

**Lincolnville Layover and  
GO Station Improvements  
IT-2017-EC-010:  
Environmental Project  
Report Addendum**

Final Report

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## Sign-off Sheet

This document was prepared by Stantec Consulting Ltd. ("Stantec") for the account of Metrolinx (the "Client"). The material in it reflects Stantec's professional judgment in light of the scope, schedule and other limitations stated in the document and in the contract between Stantec and the Client. The opinions in the document are based on conditions and information existing at the time the document was published and do not take into account any subsequent changes. The report has been prepared based, in part, on information provided by others as cited in the Reference section. Stantec has not verified the accuracy and / or completeness of third party information.

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## **Executive Summary**

### **Project Overview**

A Transit Project Assessment Process (TPAP) under *Ontario Regulation (O. Reg.) 231/08, Transit Project and Metrolinx Undertakings* was completed for the Lincolnville Layover and GO Station Improvements Project in April 2018 to assess the expansion of the layover facility to accommodate increased service and support the need for additional train storage and maintenance associated with the planned growth and service improvements on the Stouffville rail corridor. Through ongoing planning for the Lincolnville Layover and GO Station Improvements and continued detailed design work, it was determined that a new GO station was required to accommodate projected passenger growth and allow for full build-out of the layover improvements. Therefore, the development of a relocated GO station on a new site (the Project) is being examined in this Addendum to the Environmental Project Report (EPR) for the Lincolnville Layover and GO Station Improvements. The proposed relocated Lincolnville GO Station (shown in Figure ES-1) is comprised of a 5.5 hectare (13 acre) irregular-shaped parcel of land located at 12902 and 12958 Tenth Line in the Town of Whitchurch-Stouffville, Regional Municipality of York.

The purpose of the Project is to expand the existing Lincolnville Layover and GO Station to accommodate increased service and support the need for additional train storage and maintenance associated with the planned growth and service improvements on the Stouffville rail corridor.

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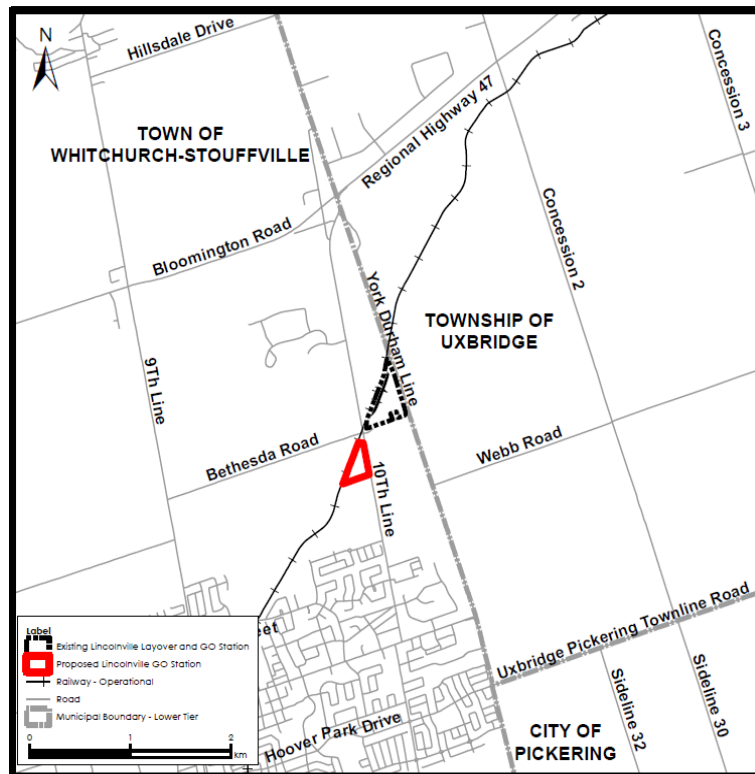


Figure ES-1: Location of Proposed Relocated GO Station

This change to the Project was determined to be inconsistent with the Project Description outlined in the *Environmental Project Report for the Lincolnville Layover and GO Station Improvements* (Stantec 2018). As described in Section 15(1) of Ontario Regulation (O. Reg.) 231/08, any change that is inconsistent with a previously approved EPR requires a reassessment of the effects associated with the project, the identification of potentially new mitigation measures, and potentially new monitoring systems in an Addendum to the previously approved EPR. Therefore, Metrolinx has prepared this EPR Addendum to address the effects associated with the proposed relocated Lincolnville GO Station.

### Study Process

This EPR Addendum was prepared in accordance with *O. Reg. 231/08, Transit Projects and Metrolinx Undertakings* (Transit Projects Regulation) which includes provisions for proponents to make changes to a transit project after the Statement of Completion is submitted to the Director of the Environmental Assessment and Approvals Branch of the Ministry of the Environment, Conservation and Parks (MECP) and the MECP Regional Director.

In compliance with Section 15(1) of the Regulation, Metrolinx has prepared this Addendum to the EPR. Metrolinx has determined that the change to the Project is

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significant and therefore the publication of a Notice of Environmental Project Report Addendum and a 30-day comment period is required.

The following are the key steps in the EPR Addendum process under TPAP:

- prepare an assessment of the effects the proposed change may have on the environment
- prepare and distribute an EPR Addendum
- prepare and distribute a Notice of Environmental Project Report Addendum
- conduct a final review by the public and stakeholders prior to proceeding with the proposed Addendum.

In addition to the required key steps listed above, in order to enhance the planning process for this project, Metrolinx has voluntarily conducted additional consultation, including a Public Meeting, as described in Section 5.2. The consultation completed for this Addendum to the EPR is generally consistent with consultation that would be undertaken for a new TPAP.

Further details describing the TPAP Addendum process are provided in Section 1.0 of this EPR Addendum.

### **Project Components**

The following components (shown in Figure ES-2) will be established at the relocated Lincolnville GO Station to support the service upgrades required as part of the GO Expansion:

- A parking area that will accommodate approximately 719 vehicles including accessible parking spaces and motorcycle/scooter parking.
- One single-sided canopy-covered passenger platform with new enclosed waiting areas. Access to the passenger platform is provided via concrete pathways to the bus loop, bus and bike shelter, vehicle parking areas and Passenger Pick-up/Drop-off (PPUDO).
- A PPUDO area that will be located adjacent to the platform and sized for approximately 24 vehicles with a taxi/drop-off area near the platform.
- A separated bus loop will be provided. Two bus shelters and bays, and bike shelters will be situated adjacent to the station platform.
- Painted bicycle paths and a single storage rack located adjacent to the station platform at the west-central portion of the proposed site.

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- One mechanical, electrical and communication services building.
- Regrading of the existing track profile; which does not require horizontal realignment.
- A placeholder for a future “plaza” space for one new station building to be located within the west-central portion of the site, adjacent to the future rail platform.

Further details describing the project components and rationale of the preferred design are provided in Section 2.0 of this EPR Addendum.



**Figure ES-2: Conceptual Design for Proposed Relocated GO Station**

The relocated Lincolnville GO Station has the potential to cause changes to the existing environmental conditions that may result in both positive and negative effects. These changes have been considered through consultation with the public, stakeholders and Indigenous communities throughout the Addendum process. Following identification of

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existing conditions, an assessment of potential effects and proposed mitigation measures was completed based on the following information:

- An assessment and evaluation of the potential effects that the relocated Lincolnville GO Station may have on the environment
- A description of any measures proposed to mitigate any negative effects that the relocated Lincolnville GO Station may have on the environment
- A description of the means to monitor or verify the effectiveness of the proposed mitigations to reduce or eliminate adverse effects

Section 4.0 of this report provides the conclusions of the effects assessment in more detail, and Section 4.5 presents a summary table highlighting potential effects, mitigation measures, net effects, and monitoring requirements. The potential effects of the proposed relocated Lincolnville GO Station are well understood and can be addressed through the mitigation measures proposed. Overall, the net effects of the proposed improvements will be positive, resulting in short-term, mitigatable disturbances, balanced by long-term benefits to passengers and the broader community. Long-term benefits include improved access to higher-order transit infrastructure, operating more frequently and throughout the day, and reduced reliance on greenhouse gas-emitting private vehicles. The following is a summary of potential effects associated with the proposed project that will require mitigation measures and anticipated specific net effects following mitigation measures.

### **Vegetation and Vegetation Species at Risk**

There will be a direct loss of vegetation where removal of vegetation is required for construction, including a permanent loss of both natural and planted vegetation. To the extent possible, vegetation species will be preserved throughout construction activities within a buffer around the staked limit of the onsite wetland that will be confirmed through the completion of a Scoped Environmental Impact Study. Revegetation and monitoring are proposed to mitigate the effects of vegetation removal, and new plantings will provide compensation for the loss of vegetation. No net effects are anticipated following standard mitigation, compensation and monitoring measures, including adaptive management of replanted vegetation (see Section 4.1.1).

### **Wildlife and wildlife Species at Risk**

The wetland on the site has been identified as potential overwintering habitat for turtles as well as habitat for two turtle Species of Conservation Concern (SOCC). There is one location in which disturbance of the wetland is required for a crossing of the bus loop. Outside of this one disturbance area, no effects to turtles are expected as a buffer will be maintained. Where feasible, application of a buffer will be determined through the completion of a Scoped Environmental Impact Statement prior to construction. Two

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sheds on the site provide nesting habitat for Barn Swallow. A minimum of 7 active nests were observed in two buildings. The removal of these two buildings, and therefore the barn swallow habitat, is required for the construction of the GO station facility. No net effects are anticipated following standard mitigation measures. Potential habitat exists within site buildings for Species at Risk (SAR) bats. Habitat mitigation and compensation will be provided to improve on-site habitat features for bats. No adverse net effects are anticipated following these mitigation measures. For additional details on wildlife and wildlife SAR, see Section 4.1.2.

### **Surface Water, Hydrology and Fish and Fish Habitat Environment**

Site grading and site water management could alter flow regimes of a Headwater Drainage Feature and affect downstream habitat through erosion and downstream sediment transport to Reesor Creek. Stormwater management and erosion and sediment control measures are proposed to mitigate potential negative effects to off-site aquatic features, and mitigation measures will be refined and confirmed as part of detailed design in ongoing consultation with the TRCA following the TPAP. No net effects are anticipated following standard mitigation measures (see Section 4.1.3).

### **Stormwater Management**

Water quality and water balance will be maintained for storm flows originating from within the Addendum Study Area during construction and operations. A Preliminary Stormwater Management (SWM) Plan has been developed in order to provide a conceptual understanding of how water flows can be effectively managed on the site to pre-construction conditions. As such, no net effects are anticipated following the proposed design recommendations (see Section 4.1.4).

### **Groundwater**

Careful management of water balance and water quality through site design elements and limited dewatering during construction are not anticipated to result in adverse net effects to areas mapped as Wellhead Protection Areas (WHPA) or a Highly Vulnerable Aquifer (HVA). Design elements will specifically address pathogens, chemicals, or Dense Non-Aqueous Phase Liquid (DNAPL) substances (e.g., solvents, pesticides) that could be used during operations, no net effects are anticipated to the recharge water within the Oakridge's Moraine (ORM). No net effects are anticipated following the proposed mitigation measures (see Section 4.1.5).

### **Soil Quality and Management**

There is the potential to encounter contaminated soils; however, the MECP's *"Management of Excess Soil – A Guide for Best Management Practices"* will be followed for the development of a Soils Quality and Soil Management Plan (SQSMP) to direct stockpiling activities, beneficial reuse opportunities, and disposal methods during construction. A work plan to undertake additional detailed analysis to support the

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SQSMP will be developed in consultation with the MECP following the TPAP. Design elements will be implemented to control contaminant releases during operations and therefore, no net effects to soils or geology are anticipated (see Section 4.1.6).

### **Trees**

A tree replacement strategy is proposed to mitigate the tree removal. Trees affected by ongoing operations will be assessed on a case-by-case basis and appropriate mitigation will be identified (see Section 4.1.7).

### **Land Use and Users**

The surrounding area has the ability to support future development and the proposed relocated Lincolnville GO Station will benefit the community of Stouffville by improving connectivity and access to public transit as well as increased ridership safety as the existing Lincolnville Layover and GO Station site does not provide sufficient space for the enhanced GO station facilities that are required to support GO Expansion objectives or an enhanced, comfortable customer experience (see Section 4.2.1).

### **Archaeology**

Prior to construction, as part of detailed design activities, the recommendations in the Stage 2 AA report will be completed, including required additional archaeological assessment field study. Mitigation will appropriately address potential newly-identified artefacts found during construction activities and therefore no net effects are anticipated for archaeological resources (see Section 4.3.1).

### **Cultural Heritage**

No net effects are anticipated for cultural heritage resources, as there are no direct or indirect effects from the proposed relocated Lincolnville GO Station anticipated (see Section 4.3.2).

### **Air Quality**

No net effects have been identified in association with the construction and operation of the proposed relocated Lincolnville GO Station. Standard mitigation measures will control dust and emissions during construction. In addition, operations are not anticipated to result in air quality exceedances of MECP criteria, other than for substances that currently exceed MECP criteria due to existing, high background concentrations and vehicle start-up and idling emissions in the parking lot. (see Section 4.4.1). As the timeline for electrification of the fleet is 2025, the future 2031 scenario will consist of an electric train fleet. With electrification, emissions from locomotives will be negligible as there will be no direct combustion emissions from the trains.

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### **Noise and Vibration**

One 3 m high L-shaped acoustic barrier west of the bus shelters will be installed in order to bring the relocated Lincolnville GO Station in to compliance with MECP guidelines. With the recommended mitigation in place, no net effects are anticipated (see Section 4.4.2).

### **Traffic and Transportation**

Access to the Study Area will be maintained, and traffic will continue to operate at acceptable levels at all intersections. Signalized intersections and additional turning lanes will be used as required to maintain traffic flow on roads adjacent to the site. As such, net effects to traffic and transportation are not expected in association with the construction or operation of the proposed relocated Lincolnville GO Station facility.

### **Consultation Process**

Metrolinx consulted with government agencies, elected officials, members of the public (including local residents, businesses, and interest groups), and Indigenous communities through various communication methods during TPAP Addendum activities.

The consultation process for the Addendum commenced with the issuance of a Notice of Public Meeting and Addendum Commencement. Activities undertaken thereafter, included the following:

- A Notice of Public Meeting and Addendum Commencement was distributed to project stakeholders (including government agencies, elected officials, and members of the public) and Indigenous communities, published to local media and posted on the Project website.
- The dedicated Project website and email address from the original TPAP were maintained.
- A public meeting was held on September 13, 2018 to provide information on the Addendum process, preliminary design plans for the proposed relocated GO Station and to receive feedback and questions about the Project.
- The draft EPR was distributed to agencies for comment in November 2018.
- Ongoing consultation with project stakeholders (including government agencies, elected officials, and members of the public) and Indigenous communities.
- A Notice of EPR Addendum was distributed to project stakeholders (including government agencies, elected officials, and members of the public) and Indigenous communities, published to local media and posted on the Project website. The



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Addendum was made available in hard copy and electronic formats for public review.

- Final 30-day review of this Addendum by interested parties.

A summary of consultation activities is provided below and detailed in Section 5.0.

### **Commitments to Future Work**

*O. Reg. 231/08* requires future commitments, including required permits and approvals to be documented as part of the TPAP to facilitate project implementation in accordance with project-specific mitigation measures and monitoring activities described in this EPR Addendum and in a manner that does not result in negative impact on matters of provincial interest related to the natural environment or to cultural heritage value or interest, or on constitutionally protected Indigenous or treaty rights.

Specific commitments have been made to undertake further consultation with the MECP and TRCA as the detailed design of the project advances, to refine the conceptual design and mitigation recommendations identified in this EPR. Key items that will require additional consultation include the completion of additional soil analysis to support the development of a SQSMP, and exploring opportunities to protect or enhance ecological function on the site through the addition or refinement of environmental design solutions.

Following the completion of the TPAP and Addendum, further studies or consultation may be required, resulting in a refinement of the results presented in the EPR (completed in April 2018) or this Addendum. If refinements lead to changes to the Project that are inconsistent with the EPR or Addendum, these will be documented in another addendum to the EPR. Significant changes to the EPR or Addendum will be accompanied by a notification of the change to the project stakeholders (government agencies, elected officials, members of the public) and Indigenous communities, as required in the regulation.

All applicable permits, approvals, and monitoring requirements under environmental laws will be reviewed, confirmed, and obtained by Metrolinx prior to the construction of the Project. A preliminary list of the potentially applicable permitting and approval requirements for the Project are identified in Table 6-1.



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## **Glossary of Terms and Acronyms**

AA	Archaeological Assessment
AAQC	Ontario Ambient Air Quality Criteria
ANSI	Areas of Natural and Scientific Interest
Assessment Area	Geographic area examined for discipline-specific Project studies
BGS	Below Ground Surface
BMPs	Best Management Practices
CAAQS	Canadian Ambient Air Quality Standards
CHSR	Cultural Heritage Screening Report
CHVI	Cultural Heritage Value or Interest
COC	Contaminants of Concern
CSA	Canadian Standards Association
CSSP	Community of Stouffville Secondary Plan
DBH	Diameter at Breast Height
DFO	Fisheries and Oceans Canada
DNAPL	Dense Non-Aqueous Phase Liquids

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CEAA	<i>Canadian Environmental Assessment Act</i>
EASR	Environmental Activity and Sector Registry
ECA	Environmental Compliance Approval
EIS	Environmental Impact Study
ELC	Ecological Land Classification
EPR	Environmental Project Report
ESA	<i>Endangered Species Act, 2007 (Ontario)</i>
GTHA	Greater Toronto and Hamilton Area
GRT	Government Review Team
HDF	Headwater Drainage Feature
HVA	Highly Vulnerable Aquifer
Layover Facility	Train Layover and Ancillary Services, includes all of the equipment and infrastructure within the property boundaries used to store and maintain the GO Trains overnight when not in use.
LSE	Locally Significant Wetland
MBCA	<i>Migratory Birds Convention Act</i>
MECP	Ministry of the Environment, Conservation and Parks
MECP/GO Protocol	GO Transit/ MECP Draft Protocol for Noise and Vibration Assessment



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MNRF	Ministry of Natural Resources and Forestry
MOW	Maintenance of Way
MPIR	Ministry of Public Infrastructure Renewal
MTCS	Ministry of Tourism, Culture and Sport
MTO	Ministry of Transportation
NAAQOs	National Ambient Air Quality Objectives
NAPS	National Air Pollution Surveillance Network
NHIC	Natural Heritage Information Centre
NSA	Noise-Sensitive Area
OGS	Oil Grit Separator
ORM	Oak Ridges Moraine
ORMCP	Oak Ridges Moraine Conservation Plan
O. Reg.	Ontario Regulation
O. Reg. 231/08	<i>Ontario Regulation 231/08, Transit Projects and Metrolinx Undertakings</i> (a.k.a. Transit Projects Regulation)
OWRA	<i>Ontario Water Resources Act</i>
PORs	Points of Reception
PPUDO	Passenger Pick-up and Drop-off

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Project	Lincolnville Layover and GO Station Improvements
PTTW	Permit to Take Water
PWQO	Provincial Water Quality Objectives
ROW	Right-of-Way
SAR	Species at Risk
SGRA	Significant Groundwater Recharge Areas
Site	Property in which is located the Lincolnville Layover and GO Station and bus passenger area
SQSMP	Soils Quality and Soil Management Plan
TC	Transport Canada
TPAP	Transit Project Assessment Process
TPF	Tree Protection Fencing
TRCA	Toronto and Region Conservation Authority
WHPA	Wellhead Protection Area

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## Units and Measurements

mm	millimetre
cm	centimetre
m	metre
km	kilometre
masl	metre above sea level
ha	hectare



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Introduction and Study Process  
February 19, 2019

## **1.0 Introduction and Study Process**

With the Greater Toronto and Hamilton Area (GTHA) now being home to nearly seven million people and heading toward 10 million by 2041, transit needs are increasing. Metrolinx is an agency of the provincial government that has been asked with implementing regional transit solutions in the GTHA and is working to bring more transit connections to communities within the GTHA through the GO Expansion program. GO Expansion is Metrolinx's 10-year program to bring more and better train service to customers on the GO network. As part of GO Expansion, Metrolinx is planning for additional peak-hour and peak-direction service along the Stouffville rail corridor. System upgrades are being planned along this corridor, including the development of the infrastructure necessary to support the introduction of additional trains to meet these needs.

A Transit Project Assessment Process (TPAP) was completed for the Lincolnville Layover and GO Station Improvements Project (the Project) in April 2018 to assess the expansion of the layover facility to accommodate increased service and support the need for additional train storage and maintenance associated with the planned growth and service improvements on the Stouffville rail corridor. Through planning for the Lincolnville Layover and GO Station Improvements, it was determined that the GO station would be required to relocate south of the Layover in order to accommodate projected passenger growth and allow for full build-out of the layover improvements. Therefore, the development of the GO station on a new site is being examined in this Addendum to the Environmental Project Report (EPR) for the Lincolnville Layover and GO Station Improvements.

The location of the relocated Lincolnville GO Station is shown in Figure 1-1.

### **1.1 Purpose of the Document**

As a result of planning work, which included the completion of a feasibility study, and the completion of the Lincolnville Layover and GO Station TPAP study (April 2018), it was determined that the existing site has limited space to accommodate the modifications required at the existing GO Station. Therefore, the GO station is required to be relocated to a new site located south of the existing facility. Space constraints at the site of the Layover preclude the option of constructing a new passenger facility on the same site. The site of a new GO station has to be located on the existing rail line, in close proximity to the existing station site, and on a property that is large enough to accommodate station facilities and future growth. The new property is located to the southwest of the current property on a parcel of land owned by Metrolinx. The plan to

# **Lincolnville Layover and GO Station Improvements IT-2017-EC-010: Environmental Project Report Addendum**

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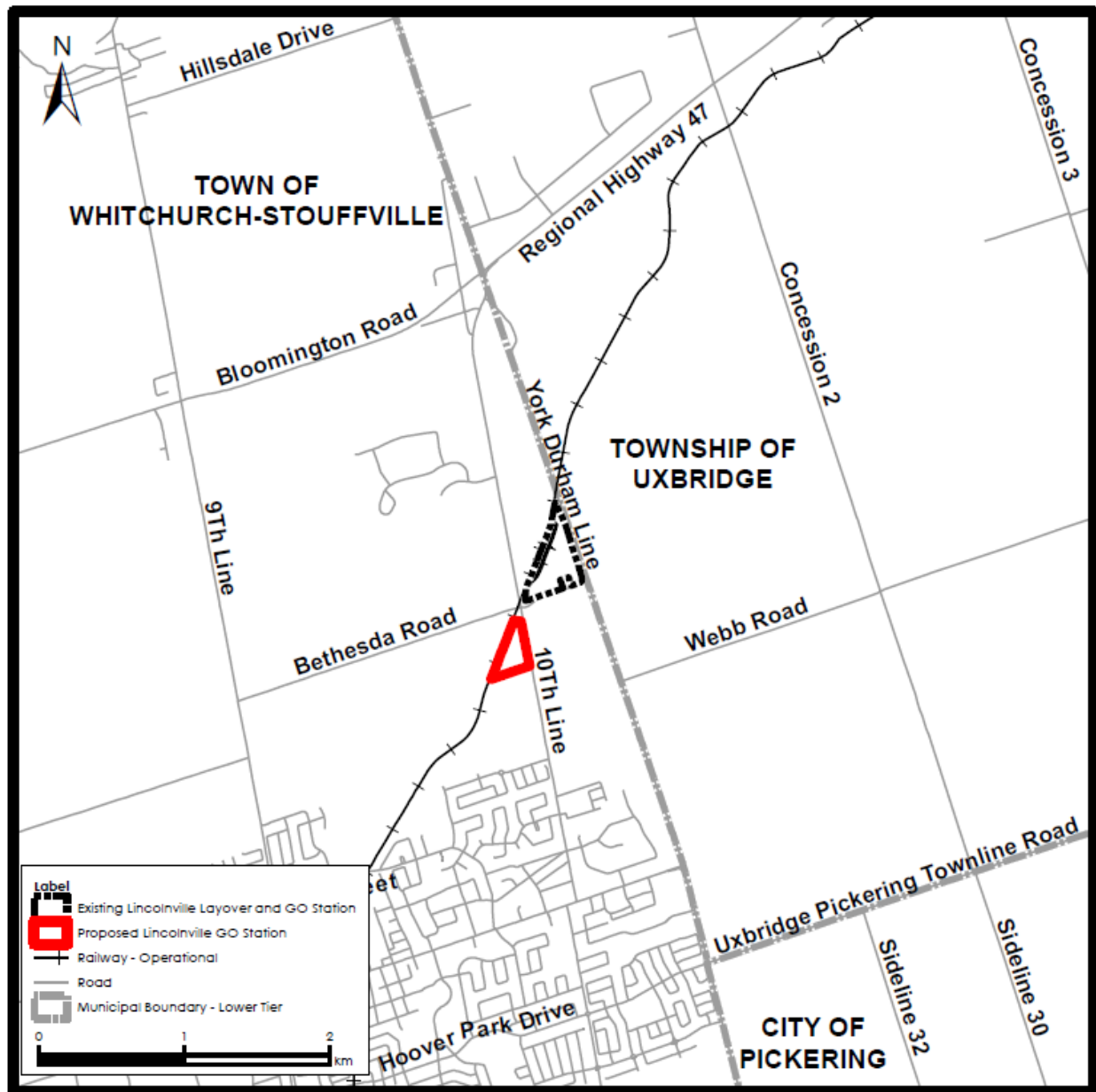
relocate the station has resulted in a change to the Project as originally assessed in the Layover and GO Station Improvements Project TPAP.

This change to the Project was determined to be inconsistent with the Project Description outlined in the *Environmental Project Report (EPR) for the Lincolnville Layover and GO Station Improvements* (Stantec 2018). As described in Section 15(1) of Ontario Regulation (O. Reg.) 231/08, any change that is inconsistent with a previously approved EPR requires a reassessment of the effects associated with the project, the identification of potentially new mitigation measures, and potentially new monitoring systems in an Addendum to the previously approved EPR. Therefore, Metrolinx has prepared this EPR Addendum to address the effects associated with the proposed relocated Lincolnville GO Station.

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**Figure 1-1: Location of the Proposed Relocated Lincolnville GO Station**



# **Lincolnville Layover and GO Station Improvements IT-2017-EC-010: Environmental Project Report Addendum**

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## **1.2 Project Overview**

The Lincolnville Layover and GO Station is the last, northernmost stop on the Stouffville rail corridor, offering passenger service between Union Station in Toronto and Lincolnville GO Station, which is located at 6840 Bethesda Road in the Town of Whitchurch-Stouffville (see Figure 1-1). The site serves multiple purposes: a passenger stop on the Stouffville rail corridor; and a Layover Facility for trains, including six storage tracks and maintenance of way (MOW) siding and yard; and, bus passenger service, storage, fueling and sanding operations for its vehicles.

The Lincolnville Layover and GO Station was originally developed to exclusively serve as a layover facility for the Stouffville rail corridor. The station was added to the site in 2008 to provide a northerly extension of passenger service from Stouffville to Lincolnville. However, due to its proximity to the layover facility, the existing station services are limited.

In keeping with the goals and objectives of regional transit planning and provincial and local policy direction, upgrades to the existing Lincolnville Layover and GO Station facilities are required to:

- increase ridership safety
- accommodate future ridership growth
- enhance pedestrian and cycling access and amenities
- provide barrier-free access to existing parking.

The existing infrastructure and storage capacity at the Layover Facility is not sufficient to support the proposed growth of service on the Stouffville rail corridor, and upgrades to the Facility are required to accommodate planned improvements. Six Layover storage tracks are currently in use at this Facility. Improvements to the site must meet the future need to store nine trains on separate Layover storage tracks and the auxiliary infrastructure and systems to support these additional trains.

Due to its proximity to a layover facility, the existing GO Station services are limited to self-service ticket vending machines, patron parking and Passenger Pick-up/Drop-off (PPUDO) areas, and one passenger side platform located in close proximity to the train storage and maintenance operations. In addition, there are no public washrooms, waiting rooms, and/or a station building on-site.



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The existing station site has limited space to accommodate the modifications required at the GO Station to:

- meet the requirements of service improvements being planned along the Stouffville rail corridor including platform, parking, ticket vending and other passenger services
- satisfy the policies, goals and objectives related to transit planning, including but not limited to providing transportation choices, comfort and convenience, multi-modal integration and, an attractive, well-planned region
- continue to provide a safe, accessible and comfortable experience for GO customers.

In addition, the activities associated with the existing and future layover and bus operations, including maintenance, fuelling, sanding and storage, are not conducive to an enhanced, comfortable customer experience.

Given the upgrades required to the GO Station and the expansion of the layover facility, opportunities to relocate the existing station to a more suitable site to achieve service objectives were explored. Developing the station on a separate site provides an opportunity to offer improved amenities and a more comfortable experience for GO commuters, while avoiding conflicts with storage and maintenance activities, and accommodating the anticipated ridership growth associated with Metrolinx's GO Expansion service improvement commitments.

The EPR for the Lincolnville Layover and GO Station Improvements (Stantec 2018) addressed effects associated with the proposed improvements to the Layover Facility, and identified the need for a future addendum to address the limitations of the existing Lincolnville GO Station. This EPR Addendum addresses the effects associated with the relocation of passenger facilities, including platform, parking, ticket vending and other passenger services, and intermodal facilities, to the proposed relocated Lincolnville GO Station site.

## **1.3 The Changes to the Project**

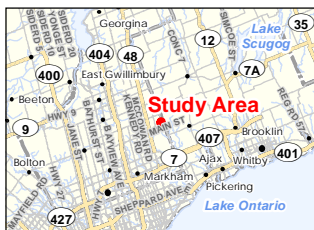
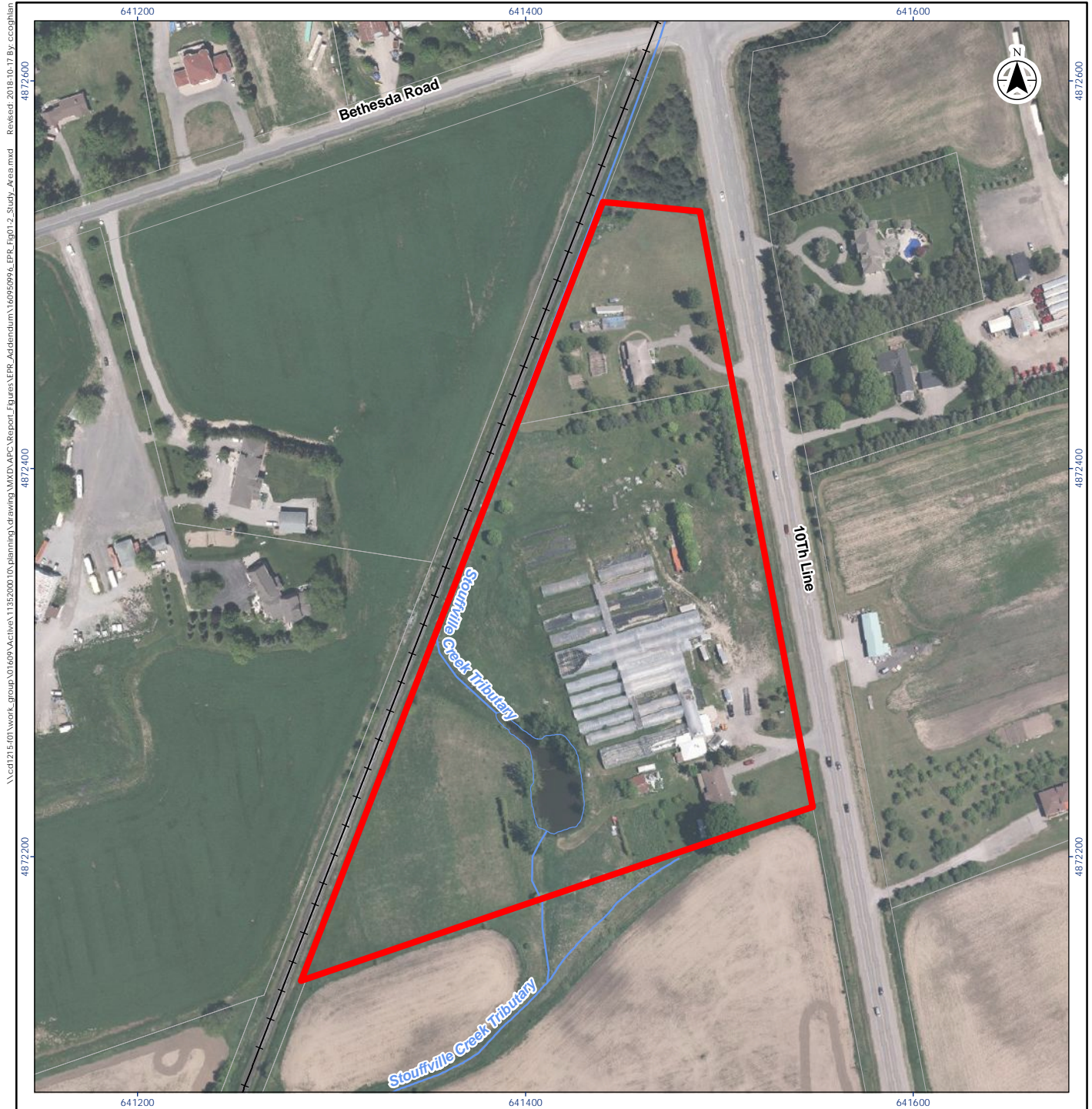
### **1.3.1 Addendum Study Area**

The Addendum Study Area for the proposed relocated Lincolnville GO Station facility is comprised of a 5.5-hectare (13 acre) irregular-shaped parcel of land located at 12902 and 12958 Tenth Line in the Town of Whitchurch-Stouffville, Regional Municipality of York. The site consists of two privately-owned parcels of land that are generally situated to the southwest of the Tenth Line and Bethesda Side Road intersection, immediately east of the Stouffville rail corridor. The site contains two residences, and greenhouses and outbuildings associated with a previous garden centre operation.

## **Lincolnville Layover and GO Station Improvements IT-2017-EC-010: Environmental Project Report Addendum**

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The Addendum Study Area is limited to the parcel of land owned by Metrolinx, however some of the environmental investigations have reviewed broader areas to account for the potential for off-site effects, as described below. The Addendum Study Area is shown in Figure 1-2.



Notes

1. Coordinate System: NAD 1983 UTM Zone 17N
2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © Queen's Printer for Ontario, 2016.
3. Orthoimagery © First Base Solutions, 2018. Imagery Date, 2017.

#### Legend

- Addendum Study Area
- Existing Storage Track
- Watercourse
- Municipal Boundary - Lower Tier
- Parcel Boundary (Approximate)
- Waterbody

0 40 80 metres  
1:3,000 (at original document size of 8.5x11)



Project Location  
Regional Municipality  
Of York

160950996 REVA  
Prepared by CMC on 2018-10-17  
Technical Review by BCC on 2018-08-02

Client/Project  
METROLINX  
LINCOLNVILLE STATION  
EPR ADDENDUM

Figure No.

1-2

Title

Transit Project Assessment Process  
(TPAP) Addendum Study Area

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To complete the specific environmental and technical studies required for this EPR Addendum, discipline-specific Assessment Areas have been defined that extend beyond the Addendum Study Area (for instance, a broader regional area was used for groundwater and land use purposes, while the terrestrial and cultural heritage assessment included additional buffers beyond the property boundary). These Assessment Areas are described in greater detail in Section 3.0 of this EPR Addendum and summarized in Table 1-1.

**Table 1-1: Assessment Areas by Discipline Study**

<b>Discipline Study</b>	<b>Assessment Area</b>
Terrestrial Environment Summary Report	Within 120 m of the Addendum Study Area
Fisheries Habitat Assessment	Field assessment within the limits of the Addendum Study Area
Interim Hydrological Evaluation	Addendum Study Area and upstream watershed catchment area
Preliminary Stormwater Management Report	Addendum Study Area
Hydrogeological and Wetland Assessment	Addendum Study Area
Soils Quality	Addendum Study Area
Tree Inventory	Addendum Study Area and adjacent properties
Socio-Economic Preliminary Assessment	Addendum Study Area and adjacent properties
Stage 1-2 Archaeological Assessment	Addendum Study Area
Cultural Heritage Screening	Addendum Study Area plus properties within a 50 m buffer of the Study Area
Air Quality Evaluation	Addendum Study Area and surrounding area extending 500 m from the property lines
Acoustic Assessment	Addendum Study Area and surrounding area extending 500 m from the property lines
Traffic Impact Study	Addendum Study Area and adjacent intersections

# **Lincolnville Layover and GO Station Improvements IT-2017-EC-010: Environmental Project Report Addendum**

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## **1.3.2 Updated Project Description Results in Significant Changes**

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. The proposed relocated Lincolnville GO Station is considered inconsistent with the EPR as the effects of this facility on the environment were not considered in the EPR. Refer to Section 2.0 for further detail on the update to the Project description.

## **1.3.3 Studies Prepared in Support of the TPAP EPR Addendum**

Environmental and technical studies were undertaken in 2018 to determine the existing environmental conditions within and in the vicinity of the Study Area. Environmental studies provide a snapshot of existing conditions in order to assess the extent of the potential effects associated with the proposed new station, identify appropriate mitigation measures and inform progressive design decisions.

Natural, technical, social and cultural conditions were characterized through the completion of the following environmental studies:

- Terrestrial Environment Summary Report
- Fisheries Habitat Assessment
- Interim Hydrological Evaluation
- Hydrogeological and Wetland Assessment
- Pre-Development Water Balance Assessment
- Preliminary Stormwater Management Report
- Soils Quality and Soil Management Plan (SQSMP)
- Phase I Environmental Site Assessment and Recommendations 12902 Tenth Line, Stouffville, Ontario
- Additional Soil Sampling, Field Visit of June 21, 2018
- Additional Soil Sampling, Field Visit of July 17, 2018
- Tree Inventory
- Socioeconomic Preliminary Assessment Report

# **Lincolnville Layover and GO Station Improvements IT-2017-EC-010: Environmental Project Report Addendum**

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- Stage 1-2 Archaeological Assessment
- Cultural Heritage Screening
- Air Quality Evaluation
- Acoustic Assessment
- Traffic Impact Study

The results of these studies are summarized in Section 3.0. The detailed reports are available in Appendix A.

## **1.4 TPAP EPR Addendum Process**

The Lincolnville Layover and GO Station Improvements EPR Addendum is being carried out under Section 15 of O. Reg. 231/08, which includes provisions for proponents to make changes to a transit project after the Statement of Completion is submitted to the Director of the Environmental Assessment and Approvals Branch of the Ministry of the Environment, Conservation and Parks (MECP) and the MECP Regional Director.

In compliance with Section 15(1) of O. Reg. 231/08, Metrolinx has prepared this Addendum to the EPR. Metrolinx has determined that the change to the Project is significant and therefore the publication of a Notice of Environmental Project Report Addendum and a 30-day comment period is required.

The following are the key steps in the EPR Addendum process under TPAP:

- prepare an assessment of the effects the proposed change may have on the environment
- prepare and distribute an EPR Addendum
- prepare and distribute a Notice of Environmental Project Report Addendum
- conduct a final review by the public and stakeholders prior to proceeding with the proposed Addendum.

In addition to the required key steps listed above, in order to enhance the planning process for this project, Metrolinx has voluntarily conducted additional consultation, including a Public Meeting, as described in Section 5.2. The consultation completed for this Addendum to the EPR is generally consistent with consultation that would be undertaken for a new TPAP.

# **Lincolnville Layover and GO Station Improvements IT-2017-EC-010: Environmental Project Report Addendum**

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## **1.4.1 Content of the EPR Addendum Relative to Section 15 of O.Reg. 231/08**

Consistent with O. Reg. 231/08, Section 15 (1), for all changes to the project that are inconsistent with the EPR, this Addendum to the EPR includes the following information:

- a description of the proposed change (Section 1.1)
- the reason for the proposed change (Section 1.2)
- an assessment and evaluation of any effects that the proposed change might have on the environment (Section 4.0)
- a description of any proposed measure for mitigating any negative effects that the proposed Project might have on the environment (Section 4.0)
- a statement of whether the proponent is of the opinion that the proposed change is significant (or not), and reason for the opinion (Section 4.0).

To support this assessment, the following information, that is generally consistent with what is required for a new TPAP, has been included in this Addendum to the EPR:

- update to the project description (Section 2.0)
- summary of existing conditions (Section 3.0)
- a description of the consultation process and activities (Section 5.0)
- commitments to future work (Section 6.0).

## **1.4.2 EPR Addendum Approval Process**

Subsequent to completion of this EPR Addendum, and filing a Notice of Environmental Project Report Addendum, the EPR Addendum document is made available to: the public, regulatory agencies, elected officials, Indigenous communities and other interested persons for review. The public review period will be for 30 days, in accordance with O. Reg. 231/08. Interested persons may submit objections to the transit project within the 30-day period to be considered by the Minister of the Environment, Conservation and Parks (the Minister). Should an objection be made that cannot be resolved within the 30-day period, a person may elect to request of the Minister that the TPAP study comply with Part II of the Environmental Assessment Act. To do so, a Part II Order Request Form must be used to request a Part II Order. The Part II Order Request Form is available online on the Forms Repository website (<http://www.forms.ssb.gov.on.ca/>) by searching “Parts II Order” or the form ID number “012-2206E”. Objections received after the 30-day public review period will not be considered by the Minister.



## **Lincolnville Layover and GO Station Improvements IT-2017-EC-010: Environmental Project Report Addendum**

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After the 30-day public review period, the Minister has 35 days to consider whether the project may have a negative impact on a matter of provincial importance or a constitutionally protected Aboriginal or treaty right. The Minister may issue one of three notices, stating either that “the project can proceed”, “the project can proceed subject to conditions”, or “the proponent must conduct additional work prior to proceeding”. If the Minister does not act within the 35-day period, the transit project may proceed as planned in the EPR Addendum.



# **Lincolnville Layover and GO Station Improvements IT-2017-EC-010: Environmental Project Report Addendum**

Update of the Project Description  
February 19, 2019

## **2.0 Update of the Project Description**

The following sections describe the revised Project within the Addendum Study Area.

### **2.1 Guiding Principals**

#### **2.1.1 Design Principals**

In keeping with the goals and objectives of regional transit planning and provincial and local policy direction, the development of a relocated Lincolnville GO Station is required to:

- increase ridership safety
- accommodate future ridership growth
- enhance pedestrian and cycling access and amenities
- provide barrier-free access to existing parking.

The following design criteria were followed in consideration of track design, structural elements, and foundation during the development of design options:

- Metrolinx – Design Requirements Manual
- Ontario Building Code
- AREMA Manual for Railway Engineering
- CN Design Guidelines
- Transport Canada Regulations

A set of Design Principles were developed to establish a vision for the site, and provide direction for the development of design options. These include:

- accommodate separate modes of travel
- ensure connectivity to community pathways/walkways and transit
- create safe, durable universally accessible walkways that connect the platforms to the parking areas
- provide a network of pedestrian pathways

## **Lincolnville Layover and GO Station Improvements IT-2017-EC-010: Environmental Project Report Addendum**

Update of the Project Description  
February 19, 2019

- plan for future expansion through flexible design
- provide intuitive way-finding towards major site elements
- maximize barrier free routes
- use sustainable materials and technologies
- integrate with local communities and municipalities
- enhanced customer experience and public realm
- facilitate a safe and comfortable experience for our customers.

### **2.1.2 Operations Plan**

#### **2.1.2.1 GO Train Service**

The Lincolnville Layover and GO Station was originally developed to exclusively serve as a layover facility for the Stouffville rail corridor. The station was added to the site in 2008 to provide a northerly extension of passenger service from Stouffville to Lincolnville. However, due to its proximity to a layover facility, the existing station services are limited and require upgrades to accommodate predicted future ridership.

Ridership results from Metrolinx's Fall 2016 cordon counts estimate the following number of riders at the existing Lincolnville Layover and GO Station:

- AM Peak Hour
  - 211 average rail passenger boardings;
  - 22 average bus passenger alightings.
- PM Peak Hour
  - 233 average rail passenger alightings;
  - 22 average bus passenger boardings.

By 2031, Metrolinx anticipates ridership to increase to 550 passenger boardings and alightings during the weekday a.m. and p.m. peak hours. In order to accommodate the anticipated increase in ridership, the station is required to be relocated.

# **Lincolnville Layover and GO Station Improvements IT-2017-EC-010: Environmental Project Report Addendum**

Update of the Project Description  
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## **2.1.2.2 Bus Service**

GO buses typically operate during non-peak hours when trains are in operation. Throughout the day there are 49 buses coming in and leaving the station. 20 southbound GO buses leave the station for Union Station, 6 additional southbound buses come to Lincolnville from Uxbridge. 17 buses travel northbound from Union Station and stop at Lincolnville, plus an additional 6 buses from Lincolnville to Uxbridge. However, during the evening when trains are northbound, there are two southbound GO buses and one northbound GO bus from Lincolnville to Uxbridge during a one-hour period. There is no York Region Transit or Viva bus service at the Lincolnville Station.

## **2.2 Design Elements (Including Typical Criteria)**

Key design components and other design details are described in Section 2.0 of the EPR for the Lincolnville Layover and GO Station Improvements (Stantec 2018) which previously assessed the improvements at the existing Lincolnville Layover and GO Station facility. This facility is located on a different site than the proposed relocated Lincolnville GO Station that is being assessed in this EPR Addendum.

The key components of the design and construction activities included in the original EPR are as follows:

- The removal of existing platforms and replacement with storage tracks which may necessitate the realignment of existing storage tracks and associated facilities for a total of nine storage tracks.
- Upgrades to the existing systems, including but not limited to electrical, communication, and mechanical systems.

In addition, the following other improvements are required to facilitate the proposed work:

- Grading and drainage modifications, including upsizing an existing stormwater management (SWM) pond, and the construction of a retaining wall.
- Two new diesel fueling stations will be installed adjacent to the tracks.
- Realignment of the existing tracks and construction of new tracks will be done in phases in order to maintain the yard operation and minimize effects on passenger service during the construction.

The proposed improvements to the Lincolnville Layover and GO Station will allow for additional train storage, while maintaining maintenance and fueling operations to current standards. The proposed improvements will allow full through movement for rail cars

## **Lincolnville Layover and GO Station Improvements IT-2017-EC-010: Environmental Project Report Addendum**

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into and out of the MOW tracks and yard area. Maintenance activities will remain the same, however will be expanded to accommodate the additional trains. Although track geometry and alignment will be adjusted for the Layover Facility, no change to the existing Stouffville rail corridor is required.

The EPR for the Lincolnville Layover and GO Station Improvements (Stantec 2018) did not examine changes to the GO station location and as described in Section 7.5 of the EPR, changes to the GO Station location are now required which is being examined in further detail in this Addendum to the EPR.

### **2.3 Revised Design**

The existing Lincolnville Layover and GO Station site does not provide sufficient space for the enhanced GO station facilities that are required to support GO Expansion objectives or an enhanced, comfortable customer experience. Therefore, the revised design includes relocating the Lincolnville GO Station to a new site. The proposed location of the station site is 12902 and 12958 Tenth Line in the Town of Whitchurch-Stouffville, southwest of the existing site in the Regional Municipality of York. The proposed location provides suitable land area to relocate the existing passenger facility operations and expanded service and facility upgrades. The conceptual design of the proposed relocated Lincolnville GO Station is provided in Figure 2-1. The design has been advanced to a conceptual level for assessment purposes, and refinements can be anticipated as it is progressed and finalized. This may include minor adjustments to final components (e.g., number of parking spaces); however, the conceptual design is not anticipated to change to the extent where environmental effects would substantially change.

The following components will be established at the relocated Lincolnville GO Station to support the service upgrades required as part of the GO Expansion:

- A parking area that will accommodate approximately 719 vehicles including accessible parking spaces and motorcycle/scooter parking.
- One single-sided canopy-covered passenger platform with new enclosed waiting areas. Access to the passenger platform is provided via concrete pathways to the bus loop, bus and bike shelter, vehicle parking areas and PPUDO.
- A PPUDO area that will be located adjacent to the platform and sized for approximately 24 vehicles with a taxi/drop-off area near the platform.
- A bus loop will be provided along with two bus shelters and bays.
- Bike shelters will be situated adjacent to the station platform.

## **Lincolnville Layover and GO Station Improvements IT-2017-EC-010: Environmental Project Report Addendum**

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- Painted bicycle paths and a single storage rack located adjacent to the station platform at the west-central portion of the proposed site.
- One mechanical, electrical & communication services building.
- Regrading of the existing track profile; which does not require horizontal realignment.
- A placeholder for a future “plaza” space for a new station building to be located within the west-central portion of the site, adjacent to the future rail platform to be built in the future.

Access to the site will be provided via three entrance/exits from Tenth Line.

1. A signalized southern access road exclusively for the bus loop to accommodate two lanes of travel (i.e., one lane in each direction). Access to the entrance will be limited to bus traffic only.
2. A non-signalized northern access road to accommodate two lanes of travel (i.e., one lane in each direction) and a right in-right out entrance and exit. The access will be exclusive to PPUDO and patron parking areas.
3. A central access road offering full access to/from the site. The access will be exclusive to PPUDO and the patron parking areas and include a direct route for cyclists from Tenth Line to bike storage racks. Cyclists will be accommodated through painted bicycle paths.

A sight line assessment was completed for the proposed site accesses at Tenth Line; the available sight distance meets all minimum sight lines recommended by the Transportation Associate of Canada. Furthermore, there are currently no obstructions that would restrict the sightlines for vehicles approaching or exiting the proposed driveways at Tenth Line.

The landscape design strategy is intended to be respectful of the station’s rural surroundings while connecting to the urban nature of the station. The main landscape zones would include a hedgerow buffer, the existing wetland feature, parking and public waiting area. The internal roadways and pedestrian routes would be framed with streetscape features (e.g., planting beds, appropriate lighting, street trees and hedgerows), while the perimeter of the site would include hedgerows that recognize the rural nature of the community. A variety of deciduous and coniferous species would be used to create year-round interest throughout the site.

## **Lincolnville Layover and GO Station Improvements IT-2017-EC-010: Environmental Project Report Addendum**

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Through the preliminary planning activities for the proposed relocated Lincolnville GO Station site and consultation with the Ministry of Natural Resources and Forestry (MNRF) and the Toronto and Region Conservation Authority (TRCA), it was identified that an unevaluated wetland exists on the property. In an effort to preserve the features and/or functions of the wetland, while allowing for the required passenger facilities to be located on the site, Metrolinx has identified a conceptual site layout that limits wetland encroachment and meets the applicable environmental regulations and policies as described further in Section 2.3.1.

In keeping with policy considerations, Metrolinx examined six alternative configurations for the site layout. The layout presented herein was the only configuration that allowed Metrolinx to meet all of the design requirements, operational and safety considerations, and passenger experience metrics, while mitigating the impacts of the proposed development on the ecological and hydrological functions of the wetland.

### **2.3.1 Applicable Policy**

#### **2.3.1.1 Oak Ridges Moraine Conservation Plan (ORMCP)**

The Addendum Study Area is designated as a Settlement Area in the Oak Ridges Moraine Conservation Plan (ORMCP), 2017. The ORMCP is an ecologically based plan established by the Ontario government to provide land use and resource management direction. Through consultation with the TRCA and MNRF, it was determined that the wetland within the Addendum Study Area is classified as a key natural heritage feature under the ORM and therefore, development and site alteration for transportation/transit infrastructure is only permitted if the need for the project has been demonstrated and there is no reasonable alternative. A discussion of the need for, and alternatives to the project, is presented in Sections 1.1, and 2.3, respectively. Further, under the ORMCP, infrastructure development is allowable subject to minimizing (though not eliminating) the encroachment and effect of the development on the ecological functions and hydrological features of wetlands and other key natural heritage features. As per section 41 (5) of the ORMCP:

Infrastructure may be permitted to cross a key natural heritage feature or a key hydrologic feature if the applicant demonstrates that,

- (a) the need for the project has been demonstrated and there is no reasonable alternative;
- (b) the planning, design and construction practices adopted will keep any adverse effects on the ecological integrity of the Plan Area to a minimum;



## **Lincolnville Layover and GO Station Improvements IT-2017-EC-010: Environmental Project Report Addendum**

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- (c) the design practices adopted will maintain, and where possible improve or restore, key ecological and recreational linkages, including the trail system referred to in section 39;
- (d) the landscape design will be adapted to the circumstances of the site and use native plant species as much as possible, especially along rights of way; and
- (e) the long-term landscape management approaches adopted will maintain, and where possible improve or restore, the health, diversity, size and connectivity of the key natural heritage feature or a key hydrologic feature.

The development must, to the extent possible, not adversely affect the ecological integrity of the Plan Area. The ORMCP allows for infrastructure, including all above- and below-ground structures and facilities associated with transit lines, railways and stations, to cross through a key natural heritage feature (including a wetland), however a definition of “cross” is not provided in the ORMCP.

As noted in Section 1.1, no reasonable alternative locations for the relocated station site were available, and site layout options are restricted by design and operational needs. Metrolinx has committed to limiting any adverse effects on the ecological integrity of the Plan Area to the extent feasible through the planning, design and construction practices adopted for the site, and will work closely with the TRCA through the Voluntary Project Review process during detailed design activities to meet this commitment. This will include consideration of opportunities to maintain hydrological and ecological linkages (no recreational linkages are present as the Site is formerly private property), the use of native plant species to the degree possible, and the development of landscape and stormwater management plans that will maintain the health, diversity, size and connectivity of the wetland.

Metrolinx has developed the conceptual design of the site to avoid development within the wetland to the extent feasible but will require one crossing of the wetland to safely accommodate a bus loop. Outside of this one crossing, Metrolinx will implement an adequate buffer around the staked limit of the wetland, the dimensions of which will be confirmed through the completion of a Scoped Environmental Impact Study (EIS), to be reviewed by the TRCA as detailed design activities progress.

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### **2.3.1.2 Toronto and Region Conservation Authority Policy**

TRCA policies for development and interference with wetlands and their areas of interference are outlined in Section 8.7 of The Living City Policies (TRCA 2014). Development and/or interference is not generally permitted within provincially significant wetlands, wetlands on the Oak Ridge Moraine, or other wetlands. However, further discussion may occur regarding public or essential infrastructure projects if it can be demonstrated that there are no other reasonable alternatives to avoid effects to the wetland and all options have been thoroughly explored.

Through the Voluntary Project Review process, any proposed works within the Regulated Area (includes wetland and area of interference) must demonstrate that the development will not affect the control of flooding, erosion, dynamic beaches, pollution, or the conservation of land. Efforts to reduce or eliminate negative effects to the wetland must be explored, and if effects are unavoidable, compensation in line with TRCA's *Guideline for Determining Ecosystem Compensation* (2018) should be provided.

Metrolinx has developed the design of the site to avoid development within the wetland to the extent feasible and efforts to reduce negative effects to the wetland have been incorporated into the design. Consultation with the TRCA will continue following the TPAP, to explore opportunities to refine the conceptual design to meet TRCA policy.

### **2.3.1.3 Municipal Plans and the CTC Source Protection Plan**

Under the Regional Municipality of York's Official Plan and the CTC Source Protection Plan (SPP), the site is located within a Wellhead Protection Area (WHPA) associated with two groundwater supply wells for the Town of Whitchurch-Stouffville, and within an Aquifer Vulnerability area. Due to these hydrogeological designations, extra site-specific plans and mitigation measures may be warranted for the proposed site development, as dictated by the ORMCP, SPP and the Regional Municipality of York. This includes the SPP's requirement of a salt management plan to reduce the future use of salt.

The Community of Stouffville Secondary Plan has designated the site as Rural and Greenland Area. The Greenland Area designation has been designed to implement ORM policies, including improving natural linkages; while the Rural designation allows agricultural and associated uses. Major transit and transportation facilities are not included in either designation, and as such the land use designation will have to be changed in order to allow the proposed GO Station. Though Metrolinx is not subject to municipal zoning as a provincial agency, Metrolinx does respect and follows the intent of the municipal zoning by-laws where possible and has consulted with the Town of Whitchurch-Stouffville on the proposed development.

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Update of the Project Description  
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### **2.3.1.4 Wetland Policy**

The wetland feature is addressed predominantly through the ORMCP policies and their implementation through municipal planning documents. In addition, the Ministry of Natural Resources and Forestry has developed policy directions for wetlands in Ontario through A Wetland Conservation Strategy for Ontario 2017-2030 (MNRF 2017). While this strategy aims to achieve no net loss for Ontario's wetlands due to development, there is recognition within the document that development pressures, particularly within the southern portion of the province, may be too strong to protect remnant and small wetlands in certain areas.

To address this, the document proposes the development of a wetland offsetting policy. Although an offsetting policy has yet to be written, this shows the intent of the MNRF to address situations in which wetland loss is not avoidable. The approach, sometimes referred to as a 'net gain', could be set within a mitigation hierarchy, and the Ontario government remains committed to offsetting only being used as a last resort when wetlands cannot be maintained/enhanced. The preliminary design of the relocated Lincolnville GO Station involves maintaining the pond and wetland feature on the site and relocating most infrastructure outside of a reduced buffer.











# **Lincolnville Layover and GO Station Improvements IT-2017-EC-010: Environmental Project Report Addendum**

Existing Conditions  
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## **3.0 Existing Conditions**

This Section of the EPR Addendum describes the existing environmental conditions within the Addendum Study Area (and broader Assessment Areas, where applicable). The existing conditions are used as the basis for measuring the potential environmental effects of the proposed works and to inform the identification of appropriate avoidance or mitigation measures.

The following subsections describe the key environmental components of the site:

- Natural Environment
  - Vegetation
  - Wildlife and Wildlife Habitat
  - Surface Water, Hydrology and Fish and Fish Habitat
  - Stormwater Management
  - Hydrology and Groundwater
  - Soils and Geology
  - Tree Inventory
- Social Environment
  - Land Use and Users
- Cultural Environment
  - Archaeology
  - Cultural Heritage
- Technical Environment
  - Air Quality
  - Noise and Vibration
  - Traffic and Transportation

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Detailed information for each of the environmental components is provided in the background reports located in Appendix A.

## **3.1 Natural Environment**

The following sections describe existing conditions related to the natural environment. These include descriptions of:

- Vegetation within the Addendum Study Area, including vegetation Species at Risk (SAR) and Species of Conservation Concern (SOCC).
- Wildlife that was or could be observed within the Addendum Study Area, including wildlife SAR and SOCC as well as potential wildlife habitat.
- Surface water within and adjacent to the Addendum Study Area, including the onsite wetland, and the aquatic environment and species that identified surface water bodies support.
- Built and natural features within the Addendum Study Area that manage the flow of stormwater within the Addendum Study Area.
- The flow and quality of groundwater within and adjacent to the Addendum Study Area, including the form and function of the onsite wetland.
- The quality of soils within the Addendum Study Area and the characteristics of area geology.
- Existing trees growing within and adjacent to the Addendum Study Area.

### **3.1.1 Vegetation**

Vegetation includes plants and the combination of land-based natural features that provide habitat for plant and animal species, including plant SAR and SOCC. SAR are any plants, animals, birds or fish that are listed as endangered, threatened, special concern or extirpated on the Species at Risk in Ontario List provided in O. Reg. 230/08. SOCC are species listed as special concern on Schedule 2, Schedule 3 or No Schedule of the *Species at Risk Act*, and also include provincially rare species ranked as S1-S3 by the Natural Heritage Information Centre (NHIC).

#### **3.1.1.1 Methodology**

The existing natural environment conditions within the Vegetation Assessment Area were identified based on a desktop review of relevant secondary source information, as well as correspondence with the TRCA and the MNRF. Field investigations, including a



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botanical inventory, were carried out in January through July 2018 to supplement the existing secondary source information.

The MNR's NHIC online database (NHIC 2015) and Land Information Ontario (LIO 2016) Natural Heritage Area Mapping tool were reviewed to identify potential SAR, provincially rare species and natural areas, Areas of Natural and Scientific Interest (ANSI), and other significant features. Detailed vegetation community mapping and botanical inventories were conducted using the Ecological Land Classification (ELC) system.

Full detail on the vegetation and species at risk can be found in Appendix A1.

### **3.1.1.2 Existing Conditions**

The following vegetation communities are present within the Vegetation Assessment Area, and are delineated in Figure 3-1:

- Dry-Fresh Forb Meadow (MEFM1): Meadow community with abundant goldenrod and clover cover. Other species comprising this community included wild carrot, birds-foot-trefoil, cow vetch and various grasses. This community is highly disturbed with large amounts of refuse spread through the entire community.
- Fresh-Moist Mixed Meadow (MEMM4): Community supports a mix of graminoid and herbaceous cover, with alternating dominance between various grasses such as reed-canary grass and orchard grass and herbaceous species such as dandelion, thistles, ox-eye daisy and wild carrot.
- Coniferous Forest (FOCM6-3): Community adjacent to the residence at the north portion of the site dominated by scotch pine. This community appears to be planted but not maintained. Regeneration and dense herbaceous ground cover was noted in this community from the roadside.
- Meadow Marsh (MAMM1-3): Dominated by reed-canary grass and surrounds the open aquatic (pond) feature on the site.
- Annual Cover Crops (OAGM1): Predominantly corn or soy crops surrounding the site.
- Orchard (SAGM2): A mature treed fruit orchard. Community appeared to undergo regular maintenance, as the grass was short and the overall community was well maintained.

One area of wetland was identified in the Addendum Study Area which was considered 'Status to be Determined' by the MNR. A preliminary wetland delineation was completed on January 31, 2018 and was associated with the existing pond and small

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tributary located on the subject property. Further confirmation, identification and delineation of wetland boundaries were completed in the appropriate season as per the Ontario Wetland Evaluation System (OWES) criteria. A formal wetland delineation was completed by Stantec, MNRF and TRCA on June 5, 2018. In addition, the MNRF is currently evaluating the wetland to determine whether or not it will be considered a provincially significant wetland (PSW); however, as noted above, the protections for the wetland are the same under the ORMCP regardless of the status of the hydrological feature.

The wetland communities on the site and associated OWES wetland boundaries were determined through the boundary staking survey with Stantec, MNRF and TRCA are shown on Figure 3-1. The wetland feature includes a pond and surrounding meadow marsh (MAMM1-3) community.

There are currently no areas that have been designated by the MNRF as designated natural areas within the Vegetation Assessment Area. However, the following are located within 1 km of the Study Area: Goodwood/Glasgow Wetland Complex; Stouffville Marsh; and Stouffville Forest. None of these features are considered to be close enough to be affected by the proposed development at the site.

A total of 101 species of vascular plants were recorded as part of the botanical inventory, of which 37 are native to Ontario and 64 are exotic species, not native to the province. A complete list of plant species is identified in Appendix A1. 36 of the 37 native species have a rank of S5, indicating they are common and secure within Ontario. The remaining native species had a rank of S4 (apparently secure). The background review identified records of Butternut, a species listed as endangered provincially and federally, in the vicinity of the Vegetation Assessment Area; however, this species was not identified in the Vegetation Assessment Area. No SAR or SOCC plant species were observed in the Vegetation Assessment Area.









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### **3.1.2 Wildlife and Wildlife Habitat**

Wildlife refer to land-based animals (including mammals, insects, amphibians and birds), that occupy the terrestrial environment for all or a part of their life cycle, including breeding, feeding, or stopover during migration, including wildlife SAR and SOCC. The presence or absence of significant wildlife habitat is considered indicative of the potential presence of wildlife.

#### **3.1.2.1 Methodology**

A desktop review was completed to determine the potential for the presence of SAR and SOCC within the Wildlife Assessment Area. Following the review, field surveys were carried out in May through July 2018 to supplement the existing secondary source information. ELC community delineation was undertaken during field investigations within the Wildlife Assessment Area to determine the extent of potential habitats of the identified species. Observations of wildlife were completed around the wetland, as well as elsewhere on the site. Observations were noted and added to all pertinent species lists, including both direct (visual, audible) and indirect (scat, browse, tracks) observations. In addition, an assessment of potential significant wildlife habitat features was undertaken and included searches for reptile hibernacula, bat roosts, stick nests, seeps and vernal/seasonal pools.

Full details on wildlife, SAR and SOCC can be found in Appendix A1.

#### **3.1.2.2 Existing Conditions**

Based on background data review, recent records of 17 wildlife SAR or SOCC were identified in the vicinity of the Wildlife Assessment Area: Monarch Butterfly, Snapping Turtle, Midland Painted Turtle, Western Chorus Frog (Great Lakes Population), Bank Swallow, Barn Swallow, Bobolink, Canada Warbler, Chimney Swift, Eastern Meadowlark, Eastern Wood-pewee, Grasshopper Sparrow, Wood Thrush, Little Brown Myotis, Northern Myotis, Eastern Small-footed Myotis and Tri-colored Bat. Exact locations of species occurrences are not available from databases or atlases, and the potential for species to be present is limited by habitat suitability and availability. Therefore, the identified species recorded from these databases may not occur on or adjacent to the subject property. Based on the ELC and wildlife habitat assessments, it was determined that the wildlife assessment area has the potential to support four wildlife SOCC and seven wildlife SAR. Results of field investigations and habitat assessments for these 11 species are discussed below.

##### **3.1.2.2.1 Monarch Butterfly**

The Monarch butterfly is currently listed as special concern provincially and federally and is not afforded habitat protection. Four adult Monarchs were identified during field

## **Lincolnville Layover and GO Station Improvements IT-2017-EC-010: Environmental Project Report Addendum**

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investigations; however, as preferred habitat of abundant milkweed and preferred wildflowers for Monarch was not identified on the site and therefore habitat for Monarch is not considered present on the site.

### **3.1.2.2.2 Midland Painted Turtle**

Midland Painted Turtle is currently listed as special concern federally and has not been assigned to a schedule. This species is not currently included on the SARO list and is provided for review by COSSARO in fall 2018. Midland Painted Turtle inhabit ponds, marshes, lakes, slow-moving creeks with soft bottoms where basking sites are abundant. Suitable habitat for this species occurs in the pond on the site, where this species was observed on two separate occasions basking on the shoreline.

### **3.1.2.2.3 Snapping Turtle**

Snapping Turtle is listed as special concern provincially and federally and is not afforded habitat protection. Although this species was not observed during field investigations, the pond provides suitable basking and overwintering habitat. Snapping Turtle has the potential to occur on the site in the pond feature.

### **3.1.2.2.4 Western Chorus Frog (Great Lakes Population)**

Western Chorus Frog (Great Lakes Population) is listed as Threatened federally and is ranked as S3 (vulnerable) provincially. This species is not afforded habitat protection under the *Endangered Species Act*, 2007. Potential habitat for this species may occur in the wetland and pond habitats on the site; however, this species was not recorded during breeding amphibian surveys. As such, this species and its habitat are not considered present on the site.

### **3.1.2.2.5 Barn Swallow**

Barn Swallow is listed as threatened provincially and federally and is afforded habitat protection under the ESA (2007). Barn Swallow were observed flying and foraging over the subject property. In addition, Barn Swallow nesting was confirmed in two buildings on site. As the buildings could not be safely assessed, an estimate of active nests was made from the building entrances. A minimum of seven active nests were identified on the subject property.

### **3.1.2.2.6 Bobolink**

Bobolink is provincially and federally listed as a threatened species and is afforded habitat protection under the ESA (2007). Potential habitat for this species may occur in some of the meadow communities on the site; however, this species was not recorded

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during breeding bird surveys. As such, this species and its habitat are not considered present on the subject property.

### **3.1.2.2.7 Eastern Meadowlark**

Eastern Meadowlark is provincially and federally listed as a threatened species and is afforded habitat protection under the ESA (2007). Potential habitat for this species may occur in some of the meadow communities on the site; however, this species was not recorded during breeding bird surveys. As such, this species and its habitat are not considered present on the subject property.

### **3.1.2.2.8 Species at Risk Bats**

Four SAR bats have the potential to occur on the subject property, and include Little Brown Myotis, Northern Myotis, Eastern Small-footed Myotis and Tri-coloured Bat. Little Brown Myotis, Northern Myotis and Tri-coloured Bat are provincially and federally listed as an endangered species. Eastern Small-footed Myotis is provincially listed as an endangered species. All four bat species are afforded habitat protection under the ESA (2007). Limited potential for natural roosting habitat (i.e. sang/cavity trees) was identified on the subject property. No forest or woodlot areas are located on the subject property. Potential bat roosting habitat may occur in two of the buildings on the site. As preferred roosting habitat for Northern Myotis and Tri-coloured Bat doesn't typically include buildings, potential roosting habitat in these buildings may support Little Brown Myotis and Eastern Small-footed Bat.

## **3.1.3 Surface Water, Hydrology and Fish and Fish Habitat**

The surface water, hydrological and fish and fish habitat is encompassed within all permanent bodies of still or flowing water and their riparian area (banks), including all parts of the bodies in which aquatic species may spend parts of their lifecycles.

### **3.1.3.1 Methodology**

A desktop assessment was performed to identify existing water bodies and potential fish habitat within the Addendum Study Area. Field investigations were then conducted within the Addendum Study Area, including the surface water flows into and surrounding the wetland, to confirm the limits and characteristics of water bodies and aquatic habitat within the Addendum Study Area.

Full details on fisheries habitat and water bodies/hydrological features can be found in Appendices A2 and A3, respectively.

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### **3.1.3.2 Existing Conditions**

A desktop analysis and subsequent field investigation identified three aquatic features present within the Addendum Study Area (illustrated in Figure 3-2), including a tributary of Stouffville Creek, a pond and a local wetland surrounding the pond. Overall drainage across the Addendum Study Area is southward towards Stouffville Creek and ultimately to Stouffville Marsh located approximately 500 m southwest of the Addendum Study Area, which is a Locally Significant Wetland (LSW). Stouffville Creek is a subwatershed within the Duffins Creek watershed and Stouffville Creek is managed as coldwater fish habitat. The intermittent watercourse (tributary of Stouffville Creek) crossing the subject property flows into a tributary of Stouffville Creek that is further classified as Small Riverine Coldwater Habitat (TRCA 2004).

At the south end of the Addendum Study Area there is a pond feature. Based on historical photos and pond morphology, it is evident the pond was dug and was likely used for agricultural purposes. Other than local surface drainage, surface water inflow to the pond is primarily supplied by the Stouffville Creek Tributary that originates to the north of the Addendum Study Area. The pond is hydraulically connected to the shallow water table which likely provides a sink for the pond during drier soil conditions and a source of recharge to the pond during saturated soil conditions. Discharge of pond water via groundwater is expected to be the primary outflow from the pond. Only under extreme rainfall conditions resulting in elevated surface water levels is the pond expected to have any surface water outlet to the surrounding wet meadow marsh. Under these conditions throughout the year, the pond is not expected to be hydraulically connected directly to the surrounding wet meadow marsh but rather it is expected to be connected through the shallow groundwater table.

The wetland upstream and downstream of the pond is mostly flat, heavily vegetated and dominated by reed canary-grass (*Phalaris arundinacea*) with sparse dogwoods (*Cornus* spp.). The wetland on the site is currently considered “Status to Be Determined” by the MNRF. Although the pond is not typically hydraulically connected to surrounding surface water features, the associated wetland is hydraulically connected by a small tributary to the existing Stouffville Marsh located about 500 m downstream. Currently the pond is attenuating surface water flows and acting as a barrier to surface flows downstream.

The wetland is supported by a high-water table and by retention of runoff and snowmelt due to poor drainage as well as seasonal contribution of surface water, either from the flooded tributary or from the pond overflow. The wetland plays a role in flood attenuation of the Stouffville Creek Tributary, retention and modification of nutrients in the tributary and groundwater recharge.



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Based on field observations and the preliminary monitoring data of shallow/deep groundwater and pond water levels it is expected that the pond is hydraulically connected with the wetland (shallow groundwater table). When water levels in the tributary and pond are high the pond feeds the surrounding wetland (i.e. act as a groundwater recharge). It is anticipated however that during extended dry weather periods, groundwater likely provides some source of inflow to the pond.

Based on the findings of the aquatic assessment, except for the pond, aquatic habitat on the property and downstream consists of intermittently flowing, grass-lined swales that likely flow during the spring freshet and large rain events. Fish species captured within the pond include fathead minnow, brook stickleback and northern redbelly dace which are known to inhabit the small riverine coldwater habitats within the Stouffville Creek subwatershed (TRCA 2004). They are also commonly associated with pond habitats within southern Ontario and are generally tolerant to effects due to human activities (Holm et al 2009; Scott and Crossman 1998). The pond on the subject property is not accessible to fish except during very high water resulting from heavy rainfall or spring freshet events that would allow sufficient water depth over the outlet to allow fish to freely move into and out of the pond. Water levels in an offsite pond (which the onsite pond drains towards) limit direct connection to downstream habitats and therefore, it is unlikely that fish can migrate from those habitats into the pond on the site. Furthermore, the lack of permanent flow within the channel limits its ability to provide suitable habitat for most species identified as inhabiting small riverine coldwater habitats in the Duffins Creek watershed. Therefore, the watercourse and pond are not considered to be sensitive fish habitat.

It should be noted that while the Stouffville Creek tributary does not function as direct fish habitat, it contributes flow and nutrients to downstream habitats during the spring freshet and heavy storm events. The remainder of the tributary meets the definition of a Headwater Drainage Feature (HDF) as defined in the Evaluation, Classification and Management of Headwater Drainage Features Guidelines (TRCA and CVC 2014). An assessment was completed, in accordance with the guidelines, to determine the function of the HDF and recommend management options that will maintain its function within the watershed. Based on the assessment, the Stouffville Creek tributary has intermittent flow, wetland riparian habitat, and permanent fish habitat which indicates that the tributary provides an important ecological function within the Stouffville Creek subwatershed. Table 3-1 provides a summary of the HDF assessment.

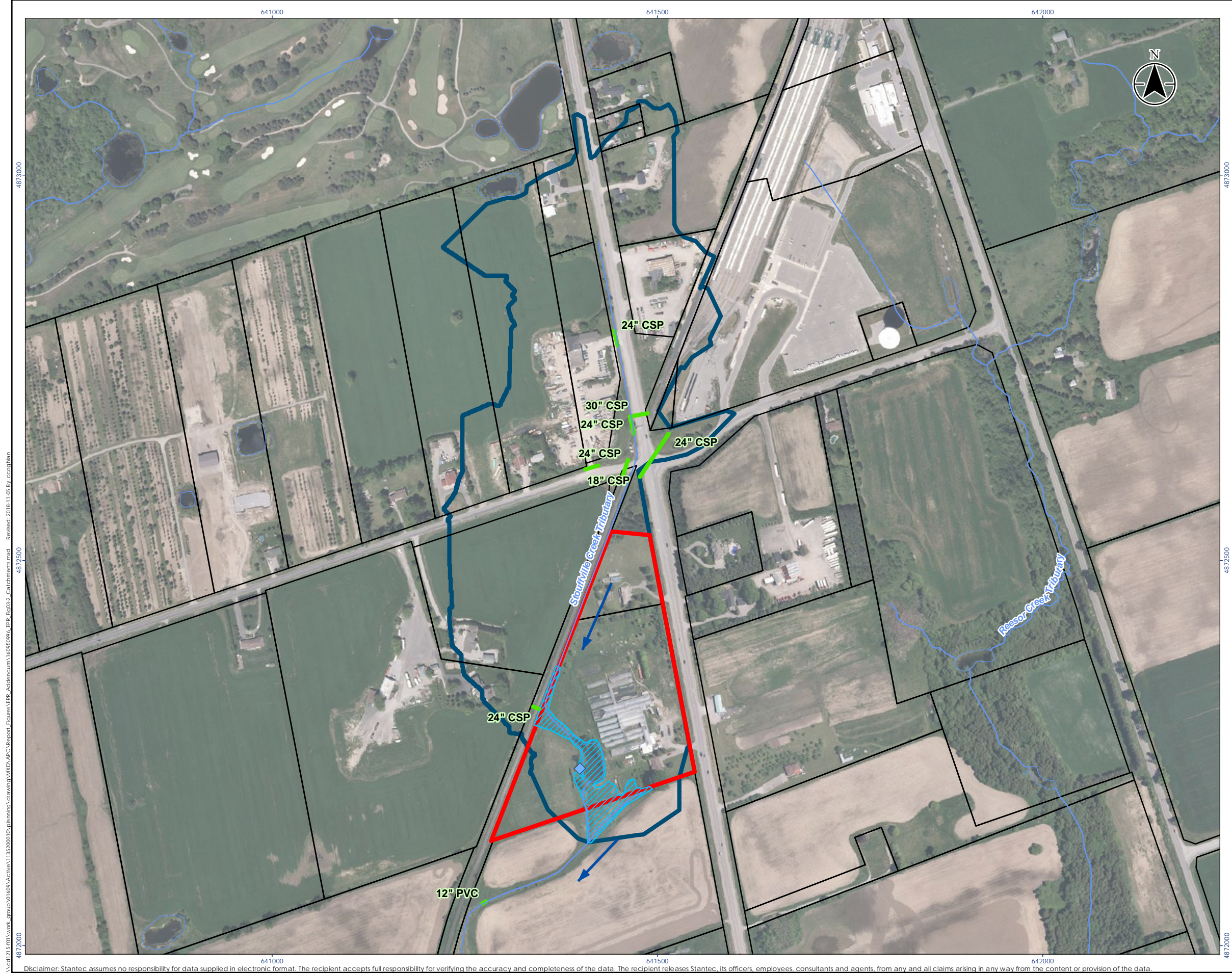
**Lincolnville Layover and GO Station Improvements IT-2017-EC-010:  
Environmental Project Report Addendum**

Existing Conditions  
February 19, 2019

**Table 3-1: Headwater Drainage Feature Assessment**

<b>Drainage Feature Segment</b>	<b>Hydrology</b>	<b>Modifiers</b>	<b>Riparian</b>	<b>Fish Habitat</b>	<b>Terrestrial Habitat</b>	<b>Management Recommendation</b>
1	<b>Contributing:</b> channel flows during spring freshet and rain events	Constructed online pond	Important: riparian zone is a wetland	Important: permanent fish habitat present in pond	Important: breeding amphibians noted in wetland	<b>Protection</b>





- Legend
- Addendum Study Area
  - Water Level Monitoring Station
  - Culvert
  - Surface Water Flow Direction
  - Watercourse
  - Parcel Boundary
  - Waterbody
  - Wetland Limits
  - Wetland Catchment Limit

0 100 200 metres  
1:5,000 (At original document size of 11x17)

- Notes
- Coordinate System: NAD 1983 UTM Zone 17N
  - Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © Queen's Printer for Ontario, 2018.
  - Orthoimagery © First Base Solutions, 2018. Imagery Date, 2017.



Project Location  
Regional Municipality  
Of York

160950996 REVA  
Prepared by SPE on 2018-11-05  
Technical Review by BCC on 2018-08-02

Client/Project  
METROLINX  
LINCOLNVILLE STATION  
EPR ADDENDUM

Figure No.  
3-2

Title  
Assessment Area Watercourses and  
Watershed Catchment Area





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### **3.1.4 Stormwater Management**

Stormwater management refers to the elements of the environment (natural or human-made) that affect the flow of precipitation through the environment once it hits the ground.

#### **3.1.4.1 Methodology**

A desktop assessment was performed to identify existing stormwater management and drainage within the Addendum Study Area. A field investigation was then conducted within the Addendum Study Area, including the surface water flows in and around the wetland, as well as throughout the site and the surrounding area to confirm the limits and characteristics of water flows within the Addendum Study Area. A preliminary assessment of impacts and mitigation measure requirements for stormwater management was prepared based on conceptual designs for the Site. As these designs are subject to refinement and change, it is anticipated that details such as culvert placement and sizing, and the sizing of other stormwater management features proposed for the site, will be further developed as detailed design activities progress.

A pre-development water balance assessment was completed to assess infiltration rates at the site, complete the water balance for the site and confirm groundwater recharge rates.

#### **3.1.4.2 Existing Conditions**

According to the Natural Resources Canada, Topographic Map 30M14, the Addendum Study Area is generally flat, and gently slopes towards the south. There was no evidence of municipal water and/or sewer servicing (i.e., manholes, catch basins) observed at the time of a site visit conducted on November 23, 2017, and on-site drainage was noted to be directed to roadside ditches and culverts bounding the east side of the site. The on-site pond appears to have been constructed based upon the straightened banks and straightened southern shoreline.

Surface water inflow to the pond located at the south end of the Site, other than local surface drainage, is primarily supplied by the Stouffville Creek Tributary that originates to the north of the Site. The pond is also hydraulically connected to the shallow water table which likely provides a sink for the pond during drier soil conditions and a source of recharge to the pond during saturated soil conditions. Discharge of pond water via groundwater is expected to be the primary outflow from the pond. Only under extreme rainfall conditions resulting in elevated surface water levels is the pond expected to have any surface water outlet to the surrounding wet meadow marsh. Under these conditions throughout the year, the pond is not expected to be hydraulically connected

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directly to the surrounding wet meadow marsh but rather it is expected to be connected through the shallow groundwater table.

The pre-development water balance assessment found that, based on available data, the site infiltrates an annual water volume of 5,295 m<sup>3</sup> to the local groundwater system, equating to an infiltration rate of 91 mm/yr.

Further detail on stormwater management can be found in Appendix A4.

### **3.1.5 Groundwater**

Groundwater refers to below-ground water conditions and includes a discussion of the presence or absence of drinking water wells and wellhead protection areas.

#### **3.1.5.1 Methodology**

A desktop study of policies related to groundwater flowing through the Addendum Study Area was undertaken to determine how the proposed relocated Lincolnville GO Station is affected by government policy. A geotechnical investigation was carried out within the Addendum Study Area in 2018, from which water samples and levels were obtained and analyzed. It involved the drilling of five boreholes within and/or adjacent to the onsite wetland to depths of approximately 2.7 – 7.6 m. Multi-level monitoring wells and drive-point piezometers were installed, and groundwater levels and quality samples were collected.

Full detail on groundwater conditions can be found in Appendix A5.

#### **3.1.5.2 Existing Conditions**

The Town of Whitchurch-Stouffville is supplied by a groundwater supply system consisting of 5 wells. The Addendum Study Area lies within the combined wellhead protection areas (WHPA) for three of these supply wells, within a 25-year time of travel zone.

The Addendum Study Area falls within WHPA-C of the Whitchurch-Stouffville Water Supply System. The Study Area falls within the Settlement Development Area of the ORMCP, and extra site-specific plans and mitigation measures may be warranted as dictated by both the ORMCP and the York Region Official Plan.

The aquifer in this area is mapped with a vulnerability score of six or eight, meaning that there are no significant chemical, pathogen or dense non-aqueous phase liquids (DNAPL) threats that may be identified in this area. Under the *Clean Water Act*, and based on the location of the proposed relocated Lincolnville GO Station, certain industrial chemicals, including DNAPL, are not allowed to be stored in any way, in any amounts, at the site. The Site also falls within an area mapped as a WHPA-Q, which is

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an area associated with a water quantity stress. In these areas, any activity which reduces the recharge to the aquifer and/or takes water without returning it to the same source may be considered a significant water quantity threat.

Two separate data sources available from the TRCA and York Region were evaluated with respect to Significant Groundwater Recharge Areas (SGRA) and Highly Vulnerable Aquifers (HVA). Based on the most conservative of these two data sources, much of the Site is mapped as a SGRA, with areas to the east identified as areas with an HVA (Region of York 2016).

MECP well records indicate one water well on site and 11 water wells within 250 meters (m) from the boundaries of the Addendum Study Area. Records indicate that depths to groundwater from approximately 21 m to 25 m below ground surface (BGS).

Groundwater quality data have been assessed against the Provincial Water Quality Objectives (PWQO). The PWQO for cobalt was exceeded one sample with a concentration of 1.2 µg/L. This was the only exceedance of the PWQO observed in all monitoring wells.

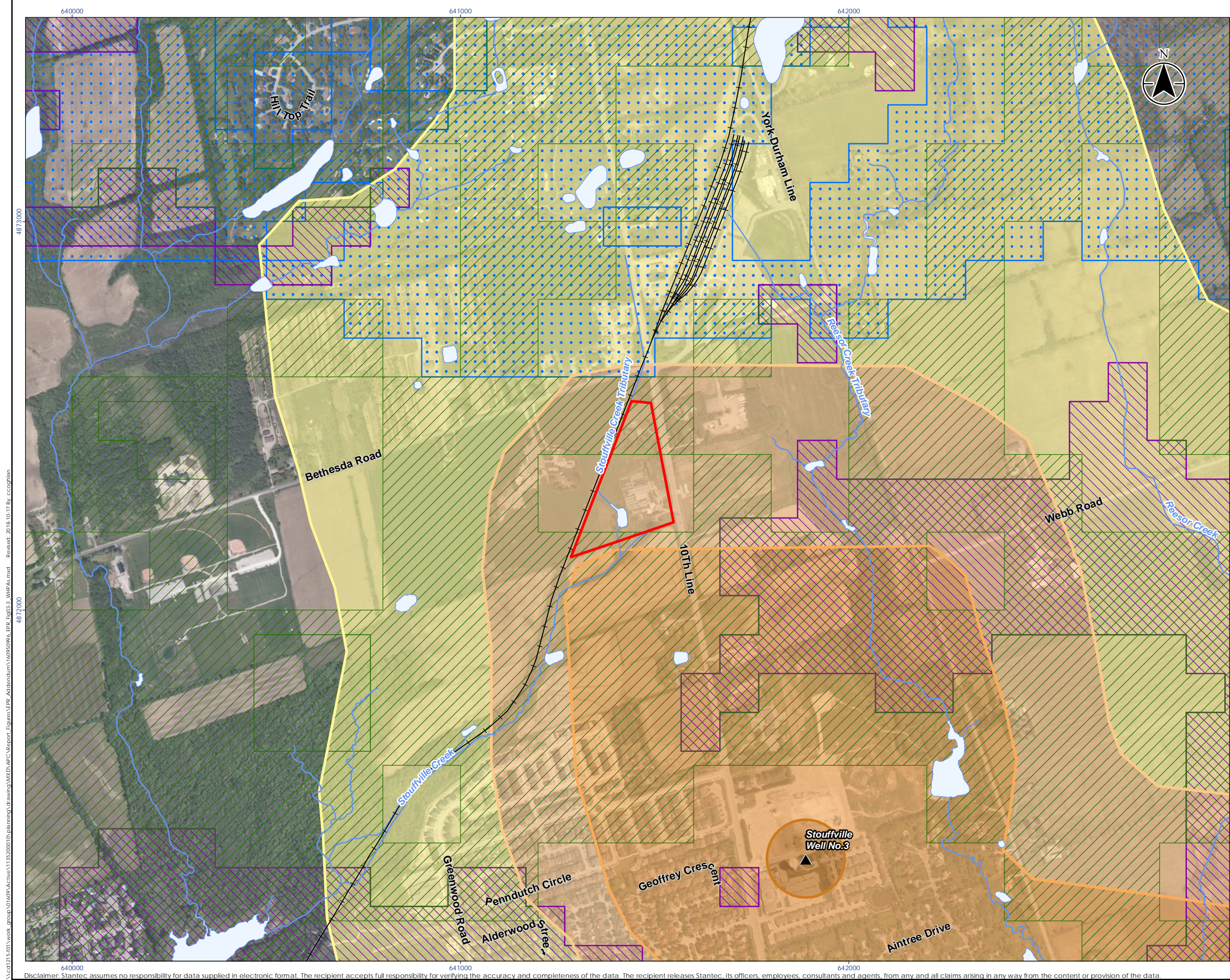
For the monitoring wells installed outside of the delineated onsite wetland area, available data indicate the depth to groundwater across the Addendum Study Area ranges from approximately 0.2 m BGS to 2.0 m BGS under high groundwater table conditions, with about 1.1 m of seasonal fluctuation based on the data collected to June 1, 2018. The interpreted groundwater flow direction across the Addendum Study Area is to the south to southwest. This local interpretation is consistent with the TRCA's interpretation that the onsite wetland and shallow groundwater at the Site is flowing towards the Stouffville Marsh to the southwest.

Groundwater monitoring data collected to date indicates that the Addendum Study Area, and the onsite wetland contained within the Addendum Study Area, are groundwater recharge areas.

Monitoring well nests located within and immediately adjacent to the boundaries of the onsite wetland are interpreted to correspond with the groundwater table elevation and are consistent with the groundwater level measurements across the remainder of the site. In each deep monitoring well location, calculated vertical hydraulic gradients beneath the onsite wetland were downward throughout the monitoring period, suggesting that the onsite wetland is a groundwater recharge feature. The surface water level was also measured in the pond within the wetland and indicates that the surface water level in the pond is influenced by the positioning of the shallow groundwater table. The pond overflows to the downstream wetland very infrequently and only during large storm events or heavy spring freshet. It appears that for most of the year the pond has no active surface outlet to the downstream wetland and acts as a barrier to surface flows.





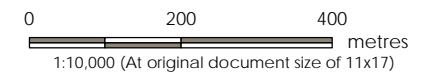


Legend

- Addendum Study Area
- Production Well (York Region)
- Railway - Operational
- Watercourse
- Waterbody
- Highly Vulnerable Aquifer
- Significant Groundwater Recharge Area (TRCA)
- Significant Groundwater Recharge Area (York Region)

Wellhead Protection Areas

- WHPA - A (100 m)
- WHPA - B (2 year)
- WHPA - C (5 year)
- WHPA - D (25 year)



Notes

1. Coordinate System: NAD 1983 UTM Zone 17N
2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © Queen's Printer for Ontario, 2016.
3. Orthoimagery © First Base Solutions, 2018. Imagery Date, 2017.
4. Vulnerable Aquifer, Significant Groundwater Recharge Area and Wellhead Protection Area data from TRCA and York Region.



Project Location  
Regional Municipality  
Of York

160950996 REVA  
Prepared by CMC on 2018-10-17  
Technical Review by SE on 2018-06-07

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EPR ADDENDUM

Figure No.  
3-3

Title  
Wellhead Protection Area and Aquifer  
Vulnerability





## **Lincolnville Layover and GO Station Improvements IT-2017-EC-010: Environmental Project Report Addendum**

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### **3.1.6 Soils and Geology**

Soils and geology refer to surface and below-ground conditions of the organic and inorganic compounds that make up the soil and rock that support plant and animal life and human activities and structures, including chemical or other compounds that may have entered the soil as a result of human activities.

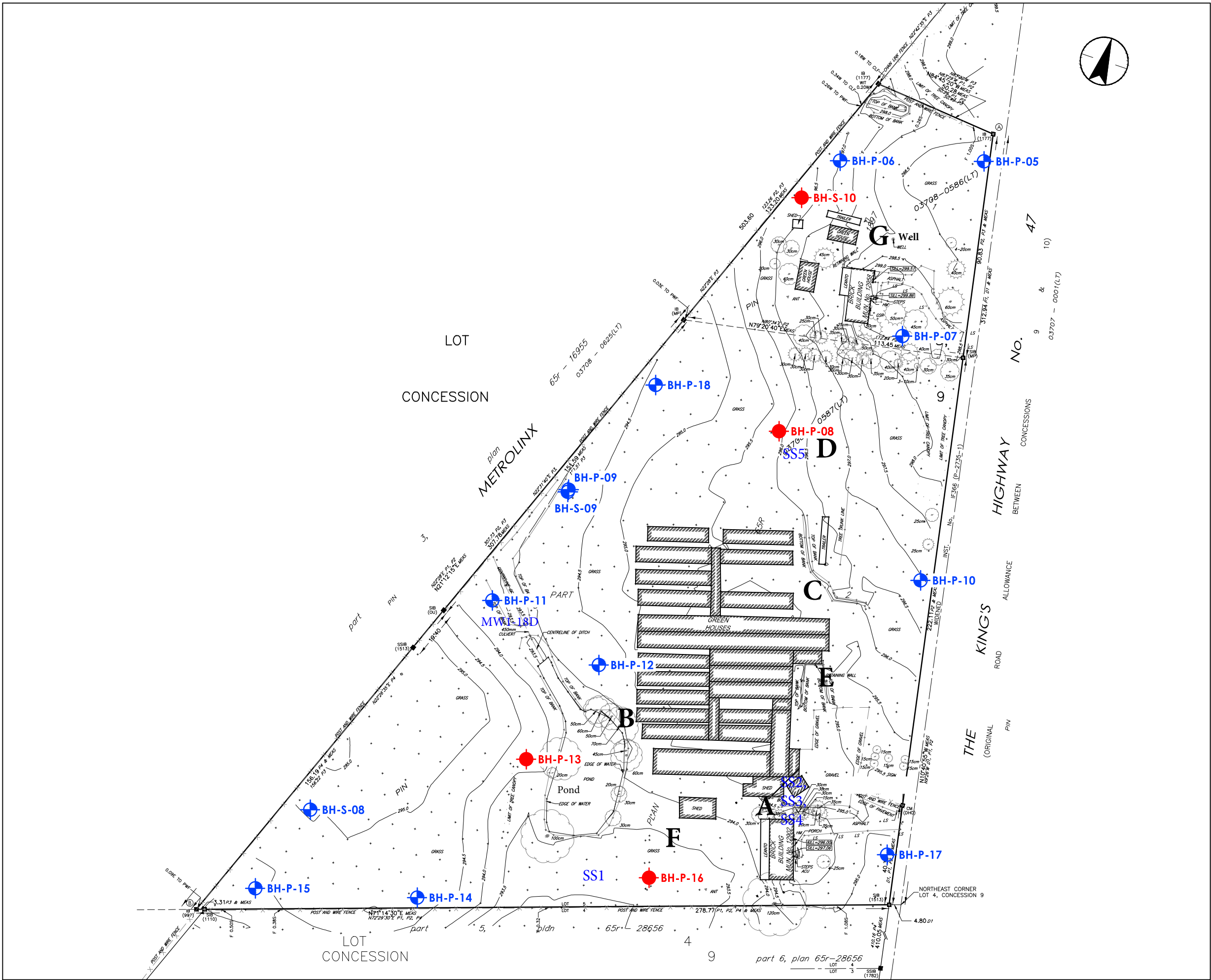
#### **3.1.6.1 Methodology**

A limited Phase I Environmental Site Assessment (Arcadis 2018) to Canadian Standards Association (CSA) standards (CSA 2012) was conducted in September 2017 to assess whether any surrounding land uses may have affected the environmental condition of portions of the Addendum Study Area. Further site characterization was then carried out which included a geotechnical investigation on January 17, 18 and 19, 2018, from which soil samples were obtained and analyzed. It involved the sampling of 17 boreholes throughout the Site as part of a geotechnical program to support early design. A follow-up site visit was undertaken on June 21, 2018 to identify the potential for additional contamination sources. In order to assess potential contamination sources identified during this site visit, a sampling program was undertaken on July 17, 2018 in areas of potentially affected soils including: at the base of the former fuel oil above ground storage tank (AST) as well as soils and groundwater potentially impacted by former use of herbicides and pesticides in undeveloped portions of the property. The July 17, 2018 sampling program consisted of the collection of five soil samples and three groundwater samples from onsite monitoring wells. All soil samples were submitted for chemical analyses to Maxxam Laboratory in Mississauga, Ontario. Soil samples from two locations were analyzed for herbicides. Soil samples collected from the base of the former fuel oil AST were analyzed for petroleum hydrocarbons (PHC) Fraction F1 to F4 as well as for benzene, toluene, ethylbenzene and xylenes (BTEX). Groundwater samples were analyzed for pesticides and herbicides.

Sampling locations are shown in Figure 3-4, and may not reflect conditions on portions of the site that were not sampled. Full detail on soils testing and results, including sampling locations, can be found in Appendix A6.



T:\Autocad\Drawings\Project Drawings\2018\1135200010\1135200010\_Boreholes.dwg  
2018/03/26 2:52 PM By: Briones, Gliceria



400 - 1331 Clyde Avenue  
Ottawa, ON, Canada K2C 3G4  
www.stantec.com

- LEGEND
- BOREHOLE
  - BOREHOLE WITH MONITORING WELL

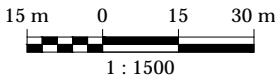
ENVIRONMENTAL CONSIDERATIONS

- A Fuel Oil AST (removed)
- B Water Sump Shed (east side of Pond)
- C Empty Storage Drums
- D Debris Piles in Field
- E Cut Open 200 gal AST used as Burn Pit
- F Abandoned Boiler
- G Water Well (domestic)

SAMPLING LOCATIONS ON JULY 17, 2018:

- Groundwater sample
- Soil sample

- NOTES
- COORDINATE SYTEM: NAD 1983 UTM ZONE 17.
  - BASE PLAN AND BOREHOLE LOCATIONS PROVIDED BY STANTEC GEOMATICS LTD., DATED JAN. 19, 2018.



Client/Project  
METROLINX  
LINCOLNVILLE STATION  
EPR ADDENDUM

Figure No.  
**3-4**  
Title  
**SOIL AND GROUNDWATER SAMPLING LOCATIONS**



## **Lincolnville Layover and GO Station Improvements IT-2017-EC-010: Environmental Project Report Addendum**

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### **3.1.6.2 Existing Conditions**

According to the Natural Resources Canada, Topographic Map 30M14, the Addendum Study Area is generally flat, and gently slopes towards the south. Site topography generally ranges from approximately 300 m above sea level (asl) in the north to approximately 295 m asl in the south end of the site.

The Addendum Study Area is situated within the Uxbridge physiographic region; specifically, Ecodistrict 6E-7, a deep, high lime sand and gravel overlain locally by high lime. Deep glacial deposits are associated with the Oak Ridges Moraine (ORM) (Henson and Brodribb 2005). The Addendum Study Area is located within the physiographic region classified by Chapman and Putnam (1984) as the South Slope, which is the southern slope of the ORM.

According to the Ontario Geological Survey online data, dated 2003, surficial geology at the site comprises silt to clay till. A review of regional overburden thickness mapping suggests that overburden thickness is between 125 m to 150 m in this area (Gerber 2003).

17 boreholes were advanced throughout the site as part of a geotechnical investigation undertaken in support of preliminary design activities. In general, the soil stratigraphy encountered consisted of a surface vegetation with associated topsoil, which is underlain by native sandy silty clay till and silty clay till soils. A localized stratum of silty sand till, silt, sandy silt was encountered interstratified and underlying the clay tills.

Soil samples from these initial boreholes were evaluated to determine whether excess soil material in the locations of the samples taken would be suitable for unrestricted reuse if taken for offsite disposal. The results were compared with the Table 1: Full Depth Background Site Condition Standards (Table 1 SCS) for Agricultural or Other Use. Concentrations of all measured parameters were less than the applicable Table 1 SCS for Agricultural or Other Use and it was determined that on-site soils also meet Table 1 SCS for proposed land use as Industrial/Commercial/Community. In addition, a site visit was conducted on June 21, 2018 to identify the potential for additional contamination sources. Visual observations on this site visit determined that there are potential contamination sources within the parts of the Addendum Study Area that were accessed; an above ground storage tank, septic tank(s), and the possible use of herbicides and pesticides. Further sources of potential contamination may also be present.

The additional sampling carried out on July 17, 2018 found that there is no evidence to indicate that the soils tested at that time, or the groundwater in the testing locations are impacted by pesticides, herbicides or fuel oil. This may not be characteristic of soil or groundwater conditions elsewhere on the site, and therefore further investigations to

## Lincolnville Layover and GO Station Improvements IT-2017-EC-010: Environmental Project Report Addendum

Existing Conditions  
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fully characterize the site and support the advancement of design and development of a Soil Management Plan are required, which will be undertaken in consultation with the MECP following the TPAP. Refer to Appendix A6 for full reports, including testing locations.

### 3.1.7 Tree Inventory

Trees assessed in the Addendum Study Area and adjacent properties include those that have been planted by humans as well as those that have been seeded through natural processes.

#### 3.1.7.1 Methodology

A tree inventory has been prepared to provide an inventory of existing trees, identify potential effects to trees in relation to the proposed works and provide recommendations to mitigate the effect on healthy trees during the detailed design process. The tree inventory and assessment was conducted on July 17 and August 2, 2018 included a review of trees in the Addendum Study Area and trees located on adjacent property that could potentially be affected by the design. The Addendum Study Area was also reviewed for any rare or endangered tree species that would require additional protection and review. Tree bylaws, policies, and guidelines were reviewed for the Town of Whitchurch-Stouffville, TRCA, and the Region of York to identify permitting requirements and guidelines for the methodology used for the inventory and assessment. The Tree Inventory Plan is available in Appendix A7.

The detailed inventory data includes tree species, general health condition, diameter at breast height (DBH), and dripline radius. Trees were tagged with a numbered steel tree tag.

#### 3.1.7.2 Existing Conditions

The Addendum Study Area includes naturally occurring trees in wetland and fencerow habitats, planted windrows and landscaping around the residences, and trees that were planted for nursery stock. None of the species identified on site are listed as species at risk (SAR) by the MNRF or are regulated under the *Invasive Species Act*.

Tree species included in the inventory are: *Betula papyrifera* (paper birch), *Betula pendula* (silver birch), *Thuja occidentalis* (eastern white cedar), *Gleditsia triacanthos* var. *inermis* (thornless honey locust), *Morus alba* (white mulberry), *Fraxinus pennsylvanica* (green ash), *Picea abies* (Norway spruce), *Picea pungens* var. *glauca* (Colorado blue spruce), *Pinus nigra* (Austrian pine), *Pinus sylvestris* (Scots pine), *Malus* sp. (cultivated apple), *Prunus* sp. (cultivated cherry), *Pyrus* sp. (cultivated pear), *Populus deltoides* ssp. *deltoides* (eastern cottonwood), *Populus tremuloides* (trembling aspen), *Acer negundo* (Manitoba maple), *Acer platanoides* (Norway maple), *Acer platanoides*



## **Lincolnville Layover and GO Station Improvements IT-2017-EC-010: Environmental Project Report Addendum**

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‘Crimson King’ (Crimson King Norway maple), *Acer rubrum* (red maple), *Acer saccharum* (sugar maple) and *Ulmus americana* (white elm).

The inventory also documented three Vegetation Units. One unit is a dense treed area which includes predominantly Scots pine that have been densely planted and have not been thinned. The canopy is dense and, as a result, the understory is limited. This unit is located on Town of Whitchurch-Stouffville lands adjacent to the north property limit of the project site. The other two units were originally planted as nursery stock for production and have overgrown their original spacing to their current state as densely planted cedar hedge rows. Overplanting in both rows has resulted in many trees being suppressed and some having been completely shaded out.

### **3.2 Social Environment**

The following section describes existing conditions related to the social and economic environment. This includes descriptions of the political and policy designations associated with the Addendum Study Area and the land uses allowed as a result. It also includes a description of the ways in which people use the land within the Addendum Study Area.

#### **3.2.1 Land Use and Users**

Land use refers to the ways in which humans modify the landscape to support their everyday living activities, as well as human activities that encourage the use of land by plants and animals. Land users are those humans who undertake activities within the landscape.

##### **3.2.1.1 Methodology**

A desktop assessment was undertaken to review existing planning documents and mapping. The desktop review included a review of the land designations within the Addendum Study Area and adjacent properties, as well as a desktop search of the Town of Whitchurch-Stouffville Official Plan and the Comprehensive Zoning By-Law 2010-001-ZO to determine the uses of the adjacent lands. Proposed construction activities were reviewed to understand the conditions of and effects on land users.

Full detail on land use conditions can be found in Appendix A8.

##### **3.2.1.2 Existing Conditions**

In general, the Study Area is situated within a predominantly rural area. Land uses surrounding the site generally consist of a wooded/undeveloped parcel to the north, Tenth Line and a rural residential/agricultural to the east, the community of Stouffville to

## **Lincolnville Layover and GO Station Improvements IT-2017-EC-010: Environmental Project Report Addendum**

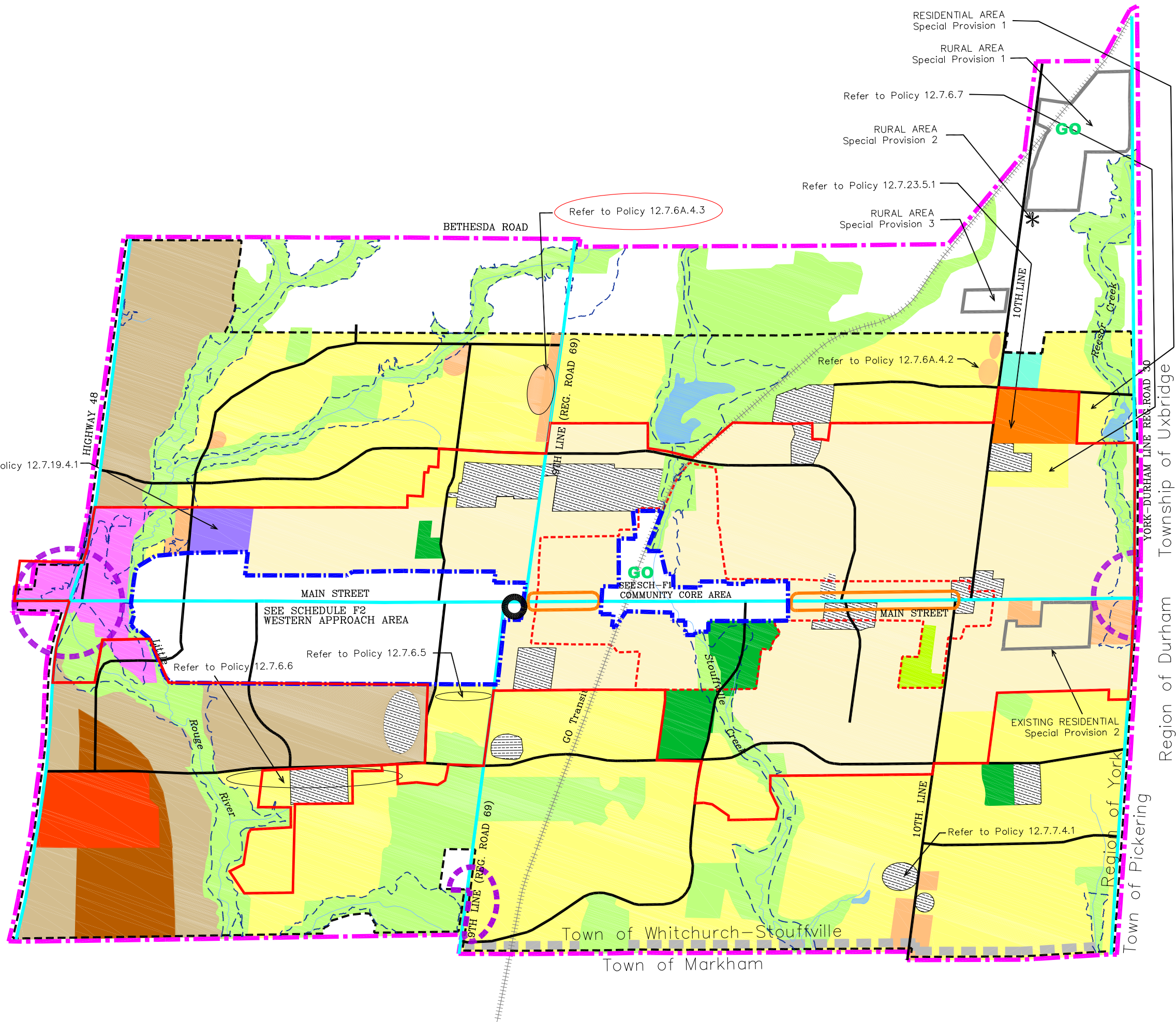
Existing Conditions  
February 19, 2019

the south, and Stouffville rail corridor and rural residential to the west. Zoning and property boundary information is provided in Figure 3-5.

The Study Area was situated within a designated Rural Area and Greenland Area of the Community of Stouffville Secondary Plan (CSSP) until the approval in 2016 of Official Plan Amendment (OPA) 137. OPA 137 designates the area as Residential Area and Urban Medium Density Residential Area. No updates to the policies for Residential Area and Urban Medium Density Residential Area have been recommended in the OPA 137. Land uses surrounding the proposed Site include a Major Transit Station Area, a Regional Retail Area, as well as other Residential Area and Urban Medium Density Residential Area designations. Extensive existing and planned residential development associated with the community of Stouffville is also located to the south of the proposed site. In addition, it is understood that medium density residential developments are being considered by developers on the adjacent properties to the southwest and east of the site. To date, no formal planning applications have been received by the municipality for these two properties.

The Study Area is zoned Agricultural (AG) under the Town of Whitchurch-Stouffville Zoning By-law 2010-001-ZO. Development in these designated areas is generally limited to agricultural, nursery and small/private operations. Development in these designated areas is subject to the policies related to development in the ORM as outlined in the Town of Whitchurch-Stouffville Official Plan. The Zoning By-law has not been updated in accordance with OPA 137.

In addition, according to Schedule F-3 of the Whitchurch-Stouffville Official Plan, the site is located within the 120 m Area of Influence of a designated Woodland, located to the east of the site, east of Tenth Line. Development in these designated areas requires a natural heritage evaluation prepared in accordance with the provision of Part III, Section 23 of the ORMCP.



- Existing Residential Area
- Residential Area
- Urban Medium Density Residential Area
- Activity Node Area
- Greenland Area
- Community Park Area
- Cemetery Area
- Gateway Mixed Use Area
- Business Park Area
- Industrial Area
- Special Employment Area
- Rural Area
- Regional Retail Area
- Neighbourhood Retail Area
- Western Approach Area Mixed Use
- Special Provision Area
- Main Street Special Policy Area
- Heritage Area
- Boundary Buffer Area
- Built Boundary
- Arterial Roads
- Collector and Proposed Collector Roads
- Flood Plain Area
- Secondary Plan Boundary
- Gateway Area
- Proposed 9th Line Realignment
- Towns and Villages Urban Serviced Area
- Gateway Area
- GO Transit Station

# Community of Stouffville Secondary Plan

## Schedule F Land Use and Transportation Plan



# **Lincolnville Layover and GO Station Improvements IT-2017-EC-010: Environmental Project Report Addendum**

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## **3.3 Cultural Environment**

The following sections describe existing conditions related to the cultural environment, including buried archaeological artefacts, and surface-level built structures and landscapes considered to be of cultural heritage value or interest (CHVI).

### **3.3.1 Archaeology**

Archaeology refers to aspects of the environment that provide insight or information on past human use of the landscape that have been buried below the surface of the soil.

#### **3.3.1.1 Methodology**

A Stage 1 Archaeological Assessment (AA) was carried out to identify the potential for archaeological resources within the Addendum Study Area. The Assessment Area for the Stage 1 AA includes the Addendum Study Area as presented in Figure 1-2. The Stage 1 AA included a desktop review of relevant historical information from archival sources, archaeological publications and online databases within the Addendum Study Area. Based on the outcome of the Stage 1 AA, a Stage 2 AA was conducted. The Stage 2 AA involved test pit surveys in the accessible areas of archaeological potential and a combination of visual inspection and test pit survey to confirm the extent of disturbed areas.

One site (Site 1 (AIGt-650)) was found to be of further CHVI following the Stage 2 AA and therefore a Stage 3 AA was recommended to be completed. The Stage 3 carried out for this area, and any subsequent archaeological assessment study, will support preliminary work for the detailed design of the site, and be complete prior to commencing construction activities.

Archaeological assessments were submitted to the Ministry of Tourism, Culture and Sport (MTCS) as a condition of licensing in accordance with Part VI of the *Ontario Heritage Act*, R.S.O. 1990, c 0.18 (Government of Ontario 1990a). Reports are reviewed to confirm that they address the standards and guidelines that are issued by the Minister, and that the archaeological fieldwork and report recommendations address the conservation, protection and preservation of the cultural heritage of Ontario. When fieldwork and reporting requirements have been addressed to the satisfaction of the MTCS, a letter will be issued by the Ministry stating that the report has been entered into the Ontario Public Register of Archaeological Reports. This letter will quote the recommendations of the archaeological assessment, which will either recommend additional stages of assessment, or state that no further work is required. The Stage 1 and 2 AA were entered into the Ontario Public Register of Archaeological Reports on September 6, 2018.

## **Lincolnville Layover and GO Station Improvements IT-2017-EC-010: Environmental Project Report Addendum**

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The Stage 1 and 2 AA report can be found in Appendix A9.

### **3.3.1.2 Existing Conditions**

Archaeological potential can be identified based on a variety of factors, including proximity to previously registered archaeological sites, distance to various types of water sources, soil texture and drainage, glacial geomorphology, elevated topography, and the general topographic variability of an area. Given the proximity of the Study Area to water, including Stouffville Creek, the Study Area and surrounding area are considered to have Indigenous archaeological potential. In addition, historic transportation routes surround the site, including the Toronto and Nipissing Railway, Bethesda Side Road and Tenth Line. As such, the Study Area and surrounding area are considered to have Euro-Canadian archaeological potential.

The Stage 1 AA visual assessment inspection, coupled with the analysis of historical sources and digital environmental data, resulted in the identification of areas with archaeological potential within the Addendum Study Area; the assessed area either had potential for Indigenous and Euro-Canadian archaeological materials and required test pit survey to confirm the presence/extent of any subsurface disturbances and therefore a Stage 2 AA was required.

A Stage 2 AA was subsequently undertaken and resulted in the identification of two locations of archaeological materials:

- Site 1 (AIGt-650): When evaluated against the criteria set out in Section 2.2 of the Standards and Guidelines for Consultant Archaeologists (MTC 2011) and the additional guidance provided in Section 2.0 of the Rural Historic Farmsteads Bulletin (MTCS 2014), the available evidence indicates that Site 1 (AIGt-650) is of further CHVI. Specifically, at least 20 artifacts were recovered that when analyzed as an assemblage can date the period of occupation of the site at least in part to before 1900. Site 1 warrants a Stage 3 site-specific assessment. Based on the results of the Stage 2 AA, a Stage 3 AA was conducted for Site 1 (AIGt-650) in support of detailed design activities.
- Site 2: When evaluated against the criteria set out in Section 2.2 of the Standards and Guidelines for Consultant Archaeologists (Ministry of Tourism and Culture 2011), the available evidence indicates that Site 2 is of no further CHVI. Specifically, less than five non-diagnostic artifacts were found within a 10 x 10 m test pit survey area from combined test pit and test unit excavations. Site 2 does not warrant a Stage 3 site-specific assessment.

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### **3.3.2 Cultural Heritage**

Cultural heritage refers to aspects of the environment that provide insight or information on past human use of the landscape that are visible to the human eye, and include buildings, landscapes and vegetation.

#### **3.3.2.1 Methodology**

A Cultural Heritage Screening Report (CHSR) was completed to identify properties in the vicinity of the Study Area that may have known or potential CHVI. Properties within 50 m of the Study Area were screened in consideration of the 2013 Metrolinx Interim Cultural Heritage Protocol and based on a desktop review of available historical information and mapping, as well as consultation with the Town of Whitchurch-Stouffville. The Assessment Area for the Cultural Heritage Screening is illustrated in Figure 1 of the CHSR (Appendix A10).

In accordance with the Metrolinx Interim Cultural Heritage Management Process, properties located within 50 m of the Study Area were screened for CHVI based on a series of questions related to age, potential CHVI using O. Reg. 9/06 and proximity to known heritage properties.

Full detail on cultural heritage conditions can be found in Appendix A10.

#### **3.3.2.2 Existing Conditions**

Based on the findings of the cultural heritage screening, no properties located within 50 m of the boundaries of the Study Area were identified as Conditional Heritage Properties. There are no properties listed and/or designated under the *Ontario Heritage Act* present within the Study Area. The Town of Whitchurch-Stouffville has not identified the Subject Site as a site of potential heritage interest or value, and there are no identified built heritage resources adjacent to the Subject Site. The proposed construction activities will take place entirely within the boundaries of the Study Area, therefore it is not anticipated that the construction will result in any changes to the Conditional Heritage Properties and no further heritage evaluation is required.

### **3.4 Technical Environment**

The following sections describe existing conditions related to the technical environment. These include descriptions of:

- The quality of the air within the Addendum Study Area and emissions emanating from activities within the Study Area.
- Emissions of noise and vibration emanating from the Addendum Study Area.



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- The movement of cars and other vehicles, in the vicinity of, into, and within the Addendum Study Area, including parking options within the Addendum Study Area.

### **3.4.1 Air Quality**

Air quality refers to the presence or absence of substances in the air that could cause harm to humans in large enough quantities. This includes substances in gaseous or solid (particulate) form.

#### **3.4.1.1 Methodology**

To evaluate existing air quality and potential changes associated with the future development at the site, an air quality assessment was undertaken. Background air quality for representative contaminants of concern (COC) was established based on review and analyses of ambient monitoring data from available National Air Pollution Surveillance Network (NAPS) or MECP-operated monitoring stations considered to be representative of the Study Area. Future local air quality effects were assessed by estimating contaminant concentrations at representative special receptors (e.g., residential, school, day care, long-term care land uses) located within 500 m of the Addendum Study Area and comparing them to applicable regulatory criteria. The applicable air quality thresholds include the Ontario Ambient Air Quality Criteria (AAQC) (MOECC 2012), the National Ambient Air Quality Objectives (NAAQOs) (CCME 1999), and the Canadian Ambient Air Quality Standards (CAAQS) (CCME 2018). Air quality analysis focused on the changes in ambient air quality that can be expected from the proposed Project but did not consider the broader air quality effects of increased train service on the rail corridor.

To assess potential changes in air quality, three scenarios were included in the emissions estimate and dispersion modelling:

- Baseline 2017 Scenario - existing Layover and Station Facilities
- Future 2031 Full Build Scenario – Future conditions with the Project
- Future 2031 No Build Scenario - Future conditions without the Project

An emissions estimation was carried out for Project components expected to contribute COC to the environment including direct vehicle emissions, emissions from road dust, and emissions from trains. The dispersion model was used to predict maximum 1-hour, 24-hour and annual average concentrations for each COC at the identified special receptors, for each of the three Project scenarios.

Full details on air quality existing conditions can be found in Appendix A11.



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### **3.4.1.2 Existing Conditions**

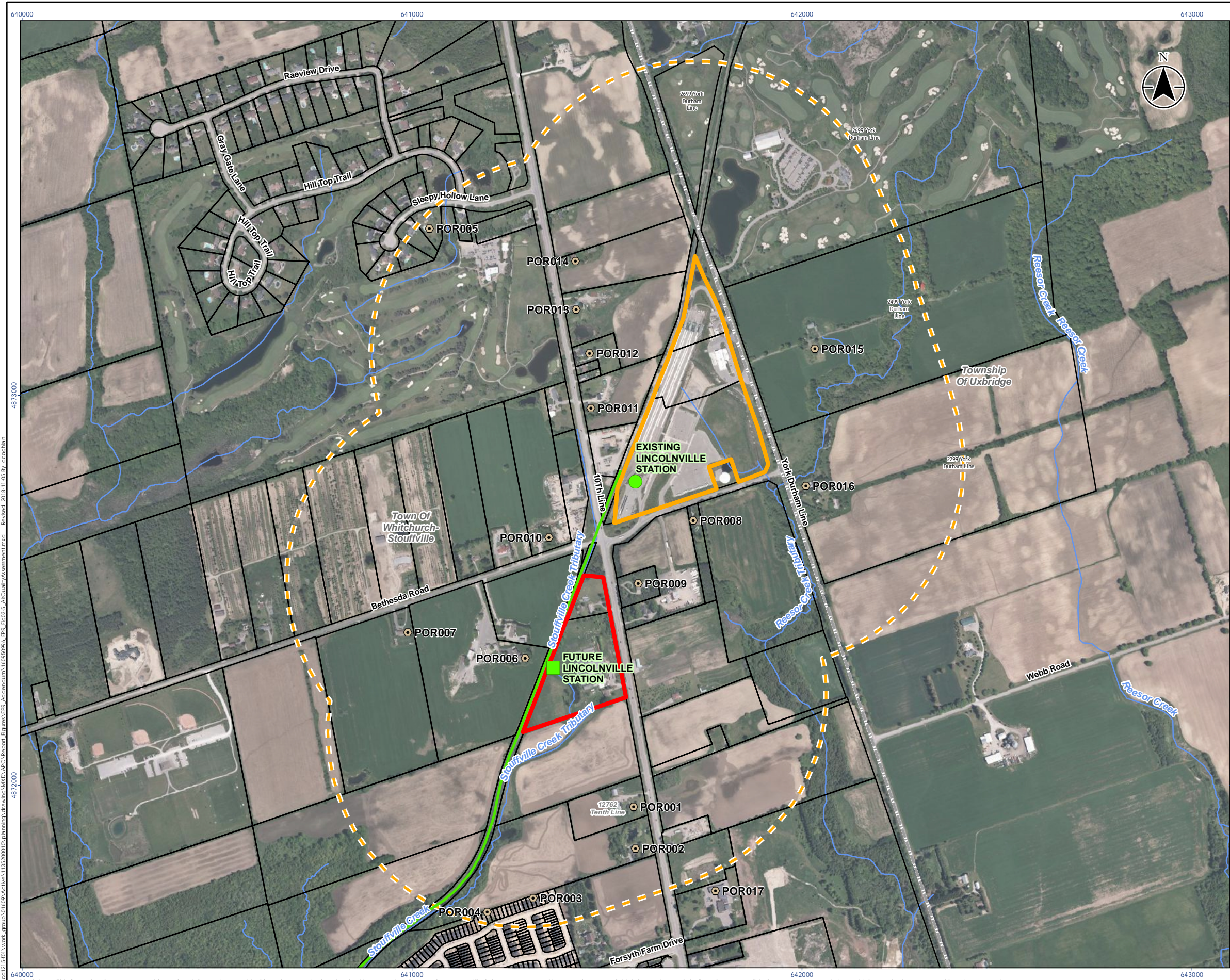
The Air Quality Assessment Area consists of a mix of land uses, including institutional, agricultural, environmental, and residential zones. Agricultural and environmental zones are located to the north and east of the Lincolnville Layover and GO Station, and to the west is an Oak Ridges Moraine Countryside zone. Residential zones are located further south, with agricultural and environmental zones to the north and east. Commercial zones are located to the southeast. Land uses that contain residential dwellings, schools, day care facilities, long-term care facilities or other institutional uses were selected as special receptors for the air quality study.

Seventeen sensitive receptors were identified within the Air Quality Assessment Area, all of which consisted of residential land uses except for one childcare centre. The locations of the special receptors are shown in Figure 3-6.

Background concentrations of air quality COCs were well below their applicable threshold criteria for all of the representative contaminants studied with the exception of benzene and benzo[a]pyrene (B[a]P). The annual background concentration of benzene is at 88% of the criteria. Background concentrations of B[a]P for both 24-hour and annual averaging periods exceed the criteria by 6% and over 211%, respectively, but this background exceedance of the AAQC for B[a]P are commonly measured in Ontario, including in rural areas. The main contributor of B[a]P emissions to the 24-hour and annual B[a]P exceedances are vehicle start-up and idling emissions in the parking lot, with the locomotive idling emissions being an insignificant contributor at all special receptor locations (including special receptors located closest to the layover). Although locomotive idling time can be up to 75 minutes per locomotive during start-up and up to 40 minutes upon return to the layover, the hourly and daily locomotive idling emissions are still low compared with other emission sources. The locomotive idling emissions are estimated be 2.3% of total hourly B[a]P emissions, while vehicle start-up and idling emissions in the parking lot are 86%, and road traffic emissions are 11% of total hourly emissions. Over a 24-hour period, locomotive idling emissions are estimated be 4.5% of the total daily B[a]P emissions, with parking lot emissions and road traffic emissions comprising of 59% and 34% of total daily emissions, respectively. Background air quality levels are summarized in Table 3-2.





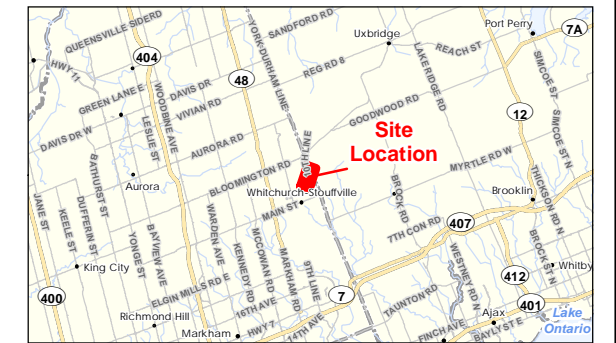


#### Legend

- Special Receptor Location
- Site Features
  - Addendum Study Area
  - Lincolnville Layover Facility
  - Air Quality Assessment Area
  - Existing GO Station
  - Future GO Station
  - Existing Commuter
- Existing / Base Features
  - Watercourse
  - Parcel Boundary (York Region)
  - Lower Tier Municipality
  - Special Receptor Location

0 200 400 metres  
1:10,000 (At original document size of 11x17)

- #### Notes
1. Coordinate System: NAD 1983 UTM Zone 17N
  2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © Queen's Printer for Ontario, 2016.
  3. Orthoimagery © First Base Solutions, 2018. Imagery Date, 2017.
  4. York Region Data downloaded from York Region Open Data (20161024)



Project Location  
Regional Municipality  
Of York

1135200010 REVA  
Prepared by CMC on 2018-11-05  
Technical Review by xx on xxxx-xx-xx

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Figure No.

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Title

Air Quality Assessment Area and Special Receptors





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**Table 3-2: Summary of Background Air Quality Levels**

Contaminant	Criterion (µg/m³)				Background Concentrations in (µg/m³)				Percentage of Criterion			
	1-hr (or ½ hr)	8-hr	24-hr	Annual	90 <sup>th</sup> Percentile			Annual	1-hr	8-hr	24-hr	Annual
					1-hr (or ½ hr)	8-hr	24-hr					
NO <sub>2</sub>	400 <sup>a</sup> 79 <sup>c</sup>	-	200	60 <sup>b</sup> 22.6 <sup>d</sup>	29 <sup>a</sup> 28 <sup>c</sup>	-	26	12.9 <sup>b,d</sup>	7% <sup>a</sup> 35% <sup>c</sup>	-	13%	21% <sup>b</sup> 54% <sup>d</sup>
CO	36200 <sup>a</sup>	15700	-	-	400	387		268	1%	3%	-	-
SO <sub>2</sub>	690 <sup>a</sup> 100 <sup>e</sup>		275	55 <sup>a</sup> 10 <sup>f</sup>	7		6	3	1% 4%	-	2%	5% 28%
PM <sub>2.5</sub>	-	-	30 <sup>a</sup> 28 <sup>g</sup> 27 <sup>h</sup>	10 <sup>g</sup> 8.8 <sup>h</sup>	14.2	-	12.8	6.7	-	-	43% 46% 47%	67% 76%
PM <sub>210</sub>	-	-	50	-	-	-	24.1		-	-	48%	
1,3-Butadiene	-	-	10	-	-	-	0.043	0.024		-	0.4%	1.2%
Acetaldehyde	500 (1/2 hr)	-	500	-	2.0 (1/2 hour)	-	0.7	0.3	0.4%	-	0.1%	-
Acrolein	4.5	-	0.4	-	-	-	0.026	0.013	1.4%	-	7%	-

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February 19, 2019

Contaminant	Criterion ( $\mu\text{g}/\text{m}^3$ )				Background Concentrations in ( $\mu\text{g}/\text{m}^3$ )				Percentage of Criterion			
	1-hr (or $\frac{1}{2}$ hr)	8-hr	24-hr	Annual	90 <sup>th</sup> Percentile			Annual	1-hr	8-hr	24-hr	Annual
					1-hr (or $\frac{1}{2}$ hr)	8-hr	24-hr					
Benzene	-	-	2.3 <sup>a</sup>	0.45 <sup>a</sup>	-	-	0.63	0.39	-	-	27%	88%
B[a]p	-	-	0.00 005	0.0000 1 <sup>a</sup>	-	-	5.28E- 05	3.11E- 05	-	-	106 %	311%
Formaldehyd e	-	-	65	-	-	-	1.76	0.78	-	-	3%	-
Ozone	165	-	-	-	92.1	-	84.3	59.4	56%	-	-	-

- Ontario Ambient Air Quality Criteria (AAQC). The background concentration was converted from ppb to  $\mu\text{g}/\text{m}^3$  based on a standard temperature of 10 °C and pressure of 1 atm for comparison with the AAQC as per (MECP, 2012).
- National Ambient Air Quality Objective (NAAQO). The background concentration was converted from ppb to  $\mu\text{g}/\text{m}^3$  based on a standard temperature of 25 °C and pressure of 1 atm for comparison with the NAAQO as per (Health Canada, 2016).
- 1 Hour Canadian Ambient Air Quality Standards (CAAQS) for NO<sub>2</sub>, effective by 2025 (CCME, 2018). It is referenced to the 3-year average of the annual 98th percentile of the daily maximum 1-hour average concentrations. The background concentration was converted from ppb to  $\mu\text{g}/\text{m}^3$  based on standard temperature of 25 °C and pressure of 1 atm for comparison with the CAAQS as per (Health Canada, 2016).
- Annual CAAQS for NO<sub>2</sub>, effective by 2025 (CCME, 2018). It is the average over a single calendar year of all 1-hour average concentrations. The background concentration was converted from ppb to  $\mu\text{g}/\text{m}^3$  based on standard temperature of 25 °C and pressure of 1 atm for comparison with the CAAQS as per (Health Canada, 2016).
- 1 Hour Ontario AAQC for SO<sub>2</sub> (effective 2023) is more stringent than the CAAQS and is shown here for comparison.
- Annual Ontario AAQC (effective 2023).
- 24 Hour and Annual Canadian Ambient Air Quality Standard (CAAQS) for Respirable Particulate Matter, effective by 2015. The 24-hour Respirable Particulate Matter Objective is referenced to the 98th percentile daily average concentration averaged over 3 consecutive years. The annual Respirable Particulate Matter Objective is referenced to the 3-year average of the annual average concentrations.
- 24 Hour and Annual CAAQS, effective by 2020. The 24 hour CAAQS is referenced to the 98th percentile daily average concentration averaged over 3 consecutive years. The annual CAAQS is referenced to the 3-year average of the annual average concentrations.

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### **3.4.2 Noise and Vibration**

Noise and vibration are the perceptible sound and movement that can be generated by an energy source and can result in nuisance or, if strong enough, effects to human health or built structures.

#### **3.4.2.1 Methodology**

A predictive noise analysis was carried out to evaluate noise effects on representative locations with noise sensitive areas (e.g., residences, daycares, schools, and churches) associated with the proposed relocated Lincolnville GO Station. The methodology for the predictive analysis was in accordance with the MECP/GO Transit Draft Noise and Vibration Assessment Protocol (MECP/GO Protocol). This desktop analysis includes a review of existing noise sources and existing points of reception (PORs) that may be affected by noise sources. The Noise and Vibration Assessment Area for the predictive analysis includes the Addendum Study Area and the surrounding area extending 500 m from the Addendum Study Area. The Noise and Vibration Assessment Area and identified PORs are illustrated in Figure 3-7.

The MECP/GO Protocol provides limits with respect to noise and vibration associated with project construction and operation for GO/Metrolinx rail projects.

Noise and vibration analysis focused on the changes in noise and vibration that can be expected from the Project.

Full detail on the acoustic assessment can be found in Appendix A12.

#### **3.4.2.2 Existing Conditions**

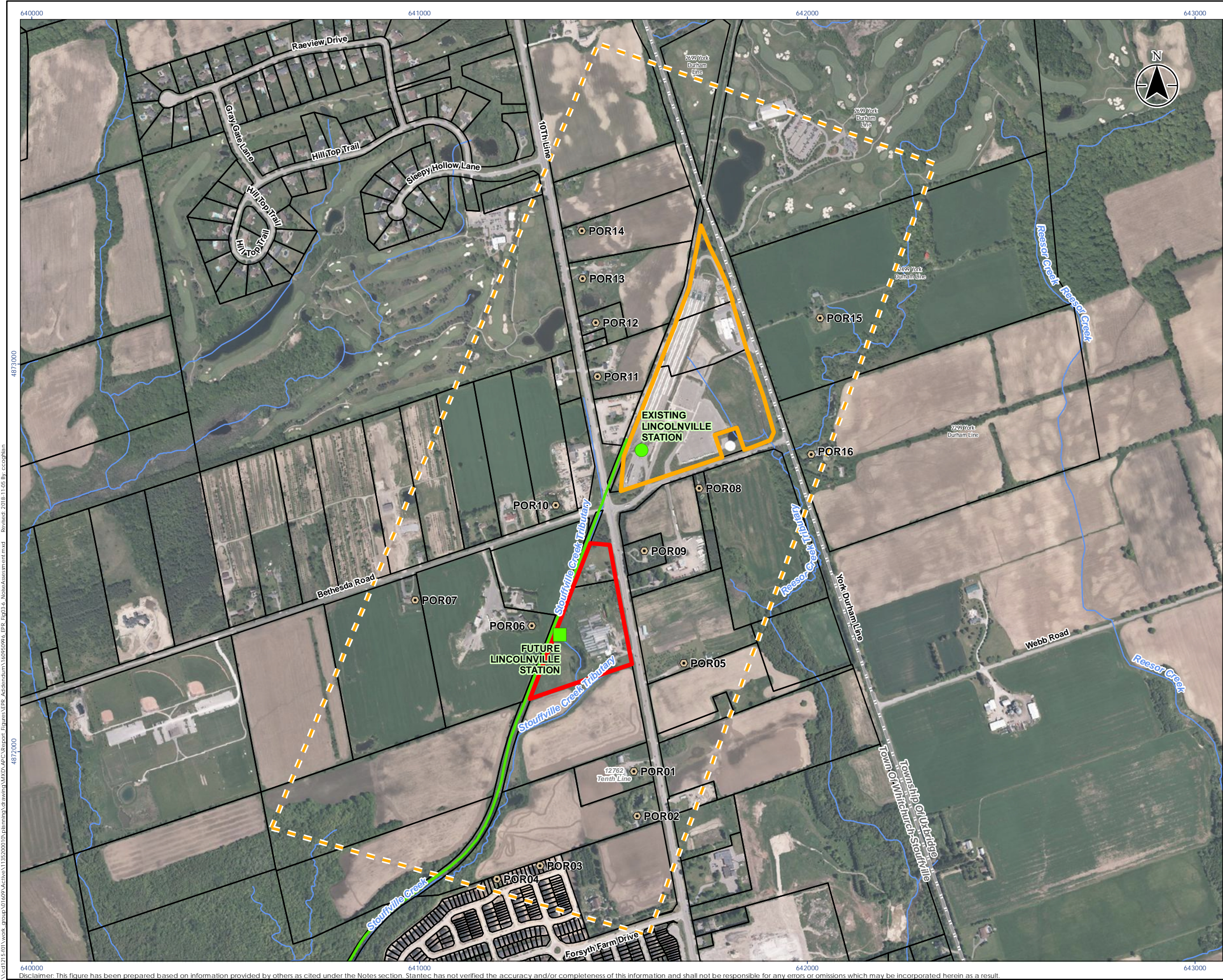
The land uses surrounding the site consist of a wooded/undeveloped parcel to the north and the rest of the lands are situated within the designated Rural Area (as per the zoning), with special provisions for retail and commercial operations to the east and immediately south of the relocated station, respectively. Extensive existing and planned residential development associated with the community of Stouffville is also located farther south of the relocated station site.

The nearest existing residential building is located approximately 55 m west of the rail corridor, across from the relocated GO station.

Major contributors to the acoustical environment in the Study Area include traffic from road and rail. There are no other identified major contributors other than the existing station/layover facility. The acoustical environment is expected to vary from locations nearest to the road/rail and station/layover site compared to the locations away. Results of the Noise and Vibration Assessment can be found in Section 4.4.2.





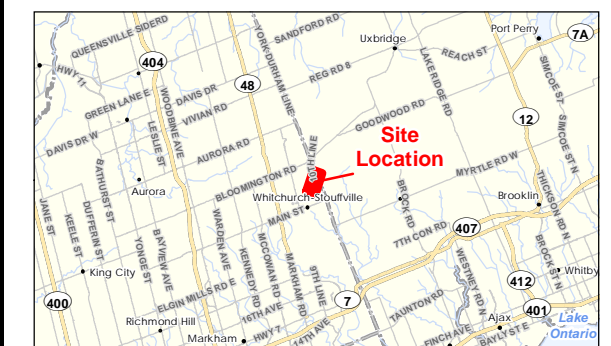


#### Legend

- Point of Reception
- Site Features
  - Addendum Study Area
  - Lincolnville Layover Facility
  - Noise and Vibration Assessment Area
  - Existing GO Station
  - Future GO Station
  - Existing Commuter
- Existing / Base Features
  - Watercourse
  - Parcel Boundary (York Region)
  - Lower Tier Municipality

0 200 400 metres  
1:10,000 (At original document size of 11x17)

- #### Notes
- Coordinate System: NAD 1983 UTM Zone 17N
  - Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © Queen's Printer for Ontario, 2016.
  - Orthoimagery © First Base Solutions, 2018. Imagery Date, 2017.
  - York Region Data downloaded from York Region Open Data (20161024)



Project Location  
Regional Municipality  
Of York

1135200010 REVA  
Prepared by CMC on 2018-11-05  
Technical Review by xx on xxxx-xx-xx

Client/Project  
METROLINX  
LINCOLNVILLE STATION  
EPR ADDENDUM

Figure No.

3-7

Title  
Noise Assessment Area and Points of  
Reception





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### **3.4.3 Traffic and Transportation**

Traffic and transportation elements of the environment encompass all infrastructure and activities that help people to move from place to place.

#### **3.4.3.1 Methodology**

A review of available mapping and site visits were performed to better understand the existing transportation conditions within the Traffic and Transportation Assessment Area. The Traffic and Transportation Assessment Area comprises the intersections of Tenth Line and Bethesda Side Road, York Durham Line (County Road 30 and Bethesda Side Road, and three proposed site access entrances on Tenth Line.

Horizon years of 2019 and 2031 were considered for analysis of all Traffic and Transportation Assessment Area intersections, which represent the full build-out of the subject development and the Metrolinx transit network plan horizon year. Using the population and employment projections for Whitchurch-Stouffville in the Regional Municipality of York's Official Plan (April 2016), the following background traffic growth rates were derived:

- 2019 Horizon Year: 4.41% per annum growth rate;
- 2031 Horizon Year: 1.79% per annum growth rate.

The background growth rates are applied to the base year traffic volumes to estimate the future background growth representing general population and employment increases in the Town.

Full details of the traffic and transportation analysis are available in Appendix A13.

#### **3.4.3.2 Existing Conditions**

Tenth Line is a two-lane arterial road with a posted maximum speed limit of 60 km/h. Tenth Line runs north-south and forms an unsignalized intersection with Bethesda Side Road with stop control on the eastbound approach. York Durham Line (CR 30) is a two-lane arterial road with a posted maximum speed limit of 60 km/h. York Durham Line runs north-south and forms an unsignalized t-intersection with Bethesda Side Road with stop control on the eastbound approach. Bethesda Side Road is a local road, running from Tenth Line to York Durham Line. Trucks are prohibited to use Bethesda Side Road (according to existing signage); however, there is a truck parking lot located on the south side (across from the GO station).

Local transit does not currently provide service to the Traffic and Transportation Assessment Area and due to the rural location, pedestrian site trips are not anticipated.

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The site of the proposed new GO Station contains two residential dwellings, which are both currently vacant, and a vacant commercial use. Each of the dwellings have a single driveway access. The site does not currently generate any regular traffic. Existing and future ridership information for the proposed relocated Lincolnville GO Station was based on ridership and modal split information provided by Metrolinx and was used to estimate the site trips that will be anticipated at the new station. Results from Metrolinx's Fall 2016 cordon counts estimate the following number of riders:

- AM Peak Hour
  - 211 average rail passenger boardings;
  - 22 average bus passenger alightings.
- PM Peak Hour
  - 233 average rail passenger alightings;
  - 22 average bus passenger boardings.

By 2031, Metrolinx anticipates ridership to increase to 550 passenger boardings and alightings during the weekday a.m. and p.m. peak hours.

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Effects Assessment, Mitigation and Monitoring  
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## **4.0 Effects Assessment, Mitigation and Monitoring**

The effects assessment of the proposed relocated Lincolnville GO Station has been developed based on the analysis and results of technical discipline-specific environmental studies documented in the reports listed in Section 1.3.3 (which are located in Appendices A1 through A13 to this EPR). Since the relocated Lincolnville GO Station will be located on a different site than the Lincolnville Layover expansion assessed in the original EPR, this effect assessment is considering effects from development at the new proposed location and is not directly compared to the previous assessment completed.

The project has been designed to prioritize the avoidance of negative environmental effects, and mitigation measures are provided where avoidance is not feasible. The presentation of potential effects and recommended mitigation measures, monitoring activities and anticipated net effects has been organized in this EPR by the following categories:

- Affected environment (e.g., Natural, Social, Cultural, and Technical)
- Affected feature (e.g., Terrestrial Habitat, Wildlife, Aquatic Habitat)
- Project phase (e.g., Construction or Operations)

The effects assessment is based on conservative (worst case) assumptions regarding potential effects that could occur as a result of the project during normal construction and operating conditions. They are also based on existing environmental conditions, as outlined in Section 3.0, and information available at the time of the EPR Addendum. The recommendations contained in this EPR Addendum will be reviewed by Metrolinx and updated as necessary during the Detailed Design phase of the project.

The potential for effects has been determined based on an understanding of the conceptual design and how construction and operation of the proposed development will interact with existing environmental conditions. Where potential negative effects have been identified, mitigation measures have been recommended to limit or avoid the potential for those effects. Net effects are then defined based on the expected effect following applicable mitigation measures. The project has been designed to prioritize the avoidance of negative environmental effects, and mitigation measures are provided where avoidance is not feasible.

The effects of the Project have been assessed in terms of potential changes to natural, social, cultural and technical environments. Table 4-1 to Table 4-4, below, outlines the

## Lincolnville Layover and GO Station Improvements IT-2017-EC-010: Environmental Project Report Addendum

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evaluation factors and related criteria for each component of the environment that was assessed.

**Table 4-1: Criteria for Assessment of Effects for Environmental Components -  
Natural Environment**

<b>Component of the Environment</b>	<b>Criteria</b>
Vegetation and Vegetation Species at Risk	<ul style="list-style-type: none"><li>• Loss of existing vegetation communities, including wetland feature</li><li>• Loss of designated vegetation species at risk</li></ul>
Wildlife and Wildlife Species at Risk	<ul style="list-style-type: none"><li>• Loss of wildlife (birds, mammals, and herpetofauna) and wildlife habitat (type and quality)</li><li>• Impediments to wildlife movement and breeding and increases in animal mortality</li></ul>
Surface Water, Hydrology and Fish and Fish Habitat	<ul style="list-style-type: none"><li>• Changes to watercourses providing fish habitat</li><li>• Changes to the sensitivity of fish and fish habitat (extent of fish habitat altered/displaced)</li><li>• Decreased water quality and quantity in watercourses</li></ul>
Stormwater Management	<ul style="list-style-type: none"><li>• Changes to stormwater runoff quantity: Potential for increase in peak flows, effect on storm drainage systems and erosion in receiving watercourses</li><li>• Changes to stormwater runoff quality: Potential for increase in pollutant loading and effects to water quality</li></ul>
Groundwater	<ul style="list-style-type: none"><li>• Reduced groundwater quantity/quality</li></ul>
Soils and Geology	<ul style="list-style-type: none"><li>• Reduced soil quality and soil loss</li><li>• Potential to encounter contaminated material during construction activities</li></ul>
Tree Inventory	<ul style="list-style-type: none"><li>• Damage to trees and tree removals</li></ul>

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**Table 4-2: Criteria for Assessment of Effects for Environmental Components -  
Social Environment**

Component of the Environment	Criteria
Land Use and Users	<ul style="list-style-type: none"><li>• Potential for land use compatibility conflicts</li><li>• Potential for nuisance effects to facility users and neighbouring properties and residences</li></ul>

**Table 4-3: Criteria for Assessment of Effects for Environmental Components -  
Cultural Environment**

Component of the Environment	Criteria
Archaeology	<ul style="list-style-type: none"><li>• Potential for disturbance or destruction of archaeological resources</li></ul>
Cultural Heritage	<ul style="list-style-type: none"><li>• Direct and indirect effects to known built heritage resources and/or cultural heritage landscapes that may be removed or damaged by construction activities</li></ul>

**Table 4-4: Criteria for Assessment of Effects for Environmental Components -  
Technical Environment**

Component of the Environment	Criteria
Air Quality	<ul style="list-style-type: none"><li>• Changes to air quality and increases in GHG emissions effects during the operational stage of the Project</li></ul>
Noise and Vibration	<ul style="list-style-type: none"><li>• Noise and vibration emissions during construction and operation at sensitive land uses</li></ul>
Traffic and Transportation	<ul style="list-style-type: none"><li>• Changes to level of service at key Study Area intersections</li></ul>

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## **4.1 Natural Environment**

### **4.1.1 Vegetation**

#### **4.1.1.1 Potential Construction Effects**

Based on the proposed Project footprint, direct loss of both natural and planted vegetation is anticipated to occur. Meadow communities (MEFM1, MEMM4, MAMM1-3) will be removed for construction of the relocated Lincolnville GO Station.

The onsite wetland is not currently classified as significant; however, the wetland is located within the ORM and is therefore subject to the policies under the ORMCP. The ORMCP states that applications to alter sites containing hydrologically sensitive features are prohibited except under select circumstances which include sites designated for transportation projects where no reasonable alternatives exist. The preliminary design for the relocated Lincolnville GO Station requires a bus loop that crosses the wetland at one location which will result in disturbance to this feature.

#### **4.1.1.2 Mitigation Measures for Construction Effects**

Avoidance of the onsite wetland and within a 30 m buffer around the staked limit of the wetland was considered during preliminary site design and was determined to not be feasible and no reasonable alternatives exist. The preliminary design involves maintaining the pond and wetland feature on the site and locating most of the infrastructure outside of a reduced buffer. An adequate buffer that will be confirmed through the completion of an Environmental Impact Study

Other areas to be cleared of existing vegetation should be reduced to the smallest area that is reasonably feasible and clearly marked to prevent unnecessary clearing. The construction contractor should ensure that heavy equipment is not placed, and other construction activity does not occur beyond marked areas.

Where applicable, areas outside of the wetland buffer disturbed by temporary construction storage and lay-down should be restored with suitable native seed mixes to stabilize soil and establish self-sustained native vegetation as soon as possible following disturbance. Seed mixes should include fast-growing, short-lived perennial cover crop to stabilize soil and reduce competition from weeding exotics. No construction activities beyond habitat creation and landscape plantings are proposed within the wetland buffer.

An erosion mat may also be used to stabilize final grades where necessary and should be applied post seeding and mulch application. Manufacturer specifications should indicate the erosion mat is made of biodegradable material (without nylon netting, if available) and designed to allow sufficient light penetration for seed germination.



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All seed mixes and other planting lists should be designed to include species adapted to the site conditions, including hardiness zone, soil type, moisture and sun exposure. Seed and other material should be from local sources where possible. Invasive, non-native species should not be used to prevent introduction into adjacent areas.

Existing native topsoil and seed banks should be preserved, stock piled and reintroduced as the final grade in proposed vegetation restoration areas. Seed banks should be supplemented with native seed mixes to improve native species diversity. Seeding efforts should receive water either through precipitation or irrigation after every seven successive days without rainfall for the first two months after planting.

### **4.1.1.3 Potential Operations Effects**

Operational changes at the site are not anticipated to result in significant effects from the loss of vegetation cover as no additional vegetation will be removed during operations at the proposed relocated Lincolnville GO station; however, there is the potential for ongoing edge effects to the wetland from site maintenance. Operations activities involving snow clearing and application of road salts may result in effects to the water quality in the onsite wetland.

### **4.1.1.4 Mitigation Measures for Operation Effects**

In areas where restoration is proposed, qualitative vegetation monitoring should be completed annually for two years following revegetation activities, to document the establishment of planted material, and implement adaptive management to correct deficiencies. Adaptive management may be triggered by poor survival of planted material, insufficient vegetation cover and the presence of unacceptable non-native and invasive species. Adaptive strategies may include supplemental plantings, and/or control of unacceptable species.

Operations activities involving snow clearing and application of road salts shall avoid the placement of snow within or adjacent to the vegetated area around the wetland, and road salt shall be managed who is certified by Smart About Salt, and best management practices for salt and snow shall be implemented.

### **4.1.1.5 Net Effects**

Following the implementation of standard mitigation measures, net effects will be limited to a loss of meadow vegetation to accommodate the relocated station.

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### **4.1.2 Wildlife and Wildlife Habitat**

#### **4.1.2.1 Potential Construction Effects**

The wetland on the site has been identified as potential overwintering habitat for turtles as well as habitat for two turtle SOCC. The drainage feature upstream of the wetland may provide some limited habitat to aquatic species, turtles or amphibians which can be explored as part of detailed design. As this feature will be removed during construction activities, habitat compensation may be required. Disturbance of the wetland is required for a crossing of the bus loop access road and the placement of station infrastructure adjacent to the rail corridor. Outside of these disturbance areas, no effects are expected as an adequate buffer will be maintained. Slow-moving and ground-dwelling wildlife could be encountered in work areas during construction, including reptiles (snakes and turtles) and amphibians.

Two sheds on the site provide nesting habitat for Barn Swallow. A minimum of 7 active nests were observed in two buildings. The removal of these two buildings, and therefore the barn swallow habitat, is required for the construction of the GO station facility. Two buildings on the subject property may potentially provide suitable bat roosting habitat for Little Brown Myotis and Eastern Small-footed Bat. The removal of these two buildings, and therefore the bat habitat, is required for the construction of the GO station facility.

During tree and vegetation removal required for construction of the relocated Lincolnvile GO Station, there is the potential to encounter nesting migratory birds and effects may include the disturbance or destruction of the nests and/or birds.

#### **4.1.2.2 Mitigation Measures for Construction Effects**

Except where the crossing location and station infrastructure interferes with the wetland, the wetland will be preserved within an adequate staked limit of the wetland throughout construction activities. The size of the buffer will be confirmed through the completion of a Scoped EIS. Regular visual searches for reptiles (turtles and snakes) and other animals that may enter the site prior to construction activities commencing are recommended to address potential interactions. A thorough visual search of work areas will be conducted by construction contractors before work commences each day. If reptiles are encountered during construction, they should be permitted reasonable time to leave the area. If an animal must be moved outside the construction zone, a qualified biologist will be consulted to determine appropriate handling protocols. Any observations of SAR will be reported to MNRF within 48 hours.

Prior to alteration or removal of the buildings supporting Barn Swallow habitat, SAR permitting is required as per the ESA (2007). For Barn Swallow, registration under the ESA is permitted, if the steps below are completed:

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- A Notice of Activity must be submitted via the Registry to the Minister of Natural Resources and Forestry prior to commencing the Activity for which the registration is required (O. Reg. 242/08 Section 23.18[5][1][i])
- Under Section 23.18(5)(1)(ii) of O. Reg. 242/08, a Mitigation Plan for the Activity must be prepared in accordance with Subsections (5), (6) and (7)

Nesting migratory birds such as the Bobolink, Eastern Meadowlark, and Barn Swallow, or other potential SAR are protected under the *Migratory Birds Convention Act* (MBCA 1994) and Migratory Birds Regulations (MBR 2014). By implementing the timing restrictions for vegetation/structure removal identified in the MBCA, the nests of migratory birds are protected from damage while they are active, including nests in vegetation and on structures. The Primary Nesting Period (the period when the percent of total nesting species is greater than 10%) for this Study Area, as defined by Environment Canada C2 breeding and nesting period, extends from April 1 through to August 31, although nesting also infrequently occurs outside of this period (Environment Canada, 2014). If work affecting potential nesting areas is scheduled to occur outside the Primary Nesting Period restricted period, no mitigation will be required.

In the event that construction is required during that time, an avian biologist must be retained to conduct nest sweeps of the area prior to works commencing, in order to check for nesting activity. The biologist will search for nests (or signs of nesting) of migratory birds to make sure there will be no destruction of active nests protected by the MBCA. Nest searches must be completed within 24 hours of the proposed works. If work is not completed, the search must be repeated to make sure no new nests have been established during that period. A signed and validated avian survey letter summarizing the level of effort and results of the nest sweeps must be prepared following each survey and submitted to Metrolinx (or approved delegate) prior to initiation of the clearing and grubbing activities.

If no nests or signs of nesting are found, clearing or other activities may proceed in the area searched.

At any time of the year, should a nesting bird be present when construction activity is under way, work in the area must cease immediately and a biologist with avian expertise will be required to develop a site-specific mitigation plan that meets all regulatory requirements. Should a nest be located in an area to be disturbed by construction activities, a designated buffer will be delineated, within which no activity will be allowed while the nest is active. The radius of the buffer ranges from 5 – 60 m depending on the species. Activity restrictions would also depend on the proposed work in relation to the nest location. For example, irregular foot traffic would likely have a very minimal effect on nesting; whereas, regular vibration from heavy machinery may disturb nesting birds enough to abandon their attempt at nesting. If a nest is found, it should be

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checked every few days to determine its status. Once the nest is determined to be inactive (i.e., the nest no longer has young), clearing and other activities in the area may proceed.

For buildings considered to potentially support bat roosting habitat, the activity will be registered under the ESA and a Bat Mitigation Plan will be developed to support bat habitat within the Addendum Study area. Also, building removal is recommended to occur outside the bat roosting period (May 1 - September 30).

Prior to completing the detailed design, the drainage feature upstream of the wetland will be reviewed for potential habitat suitability in order to determine if impacts to the drainage feature are anticipated and if further habitat mitigation measures can be incorporated into the detailed design.

### **4.1.2.3 Potential Operations Effects**

During operation, there will be no additional alteration to the site or operation of construction equipment. Any effects from operations due to lighting or traffic are expected to be minimal and comparable to existing conditions on the site.

### **4.1.2.4 Mitigation Measures for Operational Effects**

Wildlife passage to the wetland downstream of the Site will be maintained, and habitat enhancements are planned within the existing wetland, pond, and associated buffer. Additional opportunities for the creation of new habitat features elsewhere on the Site may be explored during detailed design activities. Habitat compensation for bats will be provided within the wetland area. With appropriate mitigation measures, no direct or indirect effects are anticipated from the operations of the proposed relocated Lincolnville GO station.

### **4.1.2.5 Net Effects**

The wetland on the site has been identified as overwintering habitat for turtles as well as habitat for two turtle SOCC and there is one location in which disturbance of the wetland is required for a crossing of the bus loop which will disturb the turtle habitat. The proposed relocated Lincolnville GO Station will result in the removal of Barn Swallow habitat and potential roosting habitat for Little Brown Myotis and Eastern Small-footed Bat. Also, during tree and vegetation removal, there is the potential to encounter nesting migratory birds and effects may include the disturbance or destruction of the nests and/or birds. With the proposed mitigation measures, including implementing timing windows for structure and vegetation removal, incorporating a culvert or other structure to allow for wildlife passage below the bus loop access road, and maintaining flows to the existing pond, no net effects on wildlife and wildlife habitat are anticipated.

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### **4.1.3 Surface Water, Hydrology and Fish and Fish Habitat**

#### **4.1.3.1 Potential Construction Effects**

Potential effects to fish habitat include indirect effects resulting from changes to the Stouffville Creek tributary affecting flow and nutrients to the downstream habitat in the Stouffville Creek subwatershed.

The proposed development includes a crossing of the tributary south of the pond outlet. This reach of the watercourse does not provide direct fish habitat; however, it does provide flow to fish habitat downstream of the existing facility during heavy storm events, and by contributing groundwater flow during dry periods. Altering flow to downstream habitats may affect these habitats if flows are reduced such that the habitat is unusable by fish to carry out their life processes.

If flows are reduced, it could render the downstream habitat unusable by fish to carry out their life processes.

Introduction of sediment can affect fish due to increased turbidity of the water column, which can impair vision and subsequent feeding by fish that are sight-hunters. Suspended sediments can also abrade gill membranes leading to physical stress, and affect prey organism's behavioral changes (i.e., avoidance, etc.). Heavier sediments can deposit on bottom substrates that may be used for spawning, incubation of juvenile fish, or food production, thereby affecting those habitat functions.

There is also the potential for spills from construction equipment to enter into the surface water features onsite, affecting water quality and fish and fish habitat.

#### **4.1.3.2 Mitigation Measures for Construction Effects**

Although direct effects are not anticipated, requirements under the *Fisheries Act* will be addressed including any Self-Assessments or permitting that may be required. Prior to finalizing detailed design, a Self-Assessment should be undertaken by a qualified professional to determine whether further assessment and review is required by DFO. If the result of the Self-Assessment process suggests that potential harm could be caused to a fish- or a fisheries-supporting waterbody, Metrolinx must contact DFO for a formal review or authorization under the *Fisheries Act*.

Best management practices (BMPs) and standards are available to guide the design of mitigation measures. MECP's Guideline B-6 *Guidelines for Evaluating Construction Activities Impacting on Water Resources* (1995), the *Erosion and Sediment Control Guideline for Urban Construction* (TRCA 2006), the *Sustainable Technologies Evaluation Program* (TRCA 2016), and the *Ontario Provincial Standards for Roads and*

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*Public Works* (Ontario Ministry of Transportation 2015) will be referenced when developing erosion and sediment control plans.

Potential indirect effects to fish habitat will be mitigated with standard environmental protection measures, which may include the following, as appropriate:

- Protect and/or enhance the pond and riparian wetland with an adequate buffer, determined by the completion of a Scoped EIS, and native species plantings that may include trees and shrubs.
- Maintain existing surface water flows through appropriate design and water balance.
- Incorporate shallow groundwater and base flow protection techniques such as infiltration treatment within the station and parking lot footprint.
- Design the bus loop crossing to avoid realignment of channel and maintain existing flow contribution to downstream habitats.
- Design the stormwater management system to avoid increasing water temperatures and sediment contribution to the pond and maintain groundwater infiltration.
- Time the work to reduce the risk of effects on fish by avoiding sensitive life periods such as spawning. Since the tributary is a coldwater watercourse, the typical timing window provided by TRCA allows work to proceed from July 1 to September 15. This timing window should be applied for any works within the tributary or wetland.
- Prevent sediment from entering waterbodies by trapping as close to the source as possible (using methods such as silt fencing or filter logs).
- Reduce the area and duration of soil exposure to the extent possible.
- Divert runoff away from exposed soils.
- Keep runoff velocities low.
- Implement debris/waste containment and removal.
- Retain existing vegetation where feasible.
- Complete post-construction site restoration (i.e., application of cover and re-vegetation of cleared areas)

Mitigation measures will be implemented to reduce the risk of spills from entering natural features during construction, the same mitigation measures from Section 4.1.3.4 will be used during construction. A Hazardous Materials and Fuel Handling plan will be developed prior to construction.

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The Contractor will develop, implement, and maintain a site-specific Health and Safety Plan and a Spill Prevention and Response Plan. Personnel will be trained in how to apply the plans. In addition, the plans will be reviewed on a regular basis to strengthen their effectiveness to facilitate continuous improvement. Spills will be immediately contained and cleaned up in accordance with provincial regulatory requirements and the contingency plan. A spill response kit will be on-site at all times during construction. Spills will be reported to the Ontario Spills Action Centre at 1-800-268-6060.

### **4.1.3.3 Potential Operations Effects**

Operations activities involving snow clearing and application of road salts may result in effects to the water quality and fish and fish habitat in the onsite wetland. There is also the potential for spills from operations (e.g. vehicles) to enter into the surface water features onsite, affecting water quality and fish and fish habitat.

### **4.1.3.4 Mitigation Measures for Operation Effects**

Operations activities involving snow clearing and application of road salts shall avoid the placement of snow within or adjacent to the vegetation around the onsite wetland, and road salt shall be managed by persons who are certified by Smart About Salt, and best management practices for salt and snow shall be implemented.

Mitigation measures will also be implemented to reduce the risk of spills from entering natural features during operation, as this could negatively affect the aquatic environment. Mitigation measures for spills include:

- All toxic material shall be stored in secure enclosures and equipment should be refueled at minimum 30 m away from any sensitive natural areas to avoid potential effects from accidental spills;
- An adequate supply of spills cleanup materials/kits shall be maintained at various locations within the work site. Spills and leaks should be captured, contained and cleaned up immediately; and
- Contaminant spills shall be reported as per the *Environmental Protection Act*, 1990. All toxic chemicals and contaminants must be disposed of offsite in approved disposal sites under appropriate MECP regulations.

The Contractor will develop, implement, and maintain a site-specific Health and Safety Plan and a Spill Prevention and Response Plan. Personnel will be trained in how to apply the plans. In addition, the plans will be reviewed on a regular basis to strengthen their effectiveness to facilitate continuous improvement. Spills will be immediately contained and cleaned up in accordance with provincial regulatory requirements and the



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contingency plan. A spill response kit will be on-site at all times during construction. Spills will be reported to the Ontario Spills Action Centre at 1-800-268-6060.

### **4.1.3.5 Net Effects**

The proposed relocated Lincolnville GO Station development is unlikely to result in serious harm to fish because mitigation will be implemented so that the flow across the property and to downstream habitats is maintained. Potential indirect effects to fish habitat can be mitigated with standard environmental protection measures. processes. Mitigation measures are will also minimize the potential effects of the proposed operations of the relocated Lincolnville GO Station on aquatic features. By maintaining the quality and quantity of flows from the Addendum Study Area into the Stouffville Creek habitats, no net effects are anticipated.

### **4.1.4 Stormwater Management**

#### **4.1.4.1 Potential Construction Effects**

Construction of the relocated Lincolnville GO Station has to potential to affect stormwater management as there will be an increase in impervious surface area which may affect the amount and direction of water infiltration and flows. The landscape will be altered to accommodate parking, platform, and other station facilities.

#### **4.1.4.2 Mitigation Measures for Construction Effects**

Specific elements will be incorporated into the detailed design of the relocated station to mitigate potential changes to stormwater flows including the construction of a stormwater management pond to provide quantity, quality, and erosion control for most of the developed areas of the site. Quality, quantity, and erosion control for the remainder of the developed areas of the Site will be provided through an underground detention tank and a vegetated swale. The sizing and placement of culvert(s), a detention tank, the swale, and any other elements to manage stormwater flow throughout the Site will be confirmed as detailed design activities progress. Spill elevations and inlet and outlet sizing for the existing pond will be accounted for in the design to ensure that no increase in flood risk arises from the development. The retention of the first 5 mm of rainfall is required for the entire site.

Efforts will be made to maintain the existing groundwater and surface water inputs to the wetland, outputs from the wetland, and the temporal variation in the inputs and outputs (hydroperiod). The specific requirements for mitigating changes in these parameters as well as data collection and monitoring requirements will be determined through consultation with the TRCA.

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As described in Section 3.1.4, Stantec completed a pre-development water balance assessment. The water balance will be used to compare groundwater recharge rates post-development to confirm that pre-development groundwater recharge function is maintained.

### **4.1.4.3 Potential Operations Effects**

Future operations will not affect the flow of stormwater within or beyond the Study Area, as the detailed design for the relocated Lincolnville GO Station will include consideration of stormwater flows.

### **4.1.4.4 Mitigation Measures for Operational Effects**

No potential effects from operations on stormwater management have been identified and therefore no mitigation is required.

### **4.1.4.5 Net Effects**

Water quality and water balance will be maintained for storm flows originating from within the Addendum Study Area during construction and operations. As such, no net effects are anticipated following the proposed design recommendations.

## **4.1.5 Groundwater**

### **4.1.5.1 Potential Construction Effects**

Construction dewatering has the potential to negatively affect water well quality and quantity depending on the location and condition of the private wells identified for this project. The need for, and extent of, private well monitoring during construction should be confirmed as part of final design, once dewatering requirements, proposed construction activity and potential zone of influence are confirmed. Existing private wells within the property will be decommissioned upon completion of municipal servicing.

The addition of impermeable surfaces (e.g., pavement) on the site will reduce water infiltration into the ground and has the potential to affect the site water balance and groundwater recharge.

Although threat vulnerability mapping has not identified current significant chemical or pathogen threats to groundwater supplies, and dense non-aqueous phase liquid (DNAPL) storage and/or use is not permitted within a WHPA-C, potential accidents and spills may have an effect on groundwater quality.

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### **4.1.5.2 Mitigation Measures for Construction Effects**

As portions of the site have been classified as a SGRA and fall within a WHPA-Q, the site design must account for groundwater recharge, and maintain the quality of recharge water based on the design of additional impermeable surfaces. A subsequent report containing a pre- and post-construction water balance will be undertaken to consider the potential for significant recharge in the area, and to assist with integrating appropriate Low Impact Development (LID) measures into the design phase of the site.

The York Region's Risk Management Office will be contacted to review the detailed design prior to construction.

If dewatering activities are required during construction activities, discharge water may be released to the environment, dependent on water quality. In this case, appropriate sediment and erosion control measures must be in place. Additional mitigation measures will be determined based on the expected volume and quality of dewatering and the discharge location. The need for and extent of private well water quality testing during dewatering activities will be confirmed as part of final design. A sediment and erosion control plan associated with construction dewatering and long-term operation may be required upon completion of the final design. If required, appropriate approvals will be obtained from the MECP.

The requirements of the *Clean Water Act* policies will be considered where applicable during the design phase of the project. In accordance with the *ORM Conservation Act*, a Site Management and Contingency Plan should be developed for any areas falling within the WHPA of a municipal system. The need for a Site Management and Contingency Plan will be confirmed as part of the design phase. If required, this plan will be specific to any activities proposed for the Addendum Study Area and be focused on the prevention of pollution with consideration of any relevant policies developed under the *Clean Water Act* (2006).

Prior to Construction, and Environmental Mitigation and Monitoring, and Construction Management Plan (EMMP/CMP) will be developed to outline environmental protection measures for natural environment and socio-economic features located on or adjacent to the project site. The EMMP/CMP will include both general and site-specific environmental protection measures, including requirements during construction and operations activities to protect groundwater from spills, leaks, and other sources of contaminants.

Prior to Construction, an Environmental Mitigation and Monitoring, and Construction Management Plan (EMMP/CMP) will be developed to outline environmental protection measures for natural environment and socio-economic features located on or adjacent to the project site. The purpose of the plan is to develop a method for managing

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potential impacts to the environment. This plan will consider sensitive elements including but not limited to SGRA, WHPAs, HVA, and the onsite wetland. The EMMP/CMP will include both general and site-specific environmental protection measures, including requirements during construction and operations activities to protect groundwater from spills, leaks, and other sources of contaminants. An Environmental Inspector will conduct regular site inspections to monitor conditions and suggest necessary mitigation measures during construction. Existing monitoring locations that do not need to be decommissioned to accommodate construction may continue to be monitored during construction.

A Hazardous Materials and Fuel Handling Plan will be developed prior to construction activities to confirm that fuels and other hazardous materials are handled and stored in a safe manner. This plan will take into consideration the Study Area's location within a WHPA and associated Vulnerable Areas. Hazardous materials and fuel storage, refueling and maintenance of construction equipment will occur within the designated areas only.

The Contractor will develop, implement, and maintain a site-specific Health and Safety Plan and a Spill Prevention and Response Plan. Personnel will be trained in how to apply the plans. In addition, the plans will be reviewed on a regular basis to strengthen their effectiveness to facilitate continuous improvement. Spills will be immediately contained and cleaned up in accordance with provincial regulatory requirements and the contingency plan. A spill response kit will be on-site at all times during construction. Spills will be reported to the Ontario Spills Action Centre at 1-800-268-6060.

### **4.1.5.3 Potential Operations Effects**

Long-term effects to any residential wells near the Addendum Study Area are not anticipated because it is not anticipated that any permanent water takings will be required, and the proposed new GO Station will not cause permanent changes to the groundwater supply.

Potential spills from operations on site could infiltrate into groundwater, resulting in contamination of the WHPA and SGRA.

Significant dewatering is not anticipated during operations, however if excavations encounter a high water table and groundwater dewatering is required during operations, there is the potential to affect groundwater quantity and flow. If this occurs, additional mitigation measures will be necessary and would be similar to those described in Section 4.1.5.2.

### **4.1.5.4 Mitigation Measures for Operational Effects**

The following measures are recommended in areas mapped as SGRA:

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- The requirements of the Source Protection planning policies, as they apply to SGRA, will be considered during the design phase of the project.
- Refueling of equipment will be carried out in proper spill containment areas for SGRA, whenever possible, to minimize potential effects to groundwater quality in the event that an accidental release occurs.
- Best management protocols with respect to the handling and storage of chemicals (such as used oil, degreasers and salt) shall be implemented during construction and operation such as secondary containment of any temporary or permanent fuel storage, and maintaining spill response kits onsite.
- Winter maintenance activities shall be undertaken by persons who are certified by Smart About Salt, and best management practices for salt and snow shall be implemented.
- An Operations Phase Spill Prevention and Response plan will be developed, implemented and maintained. The location of the Spill Prevention and Contingency Plan and associated spill response materials will be provided to staff at all times during operations.

### **4.1.5.5 Net Effects**

Careful management of water balance and water quality through site design elements and limiting dewatering during construction are not anticipated to result in net effects to areas mapped as WHPA or HVA. Design elements and operations plans will specifically address pathogens, chemicals, or DNAPL substances that could be used during operations, in order to meet the requirements of Source Protection Policies and Clean Water Act prohibitions against the handling or storage of specific chemicals such as DNAPL. Therefore, no net effects are anticipated to the recharge water within the ORM.

### **4.1.6 Soil Quality and Management**

#### **4.1.6.1 Potential Construction Effects**

Portions of the Addendum Study Area remain to be characterized, and therefore soils within these areas are of unknown quality. Spills and releases associated with site construction may further affect on-site soil quality.

In addition, stripping of the existing surficial organics and topsoil will be required as part of construction. Topsoil stripped during the site preparation program is not considered suitable for reuse in any application other than general landscaping on the site. In addition, some of the existing fill materials are not suitable to support the proposed relocated Lincolnville GO Station. Excavated fill material will require removal or will be

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reused on-site, where feasible. Previous classification of on-site subsurface soils indicated that excess soils generated from future excavation activities would be classified as non-hazardous. Based on the quality of the on-site soils analysis, all on-site soils can be reused in the construction of the Project, if needed and where soils are geotechnically suitable. The soils investigation determined that any excess soils generated during construction activities can be disposed of offsite to any private site with clean fill requirements.

Potential sources of contamination from previous land use activities have been identified in some locations and there is no evidence in those locations to indicate that onsite soils and groundwater are impacted with pesticides, herbicides or fuel oil and therefore no issues with the suitability of excess soils for reuse within the assessed portions of the Addendum Study Area have been identified. Areas not assessed as part of the initial sampling may potentially contain impacted soils, resulting in restrictions on reuse and management options.

### **4.1.6.2 Mitigation Measures for Construction Effects**

A Gap Analysis of the Phase 1 ESA will be completed to determine where further site soil characterization will be required, and to develop a work plan to complete the characterization in consultation with the MECP. If the Gap Analysis concludes that additional field investigations are warranted, they will be completed to CSA standards and reported to the MECP prior to commencing construction activities. Some site clearing or demolition activities may be necessary in order to undertake additional investigations. If the Gap Analysis concludes that site characterization activities recommended in the Phase I ESA are not required, rationale for these conclusions will be provided.

A Hazardous Materials and Fuel Handling Plan and a Soil Quality and Soil Management Plan will be developed prior to construction activities to confirm that fuels and other hazardous materials are handled and stored in a safe manner and to provide direction on the management and movement of site soils, respectively. Both plans will take into consideration the Study Area's location within a WHPA and associated Vulnerable Areas. Hazardous materials and fuel storage, refueling and maintenance of construction equipment will occur within the designated areas only.

The Contractor will develop, implement, and maintain a site-specific Health and Safety Plan and a Spill Prevention and Response Plan. Personnel will be trained in how to apply the plans. In addition, the plans will be reviewed on a regular basis to strengthen their effectiveness to facilitate continuous improvement. Spills will be immediately contained and cleaned up in accordance with provincial regulatory requirements and the contingency plan. A spill response kit will be on-site at all times during construction. Spills will be reported to the Ontario Spills Action Centre at 1-800-268-6060.

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Should visual or olfactory evidence of contamination be identified in the excess soils generated during construction activities, appropriate tests to determine contaminant levels will be undertaken, and appropriate action will be taken as per the Spill Prevention and Response Plan. If the excess soil exceeds the applicable MECP Standard, it will be disposed of offsite at an accepting MECP-licensed facility in accordance with the MECP's most current guidance document entitled, *"Management of Excess Soil – A Guide for Best Management Practices"* and other applicable legislation.

Any excavated materials or imported soils will be stockpiled temporarily in accordance with the MECP's guidance document entitled, *"Management of Excess Soil – A Guide for Best Management Practices,"* and if required, will be tested in accordance with O.Reg. 153/04.

Construction of the proposed relocated Lincolnville GO Station is expected to generate excess soil that cannot be reused on site due to its geotechnical properties or quality of the excess soil. All excavated soils are to be stockpiled in designated locations on-site. The heights of the stockpiles will be minimized to minimize potential soil erosion by wind, and other protections will be applied as required. A qualified person will oversee site work where excess soils may be generated, or where soils may be moved or stockpiled. Any excess soils generated during construction activities can be disposed of offsite to any private site with clean fill requirements; however reasonable attempts will be made to maximize the beneficial re-use of excess soil at the site, while ensuring the integrity of environmental and geotechnical considerations, and in keeping with the Soil Quality and Soil Management Plan. Should a private receiver site for the on-site excess soils not be identified and offsite disposal of excess soils is a requirement, then such soils can be removed off-site for receipt at a licensed, MECP-approved facility. 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 will be incorporated, as applicable. In all cases the on-site and off-site beneficial reuse of excess soil will be explored by the Project team and will be undertaken in accordance with *Excess Soil – A Guide to Best Management Practices* (MOECC January 2014).

### **4.1.6.3 Potential Operations Effects**

Spills and releases associated with site operations have the potential to affect onsite soil quality.

### **4.1.6.4 Mitigation Measures for Operational Effects**

A Hazardous Materials and Fuel Handling Plan will be developed to confirm that fuels and other hazardous materials are handled and stored in a safe manner. This plan will take into consideration the Study Area's location within a WHPA and associated



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Vulnerable Areas. Hazardous materials and fuel storage, refueling and maintenance of operation equipment will occur within the designated areas only.

An Operations Phase Spill Prevention and Response plan will be developed, implemented and maintained. The location of the Spill Prevention and Contingency Plan and associated spill response materials will be provided to staff at all times during operations.

### **4.1.6.5 Net Effects**

There is the potential to encounter contaminated soils; however, the MECP's *"Management of Excess Soil – A Guide for Best Management Practices"* will be followed in the creation of a Soil Quality and Soil Management Plan for soil movement, stockpiling and disposal methods during construction.

Design elements will be implemented to control contaminant releases during operations. Therefore, no net effects to soils or geology are anticipated as a result of the construction and operation of the proposed relocated Lincolnville GO Station.

### **4.1.7 Tree Inventory**

#### **4.1.7.1 Potential Construction Effects**

Through review of the construction limits and proposed design, the Tree Inventory Report (Appendix A6) identified that many of the trees in the interior of the site will likely require removal. Trees to be removed include species listed in Section 3.1.7.2. Effects to offsite trees are not expected based on the current design. Potential effects to retained trees are mechanical damage and root damage from construction equipment and activities.

#### **4.1.7.2 Mitigation Measures for Construction Effects**

In order to mitigate the removal of trees, Metrolinx is establishing a Vegetation Compensation Protocol and vegetation that is removed will be compensated for in accordance with the provisions of this protocol. The protocol will include standards and objectives for compensation of municipally-owned trees and privately-owned trees, and account for municipal and regional/Conservation Authority permitting and approvals requirements. Metrolinx is also developing a methodology to compensate for trees located within their property which will involve categorizing tree community types / ecological value and establishing the appropriate level of compensation. Metrolinx will be looking to partner with Conservation Authorities and municipalities to develop the final compensation plan. The Town of Whitchurch-Stouffville currently does not have any tree by-laws or policies that identify compensation requirements for the removal or injury of trees. The Region of York's Forest Conservation Bylaw would not apply to the

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tree effects on this project site as there are no treed areas that would meet their criteria of a forest in the by-law.

Metrolinx will avoid effects on trees growing within the wetland area by protecting vegetation species within an adequate buffer around the wetland.

Metrolinx will review grading with the Arborist during detailed design to mitigate effects to trees along the perimeter of the site where feasible. If it is determined that any effects are possible to offsite trees, landowner permissions should be obtained, and the trees should be surveyed for exact location through topographic or legal survey, and assessed by a Certified Arborist.

Trees that will be near construction activities but will not be removed will be retained. When the necessary project approvals are received and prior to the commencement of tree removals, all trees designated for preservation must be flagged in the field. All designated preservation areas must be left standing and undamaged during site works.

In order to protect trees from mechanical damage from construction, a Tree Management Plan will be developed prior to construction. The Tree Management Plan will include measures for protecting retained trees such as the installation of a tree protection fence.

A detailed landscape plan with a tree replanting plan will be developed as part of detailed design.

### **4.1.7.3 Potential Operations Effects**

Trees could be affected by ongoing operations as a result of spills, root compaction due to stray pedestrian or vehicular traffic, or deteriorated soil or water quality as a result of surface salting during the winter.

### **4.1.7.4 Mitigation Measures for Operational Effects**

Maintenance staff will monitor all trees on the property and prune or fell hazard trees as required. If a spill, root compaction or soil deterioration results in effects on trees, maintenance staff will investigate the cause and remediation measures will be undertaken to limit effects to trees.

### **4.1.7.5 Net Effects**

As identified above, the Project will require the removal of several trees. A tree replacement strategy is proposed to mitigate the tree removal. Trees affected by ongoing operations will be assessed on a case-by-case basis and appropriate mitigation will be identified.

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## **4.2 Social Environment**

### **4.2.1 Land Use and Users**

#### **4.2.1.1 Potential Construction Effects**

The proposed Site is currently designated as a “Greenland Area” and “Rural” under the Town of Whitchurch-Stouffville Official Plan, and zoned as “Agricultural” under the Town’s Comprehensive Zoning By-Law. Therefore, the proposed Site does not conform with the Official Plan or Zoning By-Law. However, Official Plan Amendment 137 designates the site for residential and urban medium density residential uses. The Town is aware of Metrolinx proposed plan and have directed staff through the 2018 capital budget to initiate a study to reallocate the growth that would have been allocated to the site to nearby lands. Both Town and Regional staff believe that the area surrounding the relocated Lincolnville GO station is well suited for a Major Transit Station Area (MTSA), as defined in the Growth Plan for the Greater Golden Horseshoe (2017). Staff recommendations to move forward with the Land Use Study, and to plan for the MTSA were approved by Whitchurch-Stouffville Town Council in June of 2018 (Whitchurch-Stouffville, 2018). The timeline for Official Plan and Zoning By-law updates associated with enabling the designation of the Site and surrounding lands as MTSA is currently unknown.

Ultimately, the proposed relocated Lincolnville GO Station will benefit the community of Stouffville by improving connectivity and access to public transit as well as increased ridership safety as the existing Lincolnville Layover and GO Station site does not provide sufficient space for the enhanced GO station facilities that are required to support GO Expansion objectives or an enhanced, comfortable customer experience.

Surrounding land users may also experience temporary nuisance effects due to increased noise, vibration, dust and traffic associated with construction activities.

#### **4.2.1.2 Mitigation Measures for Construction Effects**

Since Metrolinx is not subject to municipal approvals, there is no requirement to conform with the Official Plan or Zoning By-law and no specific mitigation measures are required; however, Metrolinx has conducted consultation with the Town of Whitchurch-Stouffville and the Regional Municipality of York to offer the opportunity to review the development plans and comment on the design. These consultation activities will allow Metrolinx to address concerns related to land use compatibility that would typically arise as a result of permitting efforts.

Mitigation measures related to potential nuisance effects are outlined in Sections 4.4.1 (Air Quality), 4.4.2 (Noise and Vibration) and 4.4.3 (Traffic and Transportation).

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Construction best management practices and monitoring will include the development of a protocol to identify and resolve issues associated with construction-related nuisance effects.

If any members of the public identify questions or concerns with potential nuisance effects, Metrolinx's community office located at 4142 Sheppard Ave. E. is open every Tuesday, Wednesday, and Thursday from 11 am to 2:30 pm for the community. Members of the public can also contact Metrolinx with any concerns by calling 416-202-5837 or emailing [Azim.Ahmed@metrolinx.com](mailto:Azim.Ahmed@metrolinx.com).

The Construction Contractor will be responsible for monitoring site conditions related to nuisance effects throughout construction activities. Daily monitoring will be performed by the site supervisor to confirm site conditions (and mitigation measures implemented as required).

### **4.2.1.3 Potential Operations Effects**

Land use compatibility issues will be addressed during or prior to construction and therefore, there are no expected effects on land use during operation. There is potential for nuisance effects related to operation and maintenance of the Facility, as addressed in Sections 4.4.1 (Air Quality), 4.4.2 (Noise and Vibration) and 4.4.3 (Traffic and Transportation).

### **4.2.1.4 Mitigation Measures for Operations Effects**

Mitigation measures related to potential nuisance effects are outlined in Sections 4.4.1 (Air Quality), 4.4.2 (Noise and Vibration) and 4.4.3 (Traffic and Transportation).

### **4.2.1.5 Net Effects**

The surrounding area has the ability to support future development and the proposed new relocated Lincolnville GO Station will benefit the community of Stouffville by improving connectivity and access to public transit. Net effects due to potential nuisance effects are outlined in Sections 4.4.1 (Air Quality), 4.4.2 (Noise and Vibration) and 4.4.3 (Traffic and Transportation).

## **4.3 Cultural Environment**

### **4.3.1 Archaeology**

#### **4.3.1.1 Potential Construction Effects**

The Stage 2 AA identified one site of further CHVI and recommends that a Stage 3 AA be completed. This study was conducted in support of detailed design activities and the

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recommendation of the Stage 3 AA and any further archaeological studies will be implemented prior to commencing construction activities. The recommendations of all archaeological assessment studies will be included in the EMMP/CMP to be carried out to mitigate any potential construction effects. Appropriate documentation and mitigation will be carried out prior to construction and therefore, no effects are anticipated during construction.

### **4.3.1.2 Mitigation Measures for Construction Effects**

Excavation and documentation methods recommended in archaeological reports produced to support detailed design activities will be implemented, once studies are complete and prior to commencing construction activities.

Should previously undocumented archaeological resources be discovered or suspected of being discovered, they may be a new archaeological site and therefore subject to Section 48(1) of the *Ontario Heritage Act* (Government of Ontario 1990a). The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed consultant archaeologist to carry out archaeological fieldwork, in compliance with Section 48(1) of the *Ontario Heritage Act* (Government of Ontario 1990a). The *Funeral, Burial and Cremation Services Act, 2002*, S.O. 2002, c.33 (Government of Ontario 2002) requires that any person discovering human remains must notify the police or coroner and the Registrar of Cemeteries at the Ministry of Government and Consumer Services.

### **4.3.1.3 Potential Operations Effects**

Operations will not require additional excavation and therefore no archaeological effects are anticipated during operations at the site.

### **4.3.1.4 Mitigation Measures for Operations Effects**

No mitigation measures are required as no effects from operations have been identified.

### **4.3.1.5 Net Effects**

Prior to construction, the recommendations in all AAs report will be completed. Mitigation will appropriately address potential newly-identified artefacts found during construction activities and therefore no net effects are anticipated for archaeological resources.

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### **4.3.2 Cultural Heritage**

#### **4.3.2.1 Potential Construction Effects**

Based on the cultural heritage screening, the Site does not have potential to meet the O.Reg. 9/06 criteria for identification as a provincial heritage property under the *Ontario Heritage Act* and the Town has not identified the Site as a site of potential heritage interest or value, and that there are no identified built heritage resources adjacent to the Site. Therefore, no effects are anticipated.

#### **4.3.2.2 Mitigation Measures for Construction Effects**

No mitigation measures are required for cultural heritage resources, as there are no direct or indirect effects anticipated from the construction of the proposed relocated Lincolnville GO station.

#### **4.3.2.3 Potential Operations Effects**

No mitigation measures are required for cultural heritage resources, as there are no direct or indirect effects anticipated from the operation of the proposed relocated Lincolnville GO station.

#### **4.3.2.4 Mitigation Measures for Operational Effects**

No mitigation measures are required for cultural heritage resources, as there are no direct or indirect effects anticipated for this project.

#### **4.3.2.5 Net Effects**

No net effects are anticipated for cultural heritage resources, as there are no direct or indirect effects from the proposed relocated Lincolnville GO Station anticipated.

### **4.4 Technical Environment**

#### **4.4.1 Air Quality**

##### **4.4.1.1 Potential Construction Effects**

During construction activities, emissions are expected to be primarily associated with fuel combustion from construction vehicles and equipment, as well as from fugitive dust from construction activities.

The majority of construction activities are expected to occur in the daytime between the hours of 07:00 h and 17:00 h. Depending on wind speed and direction, fugitive dust



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emissions may have the potential to cause temporary off-property nuisances (e.g., soiling, visibility), however significant adverse changes in air quality are not expected.

### **4.4.1.2 Mitigation Measures for Construction Effects**

Fugitive dust emissions can be mitigated using standard dust control methodologies for construction sites. Dust prevention and control methodologies may include, but are not limited to:

- Development and implementation of an Air Quality Management Plan for the construction phase.
- Wetting or covering of open areas, unpaved roads, or material storage piles that may emit dust.
- Usage of non-chemical dust suppressant to reduce fugitive dust emissions from temporary unpaved roads or parking lots.
- Stabilization of construction access and roadways to reduce the tracking of construction sediment (mud and soil) onto public roads by construction equipment.
- Regular sweeping of vehicle trackout on public roads.
- Use of temporary barriers to prevent soil erosion and control windspeed for locations where dust could potentially be generated.
- Introduction of a no-idling policy to control mobile equipment and other vehicle emissions where applicable.
- Regulate mobile equipment travelling speeds inside the construction area to prevent excessive dust generation.
- Ensure proper maintenance of equipment and vehicles operating in work areas.
- Proper planning of construction phases and effective use of construction equipment to reduce dust.
- Minimize the size of active areas on storage piles.
- Operators should use due diligence during material loading, unloading and transferring activities to avoid excessive dust generation. Drop heights should be minimized as much as practicable.

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### **4.4.1.3 Potential Operations Effects**

Future air emission sources are expected in association with the relocated GO station including an increase in vehicular traffic in the parking lot, kiss and ride, and bus loop. Trains will also now be operating in the Addendum Study Area and are expected to start-up in the morning within the existing Layover Facility, then proceed to the relocated GO Station for passenger boarding.

The maximum predicted concentrations of the COC other than PM<sub>10</sub> were lower for the Future scenarios relative to the Baseline Scenario. This is attributable to expected decreases in vehicle emissions based on future regulatory requirements and technological improvements offsetting increases in traffic levels. Additionally, train emissions will be removed due to electrification of the train fleet by 2025.

The predicted cumulative concentrations (i.e., maximum predicted concentration plus background levels) were compared for the future scenarios. Most contaminants were predicted to be below the applicable criteria, with the exception of 24-hour and annual benzene concentrations and 24-hour and annual Benzo[a]Pyrene (B[a]P) concentrations, which exceeded the criteria for both existing and future concentrations. This is in part due to high background levels of some of these contaminants, especially B[a]P, which are commonly measured at higher levels across southern Ontario. With future regulatory requirements and technological improvements in vehicle emissions, as well as the removal of emissions formerly produced by the diesel locomotives due to planned electrification in 2025, maximum B[a]P concentrations are predicted to be lower for the Future Scenario compared with the Baseline Scenario.

It is anticipated that with the phase-in of newer fleets of locomotives and buses in the future, the air quality effects of station operations will be lower than those predicted due to more stringent emissions standards and the increasing market demand for electric vehicles. The identified air quality effects are considered to be acceptable as they are within the range of established MECP criteria, with the exception of B[a]P. An assessment of the direct effects of plans for electrification of the locomotive fleet is not in the scope of this assessment, as it has been completed by others (RWDI, 2016).

### **4.4.1.4 Mitigation Measures for Operational Effects**

MECP air quality criteria will be met for all contaminants except those that already exceed the criteria due to high background levels and vehicle start-up and idling in the parking lot, therefore emission mitigation measures for the operation phase are not required.

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### **4.4.1.5 Net Effects**

No net effects have been identified in association with the construction and operation of the proposed relocated Lincolnvile GO Station. Standard mitigation measures will control dust and emissions during construction. In addition, operations are not anticipated to result in air quality exceedances to MECP criteria, other than for substances that currently exceed MECP criteria due to existing, high background concentrations and vehicle start-up and idling in the parking lot.

### **4.4.2 Noise and Vibration**

#### **4.4.2.1 Potential Construction Effects**

Increases in ambient noise levels at nearby receptor locations are expected in association with construction activities. These increases are anticipated to be temporary in nature and are considered to be a short-term nuisance to area residents. The predicted sound indicate that it is feasible to operate most construction equipment within the limits stipulated by NPC-115. Metrolinx will endeavor to abide by existing municipal noise by-laws for the duration of construction activities whenever feasible.

The predicted zone of influence for vibration shows that the worst-case zone of influence for potential construction equipment is 17 m. The closest receptor is about 55 m away from the construction footprint and therefore, vibration levels from the construction equipment are not expected to affect the receptors in the study area.

#### **4.4.2.2 Mitigation Measures for Construction Effects**

Based on the results of the assessment, noise control mitigation measures are not required within the Study Area. If construction activities are planned outside the Town of Whitchurch-Stouffville's allowed period (overnight and/or weekends), Metrolinx or contractor will seek exemptions from the Town of Whitchurch-Stouffville.

The following standard noise mitigation measures are recommended noise management practices to reduce construction noise effects:

- Major construction activities scheduled during daytime hours
- Noise mitigation measures (e.g., muffler systems) will be installed on construction equipment and properly maintained
- Where possible, construction equipment will be turned off when not in use (i.e. a no idling policy)
- Vehicles and equipment should be routinely maintained and serviced for proper operation

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- In case of a complaint received during construction, Metrolinx will investigate and take appropriate action to manage the issue responsibly.

When construction begins, it is recommended that noise monitoring be conducted at selected locations to verify that equipment operates within the maximum sound level emission standards stipulated in NPC-115. If an exceedance is observed, continuous noise monitoring may be required. If the sound levels are within the limits discussed in this report, a periodic or complaint-based monitoring program may be considered. Development of a noise monitoring protocol is also recommended prior to undertaking major construction activities.

Due to the proximity of the construction footprint to surrounding sensitive receptors, further recommendations for mitigation of construction vibration include:

- Operate vibration-generating equipment as far from sensitive receptors as possible
- Schedule vibration-generating activities so that they do not occur at the same time
- Avoid use of impact pile-drivers and vibratory rollers near sensitive areas
- Schedule major construction activities to take place during daytime hours, where possible.

A vibration monitoring plan is recommended to be developed once a more defined construction footprint is established, and once it is known where major vibration-generating activities and equipment will be operating.

### **4.4.2.3 Potential Operations Effects**

The results of the operations noise assessment indicate that the changes in acoustical conditions are within the acceptable range provided by the MECP/GO Draft Protocol. However, noise effects from the stationary noise sources exceed the MECP criteria. In particular, idling buses at the relocated GO Station cause an exceedance.

Based on the review of the station preliminary design drawings, a realignment is not expected for the corridor. Therefore, an operation vibration assessment is not required.

### **4.4.2.4 Mitigation Measures for Operational Effects**

The results of the Project noise assessment indicate that sound levels at a dwelling west of the proposed station site (POR06) exceed the MECP criteria limits, caused by the idling buses at the relocated Lincolnville GO Station.

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To bring the Lincolnville GO Station in to compliance with MECP guidelines, one 3 m high L-shaped acoustic barrier west of the bus shelters will be installed. The acoustic barrier should break the line of sight from the idling buses to the dwelling (POR06).

### **4.4.2.5 Net Effects**

With the recommended mitigation in place, the operation of the Project is predicted to be in compliance with the applicable MECP NPC 300 guideline for day-time, evening and night-time operations. No net effects are anticipated.

### **4.4.3 Traffic and Transportation**

#### **4.4.3.1 Potential Construction Effects**

Construction activities are anticipated to commence in 2019. As part of the proposed construction, effects on traffic are expected to be limited due to the rural nature of the Addendum Study area. The study area intersections are anticipated to operate at a good level of service during peak travel hours.

Local transit services do not operate out of the Addendum Study Area, and it is understood that a connection to the local transit network is not being planned during construction activities. As such, construction activities are not anticipated to affect local transit routes.

Due to the remote location of the Addendum Study Area, pedestrian trips are not considered a common means of transportation in the Addendum Study Area. Therefore, construction activities are not anticipated to affect local pedestrian or cyclist access to the Addendum Study Area.

#### **4.4.3.2 Mitigation Measures for Construction Effects**

No mitigation measures are required for traffic, transit or pedestrian/cyclist movement, as there are no direct or indirect effects anticipated on traffic, transit or pedestrians and cyclists from the construction of the proposed relocated Lincolnville GO station.

#### **4.4.3.3 Potential Operations Effects**

In 2031, all intersections are anticipated to operate within capacity with acceptable levels of service. The only exception is the eastbound left turn movement at the Tenth Line/Site Access #2 intersection which is anticipated to operate with average delays of greater than 80 seconds during the weekday AM peak hour that would result in a forced or complete breakdown of flow.

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Local transit services do not operate out of the Study Area, and it is understood that a connection to the local transit network is not being planned. As such, operation activities are not anticipated to affect local transit routes.

Due to the remote location of the Study Area, pedestrian trips are not considered a common means of transportation in the Study Area. Therefore, operation activities are not anticipated to affect local pedestrian or cyclist access to the Study Area.

Internally, pedestrian access from the parking lot to the station platform will need to be provided, and bicycle storage and bike lanes will also be required for cyclist access to the station.

### **4.4.3.4 Mitigation Measures for Operational Effects**

Proposed traffic control measures include future traffic signals on Tenth Line at Site Access #2 and at Bethesda Side Road run in coordination with the rail crossing and an exclusive northbound left turn lane with 30 metre storage length at Site Access #2.

To address internal circulation requirements, pedestrian crosswalks will be provided to direct pedestrians from the parking lot to the station platform. Covered bike storage (36 bicycle capacity) and internal bike lanes will be provided.

### **4.4.3.5 Net Effects**

Access to the Study Area will be maintained, and traffic will continue to operate at acceptable levels at all intersections. As such, net effects to traffic and transportation are not expected in association with the construction or operation of the proposed relocated Lincolnville GO Station facility.

## **4.5 Summary of Potential Effects, Mitigation Measures, Net Effects and Monitoring Requirements**

Table 4-5 summarizes the effects, mitigation measures and proposed monitoring for the various components of the environment described in the previous sections of the EPR Addendum.

Metrolinx is responsible for confirming that the recommendations are met but may direct a third party to undertake future activities (i.e., contractor, technical consultant). The intent of this table is to provide a summary of those commitments and responsibility of third-parties where Metrolinx determines applicability. These are recommendations that will be confirmed as project planning advances.

Table 4-5: Summary of Effects, Mitigation Measures and Monitoring

Natural Environment

Component of the Environment	Potential Effects	Mitigation Measures	Mitigation Responsibility	Net Effects	Monitoring Activity	Monitoring Responsibility
Vegetation (refer to Section 4.1.1) Construction Effects	Direct loss of both natural and planted vegetation is anticipated to occur. Meadow communities (MEFM1, MEMM4, MAMM1-3) will be removed. Disturbance of the onsite wetland.	<ul style="list-style-type: none"><li>• An adequate buffer will be confirmed through the completion of an Environmental Impact Study and will be applied around the staked edge of the wetland, preserving vegetation species where possible.</li><li>• Minimize the area of clearing/avoid construction activities beyond construction areas.</li><li>• Timing windows for vegetation clearing will be adhered to as outlined in Section 6.5.4.</li><li>• Preserve local seed banks if appropriate, use native seed mixes for restoration efforts, and store and reuse existing topsoil where appropriate.</li><li>• An erosion mat may also be used to stabilize final grades where necessary and should be applied post seeding and mulch application.</li><li>• Restore areas disturbed during construction immediately following construction activities.</li><li>• Implement measures to limit erosion during construction activities.</li></ul>	Metrolinx/ Contractor	There will be a minor loss of vegetated areas following recommended mitigation measures.	Monitor revegetated areas annually for two years and implement adaptive management to correct deficiencies. The success of compensation vegetation will be monitored in accordance with the Vegetation Compensation Protocol for Metrolinx Projects.	Contractor/ Consultant





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Natural Environment

Component of the Environment	Potential Effects	Mitigation Measures	Mitigation Responsibility	Net Effects	Monitoring Activity	Monitoring Responsibility
Vegetation (refer to Section 4.1.1) Operational Effects	Ongoing edge effects to the wetland due to site maintenance. Operation activities involving snow clearing and application of road salts may affect the water quality in the onsite wetland.	<ul style="list-style-type: none"><li>Adaptive management strategies may include supplemental plantings, and/or control of unacceptable species.</li><li>Operations activities will avoid the placement of snow within or adjacent to the vegetated area around the wetland.</li><li>Winter maintenance activities will be undertaken by persons certified by Smart about Salt.</li></ul>	Metrolinx/ Contractor	There will be a minor loss of vegetated areas following recommended mitigation measures.	Monitor revegetated areas annually for two years and implement adaptive management to correct deficiencies. The success of compensation vegetation will be monitored in accordance with the Vegetation Compensation Protocol for Metrolinx Projects.	Metrolinx/ Contractor
Migratory Birds (refer to Section 4.1.2) Construction Effects	Although no nests were found within the Study Area, if nests are established before construction activities commence, construction could disturb or destroy nests during clearing of vegetation and removal of structures.	<ul style="list-style-type: none"><li>Tree and vegetation removal will occur outside of the migratory bird nesting season (April 3 to August 11) to mitigate disturbance or destruction of nesting birds.</li><li>At any time of the year, should a nesting bird be present when construction activity is under way, work that could disrupt nesting activities in the area must discontinue and a biologist with avian expertise will be required to develop a site-specific mitigation plan that meets all regulatory requirements.</li></ul>	Metrolinx/ Contractor / Consultant	No net effects following recommended mitigation and potential monitoring measures.	If nests are found, an Environmental Inspector or qualified biologist will regularly monitor construction to confirm that activities do not encroach into nesting areas or disturb active nesting sites.	Consultant (Environmental Inspector)
Migratory Birds (refer to Section 4.1.2) Operational Effects	It is not anticipated that migratory birds will be affected by the proposed project.	<ul style="list-style-type: none"><li>No mitigation measures are required for the operational phase.</li></ul>	Metrolinx/ Consultant	No net effects following recommended mitigation and potential monitoring measures.	No monitoring activities are required.	Not applicable.



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Table 4-5: Summary of Effects, Mitigation Measures and Monitoring

Natural Environment

Component of the Environment	Potential Effects	Mitigation Measures	Mitigation Responsibility	Net Effects	Monitoring Activity	Monitoring Responsibility
Species at Risk – (refer to Section 4.1.2) Construction Effects	Two Barn Swallow nesting structures and seven nests will be removed during demolition of two buildings.  Two buildings that will be demolished may provide suitable bat roosting habitat for Little Brown Myotis and Eastern Small-footed Bat.	<ul style="list-style-type: none"><li>No part of any activity that is likely to harass, damage or destroy the habitat of Barn Swallow will occur between May 1 and August 31.</li><li>An artificial Barn Swallow nesting structure will be created to provide nesting habitat. A minimum of 7 nesting cups will be installed within the structure.</li><li>No building or structure will be removed during bat roosting period between May 1 and September 30.</li><li>For buildings considered to potentially support bat roosting habitat, the activity will be registered under the ESA and a Bat Mitigation Plan will be developed to support bat habitat.</li></ul>	Metrolinx/ Contractor / Consultant	No net effects following recommended mitigation and potential monitoring measures.	Monitoring activities will be developed in accordance with any registration and/or permitting requirements under the ESA, 2007.	Consultant (Environmental Inspector)
Species at Risk – (refer to Section 4.1.2) Operational Effects	It is not anticipated that Barn Swallow or any other bird SAR will be affected by the operational procedures.	<ul style="list-style-type: none"><li>No mitigation measures are required for the operational phase.</li></ul>	Metrolinx/ Consultant	No net effects following recommended mitigation and potential monitoring measures.	No monitoring activities are required.	Not applicable.



Table 4-5: Summary of Effects, Mitigation Measures and Monitoring

Natural Environment

Component of the Environment	Potential Effects	Mitigation Measures	Mitigation Responsibility	Net Effects	Monitoring Activity	Monitoring Responsibility
Potential Turtle Wintering Area and slow-moving and ground-dwelling Wildlife (refer to Section 4.1.2) Construction Effects	Direct loss and fragmentation of suitable habitat for Snapping Turtle, Midland Painted Turtle and Western Chorus Frog.  Incidental mortality from construction equipment	<ul style="list-style-type: none"><li>• Mitigation measures for Vegetation will also mitigate the effects on slow-moving and ground-dwelling wildlife.</li><li>• Regular visual searches for reptiles (turtles and snakes) are recommended.</li><li>• If reptiles are encountered during construction, they should be permitted to flee the area or moved outside the construction area in consultation with a qualified biologist.</li><li>• Any observations of SAR should be reported to the Consultant and MNRF with 48 hours.</li><li>• Retain the pond and depth of feature through hydrogeological design</li><li>• Install exclusionary fencing around retained habitat prior to construction.</li><li>• Design a wildlife crossing so turtles can access ponds from the wetland feature.</li></ul>	Metrolinx/ Consultant (Detailed Design) / Contractor	No net effects following recommended mitigation and monitoring measures.	An Environmental Inspector will regularly monitor that activities are conducted in accordance with mitigation plans and work is conducted from within the specified work zones, where applicable.	Consultant (Environmental inspector)
Potential Turtle Wintering Area and slow-moving and ground-dwelling Wildlife (refer to Section 4.1.2) Operational Effects	Incidental mortality from traffic.  Input of salt from site maintenance activities could affect water quality.	<ul style="list-style-type: none"><li>• Winter maintenance activities shall be undertaken by persons who are certified by Smart About Salt.</li><li>• Wildlife passage will be provided below the proposed bus loop access road.</li></ul>	Metrolinx/ Consultant	No net effects following recommended mitigation and potential monitoring measures.	No monitoring activities are required.	Not applicable.





Table 4-5: Summary of Effects, Mitigation Measures and Monitoring

Natural Environment

Component of the Environment	Potential Effects	Mitigation Measures	Mitigation Responsibility	Net Effects	Monitoring Activity	Monitoring Responsibility
Surface Water, Hydrology and Fish and Fish Habitat (refer to Section 4.1.3) Construction Effects	Site grading and site water management will alter flow regimes and could negatively affect downstream habitat. Erosion and downstream sediment transport could affect fish habitat. Spills from construction equipment entering into the surface water features onsite could affect water quality and fish and fish habitat.	<ul style="list-style-type: none"><li>• Protect and/or enhance the pond and riparian wetland with an adequate buffer and native species plantings that may include trees and shrubs.</li><li>• Maintain existing surface water flows through appropriate design and water balance.</li><li>• Incorporate shallow groundwater and base flow protection techniques such as infiltration treatment within the station and parking lot footprint.</li><li>• Design the bus loop crossing to avoid realignment of channel and maintain existing flow contribution to downstream habitats.</li><li>• Design the stormwater management system to avoid increasing water temperatures and sediment contribution to the pond.</li><li>• Time the work to reduce the risk of effects on fish by avoiding sensitive life periods such as spawning. Since the tributary is a coldwater watercourse, the typical timing window provided by TRCA allows work to proceed from July 1 to September 15 for coldwater watercourses. This timing window should be applied for any works within the tributary or wetland.</li></ul>	Consultant (Detailed Design)/ Contractor	No net effects following recommended mitigation measures.	An Environmental Inspector will conduct regular inspections to monitor that construction and restoration activities are conducted in accordance with mitigation plans and all work is conducted from within the specified work zones, where applicable.	Consultant (Environmental Inspector)



Table 4-5: Summary of Effects, Mitigation Measures and Monitoring

Natural Environment

Component of the Environment	Potential Effects	Mitigation Measures	Mitigation Responsibility	Net Effects	Monitoring Activity	Monitoring Responsibility
Surface Water, Hydrology and Fish and Fish Habitat (refer to Section 4.1.3) Construction Effects cont.		<ul style="list-style-type: none"><li>• Prevent sediment from entering waterbodies by trapping as close to the source as possible (using methods such as silt fencing or filter logs).</li><li>• Reduce the area and duration of soil exposure to the extent possible.</li><li>• Divert runoff away from exposed soils.</li><li>• Keep runoff velocities low.</li><li>• Implement debris/waste containment and removal.</li><li>• Retain existing vegetation where feasible.</li><li>• Complete post-construction site restoration (i.e., application of cover and re-vegetation of cleared areas).</li><li>• Develop a Hazardous Materials and Fuel Handling plan prior to construction.</li><li>• Develop and implement a site-specific Health and Safety Plan and a Spill Prevention and Response Plan.</li></ul>				



Table 4-5: Summary of Effects, Mitigation Measures and Monitoring

Natural Environment

Component of the Environment	Potential Effects	Mitigation Measures	Mitigation Responsibility	Net Effects	Monitoring Activity	Monitoring Responsibility
Surface Water, Hydrology and Fish and Fish Habitat (refer to Section 4.1.3) Operational Effects	Snow clearing and application of road salts may result in effects to the water quality, fish and fish habitat in the onsite wetland. Spills from operations could enter into the surface water features onsite.	<ul style="list-style-type: none"><li>• Operations activities will avoid the placement of snow within or adjacent to the vegetated area around the wetland.</li><li>• Winter maintenance activities will be undertaken by persons certified by Smart about Salt.</li><li>• All toxic material will be stored in secure enclosures 30 m away from sensitive areas to prevent leaks and spills.</li><li>• Spill cleanup materials will be maintained at the work site.</li><li>• Contaminant spills will be reported as per the <i>Environmental Protection Act</i>, 1990.</li><li>• Develop and implement a site-specific Health and Safety Plan and a Spill Prevention and Response Plan.</li></ul>	Consultant (Detailed Design)/ Contractor	No net effects following recommended mitigation measures.	No monitoring activities are required.	Not applicable.



Table 4-5: Summary of Effects, Mitigation Measures and Monitoring

Natural Environment

Component of the Environment	Potential Effects	Mitigation Measures	Mitigation Responsibility	Net Effects	Monitoring Activity	Monitoring Responsibility
Stormwater management (refer to Section 4.1.4) Construction Effects	Increase in impervious surface area which may affect the amount and direction of water infiltration and flows.	<ul style="list-style-type: none"><li>• A stormwater management pond will be constructed to provide quantity, quality, and erosion control for most of the developed areas of the site.</li><li>• Quality, quantity, and erosion control for the remainder of the developed areas of the Site will be provided through an underground detention tank and a vegetated swale.</li><li>• Efforts will be made to maintain the existing groundwater and surface water inputs to the wetland, outputs from the wetland, and the temporal variation in the inputs and outputs (hydroperiod). The specific requirements for mitigating changes in these parameters as well as data collection and monitoring requirements will be determined through consultation with the TRCA.</li><li>• As described in Section 3.1.4, Stantec completed a pre-development water balance assessment. The water balance will be used to compare groundwater recharge rates post-development to confirm that pre-development groundwater recharge function is maintained.</li><li>• The water balance will be used to compare groundwater recharge rates post development to confirm that pre-development groundwater recharge function is maintained.</li></ul>	Consultant (Detailed Design)/ Contractor	Water quality and water balance will be maintained for storm flows. No net effects following design criteria.	No monitoring activities are required.	Not applicable.





Table 4-5: Summary of Effects, Mitigation Measures and Monitoring

Natural Environment

Component of the Environment	Potential Effects	Mitigation Measures	Mitigation Responsibility	Net Effects	Monitoring Activity	Monitoring Responsibility
Stormwater management (refer to Section 4.1.4) Operational Effects	No effects anticipated	<ul style="list-style-type: none"><li>No mitigation measures required.</li></ul>	Consultant (Detailed Design)/ Contractor	Water quality and water balance will be maintained for storm flows. No net effects following design criteria.	No monitoring activities are required.	Not applicable.
Groundwater (refer to Section 4.1.5) Construction Effects	Construction dewatering may negatively affect water well quality and quantity of private wells. The addition of impermeable surfaces on the site will reduce water infiltration. Potential accidents and spills may affect groundwater quality.	<ul style="list-style-type: none"><li>Low Impact Development measures will be integrated into the design phase.</li><li>An Environmental Mitigation and Monitoring Plan will be developed prior to construction.</li><li>Where dewatering will occur and discharge is proposed to the natural environment, appropriate sediment and erosion control measures should be in place. A PTTW or an EASR may be required.</li><li>The need for and extent of private well water quality testing, sediment and erosion control, active drainage, and a permit to take water will be confirmed as part of final design, if required.</li><li>A water balance will be conducted to assess groundwater recharge potential under the post-development condition.</li><li>Develop a Hazardous Materials and Fuel Handling Plan</li><li>Develop and implement a site-specific Health and Safety Plan and a Spill Prevention and Response Plan.</li></ul>	Consultant (Detailed Design)/ Contractor	No net effects following recommended mitigation measures to limit construction dewatering, groundwater recharge, and manage spills risks.	An Environmental Inspector will conduct regular inspections, to confirm that the Hazardous Materials and Fuel Handling Plan is followed. The groundwater recharge area requires maintenance of the pre-development groundwater recharge potential under the post-development condition.	Consultant (Environmental Inspector)



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Natural Environment

Component of the Environment	Potential Effects	Mitigation Measures	Mitigation Responsibility	Net Effects	Monitoring Activity	Monitoring Responsibility
Groundwater (refer to Section 4.1.5) Construction Effects cont.		<ul style="list-style-type: none"><li>The need for a Site Management and Contingency Plan will be confirmed as part of the design phase. If required, this plan will be specific to any activities proposed for the Site, and be focused on the prevention of pollution with consideration of any relevant policies developed under the <i>Clean Water Act</i> (2006).</li></ul>				
Groundwater (refer to Section 4.1.5) Operational Effects	The surrounding groundwater is at risk of contamination due to spills and infiltration of contaminants that could enter the site as a result of operations. Operational dewatering is not anticipated, however could be required if excavations encounter a high water table.	<ul style="list-style-type: none"><li>The requirements of the <i>Clean Water Act</i> policies, as they apply to SGRA, will be considered during the design phase of the project.</li><li>Refueling of equipment will be carried out in proper spill containment areas whenever possible.</li><li>Best management protocols should be implemented during construction and operation such as secondary containment of any temporary or permanent fuel storage, and maintaining spill response kits onsite</li><li>Winter maintenance activities shall be undertaken by persons who are certified by Smart About Salt.</li><li>An Operations Phase Spill Prevention and Response Plan will be developed, implemented and maintained.</li></ul>	Consultant (Detailed Design)/ Contractor	No net effects following recommended mitigation measures to limit operational dewatering and manage spills risks.	An Environmental Inspector will conduct regular inspections, to confirm that the Hazardous Materials and Fuel Handling Plan is followed.	Consultant (Environmental Inspector)



Table 4-5: Summary of Effects, Mitigation Measures and Monitoring

Natural Environment

Component of the Environment	Potential Effects	Mitigation Measures	Mitigation Responsibility	Net Effects	Monitoring Activity	Monitoring Responsibility
Soil Quality and Management (refer to Section 4.1.6) Construction Effects	<p>Potential for excess soil or other construction waste to be generated and require management including re-use on site, re-use off-site or disposal.</p> <p>There is no evidence to indicate that onsite soils and groundwater are impacted with pesticides, herbicides or fuel oil and therefore no issues with the suitability of excess soils for reuse within the Study Area have been identified.</p>	<ul style="list-style-type: none"><li>• A gap analysis will be prepared to determine where additional soil characterization will be required, and the Soils Quality and Soil Management Plan will be updated based on the results and provided to the MECP.</li><li>• Hazardous Materials and Fuel Handling and Soil Quality and Soil Management plans will be developed prior to construction activities to confirm that fuels and other hazardous materials are handled and stored in a safe manner.</li><li>• All excavated materials will be stockpiled temporarily in accordance with MECP’s 2014 <i>Excess Soil – A Guide to best Management Practices</i>.</li><li>• All excavated soils are to be stockpiled in designated locations on-site. The heights of the stockpiles will be minimized to minimize potential soil erosion by wind, and other protections will be applied as required.</li><li>• The construction contractor will develop and implement a site-specific Health and Safety Plan and a Spill Prevention and Contingency Plan.</li></ul>	Consultant (Detailed Design)/ Contractor	No net effects are anticipated as a result of construction and operation.	<p>Should visual or olfactory evidence of contamination be identified in the excess soils generated during construction activities, appropriate tests to determine contaminant levels will be undertaken.</p> <p>Spills will be immediately contained and cleaned up in accordance with provincial regulatory requirements and the contingency plan. A spill response kit will be on-site at all times during construction. Spills will be reported to the Ontario Spills Action Centre at 1-800-268-6060.</p>	Construction Contractor (Environmental Inspector)



Table 4-5: Summary of Effects, Mitigation Measures and Monitoring

Natural Environment

Component of the Environment	Potential Effects	Mitigation Measures	Mitigation Responsibility	Net Effects	Monitoring Activity	Monitoring Responsibility
Soil Quality and Management (refer to Section 4.1.6) Construction Effects cont.		<ul style="list-style-type: none"><li>• A qualified person will oversee site work where excess soils may be generated, or where soils may be moved or stockpiled.</li><li>• Reasonable attempts will be made to maximize the beneficial re-use of excess soil at the site, while ensuring the integrity of environmental and geotechnical considerations.</li><li>• Should a private receiver site for the on-site excess soils cannot be identified and offsite disposal of excess soils is a requirement, then such soils can be removed off-site for receipt at a licensed MECP approved facility.</li><li>• In all cases the on-site and off-site beneficial reuse of excess soil will be explored by the Project team and will be undertaken in accordance with <i>Excess Soil – A Guide to Best Management Practices</i> (MOECC January 2014)</li></ul>				





Table 4-5: Summary of Effects, Mitigation Measures and Monitoring

Natural Environment

Component of the Environment	Potential Effects	Mitigation Measures	Mitigation Responsibility	Net Effects	Monitoring Activity	Monitoring Responsibility
Soil Quality (refer to Section 4.1.6) Operational Effects	Potential for spills and releases associated with site operations to affect on-site soil quality.	<ul style="list-style-type: none"><li>A Hazardous Materials and Fuel Handling Plan will be developed to confirm that fuels and other hazardous materials are handled and stored in a safe manner.</li><li>An Operations Phase Spill Prevention and Contingency Plan will be developed, implemented and maintained.</li></ul>	Consultant (Detailed Design)/ Contractor Metrolinx	No net effects are anticipated as a result of construction and operation.	Should visual or olfactory evidence of contamination be identified in the excess soils generated during operation activities, appropriate tests to determine contaminant levels will be undertaken.  Spills will be immediately contained and cleaned up in accordance with provincial regulatory requirements and the contingency plan. A spill response kit will be on-site at all times during construction. Spills will be reported to the Ontario Spills Action Centre at 1-800-268-6060.	Construction Contractor (Environmental Inspector)
Tree Inventory (refer to Section 4.1.7) Construction Effects	Trees to be disturbed and removed during construction activities  Potential effect on nesting birds from tree removal due to direct mortality or damage or destruction of nests.	<ul style="list-style-type: none"><li>A Vegetation Compensation Protocol will be prepared and implemented.</li><li>All trees being persevered will be flagged in the field and must remain undamaged.</li><li>The required process will be carried out if tree removal are requested during restricted time indicated in the <i>Migratory Birds Convention Act</i>.</li><li>Standard tree protection fencing and timing for vegetation removal – no works inside tree protection fencing.</li></ul>	Consultant (Detailed Design)/ Contractor	Tree replacement strategy is proposed to mitigate the tree removal and therefore no net effects are expected. Trees affected by ongoing operations will be assessed on a case-by-case basis and appropriate mitigation will be identified.	If required, tree protection fencing shall be inspected periodically during construction activities and repaired as required. Maintenance staff will monitor all trees and undertake required maintenance throughout operations.	Construction Contractor (Environmental Inspector)  Metrolinx maintenance staff



Table 4-5: Summary of Effects, Mitigation Measures and Monitoring

Natural Environment

Component of the Environment	Potential Effects	Mitigation Measures	Mitigation Responsibility	Net Effects	Monitoring Activity	Monitoring Responsibility
Tree Inventory (refer to Section 4.1.7) Construction Effects cont.		<ul style="list-style-type: none"><li>Clearly mark and protect trees not designated for removal.</li><li>Construction equipment will not be allowed to idle or exhaust within the Tree Protection Zone.</li><li>Trees shall not have any rigging cables or hardware of any sort attached or wrapped around them, nor shall any contaminants be dumped within the protected areas.</li><li>Construction best practices to limit spills and compaction from affecting roots of trees to be retained.</li></ul>				
Tree Inventory (refer to Section 4.1.7) Operational Effects	Trees could be affected by ongoing operations as a result of spills, root compaction due to stray pedestrian or vehicular traffic, or deteriorated soil or water quality as a result of surface salting during the winter.	<ul style="list-style-type: none"><li>Maintenance staff will investigate the cause and remediation measures will be undertaken to limit effects to trees.</li></ul>	Metrolinx maintenance staff	Limited net effects to be compensated or mitigated on a case-by-case basis	Maintenance staff will monitor all trees during the first year of operation and undertake required maintenance, as required.	Construction Contractor (Environmental Inspector) Metrolinx maintenance staff



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Table 4-5: Summary of Effects, Mitigation Measures and Monitoring

Social Environment

Component of the Environment	Potential Effects	Mitigation Measures	Mitigation Responsibility	Net Effects	Monitoring Activity	Monitoring Responsibility
Existing Land Uses (refer to Section 4.2.1) Construction Effects	There is potential for nuisance effects related to construction of the Facility.	<ul style="list-style-type: none"><li>Mitigation measures related to potential nuisance effects are outlined in Air Quality, Noise and Vibration and Traffic and Transportation.</li><li>Members of the public can contact Metrolinx with any concerns.</li></ul>	Consultant (Detailed Design)/ Contractor	Nuisance effects during construction will be temporary.	Construction activities will be monitored by a qualified Environmental Inspector	Consultant (Environmental Inspector)
Existing Land Uses (refer to Section 4.2.1) Operational Effects	There is potential for nuisance effects related to operation and maintenance of the Facility.	<ul style="list-style-type: none"><li>Mitigation measures related to potential nuisance effects are outlined in Air Quality, Noise and Vibration and Traffic and Transportation.</li></ul>	Not applicable.	No net effects.	No monitoring activities are required.	Not applicable.



Table 4-5: Summary of Effects, Mitigation Measures and Monitoring

Cultural Environment

Component of the Environment	Potential Effects	Mitigation Measures	Mitigation Responsibility	Net Effects	Monitoring Activity	Monitoring Responsibility
Archaeological Resources (refer to Section 4.3.1) Construction Effects	Appropriate documentation and mitigation will be carried out prior to construction and therefore, no effects are anticipated during construction.	<ul style="list-style-type: none"><li>• Additional archaeological assessment studies will be undertaken, as recommended in the Stage 2 AA, in 2018. The additional studies will support the design phase of the project and will be completed prior to the completion of design activities.</li><li>• An appropriate excavation and documentation methods will be implemented as required.</li><li>• Should previously undocumented archaeological resources be discovered or suspected of being discovered, they may be a new archaeological site and therefore subject to Section 48(1) of the Ontario Heritage Act (Government of Ontario 1990a). The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed consultant archaeologist to carry out archaeological fieldwork, in compliance with Section 48(1) of the Ontario Heritage Act (Government of Ontario 1990a). The Funeral, Burial and Cremation Services Act, 2002, S.O. 2002, c.33 (Government of Ontario 2002) requires that any person discovering human remains must notify the police or coroner and the Registrar of Cemeteries at the Ministry of Government and Consumer Services.</li></ul>	Not applicable.	No net effects.	No monitoring activities are required.	Not applicable.





Table 4-5: Summary of Effects, Mitigation Measures and Monitoring

Social Environment

Component of the Environment	Potential Effects	Mitigation Measures	Mitigation Responsibility	Net Effects	Monitoring Activity	Monitoring Responsibility
Archaeological Resources (refer to Section 4.3.1) Operational Effects	Operations will not require additional excavation and therefore no archaeological effects are anticipated during operations at the site.	<ul style="list-style-type: none"><li>No mitigation measures required.</li></ul>	Not applicable.	No net effects.	No monitoring activities are required.	Not applicable.
Built Heritage (refer to Section 4.3.2) Construction Effects	No cultural heritage resources identified. No effects anticipated.	<ul style="list-style-type: none"><li>No mitigation measures required.</li></ul>	Not applicable.	No net effects.	No monitoring activities are required.	Not applicable.
Built Heritage (refer to Section 4.3.2) Operational Effects	No cultural heritage resources identified. No effects anticipated.	<ul style="list-style-type: none"><li>No mitigation measures required.</li></ul>	Not applicable.	No net effects.	No monitoring activities are required.	Not applicable.



Table 4-5: Summary of Effects, Mitigation Measures and Monitoring

Technical Environment

Component of the Environment	Potential Effects	Mitigation Measures	Mitigation Responsibility	Net Effects	Monitoring Activity	Monitoring Responsibility
Air Quality (refer to Section 4.4.1) Construction Effects	Emissions from fuel combustion and fugitive dust during construction activities could temporarily decrease air quality.	Dust prevention and control methodologies may include, but are not limited to: <ul style="list-style-type: none"><li>• Development and implementation of an Air Quality Management Plan for the construction phase.</li><li>• Wetting or covering of open areas, unpaved roads, or material storage piles that may emit dust.</li><li>• Usage of non-chemical dust suppressant to reduce fugitive dust emissions from temporary unpaved roads or parking lots.</li><li>• Stabilization of construction access and roadways to reduce the tracking of construction sediment (mud and soil) onto public roads by construction equipment.</li><li>• Regular sweeping of vehicle trackout on public roads.</li><li>• Use of temporary barriers to prevent soil erosion and control windspeed for locations where dust could potentially be generated.</li><li>• Introduction of a no-idling policy to control mobile equipment and other vehicle emissions where applicable.</li><li>• Regulate mobile equipment travelling speeds inside the construction area to prevent excessive dust generation.</li></ul>	Consultant (Detailed Design)/ Contractor	No net effects following recommended construction best management practices mitigation measures. Operations effects within range of allowable effects under MECP air quality requirements.	No monitoring activities are required. Construction activities will be monitored by a qualified Environmental Inspector	Not applicable. Consultant (Environmental Inspector)



Table 4-5: Summary of Effects, Mitigation Measures and Monitoring

Technical Environment

Component of the Environment	Potential Effects	Mitigation Measures	Mitigation Responsibility	Net Effects	Monitoring Activity	Monitoring Responsibility
		<ul style="list-style-type: none"><li>• Ensure proper maintenance of equipment and vehicles operating in work areas.</li><li>• Proper planning of construction phases and effective use of construction equipment to reduce dust.</li><li>• Minimize the size of active areas on storage piles.</li></ul> Operators should use due diligence during material loading, unloading and transferring activities to avoid excessive dust generation. Drop heights should be minimized as much as practicable.				
Air Quality (refer to Section 4.4.1) Operational Effects	Increase in volumes of train and vehicular traffic may decrease air quality but will remain within MECP allowable air quality limits.	No mitigation measures required.	Not applicable.	No net effects.	No monitoring activities are required.	Not applicable.
Noise and Vibration (refer to Section 4.4.2) Construction Effects	The predicted sound indicate that it is feasible to operate most construction equipment within MECP limits.  Vibration levels from the construction equipment are not expected to affect the receptors in the study area.	The following standard noise mitigation measures are recommended noise management practices to reduce construction noise effects: <ul style="list-style-type: none"><li>• Major construction activities scheduled during daytime hours</li><li>• Noise mitigation measures (e.g., muffler systems) will be installed on construction equipment and properly maintained</li><li>• Where possible, construction equipment will be turned off when not in use (i.e. a no idling policy)</li></ul>	Metrolinx / Contractor	No net effects	Construction equipment will be monitored for excess noise.  When construction begins, it is recommended that noise monitoring be conducted at selected locations to verify that equipment operates within the maximum sound level emission standards stipulated in NPC-115. If an exceedance is observed, continuous noise monitoring may be required.	Construction Contractor (Environmental Inspector)



Table 4-5: Summary of Effects, Mitigation Measures and Monitoring

Technical Environment

Component of the Environment	Potential Effects	Mitigation Measures	Mitigation Responsibility	Net Effects	Monitoring Activity	Monitoring Responsibility
Noise and Vibration (refer to Section 4.4.2) Construction Effects cont.		<ul style="list-style-type: none"><li>Vehicles and equipment should be routinely maintained and serviced for proper operation</li><li>In case of a complaint received during construction, Metrolinx will investigate and take appropriate action to manage the issue responsibly.</li></ul> <p>Due to the proximity of the construction footprint to surrounding sensitive receptors, further recommendations for mitigation of construction vibration include:</p> <ul style="list-style-type: none"><li>Operate vibration-generating equipment as far from sensitive receptors as possible</li><li>Schedule vibration-generating activities so that they do not occur at the same time</li><li>Avoid use of impact pile-drivers and vibratory rollers near sensitive areas</li><li>Schedule major construction activities to take place during daytime hours, where possible.</li></ul>			<p>If the sound levels are within the limits discussed in this report, a periodic or complaint-based monitoring program may be considered. Development of a noise monitoring protocol is also recommended prior to undertaking major construction activities.</p> <p>A vibration monitoring plan is recommended to be developed once a more defined construction footprint is established, and once it is known where major vibration-generating activities and equipment will be operating.</p>	
Noise and Vibration (refer to Section 4.4.2) Operational Effects	Noise effects from the stationary noise sources exceed the MECP criteria.  A realignment is not expected for the corridor and therefore, an operation vibration assessment is not required.	<ul style="list-style-type: none"><li>One 3 m high L-shaped acoustic barrier west of the bus shelters will be installed. The acoustic barrier should break the line of sight from the idling buses to the dwelling (POR06).</li></ul>	Metrolinx / Contractor	No net effects	No monitoring activities are required.	Not applicable.





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Table 4-5: Summary of Effects, Mitigation Measures and Monitoring

Technical Environment

Component of the Environment	Potential Effects	Mitigation Measures	Mitigation Responsibility	Net Effects	Monitoring Activity	Monitoring Responsibility
Vehicular Traffic (refer to Section 4.4.3) Construction Effects	No effects anticipated on vehicular traffic during construction.	<ul style="list-style-type: none"><li>No mitigation measures required.</li></ul>	Not applicable.	No net effects.	No monitoring activities are required.	Not applicable.
Vehicular Traffic (refer to Section 4.4.3) Operational Effects	No effects anticipated on vehicular traffic during operation. The only exception is the eastbound left turn movement at the Tenth Line/Site Access #2 intersection which is anticipated to operate with average delays of greater than 80 seconds during the weekday AM peak hour that would result in a forced or complete breakdown of flow.	<ul style="list-style-type: none"><li>Future traffic signals on Tenth Line at Site Access #2 and at Bethesda Side Road to run in coordination with the rail crossing.</li><li>Creation of an exclusive northbound left turn lane with 30 metre storage length at Site Access #2.</li><li>Pedestrian crosswalks will be provided to direct pedestrians from the parking lot to the station platform.</li><li>Covered bike storage and internal bike lanes will be provided.</li></ul>	Not applicable.	No net effects.	No monitoring activities are required.	Not applicable.



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## **5.0 Consultation Process**

In accordance with Section 15 of *Ontario Regulation 231/08*, this section summarizes the consultation activities carried out with respect to the Addendum. Consultation is required for an Addendum if, after submitting a statement of completion of the TPAP, the proponent wishes to make a change to the transit project that is inconsistent with the EPR, and if they deem that change to be significant.

Consultation occurred with project stakeholders (public, property owners, review agencies, elected officials, and interested groups) and Indigenous communities during the course of the Addendum, and this section includes a summary of activities and the feedback and comments received and how they were considered.

### **5.1 Consultation Overview**

#### **5.1.1 Approach to Consultation**

The objectives for the consultation program remained the same as those for the initial EPR: openness, transparency, access to information, early and ongoing opportunities for input, responsiveness, accountability, and accessible and accurate documentation. Consultation activities were tailored to meet the individual needs of the different groups being consulted.

The consultation process for the Addendum commenced with the issuance of a Notice of Public Meeting and Addendum Commencement. Activities undertaken thereafter, included the following:

- A Notice of Public Meeting and Addendum Commencement was distributed to Project stakeholders (including government agencies, elected officials, and members of the public) and Indigenous communities, published to local media and posted on the Project website.
- The dedicated Project website and email address from the TPAP phase were maintained.
- A public meeting was held to provide information on the addendum process, preliminary design plans for the proposed relocated GO Station and to receive feedback and questions about the project.
- The draft EPR was distributed to agencies for comment.

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- Ongoing consultation with government agencies, elected officials, members of the public, and Indigenous communities.
- A Notice of EPR Addendum was distributed to government agencies, elected officials, members of the public and Indigenous communities, published to local media and posted on the Project website. The Addendum was made available in hard copy and electronic formats for public review.
- Final 30-day review of this Addendum by interested parties.

Metrolinx has the ultimate responsibility for the safe and effective implementation of the Project and will manage consultation approaches consistently with applicable regulations and standards, making reasonable effort to resolve issues, and track outstanding issues and commitments through subsequent Project phases.

## **5.1.2 Record of Consultation**

Comments and questions arising from consultation activities were tracked and managed on an ongoing basis and incorporated into the development of the Addendum as appropriate. All documents produced for consultation activities, including a comment tracking table and registry, were maintained as a part of a Record of Consultation (Appendix B). The Record of Consultation includes the following:

- Project Contact List that provides details of contacts included on Project correspondence (Appendix B1).
- A Project Correspondence Tracking Log that documents consultation activities and includes information on relevant correspondence, notices, presentation materials and communication items for the Project (Appendix B2).
- Copies of correspondence between Metrolinx and interested parties (contact details redacted as required to meet privacy legislation), including emails and meeting minutes (Appendices B3, B4 and B5).
- Copies of notices and Public Meeting materials (Appendix B6).

## **5.1.3 Identification of Interested Parties**

The original TPAP Project Contact List (Appendix B1) was reviewed and continually updated and was used to inform of key Project milestones. The list contains:

- Government agencies and entities: provided with detailed technical information to confirm that regulatory requirements have been met and to identify permits and approvals that are required. The MECP Government Review Team (GRT) list was

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changed and the contact list was updated accordingly. Additional agency contacts also changed and were updated.

- Elected officials: contacted as key stakeholders who understand the perspectives of and represent the constituency and can communicate project updates to interested individuals who contact them for more information. The elected officials changed from the TPAP as a result of both provincial and municipal elections and were updated.
- Members of the public, special interest groups, property owners, utilities and the business community: contacted via email, direct mail and Canada Post mail drop and through a public meeting to present project information and conclusions. The list was updated for the Addendum by expanding the distribution area based on the location of the proposed new GO Station. Property owners within 200 m of the relocated Lincolnville GO Station were added to the list, as well as property owners that were previously given notification of the original TPAP.
- Indigenous communities: contacted with Project information, to confirm how they perceive their Aboriginal or treaty rights to be affected by the Project, and preferred engagement methods. The MECP was contacted to confirm whether the First Nation and Métis communities contacted during the TPAP needed to be expanded as a result of the relocated GO Station. The Indigenous contact list was not changed as a result.

### **5.1.4 Influence of the Consultation on the EPR Addendum**

Consultation activities were documented and incorporated into the Addendum. Key comments received include input on Project design, requests for inclusion on the Project mailing list, and requests to review and comment on Project information and environmental reports. Comments and questions received by the Project team were considered and addressed in this report or through direct follow-up by the Project Team.

Comments on Project design included input into existing conditions and potential Project effects. The TRCA noted a preference for Metrolinx to investigate a layout design which does not cross the wetland and maintains a buffer from the wetland and for the design to continue to meet targets for recharge and infiltration. TRCA requested Metrolinx look into Green Infrastructure and the possibility of creating a wildlife crossing where the bus loop crosses the wetland. The MNRF noted concerns that a 10 m wetland protection buffer may not be a sufficient planning buffer in the ORM area. Metrolinx has committed to carrying out a Scoped EIS to determine an adequate buffer prior to construction as well as include a wildlife passage corridor in the detailed design.

The MECP and TRCA requested that additional detail on stormwater management be presented during the TPAP stage of the Project and in response, a pre-development

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site water balance was completed as well as a Preliminary Stormwater Management Report (Appendix A4).

As a result of these comments and questions, updates to the proposed relocated GO Station were made where appropriate. These include additional mitigation measures to address groundwater recharge and water balance within the Study Area, and commitments to reduce potential effects to the onsite wetland.

Requests to be added to the Project mailing list resulted in the identification of additional contacts for consultation and refinements were made to the contact list. As updated contact details were provided for specific agency contacts, additional refinements were made as identified in Section 5.1.3.

Details of comments and questions received and Project Team responses (including changes made to the Addendum or Project designs) are available in the correspondence tracking table in Appendix B2. Additional summary of key comments received on the EPR addendum is provided in Table 5-3.

## **5.2 Consultation activities**

### **5.2.1 Notice of Public Meeting**

Metrolinx issued the Notice of Public Meeting on August 30, 2018 in order to inform project stakeholders (government agencies, elected officials, members of the public) and Indigenous communities of the change to the Project and the opportunity to attend a meeting to learn more and provide input. The notice was issued in different media, as summarized in Table 5-1, below, including direct mailing, newspaper publication, and electronic media. The Notice included information about the Project, Addendum process and the public meeting. A copy of the Notice of Public Meeting is provided in Appendix B6.

**Table 5-1: Publication Details for Notice of Public Meeting**

<b>Media</b>	<b>Date of Publication</b>	<b>Audience</b>
Newspapers: Stouffville Sun Tribune and Ajax Pickering News Adviser (two postings each)	August 30, 2018 September 6, 2018	General public, Whitchurch-Stouffville community.
Direct mailing (Canada Post)	August 31, 2018	Property owners and residents/businesses within the communities of Stouffville, Claremont and Uxbridge.

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Media	Date of Publication	Audience
Email	September 7, 2018	Elected officials, government agencies, Indigenous communities, project mailing list, those who signed in at the public meeting.
<a href="http://www.metrolinx.com/lincolnville">www.metrolinx.com/lincolnville</a>	August 30, 2018	General public, interested parties.

### 5.2.2 Public Meeting

The Public Meeting was held at 19 on the Park, 19 Civic Avenue in Stouffville on September 13, 2018. The purpose of the Public Meeting was to introduce the Project change, the Addendum process and to receive comment/questions on the proposed relocated GO Station. The Project team was available to answer questions and document comments. Table 5-2 summarizes the key details of the Public Meeting.

At the meeting, attendees were encouraged to register at the door to be placed on the Project Mailing List, and to fill out comment forms (electronically through email to [lincolnville@metrolinx.com](mailto:lincolnville@metrolinx.com), or on paper) at or following the session. It was requested that comments be returned by September 29, 2018.

The Public Meeting used poster board displays to provide an interactive tool for stakeholders to learn about the Project. The display boards presented as part of the Public Meeting included: background information related to the Stouffville rail corridor; the existing environmental conditions at the proposed new GO Station location; the Addendum Process; and, next steps in the Project. The display boards and comment forms were also posted on the Project website on September 24, 2018 in both English and French, to allow those unable to attend the Public Meeting to review the materials online.

The Public Meeting allowed Metrolinx to gather feedback on the Project and respond to questions and concerns. Comments and questions raised during the Public Meeting were addressed by the Project team. A copy of the poster board displays, and feedback forms collected at and following the Public Meeting can be found in Appendix B6.



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**Table 5-2: Summary of Key Public Meeting Details**

Township	Whitchurch-Stouffville
Date and Time	September 13, 2018   6:00 pm – 8:00 pm
Location	19 on the Park 19 Civic Avenue Stouffville, ON L4A 1G5
Number of Attendees	48
Feedback Forms Received	8

In total, 48 attendees signed in to the meeting, and eight comment forms were received at the Public Meeting. Two comment letters were received through e-mail following the public meeting. In general, the comment form and e-mail responses included: concerns about noise due to more frequent train operation; interest in increasing train service to Lincolnville; more access for pedestrians; interest in the environmental features on the site; and access to transit beyond Lincolnville. Some Public Meeting attendees also participated in one-on-one discussions with members of the Project Team. In general, attendees expressed an interest in the Project, with questions arising about potential noise impacts, development on adjacent lands, and train service. No significant concerns with the Project were raised as part of these discussions.

### 5.2.3 Agency Consultation

Government agencies were provided the Notice of Upcoming TPAP Addendum to request information regarding any required regulatory processes that the Project would be required to follow. Metrolinx also sent the MECP a letter requesting direction on Indigenous consultation for the Project. Metrolinx offered Agency representatives a chance to meet and discuss the Project, including any concerns or requirements that needed to be met.

Agency consultation included information requests, telephone conversations, email correspondence, and meetings with agency representatives. The Ontario Ministry of Tourism Culture and Sport (MTCS), and the Ontario Heritage Trust were also contacted to collect information that was used to develop the baseline studies and Technical Study Reports. A summary of Agency consultation activities is provided below.

- TRCA: Correspondence and meeting on existing conditions, project design, groundwater management and requirements for Voluntary Project Review process.
- MECP: Request for input on potentially-interested Indigenous communities, water resource management and stormwater management.

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- MNRF: Request for confirmation that species at risk are not likely to occupy the Study Area, letter of advice regarding potential bat species.
- MTCS, and the Ontario Heritage Trust: contacted to collect information that was used to develop the baseline studies and Technical Study Reports.
- Regional Municipality of York: correspondence related to Clean Water Act polices and groundwater management.

Government agencies were provided with a draft of the EPR Addendum and were invited to review and comment on the Draft EPR and supporting documents. During that time responses were received from the MECP, MNRF, TRCA, MTCS, York Region, and Town of Whitchurch-Stouffville. A high-level summary of key comments and Metrolinx's responses received during review of the EPR Addendum are provided in Table 5-3, and all comments and responses are included in Appendix B3.

**Table 5-3: Summary of Comments Received During Agency EPR Addendum Review**

Stakeholder/ Commenter	Topic	Comment/ Concern	Response/Influence on the Project and/or Draft EPR Addendum
MECP	Stormwater Management	<ul style="list-style-type: none"><li>• Request for additional detail on Stormwater Management during the EPR Addendum stage of the Project</li></ul>	<ul style="list-style-type: none"><li>• Stormwater Management Plan (25% design) provided as Appendix A4</li></ul>
MECP	Soils	<ul style="list-style-type: none"><li>• Request for additional site soils characterization.</li></ul>	<ul style="list-style-type: none"><li>• Additional soil characterization activities will be undertaken in accordance with MECP guidelines as part of detailed design activities.</li></ul>
MECP	Air Quality	<ul style="list-style-type: none"><li>• Report should be revised to include that the locomotives' idling emissions are a source of B(a)P</li></ul>	<ul style="list-style-type: none"><li>• Report has been updated.</li></ul>

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<b>Stakeholder/ Commenter</b>	<b>Topic</b>	<b>Comment/ Concern</b>	<b>Response/Influence on the Project and/or Draft EPR Addendum</b>
MNRF	Wetland	<ul style="list-style-type: none"> <li>Stouffville Marsh is under consideration to be a PSW and should be avoided with an appropriate buffer.</li> </ul>	<ul style="list-style-type: none"> <li>The report has been updated to include detail regarding the PSW.</li> <li>An adequate buffer will be determined following the completion of a scoped EIS.</li> </ul>
MNRF	Wildlife	<ul style="list-style-type: none"> <li>Two buildings on the site have the potential to provide suitable bat roosting habitat</li> </ul>	<ul style="list-style-type: none"> <li>Additional studies conducted (see Section 3.1.2)</li> <li>For buildings considered to potentially support bat roosting habitat, the demolition activity will be registered under the ESA and a Bat Mitigation Plan will be developed</li> </ul>
MNRF	Terrestrial	<ul style="list-style-type: none"> <li>MNRF requested the proponent review opportunities to extend the buffer around the wetland and address SAR bat habitat</li> </ul>	<ul style="list-style-type: none"> <li>Report has been updated to address buffer requirements, a Scoped EIS will be prepared to address buffer sizing, and a habitat mitigation and compensation plan will be Registered.</li> </ul>
TRCA	Groundwater	<ul style="list-style-type: none"> <li>Project needs to consider source water protection including WHPAs and SGRA</li> <li>Preferred design must meet targets</li> </ul>	<ul style="list-style-type: none"> <li>Report has been updated to include a detailed review from York Region's Risk Management Department.</li> </ul>

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<b>Stakeholder/ Commenter</b>	<b>Topic</b>	<b>Comment/ Concern</b>	<b>Response/Influence on the Project and/or Draft EPR Addendum</b>
		for groundwater recharge	<ul style="list-style-type: none"> <li>• Pre-construction water balance completed</li> </ul>
TRCA	Wildlife	<ul style="list-style-type: none"> <li>• Requested that the possibility of a wildlife crossing where the bus loop crosses the wetland be incorporated into design</li> </ul>	<ul style="list-style-type: none"> <li>• Wildlife crossing will be incorporated into detailed design</li> </ul>
TRCA	Wetland	<ul style="list-style-type: none"> <li>• Concerns raised about impacts of proposed development on wetland and whether a 10 m buffer around the wetland would provide adequate protection for hydrological and ecological functions.</li> <li>• Request for surface drainage features to be maintained.</li> </ul>	<ul style="list-style-type: none"> <li>• A scoped Environmental Impact Study will be prepared to compare the impacts of a 10m buffer to a 30m buffer as part of the detailed design efforts and following TRCA guidelines.</li> <li>• Metrolinx will maintain the hydrological function of surface features upstream and downstream of the wetland.</li> </ul>
TRCA	Hydrogeological	<ul style="list-style-type: none"> <li>• Please explore opportunities for replicating existing site hydrology, including surface and groundwater flows</li> </ul>	<ul style="list-style-type: none"> <li>• Opportunities will be explored during detailed design.</li> </ul>
TRCA	Stormwater Management	<ul style="list-style-type: none"> <li>• SWM features need further design details to ensure no</li> </ul>	<ul style="list-style-type: none"> <li>• Report and drawings will be updated during detailed design, and</li> </ul>

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Stakeholder/ Commenter	Topic	Comment/ Concern	Response/Influence on the Project and/or Draft EPR Addendum
		change in site flood risk.	flood study will be undertaken.
York Region	Soil Quality	<ul style="list-style-type: none"><li>• Ensure the relocated GO Station meets Table 2 Standards.</li></ul>	<ul style="list-style-type: none"><li>• Soil reports summarize chemical testing.</li></ul>
York Region	Groundwater	<ul style="list-style-type: none"><li>• Concerns with water balance and requested considerations of a LID design</li><li>• Project needs to consider source water protection and Clean Water Act</li></ul>	<ul style="list-style-type: none"><li>• Pre-construction water balance completed</li><li>• No DNAPLs will be stored on site</li><li>• Meeting held with York Region confirmed they believe the Project will meet source water protection requirements</li></ul>

### 5.2.4 Notice of EPR Addendum

Metrolinx issued the Notice of EPR Addendum on February 21 in order to inform project stakeholders (government agencies, elected officials, members of the public) and Indigenous communities of the availability of the final EPR Addendum for a 30-day review period. The notice was issued in different media, as summarized in Table 5-4, below, including direct mailing, newspaper publication, and electronic media. The Notice included information about the Project, Addendum process and public viewing locations for the final EPR Addendum. A copy of the Notice of EPR Addendum is provided in Appendix B.

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**Table 5-4: Publication Details for Notice of EPR Addendum**

<b>Media</b>	<b>Date of Publication</b>	<b>Audience</b>
Newspapers: Stouffville Sun Tribune and Ajax Pickering News Adviser (two postings each)	February 21, 2019	General public, Whitchurch-Stouffville community.
Direct mailing (Canada Post)	February 21, 2019	Property owners and residents/businesses within the communities of Stouffville, Claremont and Uxbridge.
Email	February 21, 2019	Elected officials, government agencies, Indigenous communities, project mailing list, those who signed in at the Public Meeting.
<a href="http://www.metrolinx.com/lincolnville">www.metrolinx.com/lincolnville</a>	February 21, 2019	General public, interested parties.



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## **6.0 Commitments to Future Work**

### **6.1 Consultation**

Metrolinx has committed to ensuring that consultation with project stakeholders (government agencies, elected officials, members of the public) and Indigenous communities will continue beyond the TPAP for the Project.

Following the completion of the TPAP study and Addendum, further studies or consultation may be required, resulting in a refinement of the results presented in this EPR. If refinements lead to changes to the Project that are inconsistent with the EPR these will be documented in another addendum to the EPR. Significant changes to the EPR will be accompanied by a notification of the change to the project stakeholders (government agencies, elected officials, members of the public) and Indigenous communities, as required in the regulation.

#### **6.1.1 Public Consultation**

Metrolinx is committed to continuing to consult and communicate with stakeholders and other interested parties beyond the TPAP. Specifically, Metrolinx will:

- Design and implement a response strategy to address/resolve potential construction-related concerns.
- Maintain the Project website throughout the detailed Design and construction phases where the public can access updated information on the Project.
- Continue discussions/consultation with project stakeholders (government agencies, elected officials, members of the public) and Indigenous communities, as required.

#### **6.1.2 Agency Consultation**

Throughout the Addendum process, Metrolinx has consulted with TRCA, MECP and MNRF on their concerns regarding the wetland onsite and the characterization of site soils. Metrolinx has committed to completing a Scoped EIS for the wetland prior to construction and the results of this, including an adequate buffer, will be incorporated into detailed design. Metrolinx will also undertake a gap analysis of the Phase I ESA to determine a work plan for additional soil characterization activities, as required.

In addition to carrying out the TPAP and Addendum process, there are a number of additional federal, provincial, municipal and other permit and approval processes that Metrolinx will follow (further details are outlined in Section 6.5 of this EPR Addendum).



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As a part of obtaining permits and approvals, Metrolinx will consult with permitting agencies, and follow associated public notification or consultation practices as applicable.

Metrolinx will continue to consult with the MECP, MNRF and TRCA, along with other interested agencies as the detailed design is advanced. This will include opportunities to refine design elements to maintain or enhance ecological function, and receive additional design-specific site information and management plans as this detail is made available. More detail on commitments for additional study and design review are provided in the sections below.

### **6.1.3 Consultation with Elected Officials**

As a part of Metrolinx's ongoing efforts to keep the community informed throughout the design and construction of the proposed works, Metrolinx welcomes inquiries and comments from elected officials wishing to keep their electorate informed. As the Project advances, project updates will be posted to the Project website.

### **6.1.4 Indigenous Consultation Commitments**

As a part of Metrolinx's ongoing efforts to keep the community informed throughout the design and construction of the proposed works, Metrolinx welcomes inquiries and comments from Indigenous communities wishing to keep their community members informed. As the Project advances, Project updates will be posted to the project website.

## **6.2 Property Acquisition**

No property is required for this project to be undertaken by Metrolinx.

## **6.3 Additional Studies and Investigations**

As is typical for a TPAP, the analysis of impacts and development of mitigation measures presented in this EPR are based on a conceptual-level design for the Site. This analysis allows for the determination of additional studies that may be required upon completion of the TPAP in order to support detailed design decisions, construction management, and in some cases, station operations. Anticipated future studies and investigations in support of post-TPAP work include but are not limited to the following:

### **6.3.1 Environmental Site Characterization**

The environmental soils data collected to date was limited in nature, collected for due diligence purposes, and in support of conceptual-level design activities. The data

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collected to date does not characterize the entire site, and Metrolinx is committing to undertaking further environmental testing, as required, as detailed design activities progress in order to better understand how the site soil may be managed during and after construction activities.

Metrolinx will undertake a gap analysis of the Phase I ESA in order to identify where further site characterization activities are required, and in support of updates to the SQSMP. A scope of work will be developed in consultation with the MECP to further characterize the soil. Site characterization will include field work and may include additional testing and sampling. The final Plan will identify which site soils are appropriate for beneficial re-use on the site, and how soils can be managed on site or removed from the site. The SQSMP will be completed prior to commencing construction activities, and will be forwarded to the MECP for review, along with all environmental site testing results. Any further soil testing at the site will be undertaken to Ontario Regulation (O. Reg.) 153/04 standards, in keeping with previous soil testing at the site.

### **6.3.2 Review of Ecological and Hydrological Function of Surface Water Conveyance Feature**

The railside conveyance feature that flows into the existing wetland and pond on the Site originates at the existing Lincolnville Layover and GO Station facility, and collects localized surface flows as it traverses the Site. This feature may represent limited habitat for amphibians and turtles utilizing the feature seasonally or during rain events to complete life process requirements. Metrolinx will review the habitat quality and potential linkages of this feature to other habitat areas, as well as the contribution of groundwater (through seeps) and surface flows from this feature to the downstream wetland and pond in order to determine appropriate mitigation or compensation measures associated with the realignment or loss of the feature.

### **6.3.3 Flood Study**

Metrolinx will delineate the regulatory floodplain for the existing and proposed conditions on the site and provide an accompanying hydraulic analysis of proposed conveyance structures to show appropriate flood risk management on the site and adjacent properties (as applicable), in accordance with TRCA policies and applicable regulation.

### **6.3.4 Site Water Balance**

Preliminary pre-construction water balance calculations have been undertaken based on Guelph permeameter testing, and following MECP guidelines. Metrolinx will continue to discuss with the TRCA the methodology for determining pre- and post-construction water balance and may apply a correction factor or incorporate secondary porosity into

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calculations as appropriate. Groundwater monitoring is ongoing, and a full year of data will be applied to water balance calculations.

### **6.3.5 Infiltration Testing**

As additional infiltration testing is undertaken, results will be made available to the TRCA, and will be included in any updated water balance assessment calculations.

### **6.3.6 Groundwater Monitoring**

Groundwater monitoring activities have been ongoing for almost a year as of the writing of this EPR Addendum and will continue until construction activities commence. Metrolinx will work with the MECP to identify if additional monitoring is required during construction activities, and to determine the scope of post-construction groundwater monitoring. Construction and post-construction groundwater monitoring will be undertaken at one or more monitoring wells on the Site that are in close proximity to existing off-site drinking water wells to monitor water quality and quantity. The monitoring program will be developed in consultation with the MECP.

### **6.3.7 Locomotive Idling Times**

Current Tier 2 Engine locomotives produce emissions while idling at GO Stations that contribute to air quality concerns. Metrolinx will examine if it is appropriate to implement idling time restrictions at the Lincolnville GO Station that are lower than current idling times.

### **6.3.8 Archaeological Assessment**

In accordance with the recommendations of the Stage 1-2 Archaeological Assessment, (AA) a Stage 3 AA was completed, which recommended the completion of a Stage 4 AA. The Stage 4 AA is underway as of the time of writing this EPR Addendum and will be completed prior to completing design activities.

## **6.4 Design Review Commitments**

Through consultation with various government review agencies, a number of requests have arisen for specific design elements to be incorporated into the detailed design of the Station and associated infrastructure, or for a review of the design of proposed Station elements. As detailed design activities progress, Metrolinx will undertake the following design-related activities that have been specifically highlighted by agency reviewers:

Review proposed design elements for appropriate placement, sizing, and performance metrics for

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- SWM pond peak flow capacity, outlet flows, emergency overflow elevation and culvert sizing, inlet sizing (to capture 100-year storm flow) and retaining structure;
- Existing pond and wetland spill elevation and hydraulic conveyance structure capacity (for surface flows and wildlife passage) to maintain pre- and post-construction water balance and to maintain the ecological and hydrological function of the on-site and downstream wetlands;
- SWM pond and below-ground stormwater storage tank stage-storage-discharge relationships;
- Separation distance between bottom of the below-ground stormwater storage tank and the seasonal high groundwater level;
- Soil importation or removal;
- Landscape plantings;
- Lighting (and in particular, consideration for Dark Sky compliant lighting); and
- Driveway and other stormwater conveyance culverts.

Examine opportunities to incorporate the following additional elements into the Station design:

- A clay liner for the SWM pond, or other low permeability liner material, as well as measures to ensure the stability of the liner, if required and as applicable;
- Stormwater retention of the first 5mm of rainfall across the entire site;
- Open surface drainage features upstream of the existing wetland;
- Additional habitat creation to improve both the ecological and hydrological function of the Site post-construction;
- Salt management;
- Additional features to increase evapotranspiration on the Site as part of the post-construction water balance; and
- Extended vegetated buffers around the staked limits of the existing wetland.

The list above represents the key items highlighted by agency reviewers. Full details of all design-related requests forwarded in response to the agency review of the draft EPR can be found in Appendix B. The list above is in addition to the typical design-related

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activities that will be taken by Metrolinx in the course of completing detailed designs for the relocated Lincolnville GO Station.

### **6.5 Permits and Approvals**

All applicable permits, licenses, approvals and monitoring requirements under environmental laws will be reviewed, confirmed and obtained by Metrolinx prior to the construction of the Project. An outline of key legislation and regulations that are anticipated to apply to the proposed relocated Lincolnville GO Station are outlined below. These will be confirmed prior to commencing construction. A detailed list of potentially applicable permits and approvals requirements that will be confirmed during detailed design is provided in Section 6.6.

In accordance with *O. Reg. 231/08*, a Notice to Proceed may be issued by the Minister of the Environment and Climate Change if there are no outstanding issues on a matter of provincial importance that relates to the natural environment, cultural heritage/interest, or on a constitutionally protected Aboriginal or treaty right. In addition to completing the EPR Addendum in accordance with *O. Reg. 231/08*, there are also a number of other provincial, municipal, and other approvals/permits required for this Project prior to implementation. Accordingly, the following section summarizes the anticipated permits and approvals based on the conceptual design and input received from government agencies, elected officials, Indigenous Communities and members of the public to date.

The permits and approvals required for the proposed works may identify the need for additional mitigation. Any additional mitigation measures required in connection with a permit or approval will be incorporated as appropriate into project design and implemented.

#### **6.5.1 Federal**

The Regulations Designating Physical Activities under the *Canadian Environmental Assessment Act (CEAA) 2012* identify the physical activities (i.e., types of projects) that constitute “designated projects” that may require a Federal EA. A review of the Regulations was carried out by Metrolinx within respect to the Project. Based on this review, this Project does not constitute a designated project under *CEAA, 2012*.

*CEAA, 2012* also outlines requirements for determination of the likelihood of significance environmental effects for a physical activity that is carried out on federal lands, or outside of Canada, in relation to a physical work and that is not a designated project (Section 67 of *CEAA 2012*). All of the proposed work for the Project will be carried out on lands owned by Metrolinx. As such, the requirements under *CEAA, 2012* do not apply.

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No Federal permits or approvals are anticipated for the Project. A DFO Self-Assessment will be completed during detailed design and provided to the DFO for review to determine the need for *Fisheries Act* authorizations.

### **6.5.2 Provincial**

There are a number of Provincial permit and approval requirements for the detailed design and construction stage of the Project. The following sections identify the Provincial requirements that are anticipated to be required for the work activities associated with the Project. Table 6-1 provides a broader list of other potentially applicable approvals, that should be confirmed as design advances.

#### **6.5.2.1 Ministry of the Environment, Conservation and Parks Permit to Take Water**

Dewatering activities were previously governed by the Permit to Take Water (PTTW) process in compliance with O. Reg. 387/04, issued under Section 34 of the Ontario *Water Resources Act* (OWRA), 1990, for temporary water takings from the environment that exceed 50,000 litres/day. This includes water drawn from groundwater and surface water. However, in March 2016, the MECP introduced a new water taking regulation that allows for construction related dewatering to proceed under the Environmental Activity Sector Registry (EASR) requirements if dewatering volumes are above the O. Reg 387/04 threshold (e.g., 50,000 litres/day) but below 400,000 litres/day.

The need for dewatering during construction activities will be confirmed prior to construction, as will the permitting/registration requirements. The requirements for dewatering during construction are dependent on the locations, depth and extent of excavation required for the Project. Significant dewatering is not anticipated during operations, however if excavations encounter a high water table and groundwater dewatering is required during operations, additional mitigation measures may be necessary.

#### **6.5.2.2 Ministry of Tourism, Culture and Sport**

A Stage 1, 2 and 3 AA were completed for the relocated Lincolnville GO Station location. The Stage 1 AA findings indicated that areas within the Addendum Study Area had potential for Indigenous and Euro-Canadian archaeological materials or required test pit survey to confirm the presence/extent of any subsurface disturbances and therefore a Stage 2 AA was required. A Stage 2 AA was subsequently undertaken and resulted in the identification of two locations of archaeological materials: Site 1 (AIGt-650) and Site 2. Site 1 was found to be of further CHVI, whereas Site 2 was found to be of no further CHVI.

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The Stage 1 and 2 AA were entered into the Ontario Public Register of Archaeological Reports on September 6, 2018. Additional Archaeological Assessment study will be carried out prior to construction.

A CHSR was completed to identify properties in the vicinity of the Study Area that may have known or potential CHVI, but no properties were identified within a distance where effects would be anticipated from the Project.

No permits or approvals related to archaeological or cultural heritage resources are required.

### **6.5.2.3 Toronto and Region Conservation Authority (TRCA)**

Under the *Conservation Authorities Act*, conservation authorities have been established to manage watersheds throughout most of southern Ontario. O. Reg 166/06 outlines the TRCA's regulatory requirements for "Development, Interference and Alteration" in areas prone to water-related natural hazards, such as shorelines, river and stream valleys, floodplains, watercourses, and wetlands. The conservation authority permitting process is designed to deal with issues related to flooding, erosion, dynamic beaches, pollution and conservation of land.

As a provincial entity, Metrolinx is exempt from TRCA Regulations (e.g., *Ontario Regulation 166/06 – Toronto and Region Conservation Authority: Regulation of Development, Interference with Wetlands and Alterations to Shorelines and Watercourses* (O. Reg. 166/06)) and is not required to apply for or obtain permits from the TRCA. Metrolinx will engage the TRCA and submit an application for the TRCA's Voluntary Project Review Process with respect to works within TRCA regulated areas and to address the risk of flooding and, erosion, stormwater management, and wildlife habitat. Metrolinx will continue to engage TRCA throughout the detailed design so that the final design addresses stakeholder concerns.

### **6.5.3 Municipal**

There are a number of municipal permit, approval and agreement requirements to be considered for all phases of the Project. Metrolinx is exempt from municipal regulations and policies and is not subject to municipal permit and approval requirements. Although formal approval will not be sought, Metrolinx's policy is to adhere to the intent of the relevant permit and approval process to the greatest extent possible.

The study area is within the Town of Whitchurch-Stouffville, Regional Municipality of York. Metrolinx will continue to communicate and engage with the municipalities throughout detailed design and prior to construction to confirm that any municipal concerns are addressed to the greatest extent possible prior to commencement of construction activities, including regarding construction access routes.

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Items that may require review with municipalities include, but are not limited to:

- Building permit and site plan applications
- Site servicing requirements (including for a temporary septic system until municipal sewage servicing can be connected)
- Stormwater Management plans
- Tree removals
- Noise By-law Exemption
- Source Water Protection requirements

### **6.5.4 Timing Windows and Preventive Measures**

It is recognized that there are overlapping timing windows related to restrictions on certain construction activities, and Metrolinx will consult further with the applicable regulatory agencies to determine a suitable approach for construction scheduling. In accordance with the *Migratory Birds Convention Act*, if vegetation removal or other development activity must occur during the migratory nesting period of April 1 to August 31, a certified avian biologist must complete a nesting survey within 24 hours of commencement of work to document the presence or absence of active nesting habitats. In addition, work that may have a downstream effect on surface water bodies should proceed between July 1 and September 15.

### **6.5.5 Other**

Metrolinx will address the requirements of any other applicable permits or approvals that may be identified upon completion of the TPAP as required.

## **6.6 Summary of Permits and Approvals**

A preliminary list of the potentially applicable permitting and approval requirements for the Project are identified in Table 6-1. Additional requirements may be identified or confirmed during detailed design, or as ongoing consultation progresses. Metrolinx will commence construction once all relevant permits/approvals have been obtained from the appropriate authorities.





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Table 6-1: Permitting and Approvals Requirements

Provincial

Permit/Approval Name	Regulatory Authority	Legislation & Regulation	Description of Activities Covered
Notice to Proceed	MECP	<i>Environmental Assessment Act</i> O. Reg 231/08 (Transit Projects & Metrolinx Undertakings)	Must be obtained before the project can proceed to implementation. The project meets the definition of a transit project under O. Reg 231/08 and is subject to the Transit Project Approval Process.
Air Environmental Compliance Approval (ECA) or EASR	MECP	<i>Air Pollution – Local Air Quality Regulation – O. Reg 419/05</i> <i>Ozone Depleting Substances and Other Halocarbons Regulations – O. Reg 463/10</i>	Required for a facility with an operation that emits one or more contaminants into the air to permit the discharge of the contaminant into the air. ECA or Environmental Activity and Sector Registry (EASR) applicability to be determined based on design details.
Noise ECA	MECP	<i>Environmental Protection Act Part II.1</i> <i>O. Reg. 1/17: Registrations Under Part II.2 of the Act – Activities Requiring Assessment of Air Emissions</i>	An ECA for the GO Station may be required if equipment generating noise emissions, such as a diesel generator, is proposed during detailed design.
Environmental Compliance Approval (Stormwater Management)	MECP	<i>Ontario Water Resources Act</i> Section 53	A stormwater management plan, if required, is to provide an integrated treatment train approach to water management that is premised on providing control at the lot level and in conveyance followed by end-of-pipe controls. This combination of controls is the only means of meeting the multiple criteria for water balance, water quality, erosion control and water quantity.
Environmental Activity Sector Registry (EASR)	MECP	<i>O. Reg 63/16: Registrations Under Part II.2 of the Act – Water Taking</i>	Required if temporary water takings are estimated to be greater than 50,000 L/day, but less than 400,000 L/day.
Permit to Take Water (PTTW)	MECP	<i>Ontario Water Resources Act</i> (O. Reg 128/03) Section 34	Required if temporary water takings are estimated to be greater than 400,000 L/day; the need for dewatering during construction activities will be confirmed during detailed design.
Notification	MECP	<i>Clean Water Act, 2006</i>	A Section 59 Notice from the York Region’s Risk Management office may be required under the <i>Clean Water Act</i> . The Notice will contain conditions or prohibitions of specific activities included in the development application. As part of the Section 59 process, the need for a Risk Management Plan will likely be identified, which would document the activities at the site that are potential threats to the quality and/or quantity of source water for the nearby municipal wells, and describes the measures required to prevent the activity from posing a significant threat to drinking water.



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Table 6-1: Permitting and Approvals Requirements

Provincial

Permit/Approval Name	Regulatory Authority	Legislation & Regulation	Description of Activities Covered
ESA Permit or Authorization	MNRF	<i>Endangered Species Act</i> <i>Section 17</i> O. Reg 242/08	<p>Prior to alteration or removal of the buildings supporting Barn Swallow habitat, SAR permitting is required as per the ESA (2007). For Barn Swallow, registration under the ESA is permitted, if the steps below are completed:</p> <ul style="list-style-type: none"><li>• a Notice of Activity must be submitted via the Registry to the Minister of Natural Resources and Forestry prior to commencing the Activity for which the registration is required (O. Reg. 242/08 Section 23.18[5][1][i])</li><li>• Under Section 23.18(5)(1)(ii) of O. Reg. 242/08, a Mitigation Plan for the Activity must be prepared in accordance with Subsections (5), (6) and (7)</li></ul> <p>Registration with the MNRF for the work affecting Barn Swallow habitat is required and a mitigation and restoration plan will be prepared final to removing any buildings or structures. Barn Swallow habitat must be created before the next nesting season.</p> <p>For buildings considered to potentially support bat roosting habitat, follow-up consultation with MNRF is recommended before building alteration and removal.</p>
Notice of Project	Ministry of Labour	<i>Occupational Health and Safety Act</i> Regulation for Construction Projects - O. Reg. 213/91 Section 6(1)	The constructor must provide a Notice of Project to the Ministry of Labour prior to starting projects that meet the standards set out in the Regulation.
Notification	-	<i>Funeral, Burial and Cremation Services Act, 2002, S.O. 2002, c.33</i>	Requires that any person discovering human remains must notify the police or coroner and the Registrar of Cemeteries at the Ministry of Government and Consumer Services. Should human remains be encountered during construction activities, all work on site must cease and notification will be required.
TSSA Registration	TSSA	-	The Technical Standards and Safety Authority's (TSSA) Fuels Safety Program regulates the transportation, storage, handling and use of fuels in Ontario.



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Table 6-1: Permitting and Approvals Requirements

Other Agencies and Municipal

Permit/Approval Name	Regulatory Authority	Legislation & Regulation	Description of Activities Covered
Development, Interference with Wetlands and Alterations to Shorelines and Watercourses permit	TRCA	<i>Conservation Authorities Act</i> R.S.O. 1990, C. 27, O. Reg. 166/06 <i>Crown Agency Act</i> R.S.O. 1990, C. 48, s.1	Related to works within the regulated flood plain and within watercourses, and sign-off on Stormwater Management Plan.  In accordance with the <i>Crown Agency Act</i> and the <i>Conservation Authorities Act</i> , as a Crown Agency, Metrolinx is exempt from the regulatory approval process under Section 28 of the <i>Conservation Authorities Act</i> . Metrolinx will engage the TRCA through the Voluntary Permit Review process.
MUNICIPAL	-	-	Although Metrolinx, as a Provincial Agency, is not subject to municipal permits and approval, Metrolinx policy is to adhere to the intent of the relevant permits/approvals requirements to the greatest extent possible, and to submit applications for review and information.
Excess Load Permit	York Region	York Region By-law No. 2010-15	This permit may be required for commercial vehicles to carry a load heavier or larger than the maximum limit in the <i>Highway Traffic Act</i> . Approval is only given for roads in York Region. This could be required for the transportation of equipment or materials to the site and will be determined through detailed design.
Load Exemption Permit	York Region	-	This permit is for trucks whose load is heavier than the maximum posted weight of five tonnes per axle on designated sections of Regional roads. This could be required for the transportation of equipment or materials to the site and will be determined through detailed design.
Survey and Inspection Permit	York Region	-	This type of permit is for Investigation and Day lighting (i.e., opening the road or boulevard to locate underground utilities), Land Survey (i.e. measurements taken to locate property boundaries for various construction projects) and Inspection (i.e. used to check the condition of a Regional asset such as a bridge or culvert). Would be required for surveys undertaken as part of detail design activities, as applicable.
Sewer Use Bylaw	York Region	-	Regulates the release of water and waste into the sanitary and storm sewer systems. Although water and waste is not planned during construction activities, if dewatering is anticipated during construction, it may be feasible to release it to the storm sewer. Details to be determined during detailed design.
Building By-Law	Town of Whitchurch-Stouffville	-	Metrolinx will consult with the City and provide an opportunity to comment.
Noise By-Law	Town of Whitchurch-Stouffville	-	Limitations to daily and weekly timing of construction works will be implemented in accordance with local noise by-laws and where feasible.
Site Alteration By-Law	Town of Whitchurch-Stouffville	-	Regulates alteration to grade (topography) of a property through movement, removal or placement of topsoil, soil or fill. Some minor grading is proposed and Metrolinx will conform with the intent and spirit of the Site Alteration By-Law by including all grading plans in design drawings to be submitted to the municipality for consultation.



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Table 6-1: Permitting and Approvals Requirements

Schedule Implications and Provincial Guidelines & Plans

Permit/Approval Name	Regulatory Authority	Legislation & Regulation	Description of Activities Covered
Terrestrial	Environment Canada	<i>Migratory Birds Convention Act</i>	If vegetation removal or other development activity must occur during the migratory nesting period of April 1 – August 31, a certified avian biologist must complete a nesting survey within 24 hours of commencement of work to document the presence or absence of active nesting habitats. (see Section 4.1.2.2 – mitigation measures, for more details)
Requirements for addressing contaminants	MECP	<i>Environmental Protection Act</i> O. Reg. 347	Contaminated soils or groundwater encountered during construction must be appropriately characterized and disposed of.
Standards and Guidelines for Conservation of Provincial Heritage Properties	MTCS	-	Guidelines set out in this document apply to all Metrolinx properties.





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### **6.7 Environmental Mitigation and Monitoring Plan and Construction Management Plan**

The Environmental Mitigation and Management Plan and Construction Management Plan (EMMP/CMP) will outline environmental protection measures for natural environment and socio-economic features located on or adjacent to the project site. The EMMP/CMP will include both general and site-specific environmental protection measures based on project-specific requirements, past project experience, current industry best management practices, and consistency with federal and provincial construction mitigation practices. The EMMP/CMP will:

- Outline environmental protection measures related to project construction and operations activities;
- Provide instructions for carrying out construction activities to minimize environmental effects;
- Serve as reference information for the environmental inspection staff to support decision making; and
- provide links to more detailed information.

The EMMP/CMP will be developed based on a combination of desktop review and a review of existing field survey data to provide project-related environmental mitigation measures and follow-up commitments to be addressed during the detailed engineering design, construction and post-construction reclamation phases.

The EMMP/CMP will outline how environmental monitoring staff will address deficiencies with the Contract Administrator and construction contractor so that these issues can be resolved in a timely manner to avoid negative impacts to the environment.

The EMMP/CMP will also outline procedures for construction monitoring staff to provide direction to the construction contractor for location of environmental protection measures that require site specific considerations, or “field fit”. They will also identify areas that may require additional environmental protection measures not identified on the construction drawings. Any additional environmental mitigation measures will be discussed with Metrolinx staff prior to directing the contractor to install them.

### **6.8 Mechanism for Changes to the Approved Plan**

#### **6.8.1 Design Refinements**

The Project presented in this EPR Addendum document is not a static plan, nor is the context in which it is being assessed, reviewed, approved, constructed, and used. Given

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the potential for changes to the Project resulting from the approvals, detailed-design, and construction processes, it is the responsibilities of the proponent, should changes be required in the Project.

### **6.8.2 TPAP EPR Addendum Process**

This EPR Addendum identified the effects associated with the Project presented in this document, and the property boundaries within which the Project can feasibly be constructed. The layout of project components are subject to detailed-design and any variations from that shown in this EPR Addendum, unless it results in an environmental effect which cannot be accommodated within the committed mitigation measures, do not require additional approval under Ontario Regulation 231/08.

Metrolinx is committed to continuous consultation with the public and regulatory agencies during the design of the proposed relocated Lincolnville GO Station. Metrolinx will develop a detailed communication and consultation plan and program designed to mitigate disruption to affected local communities and maximize public support for the Project.

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## References

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## 7.0 References

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# **Appendix A**

## **Existing Conditions Reports**





# *Appendix A1*

## *Terrestrial Environment Summary Report*



## *Appendix A2*

### *Fisheries Habitat Assessment*



# *Appendix A3*

## *Interim Hydrological Evaluation*



# *Appendix A4*

## *Preliminary Stormwater Management Report*





## *Appendix A5*

### *Hydrogeological Assessment*



## *Appendix A6*

### *Soils Quality*



## *Appendix A7*

### *Tree Inventory*



## *Appendix A8*

### *Socio-Economic Preliminary Assessment*





## *Appendix A9*

### *Archaeological Assessment Reports*



# *Appendix A10*

## *Cultural Heritage Screening Report*



# *Appendix A11*

## *Air Quality Evaluation*



# *Appendix A12*

## *Preliminary Acoustics Assessment*





## *Appendix A13*

### *Traffic Impact Assessment*



# **Appendix B**

## **Record of Consultation**



## *Appendix B1*

### *Project Contact List*



*Appendix B2*  
*Correspondence Tracking Log*





## *Appendix B3*

### *Agency Correspondence Documentation*



## *Appendix B4*

### *Indigenous Correspondence Documentation*



*Appendix B5*  
*Stakeholder (including Public, Landowners and*  
*Businesses) Correspondence Documentation*



## *Appendix B6*

### *Notices and Public Meeting Material*