	4,797,261.00	84	Average	Y
			15	430	279,859.00	4,797,247.00	83.5		
North Shore Blvd E/W-QEW S (2)	3.8		1	431	279,859.00	4,797,247.00	83.5	Average	
			2	432	279,873.00	4,797,233.00	82.8	Average	
			3	433	279,887.00	4,797,218.00	82.1	Average	
			4	434	279,901.00	4,797,204.00	81.6	Average	
			5	435	279,914.00	4,797,189.00	81	Average	

## Future with the Undertaking - Roadway Input

Roadway Name	Width	Points Name	No.	Coordinates (pavement)			Segment Pvmt Type	On Struct?		
				X	Y	Z				
QEWS to North Shore Blvd EW	m		8	436	279,927.70	4,797,174.50	80.5	Average		
				437	279,941.50	4,797,159.00	79.9			
				1	438	279,171.80	4,797,878.50	88.2	Average	
				2	439	279,316.50	4,797,738.00	86.4	Average	
				3	440	279,462.00	4,797,603.00	84.3	Average	
				4	441	279,613.00	4,797,471.00	83.7	Average	
				5	442	279,688.00	4,797,405.00	84.3	Average	
				6	443	279,764.00	4,797,340.00	84.8	Average	
				7	444	279,829.70	4,797,283.00	84.4	Average	Y
				8	203	279,844.30	4,797,268.50	84.2	Average	Y
				9	445	279,909.00	4,797,203.00	81.8	Average	
				10	446	279,972.00	4,797,125.00	79.2	Average	
				11	447	280,023.00	4,797,040.00	77.5	Average	
				12	448	280,059.00	4,796,946.00	77.3	Average	
				13	449	280,082.00	4,796,849.00	77.3	Average	
				14	450	280,105.00	4,796,752.00	77.3	Average	
15	451	280,127.00	4,796,654.00	77.7	Average					
16	452	280,157.00	4,796,559.00	77.2	Average					
North Shore Blvd W to QEWN			7.5	1	453	280,141.80	4,796,824.00	77.8	Average	
				2	454	280,126.00	4,796,937.00	77.7	Average	
				3	455	280,117.00	4,796,978.00	77.3	Average	
				4	456	280,098.00	4,797,033.00	77.1	Average	
				5	457	280,079.00	4,797,071.00	76.9	Average	
				6	458	280,054.00	4,797,123.00	77	Average	
				7	459	280,040.00	4,797,170.00	77.1	Average	
				8	460	280,034.00	4,797,212.00	77.4	Average	
				9	461	280,038.00	4,797,287.00	77.9	Average	
				10	462	280,033.00	4,797,320.00	78.1	Average	
				11	463	280,025.00	4,797,337.00	78.5	Average	
				12	464	280,014.00	4,797,352.00	78.6	Average	
				13	465	279,998.00	4,797,367.00	78.7	Average	
				14	466	279,996.00	4,797,377.00	78.9	Average	
				15	467	279,998.30	4,797,396.00	79.3	Average	
North Shore Blvd E to QEWN			7.5	2	469	279,936.00	4,797,325.00	78.5	Average	
				3	470	279,959.00	4,797,336.00	78.6	Average	
				4	471	279,977.00	4,797,344.00	78.8	Average	
				5	472	279,997.00	4,797,343.00	79	Average	
				6	473	280,013.00	4,797,332.00	79.6	Average	
				7	474	280,024.00	4,797,316.00	80.4	Average	
				8	475	280,027.00	4,797,296.00	81.1	Average	
				9	476	280,020.00	4,797,278.00	81.9	Average	
				10	477	280,006.00	4,797,264.00	82.6	Average	
				11	478	279,987.00	4,797,259.00	83.3	Average	
				12	479	279,967.00	4,797,263.00	83.7	Average	
				13	480	279,933.00	4,797,284.00	84.4	Average	
				point204	204	279,909.50	4,797,302.50	84.6	Average	Y
				14	481	279,886.00	4,797,321.00	84.6	Average	Y
15	482	279,759.30	4,797,400.50	84.4	Average					
1	483	279,999.30	4,797,410.50	78.9	Average					
2	484	279,957.00	4,797,385.00	78.9	Average					
3	485	279,935.00	4,797,373.00	79.5	Average					
4	486	279,911.00	4,797,366.00	80.4	Average					
5	487	279,889.00	4,797,365.00	81.2	Average					
6	488	279,876.00	4,797,366.00	81.8	Average					

## Future with the Undertaking - Roadway Input

Roadway Name	Width	Points Name	No.	Coordinates (pavement)			Segment Pvmt Type	On Struct?	
				X	Y	Z			
HIGHWAY 403 EB (2)	m	17.8	7	489	279,862.00	4,797,369.00	82.3	Average	
			8	490	279,847.00	4,797,376.00	82.8	Average	
			9	491	279,819.00	4,797,394.00	83.6	Average	
			10	492	279,737.00	4,797,452.00	83.8	Average	
			11	493	279,589.40	4,797,549.50	84		
			1	494	275,925.00	4,797,377.00	113.4	Average	
			2	495	275,986.00	4,797,456.00	113.9	Average	
			3	496	276,047.00	4,797,536.00	114.2	Average	
			4	497	276,108.00	4,797,615.00	114.5	Average	
			5	498	276,169.00	4,797,694.00	114.9	Average	
			6	499	276,230.00	4,797,773.00	115.2	Average	
QEW Toronto Bound (6)	m	27.3	7	500	276,291.00	4,797,852.00	115.5	Average	
			8	501	276,352.00	4,797,932.00	115.8	Average	
			9	502	276,413.00	4,798,011.00	116.1	Average	
			10	503	276,474.00	4,798,090.00	116.5	Average	
			11	504	276,535.00	4,798,169.00	116.7	Average	
			12	505	276,596.00	4,798,248.00	116.2	Average	
			13	506	276,657.00	4,798,328.00	115.3	Average	
			14	507	276,718.00	4,798,407.00	114.4	Average	
			15	508	276,779.00	4,798,486.00	113.4		
			1	509	278,368.00	4,800,047.00	108.9	Average	
			2	510	278,399.00	4,800,071.00	109.2	Average	
Highway 403 W - Brant NS (1)	m	10.8	3	511	278,448.00	4,800,104.00	109.6	Average	
			4	512	278,533.00	4,800,157.00	110	Average	
			5	513	278,618.00	4,800,210.00	110.4	Average	
			6	205	278,660.50	4,800,236.50	110.5	Average	Y
			7	206	278,689.70	4,800,254.50	110.33	Average	Y
			8	514	278,703.00	4,800,263.00	110.3	Average	
			9	515	278,787.00	4,800,316.00	109.7	Average	
			10	516	278,872.00	4,800,370.00	109	Average	
			11	517	278,956.00	4,800,423.00	108.4	Average	
			12	518	279,041.00	4,800,477.00	108.9	Average	
			13	519	279,125.00	4,800,530.00	110.7	Average	
QEW S - Highway 403 W (1)	m	8	14	520	279,210.00	4,800,583.00	112.7	Average	
			15	521	279,295.00	4,800,635.00	114	Average	
			16	522	279,380.00	4,800,689.00	114.5	Average	
			17	523	279,464.00	4,800,742.00	114.3		
			1	539	278,060.80	4,799,592.50	115.2	Average	Y
			2	540	278,090.00	4,799,599.00	115.7	Average	Y
			3	541	278,108.00	4,799,607.00	116.2	Average	Y
			4	542	278,126.00	4,799,616.00	116.8	Average	Y
			5	543	278,143.00	4,799,626.00	117.3	Average	Y
			6	544	278,161.00	4,799,636.00	117.8	Average	Y
			7	545	278,178.40	4,799,648.00	118	Average	Y
8	546	278,193.00	4,799,659.00	118.2	Average	Y			
9	547	278,209.00	4,799,671.00	118.3	Average				
10	548	278,225.00	4,799,684.00	118.5	Average				
11	549	278,239.00	4,799,697.00	118.7	Average				
12	550	278,254.00	4,799,711.00	118.5	Average				
13	551	278,267.00	4,799,726.00	118.4	Average				
14	552	278,280.00	4,799,741.00	118.2	Average				
15	553	278,293.00	4,799,757.00	118.1					
1	554	278,236.00	4,799,169.50	105.8	Average				
2	555	278,232.90	4,799,185.50	105.1	Average				

## Future with the Undertaking - Roadway Input

Roadway Name	Width	Points Name	No.	Coordinates (pavement)			Segment Pvmt Type	On Struct?	
				X	Y	Z			
QEW S - Highway 403 W (2)	m			556	278,228.00	4,799,204.00	104.6	Average	
				557	278,223.00	4,799,223.00	104.1	Average	
				558	278,218.00	4,799,243.00	103.6	Average	
				559	278,213.00	4,799,262.00	103.2	Average	
				560	278,209.00	4,799,282.00	102.9	Average	
				561	278,205.00	4,799,301.00	102.5	Average	
				562	278,202.00	4,799,321.00	102.3	Average	
				563	278,199.00	4,799,341.00	102.2	Average	
				564	278,197.00	4,799,361.00	102.1	Average	
				565	278,194.00	4,799,381.00	102.1	Average	
				566	278,193.00	4,799,401.00	102.2	Average	
				567	278,191.00	4,799,421.00	102.4	Average	
				568	278,190.00	4,799,461.00	103		
				569	278,190.00	4,799,461.00	103	Average	
				570	278,190.00	4,799,521.00	104.6	Average	
QEW S - Highway 403 W (3)				571	278,190.00	4,799,621.00	108	Average	
				572	278,190.00	4,799,641.00	108.7	Average	
				573	278,189.00	4,799,661.00	109.4	Average	
				574	278,188.00	4,799,680.00	109.8	Average	
				575	278,186.00	4,799,700.00	110.5	Average	
				576	278,183.00	4,799,720.00	111.1	Average	
				577	278,180.00	4,799,740.00	111.8	Average	
				578	278,176.00	4,799,760.00	112.4	Average	
				579	278,171.00	4,799,779.00	112.9	Average	Y
				580	278,166.00	4,799,798.00	113.6	Average	Y
				581	278,160.00	4,799,817.00	114.1	Average	Y
				582	278,146.00	4,799,855.00	115.1	Average	
				583	278,122.00	4,799,910.00	115.8		
				584	278,122.00	4,799,910.00	115.8	Average	Y
				Highway 403 WB (2)				207	278,100.50
585	278,079.00	4,800,000.00	116.9					Average	
586	278,071.00	4,800,018.00	116.9					Average	
587	278,063.00	4,800,037.00	117					Average	
588	278,057.00	4,800,056.00	117					Average	
589	278,056.00	4,800,077.00	116.9					Average	
590	278,060.00	4,800,098.00	116.5					Average	
591	278,070.00	4,800,117.00	116					Average	
592	278,083.00	4,800,133.00	115.6					Average	
593	278,101.00	4,800,145.00	115					Average	
594	278,120.00	4,800,153.00	114.4					Average	
595	278,141.00	4,800,155.00	113.6					Average	
596	278,162.00	4,800,152.00	113					Average	
597	278,182.00	4,800,144.00	112.3					Average	
598	278,199.00	4,800,132.00	111.7						
613	276,764.00	4,798,502.00	114.4	Average					
612	276,703.00	4,798,423.00	115.3	Average					
611	276,642.00	4,798,343.00	116.2	Average					
610	276,581.00	4,798,264.00	116.9	Average					
609	276,520.00	4,798,185.00	116.8	Average					
608	276,458.00	4,798,106.00	116.5	Average					
607	276,397.00	4,798,027.00	116.2	Average					
606	276,336.00	4,797,947.00	115.8	Average					
605	276,275.00	4,797,868.00	115.5	Average					
604	276,214.00	4,797,789.00	115.2	Average					

## Future with the Undertaking - Roadway Input

Roadway Name	Width	Points Name	No.	Coordinates (pavement)			Segment Pvmt Type	On Struct?	
				X	Y	Z			
Highway 403 WB (3)	m			603	276,153.00	4,797,710.00	114.8	Average	
				602	276,092.00	4,797,631.00	114.5	Average	
				601	276,031.00	4,797,551.00	114.1	Average	
				600	275,970.00	4,797,472.00	113.8	Average	
				599	275,909.00	4,797,393.00	113.5		
				628	277,557.00	4,799,500.00	110	Average	
				627	277,488.00	4,799,429.00	110.1	Average	
				626	277,419.00	4,799,356.00	110	Average	
				625	277,353.00	4,799,281.00	110	Average	
				624	277,292.00	4,799,202.00	109.4	Average	
				623	277,232.00	4,799,121.00	109.6	Average	
				622	277,186.00	4,799,060.00	109.9	Average	
				621	277,184.90	4,799,058.00	110.1	Average	
				620	277,127.00	4,798,979.00	110.4	Average	
				Highway 403 WB (4)				619	277,066.00
618	277,006.00	4,798,820.00	111					Average	
617	276,946.00	4,798,740.00	111.6					Average	
616	276,885.00	4,798,660.00	112.5					Average	
615	276,825.00	4,798,581.00	113.4					Average	
614	276,764.00	4,798,502.00	114.4						
643	278,599.40	4,800,235.00	110.4					Average	
227	278,524.00	4,800,198.00	110.4					Average	
226	278,437.00	4,800,149.00	109.9					Average	
225	278,403.00	4,800,129.00	109.7					Average	
642	278,352.00	4,800,096.00	110					Average	
641	278,335.00	4,800,085.00	110.2					Average	
Highway 403 W - Highway 407 N (1)				640	278,272.00	4,800,037.00	109.6	Average	
				639	278,192.00	4,799,977.00	107.6	Average	
				638	278,159.00	4,799,953.00	107.2	Average	
				637	278,110.00	4,799,919.00	107.2	Average	
				636	278,076.00	4,799,897.00	107.3	Average	
				635	278,025.00	4,799,866.00	107.6	Average	
				634	277,940.00	4,799,814.00	109.4	Average	
				196	277,886.60	4,799,781.50	110.1	Average	Y
				633	277,857.00	4,799,763.00	110.6	Average	Y
				632	277,776.00	4,799,706.00	111.5	Average	
				631	277,699.00	4,799,641.00	110.7	Average	
				630	277,628.00	4,799,572.00	110.1	Average	
629	277,557.00	4,799,500.00	110						
644	276,964.20	4,798,723.50	110.5	Average					
230	276,991.00	4,798,769.50	110	Average					
229	277,038.90	4,798,832.50	109.6	Average					
228	277,362.00	4,799,240.00	108.7	Average					
645	277,392.00	4,799,277.00	108.9	Average					
646	277,461.00	4,799,350.00	109	Average					
647	277,535.00	4,799,417.00	109.2	Average					
648	277,613.00	4,799,480.00	110.5	Average					
649	277,692.00	4,799,542.00	112.6	Average					
650	277,730.00	4,799,573.00	114.4	Average					
651	277,767.00	4,799,607.00	116	Average					
652	277,801.00	4,799,644.00	117.2	Average					
653	277,832.00	4,799,683.00	118.4	Average					
654	277,861.00	4,799,725.00	119.3	Average					
195	277,873.50	4,799,746.00	119.6	Average	Y				

## Future with the Undertaking - Roadway Input

Roadway Name	Width	Points Name	No.	Coordinates (pavement)			Segment Pvmt Type	On Struct?	
				X	Y	Z			
Highway 403 W - Highway 407 N (2)	m	13		655	277,886.00	4,799,767.00	119.9	Average	Y
				656	277,904.00	4,799,803.00	120.4	Average	Y
				657	277,927.00	4,799,858.00	120.7	Average	Y
				658	277,943.00	4,799,906.00	120.7		
				659	277,943.00	4,799,906.00	120.7	Average	
				660	277,954.00	4,799,954.00	120.4	Average	
				661	277,963.00	4,800,004.00	120.1	Average	
				662	277,968.00	4,800,053.00	119.8	Average	
				663	277,969.00	4,800,103.00	119.5	Average	Y
				208	277,968.70	4,800,129.00	119.4	Average	Y
				664	277,968.00	4,800,153.00	119.3	Average	
				665	277,965.00	4,800,253.00	119.5	Average	
				666	277,963.00	4,800,353.00	119.7	Average	
				667	277,960.00	4,800,462.00	120		
				682	277,921.00	4,799,925.00	120.4	Average	
				Highway 407 N - Highway 403 W (1)		13		681	277,905.00
680	277,882.00	4,799,822.00	120.2					Average	Y
679	277,864.00	4,799,786.00	119.7					Average	Y
678	277,839.00	4,799,743.00	119.2					Average	Y
677	277,811.00	4,799,701.00	118.3					Average	
676	277,780.00	4,799,662.00	117.2					Average	
675	277,747.00	4,799,625.00	115.8					Average	
674	277,711.00	4,799,590.00	114.5					Average	
673	277,673.00	4,799,557.00	113					Average	
672	277,595.00	4,799,495.00	110.8					Average	
671	277,513.00	4,799,433.00	109.7					Average	
670	277,442.00	4,799,366.00	109.4					Average	
669	277,374.00	4,799,293.00	109.6					Average	
668	277,313.90	4,799,224.00	109.5						
691	277,946.00	4,800,461.00	120.1					Average	
Highway 407 N - Highway 403 W (2)		13						690	277,947.00
				689	277,950.00	4,800,272.00	119.6	Average	
				688	277,952.00	4,800,172.00	119.3	Average	
				687	277,952.20	4,800,124.50	119.4	Average	Y
				209	277,951.10	4,800,102.50	119.4	Average	Y
				686	277,949.00	4,800,072.00	119.5	Average	
				685	277,943.00	4,800,022.00	119.9	Average	
				684	277,933.00	4,799,973.00	120.2	Average	
				683	277,921.00	4,799,925.00	120.4		
				692	278,293.00	4,799,757.00	118.1	Average	
				693	278,305.00	4,799,773.00	117.9	Average	
				694	278,316.00	4,799,789.00	117.4	Average	
				695	278,327.00	4,799,806.00	116.9	Average	
				696	278,337.00	4,799,823.00	116.5	Average	
				697	278,348.00	4,799,840.00	116	Average	
				698	278,358.00	4,799,857.00	115.5	Average	
Highway 403 W - Brant NS (2)		10.8		699	278,368.00	4,799,874.00	114.9	Average	
				700	278,379.00	4,799,892.00	114.3	Average	
				701	278,389.00	4,799,909.00	113.7	Average	
				702	278,399.00	4,799,926.00	113.1	Average	
				703	278,409.00	4,799,943.00	112.4	Average	
				704	278,420.00	4,799,960.00	111.6	Average	
				705	278,430.00	4,799,977.00	110.9	Average	
				706	278,442.00	4,799,993.00	110.2		

## Future with the Undertaking - Roadway Input

Roadway Name	Width	Points Name	No.	Coordinates (pavement)			Segment Pvmt Type	On Struct?	
				X	Y	Z			
Highway 403 W - Brant NS (3)	m	10.8	1	707	278,442.00	4,799,993.00	110.2	Average	
			2	708	278,455.00	4,800,009.00	109.5	Average	
			3	709	278,470.00	4,800,022.00	108.8	Average	
			4	710	278,485.00	4,800,034.00	108.1	Average	
			5	711	278,503.00	4,800,045.00	107.5	Average	
			6	712	278,521.00	4,800,053.00	107	Average	
			7	713	278,540.00	4,800,060.00	106.5	Average	
			8	714	278,559.00	4,800,064.00	106.1	Average	
			9	715	278,579.00	4,800,067.00	105.7	Average	
			10	716	278,599.00	4,800,068.00	105.4	Average	
			11	717	278,619.00	4,800,068.00	105	Average	
			12	718	278,639.00	4,800,066.00	104.7	Average	
			13	719	278,659.00	4,800,067.00	104.1	Average	
			14	720	278,679.00	4,800,070.00	104	Average	
			15	721	278,698.00	4,800,076.00	103.7		
Highway 403 W - Brant NS (4)	m	14.5	1	722	278,698.00	4,800,076.00	103.7	Average	
			2	723	278,716.00	4,800,087.00	103.4	Average	
			3	724	278,730.00	4,800,101.00	103.2	Average	
			4	725	278,744.00	4,800,116.00	103	Average	
			5	726	278,757.00	4,800,131.00	102.9	Average	
			6	727	278,768.50	4,800,144.50	103		
QEW S - Highway 403 W (4)	m	12	1	728	278,199.00	4,800,132.00	111.7	Average	
			2	729	278,212.00	4,800,116.00	111.1	Average	
			3	730	278,221.00	4,800,096.00	110.4	Average	
			4	731	278,225.00	4,800,075.00	110	Average	
			5	732	278,224.00	4,800,055.00	109.3	Average	
			6	733	278,217.00	4,800,034.00	108.6	Average	
			7	734	278,206.00	4,800,016.00	107.8	Average	
			8	735	278,191.00	4,800,002.00	107.5	Average	
			9	736	278,175.00	4,799,990.00	107.3	Average	
			10	737	278,159.00	4,799,979.00	107	Average	
			11	738	278,143.00	4,799,967.00	106.8	Average	
			12	739	278,109.00	4,799,945.00	106.5	Average	
			13	740	278,057.00	4,799,915.00	105.8	Average	
			14	741	278,022.00	4,799,897.00	106.2	Average	
			15	742	277,998.00	4,799,883.00	110.7		
QEW S - Highway 403 W (5)	m	12	1	743	277,998.00	4,799,883.00	110.7	Average	
			2	744	277,933.00	4,799,847.00	112.3	Average	
			3	745	277,900.00	4,799,825.00	112.3	Average	
			4	746	277,884.00	4,799,814.00	112.1	Average	Y
			5	747	277,852.00	4,799,789.00	111.8	Average	Y
			6	748	277,774.00	4,799,726.00	112	Average	
			7	749	277,728.00	4,799,689.00	111.5	Average	
			8	750	277,698.00	4,799,662.00	111.1	Average	
			9	751	277,669.00	4,799,634.00	110.7	Average	
			10	752	277,627.00	4,799,591.00	110.1	Average	
			11	753	277,559.00	4,799,518.00	109.9	Average	
			12	754	277,490.00	4,799,446.00	110.1	Average	
			13	755	277,422.00	4,799,373.00	110.2	Average	
			14	756	277,355.00	4,799,298.00	110.2	Average	
			15	757	277,295.70	4,799,210.00	109.2		
QEW Toronto Bound (7)	m	21	1	758	279,464.00	4,800,742.00	114.3	Average	
			2	759	279,549.00	4,800,796.00	113.3	Average	
			3	760	279,592.00	4,800,823.00	112.5	Average	



## Future with the Undertaking - Roadway Input

Roadway Name	Width	Points Name	No.	Coordinates (pavement)			Segment Pvmt Type	On Struct?	
				X	Y	Z			
QEW Niagara Bound (6)	m		24	761	279,633.00	4,800,851.00	111.5	Average	
				762	279,714.00	4,800,911.00	109.1	Average	
				763	279,762.00	4,800,948.00	107.8	Average	
				764	279,793.00	4,800,974.00	107.2	Average	
				765	279,869.00	4,801,040.00	106.4	Average	
				766	279,913.00	4,801,082.00	106	Average	
				767	279,942.00	4,801,110.00	106	Average	
				768	280,011.00	4,801,183.00	106.1	Average	
				769	280,078.00	4,801,259.00	106.2	Average	
				770	280,141.00	4,801,337.00	106.3	Average	
				771	280,167.00	4,801,370.00	106.4	Average	
				772	280,660.80	4,801,990.50	107.8		
				787	279,449.00	4,800,767.00	114.3	Average	
				786	279,364.00	4,800,713.00	114.5	Average	
				785	279,280.00	4,800,660.00	113.9	Average	
				784	279,195.00	4,800,607.00	112.4	Average	
				783	279,110.00	4,800,555.00	110.3	Average	
				782	279,025.00	4,800,501.00	108.7	Average	
				781	278,940.00	4,800,448.00	108.6	Average	
				780	278,856.00	4,800,395.00	109.2	Average	
				779	278,771.00	4,800,341.00	109.8	Average	
				778	278,687.00	4,800,288.00	110.4	Average	Y
				777	278,603.00	4,800,234.00	110.4	Average	Y
				776	278,518.00	4,800,180.00	110	Average	
775	278,434.00	4,800,126.00	109.6	Average					
774	278,384.00	4,800,092.00	109.3	Average					
773	278,352.00	4,800,067.00	109						
802	280,639.10	4,801,999.50	107.9	Average					
801	280,145.00	4,801,388.00	106.4	Average					
800	280,118.00	4,801,355.00	106.4	Average					
799	280,055.00	4,801,277.00	106.1	Average					
798	279,990.00	4,801,202.00	106	Average					
797	279,922.00	4,801,129.00	105.8	Average					
796	279,894.00	4,801,101.00	105.8	Average					
795	279,850.00	4,801,060.00	106.1	Average					
794	279,775.00	4,800,995.00	107.1	Average					
793	279,744.00	4,800,970.00	107.8	Average					
792	279,697.00	4,800,933.00	109.2	Average					
791	279,617.00	4,800,875.00	111.4	Average	Y				
790	279,576.80	4,800,844.50	112.4	Average					
789	279,534.00	4,800,820.00	113.2	Average					
788	279,449.00	4,800,767.00	114.3						
803	277,960.00	4,800,462.00	120	Average					
804	277,958.00	4,800,571.00	120.5	Average					
805	277,956.00	4,800,671.00	120.7	Average					
806	277,953.00	4,800,771.00	121.1	Average					
807	277,951.00	4,800,871.00	121.4	Average					
808	277,948.00	4,800,971.00	122.3	Average					
809	277,946.00	4,801,071.00	124	Average					
810	277,944.00	4,801,171.00	126.4	Average					
811	277,942.00	4,801,244.00	128						
812	277,927.00	4,801,244.00	128.1	Average					
813	277,930.00	4,801,150.00	125.8	Average					
814	277,932.00	4,801,050.00	123.5	Average					
Highway 407 NB			19.2						
Highway 407 SB			17.4						

## Future with the Undertaking - Roadway Input

Roadway Name	Width	Points Name	No.	Coordinates (pavement)			Segment Pvmt Type	On Struct?	
				X	Y	Z			
Brant E - Highway 403 W (1)	m	8.3	4	815	277,934.00	4,800,950.00	121.9	Average	
			5	816	277,937.00	4,800,850.00	121.3	Average	
			6	817	277,939.00	4,800,750.00	121	Average	
			7	818	277,941.00	4,800,650.00	120.7	Average	
			8	819	277,944.00	4,800,550.00	120.4	Average	
			9	820	277,946.00	4,800,461.00	120.1		
			1	821	278,659.00	4,800,271.50	103.2	Average	
			2	822	278,651.90	4,800,281.00	103.5	Average	
			3	823	278,641.00	4,800,296.00	103.8	Average	
			4	824	278,628.00	4,800,311.00	104.2	Average	
			5	825	278,615.00	4,800,327.00	104.6	Average	
			6	826	278,607.00	4,800,346.00	105.3	Average	
			7	827	278,606.00	4,800,367.00	105.9	Average	
			8	828	278,613.00	4,800,386.00	106.6	Average	
			9	829	278,628.00	4,800,401.00	107.2	Average	
Brant E - Highway 403 W (2)		8.3	10	830	278,647.00	4,800,409.00	107.8	Average	
			11	831	278,668.00	4,800,409.00	108.4	Average	
			12	832	278,687.00	4,800,401.00	108.9	Average	
			13	833	278,701.00	4,800,387.00	109.4	Average	
			14	834	278,709.00	4,800,367.00	109.8	Average	
			15	835	278,709.00	4,800,346.00	110.2		
			1	836	278,709.00	4,800,346.00	110.2	Average	
			2	837	278,700.00	4,800,328.00	110.6	Average	
			3	838	278,685.00	4,800,313.00	110.9	Average	
			4	839	278,668.00	4,800,303.00	111.3	Average	Y
			5	840	278,632.00	4,800,284.00	111.6	Average	Y
			6	841	278,597.00	4,800,266.00	111.1	Average	Y
			7	842	278,510.00	4,800,216.00	108.3	Average	
			8	843	278,476.00	4,800,195.00	107.9	Average	
			9	844	278,426.00	4,800,163.00	107.8	Average	
10	845	278,375.00	4,800,130.00	108.8	Average				
11	846	278,342.00	4,800,107.00	109.6	Average				
12	847	278,310.00	4,800,084.00	109.9	Average				
13	848	278,264.00	4,800,046.00	109.4	Average				
14	849	278,234.00	4,800,019.00	108.7	Average				
15	850	278,192.20	4,799,979.50	107.5					
Brant W-N (1)		7.8	1	851	278,689.70	4,800,216.50	103.2	Average	
			2	852	278,700.70	4,800,201.00	103.1	Average	
			3	853	278,711.00	4,800,186.00	103	Average	
			4	854	278,723.00	4,800,169.00	102.9	Average	
			5	855	278,728.00	4,800,149.00	102.8	Average	
			6	856	278,725.00	4,800,128.00	102.9	Average	
			7	857	278,714.00	4,800,111.00	103.1	Average	
			8	858	278,697.00	4,800,099.00	103.5	Average	
			9	859	278,677.00	4,800,094.00	104.2	Average	
			10	860	278,656.00	4,800,098.00	105	Average	
			11	861	278,639.00	4,800,109.00	105.8	Average	
			12	862	278,627.00	4,800,127.00	106.6	Average	
			13	863	278,623.00	4,800,147.00	107.4	Average	
			14	864	278,628.00	4,800,167.00	108.2	Average	
			15	865	278,640.00	4,800,184.00	109.1		
Brant W-N (2)		7.8	1	866	278,640.00	4,800,184.00	109.1	Average	
			2	867	278,656.00	4,800,197.00	109.7	Average	
			3	868	278,673.00	4,800,208.00	110.2	Average	

## Future with the Undertaking - Roadway Input

Roadway Name	Width	Points Name	No.	Coordinates (pavement)			Segment Pvmt Type	On Struct?	
				X	Y	Z			
Brant E-N	m		8	869	278,687.60	4,800,217.00	110.2	Average	Y
				210	278,706.80	4,800,229.00	110.3	Average	Y
				870	278,758.00	4,800,260.00	109.4	Average	
				871	278,807.00	4,800,294.00	108.2	Average	
				872	278,840.00	4,800,317.00	108.5	Average	
				873	278,922.00	4,800,374.00	108.4	Average	
				874	279,004.00	4,800,432.00	107.7	Average	
				875	279,081.80	4,800,491.00	109	Average	
				876	279,187.70	4,800,567.50	111.1		
				877	278,787.30	4,800,153.50	103.1	Average	
				878	278,780.00	4,800,199.00	103.5	Average	
				879	278,778.00	4,800,220.00	104.2	Average	
QEW E - Brant NS (2)			14.3	880	278,782.00	4,800,240.00	105	Average	
				881	278,789.00	4,800,259.00	105.9	Average	
				882	278,800.00	4,800,273.00	106.8	Average	
				883	278,816.00	4,800,290.00	107.5	Average	
				884	278,831.00	4,800,303.00	107.8	Average	
				885	278,847.00	4,800,316.00	108.1	Average	
				886	278,862.00	4,800,328.00	108	Average	
				887	278,876.00	4,800,338.00	107.9	Average	
				888	278,957.10	4,800,396.00	106.6	Average	
				889	279,016.00	4,800,439.50	106		
				890	278,698.00	4,800,429.00	108.2	Average	
				891	278,678.00	4,800,431.00	108	Average	
QEW W to Guelph N/S			12	892	278,658.00	4,800,429.00	107.7	Average	
				893	278,638.00	4,800,424.00	107.5	Average	
				894	278,620.00	4,800,414.00	107.3	Average	
				895	278,604.00	4,800,402.00	107.1	Average	
				896	278,567.50	4,800,370.50	107.4		
				897	279,830.80	4,801,005.50	107	Average	
				898	279,922.80	4,801,081.00	106.6	Average	
				899	280,001.00	4,801,147.00	106.4	Average	
				900	280,055.00	4,801,197.00	106.4	Average	
				901	280,077.00	4,801,211.00	106.6	Average	
				902	280,091.00	4,801,217.00	106.8	Average	
				903	280,104.00	4,801,221.00	107	Average	
Guelph NB			12.4	904	280,121.00	4,801,224.00	107.2	Average	
				905	280,139.00	4,801,224.00	107.4	Average	
				906	280,175.00	4,801,222.00	107.6	Average	
				907	280,191.00	4,801,222.00	107.7	Average	
				908	280,205.00	4,801,225.00	107.8	Average	
				909	280,224.00	4,801,234.00	108	Average	
				910	280,233.00	4,801,244.00	108.1	Average	
				911	280,262.30	4,801,282.00	108.5		
				912	280,350.00	4,801,210.00	103.9	Average	
				913	280,282.00	4,801,283.00	108.2	Average	
				914	280,198.00	4,801,377.00	114.2	Average	Y
				Guelph SB			12.4	915	280,135.00
916	280,032.00	4,801,527.00	118.4						
917	280,021.00	4,801,517.00	118.4					Average	
918	280,103.00	4,801,447.00	116.5					Average	Y
919	280,130.00	4,801,420.00	115.8					Average	Y
920	280,201.00	4,801,349.00	112.9	Average	Y				
921	280,269.00	4,801,276.00	108.4	Average					

## Future with the Undertaking - Roadway Input

Roadway Name	Width	Points Name	No.	Coordinates (pavement)			Segment Pvmt Type	On Struct?	
				X	Y	Z			
NSR East EB (1)	m	4.7	6	922	280,338.00	4,801,203.00	104		
				937	278,993.00	4,800,642.00	107	Average	
				936	279,135.00	4,800,640.00	109.6	Average	
				935	279,155.00	4,800,642.00	110.2	Average	
				934	279,175.00	4,800,644.00	110.7	Average	
				933	279,194.00	4,800,649.00	111.3	Average	
				932	279,213.00	4,800,655.00	111.9	Average	
				931	279,232.00	4,800,662.00	112.4	Average	
				930	279,250.00	4,800,671.00	112.9	Average	
				929	279,336.00	4,800,723.00	114.5	Average	
				928	279,421.00	4,800,775.00	114.8	Average	
				927	279,506.00	4,800,829.00	114	Average	
				926	279,556.00	4,800,861.00	112.8	Average	
				925	279,589.00	4,800,885.00	111.9	Average	
				924	279,604.00	4,800,897.00	111.5	Average	
NSR East EB (2)	3.4		923	279,662.00	4,800,953.00	109.7			
			952	278,397.00	4,800,509.00	114.8	Average		
NSR East EB (3)	7.8		211	278,402.70	4,800,515.50	114.8			
			967	277,987.00	4,800,124.00	111.2	Average		
			966	278,082.00	4,800,155.00	114.2	Average		
			965	278,111.00	4,800,165.00	115	Average		
			964	278,130.00	4,800,174.00	115.4	Average		
			963	278,151.00	4,800,187.00	115.9	Average		
			962	278,170.00	4,800,202.00	116.2	Average		
			961	278,182.00	4,800,213.00	116.4	Average		
			960	278,199.00	4,800,232.00	116.6	Average		
			959	278,217.00	4,800,254.00	116.9	Average		
			958	278,236.00	4,800,278.00	117.1	Average		
			957	278,256.00	4,800,308.00	117.4	Average		
			956	278,290.00	4,800,363.00	117.6	Average		
			955	278,333.00	4,800,432.00	117	Average		
NSR East EB (4)	7		954	278,352.00	4,800,458.00	116.4	Average		
			953	278,397.00	4,800,509.00	114.8			
			982	277,823.00	4,799,861.00	113.4	Average		
			981	277,828.00	4,799,880.00	113.4	Average		
			980	277,831.00	4,799,902.00	113.2	Average		
			979	277,842.00	4,799,977.00	112.1	Average		
			978	277,847.00	4,800,000.00	111.5	Average		
			977	277,851.00	4,800,014.00	111.2	Average		
			976	277,857.00	4,800,028.00	110.8	Average		
			975	277,865.00	4,800,042.00	110.5	Average		
			974	277,872.00	4,800,053.00	110.3	Average		
			973	277,882.00	4,800,066.00	110.1	Average		
			972	277,898.00	4,800,082.00	109.8	Average		
			971	277,920.00	4,800,098.00	110	Average		
			NSR East WB (1)	4.7		970	277,931.00	4,800,104.00	110.1
969	277,942.00	4,800,109.00				110.2	Average		
968	277,987.00	4,800,124.00				111.2			
983	279,660.00	4,800,955.00				109.7	Average		
984	279,602.00	4,800,900.00				111.5	Average		
985	279,586.00	4,800,887.00				111.9	Average		
986	279,554.00	4,800,864.00				112.8	Average		
987	279,504.00	4,800,831.00				114	Average		
988	279,419.00	4,800,778.00				114.8	Average		

## Future with the Undertaking - Roadway Input

Roadway Name	Width	Points Name	No.	Coordinates (pavement)			Segment Pvmt Type	On Struct?	
				X	Y	Z			
NSR East WB (2)	m			7	989 279,334.00	4,800,726.00	114.5	Average	
				8	990 279,248.00	4,800,674.00	112.9	Average	
				9	991 279,231.00	4,800,666.00	112.4	Average	
				10	992 279,212.00	4,800,658.00	111.9	Average	
				11	993 279,193.00	4,800,652.00	111.3	Average	
				12	994 279,174.00	4,800,648.00	110.7	Average	
				13	995 279,154.00	4,800,645.00	110.2	Average	
				14	996 279,135.00	4,800,644.00	109.6	Average	
				15	997 278,993.00	4,800,646.00	107		
				1	998 278,993.00	4,800,646.00	107	Average	
				2	999 278,954.00	4,800,645.00	107.2	Average	
				3	1000 278,855.00	4,800,640.00	108.1	Average	
				4	1001 278,755.00	4,800,635.00	109.1	Average	
				5	1002 278,655.00	4,800,629.00	110	Average	
				6	1003 278,555.00	4,800,624.00	111	Average	
7	1004 278,525.00	4,800,619.00	111.9	Average					
8	1005 278,513.00	4,800,616.00	112.9	Average					
9	1006 278,502.00	4,800,612.00	113.8	Average					
10	1007 278,483.00	4,800,604.00	113.9	Average					
11	1008 278,473.00	4,800,597.00	113.9	Average					
12	1009 278,460.00	4,800,588.00	114	Average					
13	1010 278,443.00	4,800,571.50	114.2	Average					
14	217 278,405.40	4,800,535.50	115.2						
NSR East WB (3)			7.8	1	1013 278,347.00	4,800,470.00	116.3	Average	
				2	1014 278,331.00	4,800,449.00	116.8	Average	
				3	1015 278,324.00	4,800,439.00	117	Average	
				4	1016 278,322.90	4,800,437.00	117.2	Average	
				5	1017 278,281.00	4,800,368.00	117.6	Average	
				6	1018 278,255.00	4,800,327.00	117.5	Average	
				7	1019 278,252.70	4,800,323.00	117.5	Average	
				8	1020 278,228.00	4,800,284.00	117	Average	
				9	1021 278,210.00	4,800,256.00	116.6	Average	
				10	1022 278,196.00	4,800,237.00	116.4	Average	
				11	1023 278,171.00	4,800,210.00	116	Average	
				12	1024 278,167.00	4,800,206.00	116	Average	
				13	1025 278,149.00	4,800,193.00	115.7	Average	
				14	1026 278,127.00	4,800,179.00	115.3	Average	
				15	1027 278,109.00	4,800,170.00	115		
NSR East WB (4)			7	1	1028 278,109.00	4,800,170.00	115	Average	
				2	1029 278,080.00	4,800,160.00	114.2	Average	
				3	1030 277,985.00	4,800,129.00	111.3	Average	
				4	1031 277,928.00	4,800,109.00	110.2	Average	
				5	1032 277,914.00	4,800,101.00	110.2	Average	
				6	1033 277,894.00	4,800,086.00	110.1	Average	
				7	1034 277,878.00	4,800,070.00	110.3	Average	
				8	1035 277,866.00	4,800,056.00	110.5	Average	
				9	1036 277,859.00	4,800,045.00	110.7	Average	
				10	1037 277,851.00	4,800,030.00	111.1	Average	
				11	1038 277,845.00	4,800,016.00	111.4	Average	
				12	1039 277,841.00	4,800,002.00	111.8	Average	
				13	1040 277,836.00	4,799,978.00	112.2	Average	
				14	1041 277,826.00	4,799,902.00	112.9	Average	
				15	1042 277,822.00	4,799,881.00	113.2		
Brant NB			11.5	1	1043 278,932.00	4,800,009.00	101.6	Average	

## Future with the Undertaking - Roadway Input

Roadway Name	Width	Points Name	No.	Coordinates (pavement)			Segment Pvmt Type	On Struct?	
				X	Y	Z			
Brant SB	m		2	1044	278,861.00	4,800,080.00	102.2	Average	
		3	1045	278,789.00	4,800,149.00	103	Average		
		4	1046	278,714.00	4,800,215.00	103.3	Average		
		5	1047	278,643.00	4,800,286.00	103.8	Average		
		6	1048	278,575.00	4,800,358.00	106.8	Average		
		7	1049	278,506.00	4,800,431.00	110.4	Average		
		8	1050	278,409.00	4,800,532.00	115	Average		
		9	1051	278,298.00	4,800,635.00	118.3	Average		
		10	1052	278,190.00	4,800,741.00	121.5	Average		
		11	1053	277,987.00	4,800,938.50	127.7			
		12	1065	277,988.10	4,800,925.50	127.7	Average		
		11	1064	278,065.00	4,800,847.00	125.4	Average		
		10	1063	278,191.00	4,800,724.00	121.5	Average		
		9	1062	278,275.00	4,800,643.00	118.9	Average		
		8	1061	278,398.00	4,800,520.00	115	Average		
		7	1060	278,498.00	4,800,421.00	110.4	Average		
		6	1059	278,565.00	4,800,348.00	106.8	Average		
5	1058	278,632.00	4,800,273.00	103.8	Average				
4	1057	278,704.00	4,800,204.00	103.3	Average				
3	1056	278,778.00	4,800,137.00	103	Average				
2	1055	278,852.00	4,800,070.00	102.2	Average				
1	1054	278,924.00	4,800,000.00	101.6					
Highway 403 WB (1)			15	1080	275,909.00	4,797,393.00	113.5	Average	
		17.8	14	1079	275,848.00	4,797,314.00	113.1	Average	
			13	1078	275,787.00	4,797,235.00	112.6	Average	
			12	1077	275,726.00	4,797,155.00	111.9	Average	
			11	1076	275,665.00	4,797,076.00	111.2	Average	
			10	1075	275,604.00	4,796,997.00	110.4	Average	
			9	1074	275,542.00	4,796,918.00	109.7	Average	
			8	1073	275,511.00	4,796,879.00	109.3	Average	
			7	1072	275,478.00	4,796,842.00	109	Average	
			6	1071	275,409.00	4,796,769.00	108.3	Average	
			5	1070	275,338.00	4,796,699.00	107.5	Average	
KING ROAD NB (1)			4	1069	275,266.00	4,796,629.00	107.2	Average	
			3	1068	275,195.00	4,796,559.00	107.4	Average	
			2	1067	275,124.00	4,796,489.00	107.7	Average	
			1	1066	275,053.00	4,796,418.00	108		
		10	1	1081	277,224.00	4,798,639.00	103.2	Average	
			2	1082	277,202.00	4,798,660.00	104.6	Average	
			3	1083	277,188.00	4,798,673.00	105.7	Average	
			4	1084	277,173.00	4,798,687.00	106.9	Average	
			5	1085	277,157.00	4,798,699.00	108.1	Average	
			6	1086	277,141.00	4,798,711.00	109.3	Average	
KING ROAD NB (2)			7	1087	277,109.00	4,798,734.00	111.7	Average	
			8	1088	277,092.00	4,798,746.00	112.9	Average	
			9	1089	277,077.00	4,798,758.00	114.1	Average	
			10	1090	277,061.00	4,798,771.00	115.3	Average	
			11	1091	277,032.40	4,798,797.50	116.5	Average	Y
			12	201	277,002.40	4,798,826.00	119	Average	Y
			13	1092	276,945.00	4,798,881.00	119.7	Average	
			14	1093	276,931.00	4,798,895.00	120.2	Average	
			15	1094	276,917.00	4,798,910.00	120.7	Average	
			16	1095	276,904.00	4,798,925.00	121.3		
	3.7		1	1096	276,904.00	4,798,925.00	121.3	Average	

## Future with the Undertaking - Roadway Input

Roadway Name	Width	Points Name	No.	Coordinates (pavement)			Segment Pvmt Type	On Struct?	
				X	Y	Z			
KINGSB(1)	m			1097	276,879.00	4,798,956.00	122.4	Average	
				1098	276,854.00	4,798,987.00	123.5	Average	
				1099	276,841.00	4,799,003.00	124.1	Average	
				1100	276,828.00	4,799,018.00	124.7	Average	
				1101	276,814.00	4,799,032.00	125.2	Average	
				1102	276,799.00	4,799,046.00	125.8	Average	
				1103	276,785.00	4,799,060.00	126.3	Average	
				1104	276,766.00	4,799,078.00	126.9		
				1105	276,763.00	4,799,075.00	126.9	Average	
				1106	276,782.00	4,799,057.00	126.3	Average	
				1107	276,797.00	4,799,043.00	125.8	Average	
				1108	276,811.00	4,799,029.00	125.2	Average	
				1109	276,825.00	4,799,015.00	124.7	Average	
				1110	276,838.00	4,799,000.00	124.1	Average	
				1111	276,851.00	4,798,985.00	123.5	Average	
				KINGSB(2)			3.7	1112	276,876.00
1113	276,901.00	4,798,922.00	121.3					Average	
1114	276,914.00	4,798,907.00	120.7					Average	
1115	276,928.00	4,798,893.00	120.2					Average	
1116	276,942.00	4,798,879.00	119.7					Average	
1117	277,000.70	4,798,823.50	119					Average	Y
200	277,031.10	4,798,795.00	116.5					Average	Y
1118	277,059.00	4,798,769.00	115.3					Average	
1119	277,074.00	4,798,756.00	114.1						
1120	277,074.00	4,798,756.00	114.1					Average	
1121	277,089.00	4,798,743.00	112.9					Average	
1122	277,106.00	4,798,731.00	111.7					Average	
1123	277,138.00	4,798,708.00	109.3					Average	
1124	277,154.00	4,798,696.00	108.1					Average	
1125	277,170.00	4,798,684.00	106.9					Average	
1126	277,185.00	4,798,671.00	105.7					Average	
1127	277,200.00	4,798,657.00	104.6	Average					
1128	277,221.00	4,798,636.00	103.2						
HIGHWAY 403 EB (1)			17.8	1129	275,068.00	4,796,403.00	107	Average	
				1130	275,139.00	4,796,473.00	106.6	Average	
				1131	275,211.00	4,796,543.00	106.4	Average	
				1132	275,282.00	4,796,613.00	106.8	Average	
				1133	275,353.00	4,796,683.00	107.5	Average	
				1134	275,424.00	4,796,754.00	108.5	Average	
				1135	275,493.00	4,796,826.00	109	Average	
				1136	275,526.00	4,796,864.00	109.3	Average	
				1137	275,558.00	4,796,902.00	109.7	Average	
				1138	275,619.00	4,796,981.00	110.4	Average	
				1139	275,680.00	4,797,060.00	111.1	Average	
				1140	275,741.00	4,797,140.00	111.8	Average	
				1141	275,803.00	4,797,219.00	112.5	Average	
				1142	275,864.00	4,797,298.00	113	Average	
				1143	275,925.00	4,797,377.00	113.4		
Highway 403 EB (0)			17.8	1144	274,339.00	4,795,764.00	107.7	Average	
				1145	274,469.00	4,795,873.00	110.4	Average	
				1146	274,546.00	4,795,938.00	111.9	Average	
				1147	274,623.00	4,796,002.00	113.4	Average	
				1148	274,699.00	4,796,066.00	113.8	Average	
				1149	274,776.00	4,796,130.00	113.3	Average	

## Future with the Undertaking - Roadway Input

Roadway Name	Width	Points Name	No.	Coordinates (pavement)			Segment Pvmt Type	On Struct?
				X	Y	Z		
NSR East EB (7)	m			7	1150 274,853.00	4,796,194.00	111.7	Average
				8	1151 274,927.00	4,796,261.00	110	Average
				9	1152 274,998.00	4,796,331.00	108.2	Average
				10	1153 275,068.00	4,796,403.00	107	
				13	1166 275,445.70	4,797,145.00	120.6	Average
				12	1165 275,468.00	4,797,164.00	120.2	Average
				11	1164 275,484.00	4,797,170.00	120	Average
				10	1163 275,504.00	4,797,169.00	119.6	Average
				9	1162 275,522.00	4,797,164.00	119	Average
				8	1161 275,578.00	4,797,142.00	116.6	Average
				7	1160 275,598.00	4,797,137.00	115.6	Average
				6	1159 275,618.00	4,797,136.00	114.8	Average
				5	1158 275,639.00	4,797,139.00	114.2	Average
				4	1157 275,658.00	4,797,146.00	113.7	Average
				3	1156 275,674.00	4,797,157.00	113.4	Average
2	1155 275,688.00	4,797,172.00	113.2	Average				
1	1154 275,738.00	4,797,235.00	113.2					
NSR East WB (7)			5	1	1167 275,735.00	4,797,237.00	113.2	Average
				2	1168 275,686.00	4,797,174.00	113.2	Average
				3	1169 275,672.00	4,797,160.00	113.2	Average
				4	1170 275,656.00	4,797,149.00	113.5	Average
				5	1171 275,638.00	4,797,142.00	114	Average
				6	1172 275,618.00	4,797,140.00	114.6	Average
				7	1173 275,599.00	4,797,143.00	115.2	Average
				8	1174 275,580.00	4,797,148.00	116.3	Average
				9	1175 275,524.00	4,797,170.00	119.1	Average
				10	1176 275,505.00	4,797,176.00	119.8	Average
				11	1177 275,484.00	4,797,177.00	120.2	Average
				12	1178 275,464.00	4,797,170.00	120.4	Average
				13	1179 275,439.20	4,797,151.00	120.9	
				1	1180 275,425.40	4,797,138.50	120.9	Average
				2	1181 275,406.00	4,797,117.00	120.3	Average
3	1182 275,393.00	4,797,102.00	120	Average				
4	1183 275,382.00	4,797,085.00	119.7	Average				
5	1184 275,375.00	4,797,066.00	119.4	Average				
6	1185 275,372.00	4,797,047.00	119	Average				
7	1186 275,374.00	4,797,027.00	118.4	Average				
8	1187 275,380.00	4,797,008.00	117.6	Average				
9	1188 275,407.00	4,796,954.00	115	Average				
10	1189 275,415.00	4,796,936.00	114.1	Average				
11	1190 275,421.00	4,796,917.00	113.4	Average				
12	1191 275,424.00	4,796,897.00	113	Average				
13	1192 275,424.00	4,796,877.00	112.7	Average				
14	1193 275,420.00	4,796,857.00	112.6	Average				
15	1194 275,414.00	4,796,838.00	112.4					
Waterdown N/S - Highway 403 W (2)			11	1	1195 275,414.00	4,796,838.00	112.4	Average
				2	1196 275,405.00	4,796,820.00	112.3	Average
				3	1197 275,394.00	4,796,804.00	112	Average
				4	1198 275,381.00	4,796,788.00	111.8	Average
				5	1199 275,318.00	4,796,711.00	109	Average
				6	1200 275,238.00	4,796,622.00	106.9	Average
Highway 403 WB (0)			17.8	7	1201 275,143.90	4,796,512.00	107.5	
				10	1211 275,053.00	4,796,418.00	108	Average
				9	1210 274,980.00	4,796,350.00	109.2	Average



## Future with the Undertaking - Roadway Input

Roadway Name	Width	Points Name	No.	Coordinates (pavement)			Segment Pvmt Type	On Struct?		
				X	Y	Z				
Hwy 403 E - Waterdown Road N/S	m		19							
				8	1209	274,908.00	4,796,280.00	110.8	Average	
				7	1208	274,834.00	4,796,213.00	112.5	Average	
				6	1207	274,758.00	4,796,148.00	114.3	Average	
				5	1206	274,681.00	4,796,084.00	114.9	Average	
				4	1205	274,604.00	4,796,020.00	114.8	Average	
				3	1204	274,527.00	4,795,956.00	113.2	Average	
				2	1203	274,450.00	4,795,893.00	111.8	Average	
				1	1202	274,322.00	4,795,784.00	109.1		
				1	1212	275,896.00	4,797,380.00	113.3	Average	
				2	1213	275,851.30	4,797,333.50	113	Average	
				3	1214	275,791.00	4,797,266.00	112.3	Average	
4	1215	275,723.00	4,797,192.00	112.3	Average					
5	1216	275,691.00	4,797,157.00	113.3	Average					
6	1217	275,651.00	4,797,124.00	114.8	Average					
7	1218	275,585.00	4,797,076.00	116.4	Average					
8	1219	275,561.00	4,797,056.00	116.5	Average					
9	1220	275,545.00	4,797,041.00	117						
QEW Toronto Bound (0)		17	1	1221	280,621.00	4,795,628.00	112.3	Average		
			2	1222	280,583.00	4,795,720.00	109.3	Average		
			3	1223	280,544.00	4,795,813.00	106.3	Average		
			4	1224	280,505.00	4,795,905.00	103.4	Average		
			5	1225	280,467.00	4,795,997.00	100.4	Average		
			6	1226	280,428.00	4,796,089.00	97.4	Average		
			7	1227	280,390.00	4,796,182.00	94.3	Average		
			8	1228	280,346.00	4,796,285.00	90.9			
			8	1236	280,325.00	4,796,277.00	91.4	Average		
			7	1235	280,364.00	4,796,184.00	94.5	Average		
			6	1234	280,403.00	4,796,092.00	97.6	Average		
			5	1233	280,441.00	4,796,000.00	100.7	Average		
4	1232	280,480.00	4,795,908.00	103.8	Average					
3	1231	280,518.00	4,795,815.00	106.9	Average					
2	1230	280,562.00	4,795,711.00	110.3	Average					
1	1229	280,600.00	4,795,619.00	113.4						
Eastport NB		11	1	1237	280,541.00	4,795,873.00	76.2	Average		
			2	1238	280,503.00	4,795,966.00	77.1	Average		
			3	1239	280,462.00	4,796,057.00	77.4	Average		
			4	1240	280,425.00	4,796,150.00	77.2	Average		
			5	1241	280,384.00	4,796,241.00	77.2	Average		
			6	1242	280,345.00	4,796,333.00	77.3	Average		
			7	1243	280,310.00	4,796,427.00	77.5	Average		
			8	1244	280,275.00	4,796,521.00	77.4	Average		
			9	1245	280,255.00	4,796,576.00	77.3			
			1	1246	275,678.00	4,796,914.00	115.3	Average		
			2	1247	275,664.00	4,796,927.00	116.1	Average		
			3	1248	275,649.00	4,796,939.00	116.6	Average		
4	1249	275,633.00	4,796,951.00	117.1	Average					
5	1250	275,614.50	4,796,968.50	117.1	Average	Y				
6	224	275,590.50	4,796,990.50	117.4	Average	Y				
7	1251	275,575.00	4,797,005.00	117.4	Average					
8	1252	275,561.00	4,797,020.00	117.2	Average					
9	1253	275,549.00	4,797,036.00	117.1	Average					
10	1254	275,535.00	4,797,051.00	117.2	Average					
11	1255	275,466.00	4,797,123.00	119.6	Average					
12	1256	275,405.00	4,797,182.00	122.2						
Waterdown NB		9								

## Future with the Undertaking - Roadway Input

Roadway Name	Points Name	Width	No.	Coordinates (pavement)			Segment Pvmt Type	On Struct?	
				X	Y	Z			
Waterdown SB	9	m	1	1257	275,395.00	4,797,172.00	122.2	Average	
			2	1258	275,456.00	4,797,112.00	119.6	Average	
			3	1259	275,527.00	4,797,042.00	117.2	Average	
			4	1260	275,541.00	4,797,028.00	117.1	Average	
			5	1261	275,555.00	4,797,014.00	117.2	Average	
			6	1262	275,568.00	4,796,999.00	117.4	Average	
			7	1263	275,586.30	4,796,982.50	117.4	Average	Y
			8	223	275,609.80	4,796,961.00	117.1	Average	Y
			9	1264	275,627.00	4,796,945.00	117.1	Average	
			10	1265	275,642.00	4,796,930.00	116.6	Average	
			11	1266	275,657.00	4,796,917.00	116.1	Average	
			12	1267	275,670.00	4,796,906.00	115.5		
QEW E - Brant NS (1)	11.3	m	1	5	279,201.70	4,800,614.50	112.3	Average	
			2	6	279,103.00	4,800,568.00	110.1	Average	
			3	7	279,016.00	4,800,518.00	108.2	Average	
			4	8	278,929.00	4,800,470.00	108.2	Average	
			5	9	278,875.00	4,800,442.00	108.7	Average	
			6	10	278,857.00	4,800,435.00	108.8	Average	
			7	11	278,837.00	4,800,430.00	109	Average	
			8	12	278,818.00	4,800,425.00	109.1	Average	
			9	13	278,798.00	4,800,423.00	109.2	Average	
			10	14	278,778.00	4,800,422.00	109.1	Average	
			11	15	278,758.00	4,800,422.00	108.9	Average	
			12	16	278,738.00	4,800,424.00	108.6	Average	
			13	17	278,723.00	4,800,425.00	108.5	Average	
			14	18	278,704.00	4,800,429.00	108.3	Average	
			15	19	278,698.00	4,800,429.00	108.2		
QEW E - Guelph NS	13	m	point21	21	280,550.00	4,801,895.00	109.5	Average	
			point20	20	280,449.20	4,801,774.00	108.2	Average	
			point19	19	280,351.70	4,801,668.50	107.3	Average	
			point18	18	280,313.50	4,801,627.00	107.2	Average	
			point17	17	280,299.10	4,801,612.00	107.3	Average	
			point16	16	280,282.80	4,801,598.50	107.5	Average	
			point15	15	280,268.10	4,801,589.00	107.8	Average	
			point14	14	280,245.10	4,801,579.50	108.6	Average	
			point13	13	280,215.00	4,801,573.50	109.8	Average	
			point12	12	280,175.90	4,801,572.00	111.9	Average	
			point11	11	280,135.20	4,801,572.00	114.3	Average	
			point10	10	280,126.50	4,801,571.00	114.9	Average	
			point9	9	280,108.80	4,801,566.50	115.9	Average	
			point8	8	280,093.10	4,801,558.50	116.6	Average	
			point7	7	280,082.10	4,801,550.50	117.1	Average	
			point6	6	280,073.20	4,801,542.50	117.4	Average	
			point5	5	280,047.80	4,801,515.50	117.8		
Guelph S - QEW W	8	m	point37	37	280,134.90	4,801,442.00	116.5	Average	
			point36	36	280,114.20	4,801,469.50	117.1	Average	
			point35	35	280,104.00	4,801,487.00	117.3	Average	
			point34	34	280,101.50	4,801,514.50	116.9	Average	
			point33	33	280,109.20	4,801,534.00	116.2	Average	
			point32	32	280,122.80	4,801,547.50	115.1	Average	
			point31	31	280,146.50	4,801,556.50	113.4	Average	
			point30	30	280,163.00	4,801,556.50	112.5	Average	
			point29	29	280,179.60	4,801,551.50	111.4	Average	
			point28	28	280,191.80	4,801,540.50	110.4	Average	

## Future with the Undertaking - Roadway Input

Roadway Name	Width	Points Name	No.	Coordinates (pavement)			Segment Pvmt Type	On Struct?
				X	Y	Z		
Guelph N - QEW W	m	point27		27	280,201.00	4,801,526.00	109.2	Average
		point26		26	280,205.10	4,801,511.00	108.4	Average
		point25		25	280,204.40	4,801,495.00	107.7	Average
		point24		24	280,199.40	4,801,480.00	107.1	Average
		point23		23	280,189.60	4,801,462.00	106.7	Average
		point22		22	280,112.90	4,801,351.50	106.4	
		point48	8.5	48	280,051.40	4,801,491.00	117.1	Average
		point47		47	280,076.60	4,801,452.00	116.5	Average
		point46		46	280,087.30	4,801,428.50	115.9	Average
		point45		45	280,092.40	4,801,402.50	115.2	Average
		point44		44	280,088.90	4,801,374.00	114	Average
		point43		43	280,078.70	4,801,350.50	113	Average
		point42		42	279,921.00	4,801,153.50	105.5	Average
		point41		41	279,873.50	4,801,100.50	105.2	Average
		point40		40	279,809.80	4,801,038.00	105.6	Average
		point39		39	279,745.20	4,800,978.50	107.2	Average
		point38		38	279,706.90	4,800,942.50	108.6	
		point66	8.5	66	280,197.50	4,801,351.50	111.8	Average
		point65		65	280,220.30	4,801,313.50	110.8	Average
		point64		64	280,225.60	4,801,296.00	110	Average
		point63		63	280,226.90	4,801,276.00	109.1	Average
		point62		62	280,222.30	4,801,260.50	108.4	Average
		point61		61	280,215.20	4,801,249.50	107.9	Average
		point60		60	280,204.00	4,801,240.50	107.5	Average
		point59		59	280,191.10	4,801,235.50	107.1	Average
		point58		58	280,174.30	4,801,234.50	106.7	Average
		point57		57	280,158.40	4,801,238.50	106.5	Average
		point56		56	280,148.40	4,801,245.00	106.4	Average
		point55		55	280,138.20	4,801,258.50	106.2	Average
		point54		54	280,133.30	4,801,272.00	106.1	Average
		point53		53	280,132.80	4,801,286.50	106	Average
		point52		52	280,135.30	4,801,297.50	106	Average
		point51		51	280,145.30	4,801,317.50	106	Average
point50		50	280,170.10	4,801,353.50	106.2	Average		
point49		49	280,255.20	4,801,476.00	106.6			
point89	8	89	280,284.30	4,801,283.50	108.3	Average		
point88		88	280,262.50	4,801,315.50	110	Average		
point87		87	280,251.10	4,801,330.00	111	Average		
point86		86	280,247.80	4,801,335.00	111.3	Average		
point85		85	280,245.00	4,801,339.50	111.6	Average		
point84		84	280,241.90	4,801,346.00	111.8	Average		
point83		83	280,239.90	4,801,351.50	112.1	Average		
point82		82	280,238.20	4,801,357.50	112.2	Average		
point81		81	280,236.80	4,801,367.50	112.4	Average		
point80		80	280,236.00	4,801,377.50	112.4	Average		
point79		79	280,236.50	4,801,390.50	112.2	Average		
point78		78	280,238.30	4,801,401.00	111.9	Average		
point77		77	280,241.90	4,801,412.00	111.6	Average		
point76		76	280,246.70	4,801,422.50	111.2	Average		
point75		75	280,250.30	4,801,429.00	111	Average		
point74		74	280,255.90	4,801,437.50	110.6	Average		
point73		73	280,261.80	4,801,445.50	110.2	Average		
point72		72	280,273.80	4,801,461.00	109.5	Average		
point71		71	280,303.40	4,801,498.50	108	Average		

## Future with the Undertaking - Roadway Input

Roadway Name	Points Name	Width	No.	Coordinates (pavement)			Segment Pvmt Type	On Struct?	
				X	Y	Z			
Fairview WB	point70	m		70	280,377.20	4,801,592.50	107	Average	
	point69			69	280,649.60	4,801,971.50	107.8		
	point90		11	90	278,871.50	4,798,894.50	94.8	Average	
	point91			91	278,638.90	4,798,796.00	95.5	Average	
	point92			92	278,514.10	4,798,743.50	96.2	Average	
	point93			93	278,462.80	4,798,719.00	96.6	Average	
	point94			94	278,387.20	4,798,676.50	96.8	Average	
	point95			95	278,327.60	4,798,630.50	97	Average	
	point96			96	278,285.60	4,798,592.50	96.8	Average	
	point97			97	278,259.10	4,798,565.00	96.5	Average	
	point98			98	278,240.80	4,798,544.00	96.3	Average	
	point99			99	278,221.80	4,798,519.50	96	Average	
	point100			100	278,144.70	4,798,396.00	94.8	Average	
	point101			101	278,100.60	4,798,341.50	94.3		
	point102		11	102	278,067.80	4,798,289.00	94.4	Average	
	point103			103	278,099.30	4,798,323.00	94.5	Average	
	point104			104	278,155.30	4,798,392.50	95.1	Average	
	point105			105	278,203.20	4,798,469.00	95.2	Average	
point106		106	278,241.20	4,798,520.00	95.6	Average			
point107		107	278,286.40	4,798,571.50	96.1	Average			
point108		108	278,336.00	4,798,619.50	96.5	Average			
point109		109	278,379.60	4,798,653.50	96.4	Average			
point110		110	278,439.50	4,798,691.50	96.2	Average			
point111		111	278,485.40	4,798,715.00	96	Average			
point112		112	278,518.30	4,798,729.00	95.9	Average			
point113		113	278,621.50	4,798,772.00	95.6	Average			
point114		114	278,665.30	4,798,793.00	95.5	Average			
point115		115	278,804.30	4,798,851.00	95.3	Average			
point116		116	278,877.50	4,798,881.00	95.1				
point180	6.6	180	280,123.00	4,797,545.50	82.8	Average			
point179		179	280,025.80	4,797,437.50	80	Average			
point178		178	279,973.80	4,797,382.50	78.9	Average			
point177		177	279,933.70	4,797,339.50	78.5	Average			
point176		176	279,908.60	4,797,318.00	78.4	Average			
point175		175	279,770.40	4,797,240.50	78.3	Average			
point174		174	279,725.90	4,797,224.00	79.4	Average			
point173		173	279,690.70	4,797,216.00	80.6	Average			
point172		172	279,662.30	4,797,213.50	81.4	Average			
point171		171	279,562.00	4,797,226.00	83.1				
point190	6.6	190	279,562.20	4,797,222.00	83	Average			
point189		189	279,642.70	4,797,211.00	81.9	Average			
point188		188	279,655.70	4,797,209.50	81.6	Average			
point187		187	279,683.70	4,797,209.50	80.9	Average			
point186		186	279,711.10	4,797,214.00	80.1	Average			
point185		185	279,743.60	4,797,220.00	79.1	Average			
point184		184	279,780.90	4,797,238.00	78.3	Average			
point183		183	279,923.80	4,797,318.00	78.4	Average			
point182		182	280,023.00	4,797,422.50	79.8	Average			
point181		181	280,130.10	4,797,538.50	82.8				
	4.7	2	212	278,402.80	4,800,515.50	114.8	Average		
		1	213	278,413.90	4,800,527.00	114.8			
	4.7	15	214	278,414.10	4,800,527.00	114.8	Average		
		14	951	278,467.00	4,800,579.00	113.8	Average		
		13	950	278,481.00	4,800,590.00	113.6	Average		

NSR East EB (2)-2

NSR East EB (2)-2-2

## Future with the Undertaking - Roadway Input

Roadway Name	Width	Points Name	No.	Coordinates (pavement)			Segment Pvmt Type	On Struct?			
				X	Y	Z					
NSR East WB (2)-2  NSR East WB (2)-2  Plains W - Hwy 407 N	m										
				12	949	278,489.00	4,800,595.00	113.6	Average		
				11	948	278,503.00	4,800,603.00	113.6	Average		
				10	947	278,514.00	4,800,608.00	112.9	Average		
				9	946	278,527.00	4,800,613.00	112.2	Average		
				8	945	278,538.00	4,800,615.00	111.5	Average		
				7	944	278,547.00	4,800,617.00	110.8	Average		
				6	943	278,555.00	4,800,618.00	110	Average		
				5	942	278,655.00	4,800,623.00	109.3	Average		
				4	941	278,755.00	4,800,629.00	108.6	Average		
				3	940	278,855.00	4,800,634.00	107.9	Average		
				2	939	278,955.00	4,800,638.00	107.2	Average		
				1	938	278,993.00	4,800,642.00	107			
				3.4	1	220	278,394.30	4,800,524.00	115.2	Average	
				4.7	2	1011	278,388.00	4,800,517.00	115.2	Average	
					3	1012	278,347.00	4,800,470.00	116.3		
					1	218	278,405.40	4,800,535.50	115.2	Average	
					2	219	278,394.40	4,800,524.00	115.2		
				7.5	1	231	278,316.00	4,798,597.00	96	Average	
					2	232	278,331.00	4,798,610.00	96.2	Average	
					3	233	278,346.00	4,798,623.00	96.3	Average	
					4	234	278,362.00	4,798,635.00	96.2	Average	
					5	235	278,378.00	4,798,647.00	96.1	Average	
					6	236	278,395.00	4,798,659.00	96.1	Average	
					7	237	278,412.00	4,798,669.00	96	Average	
					8	238	278,429.00	4,798,678.00	96	Average	
					9	239	278,448.00	4,798,687.00	96	Average	
					10	240	278,466.00	4,798,694.00	95.9	Average	
					11	241	278,485.00	4,798,701.00	95.8	Average	
					12	242	278,505.00	4,798,706.00	95.8	Average	
					13	243	278,525.00	4,798,710.00	95.7	Average	
					14	244	278,545.00	4,798,710.00	95.7	Average	
					15	245	278,565.00	4,798,704.00	95.8	Average	
					16	246	278,581.00	4,798,691.00	96	Average	
					18	247	278,590.00	4,798,672.00	96.3	Average	
					19	248	278,592.00	4,798,651.00	96.7	Average	
					20	249	278,585.00	4,798,632.00	97.1	Average	
					21	250	278,571.00	4,798,616.00	97.7	Average	
	22	251	278,552.00	4,798,607.00	98.4	Average					
	23	252	278,531.00	4,798,606.00	99	Average					
	24	253	278,512.00	4,798,614.00	99.7	Average					
	25	254	278,496.00	4,798,628.00	100.3	Average					
	26	255	278,485.00	4,798,645.00	100.9	Average					
	27	256	278,461.30	4,798,687.50	102	Average	Y				
	28	257	278,443.00	4,798,721.00	103.5	Average	Y				
	29	258	278,379.00	4,798,838.00	107.9	Average					
	30	259	278,337.00	4,798,929.00	109.4	Average					
	31	260	278,299.00	4,799,021.00	108.7	Average					
	32	261	278,260.00	4,799,113.00	106.8	Average					
	33	262	278,243.00	4,799,160.00	105.6	Average					
	34	263	278,228.00	4,799,208.00	104.3	Average					
	35	264	278,223.00	4,799,228.00	103.9	Average					
	36	265	278,218.00	4,799,247.00	103.35	Average					
	37	266	278,214.00	4,799,266.00	102.9	Average					
	38	267	278,210.00	4,799,286.00	102.6	Average					

## Future with the Undertaking - Roadway Input

Roadway Name	Width	Points Name	No.	Coordinates (pavement)			Segment Pvmt Type	On Struct?			
				X	Y	Z					
Fairview E - Hwy 407 N	7.5	m	39	268	278,206.00	4,799,306.00	102.4				
			1	269	278,510.30	4,798,744.50	96.2	Average			
			2	270	278,469.00	4,798,746.00	97.3	Average			
			3	271	278,450.00	4,798,753.00	98	Average			
			4	272	278,434.00	4,798,765.00	99.1	Average			
			5	273	278,421.00	4,798,781.00	100.3	Average			
			6	274	278,381.00	4,798,850.00	105	Average			
QEW Toronto Bound (2)-2	23.5		7	275	278,353.80	4,798,895.00	105.9				
			point238	238	279,539.00	4,797,593.00	84.3	Average			
			point244	244	279,464.00	4,797,659.00	85.2	Average			
			point239	239	279,388.00	4,797,725.00	86.2	Average			
			point240	240	279,313.00	4,797,791.00	87.1	Average			
			point241	241	279,238.00	4,797,857.00	88.1	Average			
			point242	242	279,164.00	4,797,923.00	89.1	Average			
Hwy 407 N - Fairview EW	8.8		point243	243	279,089.00	4,797,990.00	90.1				
			1	245	277,879.80	4,799,733.50	103.2	Average			
			2	246	277,885.00	4,799,687.00	102.7	Average			
			3	247	277,899.00	4,799,636.00	102.2	Average			
			4	248	277,923.00	4,799,566.00	101.9	Average			
			5	249	277,969.00	4,799,447.00	101.7	Average			
			6	250	277,990.00	4,799,396.00	102.4	Average			
Fairview E-QEW S	8.4		7	251	278,011.00	4,799,350.00	102.4	Average			
			8	252	278,032.00	4,799,313.00	102.1	Average			
			9	253	278,061.00	4,799,263.00	101.2				
			1	245	278,405.00	4,798,688.00	96.8	Average			
			2	246	278,381.00	4,798,680.00	96.9	Average			
			3	247	278,327.00	4,798,651.00	97.3	Average			
			4	248	278,314.00	4,798,646.00	97.6	Average			
Fairview W-QEW S	8.5		5	249	278,302.00	4,798,644.00	98	Average			
			6	250	278,288.00	4,798,644.00	98.6	Average			
			7	251	278,276.00	4,798,648.00	99.2	Average			
			8	252	278,264.00	4,798,656.00	99.9	Average			
			9	253	278,253.00	4,798,669.00	100.7	Average			
			10	254	278,247.00	4,798,682.00	101.4	Average			
			11	255	278,245.00	4,798,694.00	101.8	Average			
			12	256	278,247.00	4,798,707.00	102.4	Average			
			13	257	278,251.00	4,798,719.00	103.1	Average			
			14	258	278,257.00	4,798,729.00	103.6	Average			
			15	259	278,263.00	4,798,736.00	104	Average			
			16	260	278,273.00	4,798,743.00	104.6	Average			
			17	261	278,279.00	4,798,745.00	104.9	Average			
			18	262	278,290.00	4,798,748.00	105.3	Average			
			19	263	278,301.00	4,798,748.00	105.7	Average			
			20	264	278,309.00	4,798,747.00	105.9	Average			
			21	265	278,323.00	4,798,742.00	106	Average			
			22	266	278,332.00	4,798,736.00	105.9	Average			
			23	267	278,342.00	4,798,726.00	105.6	Average			
			24	268	278,351.00	4,798,712.00	105.3	Average			
			point245	245	278,411.00	4,798,618.00	102.7	Average	Y		
			25	269	278,526.40	4,798,479.00	98		Y		
			Fairview W-QEW S	8.5		1	270	278,298.00	4,798,579.00	96.2	Average
						2	271	278,324.00	4,798,564.00	96.3	Average
						3	272	278,341.00	4,798,560.00	97	Average
4	273	278,367.00				4,798,557.00	97.6	Average			

## Future with the Undertaking - Roadway Input

Roadway Name	Width	Points Name	No.	Coordinates (pavement)			Segment Pvmt Type	On Struct?
				X	Y	Z		
	m			m	m	m		
		5	274	278,385.00	4,798,556.00	97.9	Average	
		6	275	278,405.00	4,798,553.00	98.2	Average	
		7	276	278,427.00	4,798,544.00	98.5	Average	
		8	277	278,446.00	4,798,530.00	98.8	Average	
		9	278	278,465.00	4,798,509.00	99	Average	
		10	279	278,514.00	4,798,451.00	98.3	Average	
		11	280	278,582.00	4,798,378.00	96.4	Average	
		12	281	278,663.00	4,798,299.00	95.1	Average	
		13	282	278,731.00	4,798,248.50	94.3	Average	
		14	283	278,763.50	4,798,229.50	93.4		

### Future with the Undertaking - Traffic Input (LAeq1h Volumes)

Roadway Name	Points Name	No.	Segment Autos		MTrucks		HTrucks		
			V	S	V	S	V	S	
			veh/hr	km/h	veh/hr	km/h	veh/hr	km/h	
QEW Toronto Bound (1)		1	5	4124	100	179	100	589	100
		2	6	4124	100	179	100	589	100
		3	7	4124	100	179	100	589	100
		4	8	4124	100	179	100	589	100
		5	9	4124	100	179	100	589	100
		6	10	4124	100	179	100	589	100
		7	11	4124	100	179	100	589	100
		8	12	4124	100	179	100	589	100
		9	13	4124	100	179	100	589	100
		10	14	4124	100	179	100	589	100
		11	15	4124	100	179	100	589	100
		12	16	4124	100	179	100	589	100
		13	17	4124	100	179	100	589	100
		14	18	4124	100	179	100	589	100
		15	19						
QEW Toronto Bound (2)-1		1	20	5159	100	223	100	737	100
		2	21	5159	100	223	100	737	100
		3	22	5159	100	223	100	737	100
		4	23	5159	100	223	100	737	100
		5	24	5159	100	223	100	737	100
		6	25	5159	100	223	100	737	100
		7	26	5159	100	223	100	737	100
		8	27	5159	100	223	100	737	100
		9	28						
QEW Toronto Bound (3)		1	35	5159	100	223	100	737	100
		2	36	5159	100	223	100	737	100
		3	37	5159	100	223	100	737	100
		4	38	5159	100	223	100	737	100
		5	39	5159	100	223	100	737	100
		6	40	5159	100	223	100	737	100
		7	41	5159	100	223	100	737	100
		8	42	5159	100	223	100	737	100
		9	43	5159	100	223	100	737	100
QEW Toronto Bound (4)		10	44	5159	100	223	100	737	100
		11	45	5159	100	223	100	737	100
		12	46	5159	100	223	100	737	100
		13	47	5159	100	223	100	737	100
		14	48	5159	100	223	100	737	100
		15	49						
		1	50	2847	100	123	100	407	100
		2	51	2847	100	123	100	407	100
		3	52	2847	100	123	100	407	100
	4	53	2847	100	123	100	407	100	
	5	54	2847	100	123	100	407	100	
	6	55	2847	100	123	100	407	100	
	7	56	2847	100	123	100	407	100	
	8	57	2847	100	123	100	407	100	
	9	58	2847	100	123	100	407	100	



### Future with the Undertaking - Traffic Input (LAeq1h Volumes)

Roadway Name	Points Name	No.	Segment Autos		MTrucks		HTrucks		
			V	S	V	S	V	S	
			veh/hr	km/h	veh/hr	km/h	veh/hr	km/h	
QEW Toronto Bound (5)		10	59	2847	100	123	100	407	100
		11	60	2847	100	123	100	407	100
		12	61	2847	100	123	100	407	100
		13	62	2847	100	123	100	407	100
		14	63	2847	100	123	100	407	100
		15	64						
		1	65	2847	100	123	100	407	100
		2	66	2847	100	123	100	407	100
		3	67	2847	100	123	100	407	100
		4	68	2847	100	123	100	407	100
		5	69	2847	100	123	100	407	100
		6	70	2847	100	123	100	407	100
		7	71	2847	100	123	100	407	100
		8	72	2847	100	123	100	407	100
		9	73	2847	100	123	100	407	100
QEW Niagara Bound (1)		15	74	2847	100	123	100	407	100
		11	75	2847	100	123	100	407	100
		12	76	2847	100	123	100	407	100
		13	77	2847	100	123	100	407	100
		14	78	2847	100	123	100	407	100
		15	79						
		15	94	4289	100	168	100	435	100
		14	93	4289	100	168	100	435	100
		13	92	4289	100	168	100	435	100
		12	91	4289	100	168	100	435	100
		11	90	4289	100	168	100	435	100
		10	89	4289	100	168	100	435	100
		9	88	4289	100	168	100	435	100
		8	87	4289	100	168	100	435	100
		7	86	4289	100	168	100	435	100
	6	85	4289	100	168	100	435	100	
	5	84	4289	100	168	100	435	100	
	4	83	4289	100	168	100	435	100	
	3	82	4289	100	168	100	435	100	
	2	81	4289	100	168	100	435	100	
	1	80							
QEW Niagara Bound (2)		16	109	5364	100	210	100	544	100
		15	108	5364	100	210	100	544	100
		14	107	5364	100	210	100	544	100
		13	106	5364	100	210	100	544	100
		12	105	5364	100	210	100	544	100
		11	104	5364	100	210	100	544	100
		10	103	5364	100	210	100	544	100
		9	102	5364	100	210	100	544	100
		8	101	5364	100	210	100	544	100
		7	100	5364	100	210	100	544	100
	6	99	5364	100	210	100	544	100	
	5	191	5364	100	210	100	544	100	

### Future with the Undertaking - Traffic Input (LAeq1h Volumes)

Roadway Name	Points Name	No.	Segment Autos		MTrucks		HTrucks		
			V	S	V	S	V	S	
			veh/hr	km/h	veh/hr	km/h	veh/hr	km/h	
QEW Niagara Bound (3)		4	98	5364	100	210	100	544	100
		3	97	5364	100	210	100	544	100
		2	96	5364	100	210	100	544	100
		1	95						
		15	124	5364	100	210	100	544	100
		14	123	5364	100	210	100	544	100
		13	122	5364	100	210	100	544	100
		12	121	5364	100	210	100	544	100
		11	120	5364	100	210	100	544	100
		10	119	5364	100	210	100	544	100
		9	118	5364	100	210	100	544	100
		8	117	5364	100	210	100	544	100
		7	116	5364	100	210	100	544	100
		6	115	5364	100	210	100	544	100
		5	114	5364	100	210	100	544	100
QEW Niagara Bound (4)		4	113	5364	100	210	100	544	100
		3	112	5364	100	210	100	544	100
		2	111	5364	100	210	100	544	100
		1	110						
		15	139	2961	100	116	100	300	100
		14	138	2961	100	116	100	300	100
		13	137	2961	100	116	100	300	100
		12	136	2961	100	116	100	300	100
		11	135	2961	100	116	100	300	100
		10	134	2961	100	116	100	300	100
		9	133	2961	100	116	100	300	100
		8	132	2961	100	116	100	300	100
		7	131	2961	100	116	100	300	100
		6	130	2961	100	116	100	300	100
		5	129	2961	100	116	100	300	100
QEW Niagara Bound (5)		4	128	2961	100	116	100	300	100
		3	127	2961	100	116	100	300	100
		2	126	2961	100	116	100	300	100
		1	125						
		15	154	2961	100	116	100	300	100
		14	153	2961	100	116	100	300	100
		13	152	2961	100	116	100	300	100
		12	151	2961	100	116	100	300	100
		11	150	2961	100	116	100	300	100
		10	149	2961	100	116	100	300	100
		9	148	2961	100	116	100	300	100
		8	147	2961	100	116	100	300	100
		7	146	2961	100	116	100	300	100
		6	145	2961	100	116	100	300	100
		5	144	2961	100	116	100	300	100
	4	143	2961	100	116	100	300	100	
	3	142	2961	100	116	100	300	100	
	2	141	2961	100	116	100	300	100	

### Future with the Undertaking - Traffic Input (LAeq1h Volumes)

Roadway Name	Points Name	No.	Segment Autos		MTrucks		HTrucks			
			V	S	V	S	V	S		
			veh/hr	km/h	veh/hr	km/h	veh/hr	km/h		
QEW S - Fairview NS (1)		1	140		60	10	60	6	60	
		1	155	526	60	10	60	6	60	
		2	156	526	60	10	60	6	60	
		3	157	526	60	10	60	6	60	
		4	158	526	60	10	60	6	60	
		5	159	526	60	10	60	6	60	
		6	160	526	60	10	60	6	60	
		7	161	526	60	10	60	6	60	
		8	162	526	60	10	60	6	60	
		9	163	526	60	10	60	6	60	
		10	164	526	60	10	60	6	60	
		11	165	526	60	10	60	6	60	
		12	166	526	60	10	60	6	60	
		13	167	526	60	10	60	6	60	
		14	168	526	60	10	60	6	60	
QEW S - Fairview NS (2)		15	169		60	10	60	6	60	
		1	170	526	60	10	60	6	60	
		2	171	526	60	10	60	6	60	
		3	172	526	60	10	60	6	60	
		4	173	526	60	10	60	6	60	
		5	174	526	60	10	60	6	60	
		6	175	526	60	10	60	6	60	
		7	176	526	60	10	60	6	60	
		8	177	526	60	10	60	6	60	
		9	178	526	60	10	60	6	60	
		10	179		60	10	60	6	60	
	QEW S - Highway 407 N (1)		1	180	1064	100	66	100	199	100
			2	181	1064	100	66	100	199	100
			3	182	1064	100	66	100	199	100
			4	183	1064	100	66	100	199	100
		5	184	1064	100	66	100	199	100	
		6	185	1064	100	66	100	199	100	
		7	186	1064	100	66	100	199	100	
		8	187	1064	100	66	100	199	100	
		9	188	1064	100	66	100	199	100	
		10	189	1064	100	66	100	199	100	
		11	190	1064	100	66	100	199	100	
		12	191	1064	100	66	100	199	100	
		13	192	1064	100	66	100	199	100	
		14	193	1064	100	66	100	199	100	
		15	194		100	66	100	199	100	
QEW S - Highway 407 N (2)		1	195	1064	100	66	100	199	100	
		2	196	1064	100	66	100	199	100	
		3	197	1064	100	66	100	199	100	
		4	198	1064	100	66	100	199	100	
		5	199	1064	100	66	100	199	100	
		6	200	1064	100	66	100	199	100	
		7	201	1064	100	66	100	199	100	

## Future with the Undertaking - Traffic Input (LAeq1h Volumes)

Roadway Name	Points Name	No.	Segment Autos		MTrucks		HTrucks		
			V	S	V	S	V	S	
			veh/hr	km/h	veh/hr	km/h	veh/hr	km/h	
		8	202	1064	100	66	100	199	100
		9	203	1064	100	66	100	199	100
		10	204	1064	100	66	100	199	100
		11	205	1064	100	66	100	199	100
		12	206	1064	100	66	100	199	100
		13	207	1064	100	66	100	199	100
		14	208	1064	100	66	100	199	100
		15	209						
QEW S - Highway 407 N (3)									
		1	210	1064	100	66	100	199	100
		2	211	1064	100	66	100	199	100
		3	212	1064	100	66	100	199	100
		4	213	1064	100	66	100	199	100
		5	214	1064	100	66	100	199	100
		6	215	1064	100	66	100	199	100
		7	216	1064	100	66	100	199	100
		8	217	1064	100	66	100	199	100
		9	218	1064	100	66	100	199	100
		10	192	1064	100	66	100	199	100
		11	219	1064	100	66	100	199	100
		12	220	1064	100	66	100	199	100
		13	221	1064	100	66	100	199	100
		14	222	1064	100	66	100	199	100
		15	223	1064	100	66	100	199	100
		16	224						
Highway 403 W - QEW S (1)									
		1	225	731	100	22	100	71	100
		2	226	731	100	22	100	71	100
		3	227	731	100	22	100	71	100
		4	228	731	100	22	100	71	100
		5	229	731	100	22	100	71	100
		6	230	731	100	22	100	71	100
		7	231	731	100	22	100	71	100
		8	232	731	100	22	100	71	100
		9	233	731	100	22	100	71	100
		10	234	731	100	22	100	71	100
		11	235	731	100	22	100	71	100
		12	236	731	100	22	100	71	100
		13	237	731	100	22	100	71	100
		14	238	731	100	22	100	71	100
		15	239						
Highway 403 W - QEW S (2)									
		1	240	731	100	22	100	71	100
		2	241	731	100	22	100	71	100
		3	242	731	100	22	100	71	100
		4	243	731	100	22	100	71	100
		5	244	731	100	22	100	71	100
		6	245	731	100	22	100	71	100
		7	246	731	100	22	100	71	100
		8	247	731	100	22	100	71	100
		9	248	731	100	22	100	71	100

### Future with the Undertaking - Traffic Input (LAeq1h Volumes)

Roadway Name	Points Name	No.	Segment Autos		MTrucks		HTrucks		
			V	S	V	S	V	S	
			veh/hr	km/h	veh/hr	km/h	veh/hr	km/h	
		10	249	731	100	22	100	71	100
		11	250	731	100	22	100	71	100
		12	251	731	100	22	100	71	100
		13	252	731	100	22	100	71	100
		14	253	731	100	22	100	71	100
		15	254						
Highway 403 W - QEW S (3)		1	255	731	100	22	100	71	100
		2	256	731	100	22	100	71	100
		3	257	731	100	22	100	71	100
		4	258	731	100	22	100	71	100
		5	259	731	100	22	100	71	100
		6	260	731	100	22	100	71	100
		7	261	731	100	22	100	71	100
		8	262	731	100	22	100	71	100
		9	263	731	100	22	100	71	100
		10	264	731	100	22	100	71	100
		11	265	731	100	22	100	71	100
		12	266	731	100	22	100	71	100
		13	267	731	100	22	100	71	100
		14	268	731	100	22	100	71	100
		15	269						
QEW S - HIGHWAY 407 N (4)		1	270	1064	100	66	100	199	100
		2	271	1064	100	66	100	199	100
		3	272	1064	100	66	100	199	100
		4	273	1064	100	66	100	199	100
		5	274	1064	100	66	100	199	100
		6	275	1064	100	66	100	199	100
		7	276	1064	100	66	100	199	100
		8	277	1064	100	66	100	199	100
		9	278						
Highway 403 W - Plains (1)		1	279	66	60	1	60	1	60
		2	280	66	60	1	60	1	60
		3	281	66	60	1	60	1	60
		4	282	66	60	1	60	1	60
		5	283	66	60	1	60	1	60
		6	284	66	60	1	60	1	60
		7	285	66	60	1	60	1	60
		8	286	66	60	1	60	1	60
		9	287	66	60	1	60	1	60
		10	288	66	60	1	60	1	60
		11	289	66	60	1	60	1	60
		12	290	66	60	1	60	1	60
		13	291	66	60	1	60	1	60
		14	292	66	60	1	60	1	60
		15	293						
Highway 403 W - Plains (2)		1	294	66	60	1	60	1	60
		2	295	66	60	1	60	1	60
		3	296	66	60	1	60	1	60

## Future with the Undertaking - Traffic Input (LAeq1h Volumes)

Roadway Name	Points Name	No.	Segment Autos		MTrucks		HTrucks		
			V	S	V	S	V	S	
			veh/hr	km/h	veh/hr	km/h	veh/hr	km/h	
		4	297	66	60	1	60	1	60
		5	298	66	60	1	60	1	60
		6	299	66	60	1	60	1	60
		7	300	66	60	1	60	1	60
		8	301	66	60	1	60	1	60
		9	302	66	60	1	60	1	60
		10	303	66	60	1	60	1	60
		11	304	66	60	1	60	1	60
		12	305	66	60	1	60	1	60
		13	306						
		1	307	170	60	3	60	2	60
		2	308	170	60	3	60	2	60
		3	309	170	60	3	60	2	60
		4	310	170	60	3	60	2	60
		5	311	170	60	3	60	2	60
		6	312	170	60	3	60	2	60
		7	313	170	60	3	60	2	60
		8	314	170	60	3	60	2	60
		9	315	170	60	3	60	2	60
		10	316	170	60	3	60	2	60
		11	317	170	60	3	60	2	60
		12	318	170	60	3	60	2	60
		13	319	170	60	3	60	2	60
		14	320	170	60	3	60	2	60
		15	321						
		1	322	170	60	3	60	2	60
		2	323	170	60	3	60	2	60
		3	324	170	60	3	60	2	60
		4	325	170	60	3	60	2	60
		5	326	170	60	3	60	2	60
		6	327	170	60	3	60	2	60
		7	328	170	60	3	60	2	60
		8	329	170	60	3	60	2	60
		9	330	170	60	3	60	2	60
		10	331						
		1	332	446	100	28	100	84	100
		2	333	446	100	28	100	84	100
		3	334	446	100	28	100	84	100
		4	335	446	100	28	100	84	100
		5	336	446	100	28	100	84	100
		6	193	446	100	28	100	84	100
		7	194	446	100	28	100	84	100
		8	337	446	100	28	100	84	100
		9	338	446	100	28	100	84	100
		10	339	446	100	28	100	84	100
		11	340	446	100	28	100	84	100
		12	341	446	100	28	100	84	100
		13	342	446	100	28	100	84	100

Highway 403 W - Plains (3)

Highway 403 W - Plains (4)

Highway 407 N - QEW S (1)

### Future with the Undertaking - Traffic Input (LAeq1h Volumes)

Roadway Name	Points Name	No.	Segment Autos		MTrucks		HTrucks	
			V	S	V	S	V	S
			veh/hr	km/h	veh/hr	km/h	veh/hr	km/h
		14	343	446	100	28	100	84
		15	344	446	100	28	100	84
		16	345	446	100	28	100	84
		17	346					
Highway 407 N - QEWS (2)		1	347	446	100	28	100	84
		2	348	446	100	28	100	84
		3	349	446	100	28	100	84
		4	350	446	100	28	100	84
		5	351	446	100	28	100	84
		6	352	446	100	28	100	84
		7	353	446	100	28	100	84
		8	354	446	100	28	100	84
		9	355	446	100	28	100	84
		10	356					
Highway 403 EB (3)		1	357	4325	100	96	100	327
		2	358	4325	100	96	100	327
		3	359	4325	100	96	100	327
		4	360	4325	100	96	100	327
		5	361	4325	100	96	100	327
		6	362	4325	100	96	100	327
		7	363	4325	100	96	100	327
		8	364	4325	100	96	100	327
		9	365	4325	100	96	100	327
		10	366	4325	100	96	100	327
		11	367	4325	100	96	100	327
		12	368	4325	100	96	100	327
		13	369	4325	100	96	100	327
		14	370	4325	100	96	100	327
		15	371					
Highway 403 EB (4)		1	372	1896	100	42	100	143
		2	373	1896	100	42	100	143
		3	374	1896	100	42	100	143
		4	375	1896	100	42	100	143
		5	376	1896	100	42	100	143
		6	377	1896	100	42	100	143
		7	378	1896	100	42	100	143
		8	379	1896	100	42	100	143
		9	380	1896	100	42	100	143
		10	197	1896	100	42	100	143
		11	198	1896	100	42	100	143
		12	381	1896	100	42	100	143
		13	382	1896	100	42	100	143
		14	383	1896	100	42	100	143
		15	384	1896	100	42	100	143
		16	385	1896	100	42	100	143
		17	386					
Highway 403 EB (5)		1	387	1896	100	42	100	143
		2	388	1896	100	42	100	143





### Future with the Undertaking - Traffic Input (LAeq1h Volumes)

Roadway Name	Points Name	No.	Segment Autos		MTrucks		HTrucks		
			V	S	V	S	V	S	
			veh/hr	km/h	veh/hr	km/h	veh/hr	km/h	
QEW N to Eastport S		6	436	358	30	22	30	67	30
		7	437						
		1	438	480	100	19	100	49	100
		2	439	480	100	19	100	49	100
		3	440	480	100	19	100	49	100
		4	441	480	100	19	100	49	100
		5	442	480	100	19	100	49	100
		6	443	480	100	19	100	49	100
		7	444	480	100	19	100	49	100
		8	203	480	100	19	100	49	100
		9	445	480	100	19	100	49	100
		10	446	480	100	19	100	49	100
		11	447	480	100	19	100	49	100
		12	448	480	100	19	100	49	100
		13	449	480	100	19	100	49	100
	QEW S to North Shore Blvd EW		14	450	480	100	19	100	49
		15	451	480	100	19	100	49	100
		16	452						
		1	453	143	70	6	70	20	70
		2	454	143	70	6	70	20	70
		3	455	143	70	6	70	20	70
		4	456	143	70	6	70	20	70
		5	457	143	70	6	70	20	70
		6	458	143	70	6	70	20	70
		7	459	143	70	6	70	20	70
		8	460	143	70	6	70	20	70
		9	461	143	70	6	70	20	70
		10	462	143	70	6	70	20	70
		11	463	143	70	6	70	20	70
		12	464	143	70	6	70	20	70
North Shore Blvd W to QEW N			13	465	143	70	6	70	20
		14	466	143	70	6	70	20	70
		15	467						
		2	469	156	30	10	30	29	30
		3	470	156	30	10	30	29	30
		4	471	156	30	10	30	29	30
		5	472	156	30	10	30	29	30
		6	473	156	30	10	30	29	30
		7	474	156	30	10	30	29	30
		8	475	156	30	10	30	29	30
		9	476	156	30	10	30	29	30
		10	477	156	30	10	30	29	30
		11	478	156	30	10	30	29	30
		12	479	156	30	10	30	29	30
		13	480	156	30	10	30	29	30
	point204	204	156	30	10	30	29	30	
	14	481	156	30	10	30	29	30	
	15	482							

### Future with the Undertaking - Traffic Input (LAeq1h Volumes)

Roadway Name	Points Name	No.	Segment Autos		MTrucks		HTrucks		
			V	S	V	S	V	S	
			veh/hr	km/h	veh/hr	km/h	veh/hr	km/h	
North Shore Blvd E to QEW N		1	483	139	50	9	50	26	50
		2	484	139	50	9	50	26	50
		3	485	139	50	9	50	26	50
		4	486	139	50	9	50	26	50
		5	487	139	50	9	50	26	50
		6	488	139	50	9	50	26	50
		7	489	139	50	9	50	26	50
		8	490	139	50	9	50	26	50
		9	491	139	50	9	50	26	50
		10	492	139	50	9	50	26	50
		11	493						
HIGHWAY 403 EB (2)		1	494	4213	100	125	100	409	100
		2	495	4213	100	125	100	409	100
		3	496	4213	100	125	100	409	100
		4	497	4213	100	125	100	409	100
		5	498	4213	100	125	100	409	100
		6	499	4213	100	125	100	409	100
		7	500	4213	100	125	100	409	100
		8	501	4213	100	125	100	409	100
		9	502	4213	100	125	100	409	100
		10	503	4213	100	125	100	409	100
		11	504	4213	100	125	100	409	100
		12	505	4213	100	125	100	409	100
		13	506	4213	100	125	100	409	100
		14	507	4213	100	125	100	409	100
		15	508						
QEW Toronto Bound (6)		1	509	5932	100	257	100	847	100
		2	510	5932	100	257	100	847	100
		3	511	5932	100	257	100	847	100
		4	512	5932	100	257	100	847	100
		5	513	5932	100	257	100	847	100
		6	205	5932	100	257	100	847	100
		7	206	5932	100	257	100	847	100
		8	514	5932	100	257	100	847	100
		9	515	5932	100	257	100	847	100
		10	516	5932	100	257	100	847	100
		11	517	5932	100	257	100	847	100
		12	518	5932	100	257	100	847	100
		13	519	5932	100	257	100	847	100
		14	520	5932	100	257	100	847	100
		15	521	5932	100	257	100	847	100
		16	522	5932	100	257	100	847	100
		17	523						
Highway 403 W - Brant NS (1)		1	539	256	60	5	60	2	60
		2	540	256	60	5	60	2	60
		3	541	256	60	5	60	2	60
		4	542	256	60	5	60	2	60
		5	543	256	60	5	60	2	60

### Future with the Undertaking - Traffic Input (LAeq1h Volumes)

Roadway Name	Points Name	No.	Segment Autos		MTrucks		HTrucks		
			V	S	V	S	V	S	
			veh/hr	km/h	veh/hr	km/h	veh/hr	km/h	
		6	544	256	60	5	60	2	60
		7	545	256	60	5	60	2	60
		8	546	256	60	5	60	2	60
		9	547	256	60	5	60	2	60
		10	548	256	60	5	60	2	60
		11	549	256	60	5	60	2	60
		12	550	256	60	5	60	2	60
		13	551	256	60	5	60	2	60
		14	552	256	60	5	60	2	60
		15	553						
		1	554	633	100	27	100	90	100
		2	555	633	100	27	100	90	100
		3	556	633	100	27	100	90	100
		4	557	633	100	27	100	90	100
		5	558	633	100	27	100	90	100
		6	559	633	100	27	100	90	100
		7	560	633	100	27	100	90	100
		8	561	633	100	27	100	90	100
		9	562	633	100	27	100	90	100
		10	563	633	100	27	100	90	100
		11	564	633	100	27	100	90	100
		12	565	633	100	27	100	90	100
		13	566	633	100	27	100	90	100
		14	567	633	100	27	100	90	100
		15	568						
		1	569	633	100	27	100	90	100
		2	570	633	100	27	100	90	100
		3	571	633	100	27	100	90	100
		4	572	633	100	27	100	90	100
		5	573	633	100	27	100	90	100
		6	574	633	100	27	100	90	100
		7	575	633	100	27	100	90	100
		8	576	633	100	27	100	90	100
		9	577	633	100	27	100	90	100
		10	578	633	100	27	100	90	100
		11	579	633	100	27	100	90	100
		12	580	633	100	27	100	90	100
		13	581	633	100	27	100	90	100
		14	582	633	100	27	100	90	100
		15	583						
		1	584	633	100	27	100	90	100
		2	585	633	100	27	100	90	100
		3	586	633	100	27	100	90	100
		4	587	633	100	27	100	90	100
		5	588	633	100	27	100	90	100
		6	589	633	100	27	100	90	100
		7	590	633	100	27	100	90	100
		1	591	633	100	27	100	90	100
		2	592	633	100	27	100	90	100
		3	593	633	100	27	100	90	100
		4	594	633	100	27	100	90	100
		5	595	633	100	27	100	90	100
		6	596	633	100	27	100	90	100
		7	597	633	100	27	100	90	100

QEW S - Highway 403 W (1)

QEW S - Highway 403 W (2)

QEW S - Highway 403 W (3)

### Future with the Undertaking - Traffic Input (LAeq1h Volumes)

Roadway Name	Points Name	Points No.	Segment Autos		MTrucks		HTrucks	
			V	S	V	S	V	S
			veh/hr	km/h	veh/hr	km/h	veh/hr	km/h
Highway 403 WB (2)		8	591	633	100	27	100	90
		9	592	633	100	27	100	90
		10	593	633	100	27	100	90
		11	594	633	100	27	100	90
		12	595	633	100	27	100	90
		13	596	633	100	27	100	90
		14	597	633	100	27	100	90
		15	598					
		15	613	4227	100	222	100	299
		14	612	4227	100	222	100	299
		13	611	4227	100	222	100	299
		12	610	4227	100	222	100	299
		11	609	4227	100	222	100	299
		10	608	4227	100	222	100	299
		9	607	4227	100	222	100	299
Highway 403 WB (3)		8	606	4227	100	222	100	299
		7	605	4227	100	222	100	299
		6	604	4227	100	222	100	299
		5	603	4227	100	222	100	299
		4	602	4227	100	222	100	299
		3	601	4227	100	222	100	299
		2	600	4227	100	222	100	299
		1	599					
		15	628	4198	100	177	100	373
		14	627	4198	100	177	100	373
		13	626	4198	100	177	100	373
		12	625	4198	100	177	100	373
		11	624	4198	100	177	100	373
		10	623	4198	100	177	100	373
		9	622	4198	100	177	100	373
	8	621	4198	100	177	100	373	
	7	620	4198	100	177	100	373	
	6	619	4198	100	177	100	373	
	5	618	4198	100	177	100	373	
	4	617	4198	100	177	100	373	
	3	616	4198	100	177	100	373	
	2	615	4198	100	177	100	373	
	1	614						
Highway 403 WB (4)		16	643	1649	100	70	100	147
		point227	227	1649	100	70	100	147
		point226	226	1649	100	70	100	147
		point225	225	1649	100	70	100	147
		15	642	1649	100	70	100	147
		14	641	1649	100	70	100	147
		13	640	1649	100	70	100	147
		12	639	1649	100	70	100	147
		11	638	1649	100	70	100	147
		10	637	1649	100	70	100	147

### Future with the Undertaking - Traffic Input (LAeq1h Volumes)

Roadway Name	Points Name	No.	Segment Autos		MTrucks		HTrucks	
			V	S	V	S	V	S
			veh/hr	km/h	veh/hr	km/h	veh/hr	km/h
		9	636	1649	100	70	100	147
		8	635	1649	100	70	100	147
		7	634	1649	100	70	100	147
		6	196	1649	100	70	100	147
		5	633	1649	100	70	100	147
		4	632	1649	100	70	100	147
		3	631	1649	100	70	100	147
		2	630	1649	100	70	100	147
		1	629					
Highway 403 W - Highway 407 N (1)		1	644	312	100	20	100	59
	point230		230	312	100	20	100	59
	point229		229	312	100	20	100	59
	point228		228	312	100	20	100	59
		2	645	312	100	20	100	59
		3	646	312	100	20	100	59
		4	647	312	100	20	100	59
		5	648	312	100	20	100	59
		6	649	312	100	20	100	59
		7	650	312	100	20	100	59
		8	651	312	100	20	100	59
		9	652	312	100	20	100	59
		10	653	312	100	20	100	59
		11	654	312	100	20	100	59
		12	195	312	100	20	100	59
		13	655	312	100	20	100	59
		14	656	312	100	20	100	59
		15	657	312	100	20	100	59
		16	658					
Highway 403 W - Highway 407 N (2)		1	659	312	100	20	100	59
		2	660	312	100	20	100	59
		3	661	312	100	20	100	59
		4	662	312	100	20	100	59
		5	663	312	100	20	100	59
		6	208	312	100	20	100	59
		7	664	312	100	20	100	59
		8	665	312	100	20	100	59
		9	666	312	100	20	100	59
		10	667					
Highway 407 N - Highway 403 W (1)		15	682	350	100	22	100	66
		14	681	350	100	22	100	66
		13	680	350	100	22	100	66
		12	679	350	100	22	100	66
		11	678	350	100	22	100	66
		10	677	350	100	22	100	66
		9	676	350	100	22	100	66
		8	675	350	100	22	100	66
		7	674	350	100	22	100	66
		6	673	350	100	22	100	66

### Future with the Undertaking - Traffic Input (LAeq1h Volumes)

Roadway Name	Points Name	No.	Segment Autos		MTrucks		HTrucks		
			V	S	V	S	V	S	
			veh/hr	km/h	veh/hr	km/h	veh/hr	km/h	
Highway 407 N - Highway 403 W (2)		5	672	350	100	22	100	66	100
		4	671	350	100	22	100	66	100
		3	670	350	100	22	100	66	100
		2	669	350	100	22	100	66	100
		1	668						
		10	691	350	100	22	100	66	100
		9	690	350	100	22	100	66	100
		8	689	350	100	22	100	66	100
		7	688	350	100	22	100	66	100
		6	687	350	100	22	100	66	100
		5	209	350	100	22	100	66	100
		4	686	350	100	22	100	66	100
		3	685	350	100	22	100	66	100
		2	684	350	100	22	100	66	100
		1	683						
Highway 403 W - Brant NS (2)		1	692	256	60	5	60	2	60
		2	693	256	60	5	60	2	60
		3	694	256	60	5	60	2	60
		4	695	256	60	5	60	2	60
		5	696	256	60	5	60	2	60
		6	697	256	60	5	60	2	60
		7	698	256	60	5	60	2	60
		8	699	256	60	5	60	2	60
		9	700	256	60	5	60	2	60
		10	701	256	60	5	60	2	60
		11	702	256	60	5	60	2	60
		12	703	256	60	5	60	2	60
		13	704	256	60	5	60	2	60
		14	705	256	60	5	60	2	60
		15	706						
Highway 403 W - Brant NS (3)		1	707	256	60	5	60	2	60
		2	708	256	60	5	60	2	60
		3	709	256	60	5	60	2	60
		4	710	256	60	5	60	2	60
		5	711	256	60	5	60	2	60
		6	712	256	60	5	60	2	60
		7	713	256	60	5	60	2	60
		8	714	256	60	5	60	2	60
		9	715	256	60	5	60	2	60
		10	716	256	60	5	60	2	60
		11	717	256	60	5	60	2	60
		12	718	256	60	5	60	2	60
		13	719	256	60	5	60	2	60
		14	720	256	60	5	60	2	60
		15	721						
Highway 403 W - Brant NS (4)		1	722	256	60	5	60	2	60
		2	723	256	60	5	60	2	60
		3	724	256	60	5	60	2	60

### Future with the Undertaking - Traffic Input (LAeq1h Volumes)

Roadway Name	Points Name	No.	Segment Autos		MTrucks		HTrucks		
			V	S	V	S	V	S	
			veh/hr	km/h	veh/hr	km/h	veh/hr	km/h	
QEW S - Highway 403 W (4)		4	725	256	60	5	60	2	60
		5	726	256	60	5	60	2	60
		6	727						
		1	728	633	100	27	100	90	100
		2	729	633	100	27	100	90	100
		3	730	633	100	27	100	90	100
		4	731	633	100	27	100	90	100
		5	732	633	100	27	100	90	100
		6	733	633	100	27	100	90	100
		7	734	633	100	27	100	90	100
		8	735	633	100	27	100	90	100
		9	736	633	100	27	100	90	100
		10	737	633	100	27	100	90	100
		11	738	633	100	27	100	90	100
		12	739	633	100	27	100	90	100
QEW S - Highway 403 W (5)		13	740	633	100	27	100	90	100
		14	741	633	100	27	100	90	100
		15	742						
		1	743	633	100	27	100	90	100
		2	744	633	100	27	100	90	100
		3	745	633	100	27	100	90	100
		4	746	633	100	27	100	90	100
		5	747	633	100	27	100	90	100
		6	748	633	100	27	100	90	100
		7	749	633	100	27	100	90	100
		8	750	633	100	27	100	90	100
		9	751	633	100	27	100	90	100
		10	752	633	100	27	100	90	100
		11	753	633	100	27	100	90	100
		12	754	633	100	27	100	90	100
QEW Toronto Bound (7)		13	755	633	100	27	100	90	100
		14	756	633	100	27	100	90	100
		15	757						
		1	758	5932	100	257	100	847	100
		2	759	5932	100	257	100	847	100
		3	760	5932	100	257	100	847	100
		4	761	5932	100	257	100	847	100
		5	762	5932	100	257	100	847	100
		6	763	5932	100	257	100	847	100
		7	764	5932	100	257	100	847	100
		8	765	5932	100	257	100	847	100
		9	766	5932	100	257	100	847	100
		10	767	5932	100	257	100	847	100
		11	768	5932	100	257	100	847	100
		12	769	5932	100	257	100	847	100
	13	770	5932	100	257	100	847	100	
	14	771	5932	100	257	100	847	100	
	15	772							

### Future with the Undertaking - Traffic Input (LAeq1h Volumes)

Roadway Name	Points Name	No.	Segment Autos		MTrucks		HTrucks	
			V	S	V	S	V	S
			veh/hr	km/h	veh/hr	km/h	veh/hr	km/h
QEW Niagara Bound (6)		15	787	6168	100	242	100	625
		14	786	6168	100	242	100	625
		13	785	6168	100	242	100	625
		12	784	6168	100	242	100	625
		11	783	6168	100	242	100	625
		10	782	6168	100	242	100	625
		9	781	6168	100	242	100	625
		8	780	6168	100	242	100	625
		7	779	6168	100	242	100	625
		6	778	6168	100	242	100	625
QEW Niagara Bound (7)		5	777	6168	100	242	100	625
		4	776	6168	100	242	100	625
		3	775	6168	100	242	100	625
		2	774	6168	100	242	100	625
		1	773					
		15	802	6168	100	242	100	625
		14	801	6168	100	242	100	625
		13	800	6168	100	242	100	625
		12	799	6168	100	242	100	625
		11	798	6168	100	242	100	625
Highway 407 NB		10	797	6168	100	242	100	625
		9	796	6168	100	242	100	625
		8	795	6168	100	242	100	625
		7	794	6168	100	242	100	625
		6	793	6168	100	242	100	625
		5	792	6168	100	242	100	625
		4	791	6168	100	242	100	625
		3	790	6168	100	242	100	625
		2	789	6168	100	242	100	625
		1	788					
Highway 407 SB		1	803	824	100	52	100	155
		2	804	824	100	52	100	155
		3	805	824	100	52	100	155
		4	806	824	100	52	100	155
		5	807	824	100	52	100	155
		6	808	824	100	52	100	155
		7	809	824	100	52	100	155
		8	810	824	100	52	100	155
		9	811					
		1	812	872	100	55	100	164
	2	813	872	100	55	100	164	
	3	814	872	100	55	100	164	
	4	815	872	100	55	100	164	
	5	816	872	100	55	100	164	
	6	817	872	100	55	100	164	
	7	818	872	100	55	100	164	
	8	819	872	100	55	100	164	
	9	820						



### Future with the Undertaking - Traffic Input (LAeq1h Volumes)

Roadway Name	Points Name	No.	Segment Autos		MTrucks		HTrucks		
			V	S	V	S	V	S	
			veh/hr	km/h	veh/hr	km/h	veh/hr	km/h	
Brant E - Highway 403 W (1)		1	821	283	30	6	30	2	30
		2	822	283	30	6	30	2	30
		3	823	283	30	6	30	2	30
		4	824	283	30	6	30	2	30
		5	825	283	30	6	30	2	30
		6	826	283	30	6	30	2	30
		7	827	283	30	6	30	2	30
		8	828	283	30	6	30	2	30
		9	829	283	30	6	30	2	30
		10	830	283	30	6	30	2	30
		11	831	283	30	6	30	2	30
		12	832	283	30	6	30	2	30
		13	833	283	30	6	30	2	30
		14	834	283	30	6	30	2	30
		15	835						
Brant E - Highway 403 W (2)		1	836	283	30	6	30	2	30
		2	837	283	30	6	30	2	30
		3	838	283	30	6	30	2	30
		4	839	283	30	6	30	2	30
		5	840	283	30	6	30	2	30
		6	841	283	30	6	30	2	30
		7	842	283	30	6	30	2	30
		8	843	283	30	6	30	2	30
		9	844	283	30	6	30	2	30
		10	845	283	30	6	30	2	30
		11	846	283	30	6	30	2	30
		12	847	283	30	6	30	2	30
		13	848	283	30	6	30	2	30
		14	849	283	30	6	30	2	30
		15	850						
Brant W-N (1)		1	851	314	30	5	30	3	30
		2	852	314	30	5	30	3	30
		3	853	314	30	5	30	3	30
		4	854	314	30	5	30	3	30
		5	855	314	30	5	30	3	30
		6	856	314	30	5	30	3	30
		7	857	314	30	5	30	3	30
		8	858	314	30	5	30	3	30
		9	859	314	30	5	30	3	30
		10	860	314	30	5	30	3	30
		11	861	314	30	5	30	3	30
		12	862	314	30	5	30	3	30
		13	863	314	30	5	30	3	30
		14	864	314	30	5	30	3	30
		15	865						
Brant W-N (2)		1	866	314	30	5	30	3	30
		2	867	314	30	5	30	3	30
		3	868	314	30	5	30	3	30

### Future with the Undertaking - Traffic Input (LAeq1h Volumes)

Roadway Name	Points Name	No.	Segment Autos		MTrucks		HTrucks			
			V	S	V	S	V	S		
			veh/hr	km/h	veh/hr	km/h	veh/hr	km/h		
Brant E-N		4	869	314	30	5	30	3	30	
		5	210	314	30	5	30	3	30	
		6	870	314	30	5	30	3	30	
		7	871	314	30	5	30	3	30	
		8	872	314	30	5	30	3	30	
		9	873	314	30	5	30	3	30	
		10	874	314	30	5	30	3	30	
		11	875	314	30	5	30	3	30	
		12	876							
		1	877	276	276	30	6	30	2	30
		2	878	276	276	30	6	30	2	30
		3	879	276	276	30	6	30	2	30
	4	880	276	276	30	6	30	2	30	
	5	881	276	276	30	6	30	2	30	
	6	882	276	276	30	6	30	2	30	
	7	883	276	276	30	6	30	2	30	
	8	884	276	276	30	6	30	2	30	
	9	885	276	276	30	6	30	2	30	
	10	886	276	276	30	6	30	2	30	
	11	887	276	276	30	6	30	2	30	
	12	888	276	276	30	6	30	2	30	
	13	889								
QEW E - Brant NS (2)		1	890	424	50	9	50	3	50	
		2	891	424	50	9	50	3	50	
		3	892	424	50	9	50	3	50	
		4	893	424	50	9	50	3	50	
		5	894	424	50	9	50	3	50	
		6	895	424	50	9	50	3	50	
		7	896							
QEW W to Guelph N/S		1	897	749	50	32	50	107	50	
		2	898	749	50	32	50	107	50	
		3	899	749	50	32	50	107	50	
		4	900	749	50	32	50	107	50	
		5	901	749	50	32	50	107	50	
		6	902	749	50	32	50	107	50	
		7	903	749	50	32	50	107	50	
		8	904	749	50	32	50	107	50	
		9	905	749	50	32	50	107	50	
		10	906	749	50	32	50	107	50	
		11	907	749	50	32	50	107	50	
		12	908	749	50	32	50	107	50	
		13	909	749	50	32	50	107	50	
		14	910	749	50	32	50	107	50	
		15	911							
Guelph NB		1	912	1933	60	52	60	29	60	
		2	913	1933	60	52	60	29	60	
		3	914	1933	60	52	60	29	60	
		4	915	1933	60	52	60	29	60	

### Future with the Undertaking - Traffic Input (LAeq1h Volumes)

Roadway Name	Points Name	No.	Segment Autos		MTrucks		HTrucks	
			V	S	V	S	V	S
			veh/hr	km/h	veh/hr	km/h	veh/hr	km/h
Guelph SB		5	916					
		1	917	1937	60	52	60	25
		2	918	1937	60	52	60	25
		3	919	1937	60	52	60	25
		4	920	1937	60	52	60	25
		5	921	1937	60	52	60	25
NSR East EB (1)		6	922					
		15	937	209	60	2	60	3
		14	936	209	60	2	60	3
		13	935	209	60	2	60	3
		12	934	209	60	2	60	3
		11	933	209	60	2	60	3
		10	932	209	60	2	60	3
		9	931	209	60	2	60	3
		8	930	209	60	2	60	3
		7	929	209	60	2	60	3
NSR East EB (2)		6	928	209	60	2	60	3
		5	927	209	60	2	60	3
		4	926	209	60	2	60	3
		3	925	209	60	2	60	3
		2	924	209	60	2	60	3
		1	923					
		2	952	339	60	8	60	13
		1	211					
NSR East EB (3)		15	967	739	60	14	60	23
		14	966	739	60	14	60	23
		13	965	739	60	14	60	23
		12	964	739	60	14	60	23
		11	963	739	60	14	60	23
		10	962	739	60	14	60	23
		9	961	739	60	14	60	23
		8	960	739	60	14	60	23
		7	959	739	60	14	60	23
		6	958	739	60	14	60	23
NSR East EB (4)		5	957	739	60	14	60	23
		4	956	739	60	14	60	23
		3	955	739	60	14	60	23
		2	954	739	60	14	60	23
		1	953					
		15	982	739	60	14	60	23
		14	981	739	60	14	60	23
		13	980	739	60	14	60	23
		12	979	739	60	14	60	23
		11	978	739	60	14	60	23
	10	977	739	60	14	60	23	
	9	976	739	60	14	60	23	
	8	975	739	60	14	60	23	
	7	974	739	60	14	60	23	

### Future with the Undertaking - Traffic Input (LAeq1h Volumes)

Roadway Name	Points Name	No.	Segment Autos		MTrucks		HTrucks		
			V	S	V	S	V	S	
			veh/hr	km/h	veh/hr	km/h	veh/hr	km/h	
NSR East WB (1)		6	973	739	60	14	60	23	60
		5	972	739	60	14	60	23	60
		4	971	739	60	14	60	23	60
		3	970	739	60	14	60	23	60
		2	969	739	60	14	60	23	60
		1	968						
		1	983	66	66	60	1	60	1
		2	984	66	66	60	1	60	1
		3	985	66	66	60	1	60	1
		4	986	66	66	60	1	60	1
		5	987	66	66	60	1	60	1
		6	988	66	66	60	1	60	1
		7	989	66	66	60	1	60	1
		8	990	66	66	60	1	60	1
		9	991	66	66	60	1	60	1
NSR East WB (2)		10	992	66	60	1	60	1	60
		11	993	66	60	1	60	1	60
		12	994	66	60	1	60	1	60
		13	995	66	60	1	60	1	60
		14	996	66	60	1	60	1	60
		15	997						
		1	998	544	544	60	11	60	18
		2	999	544	544	60	11	60	18
		3	1000	544	544	60	11	60	18
		4	1001	544	544	60	11	60	18
		5	1002	544	544	60	11	60	18
		6	1003	544	544	60	11	60	18
		7	1004	544	544	60	11	60	18
		8	1005	544	544	60	11	60	18
		9	1006	544	544	60	11	60	18
	10	1007	544	544	60	11	60	18	
	11	1008	544	544	60	11	60	18	
	12	1009	544	544	60	11	60	18	
	13	1010	544	544	60	11	60	18	
	14	217							
NSR East WB (3)		1	1013	839	60	13	60	20	60
		2	1014	839	60	13	60	20	60
		3	1015	839	60	13	60	20	60
		4	1016	839	60	13	60	20	60
		5	1017	839	60	13	60	20	60
		6	1018	839	60	13	60	20	60
		7	1019	839	60	13	60	20	60
		8	1020	839	60	13	60	20	60
		9	1021	839	60	13	60	20	60
		10	1022	839	60	13	60	20	60
		11	1023	839	60	13	60	20	60
		12	1024	839	60	13	60	20	60
		13	1025	839	60	13	60	20	60

### Future with the Undertaking - Traffic Input (LAeq1h Volumes)

Roadway Name	Points Name	No.	Segment Autos		MTrucks		HTrucks		
			V	S	V	S	V	S	
			veh/hr	km/h	veh/hr	km/h	veh/hr	km/h	
NSR East WB (4)		14	1026	839	60	13	60	20	60
		15	1027						
		1	1028	839	60	13	60	20	60
		2	1029	839	60	13	60	20	60
		3	1030	839	60	13	60	20	60
		4	1031	839	60	13	60	20	60
		5	1032	839	60	13	60	20	60
		6	1033	839	60	13	60	20	60
		7	1034	839	60	13	60	20	60
		8	1035	839	60	13	60	20	60
		9	1036	839	60	13	60	20	60
		10	1037	839	60	13	60	20	60
		11	1038	839	60	13	60	20	60
		12	1039	839	60	13	60	20	60
		13	1040	839	60	13	60	20	60
	14	1041	839	60	13	60	20	60	
	15	1042							
Brant NB		1	1043	1498	60	32	60	11	60
		2	1044	1498	60	32	60	11	60
		3	1045	1498	60	32	60	11	60
		4	1046	1498	60	32	60	11	60
		5	1047	1498	60	32	60	11	60
		6	1048	1498	60	32	60	11	60
		7	1049	1498	60	32	60	11	60
		8	1050	1498	60	32	60	11	60
		9	1051	1498	60	32	60	11	60
		10	1052	1498	60	32	60	11	60
		11	1053						
		12	1065	1503	60	26	60	12	60
		11	1064	1503	60	26	60	12	60
		10	1063	1503	60	26	60	12	60
		9	1062	1503	60	26	60	12	60
	8	1061	1503	60	26	60	12	60	
	7	1060	1503	60	26	60	12	60	
	6	1059	1503	60	26	60	12	60	
	5	1058	1503	60	26	60	12	60	
	4	1057	1503	60	26	60	12	60	
	3	1056	1503	60	26	60	12	60	
	2	1055	1503	60	26	60	12	60	
	1	1054							
Highway 403 WB (1)		15	1080	4227	100	222	100	299	100
		14	1079	4227	100	222	100	299	100
		13	1078	4227	100	222	100	299	100
		12	1077	4227	100	222	100	299	100
		11	1076	4227	100	222	100	299	100
		10	1075	4227	100	222	100	299	100
		9	1074	4227	100	222	100	299	100
		8	1073	4227	100	222	100	299	100

### Future with the Undertaking - Traffic Input (LAeq1h Volumes)

Roadway Name	Points Name	No.	Segment Autos		MTrucks		HTrucks	
			V	S	V	S	V	S
			veh/hr	km/h	veh/hr	km/h	veh/hr	km/h
		7	1072	4227	100	222	100	299
		6	1071	4227	100	222	100	299
		5	1070	4227	100	222	100	299
		4	1069	4227	100	222	100	299
		3	1068	4227	100	222	100	299
		2	1067	4227	100	222	100	299
		1	1066					
KING ROAD NB (1)								
		1	1081	353	50	7	50	5
		2	1082	353	50	7	50	5
		3	1083	353	50	7	50	5
		4	1084	353	50	7	50	5
		5	1085	353	50	7	50	5
		6	1086	353	50	7	50	5
		7	1087	353	50	7	50	5
		8	1088	353	50	7	50	5
		9	1089	353	50	7	50	5
		10	1090	353	50	7	50	5
		11	1091	353	50	7	50	5
		12	201	353	50	7	50	5
		13	1092	353	50	7	50	5
		14	1093	353	50	7	50	5
		15	1094	353	50	7	50	5
		16	1095					
KING ROAD NB (2)								
		1	1096	353	50	7	50	5
		2	1097	353	50	7	50	5
		3	1098	353	50	7	50	5
		4	1099	353	50	7	50	5
		5	1100	353	50	7	50	5
		6	1101	353	50	7	50	5
		7	1102	353	50	7	50	5
		8	1103	353	50	7	50	5
		9	1104					
KINGSB(1)								
		1	1105	353	50	7	50	5
		2	1106	353	50	7	50	5
		3	1107	353	50	7	50	5
		4	1108	353	50	7	50	5
		5	1109	353	50	7	50	5
		6	1110	353	50	7	50	5
		7	1111	353	50	7	50	5
		8	1112	353	50	7	50	5
		9	1113	353	50	7	50	5
		10	1114	353	50	7	50	5
		11	1115	353	50	7	50	5
		12	1116	353	50	7	50	5
		13	1117	353	50	7	50	5
		14	200	353	50	7	50	5
		15	1118	353	50	7	50	5
		16	1119					

### Future with the Undertaking - Traffic Input (LAeq1h Volumes)

Roadway Name	Points Name	No.	Segment Autos		MTrucks		HTrucks		
			V	S	V	S	V	S	
			veh/hr	km/h	veh/hr	km/h	veh/hr	km/h	
KINGSB(2)		1	1120	353	50	7	50	5	50
		2	1121	353	50	7	50	5	50
		3	1122	353	50	7	50	5	50
		4	1123	353	50	7	50	5	50
		5	1124	353	50	7	50	5	50
		6	1125	353	50	7	50	5	50
		7	1126	353	50	7	50	5	50
		8	1127	353	50	7	50	5	50
		9	1128						
HIGHWAY 403 EB (1)		1	1129	4213	100	125	100	409	100
		2	1130	4213	100	125	100	409	100
		3	1131	4213	100	125	100	409	100
		4	1132	4213	100	125	100	409	100
		5	1133	4213	100	125	100	409	100
		6	1134	4213	100	125	100	409	100
		7	1135	4213	100	125	100	409	100
		8	1136	4213	100	125	100	409	100
		9	1137	4213	100	125	100	409	100
		10	1138	4213	100	125	100	409	100
		11	1139	4213	100	125	100	409	100
		12	1140	4213	100	125	100	409	100
		13	1141	4213	100	125	100	409	100
		14	1142	4213	100	125	100	409	100
		15	1143						
Highway 403 EB (0)		1	1144	4069	100	121	100	395	100
		2	1145	4069	100	121	100	395	100
		3	1146	4069	100	121	100	395	100
		4	1147	4069	100	121	100	395	100
		5	1148	4069	100	121	100	395	100
		6	1149	4069	100	121	100	395	100
		7	1150	4069	100	121	100	395	100
		8	1151	4069	100	121	100	395	100
		9	1152	4069	100	121	100	395	100
		10	1153						
NSR East EB (7)		13	1166	402	50	3	50	6	50
		12	1165	402	50	3	50	6	50
		11	1164	402	50	3	50	6	50
		10	1163	402	50	3	50	6	50
		9	1162	402	50	3	50	6	50
		8	1161	402	50	3	50	6	50
		7	1160	402	50	3	50	6	50
		6	1159	402	50	3	50	6	50
		5	1158	402	50	3	50	6	50
		4	1157	402	50	3	50	6	50
NSR East WB (7)		3	1156	402	50	3	50	6	50
		2	1155	402	50	3	50	6	50
		1	1154						
		1	1167	548	50	4	50	5	50

### Future with the Undertaking - Traffic Input (LAeq1h Volumes)

Roadway Name	Points Name	No.	Segment Autos		MTrucks		HTrucks		
			V	S	V	S	V	S	
			veh/hr	km/h	veh/hr	km/h	veh/hr	km/h	
		2	1168	548	50	4	50	5	50
		3	1169	548	50	4	50	5	50
		4	1170	548	50	4	50	5	50
		5	1171	548	50	4	50	5	50
		6	1172	548	50	4	50	5	50
		7	1173	548	50	4	50	5	50
		8	1174	548	50	4	50	5	50
		9	1175	548	50	4	50	5	50
		10	1176	548	50	4	50	5	50
		11	1177	548	50	4	50	5	50
		12	1178	548	50	4	50	5	50
		13	1179						
	Waterdown N/S - Highway 403 W (1)	1	1180	320	40	2	40	6	40
		2	1181	320	40	2	40	6	40
		3	1182	320	40	2	40	6	40
		4	1183	320	40	2	40	6	40
		5	1184	320	40	2	40	6	40
		6	1185	320	40	2	40	6	40
		7	1186	320	40	2	40	6	40
		8	1187	320	40	2	40	6	40
		9	1188	320	40	2	40	6	40
		10	1189	320	40	2	40	6	40
		11	1190	320	40	2	40	6	40
		12	1191	320	40	2	40	6	40
		13	1192	320	40	2	40	6	40
		14	1193	320	40	2	40	6	40
		15	1194						
	Waterdown N/S - Highway 403 W (2)	1	1195	320	40	2	40	6	40
		2	1196	320	40	2	40	6	40
		3	1197	320	40	2	40	6	40
		4	1198	320	40	2	40	6	40
		5	1199	320	40	2	40	6	40
		6	1200	320	40	2	40	6	40
		7	1201						
	Highway 403 WB (0)	10	1211	4082	100	215	100	289	100
		9	1210	4082	100	215	100	289	100
		8	1209	4082	100	215	100	289	100
		7	1208	4082	100	215	100	289	100
		6	1207	4082	100	215	100	289	100
		5	1206	4082	100	215	100	289	100
		4	1205	4082	100	215	100	289	100
		3	1204	4082	100	215	100	289	100
		2	1203	4082	100	215	100	289	100
		1	1202						
	Hwy 403 E - Waterdown Road N/S	1	1212	313	60	16	60	22	60
		2	1213	313	60	16	60	22	60
		3	1214	313	60	16	60	22	60
		4	1215	313	60	16	60	22	60



### Future with the Undertaking - Traffic Input (LAeq1h Volumes)

Roadway Name	Points Name	No.	Segment Autos		MTrucks		HTrucks		
			V	S	V	S	V	S	
			veh/hr	km/h	veh/hr	km/h	veh/hr	km/h	
		5	1216	313	60	16	60	22	60
		6	1217	313	60	16	60	22	60
		7	1218	313	60	16	60	22	60
		8	1219	313	60	16	60	22	60
		9	1220						
QEW Toronto Bound (0)		1	1221	4124	100	179	100	589	100
		2	1222	4124	100	179	100	589	100
		3	1223	4124	100	179	100	589	100
		4	1224	4124	100	179	100	589	100
		5	1225	4124	100	179	100	589	100
		6	1226	4124	100	179	100	589	100
		7	1227	4124	100	179	100	589	100
		8	1228						
QEW Niagara Bound (0)		8	1236	4289	100	168	100	435	100
		7	1235	4289	100	168	100	435	100
		6	1234	4289	100	168	100	435	100
		5	1233	4289	100	168	100	435	100
		4	1232	4289	100	168	100	435	100
		3	1231	4289	100	168	100	435	100
		2	1230	4289	100	168	100	435	100
		1	1229						
Eastport NB		1	1237	1177	50	30	50	31	50
		2	1238	1177	50	30	50	31	50
		3	1239	1177	50	30	50	31	50
		4	1240	1177	50	30	50	31	50
		5	1241	1177	50	30	50	31	50
		6	1242	1177	50	30	50	31	50
		7	1243	1177	50	30	50	31	50
		8	1244	1177	50	30	50	31	50
		9	1245						
Waterdown NB		1	1246	378	50	4	50	1	50
		2	1247	378	50	4	50	1	50
		3	1248	378	50	4	50	1	50
		4	1249	378	50	4	50	1	50
		5	1250	378	50	4	50	1	50
		6	224	378	50	4	50	1	50
		7	1251	378	50	4	50	1	50
		8	1252	378	50	4	50	1	50
		9	1253	378	50	4	50	1	50
		10	1254	378	50	4	50	1	50
		11	1255	378	50	4	50	1	50
		12	1256						
Waterdown SB		1	1257	377	50	4	50	1	50
		2	1258	377	50	4	50	1	50
		3	1259	377	50	4	50	1	50
		4	1260	377	50	4	50	1	50
		5	1261	377	50	4	50	1	50
		6	1262	377	50	4	50	1	50

### Future with the Undertaking - Traffic Input (LAeq1h Volumes)

Roadway Name	Points Name	No.	Segment Autos		MTrucks		HTrucks			
			V	S	V	S	V	S		
			veh/hr	km/h	veh/hr	km/h	veh/hr	km/h		
QEW E - Brant NS (1)		7	1263	377	50	4	50	1	50	
		8	223	377	50	4	50	1	50	
		9	1264	377	50	4	50	1	50	
		10	1265	377	50	4	50	1	50	
		11	1266	377	50	4	50	1	50	
		12	1267							
		1	5	424		50	9	50	3	50
		2	6	424		50	9	50	3	50
		3	7	424		50	9	50	3	50
		4	8	424		50	9	50	3	50
		5	9	424		50	9	50	3	50
		6	10	424		50	9	50	3	50
	7	11	424		50	9	50	3	50	
	8	12	424		50	9	50	3	50	
	9	13	424		50	9	50	3	50	
	10	14	424		50	9	50	3	50	
	11	15	424		50	9	50	3	50	
	12	16	424		50	9	50	3	50	
	13	17	424		50	9	50	3	50	
	14	18	424		50	9	50	3	50	
	15	19								
QEW E - Guelph NS	point21	21	301		50	12	50	31	50	
	point20	20	301		50	12	50	31	50	
	point19	19	301		50	12	50	31	50	
	point18	18	301		50	12	50	31	50	
	point17	17	301		50	12	50	31	50	
	point16	16	301		50	12	50	31	50	
	point15	15	301		50	12	50	31	50	
	point14	14	301		50	12	50	31	50	
	point13	13	301		50	12	50	31	50	
	point12	12	301		50	12	50	31	50	
	point11	11	301		50	12	50	31	50	
	point10	10	301		50	12	50	31	50	
	point9	9	301		50	12	50	31	50	
	point8	8	301		50	12	50	31	50	
	point7	7	301		50	12	50	31	50	
point6	6	301		50	12	50	31	50		
point5	5									
Guelph S - QEW W	point37	37	354		30	5	30	10	30	
	point36	36	354		30	5	30	10	30	
	point35	35	354		30	5	30	10	30	
	point34	34	354		30	5	30	10	30	
	point33	33	354		30	5	30	10	30	
	point32	32	354		30	5	30	10	30	
	point31	31	354		30	5	30	10	30	
	point30	30	354		30	5	30	10	30	
point29	29	354		30	5	30	10	30		
point28	28	354		30	5	30	10	30		

### Future with the Undertaking - Traffic Input (LAeq1h Volumes)

Roadway Name	Points Name	No.	Segment Autos		MTrucks		HTrucks		
			V	S	V	S	V	S	
			veh/hr	km/h	veh/hr	km/h	veh/hr	km/h	
	point27		27	354	30	5	30	10	30
	point26		26	354	30	5	30	10	30
	point25		25	354	30	5	30	10	30
	point24		24	354	30	5	30	10	30
	point23		23	354	30	5	30	10	30
	point22		22						
Guelph N - QEW W	point48		48	452	40	12	40	6	40
	point47		47	452	40	12	40	6	40
	point46		46	452	40	12	40	6	40
	point45		45	452	40	12	40	6	40
	point44		44	452	40	12	40	6	40
	point43		43	452	40	12	40	6	40
	point42		42	452	40	12	40	6	40
	point41		41	452	40	12	40	6	40
	point40		40	452	40	12	40	6	40
	point39		39	452	40	12	40	6	40
	point38		38						
Guelph N - QEW E	point66		66	121	20	3	20	2	20
	point65		65	121	20	3	20	2	20
	point64		64	121	20	3	20	2	20
	point63		63	121	20	3	20	2	20
	point62		62	121	20	3	20	2	20
	point61		61	121	20	3	20	2	20
	point60		60	121	20	3	20	2	20
	point59		59	121	20	3	20	2	20
	point58		58	121	20	3	20	2	20
	point57		57	121	20	3	20	2	20
	point56		56	121	20	3	20	2	20
	point55		55	121	20	3	20	2	20
	point54		54	121	20	3	20	2	20
	point53		53	121	20	3	20	2	20
	point52		52	121	20	3	20	2	20
	point51		51	121	20	3	20	2	20
	point50		50	121	20	3	20	2	20
	point49		49						
Guelph S - QEW E	point89		89	229	40	6	40	3	40
	point88		88	229	40	6	40	3	40
	point87		87	229	40	6	40	3	40
	point86		86	229	40	6	40	3	40
	point85		85	229	40	6	40	3	40
	point84		84	229	40	6	40	3	40
	point83		83	229	40	6	40	3	40
	point82		82	229	40	6	40	3	40
	point81		81	229	40	6	40	3	40
	point80		80	229	40	6	40	3	40
	point79		79	229	40	6	40	3	40
	point78		78	229	40	6	40	3	40
	point77		77	229	40	6	40	3	40

### Future with the Undertaking - Traffic Input (LAeq1h Volumes)

Roadway Name	Points Name	No.	Segment Autos		MTrucks		HTrucks		
			V	S	V	S	V	S	
			veh/hr	km/h	veh/hr	km/h	veh/hr	km/h	
	point76		76	229	40	6	40	3	40
	point75		75	229	40	6	40	3	40
	point74		74	229	40	6	40	3	40
	point73		73	229	40	6	40	3	40
	point72		72	229	40	6	40	3	40
	point71		71	229	40	6	40	3	40
	point70		70	229	40	6	40	3	40
	point69		69						
Fairview WB	point90		90	1286	50	25	50	15	50
	point91		91	1286	50	25	50	15	50
	point92		92	1286	50	25	50	15	50
	point93		93	1286	50	25	50	15	50
	point94		94	1286	50	25	50	15	50
	point95		95	1286	50	25	50	15	50
	point96		96	1286	50	25	50	15	50
	point97		97	1286	50	25	50	15	50
	point98		98	1286	50	25	50	15	50
	point99		99	1286	50	25	50	15	50
	point100		100	1286	50	25	50	15	50
	point101		101						
Fairview EB	point102		102	1294	50	21	50	10	50
	point103		103	1294	50	21	50	10	50
	point104		104	1294	50	21	50	10	50
	point105		105	1294	50	21	50	10	50
	point106		106	1294	50	21	50	10	50
	point107		107	1294	50	21	50	10	50
	point108		108	1294	50	21	50	10	50
	point109		109	1294	50	21	50	10	50
	point110		110	1294	50	21	50	10	50
	point111		111	1294	50	21	50	10	50
	point112		112	1294	50	21	50	10	50
	point113		113	1294	50	21	50	10	50
	point114		114	1294	50	21	50	10	50
	point115		115	1294	50	21	50	10	50
	point116		116						
North Shore WB	point180		180	937	60	18	60	11	60
	point179		179	937	60	18	60	11	60
	point178		178	937	60	18	60	11	60
	point177		177	937	60	18	60	11	60
	point176		176	937	60	18	60	11	60
	point175		175	937	60	18	60	11	60
	point174		174	937	60	18	60	11	60
	point173		173	937	60	18	60	11	60
	point172		172	937	60	18	60	11	60
	point171		171						
North Shore EB	point190		190	943	60	15	60	7	60
	point189		189	943	60	15	60	7	60
	point188		188	943	60	15	60	7	60

### Future with the Undertaking - Traffic Input (LAeq1h Volumes)

Roadway Name	Points Name	Points No.	Segment Autos		MTrucks		HTrucks		
			V	S	V	S	V	S	
			veh/hr	km/h	veh/hr	km/h	veh/hr	km/h	
	point187		187	943	60	15	60	7	60
	point186		186	943	60	15	60	7	60
	point185		185	943	60	15	60	7	60
	point184		184	943	60	15	60	7	60
	point183		183	943	60	15	60	7	60
	point182		182	943	60	15	60	7	60
	point181		181						
NSR East EB (2)-2		2	212	339	60	8	60	13	60
		1	213						
NSR East EB (2)-2-2		15	214	339	60	8	60	13	60
		14	951	339	60	8	60	13	60
		13	950	339	60	8	60	13	60
		12	949	339	60	8	60	13	60
		11	948	339	60	8	60	13	60
		10	947	339	60	8	60	13	60
		9	946	339	60	8	60	13	60
		8	945	339	60	8	60	13	60
		7	944	339	60	8	60	13	60
		6	943	339	60	8	60	13	60
		5	942	339	60	8	60	13	60
		4	941	339	60	8	60	13	60
		3	940	339	60	8	60	13	60
		2	939	339	60	8	60	13	60
		1	938						
NSR East WB (2)-2		1	220	544	60	11	60	18	60
		2	1011	544	60	11	60	18	60
		3	1012						
NSR East WB (2)-2		1	218	544	60	11	60	18	60
		2	219						
Plains W - Hwy 407 N		1	231	36	30	1	30	1	30
		2	232	36	30	1	30	1	30
		3	233	36	30	1	30	1	30
		4	234	36	30	1	30	1	30
		5	235	36	30	1	30	1	30
		6	236	36	30	1	30	1	30
		7	237	36	30	1	30	1	30
		8	238	36	30	1	30	1	30
		9	239	36	30	1	30	1	30
		10	240	36	30	1	30	1	30
		11	241	36	30	1	30	1	30
		12	242	36	30	1	30	1	30
		13	243	36	30	1	30	1	30
		14	244	36	30	1	30	1	30
		15	245	36	30	1	30	1	30
		16	246	36	30	1	30	1	30
		18	247	36	30	1	30	1	30
		19	248	36	30	1	30	1	30
		20	249	36	30	1	30	1	30

## Future with the Undertaking - Traffic Input (LAeq1h Volumes)

Roadway Name	Points Name	Points No.	Segment Autos		MTrucks		HTrucks		
			V	S	V	S	V	S	
			veh/hr	km/h	veh/hr	km/h	veh/hr	km/h	
		21	250	36	30	1	30	1	30
		22	251	36	30	1	30	1	30
		23	252	36	30	1	30	1	30
		24	253	36	30	1	30	1	30
		25	254	36	30	1	30	1	30
		26	255	36	30	1	30	1	30
		27	256	36	30	1	30	1	30
		28	257	36	30	1	30	1	30
		29	258	36	30	1	30	1	30
		30	259	36	30	1	30	1	30
		31	260	36	30	1	30	1	30
		32	261	36	30	1	30	1	30
		33	262	36	30	1	30	1	30
		34	263	36	30	1	30	1	30
		35	264	36	30	1	30	1	30
		36	265	36	30	1	30	1	30
		37	266	36	30	1	30	1	30
		38	267	36	30	1	30	1	30
		39	268						
		1	269	131	30	2	30	1	30
		2	270	131	30	2	30	1	30
		3	271	131	30	2	30	1	30
		4	272	131	30	2	30	1	30
		5	273	131	30	2	30	1	30
		6	274	131	30	2	30	1	30
		7	275						
		point238	238	5159	100	223	100	737	100
		point244	244	5159	100	223	100	737	100
		point239	239	5159	100	223	100	737	100
		point240	240	5159	100	223	100	737	100
		point241	241	5159	100	223	100	737	100
		point242	242	5159	100	223	100	737	100
		point243	243						
		1	245	104	100	2	100	1	100
		2	246	104	100	2	100	1	100
		3	247	104	100	2	100	1	100
		4	248	104	100	2	100	1	100
		5	249	104	100	2	100	1	100
		6	250	104	100	2	100	1	100
		7	251	104	100	2	100	1	100
		8	252	104	100	2	100	1	100
		9	253						
		1	245	465	30	7	30	3	30
		2	246	465	30	7	30	3	30
		3	247	465	30	7	30	3	30
		4	248	465	30	7	30	3	30
		5	249	465	30	7	30	3	30
		6	250	465	30	7	30	3	30

Fairview E-QEW S

Hwy 407 N - Fairview EW

QEW Toronto Bound (2)-2

Fairview E - Hwy 407 N

### Future with the Undertaking - Traffic Input (LAeq1h Volumes)

Roadway Name	Points Name	No.	Segment Autos		MTrucks		HTrucks		
			V	S	V	S	V	S	
			veh/hr	km/h	veh/hr	km/h	veh/hr	km/h	
		7	251	465	30	7	30	3	30
		8	252	465	30	7	30	3	30
		9	253	465	30	7	30	3	30
		10	254	465	30	7	30	3	30
		11	255	465	30	7	30	3	30
		12	256	465	30	7	30	3	30
		13	257	465	30	7	30	3	30
		14	258	465	30	7	30	3	30
		15	259	465	30	7	30	3	30
		16	260	465	30	7	30	3	30
		17	261	465	30	7	30	3	30
		18	262	465	30	7	30	3	30
		19	263	465	30	7	30	3	30
		20	264	465	30	7	30	3	30
		21	265	465	30	7	30	3	30
		22	266	465	30	7	30	3	30
		23	267	465	30	7	30	3	30
		24	268	465	30	7	30	3	30
	point245	245	465	465	30	7	30	3	30
		25	269						
	Fairview W-QEW S	1	270	210	30	3	30	2	30
		2	271	210	30	3	30	2	30
		3	272	210	30	3	30	2	30
		4	273	210	30	3	30	2	30
		5	274	210	30	3	30	2	30
		6	275	210	30	3	30	2	30
		7	276	210	30	3	30	2	30
		8	277	210	30	3	30	2	30
		9	278	210	30	3	30	2	30
		10	279	210	30	3	30	2	30
		11	280	210	30	3	30	2	30
		12	281	210	30	3	30	2	30
		13	282	210	30	3	30	2	30
		14	283	210	30	3	30	2	30

## Receptor Input

Receiver Name	No.	#DUs	Coordinates (ground)			Height above Ground m
			X m	Y m	Z m	
R1	1	1	279,891.00	4,797,026.00	76.6	1.2
R2	2	1	279,919.00	4,797,086.00	78.4	1.2
R3	3	1	279,852.00	4,797,145.00	78.6	1.2
R4	4	1	279,757.00	4,797,172.00	80.3	1.2
R5	5	1	279,679.00	4,797,243.00	81.5	1.2
R5A	6	1	279,625.00	4,797,260.00	81.5	1.2
R6	7	1	279,575.00	4,797,328.00	85.2	1.2
R7	8	1	279,558.00	4,797,375.00	83.6	1.2
R8	9	1	279,525.00	4,797,421.00	84.1	1.2
R9	10	1	279,466.00	4,797,458.00	85.2	1.2
R10	11	1	279,439.00	4,797,516.00	85.4	1.2
R11	12	1	279,387.00	4,797,494.00	86.3	1.2
R11-OLA	13	1	279,387.00	4,797,478.50	86.3	1.2
R12	14	1	279,234.00	4,797,449.00	86	1.2
R13	15	1	279,184.00	4,797,492.00	85	1.2
R14	16	1	279,130.00	4,797,550.00	87	1.2
R15	17	1	279,098.00	4,797,735.00	85.5	1.2
R16	18	1	279,088.00	4,797,845.00	86.7	1.2
R17	19	1	279,054.00	4,797,875.00	87.8	1.2
R18	20	1	279,024.00	4,797,902.00	88.3	1.2
R19	21	1	278,979.00	4,797,942.00	89.5	1.2
R20	22	1	278,970.00	4,797,961.00	89.5	1.2
R21	23	1	278,913.00	4,798,006.00	90.2	1.2
R22	24	1	278,860.00	4,798,059.00	90.7	1.2
R23	25	1	278,830.00	4,798,102.00	91.2	1.2
R24	26	1	278,782.00	4,798,128.00	91.9	1.2
R25	27	1	278,746.00	4,798,161.00	92.3	1.2
R26	28	1	278,695.00	4,798,195.00	92.8	1.2
R27	29	1	278,653.00	4,798,236.00	93.3	1.2
R28	30	1	278,625.00	4,798,240.00	93.4	1.2
R29	31	1	278,527.00	4,798,306.00	94.3	1.2
R30	32	1	278,515.00	4,798,346.00	94.8	1.2
R31	33	1	278,468.00	4,798,381.00	95.8	1.2
R32	34	1	278,446.00	4,798,406.00	95.9	1.2
R33	35	1	278,403.00	4,798,429.00	96.2	1.2
R34	36	1	278,342.00	4,798,450.00	96.3	1.2
R35	37	1	278,273.00	4,798,475.00	96.9	1.2
R36	38	1	278,215.00	4,798,427.00	97	1.2
R37	39	1	280,109.00	4,797,427.00	79.7	1.2



## Receptor Input

Receiver Name	No.	#DUs	Coordinates (ground)			Height above Ground m	
			X m	Y m	Z m		
R38		40	1	279,954.00	4,797,451.00	81.1	1.2
R38-OLA		41	1	279,997.00	4,797,476.50	81.1	1.2
R39		42	1	279,863.00	4,797,469.00	84.4	1.2
R40		43	1	279,798.00	4,797,480.00	84.3	1.2
R41		44	1	279,726.00	4,797,527.00	84.5	1.2
R42		45	1	279,680.00	4,797,567.00	85.1	1.2
R43		46	1	279,650.00	4,797,592.00	85.3	1.2
R44		47	1	279,635.00	4,797,616.00	86.3	1.2
R45		48	1	279,600.00	4,797,642.00	86.6	1.2
R46		49	1	279,564.00	4,797,669.00	86.6	1.2
R47		50	1	279,501.00	4,797,718.00	87.5	1.2
R48		51	1	279,431.00	4,797,774.00	86.8	1.2
R49		52	1	279,389.00	4,797,828.00	87.1	1.2
R50		53	1	279,357.00	4,797,864.00	88.3	1.2
R51		54	1	279,326.00	4,797,888.00	88.5	1.2
R52		55	1	279,291.00	4,797,915.00	88.6	1.2
R53		56	1	279,285.00	4,797,936.00	89	1.2
R54		57	1	279,501.00	4,798,218.00	90.2	1.2
R55		58	1	279,445.00	4,798,240.00	90.2	1.2
R56		59	1	279,381.00	4,798,277.00	91.2	1.2
R57		60	1	279,281.00	4,798,321.00	91.2	1.2
R58		61	1	279,174.00	4,798,377.00	91.2	1.2
R59		62	1	279,094.00	4,798,404.00	91.6	1.2
R60		63	1	279,014.00	4,798,473.00	93.6	1.2
R61		64	1	278,974.00	4,798,551.00	92.6	1.2
R62		65	1	278,952.00	4,798,633.00	93.6	1.2
R63		66	1	278,932.00	4,798,683.00	93.6	1.2
R64		67	1	278,903.00	4,798,746.00	93.6	1.2
R65		68	1	278,889.00	4,798,775.00	94.2	1.2
R66		69	1	278,866.00	4,798,835.00	94.2	1.2
R67		70	1	277,983.00	4,798,356.00	97	1.2
R68		71	1	277,961.00	4,798,398.00	97	1.2
R69		72	1	277,923.00	4,798,427.00	98	1.2
R70		73	1	277,893.00	4,798,464.00	98	1.2
R71		74	1	277,836.00	4,798,464.00	99	1.2
R72		75	1	278,623.00	4,799,318.00	100.5	1.2
R73		76	1	278,554.00	4,799,296.00	100.5	1.2
R74		77	1	278,466.00	4,799,270.00	100.5	1.2
R75		78	1	278,444.00	4,799,304.00	99.5	1.2

## Receptor Input

Receiver Name	No.	#DUs	Coordinates (ground)			Height above Ground
			X	Y	Z	
			m	m	m	m
R76		79	1 278,405.00	4,799,328.00	100.5	1.2
R77		80	1 278,388.00	4,799,361.00	100.5	1.2
R78		81	1 278,319.00	4,799,420.00	100.5	1.2
R79		82	1 278,275.00	4,799,480.00	100.5	1.2
R80		83	1 278,322.00	4,799,526.00	101.5	1.2
R81		84	1 278,369.00	4,799,565.00	101.5	1.2
R82		85	1 278,405.00	4,799,612.00	101.5	1.2
R83		86	1 278,450.00	4,799,661.00	101.1	1.2
R84		87	1 278,494.00	4,799,708.00	101.1	1.2
R85		88	1 278,536.00	4,799,754.00	101.1	1.2
R86		88	1 278,584.00	4,799,802.00	101.1	1.2
R87		89	1 278,629.00	4,799,848.00	101.1	1.2
R88		90	1 278,676.00	4,799,895.00	101.5	1.2
R89		91	1 278,719.00	4,799,939.00	101.7	1.2
R90		92	1 278,767.00	4,799,983.00	101.9	1.2
R91		93	1 278,796.00	4,800,012.00	101.6	1.2
R92		94	1 278,882.00	4,800,102.00	102.2	1.2
R93		95	1 278,915.00	4,800,114.00	101.9	1.2
R94		96	1 278,955.00	4,800,155.00	101.9	1.2
R95		97	1 278,988.00	4,800,191.00	101.9	1.2
R96		98	1 279,011.00	4,800,237.00	102.3	1.2
R97		99	1 279,030.00	4,800,280.00	102.8	1.2
R98		100	1 279,052.00	4,800,336.00	103.4	1.2
R99		101	1 279,573.00	4,800,414.00	100.9	1.2
R100		102	1 279,572.00	4,800,433.00	101.9	1.2
R101		103	1 279,591.00	4,800,457.00	101.9	1.2
R102		104	1 279,551.00	4,800,558.00	102.9	1.2
R103		105	1 279,595.00	4,800,612.00	102.9	1.2
R104		106	1 279,661.00	4,800,695.00	102.9	1.2
R105		107	1 279,771.00	4,800,831.00	104.1	1.2
R105-OLA		108	1 279,784.90	4,800,817.50	104.1	1.2
R106		109	1 279,844.00	4,800,922.00	103.9	1.2
R106-OLA		110	1 279,853.00	4,800,914.00	103.9	1.2
R107		111	1 279,906.00	4,800,993.00	104.2	1.2
R107-OLA		114	1 279,918.00	4,800,980.00	104.2	4.2
R108		115	1 279,928.00	4,801,023.00	104.3	1.2
R108-OLA		116	1 279,937.00	4,801,024.00	104.3	1.2
R108A		117	1 279,950.00	4,801,026.00	104.3	1.2
R109		118	1 280,080.00	4,800,964.00	103.3	1.2

## Receptor Input

Receiver Name	No.	#DUs	Coordinates (ground)			Height above Ground m
			X m	Y m	Z m	
R110	119	1	280,122.00	4,801,008.00	103.4	1.2
R111	120	1	280,162.00	4,801,048.00	103.5	1.2
R112	121	1	280,198.00	4,801,096.00	103.5	1.2
R113	123	1	279,682.00	4,801,521.00	112.2	1.2
R114	124	1	279,616.00	4,801,456.00	112.2	1.2
R115	125	1	279,581.00	4,801,323.00	110.2	1.2
R116	126	1	279,479.00	4,801,194.00	107.4	1.2
R117	127	1	279,437.00	4,801,126.00	106.4	1.2
R118	128	1	279,373.00	4,801,060.00	106.4	1.2
R119	129	1	278,972.00	4,800,912.00	112	1.2
R120	130	1	278,940.00	4,800,881.00	110	1.2
R121	131	1	278,901.00	4,800,855.00	113	1.2
R122	132	1	278,867.00	4,800,820.00	113	1.2
R123	133	1	278,834.00	4,800,787.00	113	1.2
R124	134	1	278,802.00	4,800,759.00	113	1.2
R125	135	1	278,767.00	4,800,728.00	114	1.2
R126	136	1	278,698.00	4,800,698.00	115	1.2
R127	137	1	278,643.00	4,800,723.00	115	1.2
R128	138	1	278,575.00	4,800,667.00	115	1.2
R129	139	1	278,551.00	4,800,659.00	115	1.2
R130	140	1	278,528.00	4,800,662.00	115	1.2
R131	141	1	278,500.00	4,800,692.00	116	1.2
R132	142	1	278,398.00	4,800,580.00	117	1.2
R133	143	1	278,414.00	4,800,749.00	118	1.2
R134	144	1	278,349.00	4,800,770.00	121	1.2
R135	145	1	278,312.00	4,800,797.00	119	1.2
R136	146	1	278,286.00	4,800,850.00	121	1.2
R137	147	1	277,871.00	4,800,589.00	130.8	1.2
R138	148	1	277,864.00	4,800,546.00	130.9	1.2
R139	149	1	277,873.00	4,800,496.00	130.3	1.2
R140	150	1	277,879.00	4,800,428.00	129.4	1.2
R141	151	1	277,700.00	4,800,401.00	134.4	1.2
R142	152	1	277,663.00	4,800,361.00	134.4	1.2
R143	153	1	277,585.00	4,800,279.00	133	1.2
R144	154	1	277,529.00	4,800,235.00	137	1.2
R145	155	1	277,482.00	4,800,158.00	137	1.2
R146	156	1	277,510.00	4,800,054.00	131	1.2
R147	157	1	277,517.00	4,799,989.00	131	1.2
R148	158	1	277,455.00	4,799,928.00	132	1.2

## Receptor Input

Receiver Name	No.	#DUs	Coordinates (ground)			Height above Ground m
			X m	Y m	Z m	
R149	159	1	277,394.00	4,799,757.00	126	1.2
R150	160	1	277,396.00	4,799,660.00	125	1.2
R151	161	1	277,353.00	4,799,615.00	125	1.2
R152	162	1	277,314.00	4,799,592.00	124	1.2
R153	162	1	277,289.00	4,799,534.00	125	1.2
R154	163	1	277,262.00	4,799,507.00	126	1.2
R155	164	1	277,233.00	4,799,478.00	126	1.2
R156	165	1	276,952.00	4,797,792.00	101.8	1.2
R157	166	1	276,905.00	4,797,756.00	102.8	1.2
R158	167	1	276,862.00	4,797,722.00	102.8	1.2
R159	168	1	276,807.00	4,797,685.00	103.8	1.2
R160	169	1	276,754.00	4,797,653.00	104.8	1.2
R161	170	1	276,708.00	4,797,613.00	103.8	1.2
R162	171	1	276,663.00	4,797,576.00	104.8	1.2
R163	172	1	276,561.00	4,797,364.00	104	1.2
R164	173	1	276,495.00	4,797,307.00	104	1.2
R165	174	1	276,467.00	4,797,256.00	105	1.2
R166	175	1	276,420.00	4,797,211.00	105	1.2
R167	176	1	276,396.00	4,797,156.00	105	1.2
R168	177	1	276,369.00	4,797,110.00	104	1.2
R169	178	1	276,342.00	4,797,061.00	104	1.2
R170	179	1	276,301.00	4,797,014.00	105	1.2
R171	180	1	276,279.00	4,796,985.00	105	1.2
R172	181	1	276,258.00	4,796,935.00	106	1.2
R173	182	1	276,217.00	4,796,829.00	104	1.2
R174	183	1	276,136.00	4,796,803.00	105	1.2
R175	184	1	276,031.00	4,796,585.00	108	1.2
R176	185	1	275,387.00	4,797,136.00	122	1.2
R177	186	1	275,450.00	4,797,083.00	119.1	1.2
R178	187	1	275,503.00	4,797,033.00	117	1.2
R179	188	1	275,471.00	4,796,962.00	116	1.2
R179-OLA	189	1	275,458.00	4,796,973.00	116	1.2
R180	190	1	275,208.00	4,796,686.00	118.2	1.2
R181	191	1	275,078.00	4,796,501.00	120.7	1.2
R182	192	1	274,933.00	4,796,440.00	96.1	1.2
R182A	194	1	274,889.00	4,796,439.00	97	1.2
R182B	195	1	274,863.00	4,796,444.00	97.6	1.2
R183	202	1	274,924.00	4,796,384.00	96.9	1.2
R183A	204	1	274,846.00	4,796,412.00	96.8	1.2

## Receptor Input

Receiver Name	No.	#DUs	Coordinates (ground)			Height above Ground
			X	Y	Z	
			m	m	m	m
R183B	205	1	274,807.00	4,796,424.00	97.4	1.2
R183C	206	1	274,743.70	4,796,515.50	102	1.2
R183D	207	1	274,721.70	4,796,460.50	100.1	1.2
R183E	208	1	274,618.90	4,796,511.50	100.1	1.2
R184	209	1	274,881.00	4,796,344.00	117.4	1.2
R185	211	1	274,747.00	4,796,287.00	124.7	1.2
R186	217	1	274,681.00	4,796,226.00	124.4	1.2
R187	220	1	274,588.00	4,796,199.00	124.4	1.2
R188	221	1	275,026.00	4,796,103.00	103.9	1.2
R188-OLA	222	1	275,037.00	4,796,089.00	103.9	1.2
R189	224	1	274,997.00	4,796,070.00	103.4	1.2
R189-OLA	226	1	275,009.00	4,796,053.00	103.4	1.2
R189A	228	1	274,806.80	4,795,939.50	103.4	1.2
R189A-OLA	231	1	274,815.70	4,795,928.00	103.4	1.2
R190	234	1	277,222.00	4,798,029.00	104.8	1.2
R191	235	1	277,310.00	4,798,105.00	104.8	1.2
R192	237	1	277,469.00	4,798,243.00	103.8	1.2
R193	242	1	277,621.00	4,798,272.00	102	1.2
R194	244	1	277,744.00	4,798,364.00	102	1.2

## Existing Noise Barrier and Building Structure Input

Barrier Name	Type	Height		Points Name	No.	Coordinates (bottom)			Height at Point	
		Min	Max			X	Y	Z		
		m	m			m	m	m	m	
Existing Barrier #1 (1)	W	0	30.18		1	142	279,678.00	4,797,292.00	80.5	2.8
					2	143	279,676.00	4,797,305.00	80.7	3
					3	144	279,674.00	4,797,322.00	80.9	3
					4	145	279,672.00	4,797,334.00	81.2	2.9
					5	146	279,669.00	4,797,347.00	81.4	2.9
					6	147	279,666.00	4,797,358.00	81.6	2.9
					7	148	279,664.00	4,797,365.00	81.7	2.9
					8	149	279,660.00	4,797,376.00	81.9	3
					9	150	279,657.00	4,797,383.00	82.1	2.9
					10	151	279,652.00	4,797,392.00	82.1	2.9
Existing Barrier #1 (2)	W	0	30.18		2	152	279,652.00	4,797,392.00	82.3	3
					3	153	279,644.00	4,797,402.00	82.4	3
					4	154	279,636.00	4,797,414.00	82.5	3
					5	155	279,629.00	4,797,423.00	82.6	2.9
					6	156	279,623.00	4,797,430.00	82.8	2.8
					7	157	279,613.00	4,797,441.00	82.8	3.1
					8	158	279,605.00	4,797,451.00	83	3
					9	159	279,598.00	4,797,459.00	83	3.1
					10	160	279,593.00	4,797,463.00	82.9	3.2
					1	161	279,593.00	4,797,463.00	82.9	3.2
Existing Barrier #1 (3)	W	0	30.18		2	162	279,585.00	4,797,469.00	82.3	3.8
					3	163	279,582.00	4,797,474.00	83	3.4
					4	164	279,568.00	4,797,491.00	83.4	2.9
					5	165	279,558.00	4,797,501.00	83.4	3
					6	166	279,534.00	4,797,523.00	83.4	3.1
					7	167	279,521.00	4,797,535.00	83.4	3.1
					8	168	279,506.00	4,797,548.00	83.6	3
					9	169	279,494.00	4,797,560.00	83.6	3.3
					10	170	279,477.00	4,797,575.00	83.4	3.56
					1	171	279,477.00	4,797,575.00	83.4	3.56
Existing Barrier #1 (4)	W	0	30.18		2	172	279,466.00	4,797,585.00	83.2	3.9
					3	173	279,457.00	4,797,594.00	82.8	4.4
					4	174	279,445.00	4,797,605.00	83.4	4
					5	175	279,431.00	4,797,618.00	84.3	3
					6	176	279,421.00	4,797,627.00	84.4	3.4
					7	177	279,397.00	4,797,648.00	84.74	3.06
					8	178	279,375.00	4,797,668.00	85.2	3
					9	179	279,361.00	4,797,681.00	85.4	3
					10	180	279,330.00	4,797,710.00	85.8	3.1
					1	181	279,330.00	4,797,710.00	85.8	3.1
Existing Barrier #1 (5)	W	0	30.18		2	182	279,308.00	4,797,731.00	86.2	2.9
					3	183	279,292.00	4,797,744.00	86.4	3
					4	184	279,262.00	4,797,774.00	86.8	3
					5	185	279,250.00	4,797,784.00	86.9	3
					6	186	279,239.00	4,797,795.00	87	3
					7	187	279,225.00	4,797,807.00	87.2	3
					8	188	279,211.00	4,797,820.00	87.4	2.9
					9	189	279,198.00	4,797,832.00	87.6	2.9
					10	190	279,186.00	4,797,842.00	87.6	3
					1	191	279,186.00	4,797,842.00	87.6	3
Existing Barrier #1 (6)	W	0	30.18		2	192	279,173.00	4,797,854.00	87.9	3
					3	193	279,161.00	4,797,864.00	88	2.9
					4	194	279,129.00	4,797,890.00	88.4	3
					5	195	279,110.00	4,797,904.00	88.7	2.9

## Existing Noise Barrier and Building Structure Input

Barrier Name	Type	Height		Points Name	No.	Coordinates (bottom)			Height at Point
		Min	Max			X	Y	Z	
Existing Barrier #1 (7)	W	0	30.18	6	196	279,097.00	4,797,913.00	88.8	2.9
				7	197	279,083.00	4,797,922.00	89.2	2.5
				8	198	279,065.00	4,797,935.00	89.2	2.5
				9	199	279,039.00	4,797,954.00	90.6	2.1
				10	200	279,026.00	4,797,963.00	91.9	2.5
				1	201	279,026.00	4,797,963.00	91.9	2.5
				2	202	279,006.00	4,797,977.00	92.9	3
				3	203	278,991.00	4,797,987.00	93.1	3.1
				4	204	278,970.00	4,798,006.00	93.6	3.2
				5	205	278,958.00	4,798,017.00	93.6	3.3
Existing Barrier #1 (8)	W	0	30.18	6	206	278,947.00	4,798,025.00	93.6	3.5
				7	207	278,931.00	4,798,039.00	94.2	3.2
				8	208	278,914.00	4,798,054.00	94.2	3.3
				9	209	278,896.00	4,798,069.00	94.3	3.5
				10	210	278,886.00	4,798,077.00	94.5	3.3
				1	211	278,886.00	4,798,077.00	94.5	3.3
				2	212	278,860.00	4,798,100.00	95.2	3.1
				3	213	278,842.00	4,798,115.00	95.2	3.2
				4	214	278,826.00	4,798,128.00	95.2	3.4
				5	215	278,809.00	4,798,143.00	95.6	3.2
Existing Barrier #1 (9)	W	0	30.18	6	216	278,798.00	4,798,152.00	95.5	3.3
				7	217	278,779.00	4,798,169.00	95.8	3.2
				8	218	278,765.00	4,798,181.00	95.8	3.3
				9	219	278,744.00	4,798,199.00	96.2	3.5
				10	220	278,716.00	4,798,223.00	96.6	3.4
				1	221	278,716.00	4,798,223.00	96.6	3.4
				2	222	278,697.00	4,798,240.00	96.8	3.4
				3	223	278,678.00	4,798,256.00	97.2	3.3
				4	224	278,662.00	4,798,271.00	97.4	3.2
				5	225	278,644.00	4,798,287.00	97.6	3.3
Existing Barrier #1 (10)	W	0	30.18	6	226	278,628.00	4,798,302.00	98	3.3
				7	227	278,613.00	4,798,315.00	98.2	3.1
				8	228	278,603.00	4,798,324.00	98.2	3.1
				9	229	278,593.00	4,798,332.00	98.4	3.1
				10	230	278,568.00	4,798,353.00	98.6	3.2
				1	231	278,568.00	4,798,353.00	98.6	3.2
				2	232	278,551.00	4,798,367.00	98.8	3.3
				3	233	278,515.00	4,798,397.00	98.7	4
				4	234	278,500.00	4,798,409.00	100	3.1
				5	235	278,477.00	4,798,428.00	100.2	3.3
Existing Noise Barrier #2	W	0	30.48	6	236	278,434.00	4,798,462.00	101.4	2.7
				7	237	278,414.00	4,798,478.00	101.6	2.9
				8	238	278,398.00	4,798,490.00	101.2	3.4
				9	239	278,360.00	4,798,520.00	101.6	3.4
				10	240	278,342.00	4,798,535.00	101.4	2.5
				point660	660	279,946.00	4,797,512.00	82.4	2.4
				point661	661	279,911.00	4,797,474.00	85.8	3.5
				point662	662	279,890.00	4,797,451.00	86.5	3.1
				point663	663	279,865.00	4,797,459.00	86.5	3
				point664	664	279,846.00	4,797,466.00	86.5	3
point665	665	279,787.00	4,797,457.00	86.6	2.9				
point666	666	279,773.00	4,797,455.00	86.7	2.8				
point667	667	279,767.00	4,797,461.00	86.8	2.7				
point668	668	279,725.00	4,797,494.00	87.1	2.4				

## Existing Noise Barrier and Building Structure Input

Barrier Name	Type	Height		Points Name	No.	Coordinates (bottom)			Height at Point
		Min	Max			X	Y	Z	
Existing Barrier #3	W	m	m	point669	669	279,704.00	4,797,511.00	87.1	2.4
				point670	670	279,653.00	4,797,554.00	87	2.5
				point671	671	279,632.00	4,797,571.00	87.1	2.4
				point672	672	279,629.00	4,797,597.00	87.1	2.4
				point673	673	279,623.00	4,797,601.00	88.4	1.7
				point674	674	279,563.00	4,797,651.00	89.2	1.5
				point675	675	279,533.00	4,797,677.00	89.7	1.4
				point676	676	279,473.00	4,797,730.00	89.8	1.5
				point677	677	279,450.00	4,797,749.00	89.2	2
				point678	678	279,442.00	4,797,757.00	87	4.2
				point679	679	279,399.00	4,797,799.00	86.8	3.5
				point680	680	279,409.00	4,797,803.00	86.7	4.4
				point681	681	279,379.00	4,797,827.00	87	4.4
				point682	682	279,352.00	4,797,850.00	87.6	4
				point683	683	279,307.00	4,797,886.00	88.4	3.6
				point684	684	279,280.00	4,797,908.00	89.4	3
point685	685	279,249.00	4,797,934.00	88.3	4.5				
point686	686	279,303.00	4,797,993.00	88.5	4.4				
Existing Barrier #4 (1)	W	m	m	1	270	278,164.00	4,798,384.00	96.2	1.8
				2	271	278,176.00	4,798,402.00	96.5	1.9
				3	272	278,188.00	4,798,422.00	96.5	1.8
				4	273	278,208.00	4,798,453.00	96.9	2
				5	274	278,217.00	4,798,468.00	96.9	1.9
				6	275	278,223.00	4,798,473.00	96.9	2
				7	276	278,229.00	4,798,476.00	97.1	2
				8	277	278,239.00	4,798,482.00	97.1	2
				9	278	278,256.00	4,798,488.00	97.1	2
				1	279	277,883.00	4,801,004.00	132	4.1
				2	280	277,885.00	4,800,938.00	133.1	3
				3	281	277,887.00	4,800,866.00	133	3.2
				4	282	277,888.00	4,800,806.00	132.7	2.4
				5	283	277,889.00	4,800,761.00	132.4	1.2
				6	284	277,891.00	4,800,693.00	130.8	2.8
				7	285	277,892.00	4,800,654.00	129.5	2.5
8	286	277,894.00	4,800,600.00	129.3	3.2				
9	287	277,894.00	4,800,571.00	129.5	2.9				
10	288	277,895.00	4,800,546.00	129.5	2.9				
Existing Barrier #4 (2)	W	m	m	1	289	277,895.00	4,800,546.00	129.5	2.9
				2	290	277,896.00	4,800,516.00	129.4	3
				3	291	277,896.00	4,800,498.00	129.4	3.1
				4	292	277,897.00	4,800,486.00	129.2	3.2
				5	293	277,897.00	4,800,470.00	128.7	3.3
				6	294	277,898.00	4,800,453.00	128.2	3.4
				7	295	277,898.00	4,800,437.00	128	2.7
				8	296	277,899.00	4,800,419.00	127.6	2.7
				9	297	277,899.00	4,800,404.00	127.2	2.3
				10	298	277,900.00	4,800,378.00	126.4	1.7
				1	299	280,031.00	4,796,968.00	76.6	3
				2	300	280,018.00	4,796,998.00	76.2	3
				3	301	280,006.00	4,797,026.00	76.2	3
				4	302	280,011.00	4,797,040.00	77.1	3
				5	303	280,001.00	4,797,059.00	77.2	3
				6	304	279,988.00	4,797,081.00	77.5	3
7	305	279,975.00	4,797,102.00	78.2	3				
Existing Barrier #5 (1)	W	m	m	0	30	18			



## Existing Noise Barrier and Building Structure Input

Barrier Name	Type	Height		Points Name	No.	Coordinates (bottom)			Height at Point	
		Min	Max			X	Y	Z		
		m	m			m	m	m	m	
Existing Barrier #5 (2)	W	0	30.18		8	306	279,960.00	4,797,122.00	78.6	3
					9	307	279,945.00	4,797,142.00	79.2	3
					10	308	279,929.00	4,797,161.00	79.8	3
					1	309	279,929.00	4,797,161.00	79.8	3
					2	310	279,914.00	4,797,181.00	80.6	3
					3	311	279,900.00	4,797,194.00	80.9	3
					4	312	279,894.00	4,797,203.00	81.4	3
					5	313	279,881.00	4,797,218.00	81.9	3
					6	314	279,863.00	4,797,236.00	82.8	3
					7	315	279,846.00	4,797,256.00	83.7	3
Existing Barrier #5 (3)	W	0	30.18		1	316	279,846.00	4,797,256.00	83.7	3
					2	317	279,828.00	4,797,271.00	84	3
Existing Barrier #5 (4)	W	0	30.18		3	318	279,810.00	4,797,286.00	84.1	3
					1	319	279,810.00	4,797,286.00	84.1	3
					2	320	279,796.00	4,797,293.00	84.1	3
Existing Barrier #6	W	0	30.18		3	321	279,779.00	4,797,306.00	84.2	3
					1	322	277,984.00	4,801,200.00	132.7	1.7
					2	323	277,980.00	4,801,182.00	130.9	3.3
					3	324	277,985.00	4,800,965.00	126.8	3.2
					1	325	279,862.00	4,797,032.00	76.6	6
House 1	W	0	30.18		2	326	279,885.00	4,797,028.00	76.6	6
					3	327	279,888.00	4,797,022.00	76.6	3
House 2	W	0	30.18		1	328	279,905.00	4,797,091.00	78.4	6
					2	329	279,913.00	4,797,083.00	78.4	6
					3	330	279,917.00	4,797,084.00	78.4	3
House 3	W	0	30.18		4	331	279,911.00	4,797,078.00	78.4	3
					1	332	279,834.00	4,797,125.00	78.6	6
					2	333	279,849.00	4,797,143.00	78.6	6
					point525	525	279,845.00	4,797,146.00	78.6	3
House 11	W	0	30.18		3	334	279,830.00	4,797,129.00	78.6	3
					1	335	279,384.00	4,797,489.00	86.3	3
					2	336	279,392.00	4,797,493.00	86.3	3
House 15	W	0	30.18		3	337	279,402.00	4,797,476.00	86.3	3
					point655	655	279,392.60	4,797,471.00	86.3	3
					4	338	279,384.00	4,797,489.00	86.3	3
					1	339	279,085.00	4,797,730.00	85.5	6
House 22	W	0	30.18		2	340	279,095.00	4,797,734.00	85.5	6
					3	341	279,093.00	4,797,738.00	85.5	3
House 23	W	0	30.18		1	342	278,854.80	4,798,060.00	90.7	3
					2	343	278,861.00	4,798,054.00	90.7	3
					3	344	278,848.00	4,798,039.00	90.7	3
House 37	W	0	30.18		1	345	278,814.00	4,798,094.00	91.2	3
					2	346	278,823.00	4,798,104.00	91.2	3
					3	347	278,835.00	4,798,093.00	91.2	3
					1	348	280,167.00	4,797,435.00	79.7	12
					2	349	280,134.00	4,797,398.00	79.7	12
House 38 (1)	W	0	30.18		3	350	280,121.00	4,797,409.00	79.7	12
					4	351	280,127.00	4,797,415.00	79.7	12
					5	352	280,108.00	4,797,432.00	79.7	12
					1	353	279,953.00	4,797,456.00	81.1	12
					2	354	279,959.00	4,797,450.00	81.1	12
					3	355	280,013.00	4,797,510.00	81.1	12
					4	356	280,007.00	4,797,516.00	81.1	12
					5	357	279,953.00	4,797,456.00	81.1	12

### Existing Noise Barrier and Building Structure Input

Barrier Name	Type	Height		Points Name	No.	Coordinates (bottom)			Height at Point		
		Min	Max			X	Y	Z			
		m	m			m	m	m	m		
House 38 (2)	W	0	30.18		1	358	279,985.00	4,797,454.00	81.1	12	
					2	359	279,991.00	4,797,448.00	81.1	12	
					3	360	280,032.00	4,797,493.00	81.1	12	
					4	361	280,025.00	4,797,499.00	81.1	12	
					5	362	279,985.00	4,797,454.00	81.1	12	
House 39	W	0	30.18		1	363	279,858.00	4,797,478.00	84.4	4.5	
					2	364	279,871.00	4,797,466.00	84.4	4.5	
House 40	W	0	30.18		1	365	279,882.00	4,797,478.00	84.4	4.5	
					2	366	279,800.00	4,797,483.00	84.3	3	
					3	367	279,796.00	4,797,496.00	84.3	3	
					4	368	279,803.00	4,797,499.00	84.3	3	
					5	369	279,797.00	4,797,517.00	84.3	3	
House 41	W	0	30.18		1	370	279,777.00	4,797,495.00	84.3	3	
					2	371	279,766.00	4,797,504.00	84.3	3	
					3	372	279,733.00	4,797,540.00	84.5	3	
					4	373	279,726.00	4,797,531.00	84.5	3	
					5	374	279,739.00	4,797,520.00	84.5	3	
					6	375	279,674.00	4,797,576.00	85.1	3	
House 42	W	0	30.18		1	376	279,688.00	4,797,564.00	85.1	3	
					2	377	279,694.00	4,797,570.00	85.1	3	
					3	378	279,651.00	4,797,606.00	85.3	3	
House 43	W	0	30.18		1	379	279,646.00	4,797,600.00	85.3	3	
					2	380	279,659.00	4,797,588.00	85.3	3	
					3	381	279,848.00	4,800,911.00	103.9	3	
					4	382	279,842.00	4,800,915.00	103.9	3	
House 106	W	0	30.18		1	383	279,849.00	4,800,923.00	103.9	3	
					2	384	279,854.00	4,800,919.00	103.9	3	
					3	385	279,848.00	4,800,911.00	103.9	3	
					4	386	279,903.00	4,800,969.00	104.2	9	
					5	387	279,894.00	4,800,977.00	104.2	9	
House 107	W	0	30.18		1	388	279,918.00	4,801,001.00	104.2	9	
					2	526	279,927.00	4,800,993.00	104.2	9	
					3	389	279,903.00	4,800,969.00	104.2	9	
					4	390	279,925.00	4,801,016.00	104.3	9	
House 108	W	0	30.18		1	391	279,934.00	4,801,025.00	104.3	9	
					2	392	279,955.00	4,801,003.00	104.3	9	
					3	392	279,955.00	4,801,003.00	104.3	9	
House 108a (2)	W	0	30.18		1	405	280,002.00	4,801,016.00	104.3	6	
					2	406	279,960.00	4,801,058.00	104.3	6	
					3	407	279,968.00	4,801,065.00	104.3	6	
					4	528	280,010.00	4,801,023.00	104.3	6	
House 108a (3)	W	0	30.18		1	408	280,002.00	4,801,016.00	104.3	6	
					2	409	280,027.00	4,801,019.00	104.3	6	
					3	410	279,972.00	4,801,074.00	104.3	6	
					4	411	279,978.00	4,801,080.00	104.3	6	
Existing Building for 109-112 (1)	W	0	30.18		1	527	280,034.00	4,801,025.00	104.3	6	
					2	412	280,027.00	4,801,019.00	104.3	6	
					3	413	280,044.00	4,801,068.00	104.4	9	
					4	414	280,041.00	4,801,091.00	104.8	9	
Existing Building for 109-112 (2)	W	0	30.18		1	415	280,089.00	4,801,139.00	104.7	9	
					2	416	280,103.00	4,801,124.00	104.3	9	
					3	417	280,163.00	4,801,097.00	103.7	5	
					4	418	280,139.00	4,801,122.00	103.8	5	
Existing Building for 109-112 (2)	W	0	30.18		1	419	280,157.00	4,801,140.00	104.4	5	
					2	420	280,183.00	4,801,113.00	104.1	5	
					3						
					4						

## Existing Noise Barrier and Building Structure Input

Barrier Name	Type	Height		Points Name	No.	Coordinates (bottom)			Height at Point		
		Min	Max			X	Y	Z			
		m	m			m	m	m	m		
Waterdown House (2)	W	0	30.18		2	422	275,444.00	4,797,083.00	118.6	3	
					3	423	275,451.00	4,797,077.00	118.6	3	
					4	424	275,446.00	4,797,071.00	118.6	3	
					1	425	275,453.00	4,797,057.00	118	3	
Waterdown House (3)	W	0	30.18		2	426	275,462.00	4,797,066.00	118	3	
					3	427	275,470.00	4,797,058.00	118	3	
					4	428	275,461.00	4,797,049.00	118	3	
					1	429	275,472.00	4,797,045.00	117	3	
House 178	W	0	30.18		2	430	275,479.00	4,797,052.00	117	3	
					3	431	275,491.00	4,797,041.00	117	3	
					4	432	275,484.00	4,797,034.00	117	3	
					1	433	275,489.00	4,797,024.00	116.7	3	
Waterdown House (5)	W	0	30.18		2	434	275,498.00	4,797,034.00	116.7	3	
					3	435	275,504.00	4,797,029.00	116.7	3	
					4	436	275,495.00	4,797,018.00	116.7	3	
					1	437	275,510.00	4,797,017.00	116.3	3	
House 179	W	0	30.18		2	438	275,517.00	4,797,009.00	116.3	3	
					3	439	275,508.00	4,797,000.00	116.3	3	
					1	440	275,443.00	4,796,961.00	116	3	
					point606	606	275,453.00	4,796,972.00	116	3	
House 182a	W	0	30.18		2	point605	605	275,458.00	4,796,968.00	116	3
					3	441	275,465.00	4,796,975.00	116	3	
					4	442	275,472.00	4,796,967.00	116	3	
					5	443	275,465.00	4,796,959.00	116	3	
House 183	W	0	30.18		6	444	275,460.00	4,796,964.00	116	3	
					7	445	275,451.00	4,796,954.00	116	3	
					1	446	275,443.00	4,796,961.00	116	3	
					2	447	274,898.00	4,796,447.00	97	3	
House 188	W	0	30.18		3	448	274,899.00	4,796,452.00	97	3	
					4	449	274,901.00	4,796,452.00	97	3	
					5	450	274,900.00	4,796,447.00	97	3	
					point607	607	274,910.00	4,796,380.00	96.9	3	
House 189	W	0	30.18		1	451	274,898.00	4,796,447.00	96.9	3	
					2	452	274,916.00	4,796,395.00	96.9	3	
					3	453	274,924.00	4,796,392.00	96.9	3	
					4	454	274,918.00	4,796,377.00	96.9	3	
House 108a Barrier	W	0	30.48		4	607	274,910.00	4,796,380.00	96.9	3	
					1	455	274,916.00	4,796,395.00	103.9	4.5	
					2	460	275,025.00	4,796,099.00	103.9	4.5	
					3	461	275,031.00	4,796,103.00	103.9	4.5	
ShoppingMall	W	0	30.48		4	462	275,039.00	4,796,094.00	103.9	4.5	
					5	463	275,033.00	4,796,089.00	103.9	4.5	
					1	464	275,025.00	4,796,099.00	103.9	4.5	
					2	465	275,001.00	4,796,049.00	103.4	6	
ShoppingMall	W	0	30.48		3	466	275,014.00	4,796,060.00	103.4	6	
					4	467	275,010.00	4,796,064.00	103.4	9	
					5	468	274,997.00	4,796,054.00	103.4	9	
					point478	478	279,936.00	4,801,027.00	104.3	4	
ShoppingMall	W	0	30.48		point479	479	279,939.30	4,801,030.00	104.3	4	
					point480	480	279,944.20	4,801,025.00	104.3	4	
					point482	482	279,949.80	4,801,031.00	104.3	4	
					point485	485	278,694.50	4,798,691.50	91.8	6	
ShoppingMall	W	0	30.48		point486	486	278,747.40	4,798,564.00	91.8	6	
					point487	487	278,774.40	4,798,459.00	91.6	6	

## Existing Noise Barrier and Building Structure Input

Barrier Name	Type	Height		Points Name	No.	Coordinates (bottom)			Height at Point				
		Min	Max			X	Y	Z					
Existing Building for R150-R155 (1)	W	0	30.48	point488	488	278,927.70	4,798,270.00	91.6	6				
				point489	489	279,006.20	4,798,326.00	91.2	6				
				point490	490	278,964.70	4,798,382.00	91.2	6				
				point491	491	278,952.00	4,798,373.00	91.2	6				
				point492	492	278,858.10	4,798,508.50	91.4	6				
				point493	493	278,794.50	4,798,656.00	91.4	6				
				point494	494	278,809.90	4,798,662.00	91.4	6				
				point495	495	278,782.50	4,798,728.00	91.4	6				
				point496	496	278,694.50	4,798,691.50	91.8	6				
				point497	497	277,305.10	4,799,437.50	123.6	6				
				point498	498	277,333.70	4,799,467.00	122.7	6				
				point499	499	277,364.70	4,799,437.00	119.8	6				
				point501	501	277,338.00	4,799,406.00	122.8	6				
				point500	500	277,305.10	4,799,437.50	123.6	6				
				point502	502	277,387.50	4,799,555.50	123.4	8				
				point503	503	277,421.80	4,799,581.00	124.2	8				
				point504	504	277,426.90	4,799,573.50	122.4	8				
				point505	505	277,470.90	4,799,606.50	123.8	8				
				point506	506	277,498.10	4,799,570.00	120.2	8				
Existing Building for R150-R155 (2)	W	0	30.48	point507	507	277,463.80	4,799,544.50	120.4	8				
				point508	508	277,457.40	4,799,554.50	120.2	8				
				point509	509	277,412.70	4,799,521.50	120.8	8				
				point510	510	277,387.50	4,799,555.50	123.4	8				
				point511	511	277,539.30	4,799,714.00	117.1	6				
				point512	512	277,541.70	4,799,701.50	118	6				
				point513	513	277,564.20	4,799,679.50	118.2	6				
				point514	514	277,581.10	4,799,672.50	117.6	6				
				point515	515	277,599.80	4,799,674.00	116.4	6				
				point516	516	277,617.20	4,799,685.00	116.2	6				
				point517	517	277,647.60	4,799,714.00	114	6				
				point518	518	277,648.10	4,799,728.00	114.2	6				
				point519	519	277,609.90	4,799,766.50	113	6				
				point520	520	277,614.20	4,799,771.00	113	6				
				point521	521	277,604.60	4,799,781.00	113.1	6				
				point522	522	277,599.70	4,799,776.00	113.3	6				
				point523	523	277,601.40	4,799,774.00	116.2	6				
				point524	524	277,539.30	4,799,714.00	117.1	6				
				point529	529	278,873.70	4,800,593.50	107.4	5				
Existing Building for R121-R132 (1)	W	0	30.48	point530	530	278,877.70	4,800,507.00	106.8	5				
				point531	531	278,893.50	4,800,511.00	106.4	5				
				point532	532	278,887.50	4,800,520.50	106.5	5				
				point533	533	278,932.50	4,800,549.00	106.5	5				
				point534	534	278,938.40	4,800,539.50	106.4	5				
				point535	535	278,970.30	4,800,560.00	107.2	5				
				point536	536	278,968.60	4,800,598.00	107.6	5				
				point537	537	278,873.70	4,800,593.50	107.4	5				
				point538	538	278,677.40	4,800,483.50	108.5	8				
				point539	539	278,677.50	4,800,551.00	108.6	8				
				point540	540	278,678.20	4,800,592.50	108.5	8				
				point541	541	278,817.30	4,800,590.00	108.5	8				
				point542	542	278,816.50	4,800,531.50	108.6	8				
				point543	543	278,783.10	4,800,532.00	107.7	8				
				point544	544	278,782.40	4,800,493.00	107.7	8				
				point545	545	278,735.20	4,800,494.00	108.6	8				
				Existing Building for R121-R132 (2)	W	0	30.48	point548	548	278,816.50	4,800,531.50	108.6	8
								point549	549	278,817.30	4,800,590.00	108.5	8
								point550	550	278,817.30	4,800,590.00	108.5	8
point551	551	278,817.30	4,800,590.00					108.5	8				
point552	552	278,817.30	4,800,590.00					108.5	8				
point553	553	278,817.30	4,800,590.00					108.5	8				
point554	554	278,817.30	4,800,590.00					108.5	8				
point555	555	278,817.30	4,800,590.00					108.5	8				
point556	556	278,817.30	4,800,590.00					108.5	8				
point557	557	278,817.30	4,800,590.00					108.5	8				
point558	558	278,817.30	4,800,590.00					108.5	8				
point559	559	278,817.30	4,800,590.00					108.5	8				
point560	560	278,817.30	4,800,590.00					108.5	8				
point561	561	278,817.30	4,800,590.00					108.5	8				
point562	562	278,817.30	4,800,590.00					108.5	8				
point563	563	278,817.30	4,800,590.00					108.5	8				
point564	564	278,817.30	4,800,590.00					108.5	8				

## Existing Noise Barrier and Building Structure Input

Barrier Name	Type	Height		Points Name	No.	Coordinates (bottom)			Height at Point					
		Min	Max			X	Y	Z						
Existing Building for R121-R132 (3)	W	0	30.48	point546		546	278,735.10	4,800,482.50	108.6	8				
				point547		547	278,677.40	4,800,483.50	108.5	8				
				point548		548	278,432.60	4,800,370.50	109.4	4				
				point549		549	278,451.90	4,800,350.50	109.6	4				
				point550		550	278,494.50	4,800,392.00	110.2	4				
				point551		551	278,475.20	4,800,412.00	109.8	4				
				point552		552	278,432.60	4,800,370.50	109.4	4				
Existing Building for R121-R132 (4)	W	0	30.48	point553		553	278,291.60	4,800,218.00	109.2	6				
				point554		554	278,417.80	4,800,346.50	109.2	6				
				point555		555	278,452.30	4,800,311.00	108.9	6				
				point556		556	278,321.90	4,800,184.00	109.1	6				
				point557		557	278,291.60	4,800,218.00	109.2	6				
				point558		558	278,369.30	4,800,448.50	115.2	4				
Existing Building for R121-R132 (5)	W	0	30.48	point559		559	278,388.10	4,800,430.00	115	4				
				point560		560	278,403.40	4,800,446.00	114.8	4				
				point561		561	278,384.70	4,800,464.00	115	4				
				point562		562	278,369.30	4,800,448.50	115.2	4				
				point563		563	278,310.60	4,800,363.50	117	4				
				point564		564	278,338.00	4,800,409.00	116.2	4				
				point565		565	278,364.00	4,800,393.00	115.4	4				
Existing Building for R121-R132 (6)	W	0	30.48	point566		566	278,337.10	4,800,347.50	115.7	4				
				point567		567	278,310.60	4,800,363.50	117	4				
				point568		568	278,291.20	4,800,331.50	116.4	5				
				point569		569	278,264.80	4,800,288.00	116.2	5				
				point570		570	278,300.40	4,800,266.00	115	5				
				point571		571	278,327.00	4,800,310.00	115.5	5				
				point572		572	278,291.30	4,800,331.50	116.4	5				
Existing Building for R121-R132 (7)	W	0	30.48	point573		573	278,226.90	4,800,341.50	119.6	5				
				point574		574	278,207.60	4,800,320.50	119.4	5				
				point575		575	278,217.40	4,800,311.00	119.4	5				
				point576		576	278,237.30	4,800,331.50	119.6	5				
				point577		577	278,226.90	4,800,341.50	119.6	5				
				point578		578	278,138.00	4,800,370.50	122.6	4				
				point579		579	278,171.50	4,800,353.50	121.2	4				
Existing Building for R121-R132 (8)	W	0	30.48	point580		580	278,175.40	4,800,361.00	121.2	4				
				point581		581	278,206.10	4,800,346.50	120	4				
				point582		582	278,194.00	4,800,317.00	120	4				
				point583		583	278,127.10	4,800,348.00	122.6	4				
				point584		584	278,138.00	4,800,370.50	122.6	4				
				point585		585	278,083.70	4,800,409.00	124	4				
				point586		586	278,047.50	4,800,372.00	123.8	4				
				point587		587	278,084.90	4,800,336.50	123.8	4				
				point588		588	278,120.60	4,800,374.50	123.5	4				
				point589		589	278,083.70	4,800,409.00	124	4				
Existing Building for R121-R132 (9)	W	0	30.48	point590		590	278,066.40	4,800,539.00	124.4	4				
				point591		591	278,066.40	4,800,410.00	124.2	4				
				point592		592	278,018.10	4,800,410.00	124.4	4				
				point593		593	278,018.10	4,800,539.00	125.6	4				
				point594		594	278,066.40	4,800,539.00	124.4	4				
				point595		595	278,151.70	4,800,616.50	123.2	7				
				point596		596	278,188.80	4,800,580.50	123.2	7				
Existing Building for R121-R132 (10)	W	0	30.48	point597		597	278,237.90	4,800,627.00	121.2	7				
				point598		598	278,198.90	4,800,665.00	121.2	7				
				point599		599	278,151.70	4,800,616.50	123.2	7				
				Existing Building for R121-R132 (11)	W	0	30.48	point599		599	278,151.70	4,800,616.50	123.2	7

## Existing Noise Barrier and Building Structure Input

Barrier Name	Type	Height		Points Name	No.	Coordinates (bottom)			Height at Point				
		Min	Max			X	Y	Z					
		m	m			m	m	m	m				
Existing Building for R121-R132 (12)	W	0	30.48	point600	600	278,125.30	4,800,490.00	121.8	5				
				point601	601	278,262.20	4,800,626.00	119.8	5				
				point602	602	278,303.50	4,800,586.50	119.8	5				
				point603	603	278,169.00	4,800,445.50	121.8	5				
				point604	604	278,125.30	4,800,490.00	121.8	5				
				point608	608	274,833.60	4,796,069.00	103.6	5				
				point609	609	274,876.10	4,796,103.00	104.2	5				
				point617	617	274,876.90	4,796,103.50	104.2	3				
				point610	610	274,928.80	4,796,144.50	105.7	3				
				point611	611	274,962.50	4,796,113.00	103.8	3				
				point612	612	274,949.40	4,796,101.00	103.6	3				
				point613	613	274,963.20	4,796,089.00	102.8	3				
House 189a	W	0	30.48	point614	614	274,914.00	4,796,056.00	103.2	3				
				point618	618	274,913.20	4,796,055.50	103.2	5				
				point615	615	274,871.20	4,796,021.00	103.8	5				
				point616	616	274,833.60	4,796,069.00	103.6	5				
				point619	619	274,803.40	4,795,933.00	103.4	6				
				point620	620	274,813.90	4,795,941.00	103.4	6				
				point621	621	274,819.20	4,795,934.00	103.4	6				
				point622	622	274,808.60	4,795,926.50	103.4	6				
				point623	623	274,803.40	4,795,933.00	103.4	6				
				point624	624	278,409.40	4,800,705.50	118.3	4.5				
				point625	625	278,422.70	4,800,693.00	118.3	4.5				
				point626	626	278,351.20	4,800,618.50	118.3	4.5				
Barrier24	W	0	30.48	point627	627	278,338.00	4,800,631.00	118.3	4.5				
				point628	628	278,409.40	4,800,705.50	118.3	4.5				
				point629	629	278,378.60	4,800,591.50	117	4.5				
				point630	630	278,391.50	4,800,579.00	117	4.5				
				point631	631	278,419.30	4,800,608.50	117	4.5				
				point632	632	278,424.70	4,800,603.50	117	4.5				
				point633	633	278,454.10	4,800,633.00	117	4.5				
				point634	634	278,448.70	4,800,638.50	117	4.5				
				point635	635	278,476.80	4,800,668.00	117	4.5				
				point636	636	278,464.40	4,800,680.00	117	4.5				
				point637	637	278,378.60	4,800,591.50	117	4.5				
				point638	638	278,873.20	4,800,690.00	112	5				
Existing Building for R121-R132 (0)	W	0	30.48	point639	639	278,944.00	4,800,763.00	112	5				
				point640	640	278,959.10	4,800,730.50	112	5				
				point641	641	278,900.80	4,800,672.50	112	5				
				point642	642	278,873.20	4,800,690.00	112	5				
				point643	643	279,779.00	4,800,817.00	104.1	6				
				point644	644	279,771.00	4,800,826.00	104.1	6				
				point645	645	279,776.00	4,800,831.00	104.1	6				
				point646	646	279,785.00	4,800,823.00	104.1	6				
				point647	647	279,779.00	4,800,817.00	104.1	6				
				point648	648	278,516.10	4,800,335.50	108.8	6				
				point649	649	278,531.60	4,800,350.50	108.8	6				
				point650	650	278,522.50	4,800,359.50	108.8	6				
House 105	W	0	30.48	point651	651	278,520.80	4,800,358.00	108.8	6				
				point652	652	278,511.50	4,800,368.00	108.8	6				
				point653	653	278,497.60	4,800,354.50	108.8	6				
				point654	654	278,516.10	4,800,335.50	108.8	6				
				point656	656	279,984.70	4,800,995.00	104.3	9				
				point657	657	279,949.80	4,801,031.00	104.3	9				
				Barrier28	W	0	30.48	point655	655	278,497.60	4,800,354.50	108.8	6
								point658	658	278,497.60	4,800,354.50	108.8	6
								point659	659	278,497.60	4,800,354.50	108.8	6
								point660	660	278,497.60	4,800,354.50	108.8	6
								point661	661	278,497.60	4,800,354.50	108.8	6
								point662	662	278,497.60	4,800,354.50	108.8	6
point663	663	278,497.60	4,800,354.50					108.8	6				
point664	664	278,497.60	4,800,354.50					108.8	6				
point665	665	278,497.60	4,800,354.50					108.8	6				
point666	666	278,497.60	4,800,354.50					108.8	6				
point667	667	278,497.60	4,800,354.50					108.8	6				
House 108a	W	0	30.48					point668	668	278,497.60	4,800,354.50	108.8	6
				point669	669	278,497.60	4,800,354.50	108.8	6				
				point670	670	278,497.60	4,800,354.50	108.8	6				
				point671	671	278,497.60	4,800,354.50	108.8	6				
				point672	672	278,497.60	4,800,354.50	108.8	6				
				point673	673	278,497.60	4,800,354.50	108.8	6				
				point674	674	278,497.60	4,800,354.50	108.8	6				
				point675	675	278,497.60	4,800,354.50	108.8	6				
				point676	676	278,497.60	4,800,354.50	108.8	6				
				point677	677	278,497.60	4,800,354.50	108.8	6				
				point678	678	278,497.60	4,800,354.50	108.8	6				
				point679	679	278,497.60	4,800,354.50	108.8	6				

## Existing Noise Barrier and Building Structure Input

Barrier Name	Type	Height		Points Name	No.	Coordinates (bottom)			Height at Point		
		Min	Max			X	Y	Z			
House 108 Barrier	W	m	m	point658		m	m	m	m		
				point659		658	279,957.60	4,801,038.50	104.3	9	
			0	30.48	point687		659	279,992.50	4,801,002.50	104.3	9
					point688		687	279,934.00	4,801,025.00	104.3	3.5
					point689		688	279,936.00	4,801,027.00	104.3	3.5
					point690		689	279,939.40	4,801,023.50	104.3	3
			point691		690	279,943.00	4,801,020.00	104.3	2.43		
					691	279,946.60	4,801,016.50	104.3	2.43		

Reviewed Noise Barrier Input

Barrier Name	Type	Height		Points Name	No.	Coordinates (bottom)			Height at Point	On Struct?
		Min	Max			X	Y	Z		
Reviewed Noise Barrier #1 / Reviewed Retrofit Noise Barrier #1	W	m	0	30.18	1	627	279,690.00	4,797,249.00	80.2	5
					2	628	279,684.00	4,797,268.00	80.2	5
					3	629	279,678.00	4,797,292.00	80.5	5
					4	630	279,676.00	4,797,305.00	80.7	5
					5	631	279,674.00	4,797,322.00	80.9	5
					6	632	279,672.00	4,797,334.00	81.2	5
					7	633	279,669.00	4,797,347.00	81.4	5
					8	634	279,666.00	4,797,358.00	81.6	5
					9	635	279,664.00	4,797,365.00	81.7	5
					10	636	279,660.00	4,797,376.00	81.9	5
					11	637	279,657.00	4,797,383.00	82.1	5
					12	638	279,652.00	4,797,392.00	82.3	5
					13	639	279,644.00	4,797,402.00	82.4	5
					14	640	279,636.00	4,797,414.00	82.5	5
					15	641	279,629.00	4,797,423.00	82.6	5
					16	642	279,623.00	4,797,430.00	82.8	5
					17	643	279,613.00	4,797,441.00	83	5
					18	644	279,605.00	4,797,451.00	83	5
					19	645	279,598.00	4,797,459.00	83	5
					20	646	279,593.00	4,797,463.00	82.9	5
					21	647	279,585.00	4,797,469.00	82.3	5
					22	648	279,582.00	4,797,474.00	83	5
					23	649	279,568.00	4,797,491.00	83.4	5
					24	650	279,558.00	4,797,501.00	83.4	5
					25	651	279,534.00	4,797,523.00	83.4	5
					26	652	279,521.00	4,797,535.00	83.4	5
					27	653	279,506.00	4,797,548.00	83.6	5
					28	654	279,494.00	4,797,560.00	83.6	5
					29	655	279,477.00	4,797,575.00	83.4	5
					30	656	279,466.00	4,797,585.00	83.2	5
					31	657	279,457.00	4,797,594.00	82.8	5
					32	658	279,445.00	4,797,605.00	83.4	5
					33	659	279,431.00	4,797,618.00	84.3	5
					34	660	279,421.00	4,797,627.00	84.4	5
					35	661	279,397.00	4,797,648.00	84.7	5
					36	662	279,375.00	4,797,668.00	85.2	5
					37	663	279,361.00	4,797,681.00	85.4	5
					38	664	279,330.00	4,797,710.00	85.8	5
					39	665	279,308.00	4,797,731.00	86.2	5
					40	666	279,292.00	4,797,744.00	86.4	5
					41	667	279,262.00	4,797,774.00	86.8	5
					42	668	279,250.00	4,797,784.00	86.9	5
					43	669	279,239.00	4,797,795.00	87	5
					44	670	279,225.00	4,797,807.00	87.2	5
					45	671	279,211.00	4,797,820.00	87.4	5
					46	672	279,198.00	4,797,832.00	87.6	5
					47	673	279,186.00	4,797,842.00	87.6	5
					48	674	279,173.00	4,797,854.00	87.9	5
					49	675	279,161.00	4,797,864.00	88	5
					50	676	279,129.00	4,797,890.00	88.4	5
					51	677	279,110.00	4,797,904.00	88.7	5
					52	678	279,087.00	4,797,913.00	88.8	5
					53	679	279,088.00	4,797,919.00	89	5
Reviewed Noise Barrier #2 (1)	W	m	0	30.18	point844	844	279,065.00	4,797,935.00	89.2	4.8
					point845	845	279,065.00	4,797,935.00	90.6	3.4
Reviewed Noise Barrier #2 (2)	W	m	0	30.18	1	707	278,196.00	4,799,610.00	107.1	5
					2	708	278,196.00	4,799,555.00	105.8	5
					3	709	278,199.00	4,799,555.00	105.8	5
					4	710	278,199.00	4,799,548.00	105.5	5
					5	711	278,196.00	4,799,548.00	105.5	5
					6	712	278,196.00	4,799,515.00	105	5
					7	713	278,197.00	4,799,470.00	103.6	5
					8	714	278,198.00	4,799,444.00	103.2	5
					9	715	278,201.00	4,799,418.00	102.8	5
					10	716	278,206.00	4,799,394.00	101.6	5
Reviewed Noise Barrier #2 (2)	W	m	0	30.18	1	717	278,199.40	4,799,395.50	102.6	5
					2	718	278,208.00	4,799,324.00	102.7	5



**Reviewed Noise Barrier Input**

Barrier Name	Type	Height Min	Height Max	Points Name	No.	Coordinates (bottom)			Height at Point	On Struct?
						X	Y	Z		
Reviewed Noise Barrier #3	W	0	30.18		3	719	278,213.00	4,799,293.00	103	5
					4	720	278,221.00	4,799,257.00	104	5
					5	721	278,229.00	4,799,224.00	103.8	5
					1	722	278,792.00	4,800,179.00	103	5
					2	723	278,786.00	4,800,193.00	103.2	5
					3	724	278,784.00	4,800,207.00	103.6	5
					4	725	278,784.20	4,800,221.00	104	5
					5	726	278,788.70	4,800,243.00	105	5
					6	727	278,809.10	4,800,273.50	106.6	5
					7	728	278,840.40	4,800,302.00	107.8	5
Reviewed Noise Barrier #4	W	0	30.18		8	729	279,015.00	4,800,429.00	107.7	5
					9	730	279,153.00	4,800,520.00	110.8	5
					10	731	279,199.00	4,800,549.00	111.8	5
					1	732	275,039.70	4,796,448.00	110.4	5
					2	733	275,073.00	4,796,481.00	119	5
					3	734	275,070.00	4,796,484.00	120.4	5
					4	735	275,108.00	4,796,522.00	115.7	5
					5	736	275,140.00	4,796,553.00	109	5
					6	737	275,170.00	4,796,582.00	109.5	5
					7	738	275,184.00	4,796,597.00	110	5
Reivewed Noise Barrier #5	W	0	30.48	point851	5	791	275,050.90	4,796,437.00	107.6	5
					6	802	275,040.10	4,796,448.50	111.4	5
					7	803	275,072.70	4,796,481.00	119	5
					8	804	275,069.50	4,796,484.00	120.4	5
					9	805	275,153.40	4,796,566.50	109.5	5
					1	759	280,031.00	4,796,968.00	76.6	5
					2	760	280,018.00	4,796,998.00	76.2	5
					3	761	280,006.00	4,797,026.00	76.2	5
					4	762	280,011.00	4,797,040.00	77.1	5
					5	763	280,001.00	4,797,059.00	77.2	5
Reivewed Noise Barrier #6	W	0	30.18	point852	6	764	279,988.00	4,797,081.00	77.5	5
					7	765	279,975.00	4,797,102.00	78.2	5
					8	766	279,960.00	4,797,122.00	78.6	5
					9	767	279,945.00	4,797,142.00	79.2	5
					10	768	279,929.00	4,797,161.00	79.8	5
					11	769	279,914.00	4,797,181.00	80.6	5
					12	770	279,900.00	4,797,194.00	80.9	5
					13	771	279,894.00	4,797,203.00	81.4	5
					14	772	279,881.00	4,797,218.00	81.9	5
					15	773	279,863.00	4,797,236.00	82.8	5
Reviewed Retrofit Noise Barrier #5 (1)	W	0	30.48	point853	16	774	279,846.00	4,797,256.00	83.7	Y
					17	775	279,828.00	4,797,271.00	84.1	Y
					18	776	279,810.00	4,797,286.00	84.2	Y
					19	777	279,796.00	4,797,293.00	84	5
					20	778	279,779.00	4,797,306.00	84.1	5
					21	779	279,757.00	4,797,318.00	84	5
					1	759	280,031.00	4,796,968.00	76.6	5
					2	760	280,018.00	4,796,998.00	76.2	5
					3	761	280,006.00	4,797,026.00	76.2	5
					4	762	280,011.00	4,797,040.00	77.1	5
Reviewed Retrofit Noise Barrier #5 (2)	W	0	30.48	point854	5	763	280,001.00	4,797,059.00	77.2	5
					6	764	279,988.00	4,797,081.00	77.5	5
					7	765	279,975.00	4,797,102.00	78.2	5
					8	766	279,960.00	4,797,122.00	78.6	5
					9	767	279,945.00	4,797,142.00	79.2	5
					10	768	279,929.00	4,797,161.00	79.8	5
					11	769	279,914.00	4,797,181.00	80.6	5
					12	770	279,900.00	4,797,194.00	80.9	5
Reviewed Retrofit Noise Barrier #5 (3)	W	0	30.48	point811	13	771	279,894.00	4,797,203.00	81.4	5
					14	772	279,881.00	4,797,218.00	81.9	5
					15	773	279,863.00	4,797,236.00	82.8	5
					16	774	279,846.00	4,797,256.00	83.7	Y
					17	775	279,828.00	4,797,271.00	84.1	Y
					18	776	279,810.00	4,797,286.00	84.2	Y
					19	777	279,796.00	4,797,293.00	84	5
					20	778	279,779.00	4,797,306.00	84.1	5
Reviewed Retrofit Noise Barrier #6	W	0	30.18	point812	21	779	279,757.00	4,797,318.00	84	5
					1	759	280,031.00	4,796,968.00	76.6	5
					2	760	280,018.00	4,796,998.00	76.2	5
					3	761	280,006.00	4,797,026.00	76.2	5
					4	762	280,011.00	4,797,040.00	77.1	5
					5	763	280,001.00	4,797,059.00	77.2	5
					6	764	279,988.00	4,797,081.00	77.5	5
					7	765	279,975.00	4,797,102.00	78.2	5

Reviewed Noise Barrier Input

Barrier Name	Type	Height		Points Name	No.	Coordinates (bottom)			Height at Point	On Struct?			
		Min	Max			X	Y	Z					
Reviewed Noise Barrier #7 (1)	W	m	m	9	767	279,945.00	4,797,142.00	79.2	5				
				10	768	279,929.00	4,797,161.00	79.8	5				
				11	769	279,914.00	4,797,181.00	80.6	5				
				12	770	279,900.00	4,797,194.00	80.9	5				
				13	771	279,894.00	4,797,203.00	81.4	5				
				14	772	279,881.00	4,797,218.00	81.9	5				
				15	773	279,863.00	4,797,236.00	82.8	5				
				16	774	279,846.00	4,797,256.00	83.7	5 Y				
				17	775	279,828.00	4,797,271.00	84.1	5 Y				
				18	776	279,810.00	4,797,286.00	84.2	5 Y				
				19	777	279,796.00	4,797,293.00	84	5				
				20	778	279,779.00	4,797,306.00	84.1	5				
				21	779	279,757.00	4,797,318.00	84	5				
				22	780	279,745.00	4,797,321.00	83.8	5				
				23	781	279,737.00	4,797,321.00	83.4	5				
				24	782	279,728.00	4,797,319.00	83	5				
				25	783	279,720.00	4,797,314.00	82.5	5				
				Reviewed Noise Barrier #7 (2)	W	m	m	30.48	831	278,593.40	4,800,273.50	111.1	5
								point832	832	278,506.80	4,800,222.50	108.3	5
								point833	833	278,488.30	4,800,211.00	108.1	5
								point834	834	278,695.30	4,800,309.50	110.4	5
								point835	835	278,762.10	4,800,353.00	109.8	5
								point836	836	278,848.20	4,800,405.50	109.2	5
								point837	837	278,934.60	4,800,460.50	108.6	5
								point838	838	279,006.30	4,800,505.50	108.7	5
point839	839	278,680.40	4,800,320.50					110.9	5 Y				
point840	840	278,663.40	4,800,311.50					111.3	5 Y				
Reviewed Noise Barrier #7 (3)	W	m	m	point841	841	278,627.80	4,800,293.00	111.6	5 Y				
				point842	842	278,593.40	4,800,273.50	111.1	5				

## Terrain Line Input

Terrain Line Name	Points No.	Coordinates (ground)		
		X m	Y m	Z m
Terrain Line5	9	278,509.00	4,800,114.00	109.1
	10	278,509.00	4,800,115.00	109.1
	11	278,467.00	4,800,068.00	109.1
	12	278,433.00	4,800,022.00	109.6
	13	278,391.00	4,799,951.00	111.2
	14	278,335.00	4,799,850.00	115.1
	15	278,305.00	4,799,808.00	116.4
	16	278,304.00	4,799,809.00	116.6
	17	278,257.00	4,799,753.00	117.5
	18	278,205.00	4,799,707.00	117.2
Terrain Line6	19	277,781.00	4,799,676.00	115.6
	20	277,753.00	4,799,642.00	115.8
	21	277,719.00	4,799,606.00	116.4
	22	277,691.00	4,799,581.00	116.9
	23	277,634.00	4,799,534.00	117
	24	277,616.00	4,799,520.00	115.3
	25	277,578.00	4,799,490.00	113
	26	277,545.00	4,799,464.00	112.6
	27	277,519.00	4,799,443.00	109.6
	28	277,899.00	4,800,334.00	120.5
Terrain Line7	29	277,883.00	4,800,121.00	120
	30	277,824.00	4,800,061.00	123
	31	277,806.00	4,800,008.00	123.4
	32	277,792.00	4,799,915.00	117.7
	33	277,740.00	4,799,869.00	116.6
	34	277,834.00	4,799,809.00	115.6
	35	277,843.00	4,799,873.00	115.8
	36	277,845.00	4,799,881.00	116.4
	37	277,853.00	4,799,927.00	116.8
	38	277,862.00	4,799,970.00	117
Terrain Line8	39	277,872.00	4,800,008.00	115.3
	40	277,875.00	4,800,018.00	113.2
	41	277,882.00	4,800,032.00	113.2
	42	277,892.00	4,800,047.00	113.2
	43	277,943.00	4,800,082.00	119.2
	44	277,942.10	4,800,073.00	119.2
	45	277,942.00	4,800,072.00	119.2
	46	277,940.00	4,800,052.00	119.2
	47	277,937.00	4,800,029.00	119.3
	48	277,933.00	4,800,009.00	119.4

Terrain Line9

## Terrain Line Input

Terrain Line Name	Points No.	Coordinates (ground)		
		X m	Y m	Z m
Terrain Line10	49	277,928.00	4,799,985.00	119.6
	50	277,921.00	4,799,960.00	119.7
	51	277,913.00	4,799,931.00	119.8
	52	277,910.00	4,799,922.00	119.8
	53	277,985.00	4,800,965.00	126.8
	54	277,988.00	4,800,896.00	127
	55	278,016.00	4,800,216.00	123
	56	278,048.00	4,800,178.00	121.1
	65	275,579.00	4,797,010.00	115.4
	66	275,582.00	4,797,025.00	115.2
Terrain Line13	67	275,609.00	4,797,059.00	114.7
	68	275,623.00	4,797,077.00	114.4
	69	275,633.00	4,797,091.00	114.1
	70	275,739.00	4,797,199.00	111
	71	275,310.00	4,796,691.00	106.8
	72	275,384.00	4,796,771.00	110.4
	73	275,388.00	4,796,775.00	110.5
	74	275,393.00	4,796,779.00	110.4
	75	275,398.00	4,796,784.00	110.5
	76	275,432.00	4,796,830.00	111
Terrain Line14	77	275,487.00	4,796,901.00	113
	78	275,549.00	4,796,982.00	115.4
	79	275,554.00	4,796,989.00	115.6
	80	275,568.00	4,796,995.00	115.8
	81	275,053.00	4,796,436.00	107.6
	82	275,040.00	4,796,449.00	111.4
	83	275,073.00	4,796,481.00	119
	84	275,070.00	4,796,484.00	120.4
	85	275,170.00	4,796,582.00	109.5
	86	275,201.00	4,796,613.00	110.3
Terrain Line15	87	275,234.00	4,796,646.00	110.4
	88	275,268.00	4,796,680.00	110.5
	89	275,303.00	4,796,714.00	110.6
	90	275,328.00	4,796,738.00	110.8
	91	274,965.00	4,796,349.00	109
	92	274,979.00	4,796,363.00	108.8
	93	274,993.00	4,796,377.00	108.4
	94	275,007.00	4,796,391.00	108.2
	95	275,022.00	4,796,405.00	108
	96	275,036.00	4,796,419.00	107.8
Terrain Line16				

## Terrain Line Input

Terrain Line Name	Points No.	Coordinates (ground)		
		X m	Y m	Z m
Terrain Line17	97	275,053.00	4,796,436.00	107.6
	98	274,502.00	4,795,979.00	114
	99	274,552.00	4,796,020.00	115.9
	100	274,604.00	4,796,065.00	119
	101	274,658.00	4,796,110.00	122
	102	274,713.00	4,796,156.00	123.4
	103	274,749.00	4,796,186.00	123.6
	104	274,774.00	4,796,207.00	123.4
	105	274,789.00	4,796,222.00	123
	106	274,809.00	4,796,245.00	122.1
	107	274,833.00	4,796,281.00	120.9
	108	274,833.00	4,796,281.00	120.9
	109	274,875.00	4,796,294.00	118.5
Terrain Line18	110	274,903.00	4,796,323.00	115.5
	111	274,912.00	4,796,333.00	115.3
	112	274,923.00	4,796,334.00	113.3
	113	274,935.00	4,796,334.00	109.7
	114	274,943.00	4,796,335.00	109.6
	115	274,951.00	4,796,335.00	109.4
	116	274,960.00	4,796,344.00	109.2
	117	274,965.00	4,796,349.00	109
	126	278,208.00	4,799,571.00	104.8
	127	278,264.00	4,799,549.00	105.1
	128	278,332.00	4,799,608.00	105.4
	129	278,309.00	4,799,666.00	105.6
	130	278,319.00	4,799,687.00	105.6
Terrain Line21	131	278,344.00	4,799,701.00	105.6
	132	278,393.00	4,799,673.00	105
	133	278,453.00	4,799,731.00	105
	134	278,434.00	4,799,788.00	105.6
	135	278,445.00	4,799,814.00	105.5
	136	278,484.00	4,799,824.00	105.6
	137	278,519.00	4,799,799.00	105
	138	278,587.00	4,799,864.00	105.6
	139	278,563.00	4,799,920.00	105.6
	140	278,579.00	4,799,947.00	105.6
	141	278,611.00	4,799,956.00	105.6
	142	278,652.00	4,799,933.00	105.6
	144	278,725.00	4,799,996.00	105.6
143	278,686.00	4,800,039.00	105.4	

## Terrain Line Input

Terrain Line Name	Points No.	Coordinates (ground)		
		X m	Y m	Z m
Terrain Line22	145	279,838.00	4,800,978.00	106.1
	146	279,677.00	4,800,810.00	112.6
	147	279,613.00	4,800,761.00	110.6
	148	279,462.00	4,800,698.00	117.2
	149	279,374.00	4,800,655.00	114.7
	150	278,213.70	4,799,549.00	100.8
	151	278,263.70	4,799,531.50	100.2
	152	278,348.20	4,799,605.50	101
	153	278,323.60	4,799,666.00	102
	154	278,328.90	4,799,678.50	102
	155	278,345.10	4,799,684.00	102
	156	278,399.00	4,799,650.00	102
	157	278,477.60	4,799,725.50	102
	158	278,455.10	4,799,781.50	102
159	278,457.00	4,799,801.00	102	
Terrain Line23	160	278,485.90	4,799,806.50	102
	161	278,524.10	4,799,779.00	102
	162	278,602.80	4,799,857.50	101.6
	163	278,579.60	4,799,916.50	102
	164	278,588.80	4,799,935.50	102
	165	278,612.00	4,799,942.00	102
	166	278,656.30	4,799,916.00	102
	167	278,736.40	4,799,994.50	102
	168	278,695.40	4,800,043.50	103
	169	278,214.80	4,799,590.50	100
	170	278,259.40	4,799,568.00	99.6
	171	278,313.40	4,799,615.50	100
	172	278,294.30	4,799,664.00	100
	173	278,306.10	4,799,699.00	100
Terrain Line24	174	278,340.60	4,799,715.00	100.2
	175	278,389.90	4,799,692.00	100.2
	176	278,436.70	4,799,738.00	100.2
	177	278,418.80	4,799,787.50	100.2
	178	278,436.70	4,799,825.00	100.4
	179	278,482.70	4,799,839.00	100.6
	180	278,517.10	4,799,816.50	101
	181	278,570.00	4,799,872.00	100.8
	182	278,551.80	4,799,918.50	101
	183	278,573.50	4,799,956.50	102
	184	278,612.20	4,799,967.00	102



## Terrain Line Input

Terrain Line Name	Points No.	Coordinates (ground)		
		X m	Y m	Z m
Ex. Barr #2 Berm-1	225	278,533.10	4,798,367.00	95
	226	278,596.30	4,798,315.00	94.4
	227	278,660.70	4,798,253.50	93.6
	228	278,755.10	4,798,170.50	92
	229	278,899.90	4,798,053.00	91
	230	278,997.30	4,797,971.00	89
	231	279,035.40	4,797,945.50	89
	232	279,085.10	4,797,918.50	89
	233	279,947.00	4,797,511.00	82.4
	234	279,912.00	4,797,473.00	85.8
	235	279,891.00	4,797,450.00	86.5
	236	279,866.00	4,797,458.00	86.5
	237	279,847.00	4,797,465.00	86.5
	238	279,788.00	4,797,456.00	86.6
	239	279,773.00	4,797,454.00	86.7
	240	279,766.00	4,797,460.00	86.8
	241	279,724.00	4,797,493.00	87.1
	242	279,703.00	4,797,510.00	87.1
	243	279,652.00	4,797,553.00	87
	244	279,631.00	4,797,570.00	87.1
	245	279,628.00	4,797,596.00	87.1
	246	279,622.00	4,797,600.00	88.4
	247	279,562.00	4,797,650.00	89.2
	248	279,532.00	4,797,676.00	89.7
249	279,472.00	4,797,729.00	89.8	
250	279,449.00	4,797,748.00	89.2	
251	279,459.10	4,797,751.50	87.4	
252	279,486.00	4,797,727.00	87.6	
253	279,522.70	4,797,691.50	88	
254	279,542.80	4,797,672.00	88	
255	279,558.50	4,797,661.00	87	
256	279,590.50	4,797,634.50	87	
257	279,630.80	4,797,604.00	87	
258	279,635.50	4,797,590.50	86	
259	279,639.60	4,797,572.50	86	
260	279,649.00	4,797,561.50	86	
261	279,672.80	4,797,542.00	86	
262	279,727.40	4,797,503.50	85	
263	279,775.60	4,797,463.50	85	
264	279,826.20	4,797,469.00	85	

Ex. Barr #2 Berm-2



## Terrain Line Input

Terrain Line Name	Points No.	Coordinates (ground)		
		X m	Y m	Z m
Ex. Barr #2 Berm-3	265	279,850.10	4,797,469.00	85
	266	279,885.20	4,797,458.00	85
	267	279,447.70	4,797,746.50	87.4
	268	279,534.60	4,797,666.50	87
	269	279,559.20	4,797,644.50	87
	270	279,590.40	4,797,621.00	87
	271	279,623.10	4,797,593.50	86.2
	272	279,624.10	4,797,571.50	85.8
	273	279,772.40	4,797,446.50	83.4
	274	279,842.60	4,797,453.50	83
	275	279,881.60	4,797,443.00	83
	276	277,884.00	4,801,004.00	132
	277	277,886.00	4,800,938.00	133.1
	278	277,888.00	4,800,866.00	133
Ex. Barr #4 Berm-1	279	277,889.00	4,800,806.00	132.7
	280	277,890.00	4,800,761.00	132.4
	281	277,892.00	4,800,693.00	130.8
	282	277,893.00	4,800,654.00	129.5
	283	277,895.00	4,800,600.00	129.3
	284	277,895.00	4,800,571.00	129.5
	285	277,896.00	4,800,546.00	129.5
	286	277,897.00	4,800,516.00	129.4
	287	277,897.00	4,800,498.00	129.4
	288	277,898.00	4,800,486.00	129.2
	289	277,898.00	4,800,470.00	128.7
	290	277,899.00	4,800,453.00	128.2
	291	277,899.00	4,800,437.00	128
	292	277,900.00	4,800,419.00	127.6
	293	277,900.00	4,800,404.00	127.2
	294	277,901.00	4,800,378.00	126.4
Ex. Barr #4 Berm-2	295	277,900.00	4,800,346.00	120.5
	296	277,912.80	4,800,376.50	121
	297	277,916.70	4,800,398.00	121
	298	277,918.80	4,800,518.00	121
	299	277,915.50	4,800,631.50	121
	300	277,916.80	4,800,647.50	121
	301	277,916.70	4,800,676.50	121
	302	277,915.40	4,800,719.00	121
	303	277,915.40	4,800,802.00	121
	304	277,915.50	4,800,944.00	121

## Terrain Line Input

Terrain Line Name	Points No.	Coordinates (ground)		
		X m	Y m	Z m
Ex. Barr #6 Berm	305	277,912.90	4,800,958.00	121
	306	277,916.30	4,800,979.00	121
	307	277,969.30	4,801,203.50	128.7
	308	277,964.60	4,801,183.50	125.6
	309	277,970.30	4,800,971.50	122
Ex. Barrier #6 Berm	310	277,983.00	4,801,200.00	132.7
	311	277,979.00	4,801,182.00	130.9
	312	277,984.00	4,800,965.00	126.8

## Ground Zone Input

Ground Zone Name	Type	Flow Resistivity cgs rayls	Points No.	Coordinates	
				X m	Y m
Ground Zo Water		20000		5	279,423.50 4,800,814.50
				6	279,494.20 4,800,995.50
				7	279,760.50 4,801,363.50
				8	279,823.90 4,801,345.00
				9	279,784.00 4,801,206.00
				10	279,640.90 4,800,968.50
				11	279,082.80 4,800,793.00
				12	279,197.60 4,800,848.50
				13	279,289.30 4,800,760.50
				14	279,162.50 4,800,674.50
Ground Zo Pavement		20000		15	279,081.60 4,800,668.50
				16	278,981.40 4,800,657.50
				17	278,835.30 4,800,652.50
				18	278,980.20 4,800,801.50
				19	278,458.50 4,800,544.00
				20	278,565.70 4,800,603.00
Ground Zo Pavement		20000		21	278,648.50 4,800,599.00
				22	278,663.00 4,800,601.00
				23	278,665.30 4,800,478.50
				24	278,652.60 4,800,475.00
				25	278,577.70 4,800,419.50
				33	278,003.50 4,800,878.00
Ground Zo Pavement		20000		34	278,368.60 4,800,535.50
				35	278,210.50 4,800,281.00
				36	278,017.50 4,800,348.50
				37	278,093.60 4,800,838.50
				38	278,163.70 4,800,776.00
				39	278,290.10 4,800,906.50
Ground Zo Pavement		20000		40	278,289.20 4,800,957.00
				41	278,248.20 4,800,993.00
				52	277,456.20 4,799,905.00
				53	277,562.50 4,799,998.50
				54	277,678.40 4,799,888.00
				55	277,600.60 4,799,799.00
Ground Zo Pavement		20000		56	277,677.90 4,799,716.50
				57	277,571.60 4,799,620.00
				58	277,500.80 4,799,752.50
				59	277,344.90 4,799,560.50
				60	277,439.90 4,799,655.50
				61	277,521.50 4,799,578.00

## Ground Zone Input

Ground Zone Name	Type	Flow Resistivity cgs rayls	Points No.	Coordinates	
				X m	Y m
Ground Zo Pavement		20000		62	277,439.40 4,799,468.50
				63	277,261.20 4,799,470.50
				64	277,314.30 4,799,517.50
Ground Zo Pavement		20000		65	277,392.10 4,799,440.00
				66	277,338.50 4,799,378.50
				67	277,357.60 4,799,163.00
Ground Zo Pavement		20000		68	277,596.70 4,799,399.50
				69	277,701.80 4,799,442.00
				70	278,148.60 4,799,061.50
Ground Zo Pavement		20000		71	278,199.30 4,798,954.00
				72	277,870.80 4,798,659.50
				73	277,200.10 4,798,677.50
Ground Zo Pavement		20000		74	277,424.70 4,798,818.50
				75	277,632.40 4,798,622.00
				76	277,685.60 4,798,669.00
Ground Zo Pavement		20000		77	277,755.60 4,798,589.50
				78	277,500.80 4,798,377.00
				79	277,858.50 4,798,577.50
Ground Zo Pavement		20000		80	278,209.90 4,798,896.00
				81	278,195.40 4,798,675.00
				82	278,240.10 4,798,580.00
Ground Zo Pavement		20000		83	278,081.90 4,798,351.50
				84	278,366.90 4,799,022.50
				85	278,653.10 4,799,273.50
Ground Zo Pavement		20000		86	278,889.80 4,799,164.00
				87	279,004.50 4,799,179.50
				88	279,055.20 4,799,092.50
Ground Zo Pavement		20000		89	278,961.00 4,798,970.50
				90	278,848.70 4,798,899.00
				91	278,590.30 4,798,829.00
Ground Zo Pavement		20000		92	278,608.40 4,798,746.00
				93	278,813.70 4,798,831.00
				94	278,982.80 4,798,438.50
Ground Zo Pavement		20000		95	279,055.20 4,798,375.50
				96	279,083.00 4,798,085.50
				97	278,877.70 4,798,237.00
Ground Zo Pavement		20000		98	278,636.20 4,798,525.00
				99	278,641.00 4,798,662.00
				100	275,810.60 4,797,097.00
				101	276,105.20 4,797,360.50

## Ground Zone Input

Ground Zone Name	Type	Flow Resistivity cg/s ray/s	Points No.	Coordinates		
				X m	Y m	
Ground Zo Pavement		20000		102	276,160.80	4,797,330.00
				103	276,114.80	4,797,244.50
				104	275,869.70	4,797,016.00
				105	275,862.50	4,796,913.50
				106	276,232.00	4,797,207.00
				107	276,282.70	4,797,239.50
				108	276,351.60	4,797,195.00
				109	276,339.50	4,797,116.50
				110	276,250.10	4,796,959.50
				111	276,033.90	4,796,730.00
				112	275,543.20	4,796,670.00
Ground Zo Pavement		20000		113	275,747.20	4,796,841.50
				114	276,002.10	4,796,534.50
				115	275,875.20	4,796,397.00
				116	276,064.90	4,796,230.50
				117	275,720.70	4,795,884.00
				118	275,595.10	4,796,014.50
				119	275,620.50	4,796,089.50
				120	275,532.30	4,796,404.50
				121	275,679.60	4,796,543.00
				122	274,746.70	4,795,998.00
				123	274,988.20	4,796,209.50
Ground Zo Water		20000		124	275,087.20	4,796,168.00
				125	274,792.50	4,795,935.50
				126	276,877.20	4,795,824.00
				127	279,414.20	4,797,083.00
				128	279,921.70	4,796,973.00
				129	280,056.20	4,796,814.00
				130	280,374.10	4,795,811.50
				131	277,549.70	4,794,723.00
				132	280,449.90	4,797,749.50
				133	280,798.30	4,798,238.50
				134	282,082.20	4,797,761.50
Ground Zo Water		20000		135	282,173.90	4,796,227.50
				136	280,822.80	4,795,683.00
				137	280,486.60	4,796,478.00
				138	280,419.30	4,797,230.00
				139	279,767.00	4,797,220.00
				140	279,800.20	4,797,221.00
				141	279,823.80	4,797,210.50

# Ground Zone Input

Ground Zone Name	Type	Flow Resistivity cgs rayls	Points No.	Coordinates	
				X m	Y m
Ground Zo Water		20000	142	279,881.90	4,797,185.50
			143	279,977.90	4,797,088.00
			144	279,981.30	4,797,052.50
			145	279,927.30	4,796,972.50
			146	279,875.30	4,796,998.50
			147	279,955.10	4,797,075.50
			148	279,881.60	4,797,165.00
			149	279,763.10	4,797,207.00
			150	279,667.10	4,797,291.00
			151	279,642.50	4,797,304.00
			152	279,623.80	4,797,328.50
			153	279,608.80	4,797,410.00
			154	279,598.10	4,797,427.50
			155	279,570.20	4,797,445.00
			156	279,512.90	4,797,470.50
			157	279,504.60	4,797,481.00
			158	279,484.70	4,797,541.50
			159	279,476.50	4,797,541.00
160	279,500.20	4,797,470.00			
161	279,511.20	4,797,459.50			
162	279,554.90	4,797,444.00			
163	279,590.20	4,797,421.50			
164	279,597.60	4,797,414.00			
165	279,608.00	4,797,378.50			
166	279,621.50	4,797,311.50			
167	279,637.40	4,797,293.50			
168	279,664.70	4,797,282.00			
169	278,254.60	4,800,288.50			
170	278,394.40	4,800,494.50			
171	278,539.00	4,800,354.50			
172	278,516.10	4,800,258.00			
173	278,309.20	4,800,112.50			
174	278,265.80	4,800,183.00			
175	278,296.30	4,800,261.50			
176	277,776.60	4,800,438.50			
177	277,840.40	4,800,382.50			
178	277,769.60	4,800,328.50			
179	277,828.60	4,800,267.50			
180	277,749.70	4,800,191.50			
181	277,777.10	4,800,162.50			
Ground Zo Pavement		20000	176	277,776.60	4,800,438.50
			177	277,840.40	4,800,382.50
			178	277,769.60	4,800,328.50

## Ground Zone Input

Ground Zone Name	Type	Flow Resistivity cgs rayls	Points No.	Coordinates	
				X m	Y m
			182	277,720.80	4,800,097.00
			183	277,599.50	4,800,207.00
			184	277,738.50	4,800,314.00
			185	277,676.70	4,800,349.50
Ground Zo	Pavement	20000	186	278,868.30	4,800,615.00
			187	278,866.50	4,800,483.00
			188	278,892.60	4,800,483.50
			189	278,992.30	4,800,558.50
			190	278,990.20	4,800,620.50

## Building Row Input

Building Row Name	Average Height m	Building Percent %	Points No.	Coordinates (ground)		
				X m	Y m	Z m
Buildings for R113-R114	4	80		13 279,580.80	4,801,381.00	113
				14 279,629.10	4,801,432.50	113
				15 279,623.70	4,801,439.00	113
				16 279,723.20	4,801,531.00	113
				17 279,713.20	4,801,540.00	113
				18 279,746.40	4,801,571.50	113
				19 279,739.30	4,801,516.50	112.8
Buildings for R115-R118				20 279,602.60	4,801,359.50	112.8
				21 279,582.20	4,801,379.50	113
	4	80		22 279,304.80	4,800,930.50	106
				23 279,484.40	4,801,114.50	106
				24 279,627.70	4,801,308.50	109.8
				25 279,695.30	4,801,400.00	109.8
				26 279,718.70	4,801,426.50	109.8
				27 279,746.80	4,801,397.50	109.8
				28 279,349.90	4,800,889.00	106
				29 279,305.10	4,800,929.50	106