

HIGHWAY-27 WOODBINE STATION ENVIRONMENTAL PROJECT REPORT

VOLUME 1
MAIN REPORT

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Metrolinx

Highway 27-Woodbine Station Environmental Project Report

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Executive Summary

Woodbine Entertainment Group (WEG) has proposed a new GO Station to be developed in partnership with Metrolinx, located at 555 Rexdale Boulevard (Woodbine Racetrack) in the City of Toronto (the Project). The Project has been assessed under the Transit Project Assessment Process (TPAP), as prescribed in *Ontario Regulation (O. Reg.) 231/08* under the *Environmental Assessment Act*. More information related to the study process is provided in **Section 2**.

AECOM Canada Limited (AECOM) was retained by WEG to undertake an environmental impact assessment for the Highway 27-Woodbine Station per the TPAP. This Environmental Project Report (EPR) has been completed as part of the TPAP, under which project impacts have been assessed in accordance with *O. Reg. 231/08* under the *Environmental Assessment Act*.

ES1. Purpose of the Transit Project

The purpose of the Project is to provide a new transit station that offers safe, accessible, and efficient transit options to residents of the Etobicoke community and surrounding areas. As part of Ontario's broader strategy to deliver more transit solutions in the Greater Golden Horseshoe (GGH), the Highway 27-Woodbine Station will address transit needs in the area. The new transit station will ultimately better connect nearby residents to the GO network and strengthen connections to other parts of Toronto and surrounding cities in close proximity to the Project Site in Etobicoke (e.g., Mississauga, Brampton, Vaughan, etc.).

In addition to improving transit service and transit accessibility in the Etobicoke community and surrounding areas, the new transit station will also support future development at the Woodbine Districts and beyond, and new employment, housing, and entertainment opportunities. A new transit station will offer opportunities to live and work near a major employment and entertainment hub, as well as provide better access to the local community to employment opportunities in the area.

ES2. Project Description

There are currently six tracks, along with associated cables, drainage, and services, that service the Kitchener Rail Corridor within the Project Site.

The proposed Project will include:

- Two island platforms (north and south);
- Passenger pick up and drop off (PPUDO);
- Bus loop;
- Passenger plaza;
- Vehicle parking;
- Bicycle storage facility;
- Station building;
- Roadway with direct access to the station building, parking facility and public roadway;
- Electrification enabling infrastructure at the station (e.g. integration of support structures into platform areas and grounding and bonding); and
- New tracks and/or realignment of the existing tracks.

More information related to each of these aspects of the Project is provided in **Section 3**. The concept design is also provided in **Appendix A**.

ES3. Environmental Conditions and Effects

Environmental disciplines were assessed by practitioners using industry standard techniques and Metrolinx-specific protocols, where necessary. Discipline-specific environmental investigations were undertaken to document the existing conditions for the following disciplines in the EPR:

- Natural Environment;
- Geology and Groundwater
- Air Quality;
- Noise and Vibration;
- Socio-Economic and Land Use Characteristics;
- Cultural Heritage;
- Archaeology; and
- Traffic and Transportation.

Existing conditions information for each discipline is provided in **Section 4**.

An assessment and evaluation of the potential effects that the Project may have on the environment was completed for each aforementioned environmental discipline. Based on the findings of the technical studies and the effects evaluation, this Project is not anticipated to result in negative impacts on matters of provincial importance that relate to the natural environment, that have cultural heritage value or interest, or that negatively affect a constitutionally protected Aboriginal or treaty right. Mitigation measures have been proposed for the construction and operations phase for each environmental discipline.

The effects assessment, including potential effects, mitigation and monitoring during construction and operations, for each discipline is provided in **Section 5**. Separate technical reports were prepared for all disciplines, with the exception of geology and groundwater, which can be found in **Appendix B**.

Considerations related to climate change are provided in **Section 6**.

ES4. Summary of Consultation Activities

In accordance with Section 8 of *O. Reg. 231/08*, consultation activities were carried out with members of the public, property owners, review agencies, Indigenous communities, and other stakeholders during the course of the Project, including a summary of feedback and comments received.

As part of the TPAP Pre-Planning Activities, one Public Meeting was held on October 10, 2019 at the Humberwood Community Centre to introduce the Project. The purpose of this Public Meeting was to provide members of the public an opportunity to gather information about the Project, ask questions to the Project staff available at the meetings, and provide feedback.

The official Notice of Commencement of the TPAP was issued to the public on November 21, 2019 through a variety of media (e.g., Project Webpage, registered mail, postings at local libraries, social media). In conjunction with the Notice of Commencement, an online survey was available from November 21, 2019 to December 20, 2019 to obtain further public and stakeholder feedback on the Project related to impacts of the Project and mitigation measures.

Stakeholder consultation is summarized in **Section 7** and all records of consultation are provided in **Appendix C**.

ES5. Future Work and Project Implementation

Commitments to future work have been developed to satisfy the requirements of *O. Reg. 231/08*. Specifically, the purpose of the commitments is to facilitate the implementation of the Project in accordance with the mitigation measures and monitoring activities described within and in a manner that minimizes, avoids, or eliminates negative

effects on the natural, socio-economics, cultural and transportation environments. In addition to the commitments to future work, permits and approvals obtained for the proposed works have been outlined and may identify the need for additional mitigation. Any additional mitigation measures required in connection with a permit or approval will also be implemented.

A summary of all permits, approvals and future commitments is provided in **Section 8**.

Subject to environmental approval, design and construction of the Project is anticipated to begin in 2020.

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List of Acronyms

<u>Acronym</u>	<u>Definition</u>
AA	Archaeological Assessment
APTA	American Public Transportation Association
ASDB	Archaeological Sites Database
BCI	Bat Conservation International
CHER	Cultural Heritage Evaluation Report
CHP	Cultural Heritage Property
CHR	Cultural Heritage Resource
CHSR	Cultural Heritage Screening Report
CNR	Canadian National Rail
COSEWIC	Committee on the Status of Endangered Wildlife in Canada
COSSARO	Committee on the Status of Species at Risk in Ontario
CTC	Central Lake Ontario
DFO	Fisheries and Oceans Canada
EASR	Environmental Activity and Sector Registry
ECCC	Environment and Climate Change Canada
ELC	Ecological Land Classification
EMMP	Environmental Mitigation and Monitoring Plan
EPA	Environmental Protection Agency
EPR	Environmental Project Report
ESA	<i>Endangered Species Act</i>
ESA	Environmentally Significant Area
GHG	Greenhouse Gas
GO	Government of Ontario
GSC	Geological Survey of Canada
HVA	Highly Vulnerable Aquifer
HVAC	Heating, Ventilation, and Air Condition
IPZ	Intake Protection Zones
MBCA	<i>Migratory Bird Convention Act</i>
MCFN	Mississaugas of the Credit First Nation
MECP	Ministry of the Environment, Conservation and Parks
MHSTCI	Ministry of Heritage, Sport, Tourism and Culture Industries
MNR	Ministry of Natural Resources
MNRF	Ontario Ministry of Natural Resources and Forestry
MOECC	Ontario Ministry of the Environment and Climate Change (now MECP)
MTCS	Ontario Ministry of Tourism, Culture and Sport (now MHSTCI)
MUP	Multi-use Path
NER	Natural Environment Report
NHIC	Natural Heritage Information Centre
NHIS	Natural Heritage Impact Study
NHS	Natural Heritage System
<i>O. Reg.</i>	<i>Ontario Regulation</i>
OBA	Ontario Butterfly Atlas
OBBA	Ontario Breeding Birds Atlas
OGS	Ontario Geological Survey
<i>OHA</i>	<i>Ontario Heritage Act</i>
ON	Ontario
ORAA	Ontario Reptile and Amphibian Atlas

<u>Acronym</u>	<u>Definition</u>
PHP	Provincial Policy Statement
PPR	Preliminary Project Review
PPS	Peak Particle Velocity
PTTW	Permit to Take Water
SAR	Species at Risk
SARA	<i>Species at Risk Act</i>
SARO	Species at Risk in Ontario
SOCC	Species of Conservation Concern
SWH	Significant Wildlife Habitat
SWM	Stormwater Management
TAC	Technical Advisory Committee
TIS	Traffic Impact Study
TPAP	Transit Project Assessment Process
TRCA	Toronto and Region Conservation Authority
US	United States
USA	United States of America
WHPA	Well Head Protection Areas

Units of Measure

Unit	Definition
cm	centimetres
ha	hectares
hr	hour
Hz	hertz
km	kilometres
L/day	litres per day
Leq	equivalent continuous sound level
m	metres
masl	metres above sea level
mbgs.	metres below ground surface
Mi.	mile marker
mm/s	millimetres per second
mm Dia.....	millimetre diameter
vpd	vehicles per day
vph	vehicles per hour

1. Introduction

1.1 Project Overview

Woodbine Entertainment Group (WEG) has proposed a new GO Station to be developed in partnership with Metrolinx, located at 555 Rexdale Boulevard (Woodbine Racetrack) in the City of Toronto (the Project). AECOM Canada Limited (AECOM) was retained by WEG to undertake an environmental impact assessment for the Highway 27-Woodbine Station under the Transit Project Assessment Process (TPAP), as prescribed in *Ontario Regulation (O. Reg.) 231/08* under the *Environmental Assessment Act*. This Environmental Project Report (EPR) has been completed as part of the TPAP, under which project impacts have been assessed in accordance with *O. Reg. 231/08* under the *Environmental Assessment Act*. For TPAP purposes, Metrolinx is the proponent. WEG will be constructing the Project and will be responsible for the corresponding mitigation and commitments to future work.

Due to future development and increased demand at the Woodbine Districts, an early stage initiative calls for the expansion of new public transit options to service the area. The station is anticipated to evolve into a multi-modal transportation hub that will increase annual visits to the Woodbine Districts to potentially over 16 million. GO Transit currently operates train service along the Kitchener Rail Corridor, from Union Station in Toronto to Kitchener GO Station in Kitchener. The new proposed Project will provide a new station stop along the Kitchener Rail Corridor.

The proposed Project will include:

- Two island platforms (north and south);
- Passenger pick up and drop off (PPUDO);
- Bus loop;
- Passenger plaza;
- Vehicle parking;
- Bicycle storage facility;
- Station building;
- Roadway with direct access to the station building, parking facility and public roadway;
- Electrification enabling infrastructure at the station (e.g. integration of support structures into platform areas and grounding and bonding); and
- New tracks and/or realignment of the existing tracks.

The Project Site and Study Area are described in **Section 1.3**.

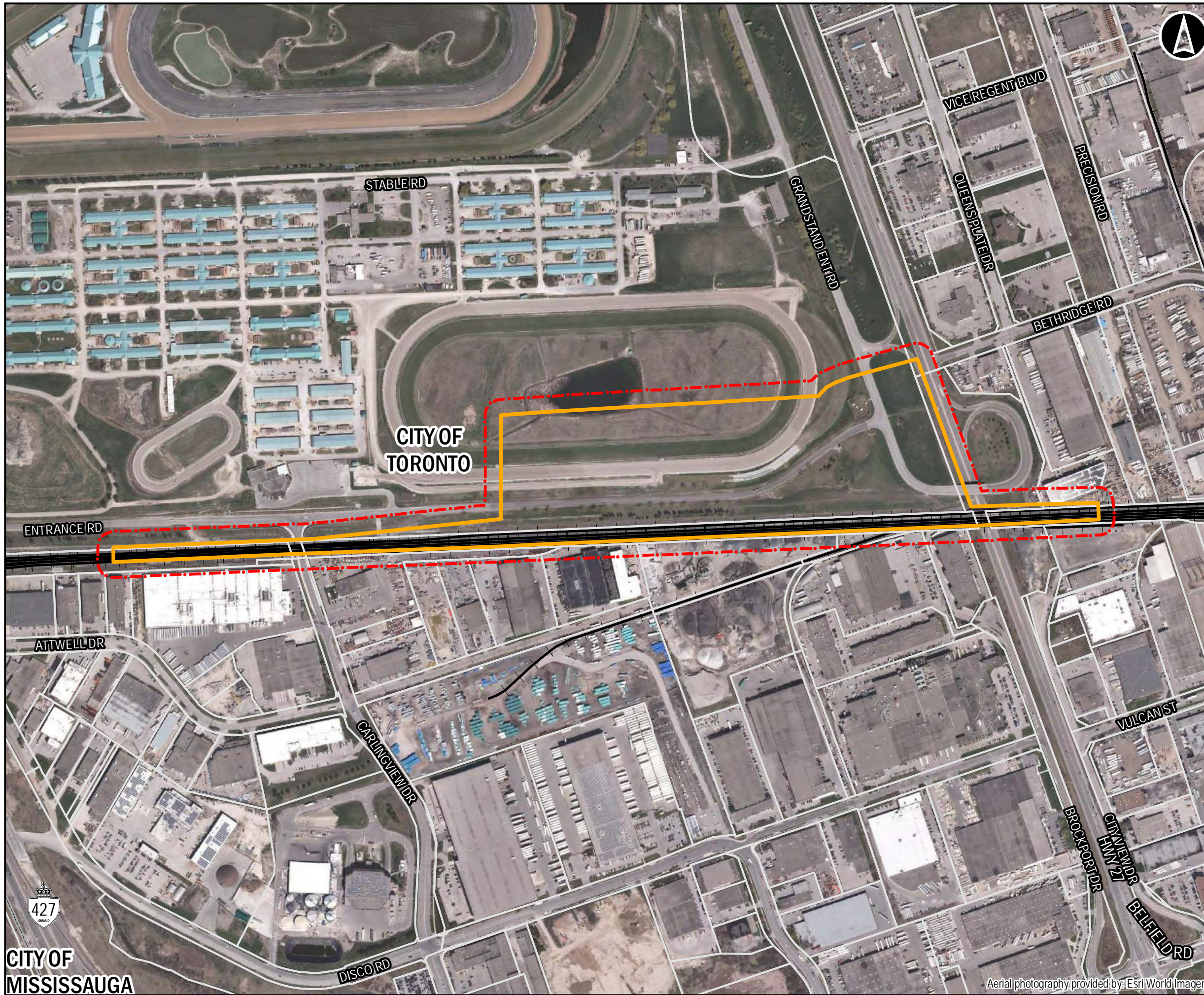
1.2 Purpose of the Transit Project

The purpose of the Project is to provide a new transit station that offers safe, accessible, and efficient transit options to residents of the Etobicoke community and surrounding areas. As part of Ontario's broader strategy to deliver more transit solutions in the Greater Toronto and Hamilton Area (GTHA), the Highway 27-Woodbine Station will address transit needs in the area. The new transit station will ultimately better connect nearby residents to the GO network and strengthen connections to other parts of Toronto and surrounding cities in close proximity to the Project Site in Etobicoke (e.g., Mississauga, Brampton, Vaughan, etc.).

In addition to improving transit service and transit accessibility in the Etobicoke community and surrounding areas, the new transit station will also support future development at the Woodbine Districts and beyond, and new employment, housing, and entertainment opportunities. A new transit station will offer opportunities to live and work near a major employment and entertainment hub, as well as provide better access to the local community to employment opportunities in the area. As noted in **Section 1.1**, the Project supports the larger vision to develop the surrounding area that will help attract millions of visitors annually and serve the surrounding community.

1.3 Description of the Project Site

The Project Site is an approximate 17-acre parcel of land located on the southeast corner of Woodbine Districts west of Highway 27 and south of Rexdale Boulevard in the City of Toronto (the Project Site), which is represented by the yellow boundary in **Figure 1-1**. The Project Site encompasses the southeastern portion of the practice racetrack, the southern portion of the southeast stormwater pond, the eastern portion of Entrance Road, the southern portion of Grandstand Entrance Road, a portion of the rail tracks east and west of Highway 27, and the Highway 27 underpass structure. For the purposes of investigations, the area of assessment included a minimum 25 m buffer (the Study Area), which is represented by the orange boundary in **Figure 1-1**. This buffer was considered at the time of the field investigations to accommodate for potential adjustments to the conceptual design of the Project.

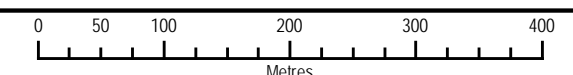


Legend

- Project Site
- Study Area
- Metrolinx-owned rail corridor
- Property Boundary

Highway 27-Woodbine Station EA

Project Study Area



DATUM: NAD 1983 UTM Zone 17N

Aug, 2019

1:6,000

Data Sources:
MNRF, City of Toronto

P#:60606819

Rev:00



Figure 1-1

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CITY OF MISSISSAUGA

Aerial photography provided by: Esri World Imagery

Map location: \\CAHAM\FM\F001\Projects\60606819 - Woodbine - Tremont - Station - EA\000-CAD - GIS\20-0223 - GIS-Graphics\Design\01 - Reports\WA-P-2019-08-19-WoodbineStationStudyArea-60606819.mxd
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In order to complete environmental and technical studies in support of this TPAP, the discipline-specific Study Areas extend to include an area of buffer around the Project Site to account for additional environmental features that may be potentially affected by the proposed Project. The discipline specific Study Areas, for environmental investigations and technical reports, are outlined in **Table 1-1**, and the rationales for these Study Areas are provided in the associated discipline reports (**Appendix B1** to **Appendix B8**).

Table 1-1: Study Areas by Discipline

Appendix	Discipline	Study Area
B1	Natural Environment	The Natural Environment Study Area is defined as extending 120 m from the limits of the Project Site.
N/A¹	Geology and Groundwater	The Geology and Groundwater Study Area is defined as extending 500 m from the limits of the Project Site.
B2	Air Quality	The Air Quality Study Area is defined as extending 500 m from the limits of the Project Site.
B3	Noise and Vibration	The Noise and Vibration Study Area is defined as extending 500 m from the limits of the Project Site.
B4	Socio-Economic and Land Use Characteristics	The Socio-Economic and Land Use Characteristics Study Area is defined as extending 300 m from the limits of the Project Site.
B5	Cultural Heritage	The Cultural Heritage Study Area is defined as extending 50 m from the limits of the Project Site.
B6	Stage 1 Archaeological Assessment	The Archaeology Study Area is defined as extending 50 m from the limits of the Project Site.
B7	Stage 2 Archaeological Assessment	The Archaeology Study Area is defined as extending 50 m from the limits of the Project Site.
B8	Traffic and Transportation	The Traffic and Transportation Study Area is defined as the assessment of the following intersections surrounding the Woodbine Districts block where the Project Site is contained: <ul style="list-style-type: none"> • Highway 27 at Belfield Road • Highway 27 at Bethridge Road • Highway 27 at Vice Regent Boulevard • Highway 27 at Nearctic Drive • Highway 27 at Rexdale Boulevard • Rexdale Boulevard at Queens Plate Drive • Rexdale Boulevard at Humberwood Boulevard • Goreway Drive at Club House Road • Entrance Road at Carlingview Drive

1.4 Proponent

WEG has proposed a new GO Station to be developed in partnership with Metrolinx, located at 555 Rexdale Boulevard (Woodbine Racetrack) in the City of Toronto. Metrolinx is the proponent under the TPAP and WEG will fund and construct the project. The prescribed steps of the TPAP have been coordinated with WEG, including specified time frames, and providing adequate opportunities for review and comment by a broad range of stakeholders, culminating with the Minister of the Environment, Conservation and Parks' 35-day period to act,

¹ A specific Geology and Groundwater Report was not prepared for the Project. All information related to geology and groundwater is based on a desktop study approach, as described in this EPR. See **Section 4.2.1** for more details.

within no more than six months of the start of the process. If the Minister does not act within the 35 days and the review period expires, the proponent may issue a Statement of Completion and proceed with design and construction. See **Section 2.4** for more details related to the Minister's review of a transit project under the TPAP.

2. Study Process

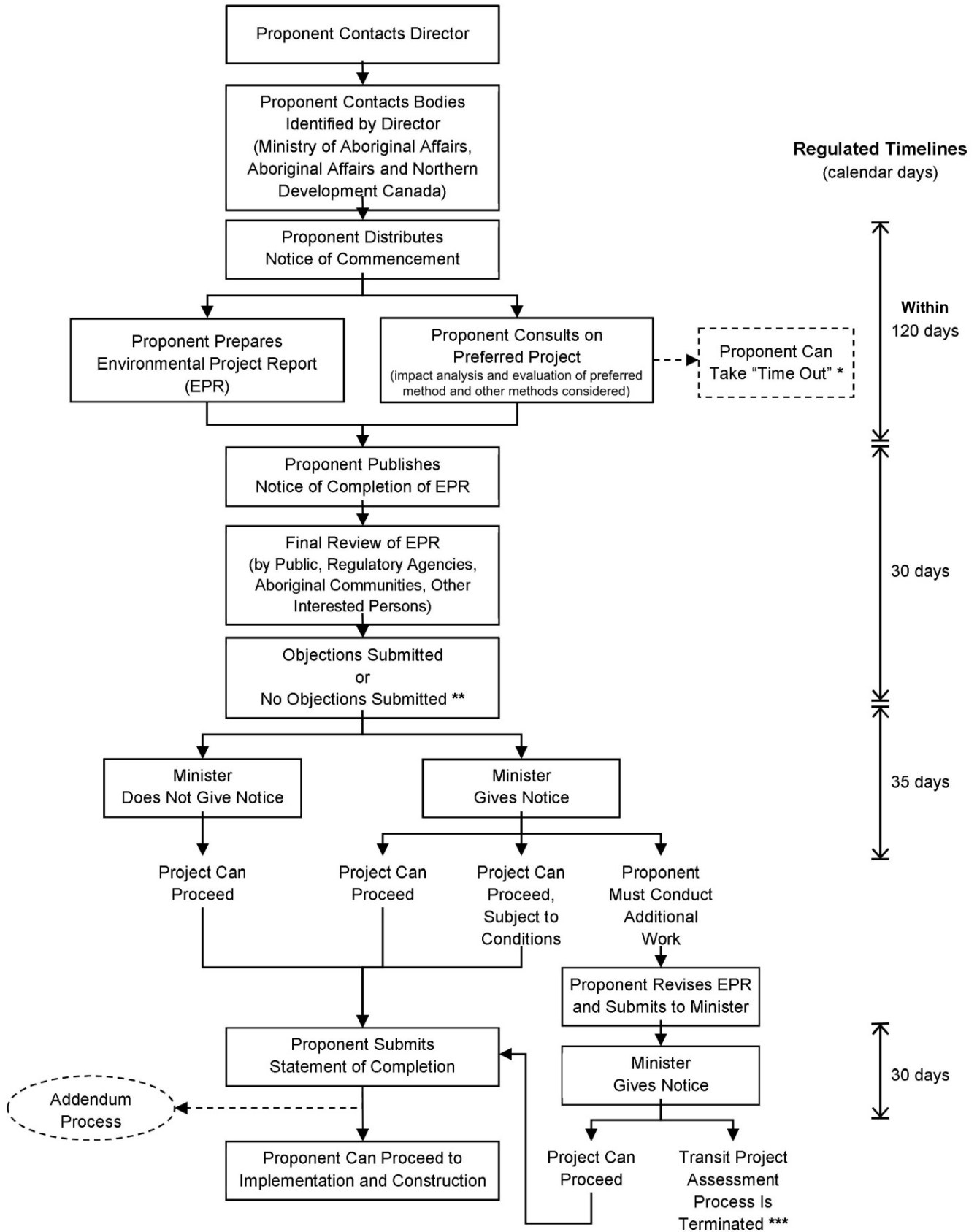
2.1 Transit Project Assessment Process (TPAP)

This EPR was prepared in accordance with *O. Reg. 231/08, Transit Projects and Metrolinx Undertakings* (Transit Projects Regulation). In accordance with Schedule 1 of *O. Reg. 231/08*, the construction of a new transit station meets the requirements of the Transit Projects Regulation. The TPAP is a proponent-driven, self-assessment process that provides a defined framework for the proponent to follow to accelerate assessment and decision-making surrounding potential environmental effects for a selected Project. The assessment and decision-making are undertaken within a maximum 120-day regulated assessment timeline followed by a 30-day public and agency review and a 35-day period to act by the Minister of the Environment, Conservation and Parks.

Proponents are encouraged to undertake preliminary investigations and consultation through Pre-Planning activities prior to the commencement of the TPAP. Following completion of the Pre-Planning activities, the proponent initiates the TPAP by issuing a Notice of Commencement. It is at this point that the regulated 120-day timeframe commences.

The prescribed steps of the TPAP per *Ontario's Transit Project Assessment Guide* (Government of Ontario, 2014) are outlined in **Figure 2-1**.

Figure 2-1: Transit Project Assessment Process



2.1.1 *Pre-Planning Activities*

In preparation for the official commencement of a TPAP (via a Notice of Commencement; see **Figure 2-1**), a number of 'Pre-Planning activities' are undertaken in order to provide a better understanding of the Project context prior to commencing the TPAP. The Pre-Planning activities for this Project are described below.

2.1.2 *Description of Existing Environmental Conditions*

The existing environmental conditions within the Project Site and within discipline-specific environmental Study Areas (**Table 1-1**) were established as part of the Pre-Planning activities through a combination of desktop review and field studies. Each of the primary environmental disciplines was assessed by practitioners using industry standard techniques and Metrolinx-specific protocols, as appropriate. Discipline-specific reviews were undertaken to document the existing conditions for the following disciplines:

- Natural Environment;
- Geology and Groundwater
- Air Quality;
- Noise and Vibration;
- Socio-Economic and Land Use Characteristics;
- Cultural Heritage;
- Archaeology; and
- Traffic and Transportation.

2.1.3 *Public and Stakeholder Consultation*

In order to build strong relationships, to develop an understanding of local issues in the surrounding communities, and to ensure communities stayed engaged and informed, consultation occurred with the public and a range of interested parties, including: the City of Toronto, Indigenous communities, elected officials, utility companies, and local community groups/businesses. The Draft EPR was released to technical review agencies including the Ministry of the Environment, Conservation and Parks (MECP), Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI), and City of Toronto for review and comment. Supporting reports, as appended to the EPR, were also shared with technical review agencies for review as appropriate based on their interests.

A consultation strategy was implemented for the Project that includes a dedicated Project Webpage (www.woodbine.com/transit.ea), a Public Meeting, an online survey, e-mail communications, focused stakeholder meetings, community postings, and engagement with Indigenous communities. The consultation program followed for this Project is further detailed in **Section 7** and consultation materials are included in **Appendix C**. The consultation materials found in **Appendix C** includes the Project Mailing List, notices, pre-TPAP consultation, TPAP consultation, Consultation Summary Report, and agency review comment/response tables.

Consultation activities (e.g., Public Meeting and online survey) and focused meetings provided an opportunity for interested persons to speak directly with the Project Team, and allowed WEG and Metrolinx to introduce the Project and garner comments on:

- The description of existing environmental conditions within the Study Area;
- The potential environmental effects of the Project; and
- Recommended mitigation and monitoring measures to address environmental effects.

During the Pre-Planning activities prior to the TPAP, one Public Meeting was held in October 2019. Interested parties were also given an opportunity to provide feedback on the Project during the TPAP via online survey during an open consultation period from November to December 2019. Notification of the Public Meeting and online survey were each provided through the Project webpage, local newspaper advertisements, social media, and mailings and/or e-mails to the Project Mailing List (**Appendix C1**). Further information on consultation can be found in **Section 7**.

2.1.4 Key Steps of the Transit Project Assessment Process (TPAP)

The TPAP defines the following series of steps (see **Figure 2-1**) to be undertaken by the proponent that allows the process to be completed within approximately six months:

- Contact the MECP to help identify Indigenous communities that may be interested in the Project;
- Issue a Notice of Commencement of the TPAP;
- Assess environmental effects, develop mitigation, and consult with the public and other stakeholders and interested persons;
- Issue a Notice of Completion of the EPR (within 120 days of the Notice of Commencement);
- Provide 30 days for the public, review agencies, Indigenous communities, and other interested persons to review the EPR;
- Provide 35 days for the Minister of the Environment, Conservation and Parks to review the EPR; and
- Submit a Statement of Completion.

For more information regarding the TPAP, refer to *O. Reg. 231/08, Transit Projects and Metrolinx Undertakings* (Transit Projects Regulation) and the *Guide to Environmental Assessment Requirements for Transit Projects* (MOECC, 2016a).

2.2 Planning Context and Other Projects

Woodbine Districts has approximately 6 million annual visitors, which is expected to increase to potentially over 16 million upon completion of Phase One of the future development. WEG's focus on responsible redevelopment including a vibrant, transit-based, mixed-use community and destination — a 'city within a city' — reinforces the need for a new transit station to service both the existing community and the new development. As described in **Section 1.2**, the Highway 27-Woodbine Station is required to accommodate the increased demand in ridership in and out of the Woodbine Districts. WEG will coordinate future development plans with Metrolinx to ensure there is no impact to the operations of the station.

As the Project will provide a new station stop along the Kitchener Rail Corridor, the following previously assessed transit projects pertain to rail corridor:

- Expansion of the Kitchener Rail Corridor and associated operations within the Highway 27-Woodbine Station Study Area is addressed in the separate Georgetown South Service Expansion and Union Pearson Rail Link Environmental Project Report (2009); and,
- Electrification of the Kitchener Corridor within the Highway 27-Woodbine Station Study Area is addressed in the separate GO Rail Network Electrification TPAP (2017).

While the potential existence of a future station in the general area of the Highway 27-Woodbine Station Study Area has been previously acknowledged, environmental impacts of the proposed Highway 27-Woodbine Station is subject to a station specific assessment as is addressed in this EPR.

2.3 Environmental Project Report (EPR) Organization

The documentation of the TPAP, as provided in this EPR, shall be submitted to MECP and filed for public review within 120 days of publishing the Notice of Commencement. This EPR documents the existing environmental conditions within the Study Area, the potential environmental effects of the Project through construction and operation, recommended mitigation measures and monitoring, the consultation process followed, and future commitments for the Project.

Table 2-1 below summarizes the information that is required to be included in the EPR as applicable to this Project, as specified in pages 33-34 of the *Guide to Environmental Assessment Requirements for Transit Projects* (MOECC, 2016a), and the associated section of this EPR where it has been addressed.

Table 2-1: Summary of EPR Requirements

EPR Requirement	Section of EPR
A statement of the purpose of the transit project and a summary of any background information relating to the Project.	Section 1
A final description of the transit project including a description of the preferred design method.	Sections 1 and 3
A description of any other design methods that were considered once the project commenced the transit project assessment process.	N/A
A map showing the site of the transit project.	Section 1
A description of the local environmental conditions at the site of the transit project.	Section 4
A description of all studies carried out, including a summary of all data collected or reviewed and a summary of all results and conclusions.	Sections 4 and 5
The assessments, evaluation and criteria for any impacts of the preferred design method and any other design methods that were considered once the TPAP commenced.	Section 5
A description of any proposed measures for mitigating any negative impacts the transit project might have on the environment.	Section 5
If mitigation measures are proposed, a description of the proposal for monitoring or verifying the effectiveness of the mitigation measures.	Sections 5 and 8
A description of any municipal, provincial, federal, or other approvals or permits that may be required.	Section 8
A record of consultation.	Section 7

2.4 Objection Process, Minister's Review and Statement of Completion

The submission of this EPR and the issuance of the Notice of Completion triggers the 30-day public review period. During this time, if members of the public, regulatory agencies, Indigenous communities, or other interested persons have concerns about this transit project, objections can be submitted to the Minister. After the 30-day review period has ended, any objections received will not be considered, and the Minister has 35 days within which certain authority may be exercised.

Persons wishing to submit an objection for consideration by the Minister should provide the following information:

- Name, mailing address, organization or affiliation (where applicable), daytime telephone number, e-mail address (where possible);
- Contact details of the proponent including name, address and telephone number;
- Brief description of the proponent's proposed undertaking, including the location;
- Basis for why further study is required, including identification of any negative impacts concerning a matter of provincial importance that relates to the natural environment or has cultural or heritage value or interest, or a constitutionally protected Aboriginal (Indigenous) or treaty right that was not identified in the proponent's EPR; and
- Summary of how the person(s) objecting have participated in the Project's consultation process.

Whether or not there is public objection, the Minister may act within the 35-day period to issue one of the following three notices to the proponent:

- Notice to proceed with the planned transit project as documented in its EPR;

- Notice that requires the proponent to take further steps, which may include further study or consultation; or,
- Notice allowing the proponent to proceed with the transit project subject to conditions.

The Minister may give notice allowing the proponent to proceed with its transit project but, under TPAP, can only act if there is potential for a negative impact on a matter of provincial importance that relates to the natural environment or has cultural heritage value or interest, or a constitutionally protected Aboriginal (Indigenous) or treaty right. If the Minister issues a notice to proceed with the transit project, or does not act within the 35-day period, the proponent may then issue a Statement of Completion. The Statement of Completion will indicate that proponent intends to proceed with the transit project in accordance with either:

- The EPR;
- The EPR subject to conditions set out by the Minister; or,
- The Revised EPR.

The TPAP is completed when a proponent submits a Statement of Completion to the Director and the Regional Director of MECP excluding any unforeseen circumstances that may require a change to the transit project.

The construction or implementation of the transit project subject to the TPAP cannot begin until the requirements of the process have been satisfied. Subject to these requirements, the transit project may proceed subject to any other required approvals.

2.5 Addendum Process

The Project presented in this EPR is not a static plan, nor is the context in which it is being assessed, reviewed, approved, constructed, and used. Given the potential for changes to the Project resulting from the approvals, detailed design, and construction processes, it is prudent to include in the EPR a description of the responsibilities of the proponent should changes be required in the Project following Statement of Completion.

This EPR identifies the impacts associated with the Project, and the property envelope within which the Project can feasibly be constructed. The actual layout of Project elements (as described in **Section 1.1**) are subject to detailed design and any variation from that shown in this EPR, unless it results in an environmental impact which cannot be accommodated within the committed mitigation measures, does not require additional approval under *O. Reg. 231/08*.

The TPAP includes provisions (in Section 15 of the Regulation) for proponents to make changes to a transit project after the Statement of Completion is submitted to the MECP Director of the Environmental Assessment and Permissions Branch and the MECP Regional Director (Central Region).

In compliance with Section 15(1) of the Regulation, an addendum to the EPR shall be prepared if there is a proposed change to the Project that is inconsistent with the EPR after the Statement of Completion is issued. A change that is inconsistent with the EPR is generally defined as one for which the effects have not been accounted for in the EPR, either directly or through a contingency planning approach in which a worst-case scenario has been contemplated and a protocol for addressing change has been included in the EPR. If the proposed change would result in a lesser impact than planned for and meets the mitigation intents identified in the EPR, it may be deemed to be consistent with the EPR and therefore no addendum is required. Changes to the Project may also be required if there is a significant lapse of time (i.e., ten years) between the Statement of Completion and the start of construction, which will require a formal review of the Project by the proponent in consultation with relevant stakeholders (in accordance with Section 16 of the Regulation).

If changes to the Project indicate that an EPR addendum is required, it must include the following information:

- A description of the proposed change;
- The reason for the proposed change;
- An assessment and evaluation of any impacts that the proposed change might have on the environment;
- A description of any proposed measure for mitigating any negative impacts that the proposed change might have on the environment; and
- A statement of whether the proponent is of the opinion that the proposed change is significant (or not), and the reasons for the opinion.

All changes that are inconsistent with the EPR require an addendum, but not all changes require a Notice of Environmental Project Report Addendum. If a proponent is of the opinion that the proposed change is not significant, the proponent must document the reasoning behind this opinion and keep a record of the addendum to the EPR with its project file/documentation.

3. Project Description

The concept design for the Project is provided in **Appendix A**. As indicated in **Section 1.1**, the proposed Project will include:

- Two island platforms (north and south);
- Passenger pick up and drop off (PPUDO);
- Bus loop;
- Passenger plaza;
- Vehicle parking;
- Bicycle storage facility;
- Station building;
- Roadway with direct access to the station building, parking facility and public roadway;
- Electrification enabling infrastructure at the station (e.g. integration of support structures into platform areas and grounding and bonding); and
- New tracks and/or realignment of the existing tracks.

Figure 3-1 shows the current site plan layout.

3.1 Existing Infrastructure

3.1.1 Track Configuration

There are currently six tracks, along with associated cables, drainage, and services, that service the Kitchener Rail Corridor within the Project Site. From north to south, the tracks exist as follows:

- North Service Track
- Mainline Tracks:
 - Weston Track T0
 - Weston Track T1
 - Weston Track T2
 - Weston Track T3
- South Service Track

3.1.2 Site Servicing and Utilities

The Project Site is currently serviced by City of Toronto municipal services (i.e., Toronto Water, Toronto Hydro), as well as private utilities (i.e., Rogers, Bell, Enbridge).

3.2 Design Elements

3.2.1 Track Realignment and Platforms

In order to make sufficient space within the rail corridor to accommodate two platforms, the existing track configuration will be modified. Modification to the existing tracks is required to accommodate for the installation of a North Island Platform between Weston Track T0 and Weston Track T1, and a South Island Platform between Weston Track T2 and Weston Track T3. From north to south, the track realignment and platforms are proposed as follows:

- North Service Track
- Weston Track T0
- North Island Platform
- Weston Track T1
- Weston Track T2
- South Island Platform
- Weston Track T3
- South Service Track

Modifications will begin west of the Highway 27 Bridge to avoid impacts to the structure, and the tracks will be separated until the signal bridge to the west.

It is prescribed that each platform shall be 315 m in length and will include the following features:

- Concrete pavement surfaces;
- Concrete curbs;
- Concrete retaining walls;
- Tactile platform edge tile;
- Canopies and shelters;
- Elevators;
- Pedestrian access points;
- Illumination and communication systems;
- Digital screens;
- Pavement markings;
- Signage and signage mounting devices;
- Snow-melting system;
- Mini-hub room(s); and
- Train markers.

The provision of a mini-platform on each platform is also prescribed and shall include grating, handrails, ramps, tactile indicator strips, and signage.

Pedestrian bridges will also be constructed to provide access from the station building to the platforms. Specifications and details will be determined during detailed design.

Electrification enabling infrastructure will be constructed as part of the station; however, the assessment of electrification and associated operations in the rail corridor are addressed through the GO Rail Network Electrification TPAP (2017) and any future addenda.

3.2.2 Bus Facility

A concrete paved Bus Facility will be constructed with eight bus bays and space for Wheel-Trans². The Bus Facility will be positioned within close proximity to the rail platform access. It shall be separated from the Parking Facilities and its associated vehicular traffic. Dedicated bus access to the Bus Facility will be provided through Entrance Road following its realignment. PPUDO and Parking Facilities will have separate accesses adjacent the Bus Facility.

3.2.3 Passenger Pick Up and Drop Off

A PPUDO will be constructed with capacity for 40 waiting spaces and 10 loading spaces. The entrance will be accessed via signalized intersection on Entrance Road following its realignment. There will be no vehicular connection between the PPUDO and the Parking Facilities.

3.2.4 Parking Facilities

There will be approximately 1,000 parking spaces provided on the site³, distributed across two main parking lots. Approximately 70% of the parking spaces will be present in a lot east of the station with access via Entrance Road. The remaining spots will be provided in a separate lot west of the station, also with access via Entrance Road. The Toronto Green Standard and Greening Surface Parking Guideline will be followed during the site plan application process to be undertaken during detailed design.

3.2.5 Bicycle Storage

There will be two main locations in which cyclists can use to store their bicycles on site. The first location will be a Secure Bike Storage Room with the capacity to store 64 bicycles. The second location will be a Covered Bike Parking Area with the capacity to store 128 bicycles.

3.2.6 Site Access

3.2.6.1 Vehicular Access

The site can be accessed from the west via Highway 27 to Grandstand Entrance Road and south via Clubhouse Road to Entrance Road. WEG currently anticipates that exclusive access to the station will be through WEG-owned lands, as Entrance Road and Grandstand Entrance Road will remain private roads available for public access. Public access will be protected for and maintained at all times to provide station access.

² WEG will continue to engage with the City of Toronto and TTC during detailed design to evaluate potential opportunities and risks and ensure capacity needs are met. During detailed design and prior to permitting, the number of bus bays will be confirmed.

³ This specification was provided by Metrolinx to WEG during early negotiations and is now considered a contractual requirement of the Project. Infrastructure requirements for the Project were based on the modelling framework of the Station Access Plan and broader perspective of network needs. This approach conforms to the assumptions and commitments within the GO Expansion Full Business Case. The model anticipates approximately 5,000 daily riders to the Highway 27-Woodbine Station from the surrounding traffic zones by 2041, and a ridership mode split of 46% vehicle-based and 54% alternative (i.e., transit, PPUDO, cycling, and walking).

3.2.6.2 *Pedestrian and Bicycle Access*

Infrastructure will be put in place to ensure pedestrians can travel to and between all elements of the station and the Parking Facilities. In a similar manner, provisions will be made for cycling connections to the Bicycle Storage Facilities and the Parking Facilities.

A multi-use path (MUP) will be added to provide a connection to Bethridge Road and Highway 27, the sidewalk south of Carlingview Drive, and integration options with the Phase One Woodbine Districts development northeast of the Project Site.

The design of pedestrian and cyclist infrastructure is ongoing, as it will be interconnected with the future Woodbine Districts developments and is being reviewed as those developments advance. These elements will be developed during the site plan application process in consultation with the City of Toronto.

Currently, Casino Woodbine provides complimentary parking lot shuttle service to the Grandstand Building. The shuttle service operates 7 days a week (weekdays from 7:00AM to 11:30PM, with Fridays and weekends having 24-hour service). It is anticipated that this shuttle service will be expanded to include riders as an interim connectivity solution as the long-term sidewalk connections are being developed.

3.2.7 *Site Servicing and Utilities*

3.2.7.1 *Watermain Routing*

The proposed watermain routing will supply water from the west along the realigned Entrance Road and will connect to existing pipes adjacent to Carlingview Drive.

3.2.7.2 *Storm Sewer Routing*

A proposed ditch will run parallel north of the North Service Track and connect to a headwall. The proposed headwall will be located north of the realigned North Service Track, slightly east of the North Island Platform. At this location, the storm sewer line will traverse along the site and connect to the existing line on Carlingview Drive. The existing ditch inlet at this location will be replaced by a manhole. Catch basins will be situated throughout the Parking Facilities to serve as inlets to the storm drainage system. Similar to the watermain routing, drainage occurs in a westward direction. Provisions will be made through control Manholes in order to ensure that flows generated from separate municipal addresses will pass through control manholes before being discharged into the City's system.

Considerations are also being made for alternative methods of drainage (e.g., installation of a stormwater pond and/or vegetation in and around the Parking Facilities to collect stormwater).

3.2.7.3 *Sanitary Sewer Routing*

With regard to the routing of sanitary sewers, the following two options being considered:

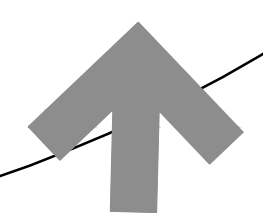
- A route that begins at the Station Building and connects to existing sanitary sewers on Carlingview Drive; and
- A temporary on-site holding tank.

The sanitary sewer routing approach will be confirmed during detailed design. Potential impacts and appropriate mitigation will be determined in consultation with the City of Toronto at that time and any required permits will be obtained prior to construction.

3.2.7.4 *Private Utilities*

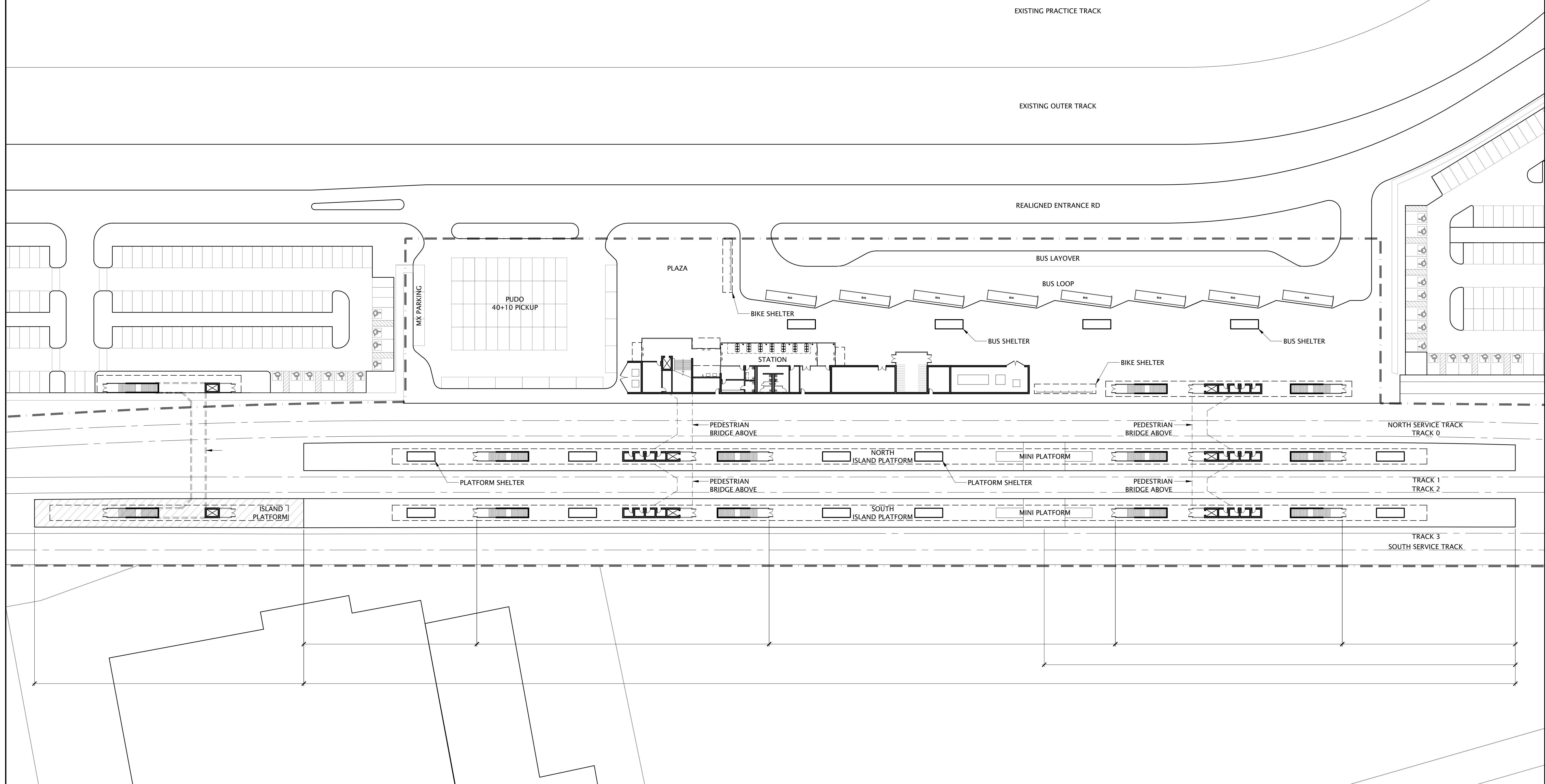
Within the rail corridor, there is an overhead hydro line which will need to be relocated. There is also a Rogers and Bell 360 duct bank that require relocation.

In order to service the new station, an existing Enbridge gas main will be extended south along the west side of Highway 27, from approximately Vice Regent Road south to the rail tracks. For communications services, an existing Bell line will be extended from Highway 27 and Rexdale Boulevard and from Carlingview Drive to the station.



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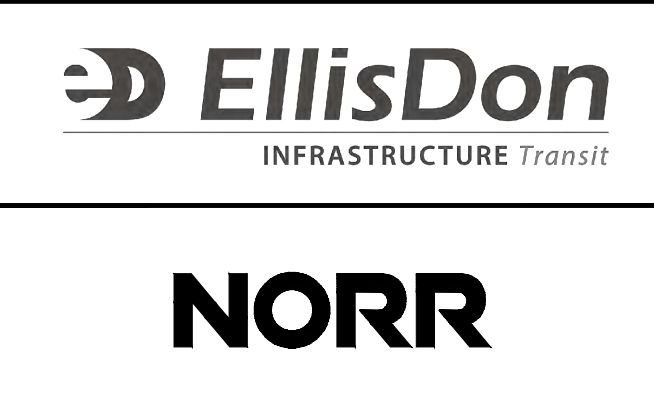
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METROLINX PROJECT NO. 166314

REFERENCE DRAWINGS		ISSUE		REVISIONS	
DWG NO.	TITLE	NO.	DATE	REV.	DATE
		A	19/10/18	5% DESIGN	
				ISSUED FOR	

DRAWN BY: A.M. 19/10/18
 DESIGNED BY: D.C. / A.M. 19/10/18
 CHECKED BY: M.K. 19/10/18
 APPROVED BY: M.K. 19/10/18
 SCALE: 1:500 FULL SIZE ONLY
 0 5.0 10.0 20.0 30.0m



HIGHWAY 27-WOODBINE STATION
 ENVIRONMENTAL PROJECT REPORT
 Figure 3-1

CONTRACT NO.	DWG. NO.	REV.	SHEET
	A1003	-	-

4. Existing Conditions

This section of the EPR describes the existing natural, socio-economic and cultural environment present within the Study Area in the context of the Project. The purpose of characterizing the existing environmental conditions is to establish a baseline condition to use for the assessment of potential effects and proposed mitigation measures, described in **Section 8.2.2**.

Information on the following components is present in the sections below. Separate technical reports were prepared for all disciplines, with the exception of geology and groundwater, which can be found in **Appendix B**.

- Natural Environment;
- Geology and Groundwater;
- Air Quality;
- Noise and Vibration;
- Socio-Economic and Land Use Characteristics;
- Cultural Heritage;
- Archaeology; and
- Traffic and Transportation.

4.1 Natural Environment

A Natural Environment Report (**Appendix B1**) was completed to document existing natural features, provide an assessment of this significance and sensitivity to the proposed construction and operation of the Project, outline potential environmental effects and mitigation measures to minimize impacts, identify anticipated future Project permitting needs and inform the preparation of the natural environment components of the TPAP.

The existing terrestrial and aquatic natural environment conditions were determined through a combination of desktop background literature reviews as well as field investigations, conducted in 2019.

4.1.1 Methodology

The area of investigation and assessment includes a 120 m buffer for a desktop background information review and a 25 m buffer from the limits of disturbance for in-field investigations. Natural heritage features were identified based on information obtained from a variety of sources, including the MNRF online databases, mapping data, and correspondence, municipalities, TRCA correspondence and data provided, wildlife atlases, and other relevant background documents. Refer to the Natural Environment Report in **Appendix B1 Section 2** for a comprehensive description of methodology.

Several field reconnaissance investigations were completed on May 23, 2019, to assess the various components of the terrestrial and aquatic ecosystems, as identified through the background review that may potentially be affected by the Project. These included the following surveys:

- Significant Wildlife Habitat (SWH) assessments;
- Species at Risk (SAR) and Species of Conservation Concern (SOCC) or their habitats; and
- Aquatic habitat assessment.

Detailed surveys, including Ecological Land Classification (ELC) mapping following the *Ecological Land Classification (ELC) Manual for Southern Ontario: First Approximation and its Application* (Lee et al., 1998) and botanical inventory, were not completed given the general lack of vegetation or natural areas within the Project Site. Targeted surveys for wildlife (e.g., breeding birds, amphibians or mammals) were also not undertaken given the

limited vegetation and wildlife habitat and the timing of the field visit as it was outside of most wildlife survey timing windows.

Fish community surveys were not undertaken given the lack of suitable fish habitat and lack of connection to fish-bearing watercourses within the Field Investigation Study Area.

4.1.2 Description of Existing Conditions

4.1.2.1 Designated Features

Designated natural areas include Provincially Significant Wetlands (PSWs), Locally Significant Wetlands (LSWs), Areas of Natural and Scientific Interest (ANSIs), environmentally significant areas and significant woodlands. Through the Desktop Background Information Review Study Area, no designated natural areas were identified.

4.1.2.2 Naturalized Areas and Vegetation Communities

At the time of the field reconnaissance investigations, the northern portion of the Field Investigation Study Area within WEG lands was bounded by fencing; otherwise the site was generally surrounded by busy roads and bounded to the south by the rail tracks. It was located in a highly urbanized area of Toronto, consisting of residential, industrial, commercial, employment area, institutional and recreational land uses. The Field Investigation Study Area primarily consisted of manicured open space with scattered planted trees.

There were no natural areas greater than 0.5 ha and therefore, there were no ELC communities delineated.

Vegetation within the property was largely managed as manicured open space although there were some planted trees present. Vegetation primarily consisted of weedy herbaceous species including Kentucky bluegrass (*Poa pratensis*), wild strawberry (*Fragaria virginiana*), wild carrot (*Daucus carota*), etc. while planted trees included white spruce (*Picea alba*), willow (*Salix sp.*), and silver maple (*Acer saccharinum*). A narrow strip of shallow marsh consisting of common reed (*Phragmites australis*) and narrow-leaved cattail (*Typha angustifolia*) was present south of Entrance Road and east of Grandstand Entrance Road associated with surface drainage.

No regionally or provincially significant plants or plant SAR were observed during field investigations.

4.1.2.3 Wildlife and Wildlife Habitat

4.1.2.3.1 Migratory Birds

The Ontario Breeding Bird Atlas (OBBA) has records of 92 bird species from the 10 km by 10 km square (ID 17PJ14) that overlaps with the Desktop Background Information Review Study Area. The full list is provided in **Appendix B1 Appendix C**. The majority of the birds are common and tolerant of urban disturbances and many are also protected under the Migratory Birds Convention Act (MBCA) Records of bird SOCC and SAR were also identified and are discussed further in **Section 3.3 of Appendix B1**.

As described in **Section 3.2.3 of Appendix B1**, there was minimal vegetation present and as such there is limited habitat for nesting migratory birds.

4.1.2.3.2 Mammals

According to the *Atlas of the Mammals of Ontario* (Dobbyn, 1994) and *Bat Conservation International* (BCI, 2017), there are records of 28 mammal species within and in the vicinity of the Desktop Background Information Review

Study Area. The full list is provided in **Appendix B1 Appendix C**. The majority of the mammals are common and tolerant of urban disturbances. The Field Investigation Study Area was fenced and therefore it is anticipated that only small mammals would occur within the property limits. Records of bat SAR were also identified and are discussed further in **Section 3.3 of Appendix B1**; however, there was no suitable habitat for bat species since there were no wooded areas present.

4.1.2.3.3 Reptiles and Amphibians

According to the Ontario Reptile and Amphibian Atlas (ORAA), records of a total of 16 reptile and amphibian species were identified within the 10 km by 10 km square (ID 17PJ14) that overlaps with the Desktop Background Information Review Study Area. The full list is provided in **Appendix B1 Appendix C**. The majority of these species are common and tolerant of urban disturbances. Records of reptile and amphibians SOCC and SAR were also identified and further discussed in **Section 3.3 of Appendix B1**.

Generally, there was limited habitat for reptiles or amphibians. As mentioned above, the Field Investigation Study Area was fenced, surrounded by roads and isolated from any nearby natural areas. As such reptile or amphibian movement is significantly impeded. The pond feature on the Woodbine Districts property could provide marginal habitat but it is fenced, isolated, and surrounded by manicured open space and urban development. The small shallow marsh feature was dominated by *Phragmites* and there was little water to provide aquatic habitat for amphibians or reptiles; any water that may be present was likely very ephemeral in nature due to the feature being situated within a drainage swale. Furthermore, although there were some small areas of exposed gravel, which is often used by nesting turtles, access to the Field Investigation Study Area from natural areas was impeded by fencing, roads and other urban development. As such, it is not anticipated that turtles are nesting within the Field Investigation Study Area.

4.1.2.3.4 Butterflies

According to the Ontario butterfly Atlas (OBA), records of a total of 53 butterfly species were identified within the 10 km by 10 km square ID 17PJ14 that overlaps with the Desktop Background Information Review Study Area. The full list is provided in **Appendix B1 Appendix C**. Records of butterfly SOCC and SAR were also identified and further discussed in **Section 3.3 of Appendix B1**. There was limited foraging habitat within the Field Investigation Study Area due to the general lack of abundant vegetation or natural areas. However, there were some isolated flowering herbaceous plants that could provide limited foraging habitat for butterflies.

4.1.2.3.5 Incidental Wildlife and Bird Nest Observations

Table 4-1 summarizes the incidental wildlife that was encountered within the Field Investigation Study Area during the field reconnaissance site visit. All are common species that are typically found in urban environments; however, several of the incidental bird species receive protection under the MBCA.

The Highway 27 underpass structure was inspected for the presence of bird nests. Although no Barn Swallow nests were observed, there was an abundance of Pigeon nests under the bridge (refer to **Appendix B1 Appendix C** for photos), which are not protected under the MBCA. The limits of disturbance were extended to the west following the reconnaissance site visit to a second underpass structure over Carlingview Drive. The Carlingview Drive underpass structure was reviewed through the street view function on Google Earth, based on the Google Earth street view imagery from September 2018, there were no bird nests present and it is unlikely that Pigeons nest under this underpass given its structure (i.e., there were no beams or pier caps present for Pigeons to sit/nest on). However, both the Highway 27 and Carlingview Drive underpass structures may provide suitable nesting habitat for Barn Swallow, even though no Barn Swallow nests were identified (refer to **Section 3.3 of Appendix B1** for more details).

Table 4-1: Incidental Wildlife Observations within the Field Investigation Study Area

Taxon	Common Name	Scientific Name	S-Rank ¹	ESA Status ²	MBCA Protected (Yes/No)	Evidence
Bird	Killdeer	<i>Charadrius vociferus</i>	S5B,S5N	-	Yes	Visual record
Bird	Gull species	<i>Larus sp.</i>	-	-	Yes	Visual record
Bird	Mourning Dove	<i>Zenaidura macroura</i>	S5	-	Yes	Visual record
Bird	Canada Goose	<i>Branta canadensis</i>	S5	-	Yes	Visual record
Bird	Red-winged Blackbird	<i>Agelaius phoeniceus</i>	S4	-	No	Visual record
Bird	Pigeon	<i>Columba livia</i>	S5	-	No	Visual record

¹ **S-rank:** The natural heritage provincial ranking system (provincial S-rank) is used by the MNR Natural Heritage Information Centre (NHIC) to set protection priorities for rare species and natural communities. The following status definitions were taken from NatureServe Explorer's (2015) National and Subnational Conservation Status Definitions available at <http://explorer.natureserve.org/nsranks.htm>:

SX - Presumed Extirpated—Species or community is believed to be extirpated from the province. Not located despite intensive searches of historical sites and other appropriate habitat, and virtually no likelihood that it will be rediscovered.

SH - Possibly Extirpated (Historical)—Species or community occurred historically in the province, and there is some possibility that it may be rediscovered. Its presence may not have been verified in the past 20-40 years. A species or community could become SH without such a 20-40-year delay if the only known occurrences in a province were destroyed or if it had been extensively and unsuccessfully looked for.

S1 - Critically Imperiled—Critically imperiled in the province because of extreme rarity (often 5 or fewer occurrences) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the province.

S2 - Imperiled—Imperiled in the province because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the province.

S3 - Vulnerable—Vulnerable in the province due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation.

S4 - Apparently Secure—Uncommon but not rare; some cause for long-term concern due to declines or other factors.

S5 - Secure—Common, widespread, and abundant in the nation or state/province.

SNR - Unranked—Province conservation status not yet assessed.

SU - Unrankable—Currently unrankable due to lack of information or due to substantially conflicting information about status or trends.

SNA - Not Applicable—A conservation status rank is not applicable because the species is not a suitable target for conservation activities.

S#S# - Range Rank—A numeric range rank (e.g., S2S3) is used to indicate any range of uncertainty about the status of the species or community. Ranges cannot skip more than one rank (e.g., SU is used rather than S1S4).

Breeding Status Qualifiers

B - Breeding—Conservation status refers to the breeding population of the species in the province.

N - Nonbreeding—Conservation status refers to the non-breeding population of the species in the province.

M - Migrant—Migrant species occurring regularly on migration at particular staging areas or concentration spots where the species might warrant conservation attention. Conservation status refers to the aggregating transient population of the species in the province.

Note: A breeding status is only used for species that have distinct breeding and/or non-breeding populations in the province. A breeding-status S-rank can be coupled with its complementary non-breeding-status S-rank if the species also winters in the province, and/or a migrant-status S-rank if the species occurs regularly on migration at particular staging areas or concentration spots where the species might warrant conservation attention. The two (or rarely, three) status ranks are separated by a comma (e.g., "S2B,S3N" or "SHN,S4B,S1M").

Other Qualifiers

? - Inexact or Uncertain—Denotes inexact or uncertain numeric rank. (The ? qualifies the character immediately preceding it in the S-rank.)

² **ESA Status:** The Endangered Species Act 2007 (ESA) protects species listed as Threatened and Endangered on the Species at Risk in Ontario (SARO) List on provincial and private land. The Minister lists species on the SARO list based on recommendations from the Committee on the Status of Species at Risk in Ontario (COSSARO), which evaluates the conservation status of species occurring in Ontario. The following are the categories of at risk:

END (Endangered) – A species facing imminent extinction or extirpation in Ontario.

THR (Threatened) – Any native species that, on the basis of the best available scientific evidence, is at risk of becoming endangered throughout all or a large portion of its Ontario range if the limiting factors are not reversed.

SC (Special Concern) – A species that may become threatened or endangered due to a combination of biological characteristics and identified threats.

NAR (Not at Risk) – A species that has been evaluated and found to be not at risk.

Note: species with “-” represent those that were not evaluated by COSSARO.

4.1.2.4 Fish and Fish Habitat

The Desktop Background Information Review Study Area lies within the Lower Humber River sub-watershed within the Humber River watershed. The Humber River watershed land use is approximately 54% rural, 33% urbanized and 13% urbanizing (TRCA, 2013).

Aquatic features identified within the Field Investigation Study Area were limited to ephemeral drainage conveyance. Water was contained within road and rail-side ditches and swales with no observable flow. There was

no direct fish habitat within the Field Investigation Study Area and the features did not contribute to a downstream fish-bearing watercourse.

Historically, 75 fish species (64 native) have been documented within the watershed, however sampling in 2004 only identified 39 native species. A total of 17 fish species have been identified as being of local concern (TRCA, 2008); however, there was no watercourses supporting direct fish habitat within the Field Investigation Study Area (refer to **Section 3.1.2 of Appendix B1**).

4.1.2.5 Significant Wildlife Habitat

The *Significant Wildlife Habitat Criteria Schedules for Ecoregion 7E* (MNRF, 2015) was reviewed against the information collected during the field reconnaissance visit to identify the following potential SWH within the Field Investigation Study Area.

As mentioned above, the Field Investigation Study Area generally had vegetation with the northern portion that was fenced and thus the potential to provide SWH was limited. Due to the lack of vegetation communities and isolation from nearby natural areas, the Field Investigation Study Area does not support any candidate SWH, aside from habitat for SOCC (refer to **Section 3.3 of Appendix B1** for more information).

4.1.2.6 Species at Risk or Species of Conservation Concern

Special consideration was given to identifying any SOCC or SAR within or in the vicinity of the Field Investigation Study Area. SAR listed as Extirpated, Endangered or Threatened receive individual and habitat protection under the ESA; while, SOCC do not but may be afforded protection under other Acts and planning documents as stated in **Appendix B1 Section 2.3**.

Records of SOCC and SAR were collected from a review of wildlife atlases. A total of two SOCC and six SAR records were identified and are summarized in **Appendix B1 (Table 3-2 and Table 3-3)**. An assessment was completed to determine the presence of suitable habitat and probability of occurrence for each SOCC and SAR species within the Field Investigation Study Area. Species with observation records that are more than 20 years old are considered to be historical and were deemed to have a low probability of occurrence in the Field Investigation Study Area. These species are unlikely to persist in the general area given the high rate of urbanization in Toronto which limits the amount of suitable habitat available for many species.

4.1.2.6.1 Species of Conservation Concern

Based on **Table 3-2 of Appendix B1**, the Monarch (*Danaus plexippus*) was determined to have a medium probability of occurrence due to the presence of some isolated flowering herbaceous plants that could provide limited foraging habitat for Monarchs and other butterfly species; however, large concentrations of high quality, foraging or breeding habitat for Monarchs were considered absent. There is a medium probability that individuals of this species may be incidentally encountered flying through the Field Investigation Study Area while foraging or during fall migration

The remaining SOCC listed in **Table 3-2 of Appendix B1** had low probabilities of occurrence. The pond at the Woodbine Districts is unlikely to provide suitable overwintering and foraging habitat for Snapping Turtle as it is entirely fenced in and it is not anticipated that this species is nesting within the Field Investigation Study Area.

Common Nighthawk primarily nests in open, barren areas with rocky soils (Brigham *et al.*, 2011). In urban areas, this species can nest in agricultural fields, gravel pits, railways, footpaths and airports and prefers to nest on flat, gravel rooftops of buildings when found in cities (Brigham *et al.*, 2011; Cadman *et al.*, 2007). This species does not

build nests but rather lays eggs directly on the ground which may consist of gravel, sand, bare rock, wood chips, leaves, needles, moss and/or lichens (Brigham *et al.*, 2011). Some females have been known to return and reuse gravel roofs in consecutive years (Brigham *et al.*, 2011). As such, the Field Investigation Study Area which consisted of few areas of barren ground was not likely suitable habitat for this species.

As there were no woodland habitats present within the Field Investigation Study Area, suitable habitat for Wood Thrush and Eastern Wood-pewee was not present.

4.1.2.6.2 Species at Risk

Based on **Table 3-3 of Appendix B1**, Barn Swallow is the only SAR determined to have a medium probability of occurrence. All of the other SAR listed in **Table 3-3 of Appendix B1** had low probabilities of occurrence within the Field Investigation Study Area.

Barn Swallow habitat consists almost exclusively of human-made structures such as barns, bridges and culverts. This species typically builds their cup-shaped nests out of mud on open structures with ledges or vertical walls that provide support for nest building (MECP, 2019). Barn swallows are aerial-insectivores which can often be found foraging over open areas including pastures, meadows, wetlands as well as anthropogenic habitats such as agricultural fields and parks. As such, although no Barn Swallow nests were observed within the Field Investigation Study Area during field investigations, rail bridge structures over Highway 27 and Carlingview Road provide suitable nesting habitat for this species, while the adjacent open vegetated areas within the Field Investigation Study Area provide suitable foraging habitat.

4.2 Geology and Groundwater

4.2.1 *Methodology*

For this assessment, a desktop study was conducted to provide a general characterization of the existing local geological and hydrogeological conditions of the Study Area. This desktop study will determine any potential vulnerabilities and concerns with the proposed construction. The following background data and reports were reviewed as part of this geology and groundwater assessment:

- Ontario Geological Survey (OGS) and Geological Survey of Canada (GSC) surficial and bedrock geology mapping;
- Base mapping data from the MNRF;
- MECP water well record database and Ontario Geotechnical Borehole Database;
- Source Water Protection Plan (Toronto and Region Source Protection Area, 2015);
- The Source Water Protection Information Atlas developed by the MECP (2016); and,
- Bedrock topography mapping from the Ministry of Energy, Northern Development and Mines.

Note that a specific geology and groundwater report was not prepared for the Project further to information provided in this EPR. All existing conditions and impact assessment information is based on the desktop study approach described above.

4.2.2 Description of Existing Conditions

4.2.2.1 Geological Setting

4.2.2.1.1 Topography and Physiography

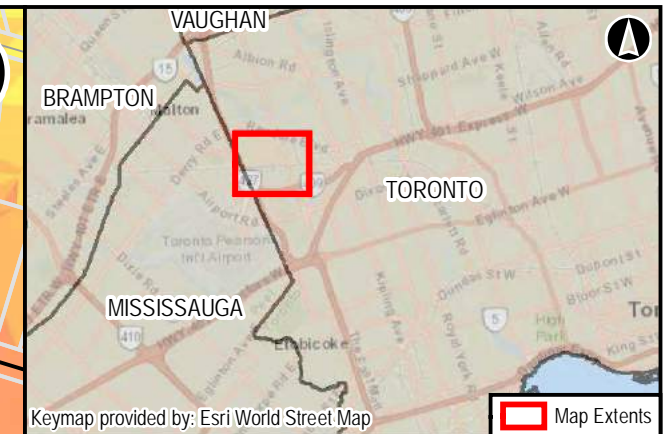
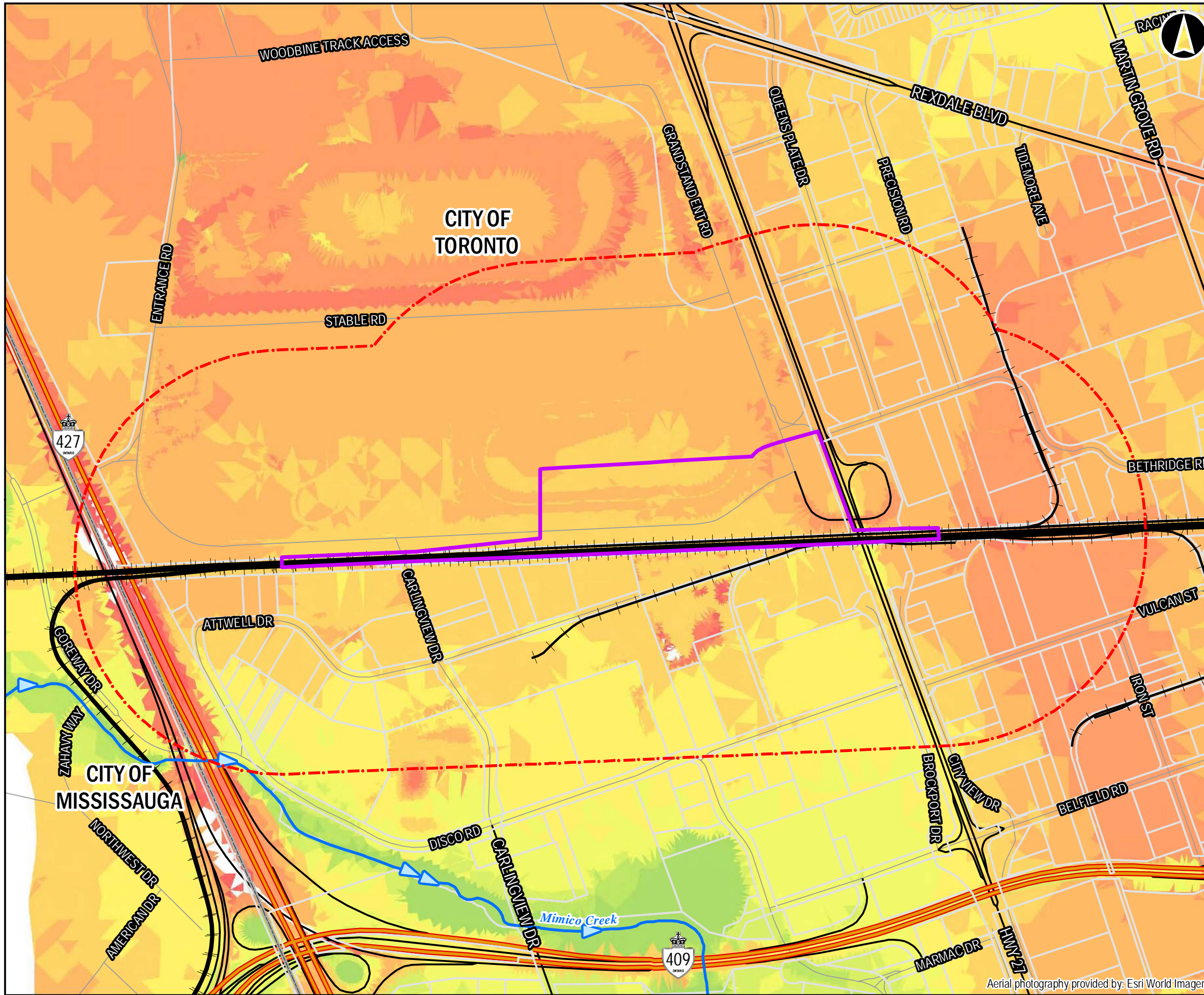
The Study Area is located within the Peel Plain physiographic region, as mapped by Chapman and Putnam (1984). The Peel Plain is characterized by a level to undulating tract of clay soil that extends across the central portion of the Regional Municipalities of York, Peel, and Halton in a general northeast-southwest orientation. The underlying geological material of the plain is till, overlain in many places by a veneer of clay. The clay veneer is thought to be associated with former Lake Peel, a temporary feature formed by the impoundment of glacial meltwater that collected between the glacial ice front to the east and the Niagara Escarpment to the west (Chapman and Putnam, 1984).

The ground surface topography within the Study Area is characterized as level to nearly flat, with a general southward decline toward Lake Ontario. The topographic highs within the Study Area are shown in **Figure 4-1**.

4.2.2.1.2 Overburden Geology

According to base mapping data from the MNRF and OGS 2011 mapping, surficial geology within the Study Area consists of fine-textured lacustrine deposits comprised of interbedded silt and clay, with minor sand and gravel, overlying pebbly flow till and rainout deposits, according to the database of "Surficial Geology of Southern Ontario" maintained by the OGS. The surficial geology within the Study Area is shown in **Figure 4-2**.

The Ontario Geotechnical Borehole Database (2012) indicates that in the vicinity of the Study Area, the thickness of the overburden is approximately 12 to 21 m and the dominant soil types are silt and clay.



Keymap provided by: Esri World Street Map

Legend

- Project Site
- Study Area – 500m buffer
- Canadian National Railway
- Freeway
- Major Road
- Local Road
- Watercourse and Flow Direction
- Property Boundary

Elevation (mASL)

- 172.01 - 174
- 170.01 - 172
- 168.01 - 170
- 166.01 - 168
- 164.01 - 166
- 162.01 - 164
- 160.01 - 162
- 158.01 - 160
- 155.01 - 158
- 147.01 - 155
- 120 - 135

Highway 27 - Woodbine Station EA

Topography and Drainage

0 50 100 200 300 400 500 600
Metres

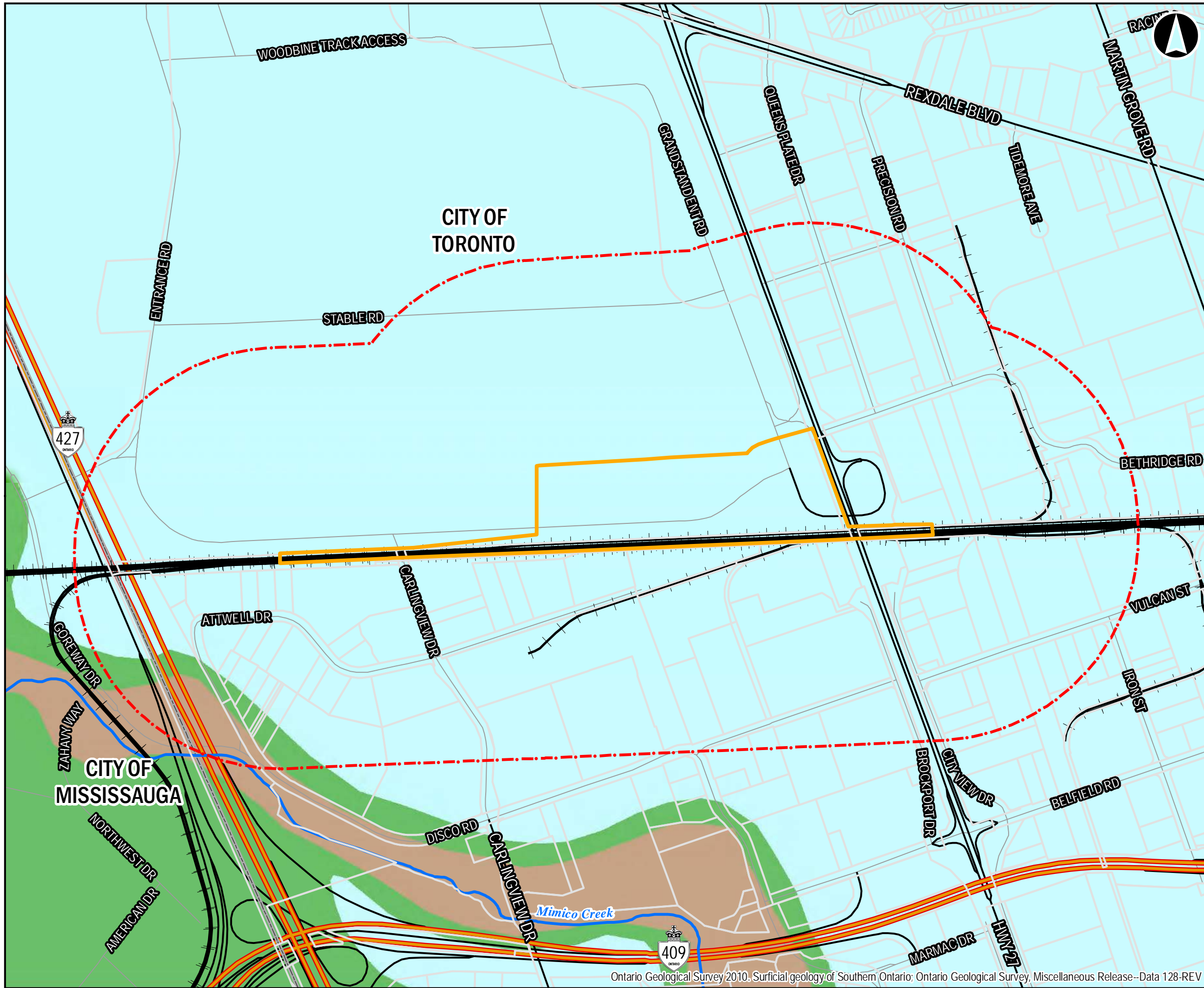
DATUM: NAD 1983 UTM Zone 17N

Aug, 2019	1:9,000	Data Sources: MNRF, City of Toronto
P#: 60606819	Rev: 00	

AECOM **Figure 4-1**

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Aerial photography provided by: Esri World Imagery



Keymap provided by: Esri World Street Map Map Extents

Legend

- Project Site
- Study Area – 500m buffer
- Canadian National Railway
- Watercourse
- Freeway
- Major Road
- Local Road
- Property Boundary

Surficial Geology of Southern Ontario

- 5d: Glaciolacustrine-derived silty to clayey till
- 8b: Interbedded flow till, rainout deposits and silt and clay
- 19: Modern alluvial deposits

Highway 27 - Woodbine Station EA

Surficial Geology

0 50 100 200 300 400 500 600
Metres

DATUM: NAD 1983 UTM Zone 17N

Aug, 2019	1:9,000	Data Sources: MNRF, City of Toronto
P#:60606819	Rev:00	

AECOM **Figure 4-2**

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4.2.2.1.3 Bedrock Geology

According to the OGS 2011 (1:250,000 mapping), the bedrock formation underlying the Study Area is Georgian Bay Formation, Blue Mountain Formation and Collingwood Member of Upper Ordovician age comprised of shale, limestone, dolostone, and siltstone.

The oldest rocks of south-central Ontario are the shales of Blue Mountain Formation. This unit includes strata of the Collingwood Formation of the subsurface. The Blue Mountain Formation typically consists of blue-grey noncalcareous shales. Gradationally overlying the Blue Mountain Formation is the Georgian Bay Formation. The Georgian Bay Formation reflects a gradational change from terrigenous shales with minor siltstone, to shaly and impure carbonates. Carbonate beds increase in thickness and frequency toward the top of the unit; a carbonate cap is locally developed. The Georgian Bay Formation underlies much of the Metropolitan Toronto area and is commonly exposed (beneath glacial drift) in construction excavations. Of particular interest in the Georgian Bay Formation is the large number of well-preserved sedimentary structures, such as graded beds, gutter casts, scour-and-fill structures and current and wave-formed ripple marks.

4.2.2.2 *Existing Hydrogeological Setting*

As described in **Section 4.2.2.1.2**, the overburden in the vicinity of the Study Area is reported to be thick (between 12 to 21 m) and consists of fine-textured lacustrine deposits comprised of mainly interbedded silt and clay, according to the database of "Surficial Geology of Southern Ontario" maintained by the OGS.

4.2.2.3 *Groundwater Resources*

4.2.2.3.1 Municipal Water Supply

The Project Site is located within the City of Toronto, which is part of the Toronto and Region Source Protection Area (TRSPA). According to the Ontario Source Protection Information Atlas (2019), the Study Area is not close to any drinking water source protection vulnerable areas, such as Wellhead Protection Areas (WHPAs), Significant Groundwater Recharge Areas (SGRAs) or Event Based Areas (EBAs). Refer to **Table 4-2** for a list of source water protection areas/features and results/scores for the Study Area.

Table 4-2: Source Water Protection Areas and Vulnerability Scores

Protection Area Type	Description of Protection Area	Vulnerability Score
Wellhead Protection Area	Land area around a well where contaminants from land activities can reach and pollute the well water supply. Subdivided concentrically to show risk; scores range between 2 (lowest) and 10 (highest). In general, 8 or 10 indicate there are policies for certain activities to prohibit or manage them.	No
Wellhead Protection Area E	The area around a well where water quality could be impacted by surface water.	No
Intake Protection Zone	The area around an intake pipe in a lake or river that draws in the surface water used to supply the municipal drinking water system. Three zones, from the closest to the farthest from the intake, rate the vulnerability threat. Zone 3 is the third and largest zone around the intake where activities can impact the source water, but there is time to take action to ensure the intake and municipal water is not impacted.	No
Issue Contributing Area	An area where land-based activities contribute to the presence of an unwanted substance in the water source. Activities producing the substance may be prohibited or need to be managed more effectively.	No
Significant Groundwater Recharge Area	The areas where precipitation recharges the groundwater source or aquifer.	No
Highly Vulnerable Aquifer	An underground water supply, or aquifer, that can easily be contaminated	No

Protection Area Type	Description of Protection Area	Vulnerability Score
	because overlaying soil layers are thin or permeable.	
Event Based Area	An area within a watershed where a spill could pollute the drinking water supply because of sanitary sewers, sewage treatment plants or pipelines that are close to rivers, streams or other water bodies. Types of Events: Stored/Transported Fuel/Oil; Pipeline Fuel/Oil Spill; Wastewater Treatment Plant/Sanitary Sewer.	No

4.2.2.3.2 MECP Water Well Records

An inventory of local private water wells (i.e., domestic, commercial, industrial, etc.) was prepared within an area of 500 m radius from the Study Area using the MECP Well Record database. Results are presented in **Table 4-3** and shown in **Figure 4-3**, along with the primary use of each well. A total of 122 well records were found located within the hydrogeological study area of the Site. A review of the well records indicates that the majority of wells extend to a depth less than 20 m.

Table 4-3: MECP Water Well Record Summary

Primary Water Use	Number of well records	Well Depth (m)	Static Water Level (m)	Primary Well Type
Commercial	2	16.5 – 22.0	3.7 – 5.5	Bedrock
Domestic	2	19.8 – 20.0	5.5 – 8.5	Bedrock
Industrial	2	15.8 – 21.02	2.4 – 4.9	Bedrock
Monitoring	61	3.0 – 15.2	N/A	Unknown
Not used/Unknown	55	3.8 – 10.6	N/A	5 Overburden; Rest unknown

4.2.2.3.3 Depth to Groundwater Table

According to the information listed in **Table 4-3**, the groundwater table in the bedrock is between 2 and 5 m below ground surface. The shallow overburden aquifers have no water table information available in the MECP Well Database for the area. Static water levels may fluctuate considerably in response to changes in precipitation patterns and seasonal fluctuations.

4.2.2.3.4 Existing PTTWs and EASR Registrations

A query of the MECP Permit to Take Water (PTTW) and Environmental Activity and Sector Registry (EASR) databases was conducted within a 500 m radius of the Study Area. Within and adjacent to the 500 m buffer, one PTTW was identified as being expired and four EASR registrations were identified for water taking⁴. Results are shown in **Figure 4-3**.

⁴ As shown in **Figure 4-3**, three EASR registrations are within the 500 m buffer; however, a fourth registration adjacent to the buffer was identified due to proximity.



Legend

- Project Site
- Study Area – 500m buffer
- Canadian National Railway
- Watercourse
- Property Boundary
- Environmental Activity and Sector Registry

Permits to Take Water

- Dewatering Construction Use

Water Wells by Primary Use

- Commerical
- Domestic
- Industrial
- Monitoring
- Test Hole
- Not Used/Unknown

Highway 27 - Woodbine Station EA

Water Wells, Permits to take Water, and Environmental Activity and Sector Registry

0 50 100 200 300 400 500 600
Metres

DATUM: NAD 1983 UTM Zone 17N

Aug, 2019	1:9,000	Data Sources: MNRF, City of Toronto
P#:60606819	Rev:00	

Figure 4-3

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Aerial photography provided by Esri World Imagery

4.3 Air Quality

4.3.1 Methodology

An Air Quality Assessment (AQA) was conducted to determine the local and regional impact of the Project based on a comparison of Current conditions, Future No-Build conditions, and Future Build-Out scenario assessed at the horizon year 2031. The AQA Study Area is described as the Project Site plus a 500 m buffer (as shown in **Figure 4-4**) to sufficiently assess the potential effects to surrounding nearby receptors. The Air Quality Assessment Report is provided in **Appendix B2**.

The AQA followed the Regional Comprehensive Analysis and the Regional Greenhouse Gas (GHG) Emission Impacts methodologies outlined in Appendix 3 and Appendix 4 of the Ministry of Transportation's *Environmental Guide for Assessing and Mitigating the Air Quality Impacts and Greenhouse Gas Emissions of Provincial Transportation Projects* (MTO, 2012), respectively.

Air quality contaminant emissions from Current conditions and Future No-Build conditions were conservatively assumed to be represented by existing historical monitoring data collected at the most representative ambient air monitoring stations. Representative monitoring stations were selected based on the availability of relevant contaminant records, surrounding sources of air quality emission, and proximity to the Project Site. The AQA considered four air quality monitoring stations relative to the Project Site, all located in Toronto, using the National Air Pollution Surveillance (NAPS) program:

- Toronto West – 125 Resources Road
- Etobicoke South – 461 Kipling Avenue
- Gage Institute – 223 College Street
- Roadside Wallberg – 200 College Street

These stations were conservatively selected to represent background levels of all criteria contaminants for the Current conditions and Future No-Build conditions, assuming traffic emissions are included based on proximity to high-volume road sources such as Highway 401.

Woodbine Hotel & Suites, located at 30 Vice Regent Boulevard in Etobicoke, was identified as a discrete receptor location (Receptor R1) for modelling inputs (see **Figure 4-4**). The discrete receptor is located 390 m from the nearest edge of the Project Site and 670 m from the rail corridor.

Figure 4-4: Discrete Receptor Locations within the AQA Study Area



4.3.1.1 Key Contaminants

The primary emission sources for this AQA are the vehicular emissions from the parking lots and PPUDO area as well as bus emissions from the bus loop, including all on-site travel to each of these locations within the Woodbine Racetrack Transit Station. Based on recommendations within The MTO Guideline, the Air Quality Assessment included the following criteria air contaminants (CACs) from vehicle emissions:

1. Nitrogen dioxide, NO₂ (assessed over 1-hour, 24-hour, and annual averaging periods);
2. Carbon monoxide, CO (assessed over 1-hour and 8-hour averaging periods);
3. Sulphur Dioxide, SO₂ (assessed over 1-hour, 24-hour, and annual averaging period);
4. Particulate matter (<10 microns), PM₁₀ (assessed over 24-hour and annual averaging periods);
5. Particulate matter (<2.5 microns), PM_{2.5} (assessed over 24-hour and annual averaging periods);
6. Acetaldehyde (assessed over 24-hour averaging period);
7. Acrolein (assessed over 1-hour and 24-hour averaging periods);
8. Benzene (assessed over 24-hour and annual averaging periods);
9. Benzo(a) pyrene, BaP (assessed over 24-hour and annual averaging periods);
10. Formaldehyde (assessed over 24-hour averaging period); and

11. 1,3-butadiene (assessed over 24-hour and annual averaging periods).

Emissions of the coarse fraction of particulates (PM₁₀) are emitted mostly from tire wear, brake wear, and road dust fugitives, whereas the fine fraction (PM_{2.5}) is mostly attributed to vehicle emission exhausts. All applicable forms of particulate emissions are included in the assessment.

In addition to the above, impacts of pollutants contributing to the regional GHG levels will be assessed. The pollutants in this assessment will include carbon dioxide (CO₂), nitrous oxide (N₂O), and methane (CH₄). The impacts of these pollutants will be compared to the MECP projected transportation emissions for the future build-out year, in units of carbon equivalent, CO_{2e}, as shown in the Ontario's Climate Change Update 2014 document⁵.

4.3.1.2 Relevant Air Quality Guidelines

The applicable standards for these pollutants are regulated by the MECP and Canadian Council of Ministers of the Environment (CCME) as the Ambient Air Quality Criteria (AAQC) and Canadian Ambient Air Quality Standards (CAAQS) respectively, as illustrated in **Table 4-4**.

Table 4-4: Summary of Applicable Guidelines and Standards

Criteria Air Contaminant (CAC)	Source of Standard	Averaging Period (hr)	Air Quality Threshold Value (µg/m ³)
NO ₂ ¹	AAQC	1	400
	AAQC	24	200
	CAAQS	1 (2020)	113
	CAAQS	Annual (2020)	32
	CAAQS	1 (2025)	78
	CAAQS	Annual (2025)	22
CO	AAQC	1	36,200
	AAQC	8	15,700
SO ₂ ²	AAQC	1 (pre July 1, 2023)	690
	AAQC	24 (pre July 1, 2023)	275
	AAQC	1 (post July 1, 2023)	100
	AAQC	Annual (post July 1, 2023)	10
	CAAQS	1 (2020)	183
	CAAQS	Annual (2020)	13
	CAAQS	1 (2025)	170
	CAAQS	Annual (2025)	10
PM ₁₀ ³	AAQC	24	50
PM _{2.5} ⁴	CAAQS	24 (2015)	28
	CAAQS	24 (2020)	27
	CAAQS	Annual	8.8

5. Ministry of the Environment and Climate Change "Ontario's Climate Change Update 2014" accessed March 24, 2017 <https://dr6j45jk9xcmk.cloudfront.net/documents/3618/climate-change-report-2014.pdf>

Criteria Air Contaminant (CAC)	Source of Standard	Averaging Period (hr)	Air Quality Threshold Value ($\mu\text{g}/\text{m}^3$)
Acetaldehyde	AAQC	24	500
Acrolein	AAQC	1	4.5
	AAQC	24	0.4
Benzene	AAQC	24	2.3
	AAQC	Annual	0.45
Benzo(a)pyrene	AAQC	24	0.00005
	AAQC	Annual	0.00001
1,3-Butadiene	AAQC	24	10
	AAQC	Annual	2
Formaldehyde	AAQC	24	65

- Notes:
- (1) The CAAQS Air Quality threshold for nitrogen dioxide is based on the 3-year average of the annual 98th percentile of the daily maximum 1-hour average concentrations. The most stringent compliance standard for 2025 was used for assessment.
 - (2) The CAAQS Air Quality threshold for sulphur dioxide is based on the 3-year average of the annual 99th percentile of the daily maximum 1-hour average concentrations. This standard has two separate values for compliance, based on the year. The AAQC Air Quality threshold for sulphur dioxide also has two separate values for compliance, based on the year. The most stringent compliance standards were used for assessment (i.e., 100 $\mu\text{g}/\text{m}^3$ for the 1-hour threshold, AAQC (after July 1, 2023); 275 $\mu\text{g}/\text{m}^3$ for the 24-hour threshold, AAQC (before July 1, 2023), and 10 $\mu\text{g}/\text{m}^3$ for the annual threshold, AAQC (after July 1, 2023) and CAAQS (2025)).
 - (3) The value of 50 $\mu\text{g}/\text{m}^3$ (24 hr) is an interim AAQC and is provided as a guide for decision making.
 - (4) The Air Quality threshold for fine particulate ($\text{PM}_{2.5}$) is based on the 98th percentile ambient measurement (24-hour), annually averaged over three years. The concentration predictions from this Air Quality Assessment are referenced against the most stringent future standard for compliance.

AAQCs are acceptable effects-based levels in ambient air. Limits are set based on the “limiting effect” and are the lowest concentrations at which an adverse effect may be experienced. Effects considered may be health, odour, vegetation, soiling, visibility, corrosion or others and limits have variable averaging times appropriate for the effect that they are intended to protect against. AAQCs are used for assessing general air quality and the potential for causing an adverse effect. They are set at levels below which adverse health and/or environmental effects are not expected. If a contaminant has more than one AAQC, all must be used for assessment purposes as each represents a different type of effect linked to a particular averaging period.

The CCME has developed Canada-wide standards for a variety of contaminants. These standards are developed jointly by various provincial jurisdictions based on a scientific and risk-based approach. Standards are presented to the Ministers along with a timetable for implementation and monitoring and public reporting programs. Ministers are responsible for implementing the standards within their own jurisdictions and promote consistency across the country.

Recently, the CCME has developed new standards for fine particulate matter ($\text{PM}_{2.5}$), nitrogen dioxide (NO_2) and sulphur dioxide (SO_2), under the CAAQS. The CAAQS are established as voluntary objectives under the Canadian Environmental Protection Act, 1999.

4.3.2 Description of Existing Conditions

Details of the air quality monitoring stations closest to the Project Site are provided in **Table 4-5**.

Table 4-5: Summary of Monitoring Stations Used in Ambient Air Quality Analysis

	NAPS Monitoring Stations			
	Toronto West	Etobicoke South	Gage Institute	Roadside Wallberg (UofT)
NAPS Number	60430	60435	60427	60439
Address	125 Resources Road, Toronto	461 Kipling Avenue	223 College Street, Toronto	200 College Street, Toronto
Latitude	43.7094	43.6108	43.6582	43.6590
Longitude	-79.5435	-79.5219	-79.3972	-79.3954
Station Type	Urban	Urban	Urban	Urban
Pollutants Measured	O ₃ , CO, NO ₂ , SO ₂ , PM _{2.5} , Benzo(a)pyrene (2016 only)	1,3-butadiene, benzene	Benzo(a)pyrene (2014 only)	Formaldehyde, acetaldehyde, acrolein, benzo(a)pyrene (2015 only)

Ambient monitoring data were utilized for all contaminants as follows in relation to the pollutants and averaging period combinations listed in **Table 4-6**:

- 1-hour, 8-hour, and 24-hour ambient concentrations for the contaminants were obtained from the 90th percentile of hourly measurements from the representative AQ monitoring stations (the average value was calculated from the available years). The 90th percentile of available background data was used following the methodology outlined in the MTO Guideline (2012).
- Annual ambient concentrations for the contaminants were obtained from the mean measurements from the representative AQ monitoring station (the average value was calculated from the available years).

Table 4-6: Background Ambient Air Quality Concentrations

Contaminant	Averaging Period (hr)	Station ID	Station Name	90 th Percentile Concentrations (µg/m ³)				
				2014	2015	2016	Maximum	Average
NO ₂	1	60430	Toronto West	59	58	58	59	58
	24	60430	Toronto West	49	48	46	49	47
	Annual	60430	Toronto West	32	31	30	32	31
CO	1	60430	Toronto West	458	458	458	458	458
	8	60430	Toronto West	458	458	344	458	420
PM ₁₀ ¹	24	60430	Toronto West	28	30	22	30	27
PM _{2.5}	24	60430	Toronto West	15	16	12	16	14
	Annual	60430	Toronto West	9.0	9.0	7.0	9.0	8.3
SO ₂	1	60430	Toronto West	3.9	4.7	3.1	4.7	3.9
	24	60430	Toronto West	3.7	4.7	2.9	4.7	3.8
	Annual	60430	Toronto West	2.1	2.6	1.6	2.6	2.1
Acetaldehyde	24	60439	Wallberg (UofT)	1.5	2.0	1.7	2.0	1.7
Acrolein	1 ³	60439	Wallberg (UofT)	0.072	0.070	0.065	0.072	0.069
	24	60439	Wallberg (UofT)	0.072	0.070	0.065	0.072	0.069
Benzene	24	60435	Etobicoke South	0.772	0.658	0.765	0.772	0.732
	Annual ⁴	60435	Etobicoke South	0.481	0.542	0.498	0.542	0.507
Benzo(a)pyrene ²	24	60430/ 60439/ 60427	Toronto West/ Wallberg UofT/ Gage Institute	- - 6.57E-05	- 1.16E-04 -	8.89E-05 - -	1.16E-04	9.03E-05
	Annual ⁴	60430/ 60439/ 60427	Toronto West/ Wallberg UofT/ Gage Institute	- - 5.79E-05	- 1.01E-04 -	5.29E-05 - -	1.01E-04	7.06E-05
Formaldehyde	24	60439	Wallberg (UofT)	2.8	1.6	2.6	2.8	2.3
1,3-Butadiene	24	60435	Etobicoke South	0.064	0.066	0.051	0.066	0.060
	Annual ⁴	60435	Etobicoke South	0.039	0.047	0.039	0.047	0.042

- Notes: (1) PM_{10} was not included in NAPS Station measurements, and therefore was estimated using $PM_{2.5}$ measurements, assuming a ratio of 1 $\mu\text{g}/\text{m}^3$ PM_{10} per 0.54 $\mu\text{g}/\text{m}^3$ of $PM_{2.5}$ as per Lall et. al, "Estimation of historical annual $PM_{2.5}$ exposures for health effects assessment", *Atmospheric Environment* 38 (2004) ⁶
- (2) Measurements for Benzo(a)pyrene from the Toronto West Station were only available for the year 2016, from the Roadside Wallberg (UofT) Station were only available for the year 2015, and from the Gage Institute Station were only available for the year 2014.
- (3) Measurements are taken as a daily average, background concentrations for the hourly averaging period are assumed to be equal to the 24-hr average.
- (4) Annual average for VOCs are calculated from the annual average of all days, where measurement gaps less than six days in length are assumed to be equal to the previous reading, and gaps longer than six days are assumed to be equal to the 24-hr 90th percentile of the raw data set.

The background concentrations for each contaminant were also compared to the applicable Provincial and Federal concentration limits for all time averaging periods. Nitrogen dioxide as shown in **Table 4-7**.

Table 4-7: Comparison of Background Ambient Air Quality Data to Criteria

Contaminant	Averaging Period (hr)	Background Concentration ($\mu\text{g}/\text{m}^3$)	Standard Value ($\mu\text{g}/\text{m}^3$)	Source of Standard	% of AAQC/CAAQS Standard
NO ₂	1 (2025)	59	79	CAAQS	75%
	24	49	200	AAQC	24%
	Annual	31	22.6	CAAQS	137%
CO	1	458	36200	AAQC	1%
	8	458	15700	AAQC	3%
SO ₂	1	4.7	100	AAQC	5%
	24	4.7	275	AAQC	2%
	Annual (2025)	2.1	10	CAAQS	21%
PM ₁₀	24	30	50	AAQC	59%
PM _{2.5}	24 (2020)	16	27	CAAQS	59%
	Annual	8.3	8.8	CAAQS	95%
Acetaldehyde	24	2.0	500	AAQC	0%
Acrolein	1	0.072	4.5	AAQC	2%
	24	0.072	0.4	AAQC	18%
Benzene	24	0.772	2.3	AAQC	34%
	Annual	0.507	0.45	AAQC	113%
	24	1.16E-04	0.00005	AAQC	233%
Benzo(a)pyrene	Annual	1.01E-04	0.00001	AAQC	1,009%
	24	0.066	10	AAQC	1%
1,3-Butadiene	Annual	0.042	2	AAQC	2%
	24	2.8	65	AAQC	4%

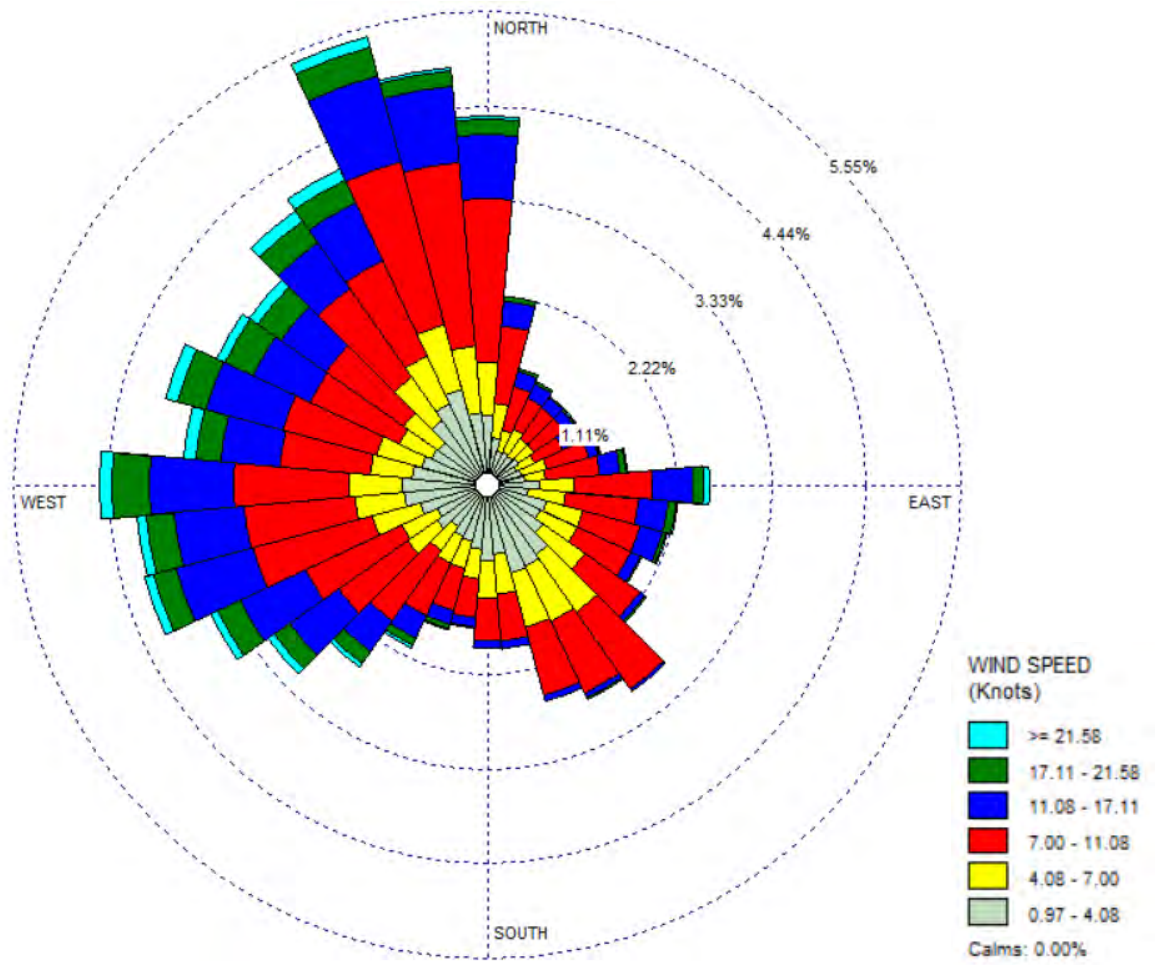
Notes: (1) Exceedances to Air Quality thresholds are shown in red

4.3.2.1 Meteorological Conditions

The MECP pre-processed Central Urban Region (Toronto, Station #61587) wind rose for the five-year meteorological period showing the wind direction (blowing from) and wind speed is presented in **Figure 4-5**. The wind rose shows that the predominant wind direction is blowing from the northwest. Details related to Emission Inventory are provided in **Appendix B2**.

6. Lall, R., M. Kendall, K.Ito and G.D. Thurston, 2004: Estimation of historical annual $PM_{2.5}$ exposures for health effects assessment (*Atmospheric Environment*. 38, 2004), 5217-5226.

Figure 4-5: Wind Rose for Central Urban Region



4.4 Noise and Vibration

The construction noise and vibration assessments incorporate United States Federal Transit Administration (FTA) prediction procedures and guidelines. The construction noise assessment also identifies the relevant sections of the MECP’s construction equipment-related noise guidelines (Publication NPC-115 and NPC-118); and the City of Toronto noise control and construction vibration by-laws.

It should be noted that rail corridor operations are assessed separately from all other sources per the MOEE/GO Transit Noise and Vibration Protocol. As there are no residences or other sensitive receptors within 500 metres of the rail corridor within the Study Area, construction noise impacts as well as operational noise and vibration impacts are considered negligible, therefore noise impacts from changes to station-related rail operations and associated construction within the rail corridor have not been assessed. The operational acoustics assessment is limited to the proposed station (referred to as the Facility).

The Station Operations Acoustic Assessment and Construction Noise and Vibration Impact Report is provided in **Appendix B3**.

4.4.1 Methodology

4.4.1.1 Construction Noise Assessment

4.4.1.1.1 Guidelines and By-laws

Construction noise was assessed using the sound emission standards provided in MECP publications NPC-115 and NPC-118.

It should be noted that at the time of this EPR, several major updates to the City of Toronto Municipal Noise By-law are planned to come into effect on October 1, 2019. The planned change will remove the differentiated time and place prohibition in section 591-2.1 subsection B(1) for construction and set a specific prohibition as follows:

“No person shall emit or cause or permit the emission of sound resulting from any operation of construction equipment or any construction that is clearly audible at a point of reception from 7pm to 7am the next day, except until 9am on Saturdays; and all day on Sundays and statutory holidays.”

4.4.1.1.2 Methodology

The provincial noise guidelines and municipal noise by-laws referenced above do not define absolute construction noise level limits at receiver locations; therefore, the impact assessment (**Appendix B3**) describes construction noise impacts in terms of the potential perceptibility of construction noise at noise-sensitive locations. In areas where construction noise may exceed ambient noise levels, the construction noise may be perceptible (audible). **Table 4-9** elaborates on the perceived impact of changes in sound levels compared with ambient levels.

Table 4-8: Perceived Impact of Increased Sound Levels⁷

Increased Sound Level Above Ambient (dB)	Perception	Perceived Impact
0 to 3	Potentially Perceptible	Minor

7. Adapted from Table 2.1 of “Engineering Noise Control, Theory and Practice”, 3rd edition. (Bies and Hansen, 2003).

Increased Sound Level Above Ambient (dB)	Perception	Perceived Impact
3 to 5	Perceptible	Low
5 to 10	Up to twice as loud	Medium
Greater than 10	Twice as loud or greater	High

4.4.1.2 Construction Vibration Assessment

Vibration levels due to construction activities have the potential to produce perceptible (*felt*) ground-borne vibration that may interfere with human activity. Construction vibration also has the potential to damage nearby structures, or interfere with sensitive equipment within buildings. The present Construction Vibration Assessment assesses the potential for perceptible vibration and building damage due to the construction activities at the Facility.

4.4.1.2.1 Guidelines and Criteria – Perceptible Vibration Criteria

The perceptible vibration criteria used for this assessment are not intended to be specified as limits for construction, but are included to provide an indication of the potential for annoyance from construction vibration.

Perceptible vibration is typically assessed using Root Mean Square Velocity (RMSV) vibration levels. MECP Publication NPC-207 provides RMSV vibration limits for stationary vibration sources in operation in Ontario for frequent events (more than 20 impulses in the observation period); vibration limits are not provided for infrequent impulse events and are to be established on an individual basis. The most current publication of NPC-207 is a 1983 draft version, which has been withdrawn from the MECP's internet resources.

Vibration limits for infrequent events are generally higher, according to The FTA document *Transit Noise and Vibration Impact Assessment* (the FTA Guide). The night-time vibration limits presented in NPC-207 are the same as the FTA Guide vibration limits for residential locations (for frequent events). Although the FTA Guide vibration limits do not distinguish between day and night-time periods, the FTA limit for residences (for frequent events) is more stringent than all of the NPC-207 daytime vibration limits. Therefore, the minimum FTA vibration limits have been used for this construction vibration assessment. Note that the FTA criteria are typically used for assessment of vibration due to the operation of transit systems and are typically not specified as limits but have been adopted as reference values for this assessment.

Table 4-10 presents the NPC-207 vibration limits.

Table 4-9: NPC-207 Vibration Limits for Frequent Impulses

Observation Period	RMSV Vibration Limit (mm/s)	
	Daytime (07:00 to 23:00)	Night-Time (23:00 to 07:00)
Period ≤ 20 minutes	0.15	0.10
20 minutes < Period ≤ 60 minutes	0.30	0.10
60 minutes < Period ≤ 120 minutes	0.50	0.10

The FTA Guide provides perceptible vibration limits based on vibration sensitive land uses, categorized as follows:

- **Vibration Category 1 – High Sensitivity**

This category includes buildings where vibration would interfere with operations within the building, including levels that may be below those associated with human annoyance. Land use examples in this category include vibration-sensitive research and manufacturing, hospitals with vibration-sensitive equipment and university research operations.

- Vibration Category 2 – Residential**
This category covers all residential land uses and any buildings where people sleep, such as hotels and hospitals. No differentiation is made between different types of residential areas.
- Vibration Category 3 – Institutional**
This category includes schools, churches, quiet offices and other institutions that do not have vibration-sensitive equipment, but still have the potential for activity interference. It is generally appropriate to include office buildings in this category. Buildings primarily used for industrial use, even though they may include some office space, are not intended to be used in this category.

Table 4-11 provides the FTA Guide RMSV vibration level limits (for frequent events) for the land use categories described above.

Table 4-10: FTA Guide RMSV Vibration Limits for Frequent Events by Land Use Category

Land Use Category	RMSV Vibration Limits	
	VdB ¹	mm/s
Category 1 (High Sensitivity)	65	0.05
Category 2 (Residential)	72	0.10
Category 3 (Institutional)	75	0.14

Notes: 1. Referenced to 1 micro inch/second (metric equivalent of 25.4×10^{-6} mm/s)

4.4.1.2.2 Guidelines and Criteria – Vibration Damage Criteria

Building damage due to vibration is typically assessed using Peak Particle Velocity (PPV) vibration levels. The FTA Guide provides PPV vibration limits based on building structure using the following categories:

- Building Category I** – Reinforced-concrete, steel or timber (no plaster)
- Building Category II** – Engineered concrete and masonry (no plaster)
- Building Category III** – Non-engineered timber and masonry buildings
- Building Category IV** – Buildings extremely susceptible to vibration damage

Table 4-12 provides the FTA Guide PPV vibration level limits for the land use categories described above.

Table 4-11: FTA Guide PPV Vibration Limits by Building Category

Building Category	PPV Vibration Limits	
	in/sec	mm/s
Building Category I	0.5	12.7
Building Category II	0.3	7.6
Building Category III	0.2	5.1
Building Category IV	0.12	3.0

4.4.1.2.3 Guidelines and Criteria – Municipal Vibration Control By-law

The City of Toronto enacts By-Law Number 514-2008 to prohibit and regulate construction vibration in Toronto. The by-law sets vibration limits summarized in **Table 4-13**.

Table 4-12: Prohibited Construction Vibrations

Frequency of Vibration (Hz)	Vibration Peak Particle Velocity (mm/s)
Less than 4	8
4 to 10	15
More than 10	25

In addition to the prohibited construction vibration levels, By-law 514-2008 defines a Zone of Influence (ZOI) as an area of land within or adjacent to a construction site, including any buildings or structures, that potentially may be impacted (i.e., cosmetic damage) by vibrations emanating from a construction activity where the Peak Particle Velocity (PPV) measured at the Point of Reception (POR) is equal to or greater than 5 mm/s at any frequency.

4.4.1.2.4 Methodology

Construction activities associated with the Facility can be divided into the following Construction Zones:

- Train platforms;
- Pedestrian parking lots, PPUJO, and new bus loop;
- New station building; and
- Pedestrian tunnels.

In addition, construction vibration was assessed for modifications to track alignments on the rail corridor to suit the new platform arrangement.

The construction vibration assessment followed the FTA *Quantitative Construction Vibration Assessment* method (FTA, 2018). Vibration levels were predicted at vibration sensitive areas during construction works at each of the Construction Zones.

4.4.1.3 *Station Operations Acoustic Assessment*

4.4.1.3.1 Guidelines

MECP publication NPC-300, Part B, provides sound level limits applicable to noise sensitive points of reception from stationary noise sources. Noise sensitive points of reception, "...means any location on a noise sensitive land use where noise from a stationary source is received."⁸ The Facility consists of equipment that can be considered stationary noise sources.

4.4.1.3.2 Sound Level Limits

NPC-300 provides separate minimum sound level limits (defined as 'Exclusion Limit' within NPC-300) applicable to Plane of Window and Outdoor points of reception, during daytime; evening; and night time periods. NPC-300 further delineates the minimum sound level limits with respect to the noise emissions from non-emergency equipment; and emergency equipment operating in non-emergency situations (e.g., testing of backup power systems). The subject area is best described as Class 2 (Urban), based on the definitions provided in NPC-300.

Table 4-14 summarizes the minimum NPC-300 One Hour L_{eq} sound level limits for Class 2 areas.

8. NPC-300, Definitions.

Table 4-13: NPC-300 Minimum Exclusion Sound Level Limits for Class 2 (Urban) Areas

Time Period	Point of Reception Location	Minimum Exclusion Limit (One Hour L _{eq} , dBA)	
		Non-Emergency Equipment	Emergency Equipment
Daytime (7AM to 7PM)	Plane of Window	50	55
Evening (7PM to 11PM)	Plane of Window	50	55
Night time (11PM to 7AM)	Plane of Window	45	50
Daytime (7AM to 7PM)	Outdoor	50	55
Evening (7PM to 11PM)	Outdoor	45	50
Night time (11PM to 7AM)	Outdoor	Not Applicable ¹	

Source: Table B-1 and Table B-2 within Publication NPC-300

Notes: Under NPC-300, sound level limits apply to outdoor points of reception during daytime and evening periods only.

The sound level limit objective at each point of reception can be determined in accordance with NPC-300 and is the greater of either:

- The minimum background sound level that occurs or is likely to occur during operation of the source under assessment; or
- The applicable minimum exclusion limit, as indicated in **Table 4-14**.

The minimum exclusion limits have been adopted as the Sound Level Limit objectives for the assessed points of reception and are presented in **Table 4-15**.

Table 4-14: Sound Level Limits

Point of Reception ID	MECP Area Class	Time Period	Point of Reception Location	Sound Level Limit – Objective (One Hour L _{eq} , dBA)	
				Non-Emergency Equipment	Emergency Equipment
R01_POWA	Class 2	Daytime	Plane of Window	50	55
	Class 2	Evening	Plane of Window	50	55
	Class 2	Night time	Plane of Window	45	50
R01_POWB	Class 2	Daytime	Plane of Window	50	55
	Class 2	Evening	Plane of Window	50	55
	Class 2	Night time	Plane of Window	45	50

Note that equipment noise emission levels, quantities, and locations were estimated at this preliminary stage of the project and will be verified during detailed design to confirm compliance.

4.4.1.4 Station Operations Vibration Assessment

As the stationary sources at the Facility are not considered to be significant sources of vibration (bus/car movement, HVAC equipment, generator), operational vibration from the site will be negligible at nearby buildings or vibration sensitive receptors. Therefore, a vibration assessment of the station operations was not conducted.

4.4.2 Description of Existing Conditions

4.4.2.1 Construction Noise Assessment

4.4.2.1.1 Noise Sensitive Areas and Ambient Levels

AECOM conducted ambient noise monitoring at one location near the most exposed noise sensitive receptor (Woodbine Hotel), from June 21st, 2019 to June 27th, 2019. Noise monitoring was undertaken using a 3M Quest SoundPro sound level meter, fitted with a microphone and a wind shield. The sound level meter was fastened to a pole at a height of approximately 3 m above local ground surface. The meter was field calibrated immediately prior to the measurement period. Measurements were recorded in 15-minute samples. The measurements were used to estimate the minimum One Hour L_{eq} ambient noise levels for the day, evening and night time periods.

The dominant consistent source of background noise in the area was Highway 27 traffic.

The noise measurement data has been cross-referenced against the weather data obtained from a nearby Environment Canada weather station (Toronto Pearson International Airport). Measurements recorded during periods of inclement weather (wind speeds greater than 20 km/h or any precipitation) have been omitted from the dataset.

4.4.2.2 Station Operations Acoustic Assessment

4.4.2.2.1 Noise Sensitive Areas and Points of Reception

The only noise sensitive area (NSA) identified within the study area was the Woodbine Hotel located on Vice Regent Boulevard, which is classified as a noise sensitive commercial purpose building under the NPC-300 guideline. No additional future noise sensitive locations were identified using approved land use plans.

As per NPC-300, Plane of Window and Outdoor (e.g., backyard) PORs were assessed at the NSA as follows:

- Plane of Window (denoted with a “POW” suffix)**
 A point in space corresponding to the centre location of a first storey window, at a height of 1.5 metres (m) above grade, or a second storey window, at a height of 4.5 m above grade, or the height of the vertical midpoint of the most exposed storey for a high-rise multi-unit building.
- Outdoor (denoted with an “Out” suffix)**
 A point in space within 30 m of the dwelling, at a height of 1.5 m above grade.

The Woodbine Hotel does not have any associated outdoor PORs. As such, only the plane of window PORs (the worst case 1st and 2nd storey receptors) at the hotel have been assessed. **Table 4-16** describes the POR assessed.

Table 4-15: Assessed Point of Reception

NSA ID	Point of Reception ID	Distance to Nearest Facility Building or Noise Source (m)	Point of Reception Location	Point of Reception Description	Receptor Location
NSA1 – Woodbine Hotel	R01_POW A	580	Plane of Window	Second Storey Window facade of two storey hotel, at a height of 4.5 m	Northeast of the Facility, on the northeast corner of Highway 27 and Vice Regent Boulevard.
	R01_POW B	544	Plane of Window	First Storey Window facade of two storey hotel, at a height of 1.5 m	Northeast of the Facility, on the northeast corner of Highway 27 and Vice Regent Boulevard.

4.4.2.3 Construction Vibration Assessment

4.4.2.3.1 Vibration Sensitive Areas

The vibration sensitive land uses surrounding the construction zones generally consist of industrial and commercial buildings. The most sensitive vibration receptor is Woodbine Hotel & Suites. In addition to the Woodbine Hotel, the Saand building to the south of the station and Highway 27 Bridge to the east of the station were also considered as the closest vibration sensitive building and bridge structures, with respect to potential vibration-induced building damage. As these buildings are not considered high sensitivity, residential, or institutional buildings (see **Section 4.4.1.2.1** for FTA land use categories), they were not assessed against perceptible vibration criteria.

4.5 Socio-Economic and Land Use

A Socio-Economic and Land Use Characteristics Study was conducted to identify the current socio-economic and land use conditions within the Study Area and assess any potential effects the Project may have on those features. The area of investigation includes the Project Site plus a 300 m buffer. The Socio-Economic and Land Use Characteristics Study can be found in **Appendix B4**.

The existing conditions of the following socio-economic features were reviewed and described, where applicable:

- Community features
 - Neighbourhoods
- Land Use
 - Residential
 - Commercial
 - Industrial
 - Employment areas
 - Institutional
 - Recreational
 - Parks and open space
- Visual Character
- Property
- Utilities
- Transportation⁹
 - Road traffic volumes and operations
 - Public transit service
 - Active transportation

4.5.1 Methodology

A desktop review was conducted using applicable municipal documents (i.e., Official Plans, Transportation Master Plans, Transit System Maps) and online data sources (e.g., current development applications, neighbourhood profiles, 2016 Census), including their associated maps/mapping tools, to identify the current land use designations and existing socio-economic conditions within the Study Area. This background research was supplemented with field reconnaissance conducted on June 24, 2019 to verify the data collected during the initial desktop review and document additional socio-economic features within the Study Area. Specific information related to land use policies and future development plans is provided in **Appendix B4**.

⁹ Transportation was included and assessed in the Socio-Economic and Land Use Characteristics Study (**Appendix B4**); however, it is not included in this EPR to avoid duplication, as the same information is provided in the traffic and transportation sections (**Section 4.8** and **Section 5.8**).

4.5.2 Description of Existing Conditions

4.5.2.1 Development Applications and Planning Policy

4.5.2.1.1 Provincial

Provincial Policy Statement (April 2014)

The Provincial Policy Statement (PPS) is the statement of the Ontario government's policies on land use planning. Key policy directives include the efficient use of land and infrastructure, the protection of the environment and its resources, and ensuring that there are opportunities for employment and residential development.

This Project is consistent with the objectives of the PPS that call for transportation, transit and infrastructure facilities to be planned to meet current and projected needs, providing for an efficient, cost-effective and reliable multi-modal transportation system that supports long-term economic prosperity.

The PPS also indicates that:

- Public transit and other alternative modes of transportation are to be supported to improve energy efficiency and air quality (Government of Ontario, 2014).
- Investments in transit infrastructure must support a range of planning, transportation and economic development objectives. While improvements to the GO Transit network will help reinforce the function of infrastructure corridors, these transit investments must simultaneously support multiple modes of travel, foster improved connectivity, and allow for the development of compact, vibrant, and mixed-use communities (Government of Ontario, 2014).

The Project is considered a transit improvement, and therefore supports the objectives of the PPS.

4.5.2.1.2 Municipal

Toronto Official Plan (February 2019 Office Consolidation)

The majority of the Study Area is designated as a *Core Employment Areas* in the Official Plan, with some small areas designated as *General Employment Areas* and *Utility Corridors*. The land use designations within the Study Area are illustrated in **Figure 4-6**. The *Core Employment Areas* and *General Employment Areas* designations are covered under the general *Employment Areas* designation and policies. The Study Area is currently not subject to any Secondary Plans.

The Official Plan identifies *Employment Areas* as lands that are slated for growing enterprises and jobs. This designation is designed to provide flexibility in order to support increased business activity in the immediate area with a broad and inclusive approach to employment uses for the City's economic future (City of Toronto, 2019). Aside from industrial and manufacturing districts and office parks, uses that support prime economic function of *Employment Areas* are also permitted (City of Toronto, 2019). As the proposed transit station will yield a significant increase in visitors to the Woodbine Districts and surrounding employers, the Project supports the objective of the *Employment Areas* designation per the Official Plan.

The Official Plan explains that *Employment Areas* are intended to generate substantial employment growth in Toronto and are protected from the encroachment of non-economic functions. The Official Plan also acknowledges that *Employment Areas* infrastructure investment may be necessary to become competitive in the regional economy (City of Toronto, 2019). To take advantage of new and expanding opportunities for important economic

assets, the Official Plan notes that new approaches, such as public-private partnerships, may be taken to improve the foundation for growth where key infrastructure is outdated, or lacking altogether (City of Toronto, 2019).

The Official Plan notes that good transit service to *Employment Areas* is necessary for Toronto and regional residents to take advantage of the economic opportunity they offer and to give workers an alternative to the automobile for their daily commute (City of Toronto, 2019). Transit use is encouraged in *Employment Areas* through investing in improved levels of service by encouraging new economic development to take place in a form and density that supports transit and by encouraging travel demand management measures (City of Toronto, 2019). Consistent with the Metrolinx Regional Transportation Plan, the Official Plan supports a system of Mobility Hubs in the regional rapid transit network that provides travellers with enhanced mobility choices and creates focal points for higher density development (City of Toronto, 2019).

Core Employment Areas are described as places for businesses and economic activities with a focus on industrial uses. *Core Employment Areas* are usually geographically located within the interior of *Employment Areas*. Uses permitted in *Core Employment Areas* are all types of manufacturing, processing, warehousing, wholesaling, distribution, storage, transportation facilities, vehicle repair and services, offices, research and development facilities, utilities, waste management systems, industrial trade schools, media, information and technology facilities, and vertical agriculture (City of Toronto, 2019). The following additional uses are permitted provided they are ancillary to and intended to serve the *Core Employment Area* in which they are located: parks, small-scale restaurants, catering facilities, and small-scale service uses such as courier services, banks and copy shops. Small scale retail uses that are ancillary to and on the same lot as the principal use are also permitted (City of Toronto, 2019).

General Employment Areas are intended to benefit from visibility and transit access to draw the broader public. *General Employment Areas* permits retail uses and all of the uses permitted in *Core Employment Areas* (City of Toronto, 2019).

A small portion of the Study Area is also designated under the *Utility Corridors* land use designation. The Official Plan notes that *Utility Corridors* mainly consist of rail and hydro rights-of-way (City of Toronto, 2019). Currently occupying the *Utility Corridors* lands within the Study Area are hydro towers on both sides of the rail tracks, which are surrounded by a parking lot and a trucking yard.

A visual representation of the land use designations within the Study Area is provided in **Figure 4-6**.

The Study Area is subject to Site and Area Specific Policy No. 296 – Woodbine Racetrack in the Official Plan (City of Toronto, 2019). The Site and Area Specific Policy applies to the entire Woodbine Districts block, bound by Rexdale Boulevard to the north, Highway 27 to the west, rail tracks to the south, and Highway 427 to the west. The objective of this Site and Area Specific Policy is to ensure that future development complements the existing horse racetrack and associated entertainment. The Site and Area Specific Policy also states that future development of the lands will create a prominent, active, pedestrian-friendly commercial retail and entertainment centre and residential neighbourhood; for residents, workers and visitors in Toronto and surrounding areas (City of Toronto, 2019). The Site and Area Specific Policy specifically states that development will proceed in a manner that will not preclude additions to the road network, enhanced surface transit and future transit improvements including the potential for a GO transit station located along the rail line abutting the south limit of the lands (City of Toronto, 2019).

4.5.2.1.3 Future DevelopmentDevelopment Applications

According to the City's online database for Development Applications, there are 6 active development applications within the Study Area.

There are four active development applications for the Woodbine Districts property at 555 Rexdale Boulevard, summarized below in **Table 4-17**.

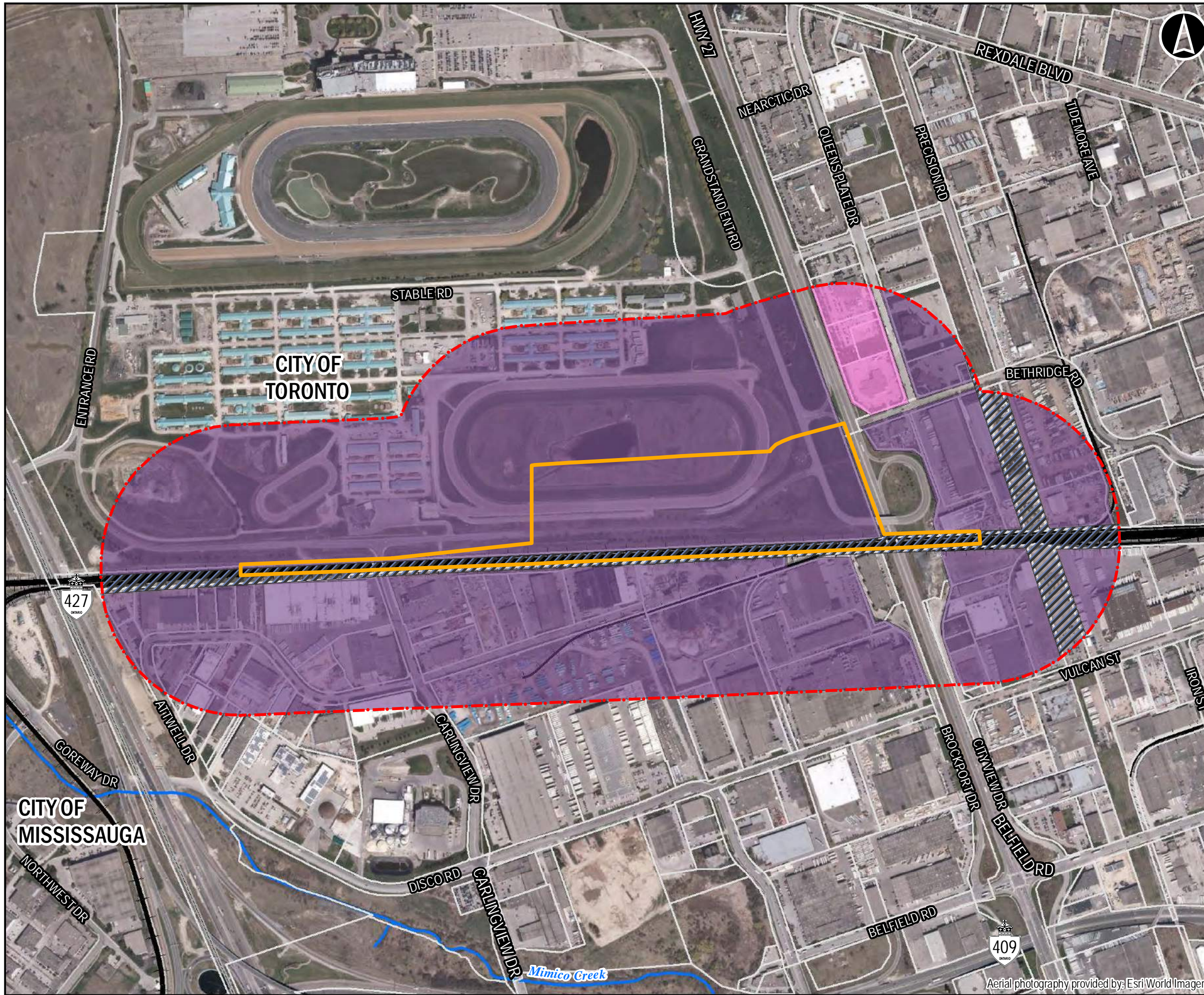
Table 4-16: Active Development Applications at the Woodbine Districts

Application Type	Reference Number	Application Details
Site Plan Control	18 117779 WET 02 SA	This application is currently under review for the portion of the property known as Woodbine Square, consisting of Block 9 on the proposed draft plan of subdivision for the lands north of the grandstand building, along with the lands beyond the boundary of the block to complete access and servicing requirements. The limits of the area subject to this application will be more particularly described in a draft reference plan, or in some other fashion acceptable to the City.
Site Plan Control	18 119828 WET 02 SA	This application is currently under review and is related specifically to Block 10 in the proposed draft plan of subdivision. The proposal is for the development of a casino and performance venue, two hotels and a parking structure. Retail uses are proposed within the casino area and fronting Lexie Lou Loop. A building permit application has been applied for.
Zoning By-law Amendment	17 158704 WET 02 OZ	This application proposes an amendment to the site-specific zoning to allow for the addition of live gaming as a permitted use in the existing grandstand building. This application was approved by Council in July 2018.
Plan of Subdivision	17 158705 WET 02 SB	This draft plan of subdivision application is to establish a framework for public roads and services, and for the development of the "gaming district" and associated uses, an integrated entertainment complex and uses such as commercial, institutional, agricultural and stormwater management facilities. This application was approved by Council in June 2018. The application was appealed to the Ontario Municipal Board (OMB) and was dismissed by the Local Planning Appeal Tribunal (LPAT) in March 2019.

Aside from the applications pertaining to the Woodbine Districts, there are two other active development applications within the Study Area, below in **Table 4-18**.

Table 4-17: Active Development Applications within the Study Area

Application Type	Reference Numbers	Application Details
Site Plan Control	16 204453 WET 02 SA	This application pertains to 40 Queens Plate Drive, east of Highway 27. The application is to construct a one-storey City of Toronto Fire Station #414.
Part Lot Control Exemption	19 144029 WET 01 PL	This application pertains to 221 Bethridge Road, east of Highway 27. This application is to construct a telecommunications tower.



Legend

- Project Site
- Study Area
- Metrolinx-owned rail corridor
- Watercourse
- Property Boundary
- Municipal Boundary

Map 13 - Land Use Plan - February 2019

- Core Employment Areas
- General Employment Areas
- Utility Corridors

Highway 27-Woodbine Station EA

Land Use Designations within the Study Area

0 50 100 200 300 400 500 600
Metres
DATUM: NAD 1983 UTM Zone 17N

Aug, 2019	1:8,000	Data Sources: MNRF, City of Toronto
P#:60606819	Rev:00	

AECOM **Figure 4-6**

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Map location: I:\CAH\A\H\F\001\Projects\60606819_Woodbine_Tram\Station_EA\000-CAD_GIS\2019-08-16_LandUseDesignations-60606819.mxd
Date Saved: 8/16/2019 3:46:58 PM User Name: cranes

Aerial photography provided by: Esri World Imagery

4.5.2.2 Community Features

The Study Area is located within Ward 1 (Etobicoke North) in the City of Toronto. According to 2016 Census Data (City of Toronto, 2018), Ward 1 has a total population of 60,745 with an approximate 1% decrease in population from 2011 to 2016.

The Study Area is located just east of the Rexdale-Kipling neighbourhood in Toronto. As shown in **Figure 4-7**, Rexdale-Kipling is roughly bounded the Humber River to the north, Islington Avenue to the east, Rexdale Boulevard to the south, and Kipling Avenue to the west. The neighbourhood is primarily residential with some parkland and residential commercial uses. According to 2016 Census Data (City of Toronto, 2018), Rexdale-Kipling has a total population of 10,529 with approximately 0.4% growth from 2011 to 2016.

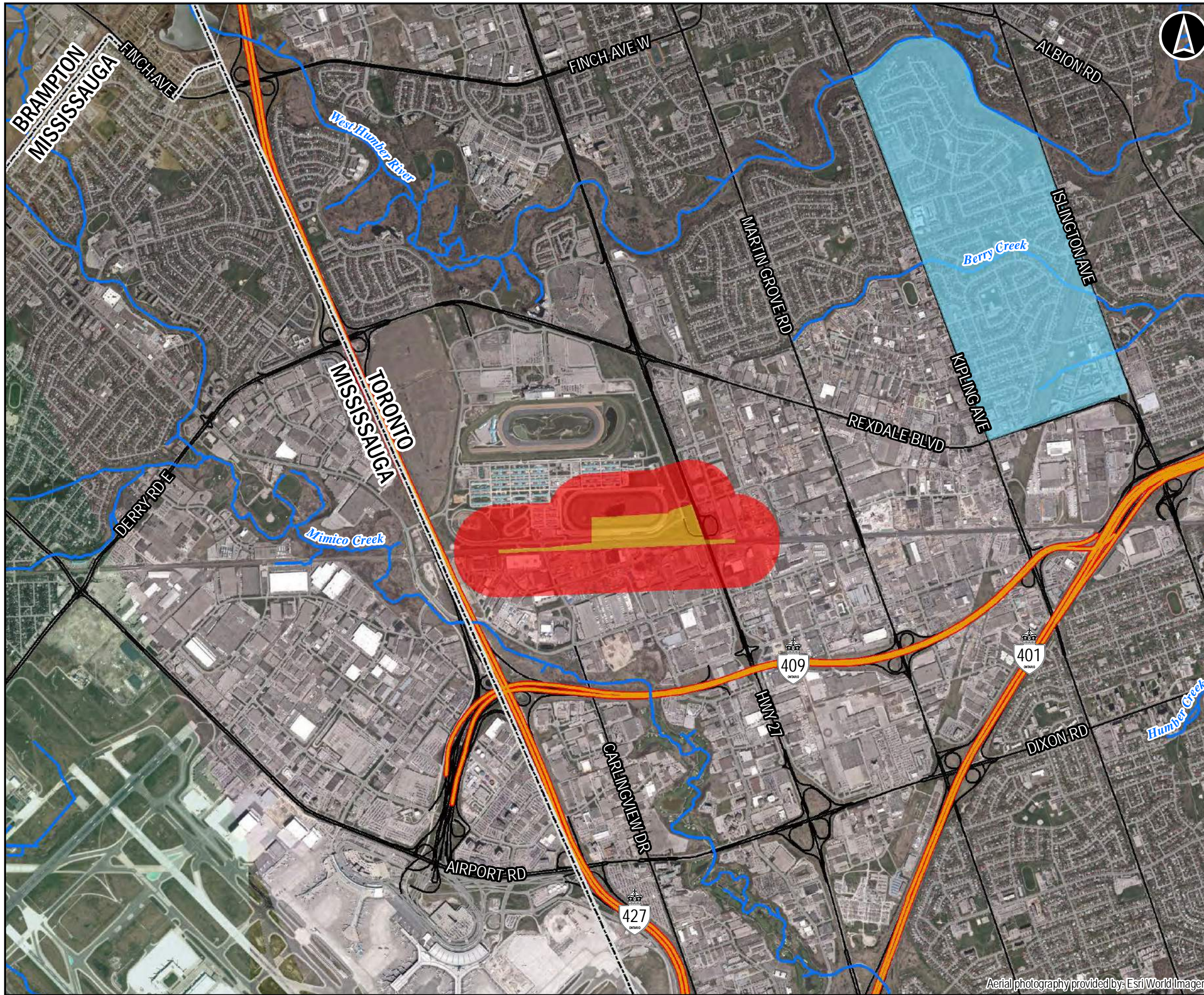
The Rexdale-Kipling neighbourhood is “buffered by the picturesque West Humber River Valley to the north while an industrial corridor forms the southern boundary” (Toronto Neighbourhood Guide, n.d.). The housing stock is diverse, with owner occupied single-family houses located on the interior of the neighbourhood and subsidized rental housing located on the periphery.

Some of the notable local landmarks within the Rexdale-Kipling neighbourhood include:

- West Humber River Valley;
- Berry Creek;
- Toronto Public Library – Rexdale Branch;
- Thistletown Collegiate Institute;
- Rivercrest Junior Public School;
- Rexdale Presbyterian Church;
- Rexdale Park;
- Rexlington Park;
- Frost Park;
- YWCA of Greater Toronto; and
- Kipling Acres long-term care home.

While the Study Area is located west of the Rexdale-Kipling neighbourhood, it is important to consider that this is the closest defined neighbourhood in proximity to the Project.

There are other notable landmarks and amenities outside of the Rexdale-Kipling neighbourhood, north of the Study Area. The northwest quadrant of the Rexdale Boulevard and Highway 27 intersection is Woodbine Mall & Fantasy Fair and further north, on the north side of the Humber River, is the Humber College North Campus. Construction of the Finch West Light Rail Transit (LRT) is underway and is anticipated to be completed in 2022. The west terminus of the LRT will be at Humber College and Highway 27 (roughly 2 km north of the Study Area) and will service Finch Avenue West to Keele Street.



Legend

- Project Site
- Study Area
- Rexdale-Kipling Neighbourhood
- Freeway
- Major Road
- Local Road
- Alleyway
- Watercourse
- Municipal Boundary

Highway 27-Woodbine Station EA

Rexdale-Kipling Neighbourhood Map

0 0.5 1 2
Kilometers

DATUM: NAD 1983 UTM Zone 17N

Aug, 2019	1:25,000	Data Sources: MNR, City of Toronto
P#: 60606819	Rev: 00	

AECOM **Figure 4-7**

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Aerial photography provided by: Esri World Imagery

Map location: \\CAH\A\H\F\001\Projects\60606819_Woodbine_Traffic_Station_EA\000-CAD_GIS\20-0223_GIS\Graphics\Design\01_Report\SocialEconomicLandUseReport\WXD\MAP-2019-09-16-ResidentialArea-60606819.mxd
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4.5.2.3 Existing Land Use

The existing land use within the Study Area is mainly characterized as employment areas with heavy industrial land uses. There are also some commercial and institutional uses within the Study Area. There were no parks and open spaces observed within the Study Area. A visual representation of existing land use within the Study Area is provided in **Figure 4-8**. Under the following sub-headings, each feature listed is assigned a number that corresponds with its location in **Figure 4-8**.

4.5.2.3.1 Residential

There were no residences identified within the Study Area.

4.5.2.3.2 Commercial

The following commercial uses are located within the Study Area:

- Empire Banquet Halls (14);
- Decibel House (16);
- Naka Herbs & Vitamins (19);
- Fastenal (20);
- Can East Pipeline Equipment Co. (21);
- Sparkleen Services Inc. (22);
- FACE Lounge Bar Pool Eventhall (23);
- Galaxy Bedding (24);
- Spec Furniture (25);
- Can-Clean Pressure Washers (27);
- Nissan Woodbine (36); and
- Yung's Auto Service (38).

Woodbine Hotel & Suites (60), located at 30 Vice Regent Boulevard, is located outside of the Study Area (see **Figure 4-8**).

4.5.2.3.3 Industrial

The following industrial uses were identified within the Study Area:

- Gazzola Paving (2);
- TransForce Integrated Solutions (6);
- Pure Metal Galvanizing (7);
- Gatsteel Service Centre (9);
- Saand Rexdale (10);
- Gazzola Paving Ltd. Asphalt and Aggregates Plant (11);
- Daytech Ltd. (12);
- Venture Steel (13);
- MSB Plastics Manufacturing Ltd. (17);
- CanMar Contracting Ltd. (26);
- Roy Turk Industrial Sales Inc. (28);
- MSO Construction Ltd. (30);
- Aero Yard (31);
- Sandy X Inc. Trucking Company (32); and
- Drapeau Transport (35).

4.5.2.3.4 Employment Areas

The following employment areas were identified within the Study Area:

- DNA Mechanical Inc. (4);
- Lofranco Art Ltd. (3);
- IPEX Inc. (5);
- Tower Scaffold Services (8);
- Converter Man Ltd. (15);
- Saand Head Office (18); and
- Purolator (29).

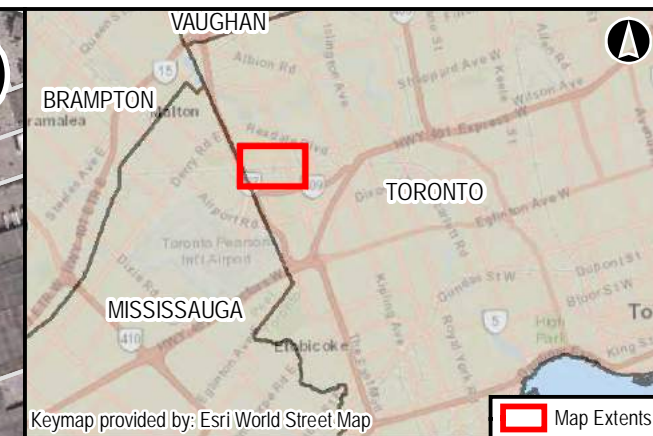
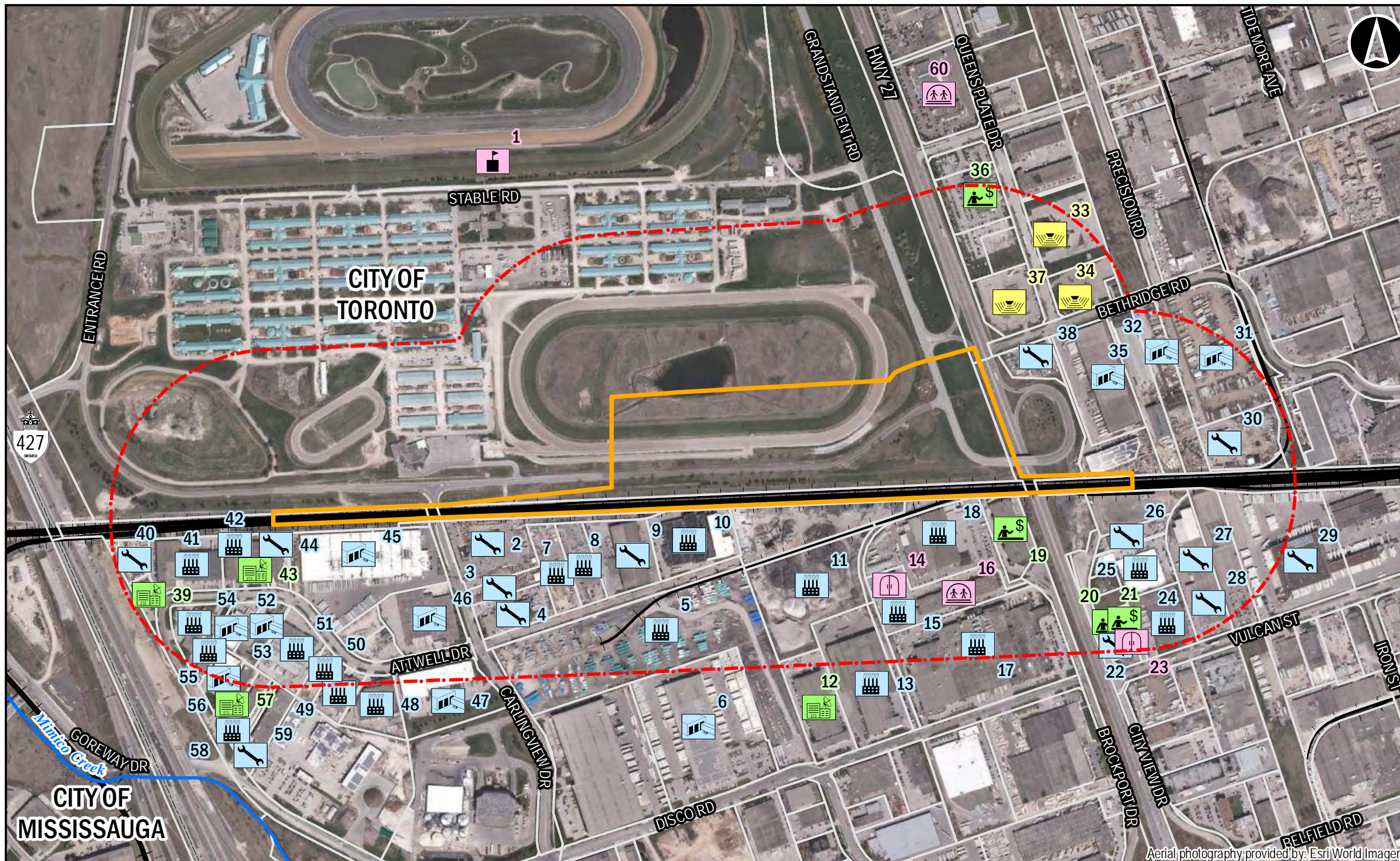
4.5.2.3.5 Institutional

The following places of worship were identified within the Study Area:

- Islington Evangel Centre (33);
- Kingdom Hall of Jehovah's Witnesses (34); and
- Toronto Perth Seventh-Day Adventist Church (37).

4.5.2.3.6 Recreational

Woodbine Racetrack (1) is a prominent private entertainment and recreational site with a horse racetrack, casino, and restaurants. The Project Site is located in the southeast portion of Woodbine Districts.



Legend

- Project Site
- Study Area
- Metrolinx owned Railway
- Watercourse
- Property Boundary
- Municipal Boundary

Socio-Economic Features by Category

- Place of Worship
- Office
- Storefront
- Manufacturing
- Service
- Shipping
- Entertainment
- Studio
- Event Hall
- Hotel

Socio-Economic Features Key

1) Woodbine Racetrack	10) Saand Rexdale	19) Naka Herbs & Vitamins	27) Can-Clean Pressure Washers	34) Kingdom Hall of Jehovah's Witnesses	42) Attwell Plastics Corporation	50) Berry Polymer Technology Ltd	57) West York Sales and Leasing Inc.
2) Gazzola Paving	11) Gazzola Paving Ltd. Asphalt and Aggregates Plant	20) Fastenal	28) Roy Turk Industrial Sales Inc.	35) Drapeau Transport	43) Envoy Networks Inc.	51) Nam Polymers Inc.	58) Lisi Mechanical Contractors
3) Lofraco Art Ltd.	12) Daytech Ltd.	21) Can East Pipeline Equipment Co.	29) Purolator	36) Nissan Woodbine	44) Pave-Tar Construction Ltd.	52) Multiline Transport Ltd.	59) Lascap Transfer & Recovery
4) DNA Mechanical Inc.	13) Venture Steel	22) Sparkleen Services Inc.	30) MSO Construction Ltd.	37) Toronto Perth Seventh-day Adventist Church	45) Weston Foods	53) Humpty Dumpty Snack Foods Inc.	60) Woodbine Hotel & Suites
5) IPEX Inc.	14) Empire Banquet Halls	23) FACE Lounge Bar Pool Eventhall	31) Aero Yard	38) Yung's Auto Service	46) NAFA Toronto Distribution Centre	54) FlexMaster Canada Ltd.	
6) TransForce Integrated Solutions	15) Converter Man Ltd.	24) Galaxy Bedding	32) Sandy X Inc. Trucking Company	39) NEWCOM Media	47) Filebank Records Centre	55) KC Structural Ltd.	
7) Pure Metal Galvanizing	16) Decibel House	25) Spec Furniture	33) Islington Evangel Centre	40) IL Duca Construction Inc.	48) DCM Metal Corp	56) Blue Oak Transport Ltd.	
8) Tower Scaffold Services	17) MSB Plastics Manufacturing Ltd.	26) CanMar Contracting Ltd.		41) R&R Rivet & Fastener Products	49) Anti-Friction Enterprises Ltd.		
9) Gatsteel Service Centre	18) Saand						

Highway 27-Woodbine Station EA

Socio-economic Features within the Study Area

0 50 100 200 300 400 500 600
Metres

DATUM: NAD 1983 UTM Zone 17N

Sep, 2019	1:8,000	Data Sources: MNRF, City of Toronto
P#:60606819	Rev:00	

Figure 4-8

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4.5.2.4 Visual Character

The Study Area is generally surrounded by industrial and commercial uses and the northern portion of Woodbine Districts. As the Project Site is located within an employment area, bound by Highway 27 to the east and the rail tracks to the south, the visual character of the Study Area is not notable.

4.5.2.5 Property

Located at 555 Rexdale Boulevard, the Project Site is an approximate 17 acre parcel of land owned by WEG. The property is currently occupied by a portion of the southeastern portion of the practice racetrack, the southern portion of the southeast stormwater pond, the eastern portion of Entrance Road, the southern portion of Grandstand Entrance Road, a portion of the rail tracks east and west of Highway 27, and the Highway 27 underpass structure.

4.5.2.6 Utilities

There is an existing utility corridor east of the Project Site within the Study Area, as shown on **Figure 4-6**.

4.6 Built Heritage Resources and Cultural Heritage Landscapes

4.6.1 Methodology

A Cultural Heritage Report: Existing Conditions and Preliminary Impact Assessment (CHAR) was undertaken on July 23, 2019 by AECOM Canada Ltd. For the Study Area. The CHAR consisted of data collection, background historic research, review of secondary source material and field review conducted in May 2019 to identify the presence of known and potential built heritage resource and cultural heritage landscapes in or adjacent to the study area.

As per the *Draft Terms of Reference: Cultural Heritage Screening Report for Built Heritage Resources and Cultural Heritage Landscapes* (2013), the definition of “adjacency” in the relevant municipal official plan has been used for the purposes of identifying properties within the Study Area. The following definition is included in Section 3.1.5 (Heritage Conservation) of the City of Toronto Official Plan:

Adjacent: means those lands adjoining a property of the Heritage Register or lands that are directly across from and near to a property on the Heritage Register and separated by land used as a private or public road, highway, street, lane, trail, right-of-way, walkway, green space, park and/or easement, or an intersection of any of these; whose location has the potential to have an impact on a property on the heritage register; or as otherwise defined in a Heritage Conservation District Plan adopted by-by-law.

More details and results of the data collection are presented in the CHAR (**Appendix B5**).

For the purposes of this **Section 4.6** and **Section 5.6**, cultural heritage resources (CHR) specifically refers to built heritage resources and cultural heritage landscapes. Archaeology is addressed separately under **Section 4.7** and **Section 5.7**.

4.6.2 Description of Existing Conditions

Where applicable, potential heritage attributes have been identified for the purposes of completing a preliminary impact assessment within the CHAR. In addition to formally protect properties identified, AECOM used a rolling 40-

year rule; a guideline for identifying properties with the potential to have heritage value, in order to screen the Study Area for the potential of a site or property to be of Cultural Heritage Value or Interest (CHVI). The approximate age of buildings and/or structures may be estimated based on history of the development of an area, fire insurance maps, architectural styles, or building methods. Properties with 40+ year old buildings or structures do not necessarily hold CHVI; their age simply indicates a higher potential. Where properties included resources that appeared to be less than 40 years old and likely had no cultural heritage value, the properties were not inventoried within the CHAR.

As a result of the CHAR investigation, nine properties were identified within the Study Area of containing known or potential CHVI. It was determined that two of the properties contain potential heritage attributes: Woodbine Racetrack and Highway 27 Bridge. The existing conditions of these two properties are summarized in **Table 4-19**. All other properties did not appear to have significant cultural heritage value or interest. The existing conditions of each property included within the Study Area can be found in **Appendix B5**.

Table 4-18: Summary of Cultural Heritage Existing Conditions within the Study Area

CHR Reference Number	Type of Property	Location	Heritage Recognition	Description of Known or Potential Cultural Heritage Value or Interest (CHVI)
CHR 1	Commercial horseracing track and entertainment facility	555 Rexdale Boulevard	None	<p>The Woodbine Racetrack property first opened in 1956 and has potential historical or associative value as it relates to the evolution of horseracing in Ontario. In addition, it is associated with E.P. Taylor, and the Ontario Jockey Club. As a result, the property may have direct associations with a theme, event, belief, person, activity, organization, or institution that is significant to a community.</p> <p>The potential heritage attributes for the property include the grandstand structure, various stable facilities, as well as the multiple tracks located on the property.</p>
CHR 6	Road bridge	Highway 27 Bridge	None	<p>The property includes a single span rigid-frame road bridge, constructed in 1955. Rigid frame bridges were commonly used on Ontario roads and highways for a short period in the early and mid-20th century. The bridge has potential to have significant design value.</p> <p>The potential heritage attributes of this resource consist primarily of its structural components including its form, concrete materials, open-railing system, and distinctive curved soffit that is commonly found on rigid frame bridges.</p>

4.7 Archaeology

4.7.1 Methodology

AECOM completed a Stage 1 Archaeological Assessment (AA) using background research to describe the geography, land use history, previous archaeological field work and current condition of the lands within the Study Area. The Archaeology Study Area is defined as extending 50 m from the edge of the Project Site to create a

slightly larger area of investigation, which is required to allow for slight variances. The Stage 1 AA is provided in **Appendix B6**.

The Stage 1 AA was conducted to meet the requirements of the MHSTCI *Standards and Guidelines for Consultant Archaeologists* (2011). The objective of the Stage 1 AA background study is to document the archaeological and land use history and present conditions within the Study Area.

The Stage 1AA determined that some areas may retain archaeological potential and recommended a Stage 2AA for lands identified as retaining archaeological potential.

AECOM also completed a Stage 2 AA for areas of manicured lawn within Study Area identified by the Stage 1 AA as retaining archaeological potential. These areas included a small corridor of manicured lawn to the south of Entrance Road adjacent to the railway Right-of-way (ROW), as well as a patch of manicured lawn at Grandstand Entrance Road and Highway 27 (see **Figure 5-2**). The Stage 2 AA is provided in **Appendix B7**.

The Stage 2 AA did not result in the identification of any archaeological material, features, or sites. The majority of the Study Area was determined to have been intensively and extensively previously disturbed, typical of major city centres. As such, all areas subject to Stage 2 within the Study Area are considered free of archaeological concerns and no further work is required.

4.7.2 Description of Existing Conditions

Archaeological potential is established by determining the likelihood that archaeological resources may be present on a subject property. Criteria commonly used by the MHSTCI to determine areas of archaeological potential are listed in Section 1.3.1 of the *Standards and Guidelines for Consultant Archaeologists* (Ontario Government 2011). Distance to modern or ancient water sources is generally accepted as the most important element for past human settlement patterns and when considered alone may result in a determination of archaeological potential. In addition, any combination of two or more of the listed criteria indicates archaeological potential.

Based on a review of the historical, environmental, and archaeological context of the Study Area, it has been determined that potential exists for the recovery of pre- and post-contact First Nation and 19th century Euro-Canadian archaeological resources within the Study Area based on the presence of the following features:

- Distance to various types of water sources (Etobicoke Creek, Lake Ontario);
- Natural environment features including soil texture and drainage;
- Glacial geomorphology (Glacial Lake Iroquois), elevated topography, and the general topographic variability of the area; and
- Areas of early Euro- Canadian settlement (schoolhouses/farmhouses on surrounding properties) and early transportation routes (GTR/CNR).

Certain features indicate that archaeological potential has been removed, such as land that has been subject to extensive and intensive deep land alterations that have severely damaged the integrity of any archaeological resources. This includes landscaping that involves grading below the topsoil level, building footprints, quarrying and sewage and infrastructure development (Ontario Government 2011). Substantial previous disturbance associated with the construction of the racetrack, railway, roadways, and industrial development have removed archaeological potential within the Study Area with the exception of a small corridor of manicured lawn to the south of Entrance Road adjacent to the railway ROW as well as lands around Grandstand Entrance Road and Highway 27.

In addition, AECOM conducted a data search of the ASDB to determine if any registered archaeological sites are located within the Study Area as well as within 1 km of the current Study Area boundaries. The ASDB records indicate that there are no registered archaeological sites within the Study Area or within 1 km of the Study Area boundaries.

4.8 Traffic and Transportation

A Traffic Impact Study (TIS) was completed to review and assess the following:

- Road Network
 - Traffic Volumes
 - Traffic Operations
- Transit Network
- Pedestrian and Cycling Network

The TIS is provided in **Appendix B8**.

4.8.1 Methodology

4.8.1.1 Data Collection

Turning Movement Count (TMC) data at the Study Area intersections were collected by Spectrum Traffic Data Inc. and LEA Consulting Ltd. at 15-minute intervals during the weekday and weekend peak periods in the Spring of 2017 and 2019, respectively. The Study Area intersections were selected according to one of the technical parameters identified in City of Toronto's Guidelines for Traffic Impact Studies¹⁰; vehicle traffic volumes exceeding five percent. Accordingly, the site-generated traffic volumes entering the boundary Study Area intersections are less than 5% of the total volumes entering the Study Area intersections in the opening year of the Project. The Study Area intersections and source and date of TMC data collection are shown in **Table 4-20**. The raw traffic data is attached in **Appendix B8**.

Table 4-20: Study Area Intersections and Source and Data of TMC Data

Intersection	Source	Survey Date
Highway 27 and Belfield Road – Signalized	Spectrum Traffic Data	Spring 2017
	LEA Consulting	Spring 2019
Highway 27 and Bethridge Road – Unsignalized	Spectrum Traffic Data	Spring 2017
	LEA Consulting	Spring 2019
Highway 27 and Vice Regent Boulevard – Unsignalized	Spectrum Traffic Data	Spring 2017
	LEA Consulting	Spring 2019
Highway 27 and Nearctic Drive – Unsignalized	Spectrum Traffic Data	Spring 2017
	LEA Consulting	Spring 2019
Highway 27 and Rexdale Boulevard – Signalized	Spectrum Traffic Data	Spring 2017
	LEA Consulting	Spring 2019

¹⁰. "Guidelines for the Preparation of Transportation Impact Studies" – City of Toronto, 2013

Intersection	Source	Survey Date
Rexdale Boulevard and Queens Plate Drive (East) – Signalized	Spectrum Traffic Data	Spring 2017
Rexdale Boulevard and Queens Plate Drive (West) – Signalized	Spectrum Traffic Data	Spring 2017
Rexdale Boulevard and Humberwood Boulevard – Signalized	Spectrum Traffic Data	Spring 2017
Goreway Drive at Club House Road (Woodbine Entrance) – Unsignalized	Spectrum Traffic Data	Spring 2017
Entrance Road at Carlingview Drive – Unsignalized	Spectrum Traffic Data	Spring 2017
	LEA Consulting	Spring 2019

The signal timing plans for the signalized Study Area intersections were extracted from the BA Group Traffic Operations Report¹¹ and attached in **Appendix B8**.

4.8.1.2 Traffic Analysis Methodology, Assumptions and Parameters

The traffic analyses were completed using Synchro 9 software in accordance with the methodologies outlined in the Highway Capacity Manual (HCM) and in accordance with the City's Guidelines for Using Synchro 9¹².

The measures of effectiveness used to assess intersection operations are level of service (LOS) and volume-to-capacity (V/C) ratio. LOS is a qualitative measure describing the performance of individual movements and of an overall intersection from the traffic operations standpoint. The LOS designation ranges from LOS A to LOS F based on the amount of average delay that a motorist experiences before taking a specific manoeuvre at an intersection. LOS A designation indicates free-flowing traffic conditions with minimal delays to drivers, while LOS F designation indicates forced or breakdown traffic flow with extensive delays. The V/C ratio is an indicator of the capacity utilization at an intersection or on specific movements at an intersection. A V/C ratio of 1.00 indicates that a movement or an intersection is operating at capacity.

4.8.1.3 Horizon Year and Peak Period

According to the City of Toronto's Guidelines for Traffic Impact Studies, the TIS horizon year is either five years from the date the TIS is commissioned (i.e., 2024 which is five years after 2019 when the TIS is commissioned) or the year of the proposed Highway 27-Woodbine Station's opening year, whichever comes earlier. It is anticipated that the proposed station will be completed and operational by 2023; thus, year 2023 was selected as the TIS horizon year.

The station is anticipated to have peak ridership in the AM and PM peak hours of a typical weekday. Hence, the trips generated by the Project Site were estimated for both peak hours.

4.8.1.4 Assessment Scenarios

The traffic analysis includes assessment of traffic conditions at the Study Area intersections during the AM and PM peak hours under the following scenarios:

11. "Draft Plan of Subdivision Traffic Operations" – BA Group, May 2017

12. "Guidelines for Using Synchro 9" – City of Toronto, March 2016

- **Existing Conditions Scenario:**

The Existing Conditions assessment and Synchro modelling works are intended to develop a model replicating the actual traffic operations in the existing conditions. The Existing Conditions model serves as a basis for assessment of traffic operations in the horizon year of 2023 under the following Future Condition scenarios;

- **Future Background Scenario:**

The Future Background assessment and corresponding Synchro modelling works for the horizon year of 2023 (i.e., the anticipated opening year for the proposed transit station) are intended to determine traffic operations at the Study Area intersections in the absence of the proposed transit station in 2023. The Future Background assessment is undertaken based on optimized signal timing plans and accounts for the anticipated growth in turning movement volumes at the Study Area intersections due to the background developments including the nearby planned and approved developments with their anticipated build-out being prior to or in 2023. In addition, the Future Background assessment takes into consideration any planned street network improvements (including planned modifications to the intersections geometry) that are to be implemented by 2023; and

- **Future Total Scenario:**

The Future Total assessment and related Synchro modelling works for the horizon year of 2023 are intended to determine traffic operations at the Study Area intersections in 2023 with the proposed transit station in place. Like the Future Background assessment, the Future Total assessment has been performed using optimized signal timing plans and accounts for the planned street network improvements that are to be implemented by 2023. The turning movement volumes at the Study Area intersections under the Future Total scenario are calculated as the summation of their respective turning movement volumes under the Future Background conditions and the turning movement volumes generated by the Project.

4.8.1.5 *Synchro Modelling Parameters and Assumptions*

Peak Hour Factors (PHF) are calculated and applied to the existing Study Area intersections as per the available TMC data. In the Future Conditions analysis, the calculated PHF values were considered applicable to the existing intersections and even applicable to the new movements allowed at the existing intersections. However, for the new intersections in the Future Conditions analysis and as per the City's Synchro Guidelines, a PHF of 0.95 was applied for through movements and right-turn movements and a PHF of 0.90 was applied for left-turn movements.

For the purpose of the PM peak hour model calibration, at the intersection of Highway 27 and Belfield Road, the PHF values for the northbound through and southbound left-turn movements were increased from the calculated value of 0.92 to 0.99 and 0.95, respectively in order for the two noted movements to operate within capacity in the Existing Conditions. For consistency, the noted PHF values were input to the PM peak hour models pertaining to the Future Background and Future Total Scenarios.

Heavy Vehicle Percentages are calculated for each movement at the existing intersections as per the observed data. For new intersections and movements, however, a default heavy vehicle percentage of 2% was applied.

Lost Time Adjust of -1 second was adopted for all signalized intersections within the Study Area, consistent with the City's Synchro Guidelines.

4.8.2 Description of Existing Conditions

4.8.2.1 Road Network

An overview of the public streets within the Study Area is provided below. The existing street network as well as the lane configurations and traffic control devices of the Study Area intersections are illustrated in **Appendix B8**.

Highway 27 is a major north-south arterial road under the jurisdiction of the City of Toronto. It runs along the eastern boundary of the Project Site and Woodbine Districts and it extends northward from Highway 401 / Highway 409 into the City of Vaughan and beyond. Highway 27 maintains a four-lane cross-section within the Study Area between the intersection of Belfield Road and Highway 27 to the south and the intersection of Rexdale Boulevard and Highway 27 to the north. There is a sidewalk running north-south and located on the east side of Highway 27 within the Study Area between Bethridge Road and Rexdale Boulevard. The sidewalk is separated by a wide grass boulevard from the paved portion of the road. The posted speed along the studied section of Highway 27 is 70 km/h.

Rexdale Boulevard is a major east-west arterial road under the jurisdiction of the City of Toronto. Within the Study Area, Rexdale Boulevard has a six-lane cross-section (i.e., three travel lanes in each direction and exclusive left turn lanes at the Humberwood Boulevard, Queens Plate Drive, and Highway 27 intersections) and a posted speed of 60 km/h. There is a sidewalk running east-west and located on the north side of Rexdale Boulevard within the Study Area. The sidewalk is separated from the travel lanes by a landscaped boulevard.

Belfield Road is a minor east-west arterial road under the City of Toronto's jurisdiction. At the Highway 27 intersection, Belfield has a four-lane cross-section (i.e., two travel lanes in each direction, exclusive left-turn lanes, and channelized right turn). There are no posted speed signs along Belfield Road, so it is assumed that the statutory speed limit of 50 km/h applies. Sidewalks are provided on both sides of Belfield Road within the Study Area.

Carlingview Drive is a minor north-south arterial road under the jurisdiction of the City of Toronto. It extends southwards from the southern boundary of the Woodbine Districts across the rail tracks (as an underpass) and connects to Highway 401. Within the Study Area, Carlingview Drive has a two-lane cross-section (i.e., one travel lane in each direction and an exclusive left turn lane at the intersection) and a posted speed of 60 km/h. Sidewalks are provided on both sides of Carlingview Drive within the Study Area.

Goreway Drive is a north-south collector road under the jurisdiction of the City of Mississauga. At the Goreway Drive and Woodbine Entrance / Club House Road intersection, Goreway Drive has a four-lane cross-section (i.e., two travel lanes in each direction and an exclusive left turn lane at the intersection) and a posted speed of 60 km/h.

Queens Plate Drive is a north-south collector road under the jurisdiction of the City of Toronto. Queens Plate Drive intersects Highway 27 around the Woodbine Mall and extends east of Highway 27 to connect back (and across) to Rexdale Boulevard. The south leg of the intersection of Queens Plate Drive West and Rexdale Boulevard is restricted for the use of transit buses. There are no posted speed signs along Queens Plate Drive, so it is assumed that the statutory speed limit of 50 km/h applies. Sidewalks and landscaped boulevards are provided on both sides of Queens Plate Drive within the Study Area.

Humberwood Boulevard is a north-south collector road under the jurisdiction of the City of Toronto. It extends north from Rexdale Boulevard to Humberline Drive south of Finch Avenue West. Humberwood Boulevard has a two-lane cross-section with exclusive left turn lanes at the Rexdale Boulevard intersection and a posted speed of 50 km/h. Sidewalks and landscaped boulevards are provided on both sides of Humberwood Boulevard within the Study Area.

Nearctic Drive, Vice Regent Boulevard, and Bethridge Road are parallel east-west local roads under the jurisdiction of the City. They connect Highway 27 and Queens Plate Drive East on the east side of Highway 27. The Nearctic Drive and Bethridge Road intersections with Highway 27 operate as Right-In-Right-Out (RIRO) only. Sidewalks and landscaped boulevards are provided on both sides of Nearctic Drive and Vice Regent Boulevard but only on the north side of Bethridge Road.

4.8.2.2 Traffic Volumes

The TMC data pertaining to the Study Area intersections were collected in the Spring of 2017 by Spectrum Traffic Data Inc. and in the Spring of 2019 by LEA Consulting Ltd.

Comparing the raw TMC data from the two data sources revealed that the total traffic volume entering the Study Area intersections from the 2019 TMC data is higher than that from the 2017 TMC data in the AM peak hour but lower in the PM peak hour. Hence, for the AM peak hour, the 2019 TMC data were used at the Study Area intersections where the 2019 data is available and at the remaining Study Area intersections, the 2017 TMC data were used. For the intersections that the 2019 TMC data were not available, the AM peak hour volumes were estimated by adjusting the related 2017 counts to balance with the 2019 counts of the intersections for which 2019 TMC data are available. However, for the PM peak hour, the Existing Conditions traffic volumes were obtained by applying growth factors to the 2017 counts that were used at all Study Area intersections. The TMC data comparison details are provided in **Appendix B8**.

4.8.2.3 Traffic Operations

The traffic operations at the Study Area intersections in the Existing Conditions are summarized in **Table 4-21**. Critical movements are highlighted in gray in **Table 4-21** and are defined to be movements where the V/C Ratio exceeds 0.85 or where LOS is 'E' or worse. The detailed Synchro reports are attached in **Appendix B8**.

As shown in **Table 4-21** and at the intersection level, all the Study Area intersections operate at acceptable LOS D or better and within capacity with overall V/C Ratio of 0.84 or lower in the AM peak hour. However, motorists experience relatively long average delays in making the following movements. The following movements operate at LOS 'E' or worse.

- Eastbound through, westbound left-turn, westbound through, northbound left-turn, and southbound left-turn movements at the intersection of Highway 27 and Belfield Road;
- Westbound left-turn movement at the intersection of Highway 27 and Vice Regent Boulevard;
- Westbound left-turn, northbound left-turn, and southbound left-turn movements at the intersection of Highway 27 and Rexdale Boulevard; and
- Southbound left-turn at the intersection of Rexdale Boulevard and Queens Plate Drive (East).

Among the signalized intersections, the westbound left-turn movement at the intersection of Highway 27 and Rexdale Boulevard has the longest average delay of 109.4 seconds representing LOS 'F' and operating almost at capacity with V/C ratio of 0.98 during the AM peak hour. In addition, among the unsignalized intersections, the westbound left-turning motorists at the intersection of Highway 27 and Vice Regent Boulevard are experiencing very long average delays of 417.2 seconds (i.e., approximately seven minutes), causing the movement and hence the overall intersection to operate at LOS 'F' in the AM peak hour.

During the PM peak hour and at the intersection level, the intersection of Highway 27 and Belfield Road and the intersection of Highway 27 and Rexdale Boulevard are operating near capacity with V/C Ratio of 0.93 and 0.90, respectively. The following movements experience long average delays and operate at LOS 'E' or worse:

- Eastbound left-turn, eastbound through, westbound left-turn, westbound through, northbound left-turn, northbound through, and southbound left-turn at the intersection of Highway 27 and Belfield Road;
- Westbound left-turn movement at the intersection of Highway 27 and Vice Regent Boulevard;
- Eastbound left-turn, northbound left-turn, and southbound left-turn at the intersection of Highway 27 and Rexdale Boulevard;
- Northbound left-turn at the intersection of Rexdale Boulevard and Queens Plate Drive (East); and
- Westbound left-turn at the intersection of Goreway Drive and Club House Road.

Notably and among the signalized intersections, at the intersection of Highway 27 and Belfield Road, the northbound through and southbound left-turn movements are operating almost at capacity with V/C Ratio of 0.99 and the eastbound through movement is approaching capacity with V/C Ratio of 0.89. In addition, at the intersection of Highway 27 and Rexdale Boulevard, the eastbound left-turn and northbound left-turn movements are operating near capacity with both having a V/C Ratio of 0.95. Among the signalized intersection, the southbound left-turn movement at the intersection of Highway 27 and Belfield Road are experiencing the longest average delay of 141.2 seconds representing LOS 'F'. Furthermore, of note and among the unsignalized intersections, the westbound left-turn movements at the intersections of Highway 27 and Vice Regent Boulevard and the intersection of Goreway Drive and Club House Road are operating poorly in the Existing Conditions during the PM peak hour. The westbound left-turning vehicles at the noted intersections are experiencing extremely long average delays of 1065.9 seconds (i.e., approximately eighteen minutes) and 106.9 seconds (i.e., approximately two minutes), respectively.

Table 4-21: Summary of the Existing Traffic Operations at the Study Area Intersections during the AM and PM Peak Hours

Intersection	Movement	AM Peak Hour				PM Peak Hour			
		V/C Ratio	Delay(s)	LOS	95 th Percentile Queue (m)	V/C Ratio	Delay(s)	LOS	95 th Percentile Queue (m)
Highway 27 / Belfield Road	EBL	0.50	51.9	D	40.8	0.82	72.2	E	#99.1
	EBT	0.66	55.5	E	44.9	0.89	71.2	E	#87.9
	EBR	0.05	0.1	A	0.0	0.07	0.1	A	0.0
	WBL	0.69	58.0	E	66.9	0.70	61.4	E	71.3
	WBT	0.72	55.7	E	59.0	0.77	61.2	E	64.2
	WBR	0.08	0.1	A	0.0	0.31	0.5	A	0.0
	NBL	0.76	71.0	E	#64.5	0.67	69.5	E	#43.5
	NBT	0.82	40.1	D	157.0	0.99	59.6	E	#231.3
	NBR	0.40	0.8	A	0.0	0.15	25.4	C	15.4
	SBL	0.80	71.1	E	#85.8	0.99	141.2	F	m#101.7
	SBT	0.61	31.0	C	113.2	0.77	23.5	C	175.5
	SBR	0.15	0.2	A	0.0	0.09	0.5	A	m0.0
	Overall Intersection	-	33.9	C	-	-	45.9	D	-
Highway 27 / Rexdale Boulevard	EBL	0.30	27.4	C	29.3	0.95	80.6	F	#100.2
	EBTR	0.82	46.9	D	122.4	0.70	41.2	D	102.1
	WBL	0.98	109.4	F	#85.7	0.74	47.8	D	m#51.9
	WBT	0.30	28.8	C	31.5	0.80	36.4	D	90.3
	WBR	0.08	15.8	B	4.0	0.07	0.1	A	m0.0
	NBL	0.71	71.9	E	#47.7	0.95	73.0	E	m#87.1
	NBT	0.55	37.4	D	82.0	0.72	53.6	D	m120.1
	NBR		0.07	C	8.1	0.12	0.1	A	m0.0
	SBL	0.75	72.2	E	#57.8	0.69	65.5	E	54.3
	SBT	0.62	37.2	D	96.2	0.69	43.8	D	93.8
	SBR	0.03	28.4	C	0.0	0.06	0.1	A	0.0
		Overall Intersection	-	43.0	D	-	-	44.2	D

Rexdale Boulevard / Queens Plate Drive (East)	EBL	0.06	0.7	A	m0.4	0.45	9.4	A	m7.1
	EBTR	0.37	0.7	A	4.6	0.37	2.5	A	10.6
	WBL	0.26	7.3	A	13.0	0.17	12.2	B	12.2
	WBTR	0.24	4.9	A	31.2	0.40	13.1	B	73.2
	NBL	0.34	50.7	D	24.2	0.85	60.8	E	97.2
	NBTR	0.11	47.8	D	12.2	0.15	34.3	C	19.0
	SBL	0.68	61.9	E	47.2	0.75	51.0	D	82.8
	SBTR	0.07	47.4	D	8.4	0.07	33.4	C	10.0
	Overall Intersection	-	8.9	A	-	-	18.5	B	-
Rexdale Boulevard / Queens Plate Drive (West)	EBL	0.43	3.6	A	21.3	0.72	25.8	C	#107.3
	EBT	0.36	4.1	A	37.7	0.30	6.5	A	39.5
	WBTR	0.22	8.0	A	28.5	0.74	24.7	C	94.3
	NBLTR	0.04	35.4	D	3.4	0.02	28.9	C	2.3
	SBL	0.29	37.3	D	16.2	0.36	31.8	C	25.7
	SBR	0.19	37.3	D	20.5	0.71	41.8	D	54.8
	Overall Intersection	-	9.1	A	-	-	21.8	C	-

Notes: #: 95th percentile cycle volume exceeds capacity, queue may be longer
m: Volume for the 95th percentile queue is metered by an upstream signal

4.8.2.4 Transit Network

The Project Site and the surrounding area are connected to downtown Toronto, Etobicoke, and the rest of the City of Toronto as well as Mississauga, and Vaughan through surface transit routes operated by Toronto Transit Commission (TTC), Mississauga Transit (MiWay), and York Region Transit (YRT/Viva).

A brief description of the existing transit routes is provided below.

- 37A Islington is operated by TTC. This bus route operates between Islington Station on Subway Line 2 (Bloor-Danforth), the Islington Avenue and Steeles Avenue West area, and the Woodbine Racetrack and Humberwood Boulevard area, generally in a north-south direction. There is a bus stop within the Woodbine Districts approximately 300 m south of the intersection of Rexdale Boulevard and Queens Plate Drive.
- 927 Highway 27 Express is operated by TTC. This bus route operates between Kipling Station on Subway Line 2 (Bloor-Danforth), the Atwell Drive Employment Area¹³, Humber College North Campus, and the Steeles Avenue West and Martin Grove Road area, generally in a north-south direction. In proximity to the Project Site, the nearest bus stop is located at the Highway 27 and Queens Plate Drive intersection.
- 11 Westwood is operated by MiWay. This bus service links Islington Station on Subway Line 2 (Bloor-Danforth) and Kipling GO Station in the south to the Westwood Mall Bus Terminal in the. This route generally runs north-south on Highway 27 and east-west on Rexdale Boulevard. In proximity to the Project Site, there are three bus stops located along Rexdale Boulevard at the Humberwood Boulevard, Queens Plate Drive and Highway 27 intersections.
- 30 Woodbine is operated by MiWay. This bus service generally runs on Rexdale Boulevard and links the Woodbine Mall to the Westwood Mall Terminal. In proximity to the site, the nearest bus stop is located at the Rexdale Boulevard and Humberwood Boulevard intersection.
- 7 Martin Grove is operated by YRT and runs in the north-south direction from the Rutherford Road and Highway 27 area to Humber College North Campus and Woodbine Mall. The nearest bus stop to the

13. The area bounded by Atwell Drive to the east, Carlingview Drive to the west, Dixon Road to the south, and Disco Road to the north.

Project Site is located on Queens Plate Drive West, approximately 125 m north of the Rexdale Boulevard at Queens Plate Drive West intersection.

4.8.2.5 *Pedestrian and Cycling Network*

The existing pedestrian connections to the Project Site are provided from the southwestern corner of the site through the sidewalks along Carlingview Drive and from the northern side through the sidewalks along Rexdale Boulevard and Queens Plate Drive West and across the Woodbine Districts.

The Study Area lacks any existing dedicated cycling facilities with the closest cycling facility being the West Humber Trail which is approximately 3 km to the north of the Project Site.

A multi-use path (MUP) currently runs in the north-south direction along the east side of Highway 27, terminating at Bethridge Road and providing connection to the MUP on the north and south sides of Rexdale Boulevard. This MUP along Highway 27 does not currently provide access to the Project Site.

5. Effects Assessment, Mitigation and Monitoring of the Preferred Design

5.1 Natural Environment

The following sections identify terrestrial and aquatic features that may be potentially affected by the proposed construction and operation of the Project. Mitigation and compensation measures and environmental monitoring recommendations are provided below.

5.1.1 *Designated Features*

There are no potential effects anticipated on designated natural areas during the construction or operational phases of the Project as there were none identified in the Desktop Background Information Review Study Area thus there are no recommended mitigation and monitoring measures as well.

5.1.2 *Naturalized Areas and Vegetation Communities*

The Study Area is located in a highly urbanized area of Toronto and primarily consists of manicured open space containing weedy herbaceous species with scattered trees and a narrow marsh.

5.1.2.1 *Potential Effects*

5.1.2.1.1 Construction

Removal of the limited vegetation such as weedy, herbaceous plants and trees identified to occur sporadically throughout the property will be required to accommodate the construction of the Project. No plant SAR or SOCC plants were present within the construction disturbance footprint or surrounding areas. As such there are negligible potential effects anticipated for vegetation.

5.1.2.1.2 Operations

It is not anticipated that there will be any potential effect on vegetation as a result of operations beyond the initial removal at the construction phase.

5.1.2.2 *Mitigation and Monitoring*

5.1.2.2.1 Construction

- Existing vegetation will be retained to the extent practicable. Removals will be kept to a minimum to limit direct effects to vegetation communities and vascular flora, as well as indirect effects (e.g., soil compaction and changes to topography and drainage).
- Construction fencing and/or silt fencing, where appropriate, will be installed and maintained to clearly define the construction footprint and prevent accidental damage to adjacent vegetation or street trees.
 - Any damaged trees will be pruned through the implementation of proper arboricultural techniques by or under supervision of an Arborist or Forester.

- All equipment and vehicles will be cleaned and inspected prior to arriving onsite to reduce the introduction and/or spread of invasive plant species in accordance with the Clean Equipment Protocol for Industry (Halloran et al., 2013).
- Mitigation measures specific to trees shall be adhered to, including municipal by-law permitting requirements where applicable shall be further detailed in an Arborist Report to be completed during detailed design. The Arborist Report will provide a vegetation compensation plan with a minimum compensation ratio of 1:1.
- Disturbed areas will be re-stabilized, incorporating revegetation using non-invasive, preferably native plantings and/or seed mix appropriate to the site conditions and adjacent vegetation communities. Seed mixes will be used in conjunction with an appropriate non-invasive cover crop as appropriate.

5.1.2.2.2 Operations

Mitigation and monitoring are not required for vegetation during operation of the Project, as no negative operational effects are anticipated.

5.1.3 Wildlife and Wildlife Habitat

The Study Area is located within a heavily urbanized portion of Toronto and consists of residential, industrial, commercial, employment area, institutional and recreational land uses where natural vegetation is limited. Vegetated areas that are present have the potential to provide limited breeding and nesting habitat for some species of wildlife.

5.1.3.1 *Potential Effects*

5.1.3.1.1 Construction

Although limited vegetation and wildlife habitat were identified, incidental observations of urban wildlife were noted during the site reconnaissance suggesting presence of common and disturbance-tolerant wildlife despite the developed nature of the Field Investigation Study Area. Limited nesting habitat for migratory birds in the form of the few isolated trees or shrubs could also be present within the Field Investigation Study Area. In addition, stockpiles of suitable materials (e.g., gravel) and any suitable ledges created by idle construction equipment or materials can also provide suitable nesting habitats for migratory birds during active construction within the work area. As such, Project activities may displace or cause incidental injury or mortality to urban wildlife that may be passing through the Natural Environment Study Area and entering the work area during construction. Vegetation removal during the regional nesting period (approximately April 1 to August 31; ECCC 2019) could cause displacement of breeding migratory birds and/or destruction of their active nests, which is prohibited under the MBCA.

It is not anticipated that breeding birds or other wildlife will be significantly affected by the potential increase in noise and vibration during the construction phase of the Project, as the species occurring in the area within and in the vicinity of the Natural Environment Study Area are tolerant to disturbances associated with urban settings.

The potential effects on wildlife, including migratory breeding birds, as a result of construction of the Project are considered low with the exception of species addressed in **Section 4.5 of Appendix B1** (Monarch and Barn Swallow).

5.1.3.1.2 Operations

It is not anticipated that breeding birds or other wildlife will be significantly affected by the potential increase in noise during the operations phase in the backdrop of existing noise produced by the adjacent rail corridor, road traffic, industries and aircraft as the species occurring in the area within and in the vicinity of the Natural Environment Study Area are tolerant to disturbances associated with urban settings. Furthermore, vibration produced by mechanical and electrical equipment during operations is considered to be negligible and as such no effects on wildlife as result of operational vibration are anticipated.

5.1.3.2 *Mitigation and Monitoring*

5.1.3.2.1 Construction

Migratory Breeding Birds

- Vegetation removal will be kept to a minimum and should be scheduled to occur outside of the primary bird nesting season of approximately April 1 to August 31 (ECCC, 2019). If a nest of a migratory bird is found within the construction area outside of this nesting period, it still receives protection. If vegetation must be removed during the overall bird nesting season, nest and nesting activity searches will be conducted by a qualified Biologist no more than 24 hours prior to vegetation removal (refer to Environmental Monitoring Plan for more details). Depending on the breeding bird survey and nests found, the Canadian Wildlife Service may need to be contacted for specific mitigation methods (depending on species) prior to impacts occurring. Nesting activity will be documented when it consists of confirmed breeding evidence, as defined by the Ontario Breeding Bird Atlas criteria (Cadman *et al.*, 2007).
- If construction activities occur during the bird nesting season (approximately April 1 to August 31; ECCC 2019), bird exclusion methods such as covering potentially suitable nesting locations on idle machinery, structures, equipment or stockpiled materials in addition to other types of exclusion methods such as those found in *Best Management Practices for Excluding Barn Swallows and Chimney Swifts from Buildings and Structures* (MNRF, 2017) should be implemented to prevent migratory birds from accessing and building nests in the construction site.
- In addition, if construction is planned on the rail bridge over Highway 27 and/or Carlingview Drive during the breeding bird season (approximately April 1 to August 31; ECCC, 2019), exclusion measures should be installed to prevent access of birds outside of the breeding bird season (approximately April 1 to August 31; ECCC 2019) and prior to construction work. If not possible, a nest search will be conducted by a qualified Biologist no more than 24 hours prior to installation. If a nest of an MBCA protected bird species is found in the construction site, all work in the immediate vicinity must stop and a Qualified Biologist be contacted to determine appropriate avoidance measures in order to avoid contravention of the MBCA and other applicable law.
- To minimize disturbance, the construction area will be clearly demarcated and kept as small as possible. Use of already cleared access routes will be used, where possible, to avoid further vegetation clearing and/or disturbance to migratory breeding birds and nests.

Wildlife

- Prior to construction, investigation will be completed a Qualified Biologist for wildlife and wildlife habitat that may have established following the completion of previous survey(s).
- Any wildlife incidentally encountered during vegetation clearing or subsequent construction activities will not be knowingly harmed and will be allowed to exit the site on their own, via safe routes.
- In the event that the wildlife does not move or is injured, the Environmental Monitor/Qualified Biologist will be contacted to assess and rescue/relocate wildlife if necessary.

5.1.3.2.2 Operations

Operational effects are not anticipated for either Migratory Breeding Birds or Wildlife thus no mitigation or monitoring measures are recommended.

5.1.4 Fish and Fish Habitat

No fish habitat was present within the Field Investigation Study Area and the drainage features on site do not contribute to a downstream fish-bearing watercourse. As such, there are no anticipated effects to fish and fish habitat from construction activities or operations associated with the Project.

5.1.4.1 *Mitigation and Monitoring*

5.1.4.1.1 Construction

Erosion and Sediment Control

- Work will be scheduled to avoid wet, windy and rainy periods that may increase erosion and sedimentation.
- Erosion and sediment control (ESC) measures will be implemented, monitored and maintained and modified as necessary throughout the construction period until all disturbed ground has been permanently stabilized.
- ESC will include measures to contain and stabilize any waste material (e.g., dredging soils, construction waste and materials, uprooted or cut aquatic plants, accumulated debris) to prevent to the drainage features.
- Non-biodegradable ESC materials will be removed once site is stabilized.
- Dewatering as a result of construction activities will be discharged to an appropriate sediment control measure for treatment prior to release to a well vegetated area setback a minimum of 30 metres from waterbodies or wetlands, where feasible.

Operation of Machinery and Industrial Equipment

- Activities near water will be planned to ensure that such materials such as paint, primers, blasting abrasives, rust, solvents, degreasers, grout or other chemicals do not enter the drainage features.
- Building material used in a drainage feature will be handled and treated in a manner to prevent the release or leaching of substances into the water that may be deleterious.
- All construction materials will be removed from site upon project completion.
- Confirm that machinery arrives on site in a clean condition and is maintained free of fluid leaks, invasive species and noxious weeds.
- Wash, refuel and service machinery; and, store fuel and other materials for the machinery in such a way as to prevent any deleterious substances from entering the water.

5.1.4.1.2 Operations

Operational effects are not anticipated thus no mitigation and monitoring measures are recommended.

5.1.5 **Species at Risk or Species of Conservation Concern**

5.1.5.1 *Potential Effects*

5.1.5.1.1 Construction

As described in **Section 3.3 of Appendix B1**, the Field Investigation Study Area was considered to contain potentially suitable habitat for the following SAR and SOCC:

SOCC:

- Monarch

SAR:

- Barn Swallow

Monarch may be incidentally encountered flying through the Natural Environment Study Area, particularly during their fall migration. This species is an SOCC, and therefore does not receive protection under the *Endangered Species Act* (ESA) but are protected under other acts and planning documents (e.g., Provincial Policy Statement).

Although Barn Swallow nests were not observed within the Field Investigation Study Area during field investigations, rail bridge structures over Highway 27 and Carlingview Road may provide suitable nesting habitat for this species, while the adjacent open vegetated areas provide suitable foraging habitat. Should nests be present, construction of new tracks or realignment of existing tracks could displace nesting Barn Swallow by disturbance through noise and vibration in addition to that normally present on their nesting structure (the rail bridge). Foraging habitat is not limiting in the general area and the proposed vegetation removal in open habitats is considered to be negligible in the context of the greater landscape.

5.1.5.1.2 Operations

It is not anticipated that there will be potential effects on Monarch beyond the initial removal of potential habitat at the construction phase.

5.1.5.2 *Mitigation and Monitoring*

5.1.5.2.1 Construction

- Same mitigation measures as identified for vegetation above for during construction apply herein.
- Same mitigation measures as identified for migratory breeding birds above for during construction apply herein.
- If construction is planned on the rail bridge over Highway 27 and/or Carlingview Drive during the breeding bird season (approximately April 1 to August 31; ECCC, 2019), appropriate exclusion measures for Barn Swallow, such as those found in Best Management Practices for Excluding Barn Swallows and Chimney Swifts from Buildings and Structures (MNRF, 2017) should be applied to prevent Barn Swallows from accessing and building nests under the bridge(s). Installation of exclusion measures should occur outside of the breeding bird season (approximately April 1 to August 31; ECCC, 2019) and prior to construction start, if possible. However, if installation is to occur within this period, a nest search will be conducted by a qualified Biologist within 48 hours prior to installation. If a Barn Swallow nest is found in the construction site, all work in the immediate vicinity must stop and the MECP must be consulted in order to avoid contravention of the ESA.
- Same mitigation measures as identified for wildlife above during construction apply herein.
- Same mitigation measures as identified above for aquatic features apply herein.

- Common Milkweed and native flowering plants will be incorporated into the restoration or landscaping plan to compensate for Monarch habitat removals.

5.1.5.2.2 Operations

Operational effects are not anticipated thus no mitigation and monitoring measures are recommended.

5.2 Geology and Groundwater

5.2.1 *Potential Effects*

5.2.1.1 *Construction*

A shallow water table condition is expected for the Project Site due to its close proximity to Mimico Creek and the Humber River. This condition is reflected in the shallow range of water level depths in water well records as shown in **Table 4-4**. Subsurface excavation below the water table may be required to allow for the construction of structural elements (e.g., embankments, foundations, footings, etc.). As a result, it is anticipated that construction dewatering will be required to achieve dry working conditions.

Where dewatering occurs, local water table elevations will be temporarily lowered to facilitate construction under dry conditions. These effects are confined to the Zone of Influence (ZOI) from dewatering activities and are typically temporary in nature.

Construction dewatering activities have the potential to affect groundwater quantity within the ZOI, resulting in decreases in baseflow to watercourses and groundwater discharge to wetlands. This process can cause declines in surface water levels/flow, temperature changes, and potential loss of habitat. Water quantity impacts can also occur to private wells, if present within the ZOI. Estimates of water taking quantities and resultant dewatering ZOI will be determined during Detailed Design to permit the assessment of potential impacts.

Depending on the geotechnical properties of the soils within the ZOI, the lowering of the water table may induce ground settlement/subsidence and risk to the structures within or above these soils.

Potential groundwater quality effects can occur when the ZOI interacts with existing contaminated sites causing the mobilization and discharge of impacted groundwater. Potential groundwater quality effects can also occur due to accidental spills on the ground surface during construction and by the stockpiling of contaminated soil, if any is generated from soil excavation.

5.2.1.2 *Operations*

In areas where cut or fill will result in permanent changes to the original ground topography, corresponding changes to groundwater flow patterns (i.e., rate, direction, gradient, etc.) may occur. The reduction in groundwater recharge as a result of increases in impervious surfaces or the placement of fill is considered to be negligible.

The potential reduction in aquifer recharge will be addressed during the Detailed Design stage of the Project to ensure that the project is compliant with all Source Water Protection policies. As prescribed under *O. Reg. 63/16*, water taking for construction site dewatering in excess of 50,000 L/day and under 400,000 L/day is subject to registration through the EASR system. Where construction dewatering volumes are expected to exceed 400,000 L/day, a Category 3 PTTW will be required from MECP, in accordance with Section 34 of the *Ontario Water Resources Act* (OWRA). Similarly, approvals for the discharge of pumped water also may be required, which could

include one or a combination of Municipal Discharge Permits, Conservation Authority notification¹⁴, and/or MECP Environmental Compliance Approval (ECA) (OWRA, Section 53).

Requirements for monitoring during active construction dewatering for potential adverse effects will be identified during Detailed Design.

Any discharge of water would be subject to the terms and conditions of all required permits and approvals obtained by WEG and/or the Contractor based on the expected site conditions.

A Phase I Environmental Site Assessment (ESA) investigation will be completed during Detailed Design to confirm existing contamination within the Study Area. Based on the findings of the Phase I ESA, a Phase II ESA may be warranted.

The following plans shall be developed during Detailed Design and implemented during construction activities:

- Prior to construction dewatering, a Dewatering Management Plan will be prepared to provide the procedures and protocols that need to be implemented to ensure that all site dewatering activities are completed in a manner that does not cause harm to the environment and meets applicable laws, by-laws, codes, regulations and standards, while preventing site flooding from the discharge of dewatering effluent. Groundwater quality sampling will be conducted prior to discharge to assess baseline groundwater quality. Discharge water will be treated prior to discharge if contamination/exceedance is detected.
- A Soil and Groundwater Management Plan shall be prepared prior to construction to describe the general principles and develop specific protocols to address the handling, management and disposal of soil and groundwater that is generated or encountered during the Project construction.
- An Erosion and Sediment Control Plan will be developed prior to construction. Implementation of the erosion and sedimentation control measures will conform to recognized standard specifications such as Ontario Provincial Standards Specification (OPSS). Sediment and erosion control measures (e.g., silt curtains, silt fence) will be installed prior to site clearing, grubbing, excavation or grading works. To ensure the erosion and sediment control plan for the project is successfully implemented, an erosion and sediment control monitoring program will be implemented during the construction phase of the project. No effluent discharge to the ground surface will occur prior to implementation of this plan.
- A Spill Prevention and Response Plan will be developed prior to construction outlining steps to prevent and contain any chemicals and/or spills in a timely and effective manner and to avoid soil and water contamination. This plan will include the requirement for a spill kit to be maintained on site at all times during construction.

5.2.1.3 Operations

The potential reduction in aquifer recharge will be addressed during Detailed Design to ensure that the Project is compliant with all Source Water Protection policies. Appropriate mitigation will be determined at that time, if required.

¹⁴ The Study Area does not fall within any of the source water protection areas/features (i.e., vulnerable areas) defined in **Table 4-2** and is not impacted by Source Protection Area policies. As such, notification to TRCA will be sufficient for the proposed work and a formal approval is not anticipated to be required.

5.3 Air Quality

5.3.1 Potential Effects

5.3.1.1 Construction

Construction activity creates and releases fine particulates and traces of other vapours (fugitive dust) into the surrounding community. Emissions from construction activity will be temporary and unlikely to have long-lasting effects on the surrounding area.

Fugitive dust emissions can result from movement of construction equipment and transport of materials to and from a construction site. Fugitive dust would generally be a problem during periods of intense construction activity and would be accentuated by windy and/or dry conditions.

Construction activities which potentially prove most impactful to the local Air Quality include, but are not limited to:

- Clearing and grubbing;
- Grading and rock blasting;
- Road and surface paving;
- Storage of granular material;
- Structure construction/deconstruction; and
- Mobile on-site equipment.

Construction activities will result in temporary traffic disruption and detour, which can lead to increased traffic congestion, thereby increasing motor vehicle exhaust emissions on nearby roadways, and could result in elevated localized pollutant concentrations.

Compared with emissions from other motor vehicle sources in the Air Quality Assessment Area, emissions from construction equipment and trucks are generally insignificant with respect to compliance with the Provincial and Federal ambient Air Quality standards.

5.3.1.1.1 Construction Equipment and Vehicle Exhaust

Environment Canada adopted amendments to the Off-Road Compression-Ignition Engine Emission Regulations which align Canadian emission standards with the U.S. EPA Tier 4 standards for non-road engines, including the emission limits, testing methods and effective dates. The Regulations Amending the Off-Road Compression-Ignition Engine Emission Regulations (the Amendments) impose stricter standards and new requirements starting with engines of the 2012 and later model years.

All equipment and vehicles should be kept properly maintained and repaired to minimize exhaust emissions, including odours.

Excessive idling of vehicles and equipment (greater than five minutes) should be minimized. Other potential mitigation measures may include the use of alternative-fuelled or electric equipment where feasible.

5.3.1.1.2 Fugitive Dust

Implementing good practices including wetting exposed earth areas; covering dust-producing materials during transport; and limiting construction activities during high wind conditions will minimize the impacts of fugitive dust. Potential mitigation measures that may be employed by the construction contractor to reduce fugitive dust issues include:

- Seeding, paving, covering, wetting, or otherwise treating disturbed soil surfaces;
- Minimizing storage and unnecessary transfers of spoils and debris on-site;

- Using wind screens or fences;
- Covering all truckloads of dust-producing material;
- Removing all loose or unsecured debris or materials from empty trucks prior to leaving the site;
- Reducing traffic speeds on any unpaved surfaces;
- Vacuum sweeping or watering of all paved surfaces and roadways on which equipment and truck traffic enter and leave the construction areas;
- Using wheel washes and truck washes at site egresses; and
- Modifying work schedules when weather conditions could lead to adverse impacts (e.g., very dry soil and high winds).

5.3.1.2 Operations

The individual impacts from the parking lot, PPUDO, and bus loop source emissions from the Project on the local air quality are a result of contributions from both idling vehicles and low-speed travelling vehicles within the AQA Study Area. These emissions are in most cases comparatively low to the ambient background air quality levels measured within the region and are seen to dissipate dramatically with distance from the emission source, as all sources at the proposed station are low-level release with little upward dispersion capacity.

5.3.2 Mitigation and Monitoring

5.3.2.1 Construction

Exposure to construction-related emissions can be mitigated by the following:

- Ensuring all mobile equipment is in good condition, properly and regularly maintained, and compliant with applicable federal and provincial regulations for off-road diesel engines;
- Ensuring all machinery is maintained and operated in accordance with manufacturer's specification;
- Locating stationary equipment (generators, compressors, etc.) as far away from sensitive receptors as practical;
- Minimizing idling time and posting signage to this effect around the construction site;
- Ensuring stationary and mobile equipment are not operated during early morning (before 6 AM, or sunrise) or evening periods (after 8 PM, or sunset) as often as practical;
- Implementing the use of non-chloride dust suppressants;
- Implementing a Dust Management Plan (DMP) for the duration of the construction phase, which includes practices to minimize fine particulate release from mobile equipment, materials handling, and wind erosion; and
- Ensuring that the areas most impacted by particulate levels are vegetated (i.e., tree planting) to reduce the cumulative particulate impacts.

Site supervisors during the construction phase should monitor the site for wind direction and weather conditions to ensure that high-impact activities be reduced when the wind is blowing consistently towards nearby sensitive receptors. The site supervisor should also monitor for visible fugitive dust and take action to determine the root-cause in order to counteract this. Specific details to this effect should be included in the construction site DMP. It is further recommended that mitigation measures detailed in "*Best Practices for the Reduction of Air Emissions from Construction and Demolition Activities (March 2005)*" prepared by Cheminfo for Environment Canada be implemented, where practical.

5.3.2.2 *Operations*

Potential mitigation of the potential emissions may be achieved by implementing an anti-idling or restricted idling policy within the PPUDO area and parking lots which would limit the number of minutes a vehicle is allowed to remain in idle during a passenger pick-up or drop-off. Electric vehicles and fuel-efficient vehicle implementation into an existing vehicle fleet will also provide significant CAC and GHG reduction in the short to medium term. The introduction and increasing popularity and affordability of hybrid and full electric vehicles, as well as transit authority led initiatives to increase the percentage of fuel efficient and hybrid busses within their vehicle fleet will continue to reduce emission impacts from vehicles using the proposed station within the future.

As suggested within the construction mitigation section, areas affected by air born particulates may be benefited by introducing vegetation (e.g. trees, shrubbery, etc.) to help reduce cumulative particulate impacts during the operational phase.

The new facility will be screened for the requirement to obtain an approval from MECP via an ECA or an EASR during detailed design, which will include any on-site air emissions sources, such as emergency generators or similar NOx emitting sources.

5.4 Noise and Vibration

5.4.1 Noise

5.4.1.1 Potential Effects

5.4.1.1.1 Construction

Construction noise levels were predicted at the façade of the hotel receptor (R01) in the identified NSA, using the FTA’s General Assessment method; and FTA/FHWA reference equipment noise emission levels provided in **Table 15 of Appendix B3**. The predicted construction noise levels were then compared against the ambient noise levels presented in **Table 13 of Appendix B3**.

As stated above, noise levels during construction were predicted using the reference construction equipment emission levels presented in **Table 15 of Appendix B3**, which provides a more updated and comprehensive basis for the construction noise predictions as opposed to the MECP emission standards presented in **Table 8 to Table 11 of Appendix B3**.

Table 5-1 summarizes the predicted construction noise levels at the assessed receptors, during construction works at each of the Construction Zones.

Table 5-1: Construction Zone – Predicted Construction Noise Levels (dBA)

NSA/Receptor ID	Pedestrian Tunnels	New Station Building	Platform(s)	Parking Lot/PPUDO
R01	53	54	55	57

Table 5-2 summarizes the predicted range of construction noise impacts and the potential perceptibility of construction noise at the NSA.

Table 5-2: Predicted Construction Noise Impacts and Potential Perceptibility

POR ID	Time Period	Ambient Noise Level (dBA)	Predicted Construction Noise Levels (dBA)	Increase Above Ambient (dB)	Predicted Perceived Impact
R01	Day	67	53 to 57	-	None to Minor
	Evening	66	53 to 57	-	None to Minor
	Night	61	53 to 57	-	None to Minor

Based on the results presented in **Table 5-2**, noise levels due to the construction activities at the Facility are not expected to exceed ambient noise levels at the assessed receptor; and construction noise levels may be perceived as non-existent to minor during all times of the day at the assessed receptor.

5.4.1.1.2 Operations

The Facility noise sources described in **Section 2.5 of Appendix B3** were used as inputs to the noise impact model. Noise impacts at the identified points of reception were predicted using the ISO 9613-2 (Reference 2) noise prediction algorithm, implemented in CadnaA software version 4.6.153. The noise model incorporated the following assumptions and parameters:

- Continuous/steady operation of all noise sources throughout the worst case hour of operation, including bus idling. Bus acceleration noise from the assumed eight buses per hour are logarithmically averaged over a one hour period;
- The exhaust fan and heat pump noise sources servicing the new pedestrian tunnel will be similar to equipment proposed for the GO Maple Station, King City, and Grimsby Station Improvements projects;
- The future standby generator will produce overall noise emissions of 80 dBA at 7 m (as per requirements from the Metrolinx Design Requirements Manual for a 600-1200 kW generator);
- The future transformer will be 2000 kVA and will produce overall noise emissions of 62 dBA at 7 m, similar to the transformer proposed for the King City Go station facility;
- The future transformer was modelled inside the transformer/generator room, with a conservative louvre size of 5 x 5 metres on the north and south walls of the building;
- The boiler room has been modelled as having two boilers (20,000 kW) with a louvre size of 1 x 5 metres on the east wall of the building;
- The future standby generator will be tested for 1 hour during daytime hours only, and was modelled inside the transformer/generator room, with a conservative louvre size of 5 x 5 metres on the north and south walls of the building;
- Global ground absorption value of $\alpha = 0.4$;
- Ground elevation contours from the Government of Canada geospatial data extraction tool;
- Reflection order¹⁵ of 3; and
- Reflective buildings and structures, except for residential dwellings.

Table 5-3 presents the noise impacts due to non-emergency equipment operations at each assessed POR. **Table 5-4** presents the noise impacts due to testing of emergency equipment at each assessed POR. **Table 5-5** presents the sound level contributions from each individual noise source at the future Facility. The minimum hourly noise levels measured during ambient monitoring for the construction assessment have also been included for reference.

¹⁵ The maximum number of times a sound wave reflects off potential surfaces for each modelled noise source.

Table 5-3: Acoustic Assessment Summary Table – Future Facility Operating Scenario, Non-Emergency Equipment

Point of Reception ID	Point of Reception Location	Time Period	Predicted One Hour L _{eq} Facility Noise Level (dBA)	One Hour L _{eq} Sound Level Limit (dBA)	Compliance with Sound Level Limit (Yes/No)	Reference Minimum Ambient Noise Levels (dBA)
R01_POWA	Plane of Window	Daytime	41	50	Yes	67
	Plane of Window	Evening	41	50	Yes	66
	Plane of Window	Night time	41	45	Yes	61
R01_POWB	Plane of Window	Daytime	40	50	Yes	67
	Plane of Window	Evening	40	50	Yes	66
	Plane of Window	Night time	40	45	Yes	61

Table 5-4: Acoustic Assessment Summary Table – Future Facility Operating Scenario, Emergency Equipment Testing

Point of Reception ID	Point of Reception Location	Time Period	Predicted One Hour L _{eq} Facility Noise Level (dBA)	One Hour L _{eq} Sound Level Limit (dBA)	Compliance with Sound Level Limit (Yes/No)	Reference Minimum Ambient Noise Levels (dBA)
R01_POWA	Plane of Window	Daytime	37	55	Yes	67
	Plane of Window	Evening	-	55	Yes	66
	Plane of Window	Night time	-	50	Yes	61
R01_POWB	Plane of Window	Daytime	40	55	Yes	67
	Plane of Window	Evening	-	55	Yes	66
	Plane of Window	Night time	-	50	Yes	61

Table 5-5: Noise Impact Table – Future Facility Operations

Source ID	R01_POWA		R01_POWB	
	Distance (m)	L _{eq,1hr} (dBA) ¹⁶	Distance (m)	L _{eq,1hr} (dBA) ⁵
BldgBoilerLouvre	779	33	753	32
BldgExhaustFan1	779	-8	754	-9
BldgExhaustFan2	785	-13	760	-9
BldgExhaustFan3	791	-13	767	-9
BldgExhaustFan4	802	-13	779	-9
BldgExhaustFan5	789	-13	766	-9
BldgExhaustFan6	800	-13	778	-9
BldgHeatPump1	790	-7	767	-2
BldgHeatPump2	800	-7	778	-2
BldgHeatPump3	802	-7	779	-2
BldgHeatPump4	792	-7	768	-2
BldgHeatPump5	785	-7	761	-2
BldgHeatPump6	779	-2	754	-2
BldgRTU1	795	8	772	13
BldgRTU2	784	8	760	13
BldgTransformerLouvre1	779	26	755	28
BldgTransformerLouvre2	789	8	764	9

¹⁶ Note that negative dBA values indicate a sound pressure level below the reference threshold of hearing (0 dBA / 20 micro Pascals).

Source ID	R01_POWA		R01_POWB	
	Distance (m)	L _{eq,1hr} (dBA) ¹⁶	Distance (m)	L _{eq,1hr} (dBA) ⁵
BusIdle1	754	26	729	26
BusIdle2	747	26	721	26
BusIdle3	740	26	712	27
BusIdle4	733	27	705	27
TunnelExhaustFan1	824	-21	801	-19
TunnelExhaustFan2	838	-18	815	-16
TunnelExhaustFan3	761	-10	730	-14
TunnelExhaustFan4	775	-10	744	-14
TunnelExhaustFan5	743	-9	712	-13
TunnelPump1	827	-11	804	-8
TunnelPump2	841	-9	818	-7
TunnelPump3	763	-2	732	-6
TunnelPump4	776	-2	745	-2
TunnelPump5	745	-2	714	-6
BusAccel	580	38	542	36
BusBrake1	693	30	661	32
BusBrake2	580	29	542	29
GeneratorLouvre1	779	37	755	40
GeneratorLouvre2	789	20	764	22

5.4.1.2 Mitigation and Monitoring

5.4.1.2.1 Construction

The following practices are recommended throughout construction to reduce noise impacts at sensitive receptors:

- Adhere to City of Toronto By-law requirements and the terms of any By-Law exemptions granted by the City of Toronto;
- Maintain equipment in a condition that prevents unnecessary noise while operating, including but not limited to, effective muffler systems, properly secured components, and the lubrication of moving parts;
- Restrict idling of equipment to the minimum necessary to perform the specified work;
- Ensure vehicles employed continuously on site for extended periods of time (two days or more) are fitted with sound reducing back-up (reversing) alarms*;
- Avoid unnecessary revving of engines and switch off equipment when not required (do not idle);
- If construction needs to be undertaken outside of the normal daytime hours, inform local residents beforehand of the type of construction planned and the expected duration;
- Use construction equipment compliant with noise level specifications in MECP guidelines NPC-115 and NPC-118;
- Minimize drop heights of materials; and
- In consultation with the City of Toronto, route haulage/dump trucks on main roads where possible, rather than quieter residential roads.

*. Note that Ministry of Labour requirements and Ontario's Occupational Health & Safety Act and Regulations (Reg. 231/91-105) specify obligations for dump trucks to be equipped with automatic audible reversal alarms when operated in reverse.

If it is determined that there is a need to further reduce noise effects during construction work, the following additional mitigation measures may be considered and implemented, where appropriate:

- Offset usage of active heavy equipment (schedule non-concurrent use);

- Implement noise compliance checks to ensure equipment levels are in compliance with MECP guidelines NPC-115 and NPC-118;
- Reroute construction and truck traffic, when possible;
- Coordinate 'noisy' operations such that they will not occur simultaneously, where possible;
- Where possible, investigate and implement the use of alternative construction equipment or methods to reduce noise emissions from construction. Utilize alternative equipment that generates lower noise levels or optimize silencer/muffler/enclosure performance;
- Use rubber linings in chutes and dumpers to reduce impact noise;
- Install acoustic enclosures, noise shrouds or noise curtains around noisy equipment; and
- Install temporary noise barriers/solid construction hoarding on site boundary to screen affected locations.

5.4.1.2.2 Operations

The Future facility operation noise levels at the assessed points of reception are expected to comply with MECP NPC-300 sound level limits during the worst-case hour of operation. Therefore, no noise mitigation is expected to be required for this station.

5.4.2 **Vibration**

5.4.2.1 *Potential Effects*

5.4.2.1.1 Construction

As no impact piling operations are expected to occur during site construction, the equipment predicted to produce the highest ground-borne vibration during construction of the Facility are the vibratory roller and grader. The zones of influence (the area in which ground-borne vibration caused by the equipment exceeds 5 mm/s per Toronto By-law 514) for these pieces of equipment are approximately 8 metres from the roller, and 4.5 metres from the grader, respectively. Using the current site plan as a reference, it is not predicted that the zone of influence from construction will extend passed the site property line.

Vibration levels were predicted using a generic propagation equation in conjunction with the reference vibration levels provided in **Appendix B3**.

The construction vibration assessment also incorporated the following assumptions and approaches:

- Crest Factor¹⁷ of 4.
- All equipment may operate within the construction zone at the location nearest to the assessed vibration sensitive areas. Construction zones have been estimated using site plan drawings.
- Construction equipment vibration levels have been assessed under individual operations; cumulative vibration levels from simultaneous equipment operations have not been considered.

The construction vibration assessment also incorporated the following assumptions and approaches:

- Crest Factor¹⁸ of 4.

17. Crest Factor represents the ratio between PPV vibration levels and RMSV vibration levels. The FTA Guide uses a Crest Factor of 4 in relation to construction vibration damage criteria; and reference vibration levels for construction equipment.

- All equipment may operate within the construction zone at the location nearest to the assessed vibration sensitive areas. Construction zones have been estimated using site plan drawings.
- Construction equipment vibration levels have been assessed under individual operations; cumulative vibration levels from simultaneous equipment operations have not been considered.

Table 5-6 and **Table 5-7** summarize the maximum predicted construction vibration levels at the assessed locations, during construction works at each of the Construction Zones.

Table 5-6: Maximum Predicted RMSV Construction Vibration Levels – Perception Analysis

Location	RMSV Vibration Limit (mm/s)	Construction Zone Maximum Predicted Construction Vibration Level (RMSV, mm/s)			
		Pedestrian Tunnels	New Station Building	Platform(s)	Parking Lot/PPUDO
NSA1_R01	0.10	0.0007	0.0015	0.0007	0.0024

Table 5-7: Maximum Predicted PPV Construction Vibration Levels – Building Damage Analysis

Location	PPV Vibration Limit (mm/s)	Construction Zone Maximum Predicted Construction Vibration Level (PPV, mm/s)				
		Pedestrian Tunnels	New Station Building	Platform(s)	Parking Lot/PPUDO	Track Modifications
Woodbine Hotel	12.7	0.003	0.006	0.003	0.010	0.007
Highway 27 Bridge	12.7	0.008	0.012	0.011	0.131	0.921
Saand Building	12.7	0.288	0.240	0.676	0.370	5.548

Based on the results presented in **Table 5-6** and **Table 5-7**, vibration levels during construction will not exceed the City of Toronto By-Law criteria, FTA's perceptible vibration criteria; or the FTA's building damage vibration criteria.

It should be noted that these results are based on equipment assumptions and reference vibration data.

5.4.2.1.2 Operations

As the stationary sources at the Facility are not considered to be significant sources of vibration (bus/car movement, HVAC equipment, generator), operational vibration from the site will be negligible at nearby buildings or vibration sensitive receptors. Therefore, a vibration assessment of the station operations was not conducted.

5.4.2.2 *Mitigation and Monitoring*

5.4.2.2.1 Construction

Vibration levels during construction are not expected to exceed the assessment criteria for perceptible vibration or building damage.

The following general measures are recommended during construction to manage potential vibration impacts at sensitive receptors:

- Operate earth-moving equipment on the construction lot as far away from vibration-sensitive sites as possible;
- For piling operations, consider piling methods with reduced impact/energy input;
- Route heavily-loaded trucks away from residential streets, if possible. Select streets with fewest homes if no alternatives are available; and
- Phase any demolition, earth-moving and ground-impacting operations so as not to occur in the same time period.

A pre-construction condition inspection and vibration monitoring during corridor construction work is currently recommended for the Saand Building as potential vibratory roller activities may be used within the zone of influence of the building. This requirement will be re-evaluated when detailed construction drawings are available.

It should be noted that while the Highway 27 bridge structure is not predicted to have construction vibration impacts that exceed FTA building damage criteria and that no specific vibration monitoring recommendations have been made in **Appendix B3**, the CHAR (**Appendix B5**) has classified this bridge as a property with potential cultural heritage value. The CHAR details recommendations for avoidance of this bridge during construction as well as vibration monitoring. See **Section 5.6** for more details.

5.5 Socio-economic and Land Use

5.5.1 Community Features

5.5.1.1 Potential Effects

5.5.1.1.1 Construction

It is not anticipated that the construction impacts will reach the closest defined neighbourhood (i.e., Rexdale-Kipling), located 2 km from the Project Site. Refer to **Section 4.5.2.2** and **Figure 4-7** for a description of the Rexdale-Kipling Neighbourhood.

5.5.1.1.2 Operations

From a community and neighbourhood perspective, the Project will not have any negative effect on population demographics or existing landmarks, considering that Woodbine Districts is one of the most prominent assets within the Study Area.

The Project is anticipated to have a positive impact on the residents and workers in the community, as well as visitors, as the new transit station will improve transit service and accessibility in the community and will provide better connections to the GO network.

5.5.1.2 Mitigation and Monitoring

5.5.1.2.1 Construction

Mitigation and monitoring are not required for community features during construction, as no negative effects are predicted.

5.5.1.2.2 Operations

Mitigation and monitoring are not required for community features during operation of the Project, as no negative effects are predicted.

5.5.2 Land Use

5.5.2.1 *Residential*

5.5.2.1.1 Potential Effects

Construction

As there were no residences identified within the Study Area, there are no negative impacts anticipated to residential land uses.

Operations

No negative effects to residents are anticipated during operations. The Project is anticipated to have a positive impact on the surrounding community, as the proposed transit station will provide new opportunities for getting around.

5.5.2.1.2 Mitigation and Monitoring

Construction

Mitigation and monitoring are not required for residential land uses during construction, as no negative effects are predicted.

Operations

Mitigation and monitoring are not required for residential land uses during operation of the Project, as no negative effects are predicted.

5.5.2.2 *Commercial*

5.5.2.2.1 Potential Effects

Construction

The Air Quality Assessment (**Appendix B2**) determined that emissions from construction activity will be temporary and unlikely to have long-lasting effects on the surrounding area. Compared with emissions from other motor vehicle sources in the Air Quality Assessment Area, emissions from construction equipment and trucks are generally insignificant with respect to compliance with the Provincial and Federal ambient Air Quality standards. See **Section 5.3** for more information related to potential air quality effects.

The Station Operations Acoustic Assessment and Construction Noise and Vibration Impact Report (**Appendix B3**) determined that noise levels due to construction activities are not expected to exceed ambient noise levels at Woodbine Hotel & Suites. Noise levels may be perceived as non-existing to minor during all times of the day. Vibration levels during construction will not exceed regulatory vibration limits. Vibration levels during construction

are not expected to exceed the assessment criteria for perceptible vibration or building damage. See **Section 543** for more information related to potential noise and vibration effects.

Operations

The impact on local air quality as a result of the parking lot, PPUDO, and bus loop source emissions are in most cases comparatively low to the ambient background air quality levels measured within the region and are seen to dissipate dramatically with distance from the emission source.

The proposed transit station is expected to comply with regulatory sound level limits during worst-case hour of operation. Operational vibration from the Project Site will be negligible.

5.5.2.2.2 Mitigation and Monitoring

Construction

All equipment and vehicles should be kept properly maintained and repaired to minimize exhaust emissions, including odours. Excessive idling of vehicles and equipment (greater than five minutes) should be minimized. Other potential mitigation measures may include the use of alternative-fuelled or electric equipment where feasible. See **Section 5.3** for more information related to air quality mitigation measures.

Implementing good practices including wetting exposed earth areas; covering dust-producing materials during transport; and limiting construction activities during high wind conditions will minimize the impacts of fugitive dust. Potential mitigation measures that may be employed by the construction contractor to reduce fugitive dust issues include:

- Seeding, paving, covering, wetting, or otherwise treating disturbed soil surfaces;
- Minimizing storage and unnecessary transfers of spoils and debris on-site;
- Using wind screens or fences;
- Covering all truckloads of dust-producing material;
- Removing all loose or unsecured debris or materials from empty trucks prior to leaving the site;
- Reducing traffic speeds on any unpaved surfaces;
- Vacuum sweeping or watering of all paved surfaces and roadways on which equipment and truck traffic enter and leave the construction areas;
- Using wheel washes and truck washes at site egresses; and
- Modifying work schedules when weather conditions could lead to adverse impacts (e.g., very dry soil and high winds).

Exposure to construction-related emissions can be mitigated by the following:

- Ensuring all mobile equipment is in good condition, properly and regularly maintained, and compliant with applicable federal and provincial regulations for off-road diesel engines;
- Ensuring all machinery is maintained and operated in accordance with manufacturer's specification;
- Locating stationary equipment (generators, compressors, etc.) as far away from sensitive receptors as practical;
- Minimizing idling time and posting signage to this effect around the construction site;
- Ensuring stationary and mobile equipment are not operated during early morning (before 6 AM, or sunrise) or evening periods (after 8 PM, or sunset) as often as practical;

- Implementing a Dust Management Plan (DMP) for the duration of the construction phase, which includes practices to minimize fine particulate release from mobile equipment, materials handling, and wind erosion; and
- Ensuring that the areas most impacted by particulate levels are vegetated (i.e., tree planting) to reduce the cumulative particulate impacts.

Site supervisors during the construction phase should monitor the site for wind direction and weather conditions to ensure that high-impact activities be reduced when the wind is blowing consistently towards nearby sensitive receptors. The site supervisor should also monitor for visible fugitive dust and take action to determine the root-cause in order to counteract this.

The following measures are recommended throughout construction to reduce noise impacts to sensitive receptors (i.e., Woodbine Hotel & Suites):

- Adhere to City of Toronto By-law requirements and the terms of any By-Law exemptions granted by the City of Toronto;
- Maintain equipment in a condition that prevents unnecessary noise while operating, including but not limited to, effective muffler systems, properly secured components, and the lubrication of moving parts;
- Restrict idling of equipment to the minimum necessary to perform the specified work;
- Ensure vehicles employed continuously on site for extended periods of time (two days or more) are fitted with sound reducing back-up (reversing) alarms;
- Avoid unnecessary revving of engines and switch off equipment when not required (do not idle);
- If construction needs to be undertaken outside of the normal daytime hours, inform local residents beforehand of the type of construction planned and the expected duration;
- Use construction equipment compliant with noise level specifications in MECP guidelines NPC-115 and NPC-118;
- Minimize drop heights of materials; and
- In consultation with the City of Toronto, route haulage/dump trucks on main roads where possible, rather than quieter residential roads.

If it is determined that there is a need to further reduce noise effects during construction work, the following additional mitigation measures may be considered and implemented, where appropriate:

- Offset usage of active heavy equipment (schedule non-concurrent use);
- Implement noise compliance checks to ensure equipment levels are in compliance with MECP guidelines NPC-115 and NPC-118;
- Reroute construction and truck traffic, when possible;
- Co-ordinate 'noisy' operations such that they will not occur simultaneously, where possible;
- Where possible, investigate and implement the use of alternative construction equipment or methods to reduce noise emissions from construction. Utilize alternative equipment that generates lower noise levels or optimize silencer/muffler/enclosure performance;
- Use rubber linings in chutes and dumpers to reduce impact noise;
- Install acoustic enclosures, noise shrouds or noise curtains around noisy equipment; and
- Install temporary noise barriers/solid construction hoarding on site boundary to screen affected locations.

The following general measures are recommended during construction to manage potential vibration impacts at sensitive receptors:

- Operate earth-moving equipment on the construction lot as far away from vibration-sensitive sites as possible;
- For piling operations, consider piling methods with reduced impact/energy input;
- Route heavily-loaded trucks away from residential streets, if possible. Select streets with fewest homes if no alternatives are available; and
- Phase any demolition, earth-moving and ground-impacting operations so as not to occur in the same time period.

Operations

Potential mitigation of emission impacts may be achieved by implementing an anti-idling or restricted idling policy within the PPUDO area and parking lots which would limit the number of minutes a vehicle is allowed to remain in idle during a passenger pick-up or drop-off. Electric vehicles and fuel-efficient vehicle implementation into an existing vehicle fleet will also provide significant criteria air contaminant and greenhouse gas reduction in the short to medium term. The introduction and increasing popularity and affordability of hybrid and full electric vehicles, as well as transit authority led initiatives to increase the percentage of fuel efficient and hybrid busses within their vehicle fleet will continue to reduce emission impacts from vehicles within the future of the Project.

Areas affected by airborne particulates may be benefited by introducing vegetation (e.g., trees, shrubbery, etc.) to help reduce cumulative particulate impacts during the operational phase.

Operational noise and vibration effects will be negligible as a result of the station. As a result, mitigation and monitoring are not required for commercial land uses during operation of the Project.

5.5.2.3 *Industrial*

5.5.2.3.1 Potential Effects

Construction

Saand Rexdale is located within the ZOI for track modification construction and is considered to be the closest vibration-sensitive building with respect to potential vibration-induced building damage; however, the building is not considered high-sensitivity, residential, or institutional under the FTA land use categories (see **Section 4.4.1.2.1**) and was not assessed against perceptible vibration criteria. Vibration levels during construction will not exceed regulatory vibration limits. Vibration levels during construction are not expected to exceed the assessment criteria for perceptible vibration or building damage.

Operations

No negative effects to industrial uses are anticipated during operations.

5.5.2.3.2 Mitigation and Monitoring

Construction

A pre-construction condition inspection and vibration monitoring during corridor construction work is currently recommended for the Saand Building as potential vibratory roller activities may be used within the zone of influence of the building. This requirement will be re-evaluated when detailed construction drawings are available.

Operations

Mitigation and monitoring is not required for industrial land uses during operation of the Project, as no negative effects are predicted.

5.5.2.4 *Employment Areas*

5.5.2.4.1 Potential Effects

Construction

Employment areas within the Study Area may experience temporary nuisance effects resulting from potential increases in noise and vibration levels due to construction equipment and activities; however, these effects are considered negligible, given their low and temporary nature.

Operations

No negative effects to employment areas are anticipated during operations. The Project is anticipated to have a positive impact on surrounding employment areas, as the proposed transit station will provide new opportunities for getting to work.

5.5.2.4.2 Mitigation and Monitoring

Construction

Mitigation measures outlined in **Section 5.5.2.2.2** may be employed, if required.

Operations

Mitigation and monitoring are not required for employment areas during operation of the Project, as no negative effects are predicted.

5.5.2.5 *Recreational*

5.5.2.5.1 Potential Effects

Construction

The CHAR (**Appendix B5**) identified the Woodbine Racetrack as a cultural heritage resource with potential indirect impacts during construction; however, it was determined that the potential heritage attributes associated with the property are located further north and construction activities are not anticipated to result in direct impacts to the potential heritage attributes and potential cultural heritage value of the property.

Operations

The Project is expected to have a positive impact on entertainment facilities within the Woodbine Districts, with the new transit option expected to yield an increase in visitors and relieve car traffic in the area.

5.5.2.5.2 Mitigation and Monitoring

Construction

The CHAR (**Appendix B5**) recommends avoidance of potential heritage attributes located at the Woodbine Racetrack, including the grandstand structure, various stable facilities, and multiple tracks located on the property.

Operations

No negative effects on recreational uses as a result of the Project are anticipated; therefore, no mitigation is required.

5.5.3 Visual Character

5.5.3.1 *Potential Effects*

5.5.3.1.1 Construction

Construction activities, including the use of construction equipment, staging areas, and temporary fencing, may result in temporary aesthetic effects for passersby. The Project Site is not anticipated to be visible from many features, with potential views from Highway 27 and the industrial uses south of the rail tracks.

5.5.3.1.2 Operations

Due to the lack of visual character within the Study Area, it is not expected that the proposed transit station will a negative impact on the largely industrial area.

5.5.3.2 *Mitigation and Monitoring*

5.5.3.2.1 Construction

The presence of construction equipment will result in temporary and intermittent effects; therefore, mitigation measures are not required.

5.5.3.2.2 Operations

It is expected that the new transit station will have a positive visual effect on the surrounding area. WEG will work with the City of Toronto during the site plan application process to integrate design and public realm features to enhance the visual aesthetics of the station.

5.5.4 Property

5.5.4.1 *Potential Effects*

5.5.4.1.1 Construction

Temporary property requirements outside of the Project Site at 555 Rexdale Boulevard are not anticipated; therefore, there will not be any potential effects to property during construction.

5.5.4.1.2 Operations

There are no permanent property requirements as a result of the Project and no potential effects to property during operations.

5.5.4.2 *Mitigation and Monitoring*

5.5.4.2.1 Construction

For safety purposes, the Project Site will maintain secure fencing and will not be accessible to the public during construction.

If temporary property requirements are needed for utilities work, the relevant utility companies will be engaged prior to construction.

5.5.4.2.2 Operations

Property impacts are not anticipated during operation; therefore, no mitigation is required.

5.5.5 Utilities

5.5.5.1 *Potential Effects*

5.5.5.1.1 Construction

There will be modification to existing site servicing (i.e., watermain, storm sewer, sanitary sewer) in order to construct the new transit station. The routing approach will be confirmed during detailed design. Potential impacts and appropriate mitigation for public utilities will be determined in consultation with the City of Toronto at that time and any required permits will be obtained prior to construction.

Once private utilities are confirmed, potential effects will be determined as design progresses.

5.5.5.1.2 Operations

There will be modification to existing site servicing (i.e., watermain, storm sewer, sanitary sewer) in order to construct the new transit station.

Once private utilities are confirmed, potential effects will be determined as design progresses.

5.5.5.2 *Mitigation and Monitoring*

5.5.5.2.1 Construction

Consultation with the City of Toronto will be completed to address modifications to public site servicing. The City of Toronto will also be engaged to coordinate private utilities connections to the municipal servicing system and the associated municipal requirements will be fulfilled in consultation with the City of Toronto.

Existing and proposed future utilities plans will be reviewed once confirmed. Subsurface Utility Engineering (SUE) investigations may be conducted to confirm existing utilities. Any potential conflicts and associated mitigation

measures will be identified as design progresses. If required, co-ordination with affected utility companies will be completed during detailed design.

5.5.5.2.2 Operations

Once utility conflicts have been specifically identified and resolved, no further mitigation measures related to utilities are expected during operations. Potential access requirements as a result of maintenance within the Project Site will be determined in consultation with relevant utility companies.

5.6 Built Heritage Resources and Cultural Heritage Landscapes

5.6.1 *Potential Effects*

The CHAR was prepared in order to identify known and potential built heritage resources and cultural heritage landscapes within the Study Area. The CHAR is provided in **Appendix B5**. A total of nine properties that included potential cultural heritage resources were identified for potential CHVI within the CHAR. Three (3) properties were identified as potential cultural heritage resources – 555 Rexdale Boulevard (CHR 1), the railway corridor (CHR 2), and the Highway 27 Bridge (CHR 6). A preliminary impact assessment determined that the project may result in potential indirect impacts to 555 Rexdale Boulevard (CHR 1) and the Highway 27 Bridge (CHR 6), while the railway corridor was determined to have no anticipated impacts as a result of the Project.

The following indirect impacts were identified:

- **555 Rexdale Boulevard (CHR 1):** The majority of the temporary construction activities and permanent site alterations to accommodate the construction of the new station stop including the two island platforms, passenger pick-up and drop off, bus loop, passenger plaza, vehicle parking, bicycle storage facility, station building, roadway, and new tracks/realignment is anticipated to take place on this property. However, all construction is anticipated to take place at the southern portion of the property, alongside the adjacent railway corridor. Given that the potential heritage attributes associated with the property are located further north of the railway corridor with the closest being the training track based on the currently available design, the project activities are not anticipated to result in direct impacts to the potential heritage attributes and potential cultural heritage value of the property.
- **Highway 27 Bridge (CHR 6):** Based on the currently available design, the project activities are not anticipated to result in direct impacts to the bridge. As a result of its proximity to the proposed construction area, there is potential for the Highway 27 Bridge to experience vibration impacts during construction. The effect of traffic and construction vibrations on heritage and/or historic structures is not fully understood, yet negative effects have been demonstrated on structures with a setback of less than 40 metres from construction. The Highway 27 bridge is located within this 40 m setback, and as a result, may anticipate indirect adverse impacts. The Station Operations Acoustic Assessment and Construction Noise and Vibration Impact Report (**Appendix B3**) notes that the Highway 27 Bridge structure is not predicted to have construction vibration impacts that exceed FTA building damage criteria.¹⁹

¹⁹ For further information related to vibration impacts on heritage buildings, see, M. Crispino and M. D'Appuzo, "Measurement and Prediction of Traffic-Induced Vibrations in a Heritage Building," in *Journal of Sound and Vibration*, Volume 246, Issue 12, September 13, 2001 pp. 319-335; Patricia Ellis, "Effect of Traffic Vibration on Historic Buildings," in *Science of the Total Environment*, Vol. 59, pp. 37-45, December 1987; J.H. Rainer, "Effects of Vibrations on Historic Buildings: An Overview," in *Bulletin of the Association for Preservation Technology*, Vol. 14, No. 1 (1982), pp. 2-10; John F. Wiss, "Construction Vibrations: State-of-the-Art," in *Journal of the Geotechnical Engineering Division* 107, no. 2 (1981): 167-181.

5.6.2 Mitigation and Monitoring

The CHAR identified two types of mitigation measures for the two identified properties that are anticipated to have indirect impacts due to the Project. These included a preferred option and an alternative option. **Table 5-8** describes the preferred and alternative options for mitigation for 555 Rexdale Boulevard and Highway 27 Bridge as identified in the CHAR.

Table 5-8: Cultural Heritage Resources with Potential Indirect Impacts within the Study Area

CHR Ref. No. and Type of Property	Location	Heritage Recognition	Type and Description of Potential/Anticipated Impact	Mitigation Measures: i. Mitigation Options ii. Mitigation Recommendations
CHR 1 – Commercial horseracing track and entertainment facility	555 Rexdale Blvd	None	Indirect: The majority of the temporary construction activities and permanent site alterations to accommodate the construction of the new station stop including the two island platforms, passenger pick-up and drop off, bus loop, plaza structure, vehicle parking, bicycle storage facility, station building, roadway, and new tracks/realignment is anticipated to take place on this property. However, all construction is anticipated to take place at the southern portion of the property, alongside the adjacent railway corridor. Given that the potential heritage attributes associated with the property are located further north of the railway corridor with the closest being the training track, based on the currently available design the project activities are not anticipated to result in direct impacts to the potential heritage attributes and potential cultural heritage value of the property.	Preferred Option: At further design stages, the project should continue to be designed to avoid the potential heritage attributes included within this report, including the grandstand structure, the various stable facilities, and the multiple tracks located on the property. Alternative Option: Should further design stages result in an expansion of the project footprint; a qualified heritage consultant should be retained to review whether the project activities may result in potential impacts to the potential heritage attributes. Specifically, if this results in the potential for impacts to the training track, currently shown within the Study Area for this CHAR, additional evaluation should be completed. If impacts to potential heritage attributes appear to be evident, further investigation may be required in the form of a Cultural Heritage Evaluation Report (CHER) to fully evaluate the potential cultural heritage value of the property, and confirm heritage attributes, and a Heritage Impact Assessment (HIA). The HIA should discuss alternatives considered and recommend the alternative to minimize or mitigate adverse effects on the property. The CHER and HIA, if required should be completed by a qualified person.
CHR 6 – Road	Highway 27	None	Indirect:	Preferred Option: Continued

CHR Ref. No. and Type of Property	Location	Heritage Recognition	Type and Description of Potential/Anticipated Impact	Mitigation Measures: i. Mitigation Options ii. Mitigation Recommendations
bridge			Based on the currently available design the project activities are not anticipated to result in direct impacts to the bridge. As a result of its proximity to the proposed construction area, there is potential for the Highway 27 Bridge to experience vibration impacts during construction. The effect of traffic and construction vibrations on heritage and/or historic structures is not fully understood, yet negative effects have been demonstrated on structures with a setback of less than 40 metres from construction. The Highway 27 bridge is located within this 40 m setback, and as a result, may anticipate indirect adverse impacts. ²⁰	avoidance of the bridge during construction. Alternative Option: In order to mitigate the potential vibration impacts to this structure, the existing structural conditions of the bridge should be reviewed or established. ²¹ Should further design stages result in direct impact to the bridge; a qualified heritage consultant should be retained to review whether the project activities may result in potential impacts to the potential heritage attributes. If impacts to potential heritage attributes appear to be evident, further investigation may be required in the form of a CHER to fully evaluate the potential cultural heritage value of the property, and confirm heritage attributes, and an HIA. The HIA should discuss alternatives considered and recommend the alternative to minimize or mitigate adverse effects on the property. The CHER and HIA, if required should be completed by a qualified person.

Should further design stages result in direct impact to the Highway 27 bridge; a qualified heritage consultant should be retained to review whether the project activities may result in potential impacts to the potential heritage attributes. If impacts to potential heritage attributes appear to be evident, further investigation may be required in the form of a CHER to fully evaluate the potential cultural heritage value of the property, and confirm heritage attributes, and an HIA. The HIA should discuss alternatives considered and recommend the alternative to minimize or mitigate adverse effects on the property. The CHER and HIA, if required should be completed by a qualified person.

Further mitigation information can be found in the CHAR in **Appendix B5**.

²⁰ For further information related to vibration impacts on heritage buildings, see, M. Crispino and M. D’Appuzo, “Measurement and Prediction of Traffic-Induced Vibrations in a Heritage Building,” in *Journal of Sound and Vibration*, Volume 246, Issue 12, September 13, 2001 pp. 319-335; Patricia Ellis, “Effect of Traffic Vibration on Historic Buildings,” in *Science of the Total Environment*, Vol. 59, pp. 37-45, December 1987; J.H. Rainer, “Effects of Vibrations on Historic Buildings: An Overview,” in *Bulletin of the Association for Preservation Technology*, Vol. 14, No. 1 (1982), pp. 2-10; John F. Wiss, “Construction Vibrations: State-of-the-Art,” in *Journal of the Geotechnical Engineering Division* 107, no. 2 (1981): 167-181.

²¹ The Station Operations Acoustic Assessment and Construction Noise and Vibration Impact Report (**Appendix B3**) notes that the Highway 27 Bridge structure is not predicted to have construction vibration impacts that exceed FTA building damage criteria. Vibration monitoring will be undertaken for structure during construction.

5.7 Archaeology

5.7.1 Potential Effects

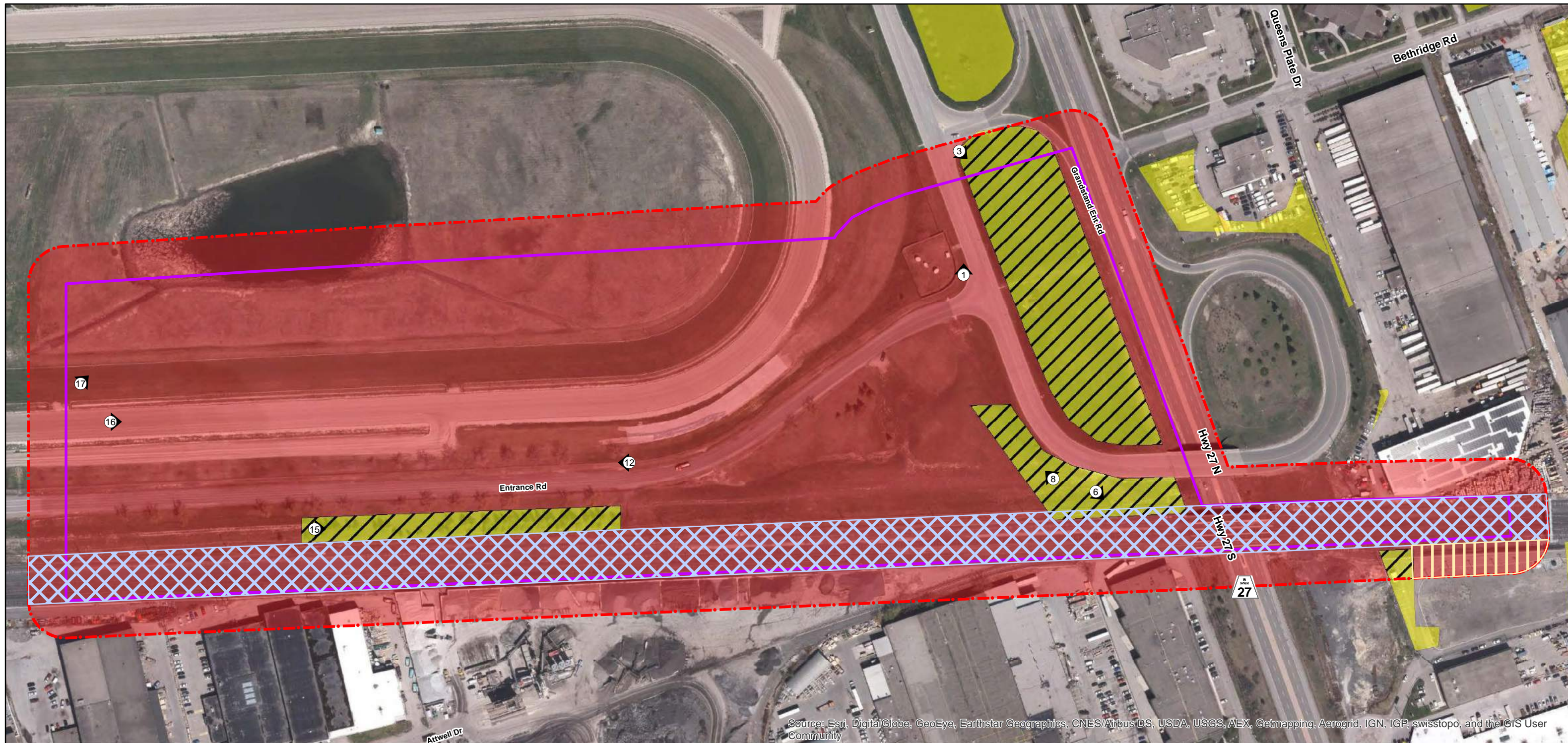
The Stage 1 AA (see **Appendix B6**) conducted for the proposed Highway 27-Woodbine Station in the City of Toronto, Ontario determined that the majority of the Study Area has been extensively previously disturbed. The results of the Stage 1 AA are provided in **Figure 5-1**. Areas that may retain archaeological potential include a small corridor of manicured lawn to the south of Entrance Road adjacent to the railway ROW as well as lands around Grandstand Entrance Road and Highway 27. As such, a Stage 2 AA for the land identified as retaining archaeological potential was recommended.

A Stage 2 AA was completed by AECOM (see **Appendix B7**) to assess the lands with archaeological potential identified in the Stage 1 AA. The results of the Stage 2 AA are provided in **Figure 5-2**. The Stage 2 AA did not result in the identification of any archaeological material, features, or sites where intact soils were encountered. The remainder of the Study Area was found to consist of land where archaeological potential has been removed as a result of the previous disturbance associated with urban development. As such, the Study Area was cleared of archaeological concerns and no further work (i.e., Stage 3) is required.

5.7.2 Mitigation and Monitoring

The following mitigation measures have been recommended for the Study Area:

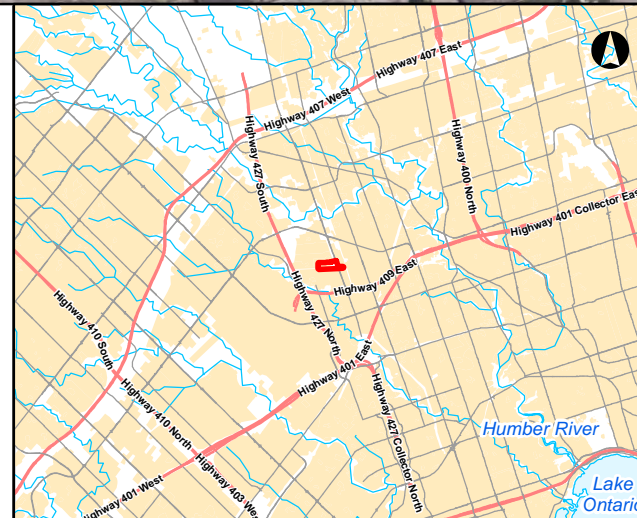
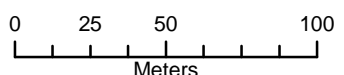
- Should the proposed work extend beyond the Study Area, a Stage 1 AA shall be conducted to determine the archaeological potential and requirement for further Stage 2 AA work of any additional lands;
- Any additional Archaeological Assessments (e.g., Stage 2, Stage 3 if recommended by the Stage 2) shall be completed as early as possible, and prior to the completion of detailed design. This work shall be done in accordance with the MHSTCI's Standards and Guidelines for Consultant Archaeologists (2011) to identify any archaeological resources that may be present;
- In the event that additional Stage 1 and/or Stage 2 AA identifies potential for the discovery of an Indigenous archaeological site, Metrolinx shall engage appropriate Indigenous communities to review the findings of the report and determine next steps and monitoring requirements to be considered during further stages of archaeological assessment; and
- Should previously unknown or unassessed deeply buried archaeological resources be uncovered during construction activities, they may be a new archaeological site and therefore subject to Section 48 (1) of the Ontario Heritage Act. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed archaeologist to carry out archaeological field work, in compliance with Section 48 (1) of the Ontario Heritage Act. Any person discovering human remains must immediately notify the police or coroner and the Registrar of Cemeteries, Ministry of Government Services. In addition, consultation with relevant Indigenous communities will be initiated in the event that archaeological resources or human remains are discovered.



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Legend

- ③ Photo Location and Direction
- Project Site
- Study Area
- Area of Archaeological Potential
- Stage 2 Archaeological Assessment Required
- No Stage 2 Archaeological Assessment Required
- Previously Assessed - No Archaeological Potential, Disturbed (ASI 2008)
- Previously Assessed - No Archaeological Potential, Disturbed (AMAA 2012)



**Stage 1 Archaeological Assessment
Woodbine Racetrack Transit Station EA
City of Toronto, Ontario**

**Results of the Stage 1 Archaeological
Assessment and Property Inspection**

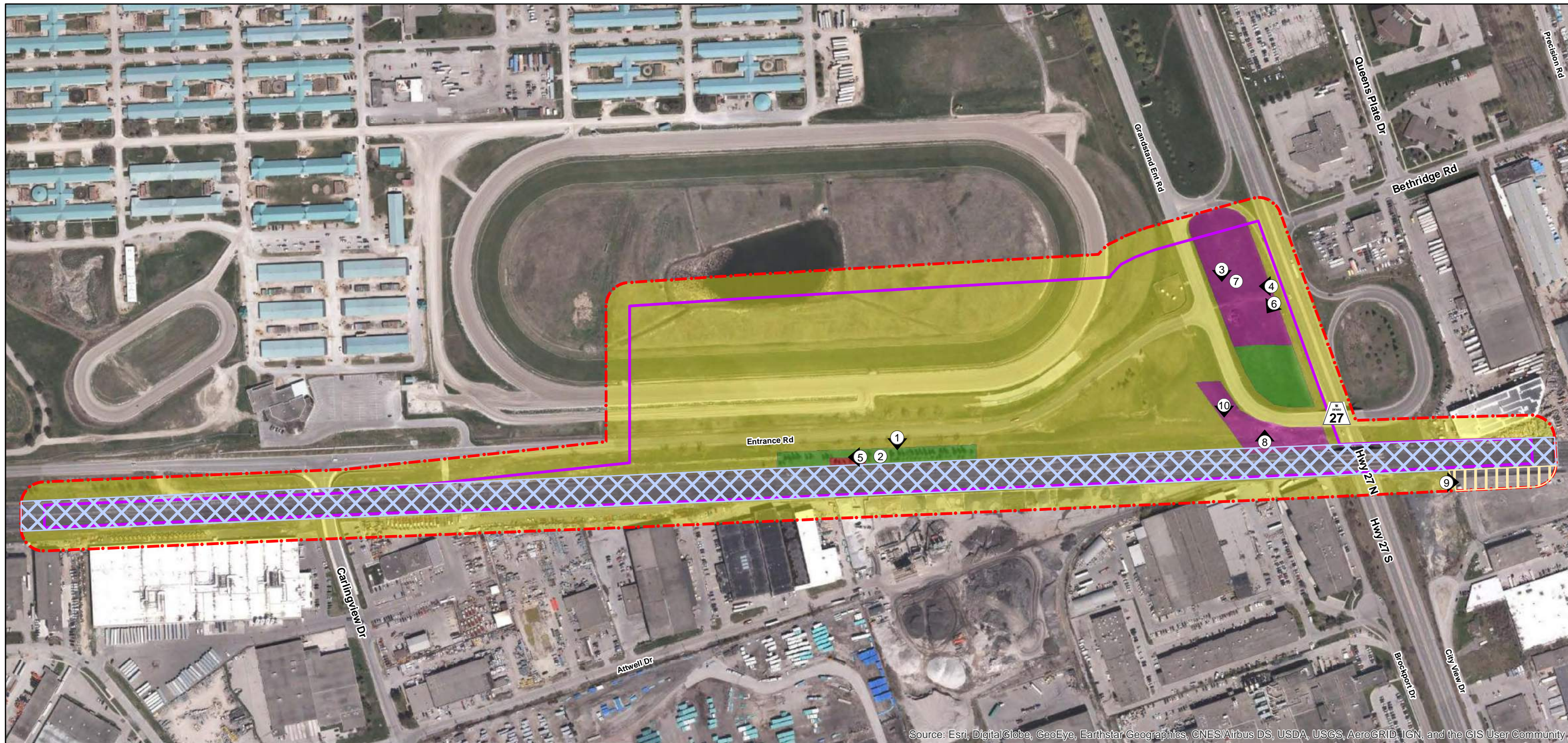
July 2019	1:2,500	Datum: NAD83 UTM 17 Source: LIO 2018, City of Toronto 2019
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AECOM **Figure 5-1**

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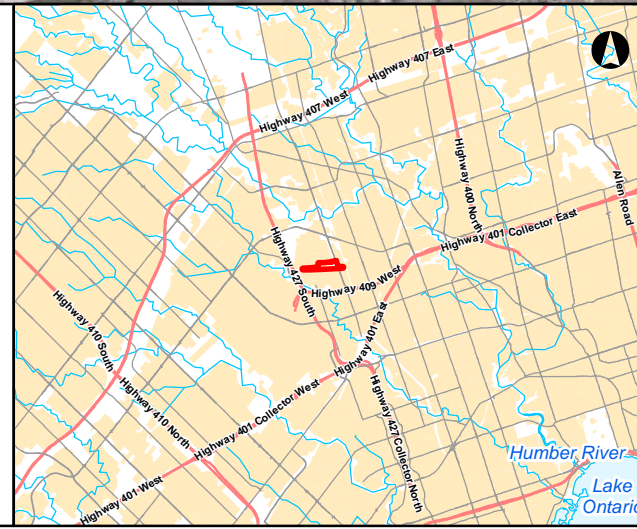
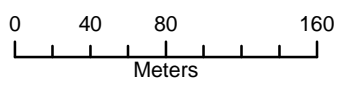
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Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend

- ③ Photo Location and Direction
- Project Site
- Study Area
- Test Pit Survey - 5m Intervals
- Disturbed
- Test Pit Survey - 10m Intervals
- Previously Assessed - AECOM 2019
- Previously Assessed - No Archaeological Potential, Disturbed (ASI 2008)
- Previously Assessed - No Archaeological Potential, Disturbed (AMAA 2012)



**Stage 2 Archaeological Assessment
Woodbine Racetrack Transit Station EA
City of Toronto, Ontario**

**Field Methods and Results of the
Stage 2 Field Investigation**

August 2019	1:4,000	Datum: NAD83 UTM 17 Source: LIO 2018, City of Toronto 2019
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AECOM	Figure 5-2
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Map creation: Location: 10/11/19; Location: 10/11/19; Project: 60606819; Project: 60606819; Woodbine300-CAD_GIS_Design01_Reports\AS2\Fig-Stage2_Results.mxd; Date saved: 10/26/2019 12:21:14 PM; User Name: tarrs

5.8 Traffic and Transportation

5.8.1 Potential Effects

5.8.1.1 Road Network

The following conclusions are drawn based on the traffic operations and queuing analysis results for the Future Background and Future Total scenarios during the peak hour in 2023.

- The Highway 27 and Belfield Road intersection is expected to operate overall near capacity in the PM peak hour with V/C Ratios of 0.90 in both the Future Background and Future Total Scenarios. The southbound left-turn movement is expected to experience the longest average delay of 99.9 seconds and 98.4 seconds in the Future Background and Future Total Scenarios, respectively;
- The Highway 27 and Rexdale Boulevard intersection is expected to operate overall near capacity in the AM peak hour of the Future Total Scenario with V/C Ratio of 0.94 and over capacity in the PM peak hour of the Future Background and Future Total Scenarios with V/C ratio exceeding 1.00. The V/C ratio and average vehicle delay pertaining to the westbound left-turn movement would experience a relatively large increase in the Future Total conditions as compared to the Future Background conditions due to the site-generated traffic during both the AM and PM peak hours. Furthermore, and only during the AM peak hour, the V/C ratios and average vehicle delays related to the northbound left-turn and southbound left-turn movements in the Future Total conditions would be notably larger as compared to those in the Future Background conditions. In addition, the existing storage lanes for both the westbound and northbound left-turn movements would not be able to accommodate the anticipated 95th percentile queues for the noted movements both with and without site-generated traffic;
- The Rexdale Boulevard and Queens Plate Drive (West) intersection is expected to operate overall at near-capacity conditions with V/C ratio of 0.94 after becoming an all-movement signalized intersection (i.e., after lifting the passenger vehicles prohibition from using the south leg of the intersection) in the PM peak hour of both the Future Background and Future Total Scenarios. Although not caused by the site-generated traffic, the newly-introduced northbound left-turn movement is expected to experience the longest average delay of 84.2 seconds representing LOS 'F' in both the Future Background and Future Total scenarios. In addition, the storage lanes for the eastbound left-turn movements would not be able to accommodate the anticipated 95th percentile queues for the noted movement both with and without site-generated traffic in the PM peak hour;
- The Rexdale Boulevard and Humberwood Boulevard intersection is expected to operate at LOS 'E' in the PM peak hour Future Background and Future Total Scenarios. In addition, the intersection is expected to operate overall at near-capacity conditions in the PM peak hour with V/C Ratio of 0.91 and 0.93 in the Future Background and Future Total Scenarios, respectively. Although not caused by the site-generated traffic, the westbound through movement is expected to operate at LOS 'F' and over capacity with V/C Ratio of 1.14 and 1.16 in the Future Background and Future Total Scenarios, respectively;
- The westbound left-turn movement at the unsignalized intersection of Highway 27 and Vice Regent Boulevard is expected to continue operating poorly and over capacity in the AM and PM peak hours of the Future Background and Future Total Scenarios;
- The unsignalized intersection of Goreway Drive and Club House Road is expected to continue operating at LOS 'F' in the PM peak hour but with substantially longer average vehicle delays in both the Future Background and Future Total Scenarios as compared to the Existing Conditions. The westbound left-turn movement is expected to operate at LOS 'F' in the PM peak hour of both scenarios and to experience the longest average vehicle delays of up to 232.6 seconds (i.e., approximately four

minutes) in the Future Background Scenario and up to 287.2 seconds (i.e., approximately five minutes) in the Future Total Scenario;

- The unsignalized intersection of Club House Road and Entrance Road is expected to operate at LOS 'C' and LOS 'E' in the PM peak hour of the Future Background and Future Total scenarios, respectively. The average vehicle delay pertaining to the northbound approach would have a relatively large increase in the Future Total conditions as compared to the Future Background conditions due to the site-generated traffic; and
- The unsignalized intersection of Entrance Road and Grandstand Entrance Road is expected to operate at LOS 'C' and LOS 'F' in the PM peak hour of the Future Background and Future Total scenarios, respectively. The V/C Ratio and average vehicle delay pertaining to the eastbound left-turn movement would significantly increase in the Future Total conditions as compared to the Future Background conditions due to the site-generated traffic.

5.8.1.2 Transit Network

The Finch West LRT project which is currently under construction will run along Finch Avenue West between the Humber College North Campus and the planned Finch West Subway Station to be located at the intersection of Keele Street and Finch Avenue West. The design of the terminal station at Humber College North Campus permits the potential extension of the Finch West LRT south along Highway 27, which could include a potential connection to the Project Site in the future²².

The Union Pearson (UP) Express operates on the Kitchener Rail Corridor between Union Station and the Wice control location (i.e., a series of switches and signals that allow for crossover movements between tracks) where it diverges onto a separate spur track to Toronto Pearson International Airport. The Project Site is located immediately east of the Wice control location and, while the currently proposed and assessed project does not include an Airport Service stop, the design could accommodate an Airport Service stop should that be added to the Project Site in the future.

Once implemented, the Project is anticipated to trigger a set of modifications to the existing transit services provided by other transit agencies serving the Study Area. Metrolinx and WEG are engaging with the following regional transit operators regarding the Project and future commitment opportunities: TTC, Mississauga Transit (MiWay), Brampton Transit, and York Region Transit (YRT/Viva). It is anticipated that these discussions will be ongoing during detailed design through to station operations to determine servicing agreements²³.

5.8.1.3 Pedestrian and Cycling Network

Pedestrian and cycling facilities will develop over time with the approved subdivisions of the Woodbine Districts and their planned active transportation connections. In addition, once the Project is built, it is anticipated that the surrounding lands will be redeveloped, improving the active transportation network as part of their respective planning approval process. Therefore, the active transportation network focuses on establishing connection to the existing infrastructure with the anticipation that the existing deficiency in the active transportation infrastructure would be addressed through the forthcoming development approval process and/or City's capital infrastructure improvement program.

²² The Finch West LRT was not considered in any of the technical assessments prepared for the Project. This section is intended to identify the Finch West LRT as new nearby transit infrastructure and the opportunity for a future connection to potentially strengthen regional transit. Feasibility regarding a potential future connection would be a separate undertaking.

²³ Transit operators may decide to adjust their routes to take advantage of potential new ridership generated by a new GO Station. Note that transit connections are subject to evolve as the site develops.

To provide a connection to the existing nearby infrastructure, a MUP is proposed to run along the north side of the rail platform connecting with Grandstand Entrance Road. The proposed MUP would continue along the south side of Grandstand Entrance Road, prior to connecting to the existing MUP that runs along the east side of Highway 27 through the Grandstand Entrance Road off-ramp. In addition, walkway connections are proposed along the perimeters of the proposed transit station and parking lots so that pedestrian connections to/from the station can be established as the surrounding lands develop over time.

The proposed MUP and walkway connections along with potential future improvements to the existing active transportation network would make the station easily accessible by active transportation modes and possibly trigger a shift in mode choices to/from Project Site from auto-dependant modes to active transportation modes.

5.8.2 Mitigation and Monitoring

5.8.2.1 Road Network

This section presents mitigation measures to improve traffic operations at the intersections and / or their specific movements that are expected to be significantly impacted by the site-generated traffic. Movements and intersections are considered significantly impacted by the Project if they meet either of the following criteria:

- Movements and/or intersections are expected to be critical (i.e., V/C Ratio above 0.85 and/or LOS 'E' or worse) in the Future Total Scenario but not in the Future Background Scenario; or
- Movements and/or intersections are expected to operate above capacity (i.e., V/C Ratio above 1.00) in the Future Total Scenario but not in the Future Background Scenario.

Based on the noted criteria, the Project is expected to have a significant operational impact on the following:

- The westbound left-turn movement at the signalized intersection of Highway 27 and Rexdale Boulevard in the AM peak hour;
- The shared northbound left-turn and through movement at the unsignalized intersection of Club House Road and Entrance Road in the PM peak hour; and
- The eastbound left-turn movement at the unsignalized intersection of Entrance Road and Grandstand Entrance Road in the PM peak hour.

5.8.2.1.1 Proposed Signal Timings, Lane Configurations, and Road Improvements

To mitigate these potential negative impacts, the westbound left-turn signal phase at the intersection of Highway 27 and Rexdale Boulevard in the AM peak hour can be adjusted by granting it two additional seconds of green time and by adjusting the intersection offset time to 10 seconds. These changes would enhance traffic operations at the westbound left-turn movement by reducing the average vehicle delay from 122.2 seconds to 76.6 seconds and decreasing the V/C ratio from 1.03 to 0.95. In addition, the noted adjustments in the signal timing plan would improve the overall traffic operations of the intersection by reducing the average vehicle delay from 47.1 seconds to 46.4 seconds and the V/C ratio from 0.94 to 0.90.

For the intersection of Club House Road and Entrance Road, providing an additional lane in the northbound direction, in which the northbound approach lane configuration becomes a northbound through lane and a shared northbound through and left lane, would improve traffic operations at the intersection by reducing the average vehicle delay from 53.9 seconds representing LOS 'F' to 15.8 seconds representing LOS 'B'.

At the intersection of Grandstand Entrance Road and Entrance Road, changing the intersection control type from a side-street stop-controlled intersection to an all-way stop-controlled intersection would improve traffic operations of

the eastbound left-turn movement by reducing the average vehicle delay from 53.8 seconds representing LOS 'F' to 30.0 seconds representing LOS 'C' and the overall average intersection delay from 53.8 seconds representing LOS 'F' to 35.6 seconds representing LOS 'D'.

The detailed Synchro outputs that outline the proposed measures and the traffic operations findings are provided in **Appendix B8**.

In addition, storage lane improvements are proposed for the movements that the queue analysis (**Table 5-9**) revealed inadequacy of their storage lanes in accommodating the anticipated queue lengths in the Future Total Scenario during the AM and/or the PM peak hour in 2023.

Subject to a future design exercise, it appears that the storage lanes for the identified movements can be extended without any need to widen the respective roads' cross-sections and/or need for additional right of way. The proposed lengths of the storage lanes are provided in **Table 5-9**.

Table 5-9: Proposed Modifications to Length of Storage Lanes

Location of Storage Lane	Existing Length (m)	Proposed Length (m)
Westbound left-turn at the intersection of Highway 27 and Rexdale Boulevard	30	110
Northbound left-turn at the intersection of Highway 27 and Rexdale Boulevard	80	125
Eastbound left-turn at the intersection of Rexdale Boulevard and Queens Plate Drive (West)	65	95

5.8.2.1.2 Signal Warrant Analysis

Signal warrant analysis was conducted for the intersections that would serve as major accesses to the Project Site. The signal warrant analysis was undertaken using the methodologies outlined in the Ontario Traffic Manual (OTM) Book 12. Need for installation of traffic signals was assessed for the following four intersections:

- Carlingview Drive and Entrance Road;
- Entrance Road and Club House Road; and
- Grandstand Entrance Road and Entrance Road;
- Goreway Drive and Club House Road.

For the purposes of this analysis, the eight highest hourly volumes were selected from the 24-hour period counts at the intersections of Carlingview Drive / Entrance Road and Goreway Drive / Club House Road and added to the anticipated site traffic at the noted intersections. For the intersections of Grandstand Entrance Road and Entrance Road as well as Entrance Road and Club House Road and in the absence of existing 24-hour counts, the off-peak traffic volumes were assumed to be half of the average of the AM and PM Peak volumes at the noted intersections.

The signal warrant analysis indicated that the Project would not generate enough traffic volumes to warrant installation of traffic signals at any of the four noted intersections.

5.8.2.2 *Transit Network*

The report assesses four bus bays with provisions for a total of eight bus bays and space for Wheel-Trans. The increase in the number of bus bays (i.e. from four to eight plus Wheel-Trans) is would have a minor impact with no need for mitigation measures. During detailed design and prior to permitting, the number of bus bays will be confirmed. At that time, potential impacts will be reviewed and mitigation measures may be proposed, if needed.

The Project design will not preclude a future connection to the Finch West LRT. Metrolinx and WEG will continue discussions with transit operators as needed to confirm connections.

5.8.2.3 *Pedestrian and Cycling Network*

Currently, Casino Woodbine provides complimentary parking lot shuttle service to the Grandstand Building. The shuttle service operates 7 days a week (weekdays from 7:00AM to 11:30PM, with Fridays and weekends having 24-hour service). It is anticipated that this shuttle service will be expanded to include riders as an interim connectivity solution as the long-term sidewalk connections are being developed.

The Project Site and the surrounding street network should provide for a well-connected, safe and comfortable walking and cycling facilities. WEG will coordinate with the City during detailed design to ensure that the roads connecting the station to nearby public roads are accessible by active transportation modes and meet the City design requirements and GO Design Requirements Manual (DRM) and GO Rail Station Access Plan guidelines for station access roads.

Traffic strategies will be developed and implemented during construction and operations to ensure safe access for pedestrians and cyclists.

6. Climate Change Considerations

Climate change is defined as any significant change in long-term weather patterns. The term can apply to any major variation in temperature, wind patterns or precipitation that occurs over time. Changes in the composition of the atmosphere are resulting in processes that alter global temperature and precipitation and are affecting local weather patterns. These processes can ultimately lead to increased occurrence of extreme weather events such as floods, droughts, ice storms and heat waves across the GTHA (Metrolinx, 2017).

Global warming describes the recent rise in the average global temperature caused by increased concentrations of GHGs trapped in the atmosphere. Scientists have concluded that human activity is largely responsible for recently observed changes to our climate since GHGs are mainly caused by burning fossil fuels to produce energy.

Metrolinx's Planning for Resiliency report (Metrolinx, 2017) supports informing decisions regarding planning, construction and operations of infrastructure. This considers adaptation to climate change across all infrastructure assets, including existing and future stations (see **Section 6.1.3**).

Projected changes in extreme weather conditions may be of particular concern in assessing the potential future climate change implications for the projects and enhanced resiliency shall be considered. Continuous changes in weather may require ongoing adaptation (see **Section 6.2**) and mitigation (see **Section 6.3**).

6.1 Policy Context

6.1.1 Government of Ontario

The Government of Ontario has committed to reducing GHG emissions to 80% below 1990 levels by 2050 and has established two mid-term targets of 15% below 1990 levels by 2020 and 37% below 1990 levels by 2030 (Government of Ontario, 2015). To achieve these targets, the government has developed a Climate Change Strategy (Government of Ontario, 2015) and Climate Change Action Plan (Government of Ontario, 2016) which outline the following five areas of focus:

1. A prosperous low-carbon economy with world-leading innovation, science and technology;
2. Government collaboration and leadership;
3. A resource-efficient, high-productivity society;
4. Reducing GHG emissions across key sectors; and
5. Adaptation and risk awareness.

The Infrastructure for Jobs and Prosperity Act, 2015 (Province of Ontario, 2015) indicates that infrastructure should be planned to mitigate effects on climate change and be designed to consider climate change adaptation.

The 2014 PPS (Ministry of Municipal Affairs and Housing, 2014) issued under *The Planning Act, R.S.O. 1990* advises on the need to consider reducing GHG emissions and reducing the potential risk of climate change-related events like droughts or intense precipitation. It encourages green infrastructure and strengthened stormwater management requirements; energy conservation and efficiency; reduced GHG emissions; climate change adaptation (e.g., tree cover for shade and for carbon sequestration); and consideration of the increased risk associated with natural hazards (e.g., flooding due to severe weather).

6.1.2 Ministry of the Environment, Conservation and Parks

The MECP has established a Guide, titled *Considering Climate Change in the Environmental Assessment Process* (MOECC, 2017) to describe how environmental assessment processes can incorporate consideration of climate change impacts, including:

- The effects of a project on climate change;
- The effects of climate change on a project; and
- Various means of identifying and minimizing negative effects during project design.

Considering climate change in accordance with the Guide is meant to result in a project that is more resilient to future changes in climate and helps maintain the ecological integrity of the local environment in the face of a changing climate. The Guide advises that transit projects assessed under the TPAP should be scaled to the significance of the project's potential environmental effects, and that evaluation can be qualitative and/or quantitative. **Table 6-1** outlines how climate change was considered in this TPAP.

Table 6-1: Consideration of Climate Change in the Pre-TPAP and TPAP Phases

Consideration	Project Phase where Consideration Implemented	Areas Considered	Type of Evaluation
Effects of the project on climate change (mitigation) – See Section 6.2	Pre-TPAP, detailed design, construction, operations	Planning for transit	Qualitative
		GHG emissions	Quantitative
		Vegetation compensation and revegetation	Qualitative
		Energy consumption and emissions	Qualitative
Effects of climate change on the project (adaptation) – See Section 6.3	Detailed design, construction, operations	Air temperature	Qualitative
		Precipitation	Qualitative
		Drought	Qualitative

Table 6-2 outlines how the primary expectations for proponents when considering climate change according to the MOECC's guide (as indicated by "should" statements in the guide) have been addressed in this EPR.

Table 6-2: Consideration of Climate Change in the Pre-TPAP and TPAP Phases

Recommendation	Section(s)
The Ministry expects proponents to consider: <ul style="list-style-type: none"> • The project's expected production of greenhouse gas emissions and impacts on carbon sinks (climate change mitigation). • Resilience or vulnerability of the undertaking to changing climatic conditions (climate change adaptation). 	Section 6.2 & Section 6.3
The proponent should also include a discrete statement in their study report detailing how climate change was considered in the environmental assessment.	Section 6
Proponents of natural resource related projects should consult Appendix B for treatment of carbon stocks as sinks versus sources.	The Transit Project is not natural resource related, so this is not applicable.
Proponents should include evaluation criteria, such as greenhouse gas emissions and impacts on carbon sinks, in the assessment of alternatives and alternative methods.	The TPAP does not include an assessment of alternatives or alternative methods, so this not applicable.

Recommendation	Section(s)
In concluding an environmental assessment study, the proponent should also include a statement in their study report about how climate change was considered in the environmental assessment and how the preferred alternative (project) is expected to perform with climate change considered.	Section 6
Proponents should include evaluation criteria such as extreme weather events in their screening of alternatives, and alternative methods.	The TPAP does not include an assessment of alternatives or alternative methods, so this not applicable.
Proponents should also include in their study report, a statement about how climate change was considered in the environmental assessment, specifically in relation to the preferred alternative (project).	The TPAP does not include an assessment of alternatives or alternative methods, so this not applicable.
All climate parameters with potential to interact with a project should be defined and considered at a screening level to fully understand which interactions pose higher risk.	Section 6
Proponents should also document any uncertainty related to either downscaling climate change projections to specific sites, or expected impacts to the environment or project, within the environmental assessment.	Metrolinx is moving towards using downscaling projections as described in its Planning for Resiliency report (Metrolinx, 2017) to inform decisions regarding planning, construction and operations of infrastructure. This considers adaptation to climate change across all infrastructure assets, including existing and future stations.
Considering climate change in the terms of reference for an environmental assessment should commit the proponent to considering climate change impacts in related project studies prepared in support of the environmental assessment report.	The TPAP does not include a terms of reference, so this not applicable.
Considering climate change in an environmental assessment should result in the proponent refining and documenting measures for dealing with climate change impacts as the undertaking moves toward implementation stage. Examples could include adapted design or maintenance schedules, additional studies, and revised operating procedures.	Section 6.2 & Section 6.3
Considering climate change in streamlined environmental assessment processes and studies could result in the inclusion of a commitment on how the proponent will implement climate change adaptation and mitigation measures during the detailed design phase of any given project.	Section 6.2 & Section 6.3
Proponents should consider whether making reference to existing climate change strategies or policies alone is sufficient as a consideration of climate change, or whether a more detailed consideration of climate change should be carried out when conducting project-specific environmental assessment studies. Documentation of the results of this consideration should be included as part of project reporting.	Section 6

6.1.3 *Metrolinx*

Metrolinx's draft Regional Transportation Plan (RTP) (Metrolinx, 2018) outlines the long-term projects, plans, and activities Metrolinx will deliver to support reduction of Ontario's overall GHG emissions by promoting a shift from single occupant vehicles to more energy-efficient options like public transit, walking, cycling, carpooling, and teleworking.

Metrolinx is committed to ensuring that the existing transit network and new transit facilities/infrastructure will have a low-carbon footprint and contribute to a clean and healthy environment for future generations (Metrolinx, 2016). Metrolinx has outlined key climate change goals in its Sustainability Strategy (2015 - 2020) (Metrolinx, 2016). The Sustainability Strategy addresses climate change through five goals, which are:

- **Goal 1: Become Climate Resilient** – Accelerate and intensify our efforts to implement a climate adaptation and resilience program to manage and mitigate climate change risks.
- **Goal 2: Reduce Energy Use and Emissions** – Adopt processes, programs and technologies that allow us to effectively track, monitor and reduce our energy consumption, and carbon and air emissions.
- **Goal 3: Integrate Sustainability in our Supply Chain** – Minimize the impact associated with the use, extraction, processing, transport, maintenance, and disposal of materials and integrate sustainability criteria into our vendor management decisions. This goal extends to consideration of embodied carbon (i.e., the carbon dioxide emitted during the manufacture, transport and construction of materials, together with end of life emissions).
- **Goal 4: Minimize Impacts on Ecosystems** – Consider the impact of infrastructure and services on ecosystems and ecosystem services and make best efforts to manage, preserve and protect. This includes the consideration of infrastructure projects within the broader context of ecosystems and ecological values, including watershed/stormwater management considerations.
- **Goal 5: Enhance Community Responsibility** – Leverage our significant investment in the region to create a lasting legacy for our communities, and work closely with communities to create economic and social value.

For GO stations, terminals, and facilities, including the Project, Metrolinx generally requires that contractors adhere to the GO Design Requirements Manual (DRM) (Metrolinx, 2017). The DRM outlines the Guiding Principles and technical details for designing and building GO infrastructure. The DRM covers a number of areas directly and indirectly related to climate change adaptation and mitigation, including stormwater management, energy consumption and emissions, and vegetation. Also included in the DRM is how infrastructure should target Leadership in Energy and Environmental Design (LEED) accreditation and credits to reduce GHG emissions, as per Canada Green Building Council standards.

6.2 Potential Effects of the Project on Climate Change (Climate Change Mitigation)

As indicated in **Table 6-1**, the effects of the project on climate change (mitigation) have been evaluated both quantitatively (for GHG emissions) and qualitatively (for transit planning, vegetation compensation/revegetation, and energy consumption/emissions).

6.2.1 Planning for Transit

Investment in sustainable transportation is a key part of Ontario's 2015 Climate Strategy to address climate change and is anticipated to bring significant benefits including reduced GHG emissions and "carbon footprint". The Big Move (2008) Regional Transportation Plan for the GTHA highlights Metrolinx's GO Network Electrification as a key climate change mitigation measure that will contribute to Ontario's achievement of its GHG/carbon dioxide equivalent (CO_{2e}) emission reduction targets (Metrolinx, 2018).

6.2.2 Greenhouse Gas Emissions

A GHG Assessment was undertaken as part of the Air Quality Impact Assessment for the Project to evaluate the local impacts to air quality (see **Section 5.3**). The projected GHG contributions as a result of the Project were found to be negligible compared to the total transportation sector's projected 2031 CO_{2eq} emissions.

The Project is not anticipated to produce significant GHG emissions throughout the construction phase. At present, transportation options to Woodbine Districts are primarily bus and passenger vehicle. With the Project in place, the dependency of bus and cars trips would be greatly reduced. This would decrease the overall GHG emissions produced through travel to and from Woodbine Districts, reduce congestion on roadways, and result in a net benefit for regional air quality.

Key recommendations based on the American Public Transportation Association (APTA) Transit Sustainability Guidelines related to infrastructure and facilities may be further reviewed and considered if appropriate/feasible to include:

- Incorporate innovative sustainable construction practices;
- Set targets for construction and demolition debris diversion from landfill through on-site and off-site reuse and recycling; and
- Implement a sustainable procurement policy and/or supply chain policy based on comprehensive sustainability principles.

6.2.3 Vegetation Compensation

As noted in **Section 5.1.2**, the Study Area is highly urbanized and there are negligible potential effects anticipated for vegetation. Existing vegetation will be retained to the extent practicable. Removals will be kept to a minimum to limit direct effects to vegetation communities and vascular flora, as well as indirect effects (e.g., soil compaction and changes to topography and drainage). Disturbed areas will be re-stabilized, incorporating revegetation using non-invasive, preferably native plantings and/or seed mix appropriate to the site conditions and adjacent vegetation communities. Seed mixes will be used in conjunction with an appropriate non-invasive cover crop as appropriate.

Additionally, the Metrolinx DRM requires that plant materials suitable to the growing environment at project sites be selected for vegetation/revegetation, and that species (native or non-native) must be hardy, drought and salt-tolerant, and resistant to the stresses of compacted soils and weather exposure.

6.2.4 Energy Consumption and Emissions

Through the DRM, Metrolinx targets LEED accreditation and credits that reduce GHG emissions and improve energy performance and refrigerant management²⁴. Specifically, the DRM directs that the stations be designed to reduce energy consumption and emissions by considering measures such as:

- Applying passive means of reducing energy where it does not conflict with other customer service and operational design requirements.
- Maximizing the use of natural light coupled with photocells, motion sensors and controls to activate lighting when necessary (enhanced building automation controls), where it does not conflict with other customer service and operational design requirements.
- Using LED lighting.

²⁴ Some air-conditioning refrigerants are powerful GHGs.

- Using heat recovery to conserve energy for heating and cooling.

6.3 Potential Effects of Climate Change on the Project (Climate Change Adaptation)

It is recognized that climate change is already underway and can be anticipated to affect the construction and operations of the Project. There is general agreement that the Great Lakes Basin will see increases in temperature, precipitation, drought, wind gust events, and freezing rain by the end of this century; however, the level of confidence and quality of supporting evidence for these projections vary considerably (Metrolinx, 2017). **Table 6-3** shows the current consensus predictions for climate change in the Great Lakes Basin.

Table 6-3: Climate Change Projections for the Great Lakes Basin

Theme	General Projections	Trend	Data Confidence
Air Temperature	<ul style="list-style-type: none"> • 1.5°C-7°C increase by 2080s depending on climate scenario and model used. • Greater increases in the winter. • Increased frost-free period and growing season. 	Increase	High evidence High agreement
Precipitation	<ul style="list-style-type: none"> • 20% increase in annual precipitation across the Great Lakes Basin by the 2080s under the highest emission scenario. • Increases in rainfall, decreases in snowfall. • Increased spring precipitation, decreased summer precipitation. • More frequent extreme rain events. 	Increase	High evidence Medium agreement
Drought	<ul style="list-style-type: none"> • Projected increases in frequency and extent of drought. 	Increase	Low evidence High agreement
Wind	<ul style="list-style-type: none"> • Increased wind gust events. 	Increase	Low evidence Low agreement
Ice Storms	<ul style="list-style-type: none"> • Greater frequency of freezing rain events. 	Increase	Low evidence Low agreement

Source: (McDermid, *et al.*, 2015)

To focus the consideration of effects of climate change on the Transit Project, only those themes where there is high or medium agreement on data (i.e., air temperature, precipitation, and drought) are addressed in the sections below, for both construction and operations.

6.3.1 Air Temperature

Recognizing increasing summer temperatures, the DRM considers reducing effects of extreme heat on riders and the station. Specifically, the DRM indicates that station design will:

- Consider building material selection to limit absorption of solar radiation.
- Maximize shade along pedestrian routes.
- Reduce the urban heat island effect through plantings, selection of building materials and proactive shade management.

6.3.2 Precipitation

Precipitation, whether it is rainfall, snowfall, or other forms of frozen/liquid water, is the key climate and weather-related variable of concern in stormwater management (SWM). As a result of climate change, storm events are predicted to become more intense in the GTHA, which can result in larger volumes of precipitation at one time (McDermid, et al., 2015).

6.3.2.1 Stormwater Management

A detailed SWM Plan will be developed prior to construction so that runoff from rainfall is controlled based on predicted future scenarios, to promote climate resilience. The SWM approach to the site will minimize the overall discharge from the new station development to avoid overloading the City's existing infrastructure. Existing drainage patterns will be maintained, with site water currently flowing east to west. Bio-swales and on-site infiltration galleries will be used where possible to treat excess rainwater.

The City of Toronto's Wet Weather Flow Management Guideline will be referenced in the SWM Plan. Future increased rainfall intensities, and consequently increased runoff, will be predicted using precipitation Intensity-Duration-Frequency (IDF) curves, such as those found in the MTO's IDF Curve Lookup Tool. These can be incorporated into the SWM design of the Project once the design life of the stations is determined. The SWM Plan will be provided to the City of Toronto once the site topographic survey, site grading, and drainage plan have been developed.

The SWM design for the Project will consider the drainage and SWM objectives of the MOECC Stormwater Management Planning and Design Manual (2003), Ministry of Transportation (MTO) Drainage Management Manual (2008), and TRCA Stormwater Management Criteria (2012), among other guidance. This will be supplemented by current guidance such as the runoff volume control targets for Ontario recommended to MOECC (Aquafor Beech Ltd. and Earthfx Inc., 2016) from local municipalities and Conservation Authorities.

Some of the potential future climate/weather effects that may warrant steps to reduce vulnerability and enhance resiliency and ongoing adaptive capacity include, but are not limited to:

- Exceedance of storm sewer/culvert and overland flow system capacities resulting in flooding;
- Scour and damage to or failure of culverts, bridges or embankment side slopes; and
- Ice accumulation affecting infrastructure and equipment.

Modifications to Project design/design solutions may be appropriate to reduce vulnerability to changes in some of the above-noted climate/weather parameters. Potential adaptations to deal with changing climate conditions may include the following:

- Extreme/intense rain and flooding:
 - Review/modify floodplain/storm frequency design criteria and implement Stormwater Management Report during construction/operation;
 - Manage stormwater runoff; and
 - Implement erosion and sediment control measures during the construction phase of the Project to ensure stormwater runoff is not laden with sediment.

6.3.2.2 Erosion and Sediment Control Measures

Erosion and Sediment Control (ESC) measures as described in **Section 5.2.2** including the development of an ESC Plan, will be implemented during construction to ensure stormwater runoff is controlled and sediment is

prevented from entering sewers and watercourses. The ESC Plan will include consideration of the Greater Golden Horseshoe Area Conservation Authorities' Erosion and Sediment Control Guideline for Urban Construction (Greater Golden Horseshoe Area Conservation Authorities, 2006) and OPSS 805 (Erosion and Sediment Control Measures). Installation and monitoring of appropriate ESC measures will help mitigate potential effects of climate change on the Transit Project.

6.3.2.3 *Drought*

Station design, in pursuit of LEED accreditation and credits as required by the DRM, will include consideration of water conservation measures to reduce effects of drought on the Project, such as:

- Metering indoor and outdoor water use to better track and manage the impacts of extended droughts on operations and landscape plantings.
- Using water conserving systems to reduce consumption.
- Planting drought resistant vegetation.

7. Consultation Process

7.1 Consultation Overview

In accordance with Section 8 of *O. Reg. 231/08*, this section summarizes the consultation activities carried out with members of the public, nearby property owners, review agencies, Indigenous communities, and other interested parties during the course of the Project, including a summary of feedback and comments received.

In collaboration, WEG and Metrolinx implemented a consultation strategy for the Project that was developed to guide the engagement process described in the following sections.

7.1.1 Approach to Consultation

WEG and Metrolinx offered a wide range of communication methods to reach interested members of the public, nearby property owners, review agencies, Indigenous communities, and other interested parties to solicit comments and feedback on the Project:

- Project Webpage
- Notifications / Mailings
- Newspaper Advertisements
- Community Postings
- Social Media
- Stakeholder Meetings
- Public Meeting
- Online Survey

To keep interested parties informed throughout the Project, WEG administered a Project Webpage (www.woodbine.com/transit.ea) with Project-related information and updates. WEG also hosted a Project email address (transitea@woodbine.com) as the point of contact for Project communications. For the purposes of this section, communications sent from the Project email address is considered outreach from WEG and communications sent from Metrolinx staff email addresses is considered outreach from Metrolinx.

7.1.2 Record of Consultation

A record has been maintained of all Project consultation undertaken during Pre-Planning activities and the TPAP. All Project correspondence and meeting summaries are documented in **Appendix C**. Comments received from the public have been redacted to protect personal information.

7.1.3 Identification of Interested Parties

During the Pre-Planning activities, a Project Mailing List was developed to ensure all stakeholders and interested parties receive notifications related to the Project. The Project Mailing List is provided in **Appendix C1**.

Appropriate contacts at each review agency (i.e., federal, provincial, municipal) were confirmed through outreach during Pre-Planning activities. Elected officials (i.e., City Council, Members of Parliament, Members of Provincial Parliament) with jurisdiction in the Study Area were confirmed through online resources. Potentially interested Indigenous communities were identified through consultation with MECP. Property owners within 30 m of the site of the transit project were identified through desktop research and consultation, as prescribed in *Ontario's Transit Project Assessment Guide* (Government of Ontario, 2014).

The Project Mailing List was continually updated in response to Project feedback (e.g., requests to be added) and was utilized to inform stakeholders of Project milestones (e.g., Notice of Public Meeting, Notice of Commencement and Online Survey, etc.). All Project Notices are provided in **Appendix C2**.

7.1.4 Influence of Consultation on the TPAP

WEG and Metrolinx completed introductory activities and consultation through Pre-Planning activities prior to the commencement of the TPAP.

Stakeholder meetings provide an opportunity to speak directly with the Project Team. In this manner, the stakeholders are introduced to the Project and encouraged to provide comments on the assessment of existing environmental conditions and potential environmental effects within the Study Area. The feedback received over the course of the Project was used to inform the direction of the Project, as appropriate.

On October 2, 2019, the Draft EPR was provided to MECP, MHSTCI and the City of Toronto for an opportunity to review and comment. Comments received from review agencies are provided in **Appendix C7**.

7.1.5 Indigenous Community Engagement

On August 20, 2019, a formal request was sent to the MECP's Environmental Assessment and Permissions Branch to request assistance in identifying the list of bodies that may assist in determining the Indigenous communities that may have an interest in the Project. In addition, the letter shared the Indigenous communities identified for the Project per subsection 7(4) of *O. Reg. 231/08*. MECP responded on August 20, 2019 confirming the list of the following Indigenous communities:

- Huron-Wendat First Nation
- Kawartha Nishnawbe First Nation
- Mississaugas of the Credit First Nation
- Williams Treaties First Nations:
 - Alderville First Nation
 - Beausoleil First Nation
 - Chippewas of Georgina Island
 - Chippewas of Rama First Nation
 - Curve Lake First Nation
 - Hiawatha First Nation
 - Mississaugas of Scugog Island First Nation

7.2 Pre-TPAP Planning Consultation

7.2.1 Public Consultation

Members of the public requesting general Project information were directed to the Project Webpage and notified of the Public Meeting held in October 2019. As the Project progressed, the Project Mailing List was maintained and updated accordingly. All public comments and issued responses during Pre-Planning activities are detailed in **Appendix C5**.

7.2.1.1 *Public Meeting*

7.2.1.1.1 Overview

The Public Meeting was held on October 10, 2019 from 7:00 PM to 9:00 PM at Humberwood Community Centre in Toronto (Etobicoke). The purpose of the meeting was to introduce the Project, provide details regarding the existing environmental conditions identified and preliminary studies conducted to date, and receive feedback from the public before issuing the TPAP Notice of Commencement. The meeting was held in an open house format where representatives from WEG and Metrolinx were available to answer questions and discuss Project details.

In total, 15 individuals attended the Public Meeting and 4 public comments (Feedback Forms) were received by the Project Team. It should be noted that 3 individuals in attendance were City of Toronto staff, who joined as observers, meaning that 12 attendees should be considered as participants in this public engagement activity.

Consultation materials developed in association with the Public Meeting are included in **Appendix C3**.

7.2.1.1.2 Notification

Notification of the Public Meeting was accomplished through the following:

- Notification via registered mail to property owners within 30 m on September 26, 2019
- Notification via registered mail to Indigenous communities on September 26, 2019
- Notification via e-mail to all federal, provincial, and municipal agencies, and other interested persons on September 26, 2019
- Posting on the Project Webpage (www.woodbine.com/transit.ea) on September 26, 2019
- Publication in the *Etobicoke Guardian* on September 26, 2019 and October 3, 2019
- Posting at Toronto Public Library Locations (Humberwood, Northern Elms, and Rexdale) on October 4, 2019 and October 7, 2019
- Posting at Etobicoke North and Malton GO Stations from September 23, 2019 to October 10, 2019
- Posting to the @GOTransitKT Facebook page and Twitter account from September 23, 2019 to October 10, 2019
- Publication in On the GO alerts (e-mailed or texted to Kitchener Train customers) on September 26, 2019 and October 3, 2019

7.2.1.1.3 Information Presented

The following information was presented at the Public Meeting:

- Project overview;
- Location along the Kitchener Rail Corridor;
- Concept design details;
- Study Area;
- Description of the TPAP;
- Description of the existing environmental conditions (including natural environment, socio-economic and land use, noise and vibration, cultural heritage, archaeology, and traffic and transportation); and
- Project Schedule and Next Steps.

The materials presented at the Public Meeting were also made available online on the Project Webpage (www.woodbine.com/transit.ea). Consultation was open from October 10, 2019 to October 24, 2019 following the Public Meeting in which public comments were accepted through Feedback Forms available at the Public Meeting session and could be provided via email and/or mail.

7.2.1.1.4 Summary of Comments Received

The Project Team received 4 Feedback Forms and no public comments via e-mail during the consultation period for Public Meeting, between October 10, 2019 to October 24, 2019.

The sections below summarize the most common feedback themes from participants. Further details are provided in the Consultation Summary Report (**Appendix C3**).

Do you have any feedback for the Project Team regarding the proposed new GO Station and its amenities?

Access (4)

- Concerns with the lack of public road access to the station. (1)
- Concerns with entrances/exits off of Highway 27 being too congested. (2)
- Concern with no access off of Rexdale Blvd. (1)

Traffic and Transportation (1)

- Concerns with Bethridge Road needing traffic lights. (1)

Transit Network (1)

- Will the GO Station at Etobicoke North continue to operate after the new station opens? (1)

Amenities (1)

- How many vehicles will be accommodated at this location? (1)

Project Schedule (1)

- When will the new station be operational? (1)

Do you have any questions and/or feedback for the Project Team regarding the Transit Project Assessment Process (TPAP) for the project?

Traffic and Transportation (4)

- Concerns regarding traffic increases. (2)
- In the existing conditions, there has been a poorly operating unsignalized intersection identified. What is being done to rectify this? (1)
- How do the signalized intersections have any involvement in accessing the main road to the station? (1)

Noise (2)

- Concerns regarding noise impacts (2)

Transit Integration (2)

- Consideration for UP Express integration (2)

Station Design (1)

- Concerns about seeing a visual representation of proposed station, track, exits, entrances, etc. (1)

Do you have any feedback for the Project Team regarding existing conditions of the Study Area based on the information identified from the environmental studies?

Surrounding Infrastructure Improvements (2)

- Concern with building a GO Station in an area without providing infrastructure enhancements to the surrounding area. (2)

Transit Network (1)

- Great idea to link Woodbine to Union Station via train. (1)

Do you have any feedback for the Study Area?*Traffic and Transportation (1)*

- Not satisfied with the traffic congestion study, flow of traffic study, and concerns with congestion on existing streets without any new streets added. (1)

Additional Comments?*Traffic and Transportation (2)*

- Concerns with current rush hour traffic on Highway 27, backing up from north of Albion South to Belfield. (1)
- How will the extra traffic on Highway 27 be handled? (1)

Transit Network (1)

- Which bus lines will access the station? (1)

Walkability (1)

- How is the station walkable – how is someone to walk to the station via Highway 27? (1)

Questions for the Project Team during the meeting:*Traffic and Transportation (2)*

- Concerns with existing traffic operations and potential impacts to the area, especially on Highway 27 north of the Study Area. (2)

7.2.2 Consultation with Review Agencies and Stakeholders

As part of the stakeholder consultation with review agencies, meetings were held during the Pre-Planning activities. The feedback received during the various meetings was used to inform the direction of the Project, as appropriate. Notable outreach prior to TPAP Notice of Commencement includes:

- MECP Project Introductory Meeting;
- Technical Advisory Committee (TAC) Meeting #1 – Project Introduction; and
- TAC Meeting #2 – EPR Comments Discussion.

Meeting minutes for the above-listed meetings are provided in **Appendix C4**.

Table 7-1 summarizes outreach, correspondence, and meetings with review agencies (i.e., federal, provincial, municipal) undertaken prior to TPAP Notice of Commencement. Unless otherwise stated, all entries in the table are e-mail correspondence summaries. All relevant correspondence is also documented in **Appendix C5**.

Table 7-1: Summary of Pre-TPAP Consultation with Review Agencies

Agency	Date	Summary
City of Toronto	August 27, 2019	<ul style="list-style-type: none"> ▪ Metrolinx provided an introductory email providing project information and a request to set up a TAC Meeting.

Agency	Date	Summary
	September 10, 2019	<ul style="list-style-type: none"> ▪ Staff availability was discussed to determine meeting time for TAC #1.
	September 17, 2019 City of Toronto and TTC TAC Meeting #1	<ul style="list-style-type: none"> ▪ The purpose of this meeting was to introduce the Highway 27-Woodbine Station Project to the City of Toronto to discuss initial project feedback and confirm review requirements for the draft EPR and associated technical reports. The project is currently in the Pre-Planning phase of the TPAP. LWLP is the consultant representing WEG. WEG's consultant team also includes AECOM supporting the EPR and EllisDon supporting design.
	September 18, 2019	<ul style="list-style-type: none"> ▪ Metrolinx provided a follow up with key details following the TAC #1 Meeting.
	September 20, 2019	<ul style="list-style-type: none"> ▪ TAC #2 date was determined. ▪ Metrolinx provided the draft Technical Reports to the City for review.
	September 26, 2019	<ul style="list-style-type: none"> ▪ Metrolinx provided a formal email describing the Project and provided an invitation to the Public Meeting.
	October 2, 2019	<ul style="list-style-type: none"> ▪ Metrolinx provided the draft EPR to the City for review.
	October 28, 2019	<ul style="list-style-type: none"> ▪ Meeting minutes from TAC #1 was provided to the City.
	November 14, 2019 City of Toronto and TTC TAC Meeting #2	<ul style="list-style-type: none"> ▪ The purpose of this meeting was to discuss the City's comments on the draft EPR associated technical reports. Although the City had only provided comments on the technical reports at the time of this meeting, it was acknowledged that the discussion was reflective of the anticipated EPR comments, as far as the content shared by both the draft EPR and the technical reports.
	November 15, 2019	<ul style="list-style-type: none"> ▪ City provided comments on the draft EPR / technical reports.
Ministry of the Environment, Conservation and Parks	July 11, 2019	<ul style="list-style-type: none"> ▪ Metrolinx provided an introductory email including project information. ▪ MECP staff advised the appropriate staff for this project.
	August 20, 2019	<ul style="list-style-type: none"> ▪ Indigenous communities for the project were identified.
	August 20, 2019	<ul style="list-style-type: none"> ▪ Project introductory meeting with the MECP.
	September 20, 2019	<ul style="list-style-type: none"> ▪ Metrolinx provided draft Technical Reports to the City for review.
	September 26, 2019	<ul style="list-style-type: none"> ▪ Metrolinx provided a formal email describing the Project including an invitation to the Public Meeting.
	October 2, 2019	<ul style="list-style-type: none"> ▪ Metrolinx provided the draft EPR to the MECP for review.
	October 7, 2019	<ul style="list-style-type: none"> ▪ MECP Source Protection Programs Branch provided comments on the draft EPR.
	October 30, 2019	<ul style="list-style-type: none"> ▪ MECP provided comments for Noise and Vibration, Air Quality, and Hydrogeology of the draft EPR.
	November 4, 2019	<ul style="list-style-type: none"> ▪ MECP provided outstanding comments for the draft EPR.
November 18	<ul style="list-style-type: none"> ▪ MECP reviewed the Notice of Commencement. 	
Ministry of Heritage, Sport, Tourism and Culture Industries	August 20, 2019	<ul style="list-style-type: none"> ▪ MHSTCI provided confirmation of the acceptance of the archaeological assessment into the registry.
	August 26, 2019	<ul style="list-style-type: none"> ▪ Metrolinx provided an introductory email providing project information as well as the CHAR for review.
	September 10, 2019	<ul style="list-style-type: none"> ▪ MHSTCI provided comments on the archaeological assessment.
	September 19, 2019	<ul style="list-style-type: none"> ▪ MHSTCI provided comments on the cultural heritage report.

Agency	Date	Summary
	September 26, 2019	<ul style="list-style-type: none"> Metrolinx provided a formal email describing the Project including an invitation to the Public Meeting.
	October 2, 2019	<ul style="list-style-type: none"> Metrolinx provided the Draft EPR, final Stage 2 archaeological assessment, and revised CHAR for review.
	October 23, 2019	<ul style="list-style-type: none"> MHSTCI provided comments on the Draft EPR
Hydro One	September 26, 2019	<ul style="list-style-type: none"> Metrolinx provided a formal email describing the Project and provided an invitation to the Public Meeting.
	October 8, 2019	<ul style="list-style-type: none"> Hydro One provided a response indicating that there are no existing Hydro One Transmission assets in the Study Area.
Ministry of Natural Resources and Forestry	September 26, 2019	<ul style="list-style-type: none"> Metrolinx provided a formal email describing the Project and provided an invitation to the Public Meeting.
Ministry of Transportation	September 26, 2019	<ul style="list-style-type: none"> Metrolinx provided a formal email describing the Project including an invitation to the Public Meeting.

7.2.3 Indigenous Community Engagement

The Indigenous communities noted in **Section 7.1.5** were contacted and encouraged to participate and provide comments on the Project during Pre-Planning activities, prior to Notice of Commencement. On September 25, 2019, each community was provided with a formal letter describing the Project. This correspondence also included details related to the Public Meeting, a request for feedback regarding interest in the project and how the community would like to be engaged. A copy of the Stage 1 AA Report completed for the Project (Final dated July 4, 2019) was distributed to each community for review and comment via email on October 10, 2019. A copy of the Stage 2 AA Report completed for the Project (Final dated August 30, 2019) was distributed to each community for review and comment via email on October 10, 2019.

Table 7-2 provides a summary of engagement with Indigenous communities undertaken prior to TPAP Notice of Commencement. All relevant correspondence is also documented in **Appendix C5**.

Table 7-2: Summary of Pre-TPAP Consultation with Indigenous Communities

Indigenous Community	Date	Summary
Alderville First Nation	September 25, 2019	<ul style="list-style-type: none"> Metrolinx provided a formal letter encouraging community participation throughout the Project. The letter described the Project and provided an invitation to the Public Meeting. Note that no response was provided to this Notice.
	October 10, 2019	<ul style="list-style-type: none"> Metrolinx provided a copy of the Stage 1 and 2 archaeological assessments for review. Metrolinx also noted that the Study Area has since been cleared of archaeological concern as a result of these reports.
Beausoleil First Nation	September 25, 2019	<ul style="list-style-type: none"> Metrolinx provided a formal letter encouraging community participation throughout the Project. The letter described the Project and provided an invitation to the Public Meeting. Note that no response was provided to this Notice.
	October 10, 2019	<ul style="list-style-type: none"> Metrolinx provided a copy of the Stage 1 and 2 archaeological assessments for review. Metrolinx also noted that the Study Area has since been cleared of archaeological concern as a result of these reports.
Chippewas of Georgina Island	September 25, 2019	<ul style="list-style-type: none"> Metrolinx provided a formal letter encouraging community participation throughout the Project. The letter described the Project and provided an invitation to the Public Meeting. Note that no response was provided to this Notice.

Indigenous Community	Date	Summary
	October 10, 2019	<ul style="list-style-type: none"> Metrolinx provided a copy of the Stage 1 and 2 archaeological assessments for review. Metrolinx also noted that the Study Area has since been cleared of archaeological concern as a result of these reports.
Curve Lake First Nation	September 25, 2019	<ul style="list-style-type: none"> Metrolinx provided a formal letter encouraging community participation throughout the Project. The letter described the Project and provided an invitation to the Public Meeting. Note that no response was provided to this Notice.
	October 10, 2019	<ul style="list-style-type: none"> Metrolinx provided a copy of the Stage 1 and 2 archaeological assessments for review. Metrolinx also noted that the Study Area has since been cleared of archaeological concern as a result of these reports.
Kawartha Nishnawbe First Nation	September 25, 2019	<ul style="list-style-type: none"> Metrolinx provided a formal letter encouraging community participation throughout the Project. The letter described the Project and provided an invitation to the Public Meeting. Note that no response was provided to this Notice.
	October 10, 2019	<ul style="list-style-type: none"> Metrolinx provided a copy of the Stage 1 and 2 archaeological assessments for review. Metrolinx also noted that the Study Area has since been cleared of archaeological concern as a result of these reports.
Mississaugas of Scugog Island First Nation	September 25, 2019	<ul style="list-style-type: none"> Metrolinx provided a formal letter encouraging community participation throughout the Project. The letter described the Project and provided an invitation to the Public Meeting. Note that no response was provided to this Notice.
	October 10, 2019	<ul style="list-style-type: none"> Metrolinx provided a copy of the Stage 1 and 2 archaeological assessments for review. Metrolinx also noted that the Study Area has since been cleared of archaeological concern as a result of these reports.
Huron-Wendat Nation	September 25, 2019	<ul style="list-style-type: none"> Metrolinx provided a formal letter encouraging community participation throughout the Project. The letter described the Project and provided an invitation to the Public Meeting. Note that a response was provided to this Notice.
	September 27, 2019	<ul style="list-style-type: none"> Huron Wendat Nation acknowledged the letter provided regarding the Project.
	October 10, 2019	<ul style="list-style-type: none"> Metrolinx provided a copy of the Stage 1 and 2 archaeological assessments for review. Metrolinx also noted that the Study Area has since been cleared of archaeological concern as a result of these reports.
	October 11, 2019	<ul style="list-style-type: none"> Huron Wendat Nation responded acknowledging the reports provided by Metrolinx.
Mississaugas of the Credit First Nation (MCFN)	September 25, 2019	<ul style="list-style-type: none"> Metrolinx provided a formal letter encouraging community participation throughout the Project. The letter described the Project and provided an invitation to the Public Meeting.
	September 30, 2019	<ul style="list-style-type: none"> MCFN replied outlining their expectations for the Field Liaison Representative participation for archeological fieldwork.
	October 10, 2019	<ul style="list-style-type: none"> Metrolinx shared the Stage 1 and 2 archaeological assessment reports to MCFN for information and feedback. Metrolinx noted that the reports cleared the Study Area of archaeological concern. Metrolinx noted that Field Liaison Representatives are typically engaged for Stage 3 and 4 archaeological assessments.
	October 28, 2019	<ul style="list-style-type: none"> MCFN followed up with Metrolinx regarding Field Liaison Representative participation.

Indigenous Community	Date	Summary
	October 28, 2019	<ul style="list-style-type: none"> Metrolinx noted that a response was provided on October 10, 2019.
	October 29, 2019	<ul style="list-style-type: none"> MCFN noted their expectation is that no environmental or archaeological fieldwork will take place without Field Liaison Representative participation.
	November 1, 2019	<ul style="list-style-type: none"> Metrolinx acknowledged MCFN's concern and noted ongoing discussion between Metrolinx and MCFN regarding engagement for Metrolinx projects.
Chippewas of Mnjikaning (Rama)	September 25, 2019	<ul style="list-style-type: none"> Metrolinx provided a formal letter encouraging community participation throughout the Project. The letter described the Project and provided an invitation to the Public Meeting.
	October 1, 2019	<ul style="list-style-type: none"> An inquiry regarding if there was a previous GO Station at this location or if this is a new station. It was requested that the EPR and any Archaeological Assessments are provided upon its completion.
	October 10, 2019	<ul style="list-style-type: none"> Metrolinx provided a copy of the Stage 1 and 2 archaeological assessments for review. Metrolinx also noted that the Study Area has since been cleared of archaeological concern as a result of these reports.
Hiawatha First Nation	September 25, 2019	<ul style="list-style-type: none"> Metrolinx provided a formal letter encouraging community participation throughout the Project. The letter described the Project and provided an invitation to the Public Meeting.
	October 10, 2019	<ul style="list-style-type: none"> Metrolinx provided a copy of the Stage 1 and 2 archaeological assessments for review. Metrolinx also noted that the Study Area has since been cleared of archaeological concern as a result of these reports.
	October 10, 2019	<ul style="list-style-type: none"> It was noted that the Indigenous Community no longer requires to review any reports on this project. However, should there be any archaeological finds during the project, they should be notified.

7.2.4 Consultation with Elected Officials and Community Organizations

Consultation with elected officials and community organizations was undertaken during Pre-Planning activities through e-mail/written correspondence, conference calls, and stakeholder meetings.

Table 7-3 provides a summary of consultation with elected officials and community organizations undertaken prior to TPAP Notice of Commencement. All relevant correspondence and meeting summaries are also documented in **Appendix C5**.

Table 7-3: Summary of Pre-TPAP Consultation with Elected Officials and Community Organizations

Interested Person	Date	Summary
Premier of Ontario; MPP Etobicoke North Hon. Doug Ford	September 25, 2019	<ul style="list-style-type: none"> Metrolinx provided an outreach email providing project information and an invitation to the Public Meeting.
Ward 1 - Etobicoke North Councillor Michael Ford	September 25, 2019	<ul style="list-style-type: none"> Metrolinx provided an outreach email providing project information and an invitation to the Public Meeting.
Ward 2 - Etobicoke Centre Councillor Stephen Holyday	October 4, 2019	<ul style="list-style-type: none"> Metrolinx provided an outreach email providing project information and an invitation to the Public Meeting.
MP Etobicoke North The Honourable Kirsty Duncan	October 4, 2019	<ul style="list-style-type: none"> Metrolinx provided an outreach email providing project information and an invitation to the Public Meeting.

Interested Person	Date	Summary
Ward 2 - Etobicoke Centre Hon. Kinga Surma	September 25, 2019	▪ Metrolinx provided an outreach email providing project information and an invitation to the Public Meeting.
Emery Village BIA	September 26, 2019	▪ WEG provided an outreach email providing project information and an invitation to the Public Meeting.
Albion Islington Square	September 26, 2019	▪ WEG provided an outreach email providing project information and an invitation to the Public Meeting.

7.2.5 Consultation with Other Interested Parties

Consultation with other interested persons or parties (e.g., utility companies, surrounding businesses) was undertaken during Pre-Planning activities through e-mail/written correspondence and meetings.

Table 7-4 provides a summary of all other stakeholder consultation (i.e., consultation not captured in previous sections) undertaken prior to TPAP Notice of Commencement. All relevant correspondence and meeting summaries are also documented in **Appendix C5**.

Table 7-4: Summary of Pre-TPAP Consultation with Other Interested Parties

Interested Person	Date	Summary
Rogers Sue Leslie	September 26, 2019	▪ WEG provided an outreach email providing project information and an invitation to the Public Meeting.
William Osler Health System Ken Mayhew	September 26, 2019	▪ WEG provided an outreach email providing project information and an invitation to the Public Meeting.
Jockey Club Canada	September 26, 2019	▪ WEG provided an outreach email providing project information and an invitation to the Public Meeting.
GC Gaming Terrance Doyle	September 30, 2019	▪ WEG provided an outreach email providing project information and an invitation to the Public Meeting.

7.3 TPAP Consultation

7.3.1 Notice of Commencement

The Notice of Commencement (combined with notification of Online Survey) was issued to the public on November 21, 2019 through the Project Webpage, and was published in the *Etobicoke Guardian* on November 21, 2019 and November 28, 2019. A copy of the Notice of Commencement is provided in **Appendix C2**.

Stakeholders (government review agencies, Indigenous communities and property owners on the Project Mailing List) were sent notification of the Notice of Commencement via e-mail, where available.

7.3.2 Public Consultation

Members of the public requesting general Project information were directed to the Project Webpage and notified of the online survey available from November 21, 2019 to December 20, 2019. As the Project progressed, the Project Mailing List was maintained and updated accordingly. All public comments and issued responses during the TPAP are detailed in **Appendix C6**.

7.3.2.1 *Online Survey*

7.3.2.1.1 Overview

Building off the Public Meeting, public consultation during the TPAP was conducted through an online survey to provide a remote engagement opportunity. The online survey was provided via Survey Monkey (<https://www.surveymonkey.com/r/PQ3WJ7P>) from November 21, 2019 to December 20, 2019. The purpose of the online survey was to obtain feedback on the existing conditions, concept design, and assessment of potential environmental effects and proposed mitigation and monitoring.

Four (4) individuals completed the online survey. The responses are summarized in **Section 7.3.2.1.3** and provided in **Appendix C3**.

7.3.2.1.2 Notification

Notification of the online survey was provided in conjunction with the Notice of Commencement through the following:

- Notification via e-mail to all federal, provincial, and municipal agencies on November 21, 2019
- Notification via e-mail to Indigenous communities on November 21, 2019
- Notification via e-mail to elected officials and community organizations on November 21, 2019
- Notification via e-mail to Public Meeting attendees and other interested persons on November 21, 2019
- Posting on the Project Webpage (www.woodbine.com/transit.ea) on November 21, 2019
- Publication in the *Etobicoke Guardian* on November 21, 2019 and November 28, 2019
- Posting at Etobicoke North GO Station on November 21, 2019
- Posting to the @GOTransitKT Twitter account on November 21, 2019
- Publication in On the GO alerts (e-mailed or texted to Kitchener Train customers) on November 21, 2019

7.3.2.1.3 Information Presented

Project information slides were posted to the Project website to support interested persons in their understanding of the Project and, in turn, effectively respond to the online survey questions. The project information slides included a summary of potential impacts and proposed mitigation measures based on the environmental studies completed. The project information slides are provided in **Appendix C3**.

7.3.2.1.4 Summary of Online Survey

The sections below summarize the most common feedback themes from participants. Further details are provided in the Consultation Summary Report (**Appendix C3**).

Do you plan to use the Highway 27-Woodbine Station? How will it impact your daily commuting habits?

- Yes (3)
- No (1)
- Maybe (1)

Are you satisfied with how the potential environmental impacts have been identified and addressed?

- Yes (2)
- No (1)
- Other (1): *Suggest adding more active transportation and green space*

Do you have any additional comments about the Highway 27-Woodbine Station?

- No (2)
- Concerns for increasing travel time to and from downtown Toronto (1)
- Concerns with pedestrian and active transportation access during summer, and bus access during winter (1)

7.3.3 Consultation with Review Agencies and Stakeholders

Agencies were sent a formal notification of the Notice of Commencement and Online Survey via e-mail on November 21, 2019. These letters and e-mails are provided in **Appendix C**.

Notable outreach during the TPAP is the City of Toronto and TTC TIS Workshop. Meeting minutes for this meeting are provided in **Appendix C4**.

Table 7-5 summarizes outreach, correspondence, and meetings with review agencies (i.e., federal, provincial, municipal) undertaken during the TPAP. All relevant correspondence is also documented in **Appendix C6**.

Table 7-5: Summary of TPAP Consultation with Review Agencies

Agency	Date	Summary
City of Toronto	November 21, 2019	<ul style="list-style-type: none"> Metrolinx provided an outreach email providing the Notice of Commencement for the project and an invitation to the online survey to provide feedback.
	November 26, 2019	<ul style="list-style-type: none"> Metrolinx provided meeting minutes for the November 14, 2019 TAC #2 Meeting and Draft EPR responses to the City's comments.
	December 5, 2019 City of Toronto and TTC TIS Workshop	<ul style="list-style-type: none"> The purpose of this meeting was to revisit some of the City's comments specifically related to the TIS and confirm AECOM's approach and responses that were previously pending from the TAC #2 Meeting on November 14, 2019.
	December 23, 2019	<ul style="list-style-type: none"> The City provided additional comments on the Draft EPR / technical reports.
	December 24, 2019	<ul style="list-style-type: none"> Metrolinx provided meeting minutes from the December 5, 2019 TIS Workshop and revised meeting minutes for the November 14, 2019 TAC #2 Meeting.
	January 6, 2020	<ul style="list-style-type: none"> The City provided additional questions and comments to Metrolinx regarding the TAC #2 meeting minutes.
	January 13, 2020	<ul style="list-style-type: none"> Metrolinx provided responses to the City's additional questions and comments regarding the TAC #2 meeting minutes. Metrolinx noted that the Draft EPR and updated TIS will be circulated on January 20, 2020 and requested comments by January 31, 2020. The City noted that they require a 30-day review period (expedited) for this project, and highlighted that if the reports are submitted to the City on January 20, 2020, comments will be provided by March 3, 2020.
	January 14, 2020	<ul style="list-style-type: none"> Metrolinx noted that the request to receive comments by January 31, 2020 is to support the Final EPR prior to Notice of Completion. Metrolinx understands the expedited timeline and will look forward to receiving comments by March 3, 2020.
	January 15, 2020	<ul style="list-style-type: none"> The City noted that Metrolinx may be at risk of a Part II Order if Metrolinx proceeds with issuing Notice of Completion prior to receiving and addressing City comments. The City asked Metrolinx to include a disclaimer in written and verbal communication indicating that the City's review is ongoing.
	January 17, 2020	<ul style="list-style-type: none"> Metrolinx noted that there is due consideration for City comments and Metrolinx is aware of any project impacts or feedback from the City that would warrant an objection. Metrolinx clarified the TPAP review process and confirmed that the City's comments will be

Agency	Date	Summary
		reviewed and responded to during the 30-day public review period.
	January 21, 2020	<ul style="list-style-type: none"> ▪ Metrolinx provided the Final Draft EPR and Appendix C to the City and noted that revised technical reports, including the TIS, will be provided later that week.
	January 22, 2020	<ul style="list-style-type: none"> ▪ The City confirmed receipt of the Final Draft EPR and noted that the files will be circulated to City departments. The City noted that comments will be returned by March 4, 2020.
	January 23, 2020	<ul style="list-style-type: none"> ▪ Metrolinx provided the revised technical reports to the City.
	January 24, 2020	<ul style="list-style-type: none"> ▪ The City confirmed receipt of the revised technical reports. The City noted that comments will be returned by March 6, 2020.
	January 24, 2020	<ul style="list-style-type: none"> ▪ The City provided follow-up comments on the Draft EPR responses issued by Metrolinx on December 24, 2019.
	January 24, 2020	<ul style="list-style-type: none"> ▪ Metrolinx asked the City when they will be providing comments on the TAC #2 and TIS Workshop meeting minutes. The City noted that they will provide comments in early February 2020.
	January 29, 2020	<ul style="list-style-type: none"> ▪ Metrolinx provided the updated traffic and transportation sections of the Final Draft EPR to the City.
Ministry of the Environment, Conservation and Parks	November 21, 2019	<ul style="list-style-type: none"> ▪ WEG provided an outreach email providing the Notice of Commencement for the project and an invitation to the online survey to provide feedback.
	December 4, 2019	<ul style="list-style-type: none"> ▪ Metrolinx provided a revised Draft EPR and technical reports to address MECP comments.
	December 27, 2019	<ul style="list-style-type: none"> ▪ MECP confirms there are no additional comments related to Groundwater, Source Water Protection Programs, and Environmental Assessment Services. MECP provided additional comments related to Air Quality.
	January 13, 2019	<ul style="list-style-type: none"> ▪ MECP provided additional comments for the Noise and Vibration technical report.
	January 23, 2020	<ul style="list-style-type: none"> ▪ Metrolinx provided revised technical reports to MECP.
	January 30, 2020	<ul style="list-style-type: none"> ▪ MECP provided additional minor comments to be incorporated into the EPR and technical reports. MECP asked Metrolinx when the Notice of Completion will be posted.
	January 30, 2020	<ul style="list-style-type: none"> ▪ Metrolinx noted that the additional comments will be resolved. Metrolinx noted that the Notice of Completion will be published on February 13, 2020 with a 30-day public review period until March 16, 2020.
	February 3, 2020	<ul style="list-style-type: none"> ▪ Metrolinx provided responses to the additional MECP comments received January 30, 2020.
Ministry of Heritage, Sport, Tourism and Culture Industries	November 21, 2019	<ul style="list-style-type: none"> ▪ WEG provided an outreach email providing the Notice of Commencement for the project and an invitation to the online survey to provide feedback.
Hydro One	November 21, 2019	<ul style="list-style-type: none"> ▪ WEG provided an outreach email providing the Notice of Commencement for the project and an invitation to the online survey to provide feedback.
Ministry of Natural Resources and Forestry	November 21, 2019	<ul style="list-style-type: none"> ▪ WEG provided an outreach email providing the Notice of Commencement for the project and an invitation to the online survey to provide feedback.
Ministry of Transportation	November 21, 2019	<ul style="list-style-type: none"> ▪ WEG provided an outreach email providing the Notice of Commencement for the project and an invitation to the online survey to provide feedback.

7.3.4 Indigenous Community Engagement

The Indigenous communities noted in **Section 7.1.5** were provided with the Notice of Commencement and Online Survey on November 21, 2019 via email, provided in **Appendix C2**. Metrolinx followed up with each of these communities via phone call.

Table 7-6 summarizes outreach, correspondence, and meetings with Indigenous communities undertaken during the TPAP. All relevant correspondence is also documented in **Appendix C6**.

Table 7-6: Summary of TPAP Consultation with Indigenous Communities

Indigenous Community	Date	Summary
Alderville First Nation	November 21, 2019	<ul style="list-style-type: none"> Metrolinx provided a formal email regarding the Notice of Commencement and Online Survey will be provided for the project.
	December 18, 2019	<ul style="list-style-type: none"> Metrolinx provided a phone call regarding receipt of the Notice of Commencement and Online Survey for the project. The Indigenous Community noted that they have no comments at this time but would like to remain on the Project Mailing List.
Beausoleil First Nation	November 21, 2019	<ul style="list-style-type: none"> Metrolinx provided a formal email regarding the Notice of Commencement and Online Survey will be provided for the project.
	December 18, 2019	<ul style="list-style-type: none"> Metrolinx provided a phone call regarding receipt of the Notice of Commencement and Online Survey for the project. A voicemail was left with the Indigenous Community's primary contact.
Chippewas of Georgina Island	November 21, 2019	<ul style="list-style-type: none"> Metrolinx provided a formal email regarding the Notice of Commencement and Online Survey will be provided for the project.
	December 18, 2019	<ul style="list-style-type: none"> Metrolinx provided a phone call regarding receipt of the Notice of Commencement and Online Survey for the project. A voicemail was left with the Indigenous Community's primary contact.
Curve Lake First Nation	November 21, 2019	<ul style="list-style-type: none"> Metrolinx provided a formal email regarding the Notice of Commencement and Online Survey will be provided for the project.
	December 18, 2019	<ul style="list-style-type: none"> Metrolinx provided a phone call regarding receipt of the Notice of Commencement and Online Survey for the project. A voicemail was left with the Indigenous Community's primary contact.
Kawartha Nishnawbe First Nation	November 21, 2019	<ul style="list-style-type: none"> Metrolinx provided a formal email regarding the Notice of Commencement and Online Survey will be provided for the project.
	December 18, 2019	<ul style="list-style-type: none"> Metrolinx provided a phone call regarding receipt of the Notice of Commencement and Online Survey for the project; however, the Indigenous Community's primary contact did not have a voicemail option available.
Mississaugas of Scugog Island First Nation	November 21, 2019	<ul style="list-style-type: none"> Metrolinx provided a formal email regarding the Notice of Commencement and Online Survey will be provided for the project.
	December 18, 2019	<ul style="list-style-type: none"> Metrolinx provided a phone call regarding receipt of the Notice of Commencement and Online Survey for the project. A voicemail was left with the Indigenous Community's primary contact.
Huron-Wendat Nation	November 21, 2019	<ul style="list-style-type: none"> Metrolinx provided a formal email regarding the Notice of Commencement and Online Survey will be provided for the

Indigenous Community	Date	Summary
		project.
	December 18, 2019	<ul style="list-style-type: none"> Metrolinx provided a phone call regarding receipt of the Notice of Commencement and Online Survey for the project. A voicemail was left with the Indigenous Community's primary contact.
Mississaugas of the Credit First Nation (MCFN)	November 21, 2019	<ul style="list-style-type: none"> Metrolinx provided a formal email regarding the Notice of Commencement and Online Survey will be provided for the project.
	December 18, 2019	<ul style="list-style-type: none"> Metrolinx provided a phone call regarding receipt of the Notice of Commencement and Online Survey for the project. A voicemail was left with the Indigenous Community's primary contact.
	December 19, 2019	<ul style="list-style-type: none"> MCFN noted their community was not engaged for Stage 1 and 2 fieldwork participation and, therefore, was unable to provide meaningful comment on the results and recommendations. MCFN advised Metrolinx to connect with its Indigenous Relations department for more information regarding MCFN's expectations for consultation in 2020.
	January 17, 2020	<ul style="list-style-type: none"> Metrolinx acknowledged MCFN's concern and noted ongoing discussion between Metrolinx and MCFN regarding engagement for Metrolinx projects. Metrolinx noted that it is current practice to provide the Stage 1 and 2 archaeological assessments for information and that these reports have been entered into the Ontario Public Register of Archaeological Reports. Metrolinx noted that its Indigenous Relations Office will continue discussions regarding the approach to engagement for Metrolinx Projects.
Chippewas of Mnjikaning (Rama)	November 21, 2019	<ul style="list-style-type: none"> Metrolinx provided a formal email regarding the Notice of Commencement and Online Survey will be provided for the project.
	December 18, 2019	<ul style="list-style-type: none"> Metrolinx provided a phone call regarding receipt of the Notice of Commencement and Online Survey for the project. A voicemail was left with the Indigenous Community's primary contact.
Hiawatha First Nation	November 21, 2019	<ul style="list-style-type: none"> Metrolinx provided a formal email regarding the Notice of Commencement and Online Survey will be provided for the project.
	December 18, 2019	<ul style="list-style-type: none"> Metrolinx provided a phone call regarding receipt of the Notice of Commencement and Online Survey for the project. The Indigenous Community noted that they have no further comments on the archaeology reports.

7.3.5 Consultation with Elected Officials and Community Organizations

Elected officials and community organizations were sent a formal notification of the Notice of Commencement and Online Survey via e-mail on November 21, 2019. These letters and e-mails are provided in **Appendix C6**.

Table 7-7 provides a summary of consultation with elected officials and community organizations undertaken during the TPAP. All relevant correspondence and meeting summaries are also documented in **Appendix C6**.

Table 7-7: Summary of TPAP Consultation with Elected Officials and Community Organizations

Interested Person	Date	Summary
Premier of Ontario;	November 21, 2019	<ul style="list-style-type: none"> Metrolinx provided an outreach email providing the Notice of

MPP Etobicoke North Hon. Doug Ford		Commencement for the project and an invitation to the online survey to provide feedback.
Ward 1 - Etobicoke North Councillor Michael Ford	November 21, 2019	<ul style="list-style-type: none"> Metrolinx provided an outreach email providing the Notice of Commencement for the project and an invitation to the online survey to provide feedback.
MP Etobicoke North The Honourable Kirsty Duncan	November 21, 2019	<ul style="list-style-type: none"> Metrolinx provided an outreach email providing the Notice of Commencement for the project and an invitation to the online survey to provide feedback.
Emery Village BIA	November 21, 2019	<ul style="list-style-type: none"> WEG provided an outreach email providing the Notice of Commencement for the project and an invitation to the online survey to provide feedback.
Albion Islington Square	November 21, 2019	<ul style="list-style-type: none"> WEG provided an outreach email providing the Notice of Commencement for the project and an invitation to the online survey to provide feedback.

7.3.6 Consultation with Other Interested Parties

Other interested persons or parties (e.g., utility companies, surrounding businesses) were sent a formal notification of the Notice of Commencement and Online Survey via e-mail on November 21, 2019. These letters and e-mails are provided in **Appendix C6**.

Table 7-8 provides a summary of all other stakeholder consultation (i.e., stakeholder consultation not captured in previous sections) undertaken during the TPAP. All relevant correspondence and meeting summaries are also documented in **Appendix C6**.

Table 7-8: Summary of TPAP Consultation with Other Interested Parties

Interested Person	Date	Summary
GC Gaming Terrance Doyle Gavin Dew	November 21, 2019	<ul style="list-style-type: none"> WEG provided an outreach email providing the Notice of Commencement for the project and an invitation to the online survey to provide feedback.
Shoreline Casinos	November 21, 2019	<ul style="list-style-type: none"> WEG provided an outreach email providing the Notice of Commencement for the project and an invitation to the online survey to provide feedback.
Humber College Tyler Charlebois	November 21, 2019	<ul style="list-style-type: none"> WEG provided an outreach email providing the Notice of Commencement for the project and an invitation to the online survey to provide feedback.

7.3.7 Notice of Completion

The Notice of Completion was issued to the public on February 13, 2020 through the Project Webpage, and was published in the *Etobicoke Guardian* on February 13, 2020 and February 20, 2020. A copy of the Notice of Completion is provided in **Appendix C2**.

The Notice of Completion was sent by e-mail and addressed mail to the MECP Project Officer and the MECP Director and Regional Director (Central Region) of the Environmental Assessment and Permissions Branch. The Notice of Completion was sent by email and addressed mail to identified Indigenous communities and property owners within 30 m.

The Notice of Completion was also e-mailed to stakeholders (including property owners on the Project Mailing List, government review agencies), Public Meeting attendees, and Online Survey participants, where e-mail was available.

7.4 Future Consultation

WEG and Metrolinx (as appropriate given roles within partnership) are committed to continuing stakeholder engagement and consultation beyond the TPAP. Specifically, WEG in consultation with Metrolinx as appropriate will:

- Design and implement a response strategy to address/resolve potential construction concerns;
- Maintain the Project Webpage throughout detailed design and construction where the public can access updated information on the Project;
- In coordination with Metrolinx continue engagement with Indigenous communities with respect to potential impacts and mitigation during detailed design and construction, as appropriate; and
- Continue discussions/consultation with local stakeholders with respect to potential impacts and mitigation during detailed design and construction, as appropriate.

8. Commitments to Future Work and Monitoring

8.1 Permits and Approvals

In accordance with *O. Reg. 231/08*, the TPAP will be completed with submission of the Statement of Completion to the Director and Regional Director of the MECP Environmental Assessment and Permissions Branch.

In addition to the commitments to future work outlined in **Table 8-1**, permits and approvals obtained for the proposed works, as outlined in the following sections, may identify the need for additional mitigation. Any additional mitigation measures required in connection with a permit or approval shall be implemented.

8.1.1 Federal

8.1.1.1 *Migratory Birds Convention Act (MBCA), 1994*

Where possible, vegetation removal shall take place outside of the primary breeding bird season (April 1 to August 31). If vegetation must be removed during the overall bird nesting season, nest and nesting activity searches will be conducted by a qualified Biologist within 48 hours prior to vegetation removal.

If construction activities occur during the bird nesting season (April 1 to August 31), bird exclusion methods such as covering potentially suitable nesting locations on machinery, equipment or stockpiled materials in addition to other types of exclusion methods shall be implemented to prevent migratory birds from accessing and building nests in the construction site. If a nest is found in the construction site, all work in the immediate vicinity must stop and a Qualified Biologist be contacted to determine appropriate avoidance measures in order to avoid contravention of the *MBCA*.

Permits under the *MBCA* are not anticipated to be required if the recommended avoidance measures are implemented. **Section 5.1.3.2.1** describes the prescribed avoidance timing windows and associated mitigation measures required for vegetation removal and any further migratory breeding birds surveys that may be undertaken.

8.1.2 Provincial

8.1.2.1 *Ministry of the Environment, Conservation and Parks (MECP)*

8.1.2.1.1 Breeding Birds

If construction is planned on the Highway 27 Bridge and/or Carlingview Drive during the breeding bird season (approximately April 1 to August 31; ECCC, 2019), appropriate exclusion measures for Barn Swallow, such as those found in Best Management Practices for Excluding Barn Swallows and Chimney Swifts from Buildings and Structures (MNR, 2017) should be applied to prevent Barn Swallows from accessing and building nests under the bridge(s). Installation of exclusion measures should occur outside of the breeding bird season (approximately April 1 to August 31; ECCC, 2019) and prior to construction start, if possible. However, if installation is to occur within this period, a nest search will be conducted by a qualified Biologist within 48 hours

prior to installation. If a Barn Swallow nest is found in the construction site, all work in the immediate vicinity must stop and the MECP must be consulted in order to avoid contravention of the ESA.

8.1.2.1.2 Water Discharge

As prescribed under *O. Reg. 63/16*, water taking for construction site dewatering in excess of 50,000 L/day and under 400,000 L/day is subject to registration through EASR. In accordance with Section 34 of the *OWRA*, a Category 3 PTTW from MECP must be obtained for the taking of more than 400,000 L/day of groundwater for the purposes of construction dewatering from any given source. Approvals for the discharge of pumped water may also be required, and could be a combination of Municipal Discharge Permits, Conservation Authority notification, and/or MECP ECA in accordance with Section 53 of the *OWRA*. Any discharge of water would be subject to the terms and conditions of required permits and approvals based on the expected site conditions. Permitting requirements shall be confirmed during detailed design, when specific details such as construction timing and methods are known.

8.1.2.1.3 Excess Soil Management

Where construction is expected to generate excess soil, the on-site and off-site beneficial reuse of excess soil will be explored during detailed design and shall be undertaken in accordance with *Excess Soil – A Guide to Best Management Practices* (MOECC, January 2014). It is noted that the MECP is presently contemplating the creation of a Regulation to govern excess soil management. Should this Regulation come into force within the implementation of the Project the requirements shall be incorporated, as applicable.

8.1.3 Municipal

8.1.3.1 *City of Toronto*

As appropriate, Metrolinx and WEG shall continue to communicate and engage with the City of Toronto during detailed design and construction planning co-ordinated with the site plan application process to ensure that municipal concerns are addressed in the construction plans prior to commencement of construction activities, as applicable. WEG will comply with the City's permitting and approvals requirements.

A Preliminary Project Review (PPR) will be undertaken with the City of Toronto to review zoning compliance and identify any potential zoning by-law amendments or minor variances ahead of the site plan application.

A tree inventory and Arborist Report will be completed during detailed design. In accordance with City of Toronto by-laws, the Arborist Report will identify municipal permitting requirements if removal and/or damage of woody vegetation is required.

Municipal permits for water discharge will be obtained prior to construction.

Metrolinx and WEG shall continue consulting with TTC as part of the co-ordination efforts with local and regional transit operators.

8.1.4 Conservation Authorities

The Project Site is not located within TRCA regulatory limits; therefore, Metrolinx does not intend to initiate the Voluntary Project Review process.

Where appropriate, the Contractor may notify TRCA of construction dewatering activities within the Toronto and Region Source Protection Area.

8.1.5 Utilities

Co-ordination with both the City of Toronto and the relevant private utilities will be undertaken during detailed design. Potential utility conflicts shall be reviewed in consultation with each utility company as part of detailed design. Implementation and construction obligations shall be undertaken pursuant to the crossing agreements with each of the utility companies as required. The City of Toronto will be engaged regarding impacts to municipal servicing and required permits will be obtained prior to construction.

8.2 Commitments and Future Work

8.2.1 Summary of Mitigation and Monitoring Requirements

The EPR commitments are developed to satisfy the requirements of *O. Reg. 231/08*. Specifically, the purpose of the commitments is to facilitate the implementation of the Project in accordance with the mitigation measures and monitoring activities described in the EPR and in a manner that does not result in negative impact on matters of provincial importance related to the natural environment or to cultural heritage value or interest, or on constitutionally protected Aboriginal or treaty rights.

Establishing EPR commitments also satisfies the requirements of the regulation and TPAP Guide. Specifically, Section 4.3 of the Guide prescribes that the monitoring actions identified in the EPR respecting the mitigation measures must be carried out and reported.

A summary of EPR commitments is provided in **Table 8-1**. All applicable permits, licences, approvals and monitoring requirements under environmental laws shall be reviewed, confirmed and obtained by WEG prior to the construction of the Project. The responsible party or parties to be fulfilling future commitments outlined in **Table 8-1** will be determined between WEG and Metrolinx at a later date.

8.2.2 Environmental Mitigation and Monitoring Plan (EMMP)

An Environmental Mitigation and Monitoring Plan (EMMP) shall be developed to outline the responsibility for carrying out monitoring and reporting activities, including timing and frequency of monitoring activities, as well as the compliance process. The EMMP shall include all mitigation measures, categorized by project phase, and shall identify the party responsible for implementation.

Table 8-1: Summary of Future Commitments, Mitigation Measures, and Monitoring Requirements

Discipline	EPR Commitments
	Mitigation Measure (or related action) or Future Commitment
Design Elements	<p><u>Detailed Design</u></p> <ul style="list-style-type: none"> There will be modification to existing site servicing (i.e., watermain, storm sewer, sanitary sewer) in order to construct the new transit station. The routing approach will be confirmed during detailed design. Potential impacts and appropriate mitigation for public utilities will be determined in consultation with the City of Toronto at that time and any required permits will be obtained prior to construction. Once private utilities are confirmed, potential effects will be determined as design progresses. WEG will continue to engage with the City of Toronto and TTC during detailed design to evaluate potential opportunities and risks and ensure capacity needs are met. During detailed design and prior to permitting, the number of bus bays will be confirmed. The Toronto Green Standard and Greening Surface Parking Guideline will be followed during the site plan application process to be undertaken during detailed design. The City of Toronto will be consulted during detailed design and the site plan application process. An MUP will be added to provide a connection to Bethridge Road and Highway 27, the sidewalk south of Carlingview Drive, and integration options with the Phase One Woodbine Districts development occurring northeast of the Project Site. The design of pedestrian and cyclist infrastructure is ongoing, as it will be interconnected with the future Woodbine Districts developments and is being reviewed as those developments advance. These elements will be developed during the site plan application process in consultation with the City of Toronto. WEG will coordinate future development plans with Metrolinx to ensure there is no impact to the operations of the station.
Natural Environment – Naturalized Areas and Vegetation Communities	<p><u>Construction</u></p> <ul style="list-style-type: none"> Existing vegetation will be retained to the extent practicable. Removals will be kept to a minimum to limit direct effects to vegetation communities and vascular flora, as well as indirect effects (e.g., soil compaction and changes to topography and drainage). Construction fencing and/or silt fencing, where appropriate, will be installed and maintained to clearly define the construction footprint and prevent accidental damage to adjacent vegetation or street trees. <ul style="list-style-type: none"> Any damaged trees will be pruned through the implementation of proper arboricultural techniques by or under supervision of an Arborist or Forester. All equipment and vehicles will be cleaned and inspected prior to arriving onsite to reduce the introduction and/or spread of invasive plant species in accordance with the Clean Equipment Protocol for Industry (Halloran et al., 2013). Mitigation measures specific to trees shall be adhered to, including municipal by-law permitting requirements where applicable shall be further detailed in an Arborist Report to be completed during detailed design. The Arborist Report will provide a vegetation compensation plan with a minimum compensation ratio of 1:1. Disturbed areas will be re-stabilized, incorporating revegetation using non-invasive, preferably native plantings and/or seed mix appropriate to the site conditions and adjacent vegetation communities. Seed mixes will be used in conjunction with an appropriate non-invasive cover crop as appropriate.
Natural Environment – Wildlife and Wildlife Habitat	<p><u>Construction</u></p> <p>Migratory Breeding Birds:</p> <ul style="list-style-type: none"> Vegetation removal will be kept to a minimum and should be scheduled to occur outside of the primary bird nesting season of approximately April 1 to August 31 (ECCC, 2019). If a nest of a migratory bird is found within the construction area outside of this nesting period, it still receives protection. If vegetation must be removed during the overall bird nesting season, nest and nesting activity searches will be conducted by a qualified Biologist no more than 24 hours prior to vegetation removal (refer to Environmental Monitoring Plan for more details). Depending on the breeding bird survey and nests found, the Canadian Wildlife Service may need to be contacted for specific mitigation methods (depending on species) prior to impacts occurring. Nesting activity will be documented when it consists of confirmed breeding evidence, as defined by the Ontario Breeding Bird Atlas criteria (Cadman <i>et al.</i>, 2007). If construction activities occur during the bird nesting season (approximately April 1 to August 31; ECCC 2019), bird exclusion methods such as covering potentially suitable nesting locations on idle machinery, structures, equipment or stockpiled materials in addition to other types of exclusion methods such as those found in <i>Best Management Practices for Excluding Barn Swallows and Chimney Swifts from Buildings and Structures</i> (MNRF, 2017) should be implemented to prevent migratory birds from accessing and building nests in the construction site. In addition, if construction is planned on the rail bridge over Highway 27 and/or Carlingview Drive during the breeding bird season (approximately April 1 to August 31; ECCC, 2019), exclusion measures should be installed to prevent access of birds outside of the breeding bird season (approximately April 1 to August 31; ECCC 2019) and prior to construction work. If not possible, a nest search will be conducted by a qualified Biologist no more than 24 hours prior to installation. If a nest of an MBCA protected bird species is found in the construction site, all work in the immediate vicinity must stop and a Qualified Biologist be contacted to determine appropriate avoidance measures in order to avoid contravention of the MBCA and other applicable law. To minimize disturbance, the construction area will be clearly demarcated and kept as small as possible. Use of already cleared access routes will be used, where possible, to avoid further vegetation clearing and/or disturbance to migratory breeding birds and nests. <p>Wildlife:</p> <ul style="list-style-type: none"> Prior to construction, investigation will be completed a Qualified Biologist for wildlife and wildlife habitat that may have established following the completion of previous survey(s). Any wildlife incidentally encountered during vegetation clearing or subsequent construction activities will not be knowingly harmed and will be allowed to exit the site on their own, via safe routes. In the event that the wildlife does not move or is injured, the Environmental Monitor/Qualified Biologist will be contacted to assess and rescue/relocate wildlife if necessary.
Natural Environment – Fish and Fish Habitat	<p><u>Construction</u></p> <p>Erosion and Sediment Control:</p> <ul style="list-style-type: none"> Work will be scheduled to avoid wet, windy and rainy periods that may increase erosion and sedimentation. Erosion and sediment control (ESC) measures will be implemented, monitored and maintained and modified as necessary throughout the construction period until all disturbed ground has been permanently stabilized. ESC will include measures to contain and stabilize any waste material (e.g., dredging soils, construction waste and materials, uprooted or cut aquatic plants, accumulated debris) to prevent to the drainage features. Non-biodegradable ESC materials will be removed once site is stabilized.

Table 8-1: Summary of Future Commitments, Mitigation Measures, and Monitoring Requirements

Discipline	EPR Commitments
	Mitigation Measure (or related action) or Future Commitment
	<ul style="list-style-type: none"> Dewatering as a result of construction activities will be discharged to an appropriate sediment control measure for treatment prior to release to a well vegetated area setback a minimum of 30 metres from waterbodies or wetlands, where feasible. <p>Operation of Machinery and Industrial Equipment:</p> <ul style="list-style-type: none"> Activities near water will be planned to ensure that such materials such as paint, primers, blasting abrasives, rust, solvents, degreasers, grout or other chemicals do not enter the drainage features. Building material used in a drainage feature will be handled and treated in a manner to prevent the release or leaching of substances into the water that may be deleterious. All construction materials will be removed from site upon project completion. Confirm that machinery arrives on site in a clean condition and is maintained free of fluid leaks, invasive species and noxious weeds. Wash, refuel and service machinery; and, store fuel and other materials for the machinery in such a way as to prevent any deleterious substances from entering the water.
<p>Natural Environment – SAR or SOCC</p>	<p><u>Construction</u></p> <ul style="list-style-type: none"> Same mitigation measures as identified for vegetation above for during construction apply herein. Same mitigation measures as identified for migratory breeding birds above for during construction apply herein. If construction is planned on the rail bridge over Highway 27 and/or Carlingview Drive during the breeding bird season (approximately April 1 to August 31; ECCC, 2019), appropriate exclusion measures for Barn Swallow, such as those found in Best Management Practices for Excluding Barn Swallows and Chimney Swifts from Buildings and Structures (MNRF, 2017) should be applied to prevent Barn Swallows from accessing and building nests under the bridge(s). Installation of exclusion measures should occur outside of the breeding bird season (approximately April 1 to August 31; ECCC, 2019) and prior to construction start, if possible. However, if installation is to occur within this period, a nest search will be conducted by a qualified Biologist within 48 hours prior to installation. If a Barn Swallow nest is found in the construction site, all work in the immediate vicinity must stop and the MECP must be consulted in order to avoid contravention of the ESA. Same mitigation measures as identified for wildlife above during construction apply herein. Same mitigation measures as identified above for aquatic features apply herein. Common Milkweed and native flowering plants will be incorporated into the restoration or landscaping plan to compensate for Monarch habitat removals.
<p>Geology and Groundwater</p>	<p><u>Construction</u></p> <ul style="list-style-type: none"> Estimates of water taking quantities and resultant dewatering ZOI will be determined during Detailed Design. As prescribed under <i>O. Reg. 63/16</i>, water taking for construction site dewatering in excess of 50,000 L/day and under 400,000 L/day is subject to registration through the EASR system. Where construction dewatering volumes are expected to exceed 400,000 L/day, a Category 3 PTTW will be required from MECP, in accordance with Section 34 of the Ontario Water Resources Act (OWRA). Similarly, approvals for the discharge of pumped water also may be required, which could include one or a combination of Municipal Discharge Permits, Conservation Authority notification, and/or MECP Environmental Compliance Approval (ECA) (OWRA, Section 53). Any discharge of water would be subject to the terms and conditions of all required permits and approvals obtained by WEG and/or the Contractor based on the expected site conditions. A Phase I Environmental Site Assessment (ESA) investigation will be completed during Detailed Design to confirm existing contamination within the Study Area. Based on the findings of the Phase I ESA, a Phase II ESA may be warranted. The following plans shall be developed during Detailed Design and implemented during construction activities: <ul style="list-style-type: none"> Prior to construction dewatering, a Dewatering Management Plan will be prepared to provide the procedures and protocols that need to be implemented to ensure that all site dewatering activities are completed in a manner that does not cause harm to the environment and meets applicable laws, by-laws, codes, regulations and standards, while preventing site flooding from the discharge of dewatering effluent. Groundwater quality sampling will be conducted prior to discharge to assess baseline groundwater quality. Discharge water will be treated prior to discharge if contamination/exceedance is detected. A Soil and Groundwater Management Plan shall be prepared prior to construction to describe the general principles and develop specific protocols to address the handling, management and disposal of soil and groundwater that is generated or encountered during the Project construction. An Erosion and Sediment Control Plan will be developed prior to construction. Implementation of the erosion and sedimentation control measures will conform to recognized standard specifications such as Ontario Provincial Standards Specification (OPSS). Sediment and erosion control measures (e.g., silt curtains, silt fence) will be installed prior to site clearing, grubbing, excavation or grading works. No effluent discharge to the ground surface will occur prior to implementation of this plan. A Spill Prevention and Response Plan will be developed prior to construction outlining steps to prevent and contain any chemicals and/or spills in a timely and effective manner and to avoid soil and water contamination. This plan will include the requirement for a spill kit to be maintained on site at all times during construction. <p><u>Operations</u></p> <ul style="list-style-type: none"> The potential reduction in aquifer recharge will be addressed during Detailed Design to ensure that the Project is compliant with all Source Water Protection policies. Appropriate mitigation will be determined at that time, if required.
<p>Air Quality</p>	<p><u>Construction</u></p> <ul style="list-style-type: none"> Exposure to construction-related emissions can be mitigated by the following: <ul style="list-style-type: none"> Ensuring all mobile equipment is in good condition, properly and regularly maintained, and compliant with applicable federal and provincial regulations for off-road diesel engines; Ensuring all machinery is maintained and operated in accordance with manufacturer’s specification; Locating stationary equipment (generators, compressors, etc.) as far away from sensitive receptors as practical; Minimizing idling time and posting signage to this effect around the construction site; Ensuring stationary and mobile equipment are not operated during early morning (before 6 AM, or sunrise) or evening periods (after 8 PM, or sunset) as often as practical; Implementing the use of non-chloride dust suppressants; Implementing a DMP for the duration of the construction phase, which includes practices to minimize fine particulate release from mobile equipment, materials handling, and wind erosion; and

Table 8-1: Summary of Future Commitments, Mitigation Measures, and Monitoring Requirements

Discipline		EPR Commitments
		Mitigation Measure (or related action) or Future Commitment
		<ul style="list-style-type: none"> Ensuring that the areas most impacted by particulate levels are vegetated (i.e., tree planting) to reduce the cumulative particulate impacts. Site supervisors during the construction phase should monitor the site for wind direction and weather conditions to ensure that high-impact activities be reduced when the wind is blowing consistently towards nearby sensitive receptors. The site supervisor should also monitor for visible fugitive dust and take action to determine the root-cause in order to counteract this. Specific details to this effect should be included in the construction site DMP. It is further recommended that mitigation measures detailed in “<i>Best Practices for the Reduction of Air Emissions from Construction and Demolition Activities (March 2005)</i>” prepared by Cheminfo for Environment Canada be implemented, where practical. <p><u>Operations</u></p> <ul style="list-style-type: none"> Potential mitigation of the potential emissions may be achieved by implementing an anti-idling or restricted idling policy within the PPUDO area and parking lots which would limit the number of minutes a vehicle is allowed to remain in idle during a passenger pick-up or drop-off. Electric vehicles and fuel-efficient vehicle implementation into an existing vehicle fleet will also provide significant CAC and GHG reduction in the short to medium term. The introduction and increasing popularity and affordability of hybrid and full electric vehicles, as well as transit authority led initiatives to increase the percentage of fuel efficient and hybrid busses within their vehicle fleet will continue to reduce emission impacts from vehicles using the proposed station within the future. As suggested within the construction mitigation section, areas affected by air born particulates may be benefited by introducing vegetation (e.g. trees, shrubbery, etc.) to help reduce cumulative particulate impacts during the operational phase.
Noise and Vibration		<p><u>Detailed Design</u></p> <ul style="list-style-type: none"> Station equipment noise emission levels, quantities, and locations will be verified during detailed design to confirm compliance. <p><u>Construction</u></p> <ul style="list-style-type: none"> The following practices are recommended throughout construction to reduce noise impacts at sensitive receptors: <ul style="list-style-type: none"> Adhere to City of Toronto By-law requirements and the terms of any By-Law exemptions granted by the City of Toronto; Maintain equipment in a condition that prevents unnecessary noise while operating, including but not limited to, effective muffler systems, properly secured components, and the lubrication of moving parts; Restrict idling of equipment to the minimum necessary to perform the specified work; Ensure vehicles employed continuously on site for extended periods of time (two days or more) are fitted with sound reducing back-up (reversing) alarms*; Avoid unnecessary revving of engines and switch off equipment when not required (do not idle); If construction needs to be undertaken outside of the normal daytime hours, inform local residents beforehand of the type of construction planned and the expected duration; Use construction equipment compliant with noise level specifications in MECP guidelines NPC-115 and NPC-118; Minimize drop heights of materials; and In consultation with the City of Toronto, route haulage/dump trucks on main roads where possible, rather than quieter residential roads. If it is determined that there is a need to further reduce noise effects during construction work, the following additional mitigation measures may be considered and implemented, where appropriate: <ul style="list-style-type: none"> Offset usage of active heavy equipment (schedule non-concurrent use); Implement noise compliance checks to ensure equipment levels are in compliance with MECP guidelines NPC-115 and NPC-118; Reroute construction and truck traffic, when possible; Coordinate ‘noisy’ operations such that they will not occur simultaneously, where possible; Where possible, investigate and implement the use of alternative construction equipment or methods to reduce noise emissions from construction. Utilize alternative equipment that generates lower noise levels or optimize silencer/muffler/enclosure performance; Use rubber linings in chutes and dumpers to reduce impact noise; Install acoustic enclosures, noise shrouds or noise curtains around noisy equipment; and Install temporary noise barriers/solid construction hoarding on site boundary to screen affected locations. The following general measures are recommended during construction to manage potential vibration impacts at sensitive receptors: <ul style="list-style-type: none"> Operate earth-moving equipment on the construction lot as far away from vibration-sensitive sites as possible; For piling operations, consider piling methods with reduced impact/energy input; Route heavily-loaded trucks away from residential streets, if possible. Select streets with fewest homes if no alternatives are available; and Phase any demolition, earth-moving and ground-impacting operations so as not to occur in the same time period. A pre-construction condition inspection and vibration monitoring during corridor construction work is currently recommended for the Saand Building as potential vibratory roller activities may be used within the zone of influence of the building. This requirement will be re-evaluated when detailed construction drawings are available.
Socio-Economic Environment – Land Use	Commercial	<p><u>Construction</u></p> <ul style="list-style-type: none"> Refer to the measures provided in this Table 8-1 – Air Quality, Noise and Vibration to reduce potential effects to Woodbine Hotel & Suites during construction. <p><u>Operations</u></p> <ul style="list-style-type: none"> Refer to the measures provided in this Table 8-1 – Air Quality to reduce potential effects to Woodbine Hotel & Suites during operations.

Table 8-1: Summary of Future Commitments, Mitigation Measures, and Monitoring Requirements

Discipline		EPR Commitments
		Mitigation Measure (or related action) or Future Commitment
	Industrial	<u>Construction</u> <ul style="list-style-type: none"> A pre-construction condition inspection and vibration monitoring during corridor construction work will be required for the Saand Building if vibratory rollers will be used within the Zone of Influence (8 metres from the building) specified by the City of Toronto By-law.
	Recreational	<u>Construction</u> <ul style="list-style-type: none"> Avoid potential heritage attributes located at the Woodbine Racetrack, including the grandstand structure, various stable facilities, and multiple tracks located on the property.
Socio-Economic Environment – Visual Aesthetics		<u>Operations</u> <ul style="list-style-type: none"> WEG will work with the City of Toronto during the site plan application process to integrate design and public realm features to enhance the visual aesthetics of the station.
Socio-Economic Environment – Property		<u>Construction</u> <ul style="list-style-type: none"> If temporary property requirements are needed for utilities work, the relevant utility companies will be engaged prior to construction. For safety purposes, the Project Site will maintain secure fencing and will not be accessible to the public during construction.
Socio-Economic Environment – Utilities		<u>Construction</u> <ul style="list-style-type: none"> Consultation with the City of Toronto will be completed to address modifications to public site servicing. The City of Toronto will also be engaged to coordinate private utilities connections to the municipal servicing system and the associated municipal requirements will be fulfilled in consultation with the City of Toronto. Existing and proposed future utilities plans will be reviewed once confirmed. Subsurface Utility Engineering (SUE) investigations may be conducted to confirm existing utilities. Any potential conflicts and associated mitigation measures will be identified as design progresses. If required, co-ordination with affected utility companies will be completed during detailed design. <u>Operations</u> <ul style="list-style-type: none"> Once utility conflicts have been specifically identified and resolved, no further mitigation measures related to utilities are expected during operations. Potential access requirements as a result of maintenance within the Project Site will be determined in consultation with relevant utility companies.
Built Heritage Resources and Cultural Heritage Landscapes		<u>Construction</u> 555 Rexdale Boulevard – CHR 1: <ul style="list-style-type: none"> Preferred Option: At further design stages, the project should continue to be designed to avoid the potential heritage attributes included within this report, including the grandstand structure, the various stable facilities, and the multiple tracks located on the property. Alternative Option: Should further design stages result in an expansion of the project footprint; a qualified heritage consultant should be retained to review whether the project activities may result in potential impacts to the potential heritage attributes. Specifically, if this results in the potential for impacts to the training track, currently shown within the Study Area for this CHAR, additional evaluation should be completed. If impacts to potential heritage attributes appear to be evident, further investigation may be required in the form of a Cultural Heritage Evaluation Report (CHER) to fully evaluate the potential cultural heritage value of the property, and confirm heritage attributes, and an HIA. The HIA should discuss alternatives considered and recommend the alternative to minimize or mitigate adverse effects on the property. The CHER and HIA, if required should be completed by a qualified person. Highway 27 Bridge – CHR 6: <ul style="list-style-type: none"> Preferred Option: Continued avoidance of the bridge during construction. Alternative Option: In order to mitigate the potential vibration impacts to this structure, the existing structural conditions of the bridge should be reviewed or established. Should further design stages result in direct impact to the bridge; a qualified heritage consultant should be retained to review whether the project activities may result in potential impacts to the potential heritage attributes. If impacts to potential heritage attributes appear to be evident, further investigation may be required in the form of a CHER to fully evaluate the potential cultural heritage value of the property, and confirm heritage attributes, and an HIA. The HIA should discuss alternatives considered and recommend the alternative to minimize or mitigate adverse effects on the property. The CHER and HIA, if required should be completed by a qualified person.
Archaeology		<u>Construction</u> <ul style="list-style-type: none"> Should the proposed work extend beyond the Study Area, a Stage 1 AA shall be conducted to determine the archaeological potential and requirement for further Stage 2 AA work of any additional lands; Any additional Archaeological Assessments (e.g., Stage 2, Stage 3 if recommended by the Stage 2) shall be completed as early as possible, and prior to the completion of detailed design. This work shall be done in accordance with the MHSTCI's Standards and Guidelines for Consultant Archaeologists (2011) to identify any archaeological resources that may be present; In the event that additional Stage 1 and/or Stage 2 AA identifies potential for the discovery of an Indigenous archaeological site, Metrolinx shall engage appropriate Indigenous communities to review the findings of the report and determine next steps and monitoring requirements to be considered during further stages of archaeological assessment; and Should previously unknown or unassessed deeply buried archaeological resources be uncovered during construction activities, they may be a new archaeological site and therefore subject to Section 48 (1) of the Ontario Heritage Act. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed archaeologist to carry out archaeological field work, in compliance with Section 48 (1) of the Ontario Heritage Act. Any person discovering human remains must immediately notify the police or coroner and the Registrar of Cemeteries, Ministry of Government Services. In addition, consultation with relevant Indigenous communities will be initiated in the event that archaeological resources or human remains are discovered.
Traffic and Transportation		<u>Detailed Design</u> <ul style="list-style-type: none"> During detailed design and prior to permitting, the number of bus bays will be confirmed. At that time, potential impacts will be reviewed and mitigation measures may be proposed, if needed. WEG will coordinate with the City during detailed design to ensure that the roads connecting the station to nearby public roads are accessible by active transportation modes and meet the City design requirements and GO Design Requirements Manual (DRM) and GO Rail Station Access Plan guidelines for station access roads. Traffic strategies will be developed and implemented during construction and operations to ensure safe access for pedestrians and cyclists. Metrolinx and WEG will continue discussions with transit operators as needed to confirm connections.

Table 8-1: Summary of Future Commitments, Mitigation Measures, and Monitoring Requirements

Discipline	EPR Commitments
	Mitigation Measure (or related action) or Future Commitment
	<p><u>Operations</u></p> <ul style="list-style-type: none"> The following signal timing adjustments or lane configurations will reduce the average vehicle delay and improve road operations: <ul style="list-style-type: none"> Add 2 additional seconds of green time and adjust intersection offset time to 10 seconds to the westbound left-turn phase at Highway 27 and Rexdale Boulevard Providing an additional northbound lane at Club House Road and Entrance Road, in which the northbound approach lane configuration becomes a northbound through lane and a shared northbound through and left lane Changing the lane configuration at the eastbound approach at Grandstand Entrance Road and Entrance Road from the current dedicated eastbound left-turn lane and dedicated eastbound right-turn lane to a dedicated left-turn lane and a share left- and right-turn lane Modifications to storage lanes (increased length) at locations provided in Table 5-9.
Climate Change Considerations	<p><u>Detailed Design</u></p> <ul style="list-style-type: none"> A detailed SWM Plan will be developed prior to construction and will include the following objectives: <ul style="list-style-type: none"> Minimize overall discharge from the new station development to avoid overloading the City's existing infrastructure; Maintain existing drainage patterns with site water flowing east to west; Incorporate bio-swales and on-site infiltration galleries where possible to treat excess rainwater. The City of Toronto's Wet Weather Flow Management Guideline will be referenced in the SWM in the SWM Plan. Future increased rainfall intensities, and consequently increased runoff, will be predicted using precipitation Intensity-Duration-Frequency (IDF) curves, such as those found in the MTO's IDF Curve Lookup Tool. These can be incorporated into the SWM design of the Project once the design life of the stations is determined. The SWM Plan will be provided to the City of Toronto once the site topographic survey, site grading, and drainage plan have been developed. The SWM design for the Project will consider the drainage and SWM objectives of the MOECC Stormwater Management Planning and Design Manual (2003), Ministry of Transportation (MTO) Drainage Management Manual (2008), and TRCA Stormwater Management Criteria (2012), among other guidance. This will be supplemented by current guidance such as the runoff volume control targets for Ontario recommended to MOECC (Aquafor Beech Ltd. and Earthfx Inc., 2016) from local municipalities and Conservation Authorities.
Stakeholder Engagement	<p><u>Detailed Design / Construction</u></p> <ul style="list-style-type: none"> Design and implement a response strategy to address/resolve potential construction concerns; Maintain the Project Webpage throughout detailed design and construction where the public can access updated information on the Project; and Continue discussions/consultation with local stakeholders with respect to potential impacts during detailed design and construction, as appropriate.
Permits and Approvals Required – Federal	<ul style="list-style-type: none"> Where possible, vegetation removal shall take place outside of the primary breeding bird season (April 1 to August 31). If vegetation must be removed during the overall bird nesting season, nest and nesting activity searches will be conducted by a qualified Biologist within 48 hours prior to vegetation removal. If construction activities occur during the bird nesting season (April 1 to August 31), bird exclusion methods such as covering potentially suitable nesting locations on machinery, equipment or stockpiled materials in addition to other types of exclusion methods shall be implemented to prevent migratory birds from accessing and building nests in the construction site. If a nest is found in the construction site, all work in the immediate vicinity must stop and a Qualified Biologist be contacted to determine appropriate avoidance measures in order to avoid contravention of the <i>MBCA</i>. Permits under the <i>MBCA</i> are not anticipated to be required if the recommended avoidance measures are implemented. Section 5.1.3.2.1 describes the prescribed avoidance timing windows and associated mitigation measures required for vegetation removal and any further migratory breeding birds surveys that may be undertaken.
Permits and Approvals Required – Provincial	<p><u>Detailed Design</u></p> <ul style="list-style-type: none"> As prescribed under <i>O. Reg. 63/16</i>, water taking for construction site dewatering in excess of 50,000 L/day and under 400,000 L/day is subject to registration through EASR. In accordance with Section 34 of the <i>OWRA</i>, a Category 3 PTTW from MOECC must be obtained for the taking of more than 400,000 L/day of groundwater for the purposes of construction dewatering from any given source. Approvals for the discharge of pumped water will also be required, and could be a combination of Municipal Discharge Permits, agreement with Conservation Halton, and/or MOECC ECA in accordance with Section 53 of the <i>OWRA</i>. A water discharge management plan would be required, as necessary, based on pre-consultation discussion with MOECC and Conservation Halton staff since the discharge of dewatering effluent may potentially be directed to Sheldon Creek East, depending on the baseline groundwater quality analysis results. Permitting requirements will need to be revisited closer to the construction phase when specific details such as construction timing and methods are known. Project construction is expected to generate excess soil that cannot be reused on site due to its geotechnical properties or quality of the excess soil. In all cases the on-site and off-site beneficial reuse of excess soil will be explored during detailed design and shall be undertaken in accordance with <i>Excess Soil – A Guide to Best Management Practices</i> (MOECC, January 2014). It is noted that the MOECC is presently contemplating the creation of a Regulation to govern excess soil management. Should this Regulation come into force within the implementation of the Project the requirements shall be incorporated, as applicable. If construction is planned on the Highway 27 Bridge and/or Carlingview Drive during the breeding bird season (approximately April 1 to August 31; ECCC, 2019), appropriate exclusion measures for Barn Swallow, such as those found in Best Management Practices for Excluding Barn Swallows and Chimney Swifts from Buildings and Structures (MNR, 2017) should be applied to prevent Barn Swallows from accessing and building nests under the bridge(s). Installation of exclusion measures should occur outside of the breeding bird season (approximately April 1 to August 31; ECCC, 2019) and prior to construction start, if possible. However, if installation is to occur within this period, a nest search will be conducted by a qualified Biologist within 48 hours prior to installation. If a Barn Swallow nest is found in the construction site, all work in the immediate vicinity must stop and the MECP must be consulted in order to avoid contravention of the <i>ESA</i>.
Permits and Approvals Required – Municipal	<p><u>Detailed Design</u></p> <ul style="list-style-type: none"> As appropriate, Metrolinx and WEG shall continue to communicate and engage with the City of Toronto during detailed design and construction planning co-ordinated with the site plan application process to ensure that municipal concerns are addressed in the construction plans prior to commencement of construction activities, as applicable. WEG will comply with the City's permitting and approvals requirements. A PPR will be undertaken with the City of Toronto to review zoning compliance and identify any potential zoning by-law amendments or minor variances ahead of the site plan application. A tree inventory and Arborist Report will be completed during detailed design. In accordance with City of Toronto by-laws, the Arborist Report will identify municipal permitting requirements if removal and/or damage of woody vegetation is required. Municipal permits for water discharge will be obtained prior to construction.

Table 8-1: Summary of Future Commitments, Mitigation Measures, and Monitoring Requirements

Discipline	EPR Commitments
	Mitigation Measure (or related action) or Future Commitment
	<ul style="list-style-type: none"> Metrolinx and WEG shall continue consulting with TTC as part of the co-ordination efforts with local and regional transit operators.
Permits and Approvals Required – Utilities	<p><u>Detailed Design</u></p> <ul style="list-style-type: none"> The final assessment of utility conflicts shall be reviewed in consultation with each utility company as part of detailed design. Implementation and construction obligations shall be undertaken pursuant to the crossing agreements with each of the utility companies as required. The City of Toronto will be engaged regarding impacts to municipal servicing and required permits will be obtained.
Permits and Approvals Required – Future Work	<p><u>Detailed Design</u></p> <ul style="list-style-type: none"> An EMMP shall be developed to outline the responsibility for carrying out monitoring and reporting activities, including timing and frequency of monitoring activities, as well as the compliance process. The EMMP shall include all mitigation measures, categorized by project phase, and shall identify the party responsible for implementation.

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