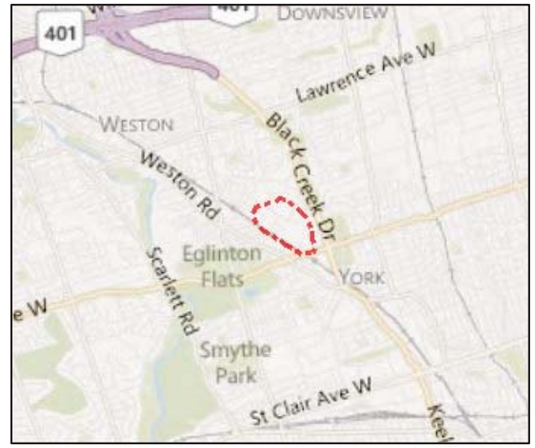


ELC Code	ELC Description
CUM1-1	Dry-Moist Old Field Meadow
CUT1	Mineral Cultural Thicket Ecosite
CUW1	Mineral Cultural Woodland Ecosite
MAS2-1	Cattail Mineral Shallow Marsh

0 50 100 200 Metres

EGLINTON-SCARBOROUGH CROSSTOWN

MRC McCORMICK RANKIN A member of MMM GROUP

LEGEND:

- Study Limits for Natural Environment Investigations
- MSF Site
- Vegetation Community

DATE: DECEMBER 2012

SCALE: AS SHOWN

EGLINTON CROSSTOWN LRT
ENVIRONMENTAL PROJECT REPORT ADDENDUM

VEGETATION COMMUNITY MAPPING, BLACK CREEK MSF

FIGURE 4-2

4.1.5 Wildlife and Wildlife Habitat

Wildlife surveys for the 2010 Natural Heritage Assessment Report were carried out from June 24 to 27, 2008 within a corridor that extended from 50 to 100 m to either side of the Eglinton Avenue right-of-way (Transit City Group 2010). Data from these surveys and secondary source information generated a list of 66 terrestrial vertebrates including eight reptiles, four amphibians, 40 birds and 14 mammals. The report noted that Black Creek provide a wildlife corridor for birds and mammals, and nesting areas for migratory bird species in the Eglinton Avenue area.

The Ministry of Natural Resources (MNR) Aurora District was consulted as part of the EPR Addendum for confirmation on the presence of Species at Risk (SAR) for the study area and species-specific mitigation requirements for protecting SAR. MNR indicated that there are no natural heritage features recorded in the study area and that there are records of SAR within the study area as identified below.

One species recorded during the 2008 field surveys for the Natural Heritage Assessment Report (2010) was considered a SAR at the time of the report's completion. This was the Chimney Swift; a species designated Threatened under the federal *SARA*. Since then, Barn Swallow, which was also observed during the 2008 surveys, has been added to the SAR list as a Threatened species designated under the provincial *ESA*. Barn Swallow has been recommended for listing on SARA Schedule 1 as a threatened species. S*ARA* prohibitions would come into effect immediate following the listing. Chimney Swift and Barn Swallow are also protected under the federal *Migratory Birds Convention Act*.

During the 2008 surveys completed for the Natural Heritage Assessment Report (2010), three active Barn Swallow (*Hirundo rustica*) nests were found on three ceiling cross beams of the Black Creek bridge and a pair of Northern Rough-Winged Swallow (*Stelgidopteryx serripennis*) were observed nesting in the creek bank about 50 m northwest of the bridge. Probable nesters observed around the bridge included Belted Kingfisher (*Ceryle alcyon*), Chimney Swift (*Chaetura pelagica*), and Spotted Sandpiper (*Actitis macularius*). Numerous tracks from American Mink (*Mustela vison*), Striped Skunk (*Mephitis mephitis*), Northern Raccoon (*Procyon lotor*) and Virginia Opossum (*Didelphis virginianus*) were found along the banks under the bridge, providing evidence for an active mammal corridor connecting the habitats on both sides of Eglinton Avenue. During the 2012 survey period (August 6 to 8, 2012), wildlife sightings included American Goldfinch (*Carduelis tristis*), Red-Tailed Hawk (*Buteo jamaicensis*) and Barn Swallow.

The Milksnake, a Special Concern Species under *SARA* and the *ESA*, frequents a wide range of habitats including meadow and deciduous forest, communities that are found in the area covered by the EPR Addendum. Milksnakes utilize logs, stumps, rocks, boards and banks for basking, egg-laying and hibernating.

4.1.6 Designated Natural Areas and Parks

The study area does not contain any designated Provincially Significant Wetlands (PSW), Areas of Natural and Scientific Interest (ANSI), Ecologically Sensitive Areas, or other provincially designated natural areas. The Black Creek valley at the east end of this section is a locally significant area.

Natural habitat in the study area is confined predominantly to the Humber River valley where it falls within the regulated limits of the City of Toronto's Ravine and Natural Feature Protection Bylaw and Toronto and Region Conservation Authority's Regulation of Development, Interference with Wetlands and Alterations to Shorelines and Watercourses (O. Reg. 166/06). Natural areas in in the west section are confined predominantly to the floodplains of the Humber River. These natural areas fall within the regulated limits of the City of Toronto's Ravine and Natural Feature Protection By-law and Toronto and Region Conservation Authority's Regulation of Development, Interference with Wetlands and Alterations to Shorelines and Watercourses (O. Reg. 166/06). The majority of this regulated land forms part of the Natural Heritage System of the City of Toronto.

Two parks are located within the study area: Coronation Park; and Keelesdale Park.

4.1.7 Air Quality

Existing (ambient) contaminant concentrations in air result due to both primary and secondary formation. Primary contaminants are emitted directly by the source and secondary contaminants are formed by complex chemical reactions in the atmosphere. Secondary pollution is generally formed over great distances in the presence of sunlight and heat and most noticeably results in the formation of fine particulate matter ($PM_{2.5}$) and ground-level ozone (O_3), also considered smog.

In Ontario, a significant amount of smog originates from emission sources in the United States which is the major contributor during smog events, usually occurring in the summer season (MOE, 2005). During smog episodes, the U.S. contribution to $PM_{2.5}$ can be as much as 90 percent near the southwest U.S. border and approximately 50 percent in the Greater Toronto Area (GTA).

Air pollution is strongly influenced by weather systems (i.e., meteorology) that typically move out of central Canada into the mid-west of the U.S. then eastward to the Atlantic coast. This weather system generally produces winds with a southerly component that travel over major emission sources in the U.S. and result in the transport of pollution into Ontario.

To understand the existing (ambient) air quality conditions available data from Ministry of the Environment (MOE) and National Air Pollution Surveillance ambient air quality monitoring stations was reviewed. Since the study area is surrounded by many monitoring stations, a comparison of several stations was performed for the available data on a per contaminant basis, to determine the

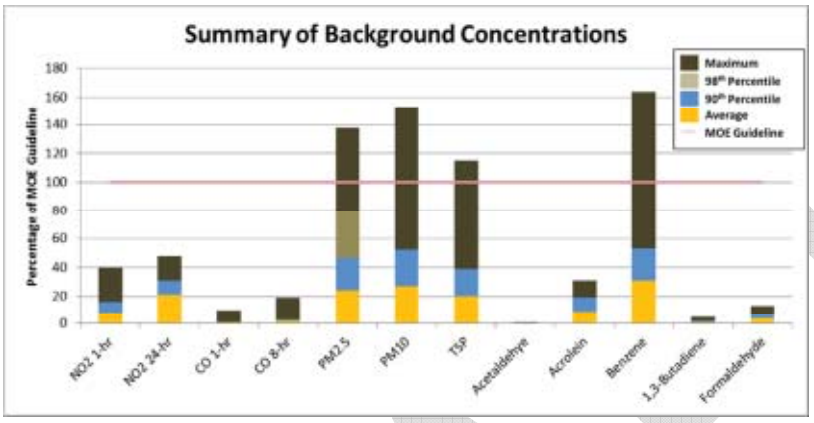
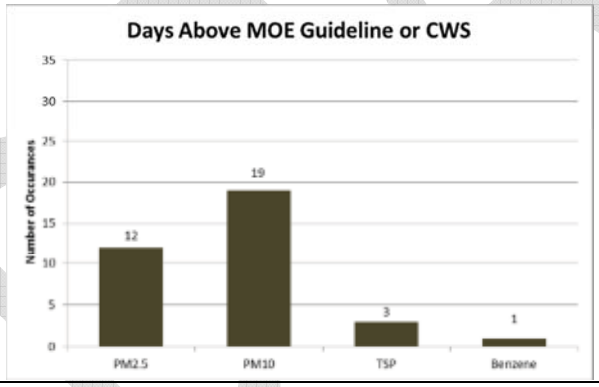
worst-case representative background concentration. Selecting the worst-case concentration would result in conservative combined concentrations. Details regarding the review of available air quality monitoring station data are provided in the Operational Air Quality Assessment Report included in **Appendix C**. The contaminants chosen for this study are listed in **Table 4-1** and are commonly associated with motor vehicle emissions.

Table 4-1: Contaminants of Interest

Criteria Air Contaminants (CACs)		Volatile Organic Compounds (VOCs)	
Name	**Symbol**	**Name**	**Symbol**
Nitrogen Dioxide	NO_2	Acetaldehyde	HCHO
Carbon Monoxide	CO	Acrolein	C_3H_4O
Fine Particulate Matter (<2.5 microns in diameter)	$PM_{2.5}$	Benzene	C_6H_6
Coarse Particulate Matter (<10 microns in diameter)	PM_{10}	1,3-Butadiene	C_4H_6
Total Suspended Particulate Matter (<44 microns in diameter)	TSP	Formaldehyde	CCHO

Based on a review of year 2006 to 2010 ambient monitoring datasets, all contaminants were below their respective MOE criteria with the exception of PM_{10}, Total Suspended Particulate Matter (TSP), and benzene. Benzene concentrations were based on actual measurements while PM_{10} and TSP concentrations were calculated based on their relationship to $PM_{2.5}$. A summary of the background concentrations as a percentage of their respective MOE guidelines or Canadian Council of Ministers of the Environment (CCME) Canada Wide Standards (CWS) is presented in **Table 4-2**. Also presented is the number of days that the monitoring data was above the MOE guideline or CWS.

Table 4-2: Statistical Summary of Background Concentrations

5 Year Statistical Summary	% of Guideline	
	Background:	
	NO_2 (1-hr)	40%
	NO_2 (24-hr)	48%
	CO (1-hr)	10%
	CO (8-hr)	19%
	$PM_{2.5}$ (See Note)	84%
	PM_{10}	153%
	TSP	115%
	Acetaldehyde	1%
	Acrolein	31%
	Benzene	122%
	1,3-Butadiene	3%
	Formaldehyde	13%
Note: The $PM_{2.5}$ background concentration is in compliance with the CWS. The highest 3 year rolling average of the yearly 98th percentile concentrations was calculated to be 25.25 µg/m^3 (years 2006 to 2008) or 84% of the CWS.		
	**Days Above Guideline:**	
	$PM_{2.5}$	12
	PM_{10}	19
	TSP	3
	Benzene	1

4.1.8 Potential Contamination

A Contamination Overview Study (COS) was undertaken by Ecoplans, a member of MMM Group, in support of the EPR Addendum. A copy of that report can be found in **Appendix E**. This investigation updated the COS report prepared by Coffey Geotechnical Inc. for the ECLRT project in March 2010. In support of this EPR Addendum, a COS report was prepared to identify and review actual or potential contaminated sites and identify appropriate future work and mitigation measures.

Based on the information collected through the COS reports, broad Areas of Potential Environmental Concern (APEC) were identified. The areas identified are summarized below.

An inspection of the study area was carried on May 16, 2012. The purpose of the inspection was to document land uses and/or business operations which may represent a potential source of site contamination within the study area. The land use activities noted within the study area include:

- Parks;
- Commercial facilities (grocery stores, shopping, banks, restaurants);
- Institutional (York Board of Education Office, school); and
- Residential.

Based on the information collected through this study, one area of actual contamination was identified based on a review of previously collected data. The data indicates the former Kodak property (MSF lands) is impacted by metals and inorganics, chlorinated volatile organic compounds (VOCs) such as trichloroethylene (TCE) and petroleum hydrocarbons (PHC). Other APECs were noted within the study area. The areas identified are discussed in more detail in **Section 5.3.8**.

4.2 Socio-Economic Environment

4.2.1 Noise and Vibration

The ambient noise characteristics in the study area are typical of the general hum of an urban environment.

As part of the 2010 EPR, a Noise and Vibration Impact Assessment was conducted to identify potential noise and vibration impacts to compare the difference between anticipated future conditions with and without the ECLRT, and to determine any associated mitigation measures that may be required during LRT construction and operation. The ECLRT alignment will pass through commercial, industrial, and residential neighbourhoods.

A review was undertaken to update the 2010 Noise and Vibration Impact Assessment with respect to the proposed new alignment for the ECLRT as well as the Maintenance and Storage Facility (MSF). A Noise and Vibration Assessment was prepared by Novus Environmental Inc. in support of this EPR Addendum. The report examines the noise and vibration effects of the revised LRT configuration and the MSF, and can be found in **Appendix D**.

Noise sensitive points of reception include but are not limited to:

- Permanent and seasonal residences;
- Hotels, motels, campgrounds;

- Noise sensitive institutional uses such as hospitals, daycares, nursing homes, and schools; and
- Places of worship.

The proposed LRT line within the study area will consist of at-grade, tunnel, and elevated sections. The LRT line will run along or to just to the north of the existing Eglinton Avenue alignment. In undertaking the review of potential noise and vibration impacts, the study area has been broken up into four sections:

- Jane Street to Western Portal, which examines impacts from the western study limit (approx. Station 104+700) to the tunnel portal at approx. Station 105+000.
    - Park land borders Eglinton Avenue to the north and south.
- Tunnel Section, which examines impacts from the tunnel section, from the western portal to the Mount Dennis Station (from approx. Station 105+000 to approx. Station 105+600).
    - Along both sides of Eglinton Avenue, there are residential and commercial properties, with high-rise residential just east of the proposed western portal.
    - At the intersection of Eglinton Avenue and Weston Road, there is a bank, and two churches.
    - At the intersection of Eglinton Avenue and the CP/GO Rail line there is a daycare.
- MSF site and Stations, which examines impacts surrounding the MSF, including impacts from the Bus Station, Passenger Pick-Up and Drop-Off (PPUDO), Mount Dennis Station, and Vents.
    - Eglinton Avenue in this area is significantly in-cut.
    - There is a CP/GO Rail line bordering the western edge of the proposed MSF property.
    - Along the southwestern border of the proposed MSF property, there are residential properties, with two high-rise residential properties south of the western corner of the proposed site.
    - To the north of the MSF, along Industry Street, there is a church.
    - Southeast of the proposed site, is Keelesdale Drive, which is to be closed as part of this project.
- Mount Dennis to West of Keele Street, which examines impacts from approx. Station 105+900 to the eastern study limit (approx. Station 106+400).
    - Eglinton Avenue is significantly in-cut from Weston Road to Black Creek Drive.

- Eglinton Avenue is bordered by park land for the majority of this section.
- To the south of the intersection of Eglinton Avenue and Black Creek Drive there is a No Frills.
- East of the proposed West Launch Shaft, there are residential properties to the south of Eglinton, and the City of York Museum to the north.

4.2.2 Land Use

The land use designations presented in the 2010 EPR for the section of LRT between Jane Street and Keele Street have not changed. Future development plans were identified in the 2010 EPR. The lands abutting the proposed LRT study areas are illustrated in **Figure 4-4**, and are generally characterized as follows:

The areas abutting the Eglinton Corridor are generally characterized as follows:

- Jane Street to Weston Road: parks/natural areas, neighbourhoods, and apartment neighbourhoods;
  - Weston Road to Rail Corridor:
  - South side: apartment neighbourhoods;
  - North side: Parks and mixed-use areas;
- Rail Corridor to Black Creek Drive:
  - North side (including MSF lands): employment lands;
  - South side: mixed-use;
- Black Creek Drive to Black Creek: mixed-use, and parks; and
- Black Creek to Keele Street: Commercial/institutional frontage, with single-family residential immediately south.

The lands proposed for the MSF are currently designated as “employment lands”. The site is located in the Etobicoke York District within the Strategic Industrial Employment Zone (SI) as defined by the City of York Zoning By-law. Applicable uses permitted in the SI zone include manufacturing; assembling; repair; and office.

It is anticipated that a Zoning By-law Amendment would not be required for Metrolinx to pursue implementation of the Black Creek MSF.

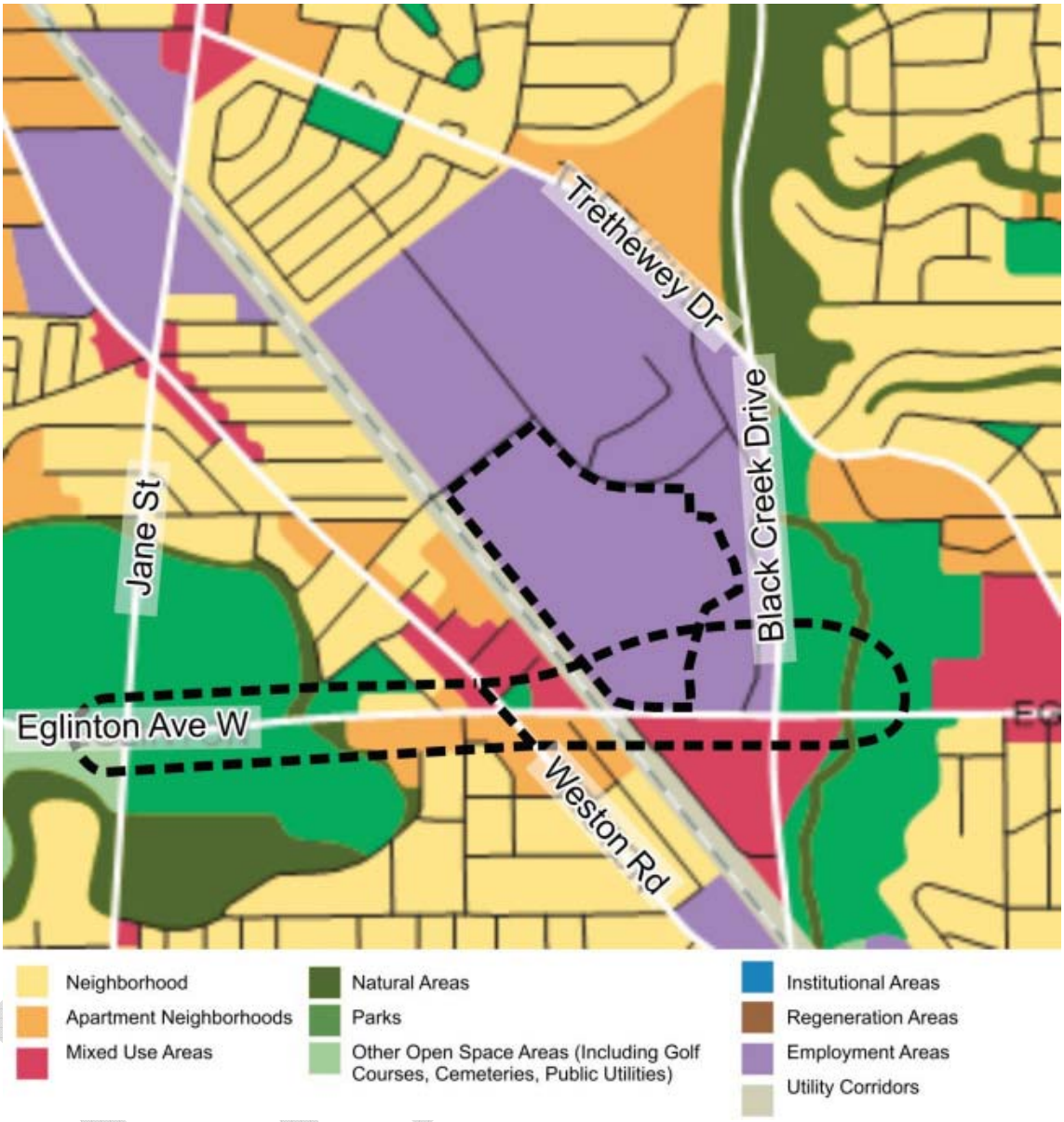


Figure 4-3: Official Plan (2010) Land Use Designations

4.2.3 Utilities

There have been no notable changes to utilities in the study areas since the 2010 EPR. The following is an excerpt from the relevant sections of the approved 2010 EPR.

The utilities and major municipal services within the study area along the Eglinton Avenue corridor are described in this section.

Hydro

- On the north side of Eglinton starting at the entrance to Keelesdale Drive, an aerial hydro line runs easterly towards the intersection at Black Creek Drive and continues easterly beyond Black Creek
- At Keelesdale Drive, the aerial line turns north and continues through the future MSF site. The line also extends southerly over Eglinton Avenue at this point and continues on into the No Frills lands.

Municipal Services: Storm Sewers

- A collector storm sewer runs under the centre of the eastbound Eglinton Avenue lanes in an east-west direction. Storm water flow from the existing storm water ponds on the former Kodak lands connect into the system 170m west of Black Creek Drive.
- Flows from the No Frills lands and Keelesdale Drive connect into Eglinton's collector storm sewer 90 west of Black Creek Drive with a manhole structure. The collector continues easterly and outlets into Black Creek. North of Eglinton, a parallel storm sewer runs from Keelesdale Drive easterly under Black Creek Drive and outlets into Black Creek.
- East of Black Creek, a similar collector storm sewer runs under the eastbound Eglinton lanes and outlets into Black Creek.

Municipal Services: Sanitary Sewers

- Adjacent to the major storm sewer connection 90m west of Black Creek Drive, a sanitary manhole structure collects flows from both the No Frills Lands to the south and the former Kodak lands to the north. A collector sanitary sewer heads easterly from this point under Black Creek Drive and towards Black Creek.
- North of Eglinton, a parallel sanitary sewer runs from Keelesdale Drive easterly under Black Creek Drive and towards Black Creek
- West of Black Creek, the Black Creek STS a north-south running trunk sanitary sewer collects flows from the above sewers.
- East of Black Creek Drive, a sanitary sewer runs under the middle of Eglinton Avenue, turns south as it approaches Black Creek and continues southerly.
- North-south along Weston Road then west along Eglinton and south on Guestville Avenue, the Mount Dennis CTS.

Municipal Services: Watermain

- A watermain runs parallel to Eglinton Avenue, approximately 10m north of the roadway. Approximately 100m west of Black Creek Drive, a watermain from the No Frills lands south of Eglinton Avenue crosses the roadway and tees into the above mentioned watermain. The watermain kinks north for 20m before continuing easterly under Black Creek and continuing along the north side of Eglinton Avenue.

- A parallel watermain runs south of Eglinton Avenue from the No Frills lands easterly under Black Creek and crosses north under Eglinton Avenue approximately 180m east of the creek.

Telephone Services

- Utility phone lines run along the north and south boulevards of Eglinton Avenue throughout the area.

4.3 Cultural Environment

4.3.1 Archaeology

Stage 1 and 2 Archaeological Assessment Reports were prepared in 2009 for the original ECLRT alignment. It was ultimately found that no additional archaeological assessment was required and the Ministry of Culture (now the Ministry of Tourism, Culture and Sport) concurred with the findings of the reports.

A subsequent Stage 1-2 Archaeological Assessment was carried out in 2012 by New Directions Archaeology, in support of the EPR Addendum to address areas within study area not previously assessed. A copy of that report can be found in **Appendix F**. The majority of the study corridor lies within the existing right-of-way and is generally disturbed due to roadway construction and surrounding residential and commercial land uses and utilities.

A search of the Ministry of Tourism, Culture and Sport's archaeological site registry database identified three registered archaeological sites within 1 kilometre of the study corridor. Due to the proximity of the area to registered archaeological sites, topography suitable for habitation, and historic transportation routes, the potential for finding archaeologically significant materials is high. The Maintenance and Storage Facility lands were reviewed as part of the assessment, the majority of the property was visually determined to be disturbed by road construction and modern building construction. A Stage 2 test pit survey was conducted in areas that were not identified as visually disturbed. No cultural material was found during the test pit survey. As a result, the Stage 1-2 Archaeological Assessment Report (**Appendix F**) recommended that no further archaeological assessment is required. On January 22, 2013 the Ministry of Tourism, Culture and Sport issued a letter of satisfaction indicating that the Ministry had reviewed the Stage 1-2 Archaeological Assessment Report and is satisfied that the fieldwork and reporting for the archaeological assessment are consistent with the ministry's 2011 *Standards and Guidelines for Consultant Archaeologists* and the terms and conditions for archaeological licences.

4.3.2 Built Heritage and Cultural Heritage Landscapes

Several Built Heritage Resources (BHRs) and Cultural Heritage Landscapes (CHLs) within the LRT corridor were identified in detail in a Cultural Heritage Assessment Report prepared for the 2010 EPR. Updates to the Cultural Heritage Assessment Report were prepared by Unterman McPhail Associates to

address the proposed changes to the ECLRT alignment. A copy of the report can be found in **Appendix G**.

Table 4-3 presents all of the CHLs and BHRs associated with the new configuration of the ECLRT.

Table 4-3: Identified Cultural Heritage Landscapes (CHL) and Built Heritage Resources (BHR)

Site #	Resource	Type	Location	Description	Heritage Recognition
1.	BHR	Educational	2690-2694 Eglinton Avenue West, north side	York Memorial Collegiate Institute (C.I.)	**Municipally designated** under the *Ontario Heritage Act* and **included** on the City of Toronto *Inventory of Heritage Properties*. There is a commemorative plaque from the Township of York set on the front lawn.
2.	CHL	Recreational	Eglinton Avenue West at Black Creek Drive	Coronation Park	**Not included** on the City of Toronto Inventory of Heritage Properties.
3.	CHL	Recreational	Eglinton Avenue West at Black Creek Drive	Keelesdale Park	**Not included** on the City of Toronto Inventory of Heritage Properties.
4.	BHR	Transportation	Black Creek at Eglinton Avenue West, east of Black Creek Drive	Black Creek Bridge	**Not included** on the City of Toronto Inventory of Heritage Properties.
5.	BHR	Transportation	Eglinton Avenue West at former Kodak site	Retaining wall 1966.	**Not included** on the City of Toronto Inventory of Heritage Properties.
6.	BHR	Transportation	Eglinton Avenue West at former Kodak site	Road Bridge, 1965	**Not included** on the City of Toronto Inventory of Heritage Properties.
7.	BHR	Transportation	Eglinton Avenue West at former Kodak site	Railway Subway, c1965	**Not included** on the City of Toronto Inventory of Heritage Properties.

Site #	Resource	Type	Location	Description	Heritage Recognition
8.	BHR	Industrial	3500 Eglinton Avenue West	Kodak Building No. 9	The Cultural Heritage Evaluation Report (CHER) completed in July 2012 under the requirements of the Standards and Guidelines for the conservation of provincial heritage properties (July 2010) determined that Building No. 9 is of heritage value based on Ont. Reg 9/06 of the *Ontario Heritage Act*; however, it not considered to be of provincial heritage value under Ont. Reg. 10/06 for provincially owned properties.
9.	BHR	Commercial	1151 Weston Road at Eglinton Avenue West	Bank of Nova Scotia	**Not included** on the City of Toronto Inventory of Heritage Properties.
10.	CHL	Historical Community	Eglinton and Weston Road	Mount Dennis	Mount Dennis buildings **not included** on the City of Toronto Inventory of Heritage Properties
11.	CHL	Recreational	3601 Eglinton Avenue West at Jane Street	Eglinton Flats Park	**Not included** on the City of Toronto Inventory of Heritage Properties.
12.	CHL	Recreational	3700 Eglinton Avenue West at Jane Street	Fergy Brown Park	**Not included** on the City of Toronto Inventory of Heritage Properties.

4.4 Transportation

4.4.1 Transit System

Transit services along Eglinton Avenue within the study area are operated by the TTC. The following is a list of key TTC bus routes which operate along Eglinton Avenue affected by the alignment changes:

- 32 Eglinton West (and variants); and
- 34 Eglinton East;

Figure 4-5 shows the existing routes along Eglinton Avenue between Jane Street and Black Creek. The figure also shows intersecting routes running on major arterial roads in the north-south direction.

Figure 4-4: TTC Bus Routes along Eglinton Avenue between Jane Street and Keele Street

The trunk Route 32 service originates at Eglinton Subway Station and extends to Renforth Drive in the west. Three of the four branches originate at Eglinton Subway Station. Branches 32A and 32B extend into the City of Mississauga serving different parts of the Airport Corporate Centre employment district. Branch 32C extends north-westerly along Trethewey Drive terminating in the Jane Street/Lawrence Avenue area. Branch 32D originates at Eglinton West Subway Station on the Spadina Subway line and terminates at Emmett Drive west of Jane Street.

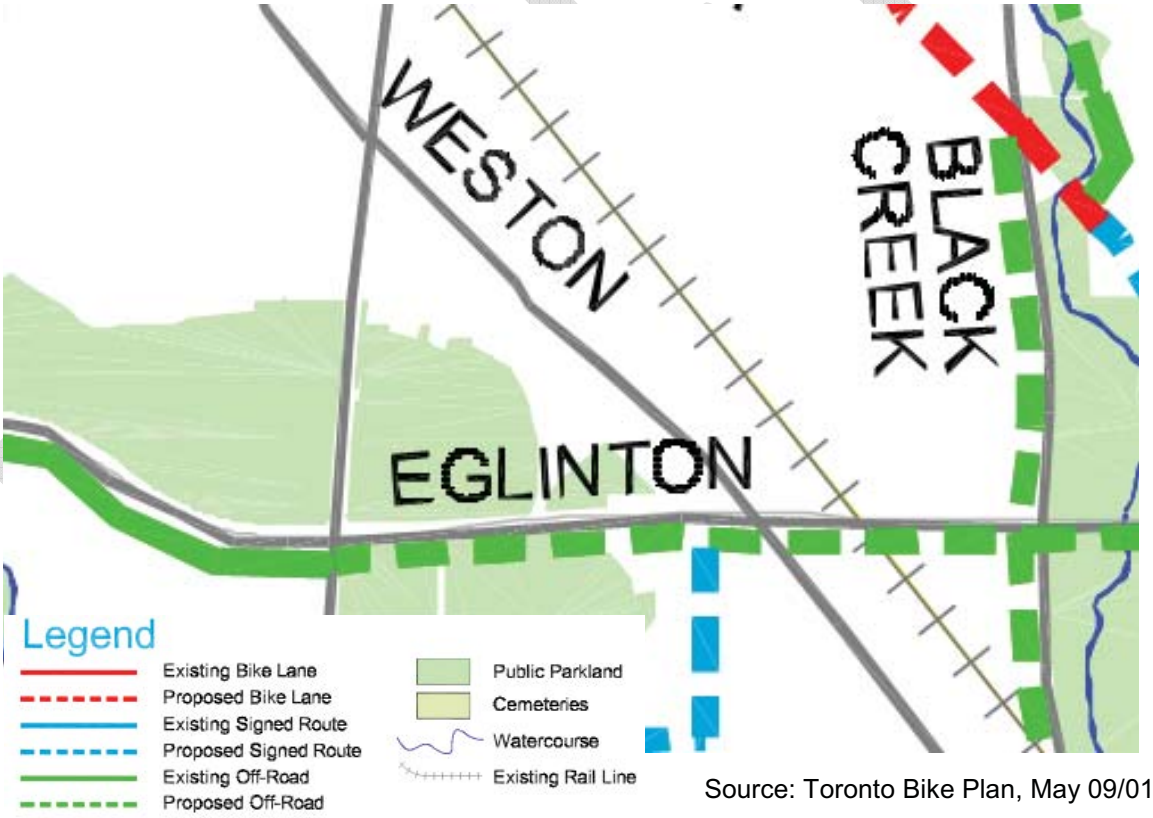
Route 34 Eglinton East is the main route on Eglinton Avenue east of Yonge Street and provides a trunk service from Eglinton Subway Station to Kennedy Subway Station Routes. In the study area, there is consideration for a potential future Mount Dennis GO Rail station, to be implemented when warranted by forecast passenger demand. The station was protected for under GO Transit's Georgetown South Corridor Environmental Assessment (2009) and continues to be protected for under this current study.

4.4.2 Pedestrian and Cycling Network

Sidewalks are provided on the major roads in the study area as follows:

- Eglinton Avenue: on the north side from west of Weston Road to the eastern study area limit, and on the south side throughout the study area;
- Weston Road: on both the east and west sides throughout the study area; and
- Black Creek Drive: on the west side south of Eglinton Avenue in the study area. No sidewalks are provided north of Eglinton Avenue within the study area.

Currently the study area includes no bicycle specific provisions. The City's Bike Plan, however, identifies both Eglinton Avenue and Black Creek Drive within the study area as corridors with proposed off-road bike paths. See **Figure 4-6**. At the west limit of the study area, an existing off street path is located on the south side of Eglinton Avenue, west of Jane Street.



Source: Toronto Bike Plan, May 09/01

Figure 4-5: Existing and Proposed Bike Network

4.4.3 Road Network

The road network in the study area has not notably changed since the 2010 EPR for the Eglinton Crosstown LRT. The following sections discuss the current characteristics of the road network in the study area.

The study area is centered on four major arterial roadways: Eglinton Avenue, Weston Road, Black Creek Drive, and Jane Street. The GO/CP Rail Corridor creates a barrier to east-west travel, which is limited to the grade-separated crossings, namely Eglinton Avenue West. Secondary crossings are provided to the north at Ray Avenue, and to the south at Black Creek Drive. Eglinton Avenue is six lanes wide between Weston Road and Black Creek Drive, with auxiliary right- and left-turning lanes at major intersections. Sidewalks are provided on both sides of the road. East of Black Creek Drive, and west of Weston Road, Eglinton Avenue narrows to four lanes. Eglinton Avenue has a posted speed limit of 60km/h within the study area.

Weston Road is a four-lane arterial with sidewalks on both sides and curbside parking in some sections. Auxilliary turning lanes are provided on Weston Road at the intersection with Eglinton Avenue. Weston Road has a speed limit of 50km/h within the study area.

Black Creek Drive is a four-lane arterial with both left- and right-turning lanes at major intersections. A sidewalk is provided on the west side of the road south of Eglinton Avenue. Black Creek Drive has a posted 70 km/h speed limit within the study area.

Ray Avenue, Industry Street and Todd Baylis Boulevard form the northern bounds of the former Kodak lands. These roadways are generally two- lane cross-sections with sidewalks. Ray Avenue has a grade separated underpass at the GO/CP Rail corridor.

Photography Drive is currently closed-off north of Eglinton Avenue where it previously provided access to the former Kodak lands (the proposed MSF site) from the south via a grade separated crossing over Eglinton Avenue West.

Key signalized intersections in the study area that have potential to be notably impacted by the project include:

- Eglinton Avenue at Weston Road;
- Eglinton Avenue at Black Creek Drive
- Black Creek Drive at Photography Drive

4.4.4 Navigable Watercourses

As confirmed by Transport Canada and documented in the 2010 EPR, there are no navigable watercourses in the study area.

5. IMPACT ASSESSMENT, MITIGATION, AND MONITORING

The Transit Projects Regulation (Ontario Regulation 231/08) Section 9 (2) requires the proponent to prepare an Environmental Project Report that contains the following information, among other requirements:

- The proponent's assessment and evaluation of the impacts that the preferred method of carrying out the transit project and other methods might have on the environment, and the proponent's criteria for assessment and evaluation of those impacts;
- A description of any measure proposed by the proponent for mitigating any negative impacts that the preferred method of carrying out the transit project might have on the environment; and,
- If mitigation measures are proposed, a description of the means the proponent proposes to use to monitor or verify their effectiveness.

The purpose of this chapter is to document the anticipated impacts, proposed mitigation measures, and recommended monitoring activities as presented in the 2010 EPR, and identify changes to the potential impacts, mitigation, and monitoring that result from the new configuration of the ECLRT.

5.1 Range of Potential Impacts

The environmental factors that may be affected by project facilities / activities were identified using an interactions matrix. The interactions matrix was designed to scope the types and level of significance of environmental effects that may be encountered and the level of detail that may be necessary to address those environmental effects. The interactions matrix considered site-specific environmental conditions and project-specific facilities and activities.

The environmental effects of the Undertaking can be classified under three categories:

1. Footprint Impacts – Development of the ECLRT will result in the permanent displacement or loss of the existing features found within the footprint of the new facility. Within the study area addressed by this addendum, the footprint impacts related to the surface sections of the ECLRT are specifically associated with stations, structures, elevated guideway, road realignment, intersection improvements and the Black Creek Maintenance and Storage Facility.

   In the underground sections, footprint impacts are associated with ECLRT surface facilities including station entrances and ventilation shafts.

2. Construction Impacts – As documented in the 2010 EPR, the runningway will be largely tunnelled through the underground sections. As a result, impacts are predicted to be negligible in these areas. Stations and special track work areas will be constructed by cut-and-cover method. Station entrances, ventilation shafts, and traction power substations will be constructed

following standard at surface construction methods with excavation activities for connection to the underground sections. Surface and elevated sections of the runningway will be constructed at or above grade. Bridge modifications are not anticipated to involve in-water construction work.; and

3. Operation and Maintenance Impacts – The operations and maintenance of the ECLRT will result in impacts that will be experienced over the life of the project. These impacts are associated with emissions during facility operations including air pollution, noise, vibration, electromagnetic interference and stray current. The ECLRT will also have long term effects on traffic and transit operations.

The level of interaction between a facility/activity and an environmental factor can be classified as: “none,” “weak,” “moderate” and “strong” as was done in the 2010 EPR. These terms were defined as follows:

1. None (blank) - no probability of an interaction or the interaction has no significance to the environment. As a result, no additional discussion and documentation is required in support of this Transit Project Assessment.
2. Weak (W) - a low probability of an interaction or the interaction has low significance to the environment. A general discussion is provided in this section, but given the anticipated low probability and/or significance, no additional commitments or follow up actions are required.
3. Moderate (M) - a moderate probability of an interaction or the interaction has moderate significance to the environment. A more detailed discussion accompanied with supporting supplemental analysis and possible mitigation measures and commitments.
4. Strong (S) - a high probability of an interaction or the interaction has a high level of significance to the environment. These issues are usually regulated or closely monitored by government agencies and will require detailed analysis to quantify the potential impact and the anticipated effect of mitigation measures. Future commitments for elements with strong interactions are addressed.

The interactions matrix illustrates which project facilities / activities have a significant interaction with environmental factors. The interactions matrix has been updated to reflect the proposed design changes to the ECLRT covered by this addendum and is presented in **Table 5-1** and, as noted above, is consistent with the approach to identifying the interaction classifications in the 2010 EPR. The subsequent sections will discuss for each of the environmental effects identified in the following topics:

1. Potential impacts;
2. Mitigation measures; and
3. Monitoring, and any contingency measures as required.

Table 5-5 presents a summary of ECLRT potential impacts, mitigation measures, monitoring, future work, and contingency plan.

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Table 5-1: Interactions Matrix

Facilities/Activities \ Environmental Factors		Natural Environment								Socio-Economic Environment			Cultural Environment		Transportation			
		Groundwater	Surface Water	Fish and Fish Habitat	Vegetation and Vegetation Communities	Wildlife and Wildlife Habitat	Designated Natural Areas and Parks	Air Quality	Potential Contamination	Noise and Vibration	Land Use	Utilities	Archaeology	Built Heritage and Cultural Heritage Landscapes	Transit System	Pedestrian and Cycling Network	Road Network	Navigable Watercourses
Footprint Impacts	LRT Runningway		S									S						
	New Bridges		S	W	M	M						S						
	Bridge/Culvert Improvements		S	S	S	S	S							S				
	Intersection Improvements		S		S	S					S	S						
	Road Improvements		S		S	S						S						
	Stations	S			S	S					S	S		S				
	Stops		W									S						
	Traction Power Substation		W		S	S					S							
	Ventilation Shafts		W															
	Portal	S																
	Maintenance and Storage Facility		S		S	S												
	Tunnel	S										S						
	Bus Terminal		S		S	S					S							
Construction Impacts	Tunneling / Work Yards	S	W				S			W		S						
	Cut and Cover Construction	S								S	S				S	S	S	
	Surface Excavation	S	S							S								

Facilities/Activities \ Environmental Factors		Natural Environment								Socio-Economic Environment			Cultural Environment		Transportation			
		Groundwater	Surface Water	Fish and Fish Habitat	Vegetation and Vegetation Communities	Wildlife and Wildlife Habitat	Designated Natural Areas and Parks	Air Quality	Potential Contamination	Noise and Vibration	Land Use	Utilities	Archaeology	Built Heritage and Cultural Heritage Landscapes	Transit System	Pedestrian and Cycling Network	Road Network	Navigable Watercourses
	Clearing and Grubbing		S		S	S				S								
	Utility Relocation											S				W	W	
	Roadwork									S	M						S	
	Building Demolition									W	W			S		W		
	Soil Removal and Disposal		W														S	
	Dewatering	S	W		M	M						S						
	Reinforcement of Existing Buildings				M	M				S								
	Erosion and Sedimentation Control		S				S											
	Heavy Equipment Operations and Maintenance				M	M	S			S								
	Traffic Management														S	S	S	
	Material Import/Stockpiling						S										S	
	Trackwork									W	S						S	
	Concrete Forming		S		M	M												
Operations and Maintenance Impacts	LRT Operations									M / W					S	S / M	S	
	Track and Structure Maintenance														M		M	
	Stormwater Management		S		W	W												
	Bus Operations									M					M			

Environmental Factors / Facilities/Activities		Natural Environment								Socio-Economic Environment			Cultural Environment		Transportation			
		Groundwater	Surface Water	Fish and Fish Habitat	Vegetation and Vegetation Communities	Wildlife and Wildlife Habitat	Designated Natural Areas and Parks	Air Quality	Potential Contamination	Noise and Vibration	Land Use	Utilities	Archaeology	Built Heritage and Cultural Heritage Landscapes	Transit System	Pedestrian and Cycling Network	Road Network	Navigable Watercourses
	Station Maintenance														M	W		
	Stop Maintenance														M	W		
	Testing of Emergency Equipment									S								
	Snow Removal				W	W											W	

Level of interaction (see definitions above, per 2010 EPR): "-" = None "W" = Weak "M" = Moderate "S" = Strong

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5.2 Monitoring

The EPR outlines a monitoring plan to be prepared in accordance with Subsection 9(2)(8) of Ontario Regulation 231/08. The proposed changes to the ECLRT will result in minor changes to the monitoring plan proposed in the approved 2010 EPR (as detailed in subsequent sections of this chapter); however, the objectives of the monitoring plan remain as follows:

1. To augment existing information and databases, where required;
2. To determine the accuracy of impact predictions and the effectiveness of environmental protection measures;
3. To ensure compliance with federal, provincial and local legislation and regulation; and,
4. To ensure that commitments, plans, and programs are carried out as planned. Environmental commitments and mitigation measures will be reflected in construction contract documents.

These objectives help to determine the types of monitoring to be used including baseline monitoring, implementation monitoring, and compliance monitoring, as described below:

5.2.1 Baseline Monitoring

A considerable amount of baseline information was collected for the entire ECLRT study area, however, the level of detail of information and the timeframe involved presents only a snapshot of conditions as they are today. For these reasons, a monitoring program is required to gain a fuller understanding of baseline conditions within the study area.

5.2.2 Implementation Monitoring

A plan for implementing prescribed mitigation measures and environmental commitments will be prepared. The plan will include a schedule, resources and priorities for implementation. The plan will also serve as a reference for monitoring the completion of tasks. A review to determine the success of implementation will be conducted on a regular basis. An annual report will be prepared to document the degree of implementation of prescribed measures and set priorities for the following year.

5.2.3 Effectiveness Monitoring

Effectiveness monitoring will be performed at regular intervals to determine if impact predictions were accurate and if environmental protection measures are effective. If the results of effectiveness monitoring reveal unanticipated effects, contingency measures will be implemented to correct the situation.

5.2.4 Compliance Monitoring

Compliance monitoring will be conducted to ensure that construction activities do not contravene legislation and regulations and are in accordance with contract provisions.

Where standard monitoring procedures are known, they are identified in the following sections. A detailed monitoring plan will be prepared for the ECLRT prior to construction. Contingency measures, where appropriate, will be addressed as part of the detailed monitoring plan.

5.3 Natural Environment

5.3.1 Groundwater

5.3.1.1 Footprint Impacts

Potential Impacts

In the 2010 EPR, it was anticipated that the ECLRT facilities would not interrupt existing groundwater migration pathways, as permanent groundwater dewatering systems will not be used. The potential for groundwater impacts will be reviewed and documented in the Soil and Groundwater Management Strategy prior to construction.

Mitigation Measures

Contaminated groundwater will be managed in accordance with provincial legislation and regulations including the Ministry of the Environment's Guidelines for Use at Contaminated Sites in Ontario (MOE 1997). A Soil and Groundwater Management Strategy will be developed prior to construction.

Monitoring and Contingency

If excavations or property acquisitions are planned in areas of known or high potential for environmental impacts, additional environmental investigations (e.g. Phase 1 Environmental Site Assessments and Phase 2 Environmental Soil & Groundwater Investigations) will be conducted in accordance with provincial regulatory requirements to assess the environmental site conditions (i.e. in general accordance with O.Reg. 153/04 (i.e. to CSA standards), as amended), disposal requirements for soil, as well as health and safety requirements. Groundwater will be managed in accordance with provincial legislation and regulations including Soil, Ground Water and Sediment Standards for Use under Part XV.1 of the Environmental Protection Act, dated April 15, 2011. This may include management within the right-of-way depending on circumstances.

A monitoring program will be included in the Soil and Groundwater Management Strategy which will be developed prior to construction. Groundwater monitoring wells will be installed prior to construction.

A contingency plan will be developed prior to construction where appropriate.

5.3.1.2 Construction Impacts

Potential Impacts

The groundwater table is likely to be above the base of the proposed depth of alignment at many areas within the underground section of the ECLRT. Therefore, seepage cut-off and depressurization of aquifers will be required to control groundwater, stabilize the base of excavations and tunneling. It can be expected that groundwater will need to be controlled by methods such as pumping from sumps, educators or well points or in some cases by deep well dewatering systems. Care must be taken to prevent the removal of fine soil particles during pumping.

Mitigation Measures

There is potential to encounter contaminated groundwater. Further hydrogeologic assessments will be conducted at locations requiring dewatering to estimate discharge rates, predict impacts and evaluate treatment/discharge options. These studies are also needed to support the Ministry of the Environment's Permit to Take Water (PTTW) applications.

There is potential for buildings to have foundations built below the local water table, and a potential exists for these foundations to be affected by dewatering. Further investigation to determine the radius of influence of any required dewatering will be necessary to fully consider the impacts to nearby structures and infrastructure. Further mitigation plans will be developed prior to construction.

Monitoring and Contingency

Most cut-and-cover operations for the construction of stations will require dewatering to reduce groundwater pressure and lower groundwater levels to allow for construction on stable undisturbed and substantially dry subgrade. To avoid adverse effects such as settlement of buildings two types of monitoring are employed:

- Amount of Total Suspended Solids in the Dewatering Effluent – Unless required to be more stringent by the geotechnical engineer during design, is limited to 5 parts per million Total Suspended Solids. This monitoring is undertaken 12 hours after the commencement of pumping.
- Groundwater Monitoring Wells (piezometers) – The measurement of groundwater levels are taken from piezometers generally situated within areas of excavation. As part of the baseline monitoring, a minimum of 2 sets of readings prior to the start of dewatering will be taken. The monitoring of water levels will be conducted on a daily basis while dewatering systems remaining in operation. The monitoring program will include review and alert levels. If instrument readings exceed "review" levels, Metrolinx and its contractor will jointly assess the necessity of altering the method, rate or sequence of construction. At "alert" groundwater levels, Metrolinx can order

construction operations to cease until the necessary mitigation measures are undertaken.

Recognizing the urban environment within which this project occurs, the disposal of groundwater will be to an existing storm or sanitary sewer and will be arranged by the contractor. The conditions and resulting monitoring and reporting requirements will be the subject of a water disposal permit with the City of Toronto and monitoring will include sampling and analysis carried out in accordance with the procedures, modified or validated by the City, as set out in the City document entitled "Quality System, Analytical Methods Manual" as it may be amended from time to time. [Amended 2002-10-31 by By-law No. 855-2002].

5.3.1.3 Operations and Maintenance Impacts

The proposed changes to the 2010 EPR are not expected to result in any operations and maintenance-related impacts to groundwater.

5.3.2 Surface Water

5.3.2.1 Footprint Impacts

Potential Impacts

The general direction of roadway overland flow routes and the drainage patterns will not be altered and will be maintained as they currently occur. With the new ECLRT Bridge of approximately 11.0 m wide and the extension of the Eglinton Avenue Bridge deck to the south, the increase in impervious area in the Black Creek Catchment at the Eglinton Avenue Bridge crossing is approximately 0.34 ha. The total drainage area of the Black Creek Catchment at the Eglinton Avenue Bridge crossing is approximately 5310 ha. The increase in impervious area is insignificant and there will be no significant changes in peak flows due to the proposed ECLRT. Therefore, specific techniques to reduce the quantity and rate of runoff are not required. Details of the Stormwater Analysis for the Black Creek crossing are presented in **Appendix A**.

Similarly, approximately 0.35 ha of impervious area is added to the Humber River Catchment at the Eglinton Avenue Bridge crossing. The total drainage area of the Humber River Catchment at the Eglinton Avenue Bridge crossing is approximately 81,930 ha. The increase in impervious area is insignificant and there will be no significant changes in peak flows due to the proposed ECLRT. Therefore, specific techniques to reduce the quantity and rate of runoff are not required.

A Stormwater Management System (SWM) is required at the MSF site, which will be consistent with the Toronto Green Development Standard, including the provision for green roofs. Current MSF design standards require imbedded track, and a network of paved roads and parking areas, the overall site will be highly impervious. The SWM system will be designed on this basis, with appropriate

storage and outlet controls. The SWM is planned to outlet to the 1200 mm diameter storm sewer that is located on Industry Street.

Mitigation Measures

The storm runoff will be discharged to Black Creek and the Humber River. The SWM system will be designed to achieve an Enhanced Level of water quality treatment, as per the Ministry of the Environment's Stormwater Management Planning and Design Manual (2003) and using low impact development techniques where feasible. Due to land constraints on Eglinton Avenue, oil grit separators will be designed to achieve the desired level of water quality treatment.

An on-site SWM pond is protected for within the current design of the MSF site to control both water quality and quantity of stormwater discharge before the connection to the municipal storm sewer network. The SWM pond will be further defined as part of the detailed design phase of the project.

Monitoring and Contingency

The City of Toronto operates and maintains a network of rainfall gauges. The information is used to determine sewer sizes and the influence of storms of various sizes on the existing sewer system and on streams (floods).

The City collects and analyses water samples from sewers at sewer outfalls, in stream and at the lakefront for a variety of management reasons. Sample results from sewer outlets are used to determine trace and correct the discharge of prohibited pollutants to its sewer systems.

5.3.2.2 Construction Impacts

Potential Impacts

In-stream works are not proposed at any of the crossings therefore changes to the fluvial integrity of the channel are not anticipated. Measures will be put in place during all phases of construction to minimize disturbance to watercourses from inputs of soil, concrete dust / washwater and other materials. Measures will be included in the design process to ensure that storm water impacts will be minimal and that water features are protected as part of the proposed construction.

In areas where construction sites or roadways are located in proximity to watercourses, the use of minor grading to direct surface runoff away from the aquatic habitats is recommended. This generally consists of the slope leading to a very shallow swale created by a low ridge of topsoil. The vegetative swale is configured to direct surface runoff along the swale back away from the edge.

If uncontrolled, the construction activities associated with Eglinton Avenue widening could result in increased rates of erosion and sedimentation within and adjacent to the site area and tributaries to major watersheds. The potential environmental impacts from increased erosion and sedimentation include:

degradation of water quality; destruction of fisheries habitat; and, increased flooding potential. Erosion and sedimentation processes are typically accelerated due to construction activities.

Mitigation Measures

In order to prevent and minimize the release of sediment to watercourses, various sediment and erosion control measures will be implemented during LRT construction, such as:

- Environmental protection measures will be installed in areas adjacent to watercourses. Erosion and sediment control measures will be prepared in accordance with the TRCA Guidelines "Erosion and Sediment Control for Urban Construction Sites";
- During the design process, a sediment and erosion control plan will be developed utilizing Best Management Practices;
- Any required structure work will be isolated from the open watercourse and conducted "in the dry";
- Any required dewatering operations for structure work should be outlet onto a grassed area at least 30m from the watercourse, a settling pond, and/or wetland filter bag. A Permit to Take Water application will be submitted to the Ministry of the Environment to undertake any dewatering that is over 50,000 L/day;
- Any effluents derived from concrete cutting/grinding/forming will be collected and managed in accordance to provincial standard specifications;
- Following the completion of final site grading and topsoil application, a roadside seed mixture (Ontario Provincial Standard Specification, OPSS 572) and perennial rye grass nurse crop seed should be applied to all exposed soils. For exposed soils located adjacent to watercourses, immediately following seed application a straw erosion control blanket (installed as per OPSS 572.05.07, 572.05.08 and 572.07.04.04) should also be installed along the embankment slopes;
- All necessary steps should be taken to prevent dust nuisance resulting from Contractors' work. Dust suppression will be undertaken as per OPSS 501 and 506;
- In order to mitigate the potential impacts associated with excess material storage (pocket), no stockpiles shall be located closer than 30m from water features, in accordance with OPSS 180. Waste and excess materials will be dealt with in accordance with OPSS 180, General Specification for the Management and Disposal of Excess Material. Waste generated on-site, which requires off-site removal should be in accordance with Ontario Regulation 347 under the Environmental Protection Act which provides for the transportation and processing of hazardous and non-hazardous waste;

- To prevent surface water contamination during construction, care will be taken to avoid accidental spillage or discharge of chemical contaminants (i.e. gasoline, oils and lubricants). Refuelling should take place no closer than 30 metres from water features. Furthermore, proper containment, clean up and reporting, in accordance with provincial requirements, should be completed in the event of a spill;
- All exposed slopes shall be treated with topsoil and seeding, mulching or sodding;
- A significant step towards controlling erosion during construction is to minimize the amount of disturbed ground cover particularly near watercourses;
- Exposed areas should not be left uncovered longer than necessary and ground cover should be re-established as quickly as possible; and
- Sediment control measures will be installed prior to construction, monitored during the construction and replaced as necessary.

Monitoring and Contingency

Prior to construction, the contractor is required to submit comprehensive environmental controls and methods plan to address, among other elements, effluent (water) control. The effectiveness of this plan is monitored during a demonstration of the process that is undertaken before the work can commence on site. A representative of Metrolinx will undertake monitoring of plan compliance.

As a component of erosion and sedimentation control, environmental inspections of the construction site will be conducted. Environmental inspections will be conducted to assess the performance of erosion and sedimentation control measures and identify any required maintenance. The frequent inspections will also permit the identification of localized erosion and sedimentation control issues that require site specific attention. A detailed erosion and sedimentation control plan will be prepared during later design phases.

During the course of construction, there is a risk of spills or discharges of pollutants or contaminants by the contractor. The following contingency plan will be put in place:

- Names and telephone numbers of persons in local municipalities and MOE to be notified forthwith of a spill;
- Names and telephone numbers of representatives of fire, police and health departments of local municipalities who are responsible to respond to emergency situations;
- Names and telephone numbers of companies experienced in control and cleanup of hazardous materials that will be called in an emergency involving a spill;

- Contingency plan shall include provisions for hazardous or unknown materials (e.g. puncturing a drain during excavation);
- Containment and control of spill and clean up procedures are to be initiated immediately to mitigate environmental damage, while awaiting additional assistance; and
- Ensure materials and products are on site with which temporary repairs can be made to broken pipelines or other services so emissions of pollutants can be controlled and stopped.

5.3.2.3 Operations and Maintenance Impacts

Provided the mitigation measures discussed in **Section 5.3.3,** the proposed changes to the 2010 EPR are not expected to result in any operations and maintenance-related impacts to surface water.

5.3.3 Fish and Fish Habitat

5.3.3.1 Footprint Impacts

Potential Impacts

In general terms, any project that involves road widening and associated bridge / culvert improvements over a watercourse, drainage modifications, or generation of stormwater runoff has the potential to result in a Harmful Alteration, Disruption or Destruction (HADD) of fish habitat. The 2010 EPR documents potential impacts to the watercourses along the ECLRT. Black Creek is the only watercourse within the study area assessed for the EPR Addendum.

It should be noted that the Natural Environment Existing Conditions, Impact Assessment, and Mitigation Recommendations study (see **Appendix B**) undertaken in 2012 did not evaluate or update potential impacts to aquatic SAR. Impacts and mitigation measures for aquatic Species at Risk (SAR) in the 2010 EPR remain unchanged.

Impacts to fish and fish habitat associated with the proposed shift of the ECLRT alignment from the centre median of Eglinton Avenue West to the north side of Eglinton Avenue West right-of-way and new elevated ECLRT structure over Black Creek are anticipated to be similar to those discussed for the proposed bridge widening identified in the 2010 EPR. As the new proposed bridge structure will span the bed and banks of the watercourse with no encroachment required in the wetted portion of the channel, direct impacts to fish and fish habitat are not anticipated as a result of the proposed works.

Mitigation Measures

The Humber River floodplain and crossing of Black Creek are within the regulated areas of the City of Toronto's Ravine and Natural Feature Protection Bylaw and TRCA's Ontario Regulation 166/06, and a permit will be needed before the project works can be initiated. The TRCA will also review the project

as it relates to Fish Habitat under their Level III agreement with Fisheries and Oceans Canada (DFO) to determine whether there is a potential for the proposed works to result in a HADD of fish habitat. As the proposed elevated LRT bridge structure will span the bed and banks of the watercourse with no encroachment in the wetted portion of the channel, it is anticipated that a HADD will not result from the proposed works and the TRCA will issue a Letter of Advice accordingly.

Monitoring and Contingency

Any additional mitigation measures, monitoring and commitments agreed to in consultation with provincial and federal agencies will be complied with.

5.3.3.2 Construction Impacts

Potential Impacts

Potential impacts to fish or fish habitat as result of potential surface water impacts during construction. Please refer to **Section 5.3.2** for additional information.

Mitigation Measures

Implement mitigation measures as identified in **Section 5.3.2**.

Implement best management practices identified in the 2010 EPR during construction to reduce the potential for impacts to fish and fish habitat.

All works will be completed in accordance with the *Fisheries Act*, the *Endangered Species Act*, and the *Species at Risk Act*.

Monitoring and Contingency

Implement monitoring and contingency plans as identified in **Section 5.3.2**.

Any additional mitigation measures, monitoring and commitments agreed to in consultation with provincial and federal agencies will be complied with.

5.3.3.3 Operations and Maintenance Impacts

The proposed changes to the 2010 EPR are not expected to result in any operations and maintenance-related impacts to fish and fish habitat.

5.3.4 Vegetation and Vegetation Communities

This section provides updates to **Sections 5.3.4** and **5.3.5** of the 2010 EPR (Communities / Ecosystems and Populations / Species) to reflect changes addressed by this EPR Addendum.

In support of this EPR Addendum, an impact assessment was conducted to inform the Natural Environment Existing Conditions, Impact Assessment and Mitigation Recommendations Memo for the study area, including the MSF site (see **Appendix B**).

5.3.4.1 Footprint Impacts

The re-alignment of the LRT to the right-of-way north of Eglinton Avenue may cause the loss of small portions of cultural woodland, one bordering the railway track and the other on the west side of Black Creek. Construction of the MSF and associated access tracks will require the removal of about 2.8 ha of the vegetation at the northwest corner of Black Creek Drive and Eglinton Avenue (see **Figure 5-1**). Specifically, losses will be to most of the cultural thicket / cultural woodland fencerow along the west side, two entire fragments of cultural woodland at the north end, most of the large meadow dominated area, all of the cattail marsh, and most of the band of cultural woodland along and extending north of Eglinton Avenue.

5.3.4.2 Construction Impacts

Potential Impacts

If not properly protected, vegetation not impacted by the footprint of the ECLRT may be directly impacted during construction.

Potential indirect impacts to vegetation include exposure to sediment and contaminant runoff from construction activities.

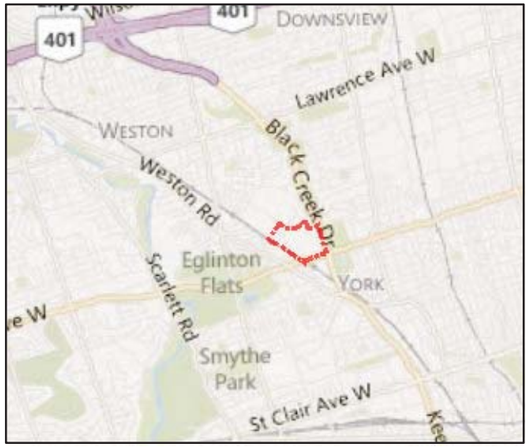
Mitigation Measures

Under the Ravine and Natural Feature Protection Bylaw, a permit is required to dump fill or refuse, or alter the grade, or injure or destroy any tree, in specified protected areas. There are other City of Toronto bylaws that give the same tree protection to park trees, street trees and certain trees on private land. On private land, trees that have a diameter at breast height of 30 cm or more are protected, and smaller trees are protected if they are part of a registered site plan agreement. Direction for adhering to the tree protection bylaws, including minimum protection zones, is provided in the City of Toronto's Tree Protection Policy and Specification for Construction Near Trees. *[Note: The City of Toronto does not have authority to issue permits where there is provincial or federal interest.]*

The project works may impact trees in protected areas, in parks, on the road allowance and/or on private land. In support of the bylaws, a tree inventory will be required for the locations where trees are likely to be impacted. Mitigation, restoration or compensation measures will be identified following the tree inventory and will be based on detailed site assessments undertaken during the detail design phase, refined to the satisfaction of the issuer of the permit. Erosion and sediment control will be addressed as part of a comprehensive strategy for the entire Eglinton Crosstown LRT project.

All works must be completed in accordance with applicable legislation including, but not necessarily limited to, the *Fisheries Act, Migratory Birds Convention Act*, *Endangered Species Act* and *Species at Risk Act.*

Implement mitigation measures as identified in **Section 5.3.2.**



Legend

- Study Limits for Natural Environment Investigations
- Maintenance and Storage Facility (MSF) Site
- Vegetation Communities
- Proposed Vegetation Removal for MSF
- Proposed Vegetation Removal for Access Tracks
- Toe of Embankment Slope

ELC Code	ELC Description
CUM1-1	Dry-Moist Old Field Meadow
CUT1	Mineral Cultural Thicket Ecosite
CUW1	Mineral Cultural Woodland Ecosite
MAS2-1	Cattail Mineral Shallow Marsh

0 50 100 200 Metres

EGLINTON–SCARBOROUGH CROSSTOWN

MRC McCORMICK RANKIN A member of MMM GROUP

LEGEND:

DATE: DECEMBER 2012

SCALE: AS SHOWN

EGLINTON CROSSTOWN LRT
ENVIRONMENTAL PROJECT REPORT ADDENDUM

BLACK CREEK MSF VEGETATION REMOVALS

FIGURE 5–1

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Monitoring and Contingency

Implement monitoring and contingency plans as identified in **Section 5.3.2.**

It is possible that additional mitigation measures, monitoring, and commitments may be identified in consultation with relevant provincial and federal agencies. Any additional mitigation measures, monitoring and commitments agreed to will be complied with.

5.3.4.3 Operations and Maintenance Impacts

The proposed changes to the 2010 EPR are not expected to result in any operations and maintenance-related impacts to vegetation and vegetation communities.

5.3.5 Wildlife and Wildlife Habitat

This section provides updates to **Sections 5.3.4** and **5.3.5** of the 2010 EPR (Communities / Ecosystems and Populations / Species) to reflect changes addressed by this EPR Addendum.

In support of this EPR Addendum, an impact assessment was conducted to inform the Natural Environment Existing Conditions, Impact Assessment and Mitigation Recommendations Memo for the study area, including the MSF site (see **Appendix B**).

5.3.5.1 Footprint Impacts

Potential impacts to terrestrial wildlife related to impacts to vegetation and vegetation communicates. Please refer to **Section 5.3.4.1** for details regarding footprint impacts to vegetation and vegetation communities.

5.3.5.2 Construction Impacts

Potential Impacts

Wildlife using the Black Creek wildlife corridor may be disturbed by noise and vibration associated with construction of the elevated LRT bridge. Barn Swallows may nest under the Black Creek bridge as they have in previous years. Northern Rough-winged Swallow and three other species considered probable nesters may be nesting near the bridge. Recent rail corridor construction works in the vicinity of the bridge may deter nesting. At the MSF site, wildlife habitat may be eliminated or rendered unsuitable through construction of the MSF.

Mitigation Measures

The nests of most bird species are protected by the *Migratory Birds Convention Act*. Lands impacted by the project works should be monitored between May 1st and August 31st for active nests of bird species, and if they are observed it is recommended that they be monitored by a wildlife specialist to ensure that nesting activity continues. Potential disturbance may be sufficient to warrant the

prevention of nesting under Black Creek bridge and the erection of alternative nesting structures.

Caution should be exercised near Black Creek to avoid disturbing wildlife using this wildlife corridor. This is particularly important if Barn Swallows are nesting under the bridge. Implementation of mitigation measures may be sufficient such that a permit under the *ESA* will not be required for Barn Swallow, Chimney Swift and/or Milksnake. Requirements associated with the *ESA* are to be confirmed in consultation with MNR prior to construction commencing.

All works must be completed in accordance with applicable legislation including, but not necessarily limited to, the *Fisheries Act*, *Migratory Birds Convention Act*, *Endangered Species Act* and *Species at Risk Act*.

Monitoring and Contingency

It is possible that additional mitigation measures, monitoring and commitments may be identified in consultation with relevant provincial and federal agencies. Any additional mitigation measures, monitoring and commitments agreed to will be complied with.

5.3.5.3 Operations and Maintenance Impacts

The proposed changes to the 2010 EPR are not expected to result in any operations and maintenance-related impacts to wildlife and wildlife habitat.

5.3.6 Designated Natural Areas and Parks

5.3.6.1 Footprint Impacts

Potential Impacts

Construction of relocating Eglinton Avenue West and elevated guideway in the study area along the ECLRT corridor will result in minor encroachment at two parks including: Coronation Park and Keelesdale Park. The LRT facilities proposed at each park are presented below.

- Coronation Park: Foundations for Elevated Guideway
- Keelsedale Park: Grading for Realignment of Eglinton Avenue West

Further, the construction of the MSF yard access tracks will require alteration of the valley wall adjacent to the former Kodak property, including removal of trees (addressed in **Section 5.3.4**), and excavation works.

Mitigation Measures

The ECLRT facilities will be positioned and configured to minimize intrusion into the parks to the extent possible. The ECLRT facilities will be designed to blend into their surroundings. Metrolinx will consult with City of Toronto Parks, Forestry and Recreation Division during detailed design to mitigate impacts on City of Toronto parks located along Eglinton Avenue.

In order to ensure that the slope of the valley wall is maintained during and after construction, retaining walls will be constructed along the MSF yard access tracks. Previous non-native fill material will be compacted and tested to ensure that it is sufficiently stable to support the proposed works on the former Kodak lands.

Monitoring and Contingency

A contingency plan will be developed prior to construction where appropriate.

5.3.6.2 Construction Impacts

Potential Impacts

The proposed location for the west temporary work site is on the south side of Eglinton Avenue, 200 m east of Black Creek Drive. The area is locally known as Keelesdale Park and the present land use consists of baseball diamonds, an indoor hockey arena and a grass soccer pitch. The soccer pitch is located adjacent to but separated from Eglinton Avenue by a cultural woodlot (CUW1), and is bordered by a small deciduous forest parcel (FOD2-1) to the east and a parking lot to the south. The majority of the work zone will be established on the soccer pitch, but will also require removal of approximately 0.105 ha. of cultural woodlot to accommodate the northern boundary of the work zone and the 'open shaft' access to the portal. The FOD2-1 vegetation community will not be affected. The soccer pitch will also be used as the tunnel boring machine launch site and as temporary material stockpiling and heavy equipment operations site resulting in temporary impacts to its recreational use.

Mitigation Measures

To ensure that the forested area remains undisturbed, the entire FOD2-1 vegetation community will be separated and isolated with a barrier to prevent encroachment by any construction related activity. Upon completion of the project, the soccer pitch will be re-instated to its present condition. The cultural woodlot (CUW-1) will also be restored to its pre-construction state as it will be replanted with suitable native species.

Monitoring and Contingency

A monitoring and contingency plan will be developed prior to construction where appropriate.

5.3.6.3 Operations and Maintenance Impacts

The proposed changes to the 2010 EPR are not expected to result in any operations and maintenance-related impacts to designated natural areas or parks.

5.3.7 Air Quality

5.3.7.1 Footprint Impacts

The proposed changes to the 2010 EPR are not expected to result in any footprint-related impacts to air quality.

5.3.7.2 Construction Impacts

Potential Impacts

A Construction Air Quality Assessment was undertaken by Novus Environmental Inc. in support of this EPR Addendum to evaluate the impacts of the revised ECLRT configuration in the study area (including the MSF site). A copy of the Construction Air Quality Assessment Report is provided in **Appendix C**.

Construction air quality impacts will primarily occur where exposed construction activities are conducted. The areas where exposed construction activities are anticipated to occur in the study area are:

- An approximate construction area of 15,100 m^2 between Jane Street and Keele Street for the construction of the light rail track; and
- An approximate construction area of 40,000 m^2 north of Eglinton Avenue between the CPR/CNR rail tracks and Black Creek Drive, for construction of the Maintenance and Storage Facility (MSF).

The area surrounding the exposed construction activities are bounded by a mixture of commercial and residential land uses. Land uses which are defined as sensitive receptors for evaluating air quality effects are:

- Health care facilities;
- Senior citizen long-term care facilities;
- Child care facilities;
- Educational facilities;
- Places of worship; and
- Residential dwellings.

The worst-case sensitive receptors locations relative to the exposed construction activities are noted in **Figure 5-2** as R1 through R4.

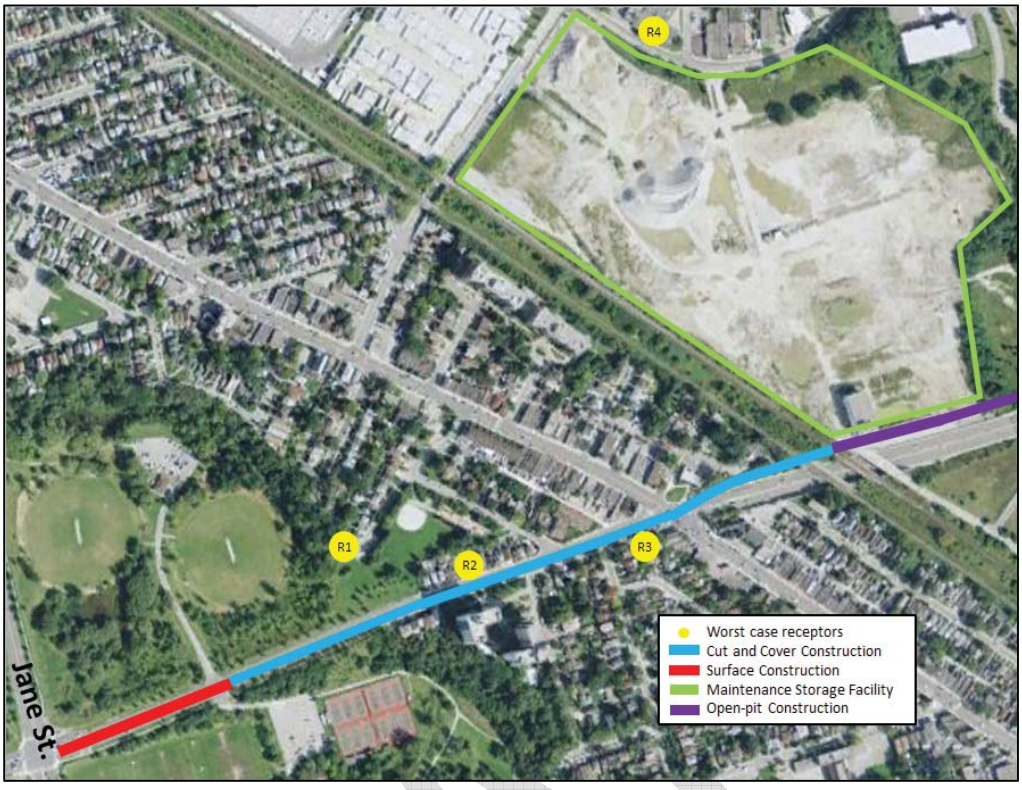


Figure 5-2: Worst-Case Sensitive Receptors (Construction Activities)

Construction activities may result in temporary, localized impacts to air quality. The two major sources of construction impacts to air quality are dust and exhaust emissions from construction equipment.

Results of the dispersion modeling are discussed in the Construction Air Quality Assessment Report found in **Appendix C**. Modelling was performed both with and without mitigation to show the improvements in ground level dust concentrations that can be achieved. Due to the large amount of dust generated during construction processes, mitigation is often required. It should be understood that the maximum predicted Total Suspended Particulate (TSP) concentrations were assessed using conservative assumptions and that it is anticipated that for the majority of time, the experienced TSP levels off-site will be substantially less than those presented in the Construction Air Quality Assessment Report.

Mitigation Measures

As documented in the 2010 EPR and the 2012 Construction Air Quality Assessment (**Appendix C**), best management practices will be implemented to prevent the potential release of dust and other airborne pollutants offsite.

A dust management plan will be developed by the contractor, and will incorporate the following mitigation techniques:

- Material wetting or chemical suppressants;

- Construction of barriers;
- Limiting exposed areas; and
- Equipment washing.

Different levels of mitigation may be required at different construction phases. The focus of the mitigation plan is to reduce the dust emissions from the material processing activities, the major contributor to total dust emissions, and not to reduce vehicle emissions.

Environment Canada's "Best Practices for the Reduction of Air Emissions from Construction and Demolition Activities" document will be followed for mitigation techniques, not only for dust but for other pollutants such as carbon monoxide and oxides of nitrogen as well (Environment Canada, 2005).

These types of controls aid in minimizing impacts to the environment during the construction phase. Night time construction activities will also be considered in order to reduce the higher emissions from vehicles that are slowed down by the reduced existing road capacity during the day. It is recommended that only water be used as a dust suppressant.

As noted in the 2010 EPR, reductions in greenhouse gases associated with the use of the ECLRT will far outweigh any short term increase in greenhouse gas emissions that are associated with construction activities.

A more detailed discussion of the construction-related mitigation modeling for sensitive air quality receptors including associated figures can be found in the Construction Air Quality Assessment located in **Appendix C**.

Monitoring and Contingency

As committed to in the 2010 EPR, air monitoring of crystalline silica, total dusts and other contaminants (as applicable) will be conducted as a check on the effectiveness on dust control measures. In particular, air quality monitoring will be conducted prior to, during or following construction as follows:

- When construction and/or demolition activities are likely to cause dust emission, air monitoring must be conducted prior to beginning activities to establish a baseline value for the quantity of suspended particulate matter in the air. During construction and/or demolition operations where dust is being created, air quality monitoring must be conducted to establish the level of particulate matter in the air. Following construction and/or demolition operations where dust was created, confirmatory tests must be conducted to quantify the level of particulate matter in the air.
- Construction Borne Particulate Matter within Existing Buildings – In instances where works are necessary to connect new works to existing buildings and stations and activities, such as sawcutting are required. Monitoring of airborne contaminants such as crystalline silica will be required to show that

these contaminants are below their respective time weighted average exposure values as indicated in Regulation 833.

- Appropriate adaptive management will be undertaken in response to findings from air quality monitoring.

5.3.7.3 Operations and Maintenance Impacts

Potential Impacts

The 2010 EPR describes how the operation of the ECLRT will result in significant reductions in emissions of oxides of nitrogen, volatile organic compounds and carbon monoxide along Eglinton Avenue compared to current conditions. The replacement of existing diesel powered buses that serve the ECLRT corridor and transfer of terminus points for some bus routes that are currently served from either the Eglinton Station or Eglinton West Station will result in a reduction in local air emissions.

There will be a need for more electricity to operate the ECLRT. However, even with the increased contaminant releases associated with electricity production, it is estimated that there will be a reduction of common air contaminants released in southern Ontario as a result of implementing the ECLRT. Further reductions are possible if private vehicle users become LRT riders.

The proposed Mount Dennis Bus Terminal will be a point source for exhaust emissions. Based on the number of buses to use this terminal at any one time, the duration that the buses will be idling on site, and the age of the bus fleet, it was determined that carbon monoxide (CO), total suspended particulate (TSP) and nitrogen oxide (NO) emission will be well below Canada Wide Standards (CWS) and Ontario Ambient Air Quality Objectives at these locations.

Given the scope of operational changes, operational air quality has been assessed for the study area. Potential impacts were assessed by predicting contaminant concentrations at sensitive land uses adjacent to the roadway for the existing, future no-build and future build scenarios. The maximum combined concentrations for all scenarios were below their respective MOE guidelines or CWS, with the exception of coarse Particulate Matter (<10 microns in diameter, PM_{10}) and TSP. Frequency analysis was undertaken in order to estimate the number of occurrences above the guideline and it was found that no additional days above the guideline for PM_{10} and TSP are predicted for the future build scenario from the existing scenario over a 5 year period. Results of the operational air quality assessment for the study area are discussed in the Operational Air Quality Assessment Report found in **Appendix C**.

Mitigation Measures

Mitigation measures are not warranted, due to the fact that no additional days above the guideline for PM10 and TSP are predicted for the future build scenario from the existing scenario over a five-year period.

Monitoring and Contingency

As warranted, a contingency plan will be developed prior to maintenance activities where appropriate.

5.3.8 Potential Contamination

5.3.8.1 Footprint Impacts

A Contamination Overview Study (COS) has been completed in support of this EPR Addendum. The COS report documenting impacts and related mitigation for the proposed new alignment and MSF for the ECLRT is available in **Appendix E**.

As described in **Section 3.0**, there will be footprint impacts associated with the realignment of the ECLRT between Jane Street and Black Creek.

Based on the information collected through the 2012 Contamination Overview Study from Jane Street to Black Creek (**Appendix E**), broad Areas of Potential Environmental Concern (APEC) were identified as noted as shown in **Figure 5-3**.

APECs with high potential for contamination correspond to locations within the study area where land uses consist of commercial / industrial operations that could impact soil and/or groundwater, including:

- Former Kodak lands (Maintenance and Storage Facility [MSF] lands) located northwest of the intersection of Black Creek Drive and Eglinton Avenue;
- The former waste disposal site located on the southeast corner of Black Creek Drive and Eglinton Avenue; and
- The rail corridor to the west of the former Kodak lands (MSF lands) which bisects the study area.

Two areas were found to be of moderate potential and represent small commercial / industrial properties suspected of using chemical compounds or performing activities that could impact soil and/or groundwater; but may not be directly impacted by road improvements. APECs with moderate potential for contamination include:

- A small commercial area near the intersection of Keele Street and Eglinton Avenue; and
- A small commercial area near the intersection of Weston Road and Eglinton Avenue.

All other areas are considered to have a low potential for site contamination. These areas are generally classified as open space, residential, or agricultural areas that are not suspected of using chemical compounds harmful to the environment or human health. Another low contamination potential of concern includes road salt impacts and the presence of spills along right-of-way, roads, and parking lots.

Mitigation Measures

As documented in the 2010 EPR, excess soil will require waste classifications in accordance with applicable regulatory requirements. Regulatory requirements in place at the time of construction and excess materials management guidelines and specifications (e.g. OPSS 180) will be used when developing an excess materials management plan.

A Soil and Groundwater Management Strategy will be developed prior to construction.

Generally, where impacts are anticipated to all or portions of properties with high or moderate potential for contamination, further environmental investigations will be completed for these properties (or portions thereof) that would be directly impacted by construction activities (i.e. tunneling):

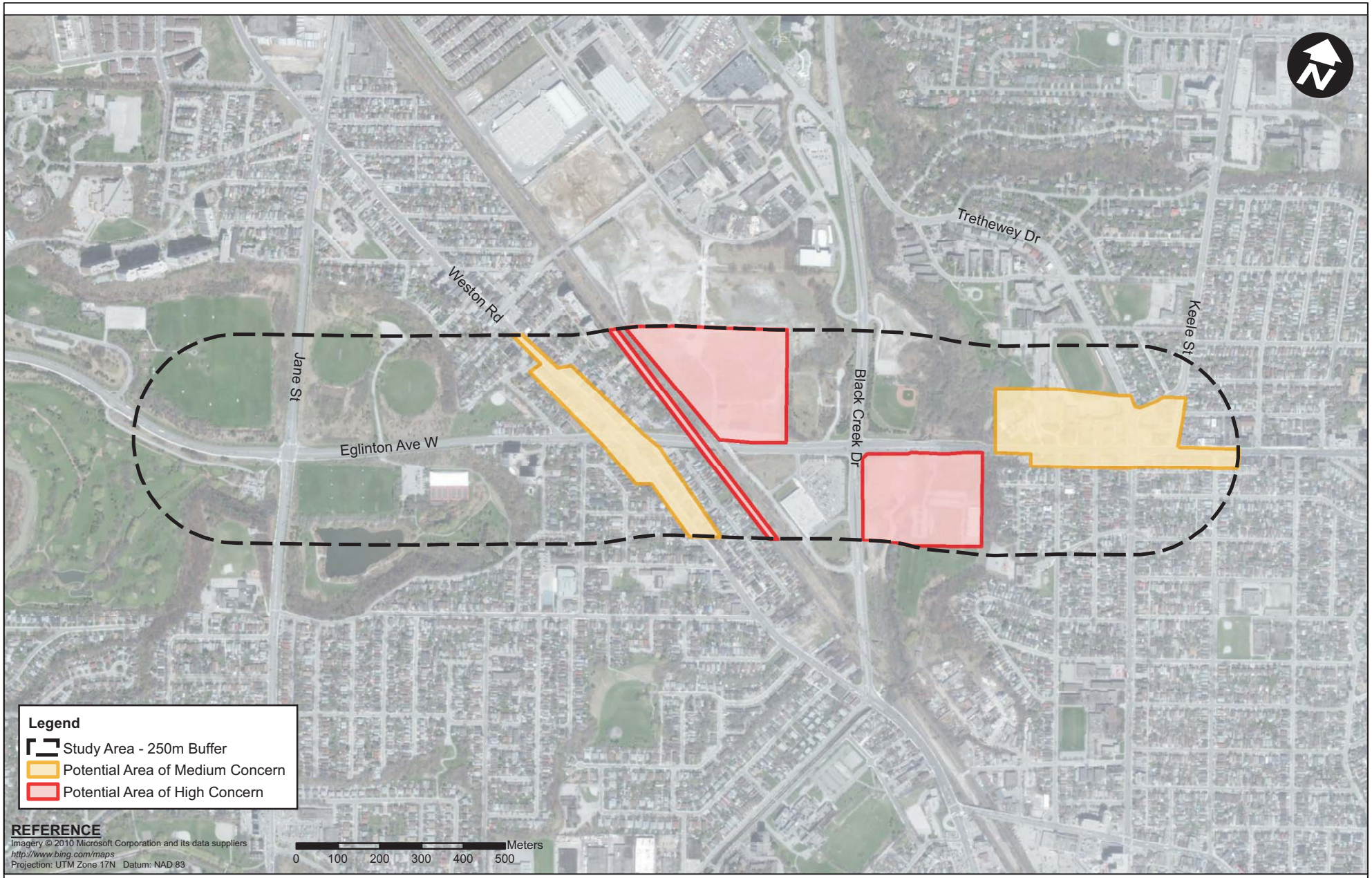
- If properties (or portions thereof) are to be acquired for the ECLRT construction, Phase I and Phase II Environmental Site Assessments will be conducted in general accordance with O.Reg. 153/04 (i.e. to CSA standards), as amended. If a Record of Site Condition is required for a property the corresponding studies will be completed in accordance with O. Reg. 153/04, as amended;
- If no purchasing is planned / required for the ECLRT construction on properties with high or moderate potential for contamination, an intrusive environmental investigation (soil and groundwater sampling and testing) may be conducted to confirm the presence or absence of soil / groundwater contamination. Where completed, this will assist with soil and water management plans and volumes (clean fill vs. contaminated soil) for the future construction; and
- For areas where spills were documented to have occurred within the study area, during construction of the ECLRT, soil testing for petroleum hydrocarbons (PHCs) will be completed along the road right-of-way where removal of soil from the road shoulders and road right of ways (i.e. excess materials) is required. If presence of PHCs is confirmed, appropriate contaminated soils management will be determined and implemented.

Since the former waste disposal site (southeast corner of Black Creek Drive and Eglinton Avenue) was closed more than 25 years ago, no ministerial approvals are required.

No additional environmental investigations are required for APECs with low potential for contamination.

Monitoring and Contingency

A monitoring program will be included in the Soil and Groundwater Management Strategy which will be developed prior to construction. A contingency plan will be developed prior to construction where appropriate.



EGLINTON–SCARBOROUGH CROSSTOWN

MRC McCORMICK RANKIN A member of MMM GROUP

DATE: DECEMBER 2012

SCALE AS SHOWN

EGLINTON CROSSTOWN LRT
ENVIRONMENTAL PROJECT REPORT ADDENDUM

AREAS OF POTENTIAL ENVIRONMENTAL CONCERN WEST

FIGURE 5–3

5.4 Socio-Economic Environment

5.4.1 Property Ownership

5.4.1.1 Footprint Impacts

Potential Impacts

The following table (**Table 5-2**) summarizes the properties required to construct the proposed ECLRT within the Addendum study areas, as well as the change in status of properties identified in the 2010 EPR. The preliminary property requirements identified in this Section will be confirmed during the detailed design/implementation phase of the study. Property requirements/impacts are presented as either:

- Partial: only a part of the property will have to be acquired by Metrolinx in order to implement the ECLRT; or
- Full: the entire property will have to be acquired by Metrolinx in order to implement the ECLRT.

Table 5-2: Updated Property Impact Summary

Property #	Street	Impact under proposed LRT plan	Impact under 2010 LRT plan	Public/ Private
36	Keelesdale Dr	Full	Not listed	Private
1	Hollis St	Full	Partial	Public
1151	Weston Rd	Full	Partial	Private
--	NE Eglinton Ave & Black Creek Dr	Partial	Not listed	Public
--	NW Eglinton Ave & Black Creek Dr	Partial	Not listed	Public
34	Keelesdale Dr	Full	Not listed	Public
--	Eglinton Ave & Keelesdale Dr	Partial	Not listed	Public
3500	Eglinton Ave W	Full	Not listed	Public
1148	Weston Rd	None	Full	Private
1160	Weston Rd	None	Full	Private
1162	Weston Rd	None	Full	Private
1168	Weston Road	None	Partial	Private
3531	Eglinton Ave W	None	Partial	Private
3533	Eglinton Ave W	None	Full	Private
3543	Eglinton Ave W	None	Partial	Private
3545	Eglinton Ave W	None	Not listed	Private

Property #	Street	Impact under proposed LRT plan	Impact under 2010 LRT plan	Public/ Private
3547	Eglinton Ave W	None	Partial	Private
3549	Eglinton Ave W	None	Partial	Private
3556	Eglinton Ave W	None	Full	Private
3558	Eglinton Ave W	None	Full	Private
3560	Eglinton Ave W	None	Full	Private
3562	Eglinton Ave W	None	Full	Private
3564	Eglinton Ave W	None	Full	Private
3566	Eglinton Ave W	None	Full	Private
3568	Eglinton Ave W	None	Full	Private
3570	Eglinton Ave W	None	Full	Private
3574	Eglinton Ave W	None	Full	Private
3576	Eglinton Ave W	None	Full	Private
3578	Eglinton Ave W	None	Full	Private
3580	Eglinton Ave W	None	Full	Private
3582	Eglinton Ave W	None	Full	Private
3584	Eglinton Ave W	None	Full	Private
3586	Eglinton Ave W	None	Full	Private
3588	Eglinton Ave W	None	Full	Private
3559-3561	Eglinton Ave W *Apartments	None	Partial	Private
--	Bijou Walk	None	Partial	Private
9	Bijou Walk	None	Full	Private
11	Bijou Walk	None	Full	Private
--	Bijou Walk	None	Partial	Private
7	Bijou Walk	None	Full	Private
5	Bijou Walk	None	Full	Private
3	Bijou Walk	None	Full	Private
1	Bijou Walk	None	Full	Private

Mitigation Measures

Per the 2010 EPR, property acquisition required for this project will be undertaken by Metrolinx. In acquiring property, Metrolinx balances community need and the rights of the property owner. The objective is to ensure that individual rights are respected and protected and to provide fair compensation within the framework of the Expropriations Act for any property acquired or affected by civic projects. The acquisition process emphasizes negotiation and the achievement of a mutually satisfactory agreement between Metrolinx and the owner. If necessary, in order to protect the ability to proceed with the ECLRT project, expropriation may be required to acquire the necessary property. In general, property acquisition uses the following steps:

- Metrolinx contacts the property owner to indicate its interest in the property and to identify issues and concerns;
- Metrolinx conducts legal surveys, appraisals, environmental site assessments and other property-related assessments;
- An offering price is discussed. If a tentative agreement is reached, an Offer to Sell is signed by the owner. The Offer is then sent to Metrolinx for approval and acceptance;
- If discussions do not result in an agreement, Metrolinx initiates the expropriations procedures. The expropriation process may be initiated while negotiations are occurring;
- If expropriation is pursued, the owner has a right to an independent inquiry called a Hearing of Necessity, which determines whether the property requirements are fair, sound and reasonably necessary;
- Metrolinx approves the settlement/expropriation, and acquires the property; and
- If expropriated, the owner has the right to have compensation payable referred to arbitration at the Ontario Municipal Board.

The objective of the Expropriations Act is to put tenants and property owners in the same position that they were in prior to the beginning of the civic project directly affecting their properties. Compensation is determined having regard for the Expropriations Act by experienced, qualified appraisers and other experts. Compensation is generally based on three factors:

- Market Value – Market value is defined as "the amount that the land will be expected to realize if sold on the open market by a willing seller to a willing buyer." The date of expropriation is usually determined as the date to determine market value.
- Damages Attributable to Disturbance – These refer to the economic loss suffered by an owner as a result of having to vacate expropriated property. This can include moving costs, temporary accommodation, redundant furnishings, or loss of business revenues and profitability. Compensation for damages of this type is determined after expropriation.
- Damages for Injurious Affection – Injurious affection is sometimes referred to as "consequential damages." It has very precise and limited applications according to the law and can include items such as reduced market value and increased business operating expenses. Injurious affection is usually determined after expropriation.

The total property acquisition process and resulting compensation is intended to leave the affected owner "whole" and thereby mitigating the negative impact.

Partial property takings required include underground easements and surface facilities such as station entrances. Metrolinx will conduct a Property Protection

Study during the detailed design of the ECLRT, which will determine detailed property requirements, including temporary construction easements. The acquisition of these properties will follow the same principles described above.

Where properties to be displaced form a continuous development of retail / business streetscape, the displacement facility will ensure the continuation of the existing street wall (with respect to height setback and general architectural characteristics).

Any brownfield sites will be managed in accordance with the Ontario Regulation 153/04 as amended. A Designated Substances Surveys for any buildings or structures which require demolition will be undertaken during the design phase.

5.4.1.2 Construction Impacts

Potential Impacts

Temporary property easements will be required during the construction phase to establish work zones, material laydown areas, equipment maintenance/storage (pocket) and to obtain access for construction activities.

Mitigation Measures

Metrolinx will negotiate temporary construction easements with property owners on a case-by-case basis following the procedures described in **Section 5.3.8**. Following construction, Metrolinx will reinstate lands to pre-construction conditions.

Monitoring and Contingency

A contingency plan will be developed prior to construction where appropriate.

5.4.1.3 Operations and Maintenance Impacts

The proposed changes to the 2010 EPR are not expected to result in any operations and maintenance-related impacts to property ownership.

5.4.2 Noise and Vibration

5.4.2.1 Footprint Impacts

The proposed changes to the 2010 EPR are not expected to result in any footprint-related impacts to noise and vibration.

5.4.2.2 Construction Impacts

Potential Impacts

The noise impacts of the ECLRT corridor were assessed as part of the 2010 EPR. The 2010 EPR provides the environmental noise and vibration impact assessment, conducted by J. E. Coulter Associates Ltd., dated February 2010.

As indicated in the 2010 EPR, much of the noise resulting from construction activity will be that typical of a highway or road widening, but overall duration of the construction activity will be significant: however, the impact to a specific area will be comparatively short during the course of construction as construction will progress from one area to the next.

A review was undertaken to update the 2010 Noise and Vibration Impact Assessment with respect to the proposed new alignment for the ECLRT as well as the Maintenance and Storage Facility (MSF). A Noise and Vibration Assessment was prepared by Novus Environmental Inc. in support of this EPR Addendum. The report examines the noise and vibration effects of the revised LRT configuration and the MSF, and can be found in **Appendix D**.

Noise sensitive points of reception include but are not limited to:

- Permanent and seasonal residences;
- Hotels, motels, campgrounds;
- Noise sensitive institutional uses such as hospitals, daycares, nursing homes, and schools; and
- Places of worship.

The proposed LRT line within the study area will consist of at-grade, tunnel, and elevated sections. The LRT line will run along or to just to the north of the existing Eglinton Avenue alignment. In undertaking the review of potential noise and vibration impacts, the study area has been broken up into four sections:

- Jane Street to Western Portal, which examines impacts from the western study limit (approx. Station 104+700) to the tunnel portal at approx. Station 105+000.
    - Park land borders Eglinton Avenue to the north and south.
- Tunnel Section, which examines impacts from the tunnel section, from the western portal to the Mount Dennis Station (from approx. Station 105+000 to approx. Station 105+600).
    - Along both sides of Eglinton Avenue, there are residential and commercial properties, with high-rise residential just east of the proposed western portal.
    - At the intersection of Eglinton Avenue and Weston Road, there is a bank, and two churches.
    - At the intersection of Eglinton Avenue and the CP/GO Rail line, there is a daycare which will be acquired as part of this project.
- MSF site and Stations, which examines impacts surrounding the MSF, including impacts from the Bus Station, Passenger Pick-Up and Drop-Off (PPUDO), Mount Dennis Station, and Vents.
    - Eglinton Avenue in this area is significantly in-cut.

  - There is a CP/GO Rail line bordering the western edge of the proposed MSF property.
  - Along the southwestern border of the proposed MSF property, there are residential properties, with two high-rise residential properties south of the western corner of the proposed site.
  - To the north of the MSF, along Industry Street, there is a church.
  - Southeast of the proposed site, is Keelesdale Drive, which is to be closed as part of this project.

- Mount Dennis to West of Keele Street, which examines impacts from approx. Station 105+900 to the eastern study limit (approx. Station 106+400).
  - Eglinton Avenue is significantly in-cut from Weston Road to Black Creek Drive.
  - Eglinton Avenue is bordered by park land for the majority of this section.
  - To the south of the intersection of Eglinton Avenue and Black Creek Drive there is a No Frills.
  - East of the proposed West Launch Shaft, there are residential properties to the south of Eglinton, and the City of York Museum to the north.

The following provides an overview of the noise and vibration impacts associated with construction in the study area. The full Noise and Vibration Assessment Report including locations of noise sensitive receptors and results of the noise modelling can be found in **Appendix D**.

Noise

Jane Street to Weston Portal

Surface construction will be required in the area. Above-ground construction activity may include:

- Removal of overburden;
- Front end loaders and trucks for removal of material from the site; and
- Backfilling, finishing, repaving, and landscaping.

Construction noise levels will vary over time, as the activities at the site change.

Tunnel Section

Cut-and-cover construction will be required along the majority of the Tunnel Section. Cut-and-cover construction activity may include:

- Installation of secant or soldier piling, to hold up the sides of excavations;

- Removal of overburden, excavation of foundations and excavation for vent shafts and stairway shafts;
- Front end loaders and trucks for removal of material from the site;
- Concrete trucks and pumps for foundation and building construction; and
- Backfilling, finishing, repaving, and landscaping.

Construction noise levels will vary over time, as the activities at the site change.

Black Creek MSF and Mount Dennis LRT Station

Surface construction will be required throughout the MSF and Stations area. Construction activity may include:

- Front end loaders and trucks for removal of material from the site;
- Concrete trucks and pumps for foundation and building construction; and
- Backfilling, finishing, repaving, and landscaping.

Construction noise levels will vary over time, as the activities at the site change.

Mount Dennis Station to West of Keele Street

The first stage of construction will involve the excavation of the TBM launch portal. This will involve the installation of excavation shoring, soldier piles, and/or secant piles, followed by excavation. Once the TBMs are in place and operating, approximately 10 trucks per hour will be used to ship off-site the material excavated by the units. TBM excavation will take approximately 3 years to complete.

Cut-and-cover and open construction will be required for the remainder of this section. Construction activity may include:

- Installation of secant or soldier piling, to hold up the sides of excavations;
- Removal of overburden, excavation of foundations and excavation for vent shafts and stairway shafts;
- Front end loaders and trucks for removal of material from the site;
- Concrete trucks and pumps for foundation and building construction; and
- Backfilling, finishing, repaving, and landscaping.

Construction noise levels will vary over time, as the activities at the site change.

Vibration

Under the City of Toronto Vibration Bylaw, the construction vibration zone of influence is the area where vibration from construction activity is likely to exceed 5 millimetres per second peak particle velocity (mm/s ppv).

Vibration from tunnel boring in the area should be less than 5 mm/s ppv at all building foundations. Vibration from pile driving and other general construction activities will not affect any surrounding structures. A review of the surrounding land uses indicates no particularly vibration sensitive uses in the area.

Mitigation Measures

The 2010 EPR lists the applicable provincial and municipal guidelines with regard to construction noise and vibration.

Provincial guidelines restrict maximum allowable sound levels for equipment used in certain construction activities. Municipal bylaws place restrictions on the hours of operation for all construction activity: in particular, construction is limited from 7:00 AM to 11:00 PM on weekdays, with more stringent restrictions on weekends and holidays. If construction activities occur outside the hours of operations, special exemptions need to be obtained from the City of Toronto and residents in the area must be notified several weeks in advance of the construction activities.

Noise

To minimize the potential for construction noise impacts associated with the new alignment in the study area, the following provisions will be written into the contract documentation for the contractor:

- Construction will be limited to the time periods allowed by the locally applicable bylaws (7:00 AM to 11:00 PM, except in the case of emergencies). If construction activities are required outside of these hours, the Contractor must seek permits / exemptions directly from the City of Toronto in advance.
- There will be explicit indication that Contractors are expected to comply with all applicable requirements of the contract and local noise by-laws. Enforcement of noise control by-laws is the responsibility of the Municipality for all work done by Contractors.
- All equipment will be properly maintained to limit noise emissions. As such, all construction equipment will be operated with effective muffling devices that are in good working order.
- The Contract documents will contain a provision that any initial noise complaint will trigger verification that the general noise control measures agreed to, are in effect.
- In the presence of persistent noise complaints, all construction equipment will be verified to comply with MOE NPC-115 guidelines.
- In the presence of persistent complaints and subject to the results of a field investigation, alternative noise control measured may be required, where reasonably available. In selecting appropriate noise control and mitigation measures, consideration should be given to the technical, administrative and economic feasibility of the various alternatives.

- All blasts will be designed to meet any applicable overpressure and vibration limits established by the MOE in Publication NPC-119 and by the MTO in OPSS 120.

Vibration

Under the terms of the City Vibration By-law, a vibration control form will be provided with a Building Permit or Demolition Permit application.

Monitoring and Contingency

Pre-construction consultation, vibration monitoring, and site inspections will likely be required. Monitoring will be required during construction.

As indicated in the 2010 EPR, noise levels for nearby sensitive uses (such as residential or institutional) will have specific monitoring locations and maximum noise levels. These levels and construction activities that may generate exceedences will be determined prior to construction.

Vibration resulting from construction will be monitored using seismographs. Vibrations will be monitored at locations at various distances from work operations and at critical structural or utility locations. As part of the baseline monitoring, a minimum of 3 consistent sets of readings will be taken prior to the start of work. Metrolinx will then continuously monitor ambient vibration levels during construction.

The monitoring program for both noise and vibration will include review and alert levels. If instrument readings exceed "review" levels, Metrolinx and its contractor will jointly assess the necessity of altering the method, rate or sequence of construction. At "alert" levels, Metrolinx can order construction operations to cease until the necessary mitigation measures are undertaken.

Similarly, vibration during the tunnelling process will require monitoring.

In the event that instrument readings reach "alert" levels, (as to be defined on a structure-specific basis in the construction contract documents), Metrolinx site supervisory staff will order construction operations to cease and take necessary actions to mitigate unacceptable movements, including, but not limited to alternative construction methods or construction equipment.

5.4.2.3 Operations and Maintenance Impacts

Potential Impacts

Surface Operations

Noise from ECLRT surface operations in the study area is predicted to meet the requirements of the applicable MOE/TTC guideline limits at all noise sensitive locations. No further investigation of operational noise mitigation is required.

Ventilation Noise

Based on the "generic" sound power emission data and silencer insertion loss data used in the Noise and Vibration Assessment (**Appendix D**), the emergency fire ventilation fans are predicted to meet the applicable MOE NPC-205 guideline limits at all noise sensitive locations. Should noise emissions or operations vary significantly from those outlined above, noise impacts should be reassessed to assure compliance with all relevant legislative requirements.

Black Creek MSF Operations

Based on the modelled noise impacts from MSF activity, noise impacts are not anticipated. However, it is recommended that Heating, Ventilation, and Air Conditioning (HVAC) equipment be chosen in order to minimize impacts at surrounding noise sensitive areas. HVAC selection recommendations are provided in **Appendix D**. There is the potential for wheel squeal to occur at some turns within the Black Creek MSF. If observed, wheel squeal will be addressed through mitigation measures as outlined in **Appendix D**.

Bus Station and PPUDO

Bus activity at the proposed Bus Station is anticipated to lead to noise levels exceeding guideline limits at some locations (see additional detail in **Appendix D**). Mitigation is recommended to deal with noise impacts from bus activity.

Mitigation Measures

Noise and vibration mitigation measures for sections of the ECLRT outside of this addendum's study area are provided in the 2010 EPR.

Bus Station and PPUDO

Potential options for mitigating stationary source noise impacts include the installation of noise barriers surrounding the Bus Station, and/or upgrading the currently planned noise barriers to the west of the existing CP Rail / GO Transit rail line. Two potential mitigation options are:

- Option 1: 3 barriers surrounding the proposed Bus Station (7.0 m, 4.5 m, and 5.0 m)
- Option 2: 1 barrier to the northwest of the proposed Bus Station (7.0 m), and 1 upgraded GO Transit barrier to south of Eglinton Avenue

Either of the above mitigation options will lead to compliance at surrounding noise sensitive receptors. However, the specific design of mitigation will be considered in detail during the detailed design phase of the project.

Monitoring and Contingency

As warranted, a contingency plan will be developed prior to maintenance activities.

5.4.3 Land Use

5.4.3.1 Footprint Impacts

The proposed changes to the 2010 EPR are not expected to result in any footprint-related impacts to land use designations.

5.4.3.2 Construction Impacts

Potential Impacts

The ECLRT will enhance this accessibility with improved transit service, bringing more patrons to and along the corridor. By stimulating transit oriented development along the corridor, the ECLRT will attract more business activity, resulting in positive economic benefits.

As noted in the 2010 EPR, experience from other large LRT projects in the City has suggested that an important business issue is the possible reduced vehicle access to the area and potential loss of on-street parking. The design of the project has been developed to minimize these impacts. Construction will be accelerated as much as possible to reduce the construction period in order to minimize construction related impacts to residents and businesses. Auto and transit traffic will be maintained throughout the construction period with a minimum of a single lane of travel in each direction. Pedestrian access may be detoured at times but will also be maintained throughout construction. Every attempt will be made to replace any short-term parking loss for individual homes and businesses.

Access to businesses will be modified during construction activities.

Mitigation Measures

As noted in the 2010 EPR, Metrolinx will form a “Construction Liaison Group” in active construction zones during construction to provide quick access to construction related information, specifically schedule and timing information for local business owners and residents. The Construction Liaison Groups will be made up of Metrolinx and Contractors staff who will meet regularly on site. Business owners and residents directly impacted by the current/future construction activity will be invited and encouraged to attend these meetings where the day to day issues affecting their home/business will be discussed and resolved. Issues such as business deliveries, local parking, and garbage pick-up will often be topics of concern. Further, construction schedule and activity timing is also a prime topic. Besides the Construction Liaison Group, Metrolinx will undertake prior to each phase of construction, a comprehensive public awareness campaign. Keeping the area up to date and well informed in advance of construction can dramatically reduce the inevitable disruption brought about by this project.

Monitoring and Contingency

A public consultation plan, including information on how the public can raise issues/concerns, will be developed during the design phase.

Any complaints received will be investigated and resolved in an effective and efficient manner.

5.4.3.3 Operations and Maintenance Impacts

The proposed changes to the 2010 EPR are not expected to result in any operations and maintenance-related impacts to land use designations.

5.4.3.4 Construction Impacts

Potential Impacts

As noted in the 2010 EPR, the overall ECLRT project will result in the displacement of approximately 1.8 million m^3 of surplus excavated material generated by tunneling and cut-and-cover construction at the portals, tunnel and stations. The extension of the underground section between Mount Dennis Station and the Jane Street portal will result in approximately 75,000 m3 of additional surplus excavated material. The Black Creek MSF will be designed to minimize the generation of surplus excavated material.

On busy urban streets such as Eglinton Avenue and the major north-south arterials that already carry a large proportion of truck traffic, the addition of trucks to remove the excavated material is considered a negligible increase in truck traffic. Truck haul routes will be identified during detail design as part of traffic management plans.

Mitigation Measures

For the study area, trucks hauling materials associated with the ECLRT will be restricted from entering residential areas through contract provisions to the extent feasible.

An excess materials management plan will be implemented in accordance to regulatory requirements during construction. Management of contaminated material encountered will follow MOE Standards, Ontario Regulation 153/04 and Ontario Provincial Standards Specification 180 – General Specification for the Management and Disposal of Excess Material.

Monitoring and Contingency

Baseline monitoring will be undertaken as outlined in the 2010 EPR in accordance with the Ontario Environmental Protection Act and will be documented in the Geotechnical Baseline Report, which will provide the necessary information for the handling and disposing of excess soil. The disposal of contaminated materials will be directed to an MOE approved soil treatment site or waste disposal site. The monitoring of these facilities is the jurisdiction of the MOE.

Prior to construction, Metrolinx will require the contractor to submit the name, location and type of license of the designated soil disposal sites (as issued by MOE).

Prior to the commencement of construction operations, separate instrumentation readings will be taken to provide a pre-condition survey for all buildings to assess current conditions.

Monitoring during construction will include ground settlement measurements, inclinometers and surface monitoring points for structures. Monitoring is

undertaken on a weekly basis during active excavation. This monitoring schedule is reduced to every three months for up to a year following backfilling.

The monitoring program will include review wand alert levels. If instrument readings exceed "review" levels, Metrolinx and its contractor will jointly assess the necessity of altering the method, rate or sequence of construction. At "alert" levels, Metrolinx can order construction operations to cease until the necessary mitigation measures are undertaken.

Following construction, Metrolinx and its contractors will arrange for a joint post-construction inspection of buildings/structures and utilities with the respective Owners. The results of these surveys will be compared with the pre-construction surveys.

Metrolinx will monitor horizontal and vertical movements and tilt of adjacent structures and utilities on a daily basis during active excavation or backfilling. In the event that instrument readings reach "alert" levels, (as to be defined on a structure-specific basis in the construction contract documents), Metrolinx site supervisory staff oil order construction operations to cease and take necessary actions to mitigate unacceptable movements, including, but not limited to alternative construction methods or construction equipment and/or additional support/protection measures.

In the event that a property owner submits a claim for property damage, Metrolinx will conduct further investigations and, if appropriate, will negotiate a settlement.

5.4.3.5 Operations and Maintenance Impacts

The proposed changes to the 2010 EPR are not expected to result in any operations and maintenance-related impacts to potential contamination.

5.4.4 Utilities

5.4.4.1 Footprint Impacts

Potential Impacts

As noted in the 2010 EPR, there are a number of large diameter utilities and pipelines located within the Eglinton Avenue right-of-way. There are also numerous large underground utility chambers throughout, with the majority located at the major intersections. In addition, there is an extensive system of minor storm sewers, combination storm/sanitary sewers and trunk sewers along Eglinton Avenue. Similarly, there are watermains located along Eglinton Avenue from 150 millimetre diameter up to 600 millimetre diameter. The existing utility plant within the current study area are discussed in **Section 4**. In the study area, there is potential for additional utility impacts along the north side of Eglinton Avenue between Weston Road and the LRT portal at Black Creek. Of note, a pole line supporting street lighting, hydro, and communications will likely have to be relocated. In addition, it is likely that subsurface municipal services will be

impacted between Jane Street and the Mount Dennis Station, and between Black Creek Drive and the LRT portal at Black Creek. Utility impacts will be confirmed during the detailed design phase of the project.

The proposed alignment modifications to the ECLRT do not appear to introduce any conflicts with the City's existing sewer or water infrastructure. Metrolinx will confirm the impacts to the City's municipal services during the detailed design phase and will consult further with the City at that time.

Mitigation Measures

Per the 2010 EPR, utilities and pipelines located within the underground section of the ECLRT will be avoided to the extent possible. In areas of cut and cover construction, small utilities that are not in direct conflict with the ECLRT facility will be supported and protected during construction. For utilities that are in direct conflict with the ECLRT facility, or for large utilities that cannot be temporarily supported, relocation will occur. Services will be maintained to the extent possible during relocation and notice of planned service interruptions will be provided to service users prior to interruptions. The location of all plant, potential conflicts and the relocation strategy will be confirmed with service providers during design.

For all utilities that will be relocated, relocation plans and construction activities will be undertaken in accordance with the Road Rights of Way Act and with the City's Requirements for the Installation of Services within the City of Toronto Road Allowance.

Metrolinx will pursue the necessary crossing permits required from any affected utilities during the detailed design phase of the study.

Monitoring and Contingency

A contingency plan will be developed prior to construction where appropriate.

5.4.4.2 Construction Impacts

Provided the mitigation measures identified in **Section 5.4.5.1** are implemented, the proposed changes to the 2010 EPR are not expected to result in any construction-related impacts to utilities.

5.4.4.3 Operations and Maintenance Impacts

The proposed changes to the 2010 EPR are not expected to result in any operations and maintenance-related impacts to utilities.

5.5 Cultural Environment

5.5.1 Archaeology

Potential Impacts

Given the findings of the Stage 1 and 2 Archaeological Assessments completed in support of the 2010 EPR (Archeoworks Inc. 2009a, Archeoworks Inc. 2009b) and the EPR Addendum (New Directions Archaeology 2013 [**Appendix F**]) no archaeological resources are anticipated to be impacted.

Mitigation Measures

No mitigation measures are proposed since no archaeological resources are known to occur within the footprint of ECLRT facilities and the project is clear of any further archaeological concerns based on the identified footprint impacts. The Stage 1 and 2 Archaeological Assessment reports have been submitted to the Ministry of Tourism, Culture and Sport (MTCS) in compliance with Section 65 (1) of the *Ontario Heritage Act*.

Monitoring and Contingency

Should additional property be required outside of the current plan, an archaeological assessment will be required.

Should previously unknown or unassessed deeply buried archaeological resources be uncovered, they may be a new archaeological site and therefore subject to Section 48 (1) of the *Ontario Heritage Act*. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed archaeologist to carry out archaeological fieldwork, in compliance with Section 48 (1) of the *Ontario Heritage Act*.

Any person discovering human remains must immediately notify the police or coroner and the Registrar of Cemeteries, Ministry of Government Services.

Consultation with relevant stakeholders, including any applicable Aboriginal communities, will be initiated in the event that archaeological resources or human remains are discovered.

5.5.2 Built Heritage and Cultural Landscapes

5.5.2.1 Footprint Impacts

Potential Impacts

Changes due to transit infrastructure projects have the potential to adversely affect cultural heritage landscapes and built heritage resources by displacement and/or disruption during and after construction. Built heritage and/or cultural heritage landscapes may experience displacement, i.e., removal, or direct effects if they are located within the rights-of-way of the undertaking. There may also be potential for disruption or indirect impacts to cultural heritage resources by the introduction of physical, visual, audible or atmospheric elements that are not in keeping with their character and, or setting. Both direct and indirect effects will occur as a result of the ECLRT.

The potential impacts of the Eglinton Crosstown LRT on cultural heritage resources were documented in the 2010 EPR and corresponding Cultural Heritage Assessment Report.

Additional potential impacts resulting from the proposed new alignment of the ECLRT are presented in **Table 5-3**: Impacts and Mitigation for Built Heritage Resources and Cultural Heritage Landscapes, and details of the assessment are provided in **Appendix G**

Mitigation Measures

Transit improvements will be managed in such a way that the impact is sympathetic with the value of the resources. When the nature of the undertaking is such that adverse impacts are unavoidable it may be necessary to implement management or mitigation strategies that alleviate the deleterious effects to cultural heritage resource. Mitigation is the process of lessening or negating anticipated adverse impacts to cultural heritage resources; it may include such actions as avoidance, monitoring, protection, relocation, documentation, salvage, remedial landscaping, etc., and may be a temporary or permanent action.

The measures identified to mitigate potential impacts of the ECLRT on cultural heritage resources are presented in the 2010 EPR. Documentation through the use of historical mapping and photography of the affected buildings will be conducted prior to removal in accordance with the requirements of the City of Toronto Heritage Preservation Services requirements. LRT Station entrances will be designed using context sensitive solutions in consultation with the City of Toronto, Heritage Preservation Services.

Additional impacts, beyond those identified in the 2010 EPR, resulting from the new alignment and Maintenance and Storage Facility are listed with corresponding mitigation recommendations in **Table 5-3**.

Table 5-3: Impacts and Mitigation for Built Heritage Resources and Cultural Heritage Landscapes

Site #	Location and Potential Impact	Mitigation
1.	**Coronation Park, Eglinton Avenue West at Black Creek Drive** Indirect Impact: There will be a visual change to the existing character and setting of the park with the introduction of the elevated ECLRT structure.	Area is already disturbed due to construction underway for the ECLRT Tunnel. No mitigation actions required.
2.	**Keelesdale Park, Eglinton Avenue West at Black Creek Drive** Indirect Impact: There will be a visual change to the existing character and setting of the park with the introduction	Area is already disturbed due to construction already underway for the ECLRT Tunnel. No mitigation actions required.

Site #	Location and Potential Impact	Mitigation
	of the elevated ECLRT structure.	
4.	**Retaining wall (1966), Eglinton Avenue West at former Kodak site** Direct Impact: Displacement, i.e. removal of the retaining wall.	Prior to construction a Cultural Heritage Evaluation Report (CHER) will be completed in accordance with the *Standards and Guidelines for the conservation of provincial heritage properties* (July 2010). The CHER will include evaluation of heritage value based on Ont. Reg. 9/06 of the *Ontario Heritage Act* and provincial heritage value under Ont. Reg. 10/06. In addition, prior to construction a Cultural Heritage Documentation Report (CHDR) of the retaining wall will be completed with photographs of the site context and structure before the change occurs and a brief historical background of the retaining wall.
5.	**Photography Drive Bridge (1965) leading to former Kodak site** Direct Impact: Removal of the existing structure and introduction of a new structure adjacent to the alignment of the existing structure.	Prior to construction a Cultural Heritage Evaluation Report (CHER) will be completed in accordance with the *Standards and Guidelines for the conservation of provincial heritage properties* (July 2010). The CHER will include evaluation of heritage value based on Ont. Reg. 9/06 of the OHA and provincial heritage value under Ont. Reg. 10/06. In addition, prior to construction a Cultural Heritage Documentation Report (CHDR) of the bridge will be completed with photographs of the site context and structure before the change occurs and a brief historical background of the bridge.
7.	**Kodak Building No. 9, 3500 Eglinton Avenue West** Indirect Impact: Visual and physical change to the setting of Building No. 9 due to the introduction of a proposed new structure in front of Building No. 9, thus affecting its visibility and landmark qualities from Eglinton Avenue West. Potential for vibration impacts related to construction activities.	A Heritage Impact Assessment Report (HIA) and a Cultural Heritage Evaluation Report (CHER) have been completed for Building No. 9. It has been determined that Building No. 9 is of heritage value based on Ont. Reg. 9/06 of the *Ontario Heritage Act*; however, it not considered to be of provincial heritage value under Ont. Reg. 10/06 for provincially owned properties. Notify and consult with City Heritage Preservation Services regarding long-term impacts to Building No. 9.
8.	**Bank of Nova Scotia, 1151 Weston Road at Eglinton Avenue West**	Consult with the City of Toronto Heritage Preservation Services regarding the demolition of this building and site remediation with regard

Site #	Location and Potential Impact	Mitigation
	Direct impact: Displacement, i.e., removal, of the Bank of Nova Scotia building.	to effects to the Hollis Street streetscape. Prior to construction a Cultural Heritage Evaluation Report (CHER) will be completed in accordance with the *Standards and Guidelines for the conservation of provincial heritage properties* (July 2010). The CHER will include evaluation of heritage value based on Ont. Reg. 9/06 of the *Ontario Heritage Act* and provincial heritage value under Ont. Reg. 10/06. A Heritage Impact Assessment (HIA) will also be completed prior to construction.

Monitoring and Contingency

A contingency plan will be developed prior to construction where appropriate.

5.5.2.2 Construction Impacts

Potential Impacts

Transit infrastructure projects have the potential to adversely affect cultural heritage landscapes and built heritage resources during construction. **Table 5-5** outlines the sites of potential impact for built heritage resources and cultural heritage landscapes in the study area.

Mitigation Measures

Mitigation measures to protect built heritage resources and cultural heritage landscapes in the east and west study areas during construction are outlined in **Table 5-5**.

Table 5-4: Construction Impacts and Mitigation for Built Heritage Resources and Cultural Heritage Landscapes

Site #	Location and Potential Impact	Mitigation[2]
7.	**Kodak Building No. 9, 3500 Eglinton Avenue West** Indirect Impact: Potential for vibration impacts related to	Prepare a plan to lessen vibration impacts related to construction.

[2] Vibration related impacts and associated mitigation are identified through the Noise and Vibration Report prepared by Novus Environmental Inc (**Appendix D**). For details regarding vibration impacts and mitigation please refer to **Section 5.4.2 (Noise and Vibration)**.

Site #	Location and Potential Impact	Mitigation[2]
	construction activities.	
9.	**Mount Dennis, Eglinton and Weston Road** Indirect impact: Potential for vibration impacts related to construction activities.	Prepare a plan to lessen the vibration impacts related to construction activities for buildings located adjacent the area of construction, i.e., residences on north side of Eglinton Avenue, Church of the Good Shepherd (1149 Weston Road), and Mount Dennis Community Centre and adjacent residences on Hollis Street.

Monitoring and Contingency

A contingency plan will be developed prior to construction where appropriate.

5.5.2.3 Operations and Maintenance Impacts

The proposed changes to the 2010 EPR are not expected to result in any operations and maintenance-related impacts to built heritage resources and cultural heritage landscapes.

5.6 Transportation

5.6.1 Public Transit

5.6.1.1 Footprint Impacts

The proposed changes to the 2010 EPR are not expected to result in any additional footprint-related impacts to public transit facilities.

5.6.1.2 Construction Impacts

The proposed changes to the 2010 EPR are not expected to result in any additional construction-related impacts to public transit services.

5.6.1.3 Operations and Maintenance Impacts

Potential Impacts

A formal analysis of bus routing changes, including public consultation, will be undertaken between 12 and 18 months prior to the opening of the Eglinton Crosstown LRT. For planning purposes, TTC staff have developed a preliminary bus plan to help guide discussion about LRT facilities and potential bus connections. The preliminary bus plan identifies the following changes to the existing bus network related to the Eglinton Crosstown LRT:

- No parallel bus routes will be provided along Eglinton Avenue;
- North-south arterial bus routes will continue to operate; and

- The Mount Dennis Station will include a new fifteen-bay bus terminal

Realignment of bus routes in the vicinity of the Mount Dennis Station are discussed in **Section 3.2.2**.

LRT Stop/station locations were selected based on achieving the right balance between convenient local access and speed of service. Closely spaced stops/stations provide excellent local access, but speed of service is compromised if stops/stations are spaced too closely together. Stops/stations will be located where current TTC services, including buses and subways, intersect Eglinton Avenue in order to provide convenient passenger connections between those services and the LRT. The proximity of existing neighbourhoods, commercial areas, major destinations and future developments was also considered when stop/station locations.

Mitigation Measures

No additional mitigation measures beyond the proposed rerouting of bus operations are proposed.

Monitoring and Contingency

Transit schedules are part of the TTC and Metrolinx normal operating procedures. This will allow for either agency to identify future issues and to develop corrective actions.

5.6.2 Pedestrian and Cycling Network

5.6.2.1 Footprint Impacts

As illustrated in **Figure 3-7**, and discussed in **Section 3.4.5**, the ultimate Eglinton Avenue cross-section will provide an enhanced pedestrian environment through the implementation of greater separation between the sidewalk and general traffic lanes, landscaping and streetscaping improvements, and include off-road provisions for cyclists. The specific design for these elements will be developed through the subsequent detailed design phase of the project.

A framework plan to improve pedestrian and cycling routes and connections through the study area will be developed by Metrolinx. The framework plan should include the following elements:

- Continuous cycling infrastructure between Keelesdale Park and Jane Street;
- Seamless connections to existing and planned cycling infrastructure;
- Facilitate easy access to the bicycle station at Mount Dennis;
- Improved pedestrian connection from Mount Dennis Station to the York Community Centre;

- Investigate pedestrian crossing opportunities near the proposed bus only signalized intersection, subject to review by the City of Toronto and TTC;
- Provide sidewalks on the new Photography Bride over Eglinton Avenue; and
- Protect for future underground connection at the Secondary Entrance to the south side of Eglinton Avenue.

5.6.2.2 Construction Impacts

During construction, there will be likely be disruption to pedestrian and cyclist connections through the study area. Temporary detours will be required for pedestrians and cyclists during construction, however, Metrolinx will attempt to maintain continuity in the pedestrian and cyclist network during construction to the extent feasible. It is proposed that any existing sidewalks and cyclist linkages impacted be reinstated following construction.

5.6.2.3 Operations and Maintenance Impacts

The proposed changes to the 2010 EPR are not expected to result in any operations and maintenance-related impacts to pedestrian and cyclist operations.

5.6.3 Road Network

5.6.3.1 Footprint Impacts

Potential Impacts

The proposed changes to the ECLRT result in the length of centre median surface LRT in the 2010 EPR being reduced.

The Eglinton Avenue West cross-section between Keelesdale Park and the proposed LRT portal east of Jane Street is proposed to be consistent with that of the 2010 EPR, with the exception of the median LRT lanes. While the proposed LRT plan remains within the existing road allowance, the 2010 EPR proposal to retain only four general traffic lanes on Eglinton Avenue West is maintained under the current LRT plan. This would allow for the reallocation of road allowance for the introduction of enhanced pedestrian and cyclist features. The final cross section is being determined by the City of Toronto Infrastructure Planning using traffic analysis in consultation with City Division and other interested stakeholders.

As discussed in **Section 3.4.5**, a signalized intersection is proposed to facilitate bus-only left-turns into and out of the Mount Dennis Bus Terminal. The new signal is proposed to be coordinated with the Eglinton Avenue/Black Creek Drive intersection to minimize the potential for impacts to general traffic. The signalized intersection will not result in any significant footprint impacts as it will be contained within the existing road allowance. Minor modifications to the Eglinton Avenue median will be required to provide an opening for westbound left-turning buses.

As part of the 2010 EPR, traffic impacts associated with the reduction of traffic capacity in the study area were assessed, and the plan was approved by the Ministry of the Environment. This approved plan was considered the "base case" for the purposes of the analysis discussed in this section.

Recognizing the potential for impacts associated with the proposed changes to the approved ECLRT plan are expected to be localized within the study area, existing traffic conditions were assessed on the basis of weekday AM and PM peak hour turning movement volumes recorded at the signalized Eglinton Avenue intersections with Weston Road and Black Creek Drive, and at the signalized Black Creek Drive intersection with Photography Drive. Representative intersection capacity and level-of-service analyses were carried out using the Synchro 7 traffic simulation software package to compare relative traffic impacts associated with the proposed changes.

The analysis shows that, with the changes proposed in this EPR Addendum, the study area intersections are anticipated to operate at acceptable levels. However, the Eglinton Avenue and Black Creek Drive intersection is approaching capacity, and experiencing critical movements in the PM peak hour. This intersection will be very sensitive to fluctuations in traffic volumes, and leaves little capacity to accommodate future growth in traffic volumes. The Eglinton Avenue intersection at Weston Road appears to be less affected, as the overall traffic demand at that intersection is lower than at the Black Creek Drive intersection, and demand is focused largely on east-west movements.

The incremental impacts associated with the proposed changes (i.e. the signalized bus-only intersection and PPUDO) appear to be minor over those associated with the approved 2010 ECLRT EPR plan. The introduction of the signal at the No Frills access, provided it is adequately coordinated with the adjacent Eglinton Avenue/Black Creek Drive intersection, is not likely to result in any significant impacts on the operation of the Black Creek Drive intersection. The impact of traffic volumes associated with the proposed Mount Dennis Bus Terminal and PPUDO do not appear to result in a notable impact on the overall operation of traffic in the study area. The proposed intersection modeling does not include pedestrian crossing at this location. The design of the intersection will not preclude the implementation of a pedestrian crossing however the implementation of the crossing will be subject to approval by the City of Toronto.

The traffic analysis is discussed in further detail in **Appendix H**.

Mitigation Measures

Metrolinx will consult with the City of Toronto regarding the future requirements of Eglinton Avenue within the study area and reinstate the disturbed areas of Eglinton Avenue to meet these requirements.

5.6.3.2 Construction Impacts

Potential Impacts

Road improvements and cut-and-cover construction used for station construction and special track work areas will result in new disruption to traffic operations along Eglinton Avenue in the sections from Jane Street to the proposed Mount Dennis LRT Station. The conceptual construction staging plan for the cut-and-cover section of LRT between Jane Street and Weston Road is presented in **Section 3.7.3**.

Mitigation Measures

During detailed design and implementation process, Metrolinx and their consultants / contractors will work with the City of Toronto to develop an acceptable approach for traffic maintenance during construction. In the event that the contractor decides to deviate from this plan, the contractor will be required to prepare and submit a detailed and comprehensive Traffic Management Plan, for review by Metrolinx and the City of Toronto.

Monitoring and Contingency

A contingency plan will be developed prior to construction where appropriate.

5.6.3.3 Operations and Maintenance Impacts

Potential Impacts

The proposed changes to the ECLRT, recognizing the proposal to maintain the 4-lane cross section for general traffic approved under the 2010 EPR, will not result in any significant change to traffic operations beyond those identified in the approved 2010 EPR. Under the 2010 EPR,

The proposed signalized intersection will be coordinated with the Eglinton Avenue / Black Creek Drive intersection to the east.

Emergency service providers will continue to operate at service levels identified in the 2010 EPR with the LRT in place.

Mitigation Measures

No mitigation measures are proposed.

Monitoring and Contingency

Traffic volumes on public roads and transit schedules are part of the City of Toronto's and TTC normal operating procedures. This will allow for either agency to identify future issues and notify Metrolinx in order to develop corrective actions.

5.6.4 Navigable Waters

5.6.4.1 Footprint Impacts

As discussed in **Section 4.4.3**, there are no navigable waterways in the study area, and are therefore no impacts to navigable waterways associated with the changes.

5.6.4.2 Construction Impacts

The proposed changes to the 2010 EPR are not expected to result in any construction-related impacts to navigable waters.

5.6.4.3 Operations and Maintenance Impacts

The proposed changes to the 2010 EPR are not expected to result in any operations and maintenance-related impacts to navigable waters.

5.7 Other Potential Impacts

5.7.1 Electromagnetic Interference

Potential Impacts

The proposed changes to the ECLRT do not result in different impacts related to Electromagnetic Interference (EMI) than those identified in the 2010 EPR.

Mitigation Measures

As noted in the 2010 EPR, EMI can be mitigated through the setback of the overhead catenary wire.

5.7.2 Stray Current

Potential Impacts

Stray current corrosion, which is a form of electrolytic corrosion, occurs on buried metallic structures and differs from other forms of corrosion damage in that the current, which causes the corrosion, has a source external to the affected structure. Stray current is caused by a portion of the negative return current which leaks into the ground and returns to the traction power substation through parallel paths provided by the ground and by any other metallic structures. For a non-metallic structure, such as plastic or concrete pipe and plastic coated cables, stray current is a non-issue. Stray current activities and step and touch voltage hazards will be considered during the design of traction power substations.

The proposed changes to the ECLRT do not result in different impacts related to stray current than those identified in the 2010 EPR.

Mitigation Measures

As noted in the 2010 EPR, In order to minimize uncontrolled stray currents a number of measures shall be used in connection with measures applied to the traction power return system:

- Low linear rail electrical resistance;
- High rail-to-earth resistance, including insulated trackwork mounted fittings and appurtenances;
- Good rail bonding, both longitudinally and track cross-bonding;
- Parallel connected negative reinforcing feeder cables, insulated and cross-bonded to the return rails;
- Good water drainage;
- Structural steel-work and reinforcing isolation/separation; and
- Utility structures to be electrically insulated, bonded, coated and cathodically protected as required.

The ECLRT traction power distribution system shall be ungrounded and shall have no direct connection to the earth.

The running rails shall be insulated from earth with the use of insulating pads and hardware, and by the isolation of all rail associated metal ware from earth. Where applicable, the negative running rails shall be connected to the AC ground system through a Floating Negative Automatic Ground Switch (FNAGS). The FNAGS operates (and alarms) only on an abnormally high return rail to ground voltage.

Monitoring and Contingency

A monitoring program will be put in place where the ECLRT crosses a high-pressure steel pipeline. The monitoring program will include:

- Prior to construction, a baseline survey for stray current corrosion control is undertaken and reported to the pipelines;
- During construction, stray current test equipment is installed in the immediate vicinity of the pipelines;
- Upon completion of the work, stray currents will be monitored as often as is prudently required; and
- All data will be shared between the pipelines and TTC.

5.8 Beneficial Effects

As noted in the 2010 EPR, in general the benefits of a well-developed transit system for the health and vitality of big cities are well documented. Transit helps cities be more liveable and vibrant by:

- Ensuring that transit is an more attractive travel option by improving travel times, comfort, and reliability of service;
- Increasing the people movement capacity in all corridors, generally without the widening of roadways and in an environmentally sound manner, so that they can take advantage of the employment, educational, recreational, and many other opportunities cities offer;
- Providing alternative travel choices for non-drivers, including transit and enhanced environments for cycling and walking;
- Providing opportunities to include urban design and streetscaping features in the construction of the LRT line;
- Improving air quality and, in doing so, improving people's health and their ability to enjoy outdoor spaces and activities;
- Reducing the wear-and-tear on city roads and the need to spend tax dollars on repairing and expanding road infrastructure; and
- Ensuring the long-term economic stability and environmental sustainability by reducing climate-changing emissions and reliance on fossil fuels.

A previous study named "Greenhouse Gases and Air Pollutants in the City of Toronto-Toward a Harmonized Strategy for Reducing Emissions, 2007" on the sources of greenhouse gases and air pollutants in the City of Toronto indicates that close to 40 per cent of greenhouse gas emissions originate from the transportation sector. The vast majority of these emissions are from cars and trucks. Encouraging residents to choose alternatives to the automobile for as many trips as possible must be a vital part of any action plan to reduce harmful emissions and address climate change. The emission reductions resulting from the implementation of the ECLRT will result in a net benefit to those who reside in close proximity to Eglinton Avenue. Furthermore, greenhouse gas emissions are estimated to be reduced and that benefit can be extended should the LRT encourage motorists to use the public transit system.

Light-rail transit technology, as proposed in this study, offers significant benefits with respect to the environment and city-building. These include:

- Provision of premium quality service – quiet, smooth, comfortable, fast, and reliable – which attracts people to ride transit;
- Highly energy-efficient technology: light rail vehicles produce 92 per cent less CO2 than autos and 83 per cent less CO2 than diesel buses, and produce zero local-area or "tailpipe" emissions;
- Ample capacity for projected ridership in all proposed corridors, with the capability to expand to meet increasing demands;
- Demonstration of long-term and substantial commitment to quality transportation, to instil the confidence which landowners and investors need

to invest in development and city-building, and the confidence which residents need to choose a transit-oriented lifestyle;

- Creation of a strong and highly-recognizable presence which signifies the availability of high-quality transit; and
- Association with Toronto's streetcar heritage and the positive connotations which streetcars bring to the City and its transit system.

The ECLRT is compatible with the Official Plan vision for a more liveable Toronto as future growth within Toronto will be steered to areas which are well served by transit. Having a safe, fast and reliable transit service like the ECLRT -- a viable alternative to vehicular travel - will attract new business to the area based on the provision of increased access capacity for residents and employees.

The mixed use areas within Avenues will perform a "Main Street" function and become meeting places for local neighbours and the wider community. By promoting alternative forms of travel, these areas become vibrant communities centred on the people and uses instead of automobiles. By directing growth to areas such as Avenues, the Official Plan provides greater certainty for land owners, businesses and residents about what type of growth can be anticipated, and where growth will occur.

5.9 Summary of Potential Impacts, Proposed Mitigation Measures, Monitoring, and Future Work

The following table summarizes the potential impacts, proposed mitigation measures and monitoring processes, and future work associated with the proposed changes to the ECLRT. This table is intended to supplement **Exhibit 180** in the 2010 EPR for the proposed changes to the ECLRT plan addressed in this EPR Addendum.

Table 5-5: Summary of Potential Impacts, Mitigation Measures, Future Work, and Contingencies

Factor	Environmental Issue / Concern	Effect / Impact (During Construction; During Operations)	Mitigation Measures	Monitoring / Future Work / Contingency
Natural Environment				
Groundwater	Impacts to groundwater during construction and operation of the ECLRT.	It is anticipated that ECLRT facilities will not interrupt existing groundwater migration pathways and permanent groundwater dewatering systems will not be used.	Groundwater will be managed in accordance with provincial legislation and regulations including Soil, Ground Water and Sediment Standards for Use under Part XV.1 of the Environmental Protection Act, dated April 15, 2011. This may include management within the right-of-way depending on circumstances Further investigation to determine the radius of influence of any required dewatering will be necessary to fully consider the impacts to nearby structures and infrastructure. Further mitigation plans will be developed prior to construction.	A Soil and Groundwater Management Strategy will be developed prior to construction. Groundwater monitoring wells will be installed prior to construction. For excavations or property acquisitions in areas of known or high potential for environmental impacts, additional environmental investigations will be conducted in accordance with provincial regulatory requirements. Contaminated groundwater will be managed in accordance with provincial legislation and regulations including MOE Guidelines for Use at Contaminated Sites in Ontario (1997). A contingency plan will be developed prior to construction where appropriate.

Factor	Environmental Issue / Concern	Effect / Impact (During Construction; During Operations)	Mitigation Measures	Monitoring / Future Work / Contingency
Surface Water	Impacts to drainage and stormwater systems from the ECLRT. Fuel spills, due to accidents during construction refueling and accidents during operation. Impacts to quality and quantity of surface water.	The general direction of roadway overland flow routes and drainage patterns will not be altered. There will be no significant changes to peak flow as a result of the implementation of the proposed changes to the ECLRT design. At the MSF, the overall site will be highly impervious. Construction activities could result in increased rates of erosion and sedimentation within and adjacent to the site area and tributaries to major watersheds.	The stormwater management system will be designed to achieve an Enhanced Level of water quality treatment, as per the Ministry of the Environment's Stormwater Management Planning and Design Manual (2003). A storm water drainage and management system (SWM) is required at the MSF site, which will be consistent with the Toronto Green Development Standard. In order to prevent and minimize the release of sediment to watercourses, the sediment and erosion control measures discussed in **Section 5.3.2** will be implemented during ECLRT construction.	Prior to construction, the contractor will submit a comprehensive environmental controls and methods plan to address, among other elements, effluent (water) control. Environmental inspections of the construction site will be conducted to assess the performance of erosion and sedimentation control measures and identify any required maintenance.
Fish and Fish Habitat	Potential impacts to fish and fish habitat (Black Creek).	At Black Creek the proposed bridge structure will span the bed and banks of the watercourse with no encroachment in the wetted portion of the channel. Direct impacts to fish and fish habitat are not anticipated.	Implement mitigation measures as identified for **Surface Water**. Implement best management practices identified in the 2010 EPR during construction to reduce the potential for impacts to fish and fish habitat. All works will be completed in accordance with the *Fisheries Act*, the *Endangered Species Act*, and the *Species at Risk Act*.	Any additional mitigation measures, monitoring and commitments agreed to in consultation with provincial and federal agencies will be complied with. Implement monitoring and contingency plans as identified for **Surface Water**.

Factor	Environmental Issue / Concern	Effect / Impact (During Construction; During Operations)	Mitigation Measures	Monitoring / Future Work / Contingency
			The Humber River floodplain and crossing of Black Creek are within the regulated areas of the City of Toronto's Ravine and Natural Feature Protection Bylaw and TRCA's Ontario Regulation 166/06, and a permit will be needed before the project works can be initiated. The TRCA will also review the project as it relates to Fish Habitat under their Level III agreement with Fisheries and Oceans Canada (DFO) to determine whether there is a potential for the proposed works to result in a Harmful Alteration Disruption or Destruction (HADD) of fish habitat. As the proposed elevated LRT bridge structure will span the bed and banks of the watercourse with no encroachment in the wetted portion of the channel, it is anticipated that a HADD will not result from the proposed works and the TRCA will issue a Letter of Advice (LoA) accordingly.	
Vegetation and Vegetation Communities	Direct and indirect impacts to vegetation during construction.	If not properly protected vegetation not impacted by the footprint of the ECLRT may be directly impacted during construction. Potential indirect impacts to vegetation include exposure to	Under the Ravine and Natural Feature Protection Bylaw, a permit is required to dump fill or refuse, or alter the grade, or injure or destroy any tree, in specified protected areas. There are other City of Toronto bylaws that give the same tree protection to park trees, street	Implement monitoring and contingency plans as identified for **Surface Water**. It is possible that additional mitigation measures, monitoring, and commitments may be identified in consultation with

Factor	Environmental Issue / Concern	Effect / Impact (During Construction; During Operations)	Mitigation Measures	Monitoring / Future Work / Contingency
		sediment and contaminant runoff from construction activities.	trees and certain trees on private land. On private land, trees that have a diameter at breast height of 30 cm or more are protected, and smaller trees are protected if they are part of a registered site plan agreement. Direction for adhering to the tree protection bylaws, including minimum protection zones, is provided in the City of Toronto's Tree Protection Policy and Specification for Construction Near Trees. Note: The City of Toronto does not have authority to issue permits where there is provincial or federal interest. The project works may impact trees in protected areas, in parks, on the road allowance and/or on private land. In support of the bylaws, a tree inventory will be required for the locations where trees are likely to be impacted. Mitigation, restoration or compensation measures will be identified following the tree inventory and will be based on detailed site assessments undertaken during the detail design phase, refined to the satisfaction of the issuer of the permit. Erosion and sediment control will be addressed as part of a comprehensive strategy for the entire Eglinton Crosstown LRT	relevant provincial and federal agencies. Any additional mitigation measures, monitoring and commitments agreed to will be complied with.

Factor	Environmental Issue / Concern	Effect / Impact (During Construction; During Operations)	Mitigation Measures	Monitoring / Future Work / Contingency
			project. All works must be completed in accordance with applicable legislation including, but not necessarily limited to, the *Fisheries Act, Migratory Birds Convention Act*, *Endangered Species Act* and *Species at Risk Act.* Implement mitigation measures as identified for **Surface Water**.	
Wildlife and Wildlife Habitat	Habitat loss due to the preferred ECLRT alignment and construction of the MSF (see **Vegetation and Vegetation Communities**). Disturbance from construction noise and vibration.	Wildlife using the Black Creek wildlife corridor may be disturbed by noise and vibration associated with construction of the elevated LRT bridge. Barn Swallows may nest under the Black Creek bridge as they have in previous years. Northern Rough-winged Swallow and three other species considered probable nesters may be nesting near the bridge. Recent rail corridor construction works in the vicinity of the bridge may deter nesting. At the MSF site, wildlife habitat may be eliminated or rendered unsuitable through construction of the MSF.	The nests of most bird species are protected by the *Migratory Birds Convention Act*. Lands impacted by the project works should be monitored between May 1st and August 31st for active nests of bird species, and if they are observed it is recommended that they be monitored by a wildlife specialist to ensure that nesting activity continues. Potential disturbance may be sufficient to warrant the prevention of nesting under Black Creek bridge and the erection of alternative nesting structures. Caution should be exercised near Black Creek to avoid disturbing wildlife using this wildlife corridor. This is particularly important if Barn Swallows are nesting under the bridge. Implementation of mitigation	It is possible that additional mitigation measures, monitoring and commitments may be identified in consultation with relevant provincial and federal agencies. Any additional mitigation measures, monitoring and commitments agreed to will be complied with.

Factor	Environmental Issue / Concern	Effect / Impact (During Construction; During Operations)	Mitigation Measures	Monitoring / Future Work / Contingency
			measures may be sufficient such that a permit under the *ESA* will not be required for Barn Swallow, Chimney Swift and/or Milksnake. Requirements associated with the *ESA* are to be confirmed in consultation with MNR prior to construction commencing. All works must be completed in accordance with applicable legislation including, but not necessarily limited to, the *Fisheries Act*, *Migratory Birds Convention Act*, *Endangered Species Act* and *Species at Risk Act*.	
Designated Natural Areas and Parks	Impacts to Keelesdale Park and Coronation Park	The proposed location for the west temporary work site is on the south side of Eglinton Avenue, 200 m east of Black Creek Drive. The area is locally known as Keelesdale Park and the present land use consists of baseball diamonds, an indoor hockey arena and a grass soccer pitch. The soccer pitch is located adjacent to but separated from Eglinton Avenue by a cultural woodlot (CUW1), and is bordered by a small deciduous forest parcel (FOD2-1) to the east and a parking lot to the south. The	The ECLRT facilities will be positioned and configured to minimize intrusion into the parks to the extent possible. The ECLRT facilities will be designed to blend into their surroundings using a context sensitive solution. Metrolinx will consult with City of Toronto Parks, Forestry and Recreation Division during detailed design to mitigate impacts on City of Toronto parks located along Eglinton Avenue. To ensure that the forested area remains undisturbed, the entire FOD2-1 vegetation community will be separated and isolated with a	A monitoring and contingency plan will be developed prior to construction where appropriate.

Factor	Environmental Issue / Concern	Effect / Impact (During Construction; During Operations)	Mitigation Measures	Monitoring / Future Work / Contingency
		majority of the work zone will be established on the soccer pitch, but will also require removal of approximately 0.105 ha. of cultural woodlot to accommodate the northern boundary of the work zone and the 'open shaft' access to the portal. The FOD2-1 vegetation community will not be affected. The soccer pitch will also be used as the tunnel boring machine launch site and as temporary material stockpiling and heavy equipment operations site resulting in temporary impacts to its recreational use. Construction of relocating Eglinton Avenue West and elevated guideway in the along the ECLRT corridor will result in minor encroachment at two parks: Coronation Park and Keelesdale Park. The LRT facilities proposed at each park are presented below. • Coronation Park: Foundations for Elevated Guideway • Keelsedale Park: Grading for Realignment of Eglinton	barrier to prevent encroachment by any construction related activity. Upon completion of the project, the soccer pitch will be re-instated to its present condition. The cultural woodlot (CUW-1) will also be restored to its pre-construction state as it will be replanted with suitable native species.	

Factor	Environmental Issue / Concern	Effect / Impact (During Construction; During Operations)	Mitigation Measures	Monitoring / Future Work / Contingency
		Avenue West		
Air Quality	Impacts to air quality during construction. Impacts on air quality due to implementation of the ECLRT.	Construction activities may result in temporary, localized impacts to air quality. The two major sources of construction impacts to air quality are dust and exhaust emissions from construction equipment. Overall emissions are expected to decrease with ECLRT implementation.	Best management practices will be implemented to prevent the potential release of dust and other airborne pollutants offsite. A dust management plan will be developed by the contractor, and will incorporate the following mitigation techniques: • Material wetting or chemical suppressants; • Construction of barriers; • Limiting exposed areas; and • Equipment washing. Different levels of mitigation may be required at different construction phases. The focus of the mitigation plan is to reduce the dust emissions from the material processing activities, the major contributor to total dust emissions, and not to reduce vehicle emissions. Environment Canada's "Best Practices for the Reduction of Air Emissions from Construction and Demolition Activities" document will be followed for mitigation techniques, not only for dust but for	As committed to in the 2010 EPR, air monitoring of crystalline silica, total dusts and other contaminants (as applicable) will be conducted as a check on the effectiveness on dust control measures. In particular, air quality monitoring will be conducted prior to, during or following construction as follows: • When construction and/or demolition activities are likely to cause dust emission, air monitoring must be conducted prior to beginning activities to establish a baseline value for the quantity of suspended particulate matter in the air. During construction and/or demolition operations where dust is being created, air quality monitoring must be conducted to establish the level of particulate matter in the air. Following construction and/or demolition operations where dust was created,

Factor	Environmental Issue / Concern	Effect / Impact (During Construction; During Operations)	Mitigation Measures	Monitoring / Future Work / Contingency
			other pollutants such as carbon monoxide and oxides of nitrogen as well (Environment Canada, 2005). These types of controls aid in minimizing impacts to the environment during the construction phase. Night time construction activities will also be considered in order to reduce the higher emissions from vehicles that are slowed down by the reduced existing road capacity during the day. It is recommended that only water be used as a dust suppressant. As noted in the 2010 EPR, reductions in greenhouse gases associated with the use of the ECLRT will far outweigh any short term increase in greenhouse gas emissions that are associated with construction activities.	confirmatory tests must be conducted to quantify the level of particulate matter in the air. • Construction Borne Particulate Matter within Existing Buildings – In instances where works are necessary to connect new works to existing buildings and stations and activities, such as sawcutting are required. Monitoring of airborne contaminants such as crystalline silica will be required to show that these contaminants are below their respective time weighted average exposure values as indicated in Regulation 833. Appropriate adaptive management will be undertaken in response to findings from air quality monitoring. As warranted, a contingency plan will be developed prior to maintenance activities.
Potential Contamination	Impacts to areas of high, moderate, and low potential for	As noted in the 2010 EPR, the overall ECLRT project will result in the displacement of	As documented in the 2010 EPR, excess soil will require waste classifications in accordance with	A monitoring program will be included in the Soil and Groundwater Management

Factor	Environmental Issue / Concern	Effect / Impact (During Construction; During Operations)	Mitigation Measures	Monitoring / Future Work / Contingency
	contamination present within the study area.	approximately 1.8 million m^3 of surplus excavated material generated by tunnelling and cut-and-cover construction at the portals, tunnel and stations. The extension of the underground section between Mount Dennis Station and the Jane Street portal will result in approximately 75,000 m^3 of additional surplus excavated material. The Black Creek MSF will be designed to minimize the generation of surplus excavated material. On busy urban streets such as Eglinton Avenue and the major north-south arterials that already carry a large proportion of truck traffic, the addition of trucks to remove the excavated material is considered a negligible increase in truck traffic. Truck haul routes will be identified during detail design as part of traffic management plans.	applicable regulatory requirements. Regulatory requirements in place at the time of construction and excess materials management guidelines and specifications (e.g. OPSS 180) will be used when developing an excess materials management plan. A Soil and Groundwater Management Strategy will be developed prior to construction. Generally, where impacts are anticipated to all or portions of properties with high or moderate potential for contamination, further environmental investigations will be completed for these properties (or portions thereof) that would be directly impacted by construction activities (i.e. tunneling): • If properties (or portions thereof) are to be acquired for the ECLRT construction, Phase I and Phase II Environmental Site Assessments will be conducted in accordance with O.Reg. 153/04 (i.e. to CSA standards), as amended. If a Record of Site Condition is required for a property the corresponding studies will be completed in accordance with O.Reg. 153/04, as amended;	Strategy which will be developed prior to construction. A contingency plan will be developed prior to construction where appropriate. Baseline monitoring will be undertaken as outlined in the 2010 EPR in accordance with the *Ontario Environmental Protection Act* and will be documented in the Geotechnical Baseline Report, which will provide the necessary information for the handling and disposing of excess soil. The disposal of contaminated materials will be directed to an MOE approved soil treatment site or waste disposal site. The monitoring of these facilities is the jurisdiction of the MOE. Prior to construction, Metrolinx will require the contractor to submit the name, location and type of license of the designated soil disposal sites (as issued by MOE). Prior to the commencement of construction operations, separate instrumentation readings will be taken to provide a pre-condition survey for all buildings to assess

Factor	Environmental Issue / Concern	Effect / Impact (During Construction; During Operations)	Mitigation Measures	Monitoring / Future Work / Contingency
			• If no purchasing is planned / required for the ECLRT construction on properties with high or moderate potential for contamination, an intrusive environmental investigation (soil and groundwater sampling and testing) may be conducted to confirm the presence or absence of soil / groundwater contamination. Where completed, this will assist with soil and water management plans and volumes (clean fill vs. contaminated soil) for the future construction. • For areas where spills were documented to have occurred within the study area, during construction of the ECLRT, soil testing for petroleum hydrocarbons (PHCs) will be completed along the road right-of-way where removal of soil from the road shoulders and road right of ways (i.e. excess materials) is required. If presence of PHCs is confirmed, appropriate contaminated soils management will be determined and implemented. Since the former waste disposal site (southeast corner of Black Creek	current conditions. Monitoring during construction will include ground settlement measurements, inclinometers and surface monitoring points for structures. Monitoring is undertaken on a weekly basis during active excavation. This monitoring schedule is reduced to every three months for up to a year following backfilling. The monitoring program will include review wand alert levels. If instrument readings exceed "review" levels, Metrolinx and its contractor will jointly assess the necessity of altering the method, rate or sequence of construction. At "alert" levels, Metrolinx can order construction operations to cease until the necessary mitigation measures are undertaken. Following construction, Metrolinx and its contractors will arrange for a joint post-construction inspection of buildings/structures and utilities with the respective Owners. The results of these surveys will be compared with the pre-construction surveys. Metrolinx will monitor horizontal

Factor	Environmental Issue / Concern	Effect / Impact (During Construction; During Operations)	Mitigation Measures	Monitoring / Future Work / Contingency
			Drive and Eglinton Avenue) was closed more than 25 years ago, no ministerial approvals are required. No additional environmental investigations are required for APECs with low potential for contamination. For the study area, trucks hauling materials associated with the ECLRT will be restricted from entering residential areas through contract provisions to the extent feasible. An excess materials management plan will be implemented in accordance to regulatory requirements during construction. Management of contaminated material encountered will follow MOE Standards, Ontario Regulation 153/04 and Ontario Provincial Standards Specification 180 – General Specification for the Management and Disposal of Excess Material.	and vertical movements and tilt of adjacent structures and utilities on a daily basis during active excavation or backfilling. In the event that instrument readings reach "alert" levels, (as to be defined on a structure-specific basis in the construction contract documents), Metrolinx site supervisory staff oil order construction operations to cease and take necessary actions to mitigate unacceptable movements, including, but not limited to alternative construction methods or construction equipment and/or additional support/protection measures. In the event that a property owner submits a claim for property damage, Metrolinx will conduct further investigations and, if appropriate, will negotiate a settlement.
Socio-Economic Environment				
Property Ownership	Full or partial loss of property for the construction of the	Total of 8 properties required for EPR Addendum study area: Five full acquisitions and 3	Compensation for residential and commercial impacts will be provided for temporary and permanent	Metrolinx will negotiate temporary construction easements with property owners

Factor	Environmental Issue / Concern	Effect / Impact (During Construction; During Operations)	Mitigation Measures	Monitoring / Future Work / Contingency
	ECLRT. Partial property takings required include underground easements and surface facilities such as station entrances.	partial acquisitions are required. Two of the acquisitions are private properties and 6 are public properties. Property impacts associated with the ECLRT beyond the limits of the EPR Addendum study areas are addressed in the 2010 EPR.	property requirements. Where properties to be displaced form a continuous development of retail / business streetscape, the displacement facility will ensure the continuation of the existing street wall (with respect to height setback and general architectural characteristics). Any brownfield sites will be managed in accordance with the Ontario Regulation 153/04 as amended. A Designated Substances Surveys for any buildings or structures which require demolition will be undertaken during the design phase.	on a case-by-case basis following the procedures described in **Section 5.4.1**. Following construction, Metrolinx will reinstate lands to pre-construction conditions. A contingency plan will be developed prior to construction where appropriate.
Noise and Vibration	Noise level increase during construction and operation of the ECLRT. Vibration impacts generated from the construction and operation of the ECLRT.	*Noise* Construction noise levels will vary over time, as the activities at the site change. Noise from ECLRT surface operations in the study area is predicted to meet the requirements of the applicable MOE/TTC guideline limits at all noise sensitive locations. No further investigation of operational noise mitigation is required.	The 2010 EPR lists the applicable provincial and municipal guidelines with regard to construction noise and vibration. Provincial guidelines restrict maximum allowable sound levels for equipment used in certain construction activities. Municipal bylaws place restrictions on the hours of operation for all construction activity: in particular, construction is limited from 7:00 AM to 11:00 PM on weekdays, with more stringent restrictions on	Pre-construction consultation, vibration monitoring, and site inspections will likely be required. Monitoring will be required during construction. As indicated in the 2010 EPR, noise levels for nearby sensitive uses (such as residential or institutional) will have specific monitoring locations and maximum noise levels. These levels and construction activities that may generate exceedences will be determined prior to

Factor	Environmental Issue / Concern	Effect / Impact (During Construction; During Operations)	Mitigation Measures	Monitoring / Future Work / Contingency
		Ventilation Noise Based on the "generic" sound power emission data and silencer insertion loss data used in the Noise and Vibration Assessment (**Appendix D**), the emergency fire ventilation fans are predicted to meet the applicable MOE NPC-205 guideline limits at all noise sensitive locations. Should noise emissions or operations vary significantly from those outlined above, noise impacts should be reassessed to assure compliance with all relevant legislative requirements. Black Creek MSF Operations Based on the modelled noise impacts from MSF activity, noise impacts are not anticipated. However, it is recommended that HVAC equipment be chosen in order to minimize impacts at surrounding noise sensitive areas. HVAC selection recommendations are provided in **Appendix D**. There is the potential for wheel squeal to occur at some turns within the Black Creek MSF. If observed, wheel squeal will be addressed	weekends and holidays. If construction activities occur outside the hours of operations, special exemptions need to be obtained from the City of Toronto and residents in the area must be notified several weeks in advance of the construction activities. *Noise* To minimize the potential for construction noise impacts associated with the new alignment in the east and west sections, the following provisions will be written into the contract documentation for the contractor: Construction will be limited to the time periods allowed by the locally applicable bylaws (7:00am to 11:00pm, except in the case of emergencies). If construction activities are required outside of these hours, the Contractor must seek permits / exemptions directly from the City of Toronto in advance. There will be explicit indication that Contractors are expected to comply with all applicable requirements of the contract and local noise by-laws. Enforcement of noise control by-laws is the responsibility of the Municipality for all work done by	construction. Vibration resulting from construction will be monitored using seismographs. Vibrations will be monitored at locations at various distances from work operations and at critical structural or utility locations. As part of the baseline monitoring, a minimum of 3 consistent sets of readings will be taken prior to the start of work. Metrolinx will then continuously monitor ambient vibration levels during construction. The monitoring program for both noise and vibration will include review and alert levels. If instrument readings exceed "review" levels, Metrolinx and its contractor will jointly assess the necessity of altering the method, rate or sequence of construction. At "alert" levels, Metrolinx can order construction operations to cease until the necessary mitigation measures are undertaken. Similarly, vibration during the tunnelling process will require monitoring. In the event that instrument

Factor	Environmental Issue / Concern	Effect / Impact (During Construction; During Operations)	Mitigation Measures	Monitoring / Future Work / Contingency
		through mitigation measures as outlined in **Appendix D**. <u>Bus Station and PPUDO</u> Bus activity at the proposed Bus Station is anticipated to lead to noise levels exceeding guideline limits at some locations (for additional detail see **Appendix D**). Mitigation is recommended to deal with noise impacts from bus activity. <u>*Vibration*</u> Under the City of Toronto Vibration Bylaw, the construction vibration zone of influence is the area where vibration from construction activity is likely to exceed 5 millimetres per second peak particle velocity (mm/s ppv). Vibration from tunnel boring in the area should be less than 5 mm/s ppv at all building foundations. Vibration from pile driving and other general construction activities will not affect any surrounding structures. A review of the surrounding land uses indicates no particularly vibration	Contractors. All equipment will be properly maintained to limit noise emissions. As such, all construction equipment will be operated with effective muffling devices that are in good working order. The Contract documents will contain a provision that any initial noise complaint will trigger verification that the general noise control measures agreed to are in effect. In the presence of persistent noise complaints, all construction equipment will be verified to comply with MOE NPC-115 guidelines. In the presence of persistent complaints and subject to the results of a field investigation, alternative noise control measured may be required, where reasonably available. In selecting appropriate noise control and mitigation measures, consideration should be given to the technical, administrative and economic feasibility of the various alternatives. All blasts will be designed to meet any applicable overpressure and vibration limits established by the MOE in Publication NPC-119 and by	readings reach “alert” levels, (as to be defined on a structure-specific basis in the construction contract documents), Metrolinx site supervisory staff will order construction operations to cease and take necessary actions to mitigate unacceptable movements, including, but

Factor	Environmental Issue / Concern	Effect / Impact (During Construction; During Operations)	Mitigation Measures	Monitoring / Future Work / Contingency
		sensitive uses in the area.	the MTO in OPSS 120. <u>Bus Station and PPUDO</u> Potential options for mitigating stationary source noise impacts include the installation of noise barriers surrounding the Bus Station, and/or upgrading the currently planned noise barriers to the west of the existing CP Rail / GO Transit rail line. Two potential mitigation options are: • Option 1: 3 barriers surrounding the proposed Bus Station (7.0 m, 4.5 m, and 5.0 m) • Option 2: 1 barrier to the northwest of the proposed Bus Station (7.0 m), and 1 upgraded GO Transit barrier to south of Eglinton Avenue Either of the above mitigation options will lead to compliance at surrounding noise sensitive receptors. However, the specific design of mitigation will be considered in detail during the detailed design phase of the project. <u>*Vibration*</u> Under the terms of the City Vibration By-law, a vibration control form will be provided with a Building Permit or	

Factor	Environmental Issue / Concern	Effect / Impact (During Construction; During Operations)	Mitigation Measures	Monitoring / Future Work / Contingency
			Demolition Permit application.	
Land Use	Access to businesses will be modified during construction activities.	Reduced vehicle access to the area and potential loss of on-street parking during construction During operation, the ECLRT will enhance accessibility with improved transit service, stimulating development along the corridor. The ECLRT will attract more business activity, resulting in positive economic benefits.	Metrolinx is committed to accelerating construction as much as possible to reduce the construction period. Auto and transit traffic will be maintained throughout the construction period with a minimum of a single lane of travel in each direction. Every attempt will be made to replace any short-term parking loss for individual homes and businesses.	Metrolinx will form a "Construction Liaison Group" in active construction zones during construction. Prior to each phase of construction Metrolinx will undertake, a comprehensive public awareness campaign. Any complaints received will be investigated and resolved in an effective and efficient manner.
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Factor	Environmental Issue / Concern	Effect / Impact (During Construction; During Operations)	Mitigation Measures	Monitoring / Future Work / Contingency
Utilities	Impacts to utilities along the north side of Eglinton Avenue between Weston Road and the ECLRT portal at Black Creek. In particular, the relocation of a pole line supporting street lighting, hydro, and communications. Impacts to subsurface municipal services.	Utilities and pipelines will be impacted by the ECLRT	Utilities and pipelines located within the underground section of the Eglinton Crosstown ECLRT will be avoided to the extent possible through tunneling. In areas of cut and cover construction, small utilities that are not in direct conflict with the ECLRT facility will be temporarily supported and protected during construction or relocated. Services will be maintained to the extent possible during relocation and notice of planned service interruptions will be provided to service users prior to interruptions.	For all utilities that will be relocated, relocation plans and construction activities will be undertaken in accordance with the *Road Rights of Way Act* and with the City's Requirements for the Installation of Services within the City of Toronto Road Allowance. Metrolinx will pursue the necessary crossing permits required from any affected utilities during the detailed design phase of the study.
Cultural Environment				
Archaeology	Potential loss of archaeological resources.	Given the findings of the Stage 1 and 2 Archaeological Assessments completed in support of the 2010 EPR (Archeoworks Inc. 2009a, Archeoworks Inc. 2009b) and the EPR Addendum (New Directions Archaeology 2013 [**Appendix F**]) no archaeological resources are	No mitigation measures are proposed since no archaeological resources are known to occur within the footprint of ECLRT facilities and the project is clear of any further archaeological concerns based on the identified footprint impacts. The Stage 1 and 2 Archaeological Assessment reports have been submitted to the Ministry of Tourism,	Should additional property be required outside of the current plan, an archaeological assessment will be required. Should previously unknown or unassessed deeply buried archaeological resources be uncovered, they may be a new archaeological site and therefore

Factor	Environmental Issue / Concern	Effect / Impact (During Construction; During Operations)	Mitigation Measures	Monitoring / Future Work / Contingency
		anticipated to be impacted.	Culture and Sport (MTCS) in compliance with Section 65 (1) of the *Ontario Heritage Act*.	subject to Section 48 (1) of the *Ontario Heritage Act*. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed archaeologist to carry out archaeological fieldwork, in compliance with Section 48 (1) of the *Ontario Heritage Act*. Any person discovering human remains must immediately notify the police or coroner and the Registrar of Cemeteries, Ministry of Government Services. Consultation with relevant stakeholders, including any applicable Aboriginal communities, will be initiated in the event that archaeological resources or human remains are discovered.
Built Heritage and Cultural Landscapes	Potential for displacement and/or disruption of cultural heritage landscapes and built heritage resources during and after construction. Potential for indirect impacts by the	Direct and indirect impacts to built heritage resources and cultural heritage landscapes as outlined in **Tables 5-3** and **5-4**.	Mitigation as outlined in **Tables 5-3** and **5-4**.	A contingency plan will be developed prior to construction where appropriate.

Factor	Environmental Issue / Concern	Effect / Impact (During Construction; During Operations)	Mitigation Measures	Monitoring / Future Work / Contingency
	introduction of physical, visual, audible or atmospheric elements not in keeping with their existing character and, or setting.			
Transportation				
Public Transit	Changes to TTC bus routes and stops.	Changes to the existing bus network related to the ECLRT: No parallel bus routes along Eglinton Avenue; North-south arterial bus routes will continue to operate; and Mount Dennis Station will include a new fifteen-bay bus terminal	No additional mitigation measures beyond the proposed rerouting of bus operations are proposed.	Transit schedules are part of the TTC and Metrolinx normal operating procedures. This will allow for either agency to identify future issues and to develop corrective actions.
Pedestrian and Cyclist Network	Relocation of existing sidewalks in the study area. Ultimately, the project will provide for a more comfortable pedestrian and cycling environment.	Temporary closures of pedestrian linkages and traffic lanes during construction.	Pedestrian and cyclist access may be detoured at times but will also be maintained throughout construction.	None.
Road Network	Reduction in the road capacity available for automobile movements.	Disruption to traffic operations along Eglinton Avenue from Jane Street to the proposed	As discussed in **Section 3.4.5**, a signalized intersection is proposed to facilitate bus-only left-turns into and out of the Mount Dennis Bus	Traffic volumes on public roads and transit schedules are part of the City of Toronto's and TTC normal operating procedures.

Factor	Environmental Issue / Concern	Effect / Impact (During Construction; During Operations)	Mitigation Measures	Monitoring / Future Work / Contingency
	Changes to traffic movements with the introduction of a right-in/right-out arrangement at non-signalized intersections.	Mount Dennis LRT Station. Emergency service providers will continue to operate at current service levels with the LRT in place.	Terminal. The new signal is proposed to be coordinated with the Eglinton Avenue/Black Creek Drive intersection to minimize the potential for impacts to general traffic. Metrolinx and their consultants/contractors will work with the City of Toronto to develop an acceptable approach for traffic maintenance during construction.	This will allow for either agency to identify future issues and notify Metrolinx in order to develop corrective actions.
Navigable Waters	There are no navigable waterways present in the EPR Addendum study area.	N/A	N/A	N/A
Other				
Electromagnetic Interference (EMI)	Potential generation of electromagnetic interference.	The proposed changes to the ECLRT do not result in different impacts related to electromagnetic interference (EMI) than those identified in the 2010 EPR.	As noted in the 2010 EPR, EMI can be mitigated through the setback of the overhead catenary wire.	N/A
Stray Current	Potential impacts from stray current.	Stray current corrosion occurring on buried metallic structures. The proposed changes to the ECLRT do not result in different impacts related to stray current	The ECLRT traction power distribution system will be ungrounded and will have no direct connection to the earth. The running rails will be insulated from earth with the use of insulating	A monitoring program as described in **Section 5.7.2** will be put in place where the ECLRT crosses a high-pressure steel pipeline.

Factor	Environmental Issue / Concern	Effect / Impact (During Construction; During Operations)	Mitigation Measures	Monitoring / Future Work / Contingency
		than those identified in the 2010 EPR.	pads and hardware, and by the isolation of all rail associated metal ware from earth. Where applicable, the negative running rails will be connected to the AC ground system through a floating negative automatic ground switch (FNAGS).	

6. CONSULTATION PROCESS

6.1 Overview of Consultation Approach

Stakeholder consultation was undertaken regarding the proposed changes addressed by this Environmental Project Report Addendum. The consultation process was designed to address the requirements of the Transit Project Assessment Process (Regulation 231/08 under Ontario's Environmental Assessment Act). Those consulted included:

- General Public
- Impacted Property Owners
- Provincial Government Agencies
    - GO Transit
    - Ministry of Aboriginal Affairs
    - Ministry of Agriculture and Food
    - Ministry of Citizenship and Immigration
    - Ministry of Energy
    - Ministry of the Environment
    - Ministry of Health and Long-Term Care
    - Ministry of Infrastructure
    - Ministry of Municipal Affairs and Housing
    - Ministry of Natural Resources
    - Ministry of Northern Development and Mines
    - Ministry of Transportation
    - Ministry of Tourism, Culture and Sport
    - Toronto and Region Conservation Authority
- Federal Government Agencies
    - Aboriginal Affairs and Northern Development Canada
    - Canadian Environmental Assessment Agency
    - Department of Fisheries and Oceans
    - Environment Canada
    - Transport Canada
- Municipal Departments and Services and Broader Private Sector
    - City of Toronto: Infrastructure Planning
    - City of Toronto: Technical Services

  - City of Toronto: City Planning – Transportation, Urban Design, Eglinton Planning Study
  - City of Toronto: Transportation Services
  - City of Toronto: Urban Forestry
  - City of Toronto: City Parks Planning
  - Toronto Emergency Medical Services
  - Toronto Fire Services
  - Toronto Police Services
  - Toronto Transit Commission – Service Planning
  - Canadian Pacific Railway
- Utilities
  - Hydro One Networks Inc.
  - Sarnia Products Pipeline, ESSO Imperial Oil
  - Sun-Canadian Pipe Line Company Limited
  - Trans-Northern Pipelines Inc.
- Aboriginal Communities
  - Alderville First Nation
  - Beausoliel First Nation
  - Chippewas of Georgina Island
  - Chippewas of Mnjikaning (Rama)
  - Curve Lake First Nation
  - Hiawatha First Nation
  - Métis Nation of Ontario
  - Moose Deer Point First Nation
  - Mississaugas of the New Credit First Nation
  - Mississaugas of Scugog Island
- Elected Officials
  - Councillor Frances Nunziata
  - Councillor Frank Di Giorgio
  - MPP Laura Albanese
  - MP Mike Sullivan
  - MPP Kathleen Wynne
  - MP John Carmichael

- Councillor John Parker
- Councillor Denzil Minnan-Wong
- Councillor Jaye Robinson

Consultation was an integral component of the study and took many forms. All stakeholders were welcome to participate in general public consultation activities.

Focused consultation was undertaken with specific stakeholders. **Table 6-1** provides an overview of consultation approaches organized by stakeholder groupings and provides reference to where additional details can be found in this report.

Table 6-1: Overview of Consultation Approaches

Stakeholder Group	Consultation Method	Reference
All Stakeholders / General Public	Public Open Houses and Online Consultation	Section 6.2 Section 6.3
	EPR Addendum Review	Section 6.10
Impacted Property Owners	Direct mailings and meetings on request	Section 6.4
Federal Government Agencies	Draft EPR Addendum Review	Section 6.9
Provincial Government Agencies	Technical Advisory Committee and Supplemental Meetings	Section 6.5
	Draft EPR Addendum Review	Section 6.9
Municipal Departments and Services	Technical Advisory Committee and Supplemental Meetings	Section 6.5
	Draft EPR Addendum Review	Section 6.9
Aboriginal Communities	Direct mailings	Section 6.6
Utilities	Draft EPR Addendum Review	Section 6.9
Elected Officials	Scheduled briefings with Elected Official and/or staff	Section 6.7

In addition to participation in focused consultation, stakeholders could contact Metrolinx staff at any time via the Crosstown LRT website (www.thecrosstown.ca) or by visiting the Crosstown Community Office located at 1848 Eglinton Avenue West during office hours or by appointment. The Crosstown Community Office is staffed by the Crosstown Community Relations Team which works with communities, businesses and stakeholders to identify issues early and mitigate construction impacts. The Crosstown Community Relations Team provides “on the ground”, personal and easy access to timely information about the Crosstown LRT and are available to meet with community members and groups.

Permit and approval requirements were also identified and confirmed through stakeholder consultation. For details regarding permits and approvals as well as commitments related to future consultation please refer to **Section 7** (Commitments and Future Work).

6.2 Public Open Houses and Online Consultation

6.2.1 Overview of Consultation Process – Public Open House (June 26, 2012) and Online Consultation #1

6.2.2 Overview of Consultation Process – Public Open House (June 26, 2012) and Online Consultation #1

In June 2012 a public consultation process was initiated to discuss new developments and improvements in the areas between Keele Street and Jane Street for the ECLRT project. The two primary methods used to engage the community were a Public Open House and an online questionnaire. The open house was held at York Memorial Collegiate on Tuesday, June 26, 2012 by the TTC and Metrolinx. An online consultation was launched on The Crosstown website the same day and ran from June 26 until July 10, 2012. The online consultation included the display boards and a questionnaire for those unable to attend the open house.

The three key considerations presented for discussion and feedback were:

1. The future Light Rail Vehicle Maintenance and Storage Facility at the former Kodak lands;
2. Route alignment from west of Keele Street to the former Kodak lands and extension of the line to Jane Street, including underneath Weston Road; and,
3. A new Crosstown station near Weston Road and the elimination of the Black Creek Stop.

A Public Consultation Report was prepared to document the consultation. A copy of that report is included in **Appendix I**.

6.2.2.1 Notice of Public Open House and Online Consultation #1

Canada Post drops and newspaper ads were used to inform the public of the Western Alignment and Vehicle Maintenance and Storage Facility Consultation. 27,984 public notices for the open house were delivered via Canada Post on June 5, 2012 to properties with a 1.5 km radius of Black Creek Drive and Eglinton Avenue West – including properties west of Jane Street and east to the railway tracks in the vicinity of Caledonia, both north and south of Eglinton Avenue. The newspaper ad was published in the York Guardian on June 21, 2012, reaching an estimated audience of more than 49,248. Further details and samples of the Canada Post drops and newspaper ads can be found in the Public Consultation Report (**Appendix I**).

6.2.2.2 Public Open House and Online Consultation #1

The June 26, 2012 Public Open House attracted almost 130 participants for the two-hour session in which the project team presented new developments and engaged in discussions with and documented input of public attendees. City Planning staff were present to field questions related to new and proposed

developments in the study area and community impact of construction. Forty-one attendees submitted written questionnaires.

The online consultation, which was promoted as an alternative to attending the Public Open House, ran from June 26 until July 10, 2012. Sixty-three people participated in the online consultation which featured the original display boards used during the Public Open House and a questionnaire with both rating and open-ended discussion questions.

6.2.2.3 Summary of Comments Received

Participants of both the Public Open House and online consultation rated easy transfer between modes of transit as the most important consideration and reducing construction impacts as the least important. There was also agreement amongst participants of both forums on the importance of safety and accessibility and of public involvement in the consultation process.

The sections below summarize the most common comments received during the Western Alignment and Vehicle Maintenance and Storage Facility Public Open House #1 and associated online consultation. A copy of the online questionnaire, compilation of comments received and answers to questions are provided in the Public Consultation Report (**Appendix I**).

Heritage

The former Kodak employee building, known as Building No. 9, is located within the proposed Vehicle Maintenance and Storage Facility site. Many participants stressed that the heritage of the building should be preserved. Some requested that the original façade be maintained, while others hoped the "Kodak" name would be incorporated, feeling the building is an important part of Mt. Dennis and local community history.

Support for New off-street LRT Alignment

Many participants expressed support for the new "off-street" LRT alignment from the portal west of Keele Street into the former Kodak lands. The most common reasons cited were that this alignment would eliminate traffic impacts at Black Creek Drive and enhance transit operations in bypassing the intersection.

Job Creation and Business Development

Numerous respondents discussed the need for these projects to create jobs for members of the community, something many felt was integral. There were calls for available lands within the former Kodak site to be used for industrial and business development, rather than condo development. Many expressed the desire to limit the size of the facility as much as possible to preserve space for redevelopment opportunities.

Complete Streets/Cycling Infrastructure

Cyclists (including Cycle Toronto) voiced concerns over the lack of bicycle infrastructure in the preliminary plan. The following additions to the plans were requested: bike lanes from Keele Street to Jane Street, bike access to the future Mt. Dennis/Weston Road station, links to existing on-street routes and off-street trails, and links to planned bike routes. Requests were made to explicitly integrate cycling plans in the Metrolinx Mobility Hub, City Planning Corridor Study and the Route Alignment and Vehicle Facility studies. Many respondents promoted a "complete streets" approach to project design, whereby all forms of transportation are given equal precedence.

Community Participation

Many respondents discussed the importance of station consultations, and of incorporating citizens and their ideas into project planning for The Crosstown project. There was also a call for increased communications and updates on the project, including the use of social media to disseminate information.

Noise and Traffic

Residents voiced concerns about potential noise and traffic impacts that the Maintenance Facility may have on the community once it is fully operating. Several respondents requested that noise barriers be erected to reduce potential impact on local residents. To a lesser degree, concerns were expressed about these impacts during construction itself.

6.2.3 Overview of Consultation Process – Public Open House (December 12, 2012) and Online Consultation #2

In December 2012 a public consultation process was initiated to further discuss new developments and improvements in the areas between Keele Street and Jane Street for the ECLRT project. This consultation built on the first round of consultation in June-July 2012.

The two primary methods used to engage the community and gather information during this consultation included a Public Open House and online consultation. The open house was held at York Memorial Collegiate on Wednesday, December 12, 2012 by Metrolinx. An online consultation was launched on The Crosstown website the same day and ran from December 12, 2012 until January 4, 2013. The online consultation included the display boards and a questionnaire for those unable to attend the open house.

A Public Consultation Report was prepared to document the consultation. A copy of that report is included in **Appendix J**.

6.2.3.1 Notice of Public Open House and Online Consultation #2

Canada Post drops and newspaper ads were used to inform the public of the Western Alignment and Vehicle Maintenance and Storage Facility Consultation. Between November 29 and December 4, 2012 12,018 public notices for the open house were delivered via Canada Post to properties with an approximately 0.5

km radius of the area between Jane Street and Keele Street. Between November 29 and December 6, 2012, newspaper ads were published in the York Guardian and the Metro News Toronto, reaching an estimated audience of 1,343,496. Further details and a sample of the public notice can be found in the Public Consultation Report (**Appendix J**).

The consultation was also promoted online through various digital mediums, including The Crosstown Website, Twitter feed and Facebook Fan Page. In addition, a Facebook ad was launched during this time which reached an audience of 385,608 Toronto area residents.

6.2.3.2 Public Open House and Online Consultation #2

The December 12, 2012 Public Open House attracted more than 89 people, many of whom provided input and voiced recommendations to the attending staff. Fourteen attendees completed a written questionnaire.

The online consultation, which was promoted as an alternative to attending the Public Open House, ran from December 12, 2012 until January 4, 2013. The online consultation featured the original display boards used during the Public Open House and a survey. The online survey was completed by fourteen users.

6.2.3.3 Summary of Comments Received

The sections below summarize the most common comments received during the Western Alignment and Vehicle Maintenance and Storage Facility Public Open House #2 and associated online consultation. A copy of the comment sheet and answers to questions are provided in the Public Consultation Report (**Appendix J**).

<u>Underground vs. Above-Ground LRT Alignment</u>

Many participants voiced opinions about whether the LRT line should be underground or above ground. Several respondents stated that the line should be not only above ground but elevated and completely separated from the road over Jane and beyond. Others suggested that future LRT lines should be underground from Black Creek Drive to Jane Street.

<u>Jane Street in Phase 1</u>

Multiple respondents requested that the new phased approach include a stop at Jane Street as part of Phase 1. One participant noted that this would take pressure off of the bus route on Eglinton Avenue.

<u>Kodak Building No.9</u>

Maintaining the Kodak lands and building were popular decisions among many participants, some of whom had lobbied to save the building during the initial planning stages. Some respondents suggested further ways that the building could be used, including using it as the main entrance and giving pedestrians access to the building without paying a fare.

Opinions on Bus Terminal Design

Many participants had opinions about the location of bus bays in the new design. Several advocated for moving the bus bays closer to the LRT and Weston Road to reduce the walking distance between the two forms of transit. Many respondents provided suggestions on how to achieve this, including one respondent who suggested wrapping the bus terminal around the north side of the Kodak building.

Construction Impact and Traffic

There were many comments about construction impacts, with several respondents asking Metrolinx to monitor environmental effects and to take measures to reduce construction noise. Multiple participants also expressed concern about increased bus traffic, citing pedestrian safety concerns and the potential for gridlock.

Revitalization and Streetscaping/Land Use

Several participants commented on the need for the project to revitalize the area and make it a location worth visiting, and of the importance of building not just a station but a point of interest around that station.

6.3 Impacted Property Owners

Where full or partial property acquisition is required Metrolinx sent notification directly to the corresponding property owners. Some impacted property owners attended one or more of the Public Open Houses. Meetings were arranged with impacted property owners upon request.

6.4 Technical Advisory Committee and Supplemental Meetings

Key stakeholder agencies and City staff were consulted through the Technical Advisory Committee. Meetings were held with the Technical Advisory Committee as outlined in **Table 6-2**.

Table 6-2: Meetings with the Technical Advisory Committee

Meeting Date	Purpose
June 6, 2012	To provide a project update and review the draft Public Open House #1 display material.
November 19, 2012	To review the project progress, draft Public Open House #2 display materials, next steps and to provide an overview of Metrolinx's Mount Dennis Mobility Hub Study.
January 8, 2013	To review the proposed design changes, provide the draft Environmental Project Report for review and discuss next steps.

6.4.1 Toronto and Region Conservation Authority

In addition to participation in the Technical Advisory Committee, meetings were held with the Toronto and Region Conservation Authority as outlined in **Table 6-3**.

Table 6-3: Meetings with the Toronto and Region Conservation Authority

Meeting Date	Purpose
June 25, 2012	To discuss the proposed design changes between Keelesdale Park and Jane Street.
January 28, 2013	To discuss review comments regarding the draft Environmental Project Report Addendum.

6.4.2 City of Toronto

In addition to participation in the Technical Advisory Committee, meetings were held with the City of Toronto as outlined in **Table 6-4**.

Table 6-4: Meetings with the City of Toronto

Meeting Date	Purpose
Monday, July 9, 2013	Meeting with City Planning to discuss changes in alignment between the West Launch Shaft and Weston Road
Tuesday, August 21, 2013	Meeting with City Planning to discuss changes in alignment between the West Launch Shaft and Weston Road and to discuss LRT access to Maintenance and Storage Facility

6.4.3 Toronto Transit Commission

In addition to participation in the Technical Advisory Committee, meetings were held with the Toronto Transit Commission as outlined in **Table 6-5**.

Table 6-5: Meetings with the Toronto Transit Commission

Meeting Date	Purpose
May 17, 2012	To review requirements for the 15-bay bus terminal at Mt. Dennis Station.
February 27, 2013	To review requirements for the 15-bay bus terminal at Mt. Dennis Station.

6.4.3.1 Canadian Pacific Railway

In addition to participation in the Technical Advisory Committee, meetings were held with the Canadian Pacific Railway as outlined in **Table 6-6**.

Table 6-6: Meetings with the Canadian Pacific Railway

Meeting Date	Purpose
September 12, 2012	To discuss the proposed LRT design changes and potential impacts to the Canadian Pacific Railway.

6.5 Ministry of the Environment

Meetings were held with the Ministry of the Environment as outlined in **Table 6-7**.

Table 6-7: Meetings with the Ministry of the Environment

Meeting Date	Purpose
January 14, 2013	To review the proposed design changes, discuss the review of the draft Environmental Project Report for review and next steps.

6.6 Aboriginal Communities

Metrolinx sent notification directly to potentially interested Aboriginal communities in advance of the two rounds of public consultation. Letters were sent on June 18, 2012 and November 29, 2012.

6.7 Elected Officials

The following table summarizes the consultation activities specifically aimed at elected officials.

Table 6-8: Meetings with the Elected Officials

Elected Official(s)	Meeting Date	Purpose
Councillor Frank Di Giorgio, York South-Weston, Ward 12	June 19, 2012	Meeting arranged to provide details regarding EA Addendum in advance of Public Meeting scheduled for June 26, 2012.
Councillor Frances Nunziata, York South-Weston, Ward 11	June 19, 2012	Meeting arranged to provide details regarding EA Addendum in advance of Public Meeting scheduled for June 26, 2012.
MPP Laura Albanese, York South-Weston	June 25, 2012	Meeting arranged to provide details regarding EA Addendum in advance of Public Meeting scheduled for June 26, 2012.
MP Mike Sullivan, York South-West	June 25, 2012	Meeting arranged to provide details regarding EA Addendum in advance of Public Meeting scheduled for June 26, 2012.
MPP Laura Albanese, York South-Weston	November 21, 2012	Meeting arranged to provide details of current status of EA Addendum in advance of Public Meeting scheduled for December 12, 2012.
Councillor Frank Di Giorgio, York South-Weston, Ward 12	November 21, 2012	Meeting arranged to provide details of current status of EA Addendum in advance of Public Meeting scheduled for December 12, 2012.
Councillor Frances Nunziata, York South-Weston, Ward 11	November 21, 2012	Meeting arranged to provide details of current status of EA Addendum in advance of Public Meeting scheduled for December 12, 2012.
MPP Laura Albanese, York	December 3, 2012	Secondary briefing arranged by

South-Weston		request to provide further detail following November briefing.
Councillor Frank Di Giorgio, York South-Weston, Ward 12	December 3, 2012	Secondary briefing arranged by request to provide further detail following November briefing.
Councillor Frances Nunziata, York South-Weston, Ward 11	December 3, 2012	Secondary briefing arranged by request to provide further detail following November briefing.
MP Mike Sullivan, York South-West	December 7, 2012	Meeting arranged to provide details of current status of EA Addendum in advance of Public Meeting scheduled for December 12, 2012.

6.8 Circulation of Draft Environmental Project Report Addendum

In January 2013 the draft Environmental Project Report Addendum was provided to representatives from federal government agencies, provincial government agencies, municipal departments and services and broader private sector, and utilities (see list in **Section 6.1**). Distribution occurred in person at the January 8, 2013 Technical Advisory Committee meeting and by courier to those not in attendance at that meeting.

Appendix J provides comment-response tables documenting comments received during the review of the draft EPR Addendum and how those comments have been addressed.

6.9 Review of the Environmental Project Report Addendum

In accordance with the Transit Project Assessment Process (Regulation 231/08 under Ontario's Environmental Assessment Act) a Notice of Environmental Project Report Addendum was issued alongside public release of this Environmental Project Report Addendum. The notice was distributed in accordance with the Transit Project Assessment Process.

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7. COMMITMENTS AND FUTURE WORK

During the 2010 Transit Project Assessment Process (TPAP), the Project Team worked closely with key stakeholders to attempt to address and resolve all issues or concerns identified in the 2010 EPR. Additional consultation with key stakeholders was undertaken to review the design changes described in this EPR Addendum. However, not all issues can be addressed within the context of a Transit Project Assessment since the design of the ECLRT within the area affected by this Addendum has been prepared at a conceptual level and further details are required to finalize property requirements, planning initiatives, construction issues and permits/approvals. The subsections following this paragraph summarize Metrolinx's commitments to future action during preliminary and detail design, of the Project in the areas affected by this Addendum. Details of the commitments and future work requirements are discussed in further detail in **Section 5** of this report, and presented in **Table 5-5**.

Commitments identified in the 2010 EPR that pertain to sections of the Project not covered by this Addendum remain in effect (unless modified through other means).

7.1 Consultation

Metrolinx will continue to consult with the City of Toronto, TTC, the public, property owners and stakeholder agencies (including emergency service providers) during the design of the ECLRT alignment, stops/stations, bus terminals and ancillary facilities. Specifically, Metrolinx will develop a detailed communication and community engagement plan (including formation of "Community Liaison Groups" in active construction zones) and program designed to mitigate disruption to affected local communities and maximize public support for the ECLRT Project.

7.2 Property Acquisition

Metrolinx will continue to liaise with potentially affected property owners to obtain rights to construct the transit project within their lands. The preliminary property requirements identified in **Section 5.3.7** will be confirmed during the detailed design phase of the study.

The key steps that Metrolinx will undertake in the property acquisition process (including permanent property requirements and temporary construction easements) are as follows:

- Conduct a Property Protection Study to confirm the property requirements upon substantial completion of the detailed design study;
- Continue property negotiations with the City of Toronto, the Ministry of Transportation, the City of Toronto and the Toronto and Region Conservation Authority, for publicly-owned property; and

- For privately-owned properties within the City of Toronto, Metrolinx will acquire property by negotiation or expropriation, as required.

7.3 Planning and Design Initiatives

Metrolinx will undertake the following planning and design initiatives:

- Metrolinx will work with the City of Toronto to ensure that selected locations for station entrances, vent shafts, traction power substations (and Emergency Exit Buildings) meet established urban design and community planning policies and guidelines, limit impact, and provide opportunities for enhancements of the sites and pedestrian access;
- Metrolinx will work with the City of Toronto to ensure the design of the Black Creek Drive LRT overpass minimizes the visual and aesthetic impact to the public realm and community;
- Metrolinx will work with the City of Toronto to address changes in short- and long term cycling amenities in the areas covered by this Addendum through the Eglinton Connects Study;
- Metrolinx will incorporate City of Toronto urban design criteria into the design of Eglinton Crosstown LRT facilities. Specifically, Metrolinx will coordinate with the City of Toronto regarding Eglinton Connects and review opportunities for the retaining walls along the north side of Eglinton Avenue, east of the rail corridor (ie. Green wall or art wall);
- Metrolinx will work with the City of Toronto to ensure that the pedestrian environment at surface stops and underground stations meets established urban design and community planning policies and guidelines as well as at-grade pedestrian crossing opportunities at or near the secondary entrance at Mount Dennis Station;
- Metrolinx will consult with the City of Toronto regarding the implementation of public art; and
- Metrolinx will confirm impacts to municipal services (sewer, water) during the detailed design phase of the project. Metrolinx will consult with the City to confirm a mitigation/relocation scheme in compliance with the City's requirements at that time.

7.4 Construction Issues

Metrolinx will conduct further research and analysis for the construction of the Eglinton Crosstown LRT, including, but not limited to the following activities:

- Prepare a monitoring plan in accordance with subsection 9.2.8 of Ontario Regulation 231/08 to verify the effectiveness of mitigation measures;
- Include noise, vibration and air quality monitoring and mitigation measures and construction site maintenance/upkeep requirements in construction contract documents;

- Develop traffic, parking, transit, cycling and pedestrian management strategies to be included in construction contract documents;
- Analyse cut and cover construction sites further with the objective to minimize impacts including: reducing width of station box construction by refinement of station platform width and tunnel diameter; alternate methods of excavation support for cut and cover locations; use of mining methods at critical locations; and development of comprehensive pedestrian and traffic management plans;
- Develop utility, pipeline and municipal servicing relocation plans in consultation with service providers (including but not limited to Bell Canada, Enbridge Gas Distribution, Trans-Northern Pipelines, Rogers Cable, Sun Canadian Pipelines, Toronto Hydro, and Toronto Water;
- Develop emergency response plans with emergency service providers to maintain fire, police and emergency medical services during construction;
- Prepare and implement arborist reports, tree protection plans, edge management and streetscape plans;
- In consultation with TRCA and City of Toronto, determine areas where compensation for vegetation loss will be required; determine quantity and type of species to be used; and, identify sites where restoration efforts would be maximized;
- Undertake Designated Substances Surveys for any buildings or structures which require demolition and to reflect the findings in construction contract documents;
- Develop procedures for disposal of excavated materials, including excess soils, in accordance with Ministry of the Environment requirements;
- Prepare and implement a Soil and Groundwater Management Strategy, including water treatment methods, which results in discharge water quality complying with prevailing TRCA and City of Toronto water guidelines and requirements; and contaminated soils management, in accordance with environmental legislation, regulations and guidelines;
- Prepare an erosion and sedimentation control plan, which complies with prevailing TRCA and City of Toronto water guidelines and requirements;
- Undertake buildings, structures, and railway protection and monitoring;
- Prepare Cultural Heritage Evaluation Reports and/or undertake Heritage Impact Assessments at select sites to address Ministry of Tourism, Culture and Sport, City of Toronto Heritage Preservation Services and Local Municipal Heritage Committee requirements. In the City of Toronto, cultural heritage resources of “heritage interest” but not on the Municipal Register, will be screened to assess local significance and whether to proceed through to the Heritage Impact Assessment process;

- Prepare Cultural Heritage Documentation Report at select sites.
- Undertake stray current protection (if applicable) and monitoring for pipelines and other utilities;
- Manage brownfield sites in accordance with Ontario Regulation 153/04 as amended; and
- Conduct a Phase 1 and 2 Environmental Site Assessment for any areas of existing contamination prior to property acquisition for the ECLRT and consult with MOE as appropriate.

7.5 Permits and Approvals

Metrolinx will secure necessary permits and approvals for the implementation of the Eglinton Crosstown LRT, including, but not limited to:

- Planning approvals (including Site Plan Approval) for all above-grade structures and facilities (through the City of Toronto);
- Park access permits (through the City of Toronto) for access to parks for construction and staging activities;
- Building permits for the stations, Emergency Exit Buildings and traction power substations (through the City of Toronto);
- Permit(s) to Take Water (from the Ministry of the Environment) (for locations where dewatering exceeds 50,000 litres per day);
- Ontario Regulation 166/06 (Regulation of Development, Interference with Wetlands and Alterations to Shorelines and Watercourses) permits (through TRCA) for work within regulated areas including Black Creek and West Don River;
- Stormwater management, in accordance with City of Toronto, TRCA and MOE requirements;
- Sewer discharge approvals, in accordance with City of Toronto and TRCA requirements;
- Railway Crossing Agreements at the Weston Subdivision, Mactier Subdivision and Belleville Subdivision (through CN Rail, CP Rail or Metrolinx);
- Pipeline Crossing Agreements, as required;
- Environmental Compliance Approvals for Air Quality in accordance with the Environmental Protection Act (through MOE), including Operational Air Quality Assessment for the MSF;
- Permits for construction within the existing road allowances (through the City of Toronto;

- Highway Alteration By-law approval for alterations to Eglinton Avenue (through the City of Toronto);
- Permits and approvals for tree protection and removal/injury (through TRCA, and the City of Toronto as applicable);
- Applicable Ontario Energy Board approvals are to be obtained for utility relocations; and
- City of Toronto Ravine, Natural Feature Protection By-law, Private Tree By-Law, Street Tree By-Law, and Parks By-Law are to be complied with as applicable. Metrolinx will obtain all necessary permits from the City for tree protection/removal requirements upon confirmation of the impacts to applicable trees.

7.6 Noise and Vibration Protocols

Metrolinx will conduct additional noise and vibration studies as required, in accordance with existing MOE/Metrolinx protocols.

7.7 Canadian Environmental Assessment Act (CEAA)

The Canadian Environmental Assessment Agency (CEA Agency) has determined the current project does not require assessment under *CEAA*. If the project description changes, Metrolinx will consult with CEA Agency to confirm their requirements.

7.8 Municipal and TTC Approvals

Metrolinx shall submit all plans for New City Infrastructure, Additional Infrastructure and Program Infrastructure for review and approval. Metrolinx will design, construct, commission into service and certify that all new City infrastructure has been constructed to basic construction requirements in engineering drawings and standards approved by the City pursuant to formal agreement with Metrolinx.

Additionally, Metrolinx is responsible for ensuring that:

- All work on TTC Infrastructure and work on lands owned or occupied by the TTC are in accordance with applicable laws; and
- The new TTC infrastructure is in accordance with TTC design standards and all other requirements through formal agreement with Metrolinx.

7.9 TPAP Addendum Process

Metrolinx will prepare an addendum if significant changes to the project occur after the Notice of Completion is issued in accordance with Section 15 of Ontario Regulation 231/08, including:

- Preparation of an addendum to the Environmental Project Report;

- Preparation of a Notice of Addendum to the Environmental Project Report; and,
- Distribution of the Notice of Addendum to relevant stakeholders and the Ministry of the Environment.

APPENDICES