Metrolinx

Final Early Works Report

Ontario Line Lower Don Bridge and Don Yard Early Works

Prepared by:

AECOM Canada Ltd.
105 Commerce Valley Drive West, 7th Floor
Markham, ON L3T 7W3
Canada

T: 905.886.7022
F: 905.886.9494
www.aecom.com

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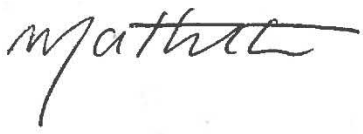
Authors

Report Prepared By:

Sarah Schmied
Environmental Planner

Jarrid Radoslav
Environmental Planner



Madeleine Atherton
Environmental Planner

Report Reviewed By:

Nicole Cooke, MES
Senior Environmental Planner

Report Approved By:

Wendy Ott
Senior Environmental Scientist, Project Manager

Executive Summary

ES.1 Ontario Line Lower Don Bridge and Don Yard Early Works

The Ontario Line Project (the Project) is being assessed in accordance with Ontario Regulation 341/20: Ontario Line Project under the Environmental Assessment Act. Ontario Regulation 341/20: Ontario Line Project outlines a Project-specific environmental assessment process that includes an Environmental Conditions Report, Environmental Impact Assessment Report, and an opportunity for Early Works Report(s) for assessment of works that are ready to proceed in advance of the Environmental Impact Assessment Report. The Environmental Conditions Report documents the local environmental conditions of the Ontario Line Study Area and provides a preliminary description of the potential environmental impacts from the Project. Information outlined in the Environmental Conditions Report is used to inform the Early Works Report(s) and Environmental Impact Assessment Report, which study environmental impacts in further detail and confirm and refine preliminary mitigation measures identified in the Environmental Conditions Report.

Ontario Line early works are components of the Project that are proposed to proceed before the completion of the Ontario Line environmental impact assessment process. An overview of the Project is provided in **Section 1.2**. Early works are defined in Ontario Regulation 341/20: Ontario Line Project under the Environmental Assessment Act as follows:

> *"any components of the Ontario Line Project that Metrolinx proposes to proceed with before the completion of the Ontario Line assessment process, such as station construction, rail corridor expansion, utility relocation or bridge replacement or expansion."*

Lower Don Bridge and Don Yard early works are considered to be of strategic importance in enabling the timely implementation of the Project. These early works are being advanced in an area where the Project interfaces with GO Expansion. Advancing early works and supporting environmental and technical studies in this area provides planning and design efficiencies for the Project and GO Expansion and facilitates the timely implementation of both.

AECOM Canada Limited (AECOM) was retained by Metrolinx and Infrastructure Ontario to complete this Ontario Line Lower Don Bridge and Don Yard Early Works Report (this Report) to document the assessment of Lower Don Bridge and Don Yard early works (**Figure ES-1**).

The Lower Don Bridge and Don Yard early works components and construction activities are further described in **Section 1.3**.

ES.2 Study Process

This Report has been completed in accordance with Ontario Regulation 341/20: Ontario Line Project under the Environmental Assessment Act and contains the information outlined in **Table ES-1**.

Table ES-1: Report Contents in Accordance with Ontario Regulation 341/20: Ontario Line Project

Reg. Section	Requirement	Report Section
Section 8(2)1	A description of the early works including a description of the alternatives that were considered.	**Section 1.3 and Section 3**
Section 8(2)2	The rationale for proceeding with the early works and a summary of background information relating to them.	**Section 1.3**
Section 8(2)3	A map showing the site of the early works.	**Figure 3-1 and Appendix B**
Section 8(2)4	A description of the local environmental conditions at the site of the early works.	**Section 5 and Appendix B**
Section 8(2)5	A description of all studies undertaken in relation to the early works, including, i. a summary of all data collected or reviewed, and ii. a summary of all results and conclusions.	**Section 5, Section 6, and Appendix B**
Section 8(2)6	Metrolinx's assessment and evaluation of the impacts that the preferred method of carrying out the early works and other methods might have on the environment, and Metrolinx's criteria for assessment and evaluation of those impacts.	**Section 6 and Appendix B**
Section 8(2)7	A description of any measures proposed by Metrolinx for mitigating any negative impacts that the preferred method of carrying out the early works might have on the environment.	**Section 6 and Appendix B**
Section 8(2)8	A description of the means Metrolinx proposes to use to monitor or verify the effectiveness of mitigation measures proposed.	**Section 6 and Appendix B**
Section 8(2)9	A description of any municipal, provincial, federal or other approvals or permits that may be required for the early works.	**Section 7 and Appendix B**
Section 8(2)10	A consultation record, including, i. a description of the consultations carried out with Indigenous Nations and interested persons, ii. a list of the Indigenous Nations and interested persons who participated in the consultations, iii. summaries of the comments submitted by Indigenous Nations and interested persons, and iv. a summary of discussions that Metrolinx had with Indigenous Nations, and copies of all written comments submitted by Indigenous Nations.	**Section 8 and Appendix C**

Refer to **Section 2** of this Report for more information on the early works study process.

ES.3 Early Works Description

This Report documents the assessment of Lower Don Bridge and Don Yard early works. The locations and components of these early works are shown in **Figure ES-1**.

The Lower Don Bridge and Don Yard early works will include:

- Construction of a new bridge north of the existing Lakeshore East rail corridor[1] bridge over the Lower Don River that will carry the Ontario Line tracks;
- Shift of the nearby Union Station and Lakeshore East rail corridor GO tracks, including tracks on the existing rail bridge, to accommodate Ontario Line infrastructure within the Union Station rail corridor[2] and Don Yard;
- Modifications to the existing Lakeshore East rail corridor bridge to accommodate Lakeshore East GO track shifts to accommodate Ontario Line infrastructure; and
- Utility and signal infrastructure relocation or protection.

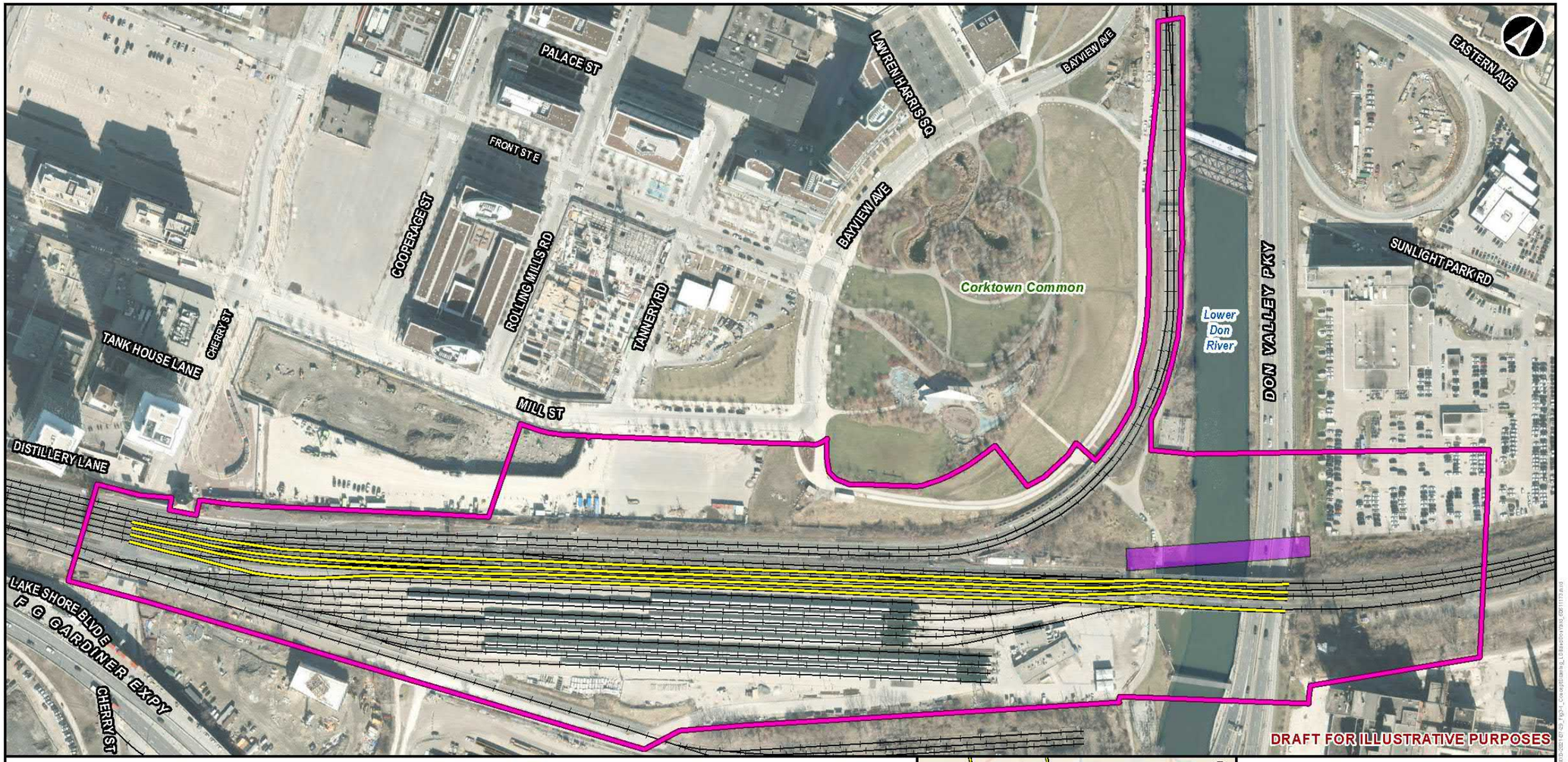
Active transportation access across the Lower Don River will be facilitated via a bridge that will provide a multi-use connection across the river. This bridge is not within the scope of these early works, and will be assessed as part of the Ontario Line Environmental Impact Assessment Report.

The Lower Don Bridge and Don Yard Early Works Project Footprint shown in **Figure ES-1** includes permanent infrastructure to be built as part of the Lower Don Bridge and Don Yard early works as well as lands anticipated to be temporarily impacted by early works construction staging/laydown and access; these lands are anticipated to be refined and reduced to the extent feasible as project planning progresses.

Assessment of project operations and construction of other project components will be documented in the Ontario Line Environmental Impact Assessment Report in accordance with Section 15 of Ontario Regulation 341/20: Ontario Line Project.

1. Lakeshore East rail corridor extends from the Lower Don River in the City of Toronto to the City of Oshawa.
2. Union Station Rail Corridor extends from approximately west of Bathurst Street to the Lower Don River in the City of Toronto.

Figure ES-1: Lower Don Bridge and Don Yard Early Works Conceptual Design



ES.4 Local Environmental Conditions

This section provides a summary of the existing natural, technical, socio-economic, and cultural aspects of the existing environment in the context of Lower Don Bridge and Don Yard early works. Information on the following environmental components is provided in the sections below, and where applicable, is supplemented with supporting detailed technical reports:

- Natural Environment ..... **Section 5.1 and Appendix B1**
- Soil and Groundwater..... **Section 5.2**
- Hydrology and Surface Water..... **Section 5.3**
- Air Quality..... **Section 5.4 and Appendix B2**
- Noise and Vibration ..... **Section 5.5 and Appendix B3**
- Socio-Economic and Land Use Characteristics ..... **Section 5.6**
- Built Heritage Resources and Cultural Heritage Landscapes ..... **Section 5.7 and Appendix B4**
- Archaeological Resources..... **Section 5.7**
- Traffic and Transportation ..... **Section 5.9 and Appendix B5**
- Utilities..... **Section 5.10**

The Ontario Line Final Environmental Conditions Report (AECOM, 2020a)[3] was reviewed to support the determination of local environmental conditions within the discipline-specific study areas developed for the Lower Don Bridge and Don Yard early works. Where necessary, review of additional desktop and field information was undertaken. The local environmental conditions for Lower Don Bridge and Don Yard early works are summarized below.

Natural Environment

The Lower Don Bridge and Don Yard Natural Environment Study Area includes the Lower Don Bridge and Don Yard Early Works Project Footprint and a 120-metre buffer. This buffer has been applied in accordance with the Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement, Second Edition (Ministry of Natural Resources and Forestry, 2010).

3. The Ontario Line Final Environmental Conditions Report (AECOM, 2020) was published on November 30, 2020 in accordance with Ontario Regulation 341/20: Ontario Line Project.

The Lower Don Bridge and Don Yard Early Works Project Footprint falls entirely within the City of Toronto's Natural Heritage System (11.25 hectares), and portions fall within the Ravine and Natural Feature Protection By-law Area (0.93 hectares) and Toronto and Region Conservation Authority's regulation limits (6.16 hectares). The Urban River Valley designation under the Greenbelt Plan occurs along the Don River to its mouth at Lake Ontario and is partially (3.23 hectares) overlaps the footprint. The forested river valleys and ravines associated with the Don River Valley support the movement of migratory breeding birds and provide shelter and food for migrant water-dependent birds.

According to the Ministry of Natural Resources and Forestry's GeoHub Mapping (2020), there are no Provincially Significant Wetlands, Locally Significant Wetlands, significant valleylands, or provincially significant Areas of Natural and Scientific Interest within the Lower Don Bridge and Don Yard Natural Environment Study Area. In addition, there are no woodlands, or unevaluated wetlands within the Lower Don Bridge and Don Yard Natural Environment Study Area as mapped by the Ministry of Natural Resources and Forestry.

A portion of the Lower Don River is located within the Lower Don Bridge and Don Yard Natural Environment Study Area. The Don River provides fish habitat important for migration, feeding and refuge. No critically limiting habitats for fish (e.g., spawning habitat) or critical habitat for aquatic Species at Risk are present within the Lower Don Bridge and Don Yard Natural Environment Study Area. The fish community is composed of mainly tolerant warmwater fish species.

Habitat for a Species of Conservation Concern, Northern Map Turtle, is present within the Lower Don Bridge and Don Yard Natural Environment Study Area, and candidate habitat may occur for Common Nighthawk, Eastern Wood-pewee, Monarch and Snapping turtle (all identified as Species of Conservation Concern) within the Lower Don Bridge and Don Yard Natural Environment Study Area.

Barn Swallow and Chimney Swift, both Species at Risk, have a high probability to occur within the Lower Don Bridge and Don Yard Natural Environment Study Area. Bat Species at Risk including Eastern Small-footed Myotis, Little Brown Myotis, Northern long-eared Myotis and Tri-coloured Bat have medium probability to occur within the Lower Don Bridge and Don Yard Natural Environment Study Area. Butternut tree has medium probability to occur within the Lower Don Bridge and Don Yard Natural Environment Study Area as well.

The following Species at Risk have a low probability to occur within the Lower Don Bridge and Don Yard Natural Environment Study Area: Bank Swallow, Bobolink, Eastern Meadowlark, and Blanding's Turtle.

Soil and Groundwater

The Lower Don Bridge and Don Yard Soil and Groundwater Study Area includes the Lower Don Bridge and Don Yard Early Works Project Footprint and a 500-metre buffer. This buffer has been applied in accordance with the Hydrogeological Assessment Submissions Conservation Authority Guidelines for Development Applications (Toronto and Region Conservation Authority, 2013a), which recommends well data for private wells within 500 metres be used for impact assessment.

The Lower Don Bridge and Don Yard Soil and Groundwater Study Area is within the Iroquois Plain physiographic region. The Iroquois Plain is a lowland mainly composed of sand extending north up to 10 kilometres from the shoreline of Lake Ontario.

A review of the Ministry of the Environment, Conservation and Parks water well records database indicates that bedrock depths within the Lower Don Bridge and Don Yard Soil and Groundwater Study Area range from approximately 9 to 31 metres below ground surface. Overburden (above bedrock) geologic materials within the Lower Don Bridge and Don Yard Soil and Groundwater Study Area consist primarily of clayey silt, silt, sand, silty clay, sandy silt, and silty sand.

Source water areas/features, as defined by the Ministry of the Environment, Conservation and Parks were reviewed and it was determined that the Lower Don Bridge and Don Yard Soil and Groundwater Study Area overlaps with a Highly Vulnerable Aquifer, which is an aquifer that is susceptible to contamination due to its location near the ground surface or the surrounding soils. The Lower Don Bridge and Don Yard Soil and Groundwater Study Area is also within an Intake Protection Zone (areas of land and water that contribute source water to a surface water drinking system intake with a specified distance) and Event Based Areas (areas within a watershed where a spill could pollute the surface water drinking supply because of sanitary sewers, oil/fuel storage tanks, sewage treatment plants or pipelines close to rivers, streams, and other water bodies).

Hydrology and Surface Water

The Lower Don Bridge and Don Yard Hydrology and Surface Water Study Area includes the Lower Don Bridge and Don Yard Early Works and a 500-metre buffer. Based on the Toronto and Region Conservation Authority's Stormwater Management Criteria (Toronto and Region Conservation Authority, 2012), the zone of potential impacts is defined by presence of waterbodies. The Lower Don River is located within the Lower Don Bridge and Don Yard Early Works Project Footprint. The 500 metre buffer has been applied to include the Toronto and Region Conservation Authority

Regulation Limit and Don River Floodplain based on the scale and significance of the Don River, and to consider surrounding flood protection initiatives.

According to Toronto and Region Conservation Authority flood and hazard mapping, the Lower Don Bridge and Don Yard Hydrology and Surface Water Study Area is within the Toronto and Region Conservation Authority's Regulation Area (Toronto and Region Conservation Authority, 2020), and the Don River Floodplain. The West Don Lands Flood Protection Landform located west of the Richmond Hill rail corridor, within the Lower Don Bridge and Don Yard Hydrology and Surface Water Study Area, is a flood protection landform that was constructed in 2012 to reduce the risk of flooding to the West Don Lands neighbourhood.

Air Quality

The Lower Don Bridge and Don Yard Air Quality Study Area includes the Lower Don Bridge and Don Yard Early Works Project Footprint and a 500-metre buffer. This buffer has been applied in accordance with the Ministry of Transportation's Environmental Guide for Assessing and Mitigating the Air Quality Impact and Greenhouse Gases of Provincial Transportation Projects (Ministry of Transportation, 2020), which states that for major roads, a distance of 500 metres is expected to capture the maximum pollutant concentrations. Though the Lower Don Bridge and Don Yard early works do not include construction of major roads, similar ground level sources of fugitive emission, for example on-site vehicle movement, which are expected to have a similar range of pollutant concentration impacts may be anticipated.

Air quality measurements indicate there are existing exceedances of benzene and benzo(a)pyrene according to the Ambient Air Quality Criteria (Ministry of the Environment, 2012) relevant to the Lower Don Bridge and Don Yard Air Quality Study Area. Benzene has elevated annual contributions which exceed the threshold guideline from the Ambient Air Quality Criteria. Benzo(a)pyrene, the representative polycyclic aromatic hydrocarbon, shows extremely elevated levels of concentration for both annual and daily provincial air quality thresholds. This is due mainly to high presence of regional air quality contributions, high traffic volumes within the Greater Toronto Area, and industrial contributions from Toronto, the Greater Toronto Area, and Hamilton.

The predominant wind direction, as taken from the Toronto City Centre meteorological station located on Toronto Island, is from the northeast towards the southwest. Secondary predominant winds blow from the west, northwest and southwest. Impacts from early works construction activities at the Lower Don Bridge and Don Yard would therefore potentially be directed towards receptors along Cherry Street, Mill Street, Bayview Avenue, Distillery Lane, the Distillery District, and Lakeshore Boulevard East. The closest receptors downwind of the predominant wind direction are within 50 metres

northwest of the Lower Don Bridge and Don Yard Early Works Project Footprint; therefore, they are most likely to be impacted by particulates and other construction related emissions due to their location adjacent to construction activities.

Noise and Vibration

The Lower Don Bridge and Don Yard Noise and Vibration Study Area includes the Lower Don Bridge and Don Yard Early Works Project Footprint and an approximately 250 metre buffer. This buffer was developed using noise and vibration screening areas which were determined by calculating the distances where the applicable criteria are predicted to be met, using a conservative approach where it was assumed that all construction equipment listed in **Table 3-1** would be simultaneously active. The approximately 250 metre night-time noise screening area was the largest and was thus used to define the Lower Don Bridge and Don Yard Noise and Vibration Study Area. This buffer distance was also developed in accordance with the United States Federal Transit Administration Transit Noise and Vibration Impact Assessment Manual (2018), and City of Toronto By-law 514 (2008).

Noise measurements indicate that average existing daytime, evening, and night-time noise levels in the vicinity of the Lower Don Bridge and Don Yard Noise and Vibration Study Area range as follows:

- **Daytime** (7 AM to 7 PM) Leq, 1hr: 64 dBA;
- **Evening** (7 PM to 11 PM) Leq, 1hr: 62 dBA to 64 dBA; and
- **Night-time** (11 PM to 7 AM) Leq, 1hr: 52 dBA to 58 dBA.

The local environment does not have any normally occurring sources of perceptible vibration; the most significant source of vibration near the early works is the existing rail lines. Therefore, for the majority of the Lower Don Bridge and Don Yard Noise and Vibration Study Area, existing vibration levels are expected to be below human perceptibility, except in close proximity to the existing rail lines. The construction vibration assessment in this Report uses absolute vibration levels, which are not affected by the existing vibration levels.

Socio-Economic and Land Use Characteristics

The Lower Don Bridge and Don Yard Socio-Economic and Land Use Characteristics Study Area includes the Lower Don Bridge and Don Yard Early Works Project Footprint and a 500-metre buffer.

The lands within the Lower Don Bridge and Don Yard Socio-Economic and Land Use Characteristics Study Area are designated as Parks, Regeneration Areas, and

Employment Areas, with pockets of Mixed-Use Areas, Open Space, Utility Corridors and Neighbourhoods. Provincial and municipal policies applicable to the Lower Don Bridge and Don Yard Socio-Economic and Land Use Characteristics Study Area have a shared objective of strengthening connections and access to economic opportunities through improved transit networks.

Within the Lower Don Bridge and Don Yard Socio-Economic and Land Use Characteristics Study Area, there are three notable public realm elements: the Lower Don Trail, the West Don Lands neighbourhood, and Corktown Common.

There are several parks and open spaces and multiple community groups and institutional uses located within the Lower Don Bridge and Don Yard Socio-Economic and Land Use Characteristics Study Area.

The Lower Don Bridge and Don Yard Socio-Economic and Land Use Characteristics Study Area overlaps with the Moss Park and Waterfront Communities – The Island neighbourhoods in the City of Toronto. According to 2016 Census data, the Moss Park neighbourhood experienced a population increase from 2011 of approximately 25%; and the Waterfront Communities – The Island neighbourhood experienced a population increase from 2011 of approximately 52%.

Applications for proposed future development were reviewed to understand the scope of future potential changes within the Lower Don Bridge and Don Yard Socio-Economic and Land Use Characteristics Study Area. There were 26 active development applications identified within the Lower Don Bridge and Don Yard Socio-Economic and Land Use Characteristics Study Area, as of June 3, 2021.

Within the Lower Don Bridge and Don Yard Socio-Economic and Land Use Characteristics Study Area, there are plans for new or expanded public spaces and community service facilities as part of the Don Mouth Naturalization and Port Lands Flood Protection Project Lower Don River West Remedial Flood Protection Project, Improving the Esplanade and Mill Street Project, and the Broadview and Eastern Flood Protection Municipal Class Environmental Assessment; and improvements to existing public spaces through the Lower Don Trail Master Plan and Lower Don Trail Phase 2 Improvements (City of Toronto, et al., 2021).

Built Heritage and Cultural Heritage Landscapes

The Lower Don Bridge and Don Yard Built Heritage Resources and Cultural Heritage Landscapes Study Area includes the Lower Don Bridge and Don Yard Early Works

Project Footprint, adjacent properties[4] to account for potential indirect impacts, and properties within 11.1 metres of the Lower Don Bridge and Don Yard Early Works Project Footprint to account for potential impacts to built heritage resources and cultural heritage landscapes that may result from vibration. The distance of 11.1 metres from the Lower Don Bridge and Don Yard Early Works Project Footprint was included in the Lower Don Bridge and Don Yard Built Heritage Resources and Cultural Heritage Landscapes Study Area to account for potential vibration impacts to buildings extremely susceptible to vibration damage (including heritage buildings and their foundations) in accordance with the Ontario Line Lower Don Bridge and Don Yard Early Works –Noise and Vibration Report (AECOM, 2020b).

Seven built heritage resources/cultural heritage landscapes are within the Lower Don Bridge and Don Yard Built Heritage Resources and Cultural Heritage Landscapes Study Area consisting of:

- One National Historic Site, also Designated under Part IV of the Ontario Heritage Act, which is a potential Provincial Heritage Property of Provincial Significance, and is within a Heritage Conservation District, under study (OLS-029: Gooderham & Worts Distillery National Historic Site and Distillery District Heritage Conservation District under study);
- One previously identified built heritage resource/cultural heritage landscape and a Metrolinx Provincial Heritage Property (OLS-025: Cherry Street Subway);
- One previously identified built heritage resource/cultural heritage landscape and a Metrolinx Provincial Heritage Property of Provincial Significance (OLS-024: Cherry Street Interlocking Tower);
- Three additional potential built heritage resources/cultural heritages landscapes identified during the field review for this Report that were not included in the Ontario Line Cultural Heritage Report (AECOM, 2020a) (LDB-001: Former location of the first railway crossing of the Lower Don River, LDB-002: Consumer's Gas Company Bridge, LDB-003: Old Eastern Avenue Bridge); and,
- One cultural heritage commemorative plaque, Heritage Toronto Plaque (LDB-004: 155 Bayview Avenue, William Davies Company Plaque).

4. Adjacent is defined in Section 3.1.5 (Heritage Conservation) of the City of Toronto's Official Plan as "those lands adjoining a property of the heritage register or lands that are directly across from and near to a property on the heritage register and separated by land used as a private or public road, highway, street, lane, trail, right-of-way, walkway, green space, park and/or easement, or an intersection of any of these; whose location has the potential to have an impact on a property on the heritage register; or as otherwise defined in a Heritage Conservation District Plan adopted by by-law" (City of Toronto, 2019).

Archaeological Resources

Review of archaeological resources was limited to the Lower Don Bridge and Don Yard Early Works Project Footprint. Based on the Standards and Guidelines for Consultant Archaeologists (Ministry of Tourism and Culture, 2011), only areas of direct construction impacts are subject to archaeological assessment.

As per the results of the Stage 1 archaeological assessment developed for the Project, the majority of the Lower Don Bridge and Don Yard Early Works Project Footprint has been cleared of archaeological concerns by previous archaeological assessments, though several areas retaining high to moderate archaeological potential remain. In addition to the possibility of uncovering Indigenous artifacts, these areas have higher potential to uncover various 19th century structures, including remains from the Gooderham and Worts Distillery Complex, and the Toronto Rolling Mills Wharf.

Traffic and Transportation

The Lower Don Bridge and Don Yard Traffic and Transportation Study Area includes the Lower Don Bridge and Don Yard Early Works Project Footprint and adjacent road segments and intersections which meet either of the following criteria:

- Provide connection to the Lower Don Bridge and Don Yard Early Works Project Footprint (i.e., Lake Shore Boulevard East, Cherry Street, Bayview Avenue, and Don Roadway) and are thus potentially considered a part of the construction vehicles' routes; or
- Impacted directly by the early works activities within the Lower Don Bridge and Don Yard Early Works Project Footprint (e.g., construction of one new rail bridge over the Lower Don River is anticipated to result in potential lane closures along Don Valley Parkway and designation of Mill Street and Cherry Street as active transportation detour routes as a result of the potential Lower Don Trail closure).

Existing elements of the transportation and transit networks within the Lower Don Bridge and Don Yard Traffic and Transportation Study Area include:

- A north-south expressway (i.e., Don Valley Parkway), three north-south collector roads (i.e., Bayview Avenue, Cherry Street and Don Roadway), an east-west arterial road (i.e., Lake Shore Boulevard East), and an east-west local road (i.e., Mill Street);
- Two major multi-use pathways (i.e., Lower Don River Trail and Martin Goodman Trail), a minor multi-use pathway, which connects the two major

trails, as well as on-street bike lanes and sidewalks that run along Bayview Avenue, Mill Street, and Cherry Street;

- Metrolinx-owned rail tracks that service commuter trains operated by Metrolinx (i.e., Lakeshore East, Stouffville, and Richmond Hill GO lines) and VIA Rail (i.e., Toronto-Ottawa and Toronto-Montreal lines) and freight trains operated by Canadian National Railway and Canadian Pacific Railway; and
- Two bus routes operated by Toronto Transit Commission (i.e., bus routes #72 and #121) and the Richmond Hill GO bus service operated by Metrolinx.

The Ontario Line Final Environmental Conditions Report (AECOM, 2020a) notes that turning movement counts and signal timing plans were not available at some intersections within the Ontario Line Study Area, and were not collected through new traffic surveys considering the uncharacteristic traffic conditions as a result of the COVID-19 pandemic. As a result of the data limitations related to the identified road network within the Lower Don Bridge and Don Yard Traffic and Transportation Study Area, a quantitative level of service assessment is not included in this Report.

Utilities

Review of utilities was limited to the Lower Don Bridge and Don Yard Early Works Project Footprint. This approach captures potential direct impacts to private and public utilities as a result of the early works construction activities.

Existing private and public utilities were reviewed within the Lower Don Bridge and Don Yard Early Works Project Footprint. Private utilities include Aptum, Bell Canada, Bell 360, Rogers Communications Partnership, Cogeco Data Services, Zayo Group, Telus Communications Company, Enbridge, EnWave, Hydro One Networks Incorporated, CN Fiber, B-A Oil Company, Sunoco, Trans Northern, Group Telecom, and Imperial Oil. Public utilities within the Lower Don Bridge and Don Yard Early Works Project Footprint include Toronto Hydro and Toronto Water.

ES.5 Potential Impacts, Mitigation Measures and Monitoring Activities

Section 6 includes information related to potential impacts, mitigation measures, and monitoring activities.

Refer to **Table ES-2** for a complete list of potential impacts, mitigation measures, and monitoring activities for the Lower Don Bridge and Don Yard early works.

Table ES-2: Potential Impacts, Mitigation Measures and Monitoring Activities for the Lower Don Bridge and Don Yard Early Works

Discipline	Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities
Natural Environment	Designated Natural Areas	■ No potential impacts as there are no Designated Natural Areas within 120 metres of the Lower Don Bridge and Don Yard Early Works Project Footprint	■ None Required	■ None Required
Natural Environment	Policy Areas - City of Toronto Natural Heritage System	■ Vegetation removal within the City of Toronto Natural Heritage System	■ Refer below to mitigation measures described for Vegetation Communities. ■ Consultation with City of Toronto.	■ Refer below to monitoring described for Vegetation Communities.
Natural Environment	Policy Areas -City of Toronto Ravine and Natural Feature Protection	■ Tree removal within the City of Toronto Ravine and Natural Feature Protection By-law Area	■ Refer below to mitigation measures described for Tree Removal under Vegetation Communities. ■ Compensation for tree removals will be undertaken in accordance with provisions outlined in the Metrolinx Vegetation Guideline (2020). Adhere to all applicable by-laws and regulations for tree removals outside of Metrolinx properties.	■ Refer below to monitoring described for Vegetation Communities.
Natural Environment	Policy Areas -Toronto and Region Conservation Authority Regulation Areas	■ Vegetation removal within Toronto and Region Conservation Authority Regulated Areas	■ Further consideration to reduce potential impacts on Toronto and Region Conservation Authority's Terrestrial Natural Heritage System to the extent possible will be undertaken during detailed design.	■ Refer below to monitoring described for Vegetation Communities. ■ Recommendations for additional monitoring related to vegetation removal within regulated areas may be determined through consultation with Toronto and Region Conservation Authority.
Natural Environment	Policy Areas -Urban River Valley under the Greenbelt Plan	■ Vegetation removal within the Urban River Valley	■ Refer below to mitigation measures described for Vegetation Communities, Wildlife and Wildlife Habitat and Aquatic Environment. ■ Compensation for the removal of vegetation in accordance with Metrolinx's Vegetation Guideline (2020) approach will consider maintaining or enhancing connectivity along the Lower Don River to the extent possible.	■ Refer below to monitoring described for Vegetation Communities, Wildlife and Wildlife Habitat and Aquatic Environment.
Natural Environment	Vegetation Communities	■ Removal of vegetation communities ■ Damage to adjacent vegetation or Ecological Land Classification communities as a result of accidental intrusion	■ Vegetation removal will be reduced and limited to within the Lower Don Bridge and Don Yard early works construction areas. ■ Construction fencing and/or silt fencing, where appropriate, will be installed and maintained to clearly define the Lower Don Bridge and Don Yard early works construction areas and prevent accidental damage or intrusion to adjacent vegetation or Ecological Land Classification communities. ■ Provide compensation for the removal of vegetation in accordance with Metrolinx's Vegetation Guideline (2020). ■ Temporarily disturbed areas will be re-vegetated using non-invasive, preferably native plantings and/or seed mix appropriate to the site conditions and adjacent vegetation communities. Seed mixes will be used in conjunction with an appropriate non-invasive cover crop as needed. ■ Vegetation removals will also consider and mitigate potential impacts to sensitive species (e.g., migratory birds) and features (e.g., Significant Wildlife Habitat). Refer to the wildlife and wildlife habitat and Species at Risk mitigation measures described below.	■ On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Monitoring will include inspection of construction fencing/silt fencing to confirm appropriate installation, maintenance and rehabilitation to prevent accidental damage to vegetation or Ecological Land Classification communities outside of the work construction area. Corrective actions may include additional site maintenance and alteration of activities to reduce impacts. ■ If required, the approach to compensation monitoring will be developed in accordance with Metrolinx's Vegetation Guideline (2020).
Natural Environment	Vegetation Communities	■ City and private tree removal	■ An Arborist Report by an International Society of Arboriculture Certified Arborist will be prepared in accordance with the Ontario Forestry Act R.S.O. 1990, and other regulations and best management practices as applicable. ■ The Arborist Report will include, but not be limited to the individual identification of all trees within the Lower Don Bridge and Don Yard early works construction areas including those that require removal or preservation, or trees that may be injured. Trees to be identified may include those on Metrolinx property, trees on public and private lands, and boundary trees. City of Toronto by-laws dictate the minimum area buffers to be inventoried and Diameter at Breast Height which requires inventory.	■ Regular inspection in areas of vegetation removal will be undertaken as required during construction to ensure that fencing is intact, only specified trees are removed and no damage is caused to the remaining trees and adjacent vegetation communities. ■ On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective

Discipline	Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities
			■ Prior to the undertaking of tree removals, a Tree Removal Strategy/Tree Preservation Plan will be developed during detailed design to document tree protection and mitigation measures that follow the City of Toronto Tree Protection Policy and Specifications for Construction Near Trees Guidelines (2016b) and adherence with best practices, standards and regulations on safety, environmental and wildlife protections. ■ Compensation for tree removals will be undertaken in accordance with provisions outlined in the Metrolinx Vegetation Guideline (2020). ■ Pruning of branches will be conducted through the implementation of proper arboricultural techniques. ■ Tree Protection Zone fencing will be established to protect and prevent tree injuries. Tree Protection Zones will be clearly staked prior to construction using barriers in accordance with local by-law requirements.	actions may include additional site maintenance and alteration of activities to reduce impacts. ■ If required, the approach to compensation monitoring will be developed in accordance with Metrolinx's Vegetation Guideline (2020).
Natural Environment	Vegetation Communities	■ Potential for the spread of emerald ash borer, associated with removal, handing and transport of ash trees	■ Removal of ash trees, or portions of ash trees, will be carried out in compliance with the Canada Food and Inspection Agency Directive 'D-03-08: Phytosanitary Requirements to Prevent the Introduction into and Spread within Canada of the emerald ash borer. To comply with this Directive, all Ash trees requiring removal, including any wood, bark or chips, will be restricted from being transported outside of the emerald ash borer regulated areas of Canada.	■ On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include additional site maintenance and alteration of activities to reduce impacts.
Natural Environment	Vegetation Communities	■ Increased soil erosion and sedimentation	■ Construction fencing and/or silt fencing, where appropriate, will be installed and maintained to clearly define the Lower Don Bridge and Don Yard early works construction areas and prevent accidental damage or intrusion to adjacent vegetation or Ecological Land Classification communities. ■ An Erosion and Sediment Control Plan, in accordance with the Erosion and Sediment Control Guide for Urban Construction (Toronto and Region Conservation Authority, 2019), will be prepared prior to and implemented during construction to reduce the risk of sedimentation to the vegetation communities. ■ Stockpiled materials or equipment will be stored within the Lower Don Bridge and Don Yard early works construction areas but shall be kept at least 30 metres away from any watercourse to the extent possible. If not feasible, install a heavy-duty silt fence and Silt Soxx (or equivalent) around the Lower Don Bridge and Don Yard early works construction areas where within 30 metres from a watercourse.	■ On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include additional site maintenance and alteration of activities to reduce impacts. ■ All erosion and sediment control measures should be inspected weekly, after every rainfall and significant snow melt event, and daily during periods of extended rain or snow melt. ■ All damaged erosion and sediment control measures will be repaired and/or replaced within 48 hours of the inspection.
Natural Environment	Vegetation Communities	■ Soil or water contamination as a result of spills (e.g., grease and/or fuel) from equipment use ■ Introduction or spread of invasive species	■ A Spill Prevention and Contingency Plan will be developed and adhered to. Spills will be immediately contained and cleaned up in accordance with provincial regulatory requirements and the contingency plan. ■ Refuelling of equipment will occur at least 30 metres away from any watercourse. ■ Refuelling shall be done within refuelling stations lined with appropriate material to prevent seepage and fuel discharge. ■ All machinery, construction equipment and vehicles arriving on-site should be in clean condition (e.g., free of fluid leaks, soils containing seeds of plant material from invasive species) and be inspected and washed in accordance with the Clean Equipment Protocol for Industry (Halloran et al., 2013) prior to arriving and leaving the construction site in order to prevent the spread of invasive species to other locations.	■ On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include additional site maintenance and alteration of activities to reduce impacts.
Natural Environment	Wildlife and Wildlife Habitat - General	■ Disturbance, displacement or mortality of wildlife	■ Prior to construction, investigation of the Lower Don Bridge and Don Yard early works construction areas for wildlife and wildlife habitat that may have established following the completion of previous surveys will be undertaken, as appropriate. ■ If wildlife is encountered, measures will be implemented to avoid destruction, injury, or interference with the species, and/or its habitat. For example, construction activities will cease or be reduced, and wildlife will be encouraged to move off-site and away from the construction area on its own.	■ Regular on-site inspection by on-site environmental workers or construction staff will occur within the construction area to ensure that no wildlife is trapped within the construction area. ■ On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include additional site maintenance and alteration of activities to reduce impacts.

Discipline	Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities
Natural Environment	Significant Wildlife Habitat: Northern Map Turtle and Snapping Turtle	■ Disturbance of Northern Map Turtle and/or Snapping Turtle Habitat	■ Refer above to mitigation measures described for Wildlife. ■ Refer below to mitigation measures described for Fish and Fish Habitat with respect to in-water works.	■ Refer above for monitoring requirements described for Wildlife.
Natural Environment	Significant Wildlife Habitat: Eastern Wood-pewee	■ Removal of up to 0.32 hectares of candidate habitat for Eastern Wood-pewee	■ Refer below to mitigation measures described for Migratory Breeding Birds and Nests.	■ Refer below for monitoring requirements described for Migratory Breeding Birds and Nests.
Natural Environment	Significant Wildlife Habitat: Monarch	■ Removal of up to 0.08 hectares of candidate habitat for Monarchs	■ Identify opportunities to promote pollinator species and habitat in accordance with the Metrolinx Vegetation Guideline (2020). This may include planting or seeding native flowering plants in temporarily disturbed areas.	■ Regular monitoring (site inspections) will be undertaken during construction to prevent unauthorized impacts to habitat used by Monarch.
Natural Environment	Significant Wildlife Habitat: Common Nighthawk	■ Removal of candidate nesting habitat for Common Nighthawk	■ Refer below to mitigation measures described for Migratory Breeding Birds and Nests. ■ Demolition of buildings should be scheduled outside of the breeding bird season of April 1 to August 31. If this is not possible and buildings must be demolished during this period, the following will be completed: – The roofs will be checked for presence of gravel. If gravel is not present, then the building is unlikely to provide suitable nesting habitat for Common Nighthawk. If gravel is present, a search for eggs and nesting activity for Common Nighthawk on the roof will be conducted. If nests or nesting activity of Common Nighthawk are confirmed, the building cannot be demolished until it is confirmed by a Qualified Biologist that young have fully fledged and left the nest.	■ Refer below for monitoring requirements described for Migratory Breeding Birds and Nests.
Natural Environment	Migratory Breeding Birds and Nests	■ Disturbance or destruction of migratory bird nests	■ All works must comply with the Migratory Birds Convention Act, including timing windows for the nesting period (April 1 to August 31 in Ontario). ■ If activities (i.e. vegetation clearing and building demolition) are proposed to occur during the general nesting period, a breeding bird and nest survey will be undertaken prior to required activities. Nest searches by an experienced searcher are required and will be completed by a qualified Biologist no more than 48 hours prior to vegetation removal. ■ If a nest of a migratory bird is found outside of this nesting period (including a ground nest) it still receives protection.	■ Regular monitoring will be undertaken to confirm that activities do not encroach into nesting areas or disturb active nesting sites.
Natural Environment	Wildlife Habitat Connectivity	■ Decrease of habitat connectivity for wildlife	■ Refer to the mitigation measures described above for Urban River Valley under the Greenbelt Plan and Vegetation Communities. ■ During detailed design, opportunities to enhance the natural environment and provide a connection to the surrounding natural areas will be explored to the extent feasible.	■ Refer to monitoring described for Vegetation Communities.
Natural Environment	Species at Risk - General	■ Habitat loss, disturbance and/or mortality to Species at Risk	■ All requirements of the Endangered Species Act will be met. Species-specific mitigation measures will be implemented, in consultation with Ministry of the Environment, Conservation and Parks.	■ On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include additional site maintenance and alteration of activities to reduce impacts. ■ Species-specific monitoring activities will be developed in accordance with any registration and/or permitting requirements under the Endangered Species Act.
Natural Environment	Species at Risk - Barn Swallow	■ Habitat loss, disturbance and/or mortality to Barn Swallow	■ Field surveys will be undertaken prior to construction to confirm the number of nests present at the known locations and whether the nests remain active. ■ Where loss or disturbance cannot be avoided (e.g., due to work on bridge), all requirements under the Endangered Species Act will be met, including any registration, compensation, replacement structures and/or permitting requirements. ■ If disturbance to structures confirmed to provide Barn Swallow habitat is scheduled during the nesting season for Barn Swallow (April 1 to August 31), a nest search will be undertaken to confirm that no Barn Swallow are nesting on structures that may be affected by construction activities on or near these areas. Exclusion measures will be implemented prior to nesting season to dissuade use of these areas for nesting.	■ On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include additional site maintenance and alteration of activities to reduce impacts. Additional monitoring measures will be developed with the Ministry of the Environment, Conservation and Parks, if required.

Discipline	Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities
Natural Environment	Species at Risk - Bats	■ Habitat loss, disturbance and/or mortality to Species at Risk Bats	■ All requirements of the Endangered Species Act will be met. Additional monitoring, mitigation and compensation for removal of suitable treed or anthropogenic roosting habitat may be required based on the results of additional surveys and consultation with the Ministry of the Environment, Conservation and Parks.	■ If mitigation is required, on-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include additional site maintenance and alteration of activities to reduce impacts. Additional monitoring measures will be developed in consultation with Ministry of the Environment, Conservation and Parks, if required.
Natural Environment	Aquatic Environment - Wetlands and Waterbodies	■ Removal or impacts to aquatic and riparian vegetation; erosion and sedimentation to waterbodies from construction; risk of contamination to waterbodies as a result of spills ■ No impacts to wetlands, as none are present	■ Construction activities will maintain the buffers established during the design phase to reduce potential negative impacts to waterbodies. ■ Shorelines or banks disturbed by construction activities will be immediately stabilized to prevent erosion and/or sedimentation, preferably through re-vegetation with native species suitable for the site. ■ An Erosion and Sediment Control Plan, in accordance with the Erosion and Sediment Control Guide for Urban Construction (Toronto and Region Conservation Authority, 2019), as amended from time to time, will be prepared prior to and implemented during construction to reduce the risk of sedimentation to the waterbody. ■ A Spill Prevention and Response Plan will be developed before work commences to ensure procedures and policies are in place during construction to reduce impacts to watercourses.	■ On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions, if required. Corrective actions may include alteration of activities to reduce impacts and enhance mitigation measures. ■ All erosion and sediment control measures should be inspected weekly, after every rainfall and significant snow melt event, and daily during periods of extended rain or snow melt. ■ All damaged erosion and sediment control measures will be repaired and/or replaced within 48 hours of the inspection.
Natural Environment	Aquatic Environment - Fish and Fish Habitat	■ Potential for direct, in-water impacts to fish and fish habitat	■ All requirements of the Fisheries Act will be met. ■ If in-water and/or near water construction works are required, appropriate mitigation measures will be followed, as identified in Applicable Law and through consultation with the relevant authorities such as Fisheries and Oceans Canada. ■ Shorelines or banks disturbed by construction activities will be immediately stabilized to prevent erosion and/or sedimentation, preferably through re-vegetation with native species suitable for the site. ■ An Erosion and Sediment Control Plan, in accordance with the Erosion and Sediment Control Guide for Urban Construction (Toronto and Region Conservation Authority, 2019) as amended from time to time, will be prepared prior to and implemented during construction to reduce the risk of sedimentation to the waterbody. ■ A Spill Prevention and Response Plan will be developed before work commences to ensure procedures and policies are in place during construction to reduce impacts to watercourses. Stockpiled material will be stored at a safe distance from the waterway to ensure that no deleterious substances enter the water. ■ If required, sediment and erosion control measures (silt curtains, silt fence, temporary sedimentation basins) will be installed and will be maintained during the work phase and until the site has been stabilized. ■ Any temporary mitigation measures will be installed prior to the commencement of any site clearing, grubbing, excavation, filling or grading works and will be inspected and maintained on a regular basis. ■ To the extent feasible, schedule work to avoid wet, windy and rainy periods that may result in high flow volumes and/or increase erosion and sedimentation. ■ All equipment fuelling and maintenance will be done at a safe distance from the water (i.e., 30 metres or more) to ensure that no deleterious substances enter the waterway. ■ Ensure that all in-water activities, or associated in-water structures, do not interfere with fish passage, constrict the channel width, or reduce flows. ■ Reduce the removal of natural woody debris, rocks, sand or other materials from the banks, the shoreline or the bed of the waterbody below the ordinary high-water mark.	■ On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include additional site maintenance and alteration of activities to reduce impacts. ■ All erosion and sediment control measures should be inspected weekly, after every rainfall and significant snow melt event, and daily during periods of extended rain or snow melt. ■ All damaged erosion and sediment control measures will be repaired and/or replaced within 48 hours of the inspection.

Discipline	Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities
			■ Fish screens, if required, will be used to avoid entrainment of fish in pumps and hoses as per the End-of-pipe fish protection screens for small water intakes in freshwater and Fisheries and Oceans Canada's Interim Standard and Code of Practice. ■ If dewatering is proposed, the need for a dewatering zone of influence assessment and dewatering monitoring plan should be evaluated during detailed design. The dewatering monitoring plan, should it be deemed required, will monitor for potential negative effects to adjacent vegetation communities if affected due to dewatering activities, and will provide an adaptive management plan should said negative effects be observed. ■ If dewatering, discharge should be directed into nearby municipal sanitary and storm systems. If this is not possible upon careful evaluation of the alternatives and potential impacts, should discharge into the watercourse be determined as the only feasible option, a staged-approach must be considered, such as on-site storage in ponds and reservoirs, evaporation ponds, and staged-release into the watercourse. ■ Design temporary and permanent water management system and dewatering operations, if required, to maintain downstream flows and to prevent erosion and/or release of sediment laden or contaminated water to the water feature. ■ If required, prior to dewatering isolated work areas, fish will be captured and relocated to suitable habitat outside of the work area under a Licence to Collect Fish for Scientific Purposes from the Ministry of Natural Resources and Forestry.	
Soil and Groundwater	Soil Stability and Quality	■ Construction activities will cause displacement of the soils and potentially bedrock. This may result in ground movement and settlement (e.g., through excavation/ grading and/or dewatering activities). ■ Dewatering activities can cause soil subsidence/settlement and impacts on surface/subsurface structures within the zone of influence. ■ Potential heaving of the excavation base caused by groundwater pressures below the depth of excavation. ■ If required, use of pressurized fluids subsurface could result in fluid migration to surface. ■ Construction activities (e.g., excavation) could expose contaminated materials and/or result in the spreading of contaminated materials.	■ Complete detailed soil investigations, as project planning progresses. ■ Complete pre-construction inspections of structures within the dewatering zone of influence, as required. ■ Potential heave of an excavation base is mitigated through a groundwater depressurization program completed in advance of excavation that sufficiently lowers the potentiometric head in the confined groundwater system and stabilizes the soils being excavated. ■ Excavation support systems will be employed, as required. ■ Conduct dewatering such that ground loss is controlled/minimized. ■ Use excavation/grading equipment designed to reduce the potential for ground loss and the associated potential for ground settlement. ■ If required, conduct ground treatment such as jet grouting to reduce the risk of ground loss. ■ Develop management plan(s) for the handling, management and disposal of all excavated material (i.e., soil, rock and waste) that is generated or encountered during the work. Development and implementation of remedial action plans, risk assessment and risk mitigation plans for encountering contamination, as necessary. ■ Requirements of Ontario Regulation 406/19: On-Site and Excess Soil Management will be met.	■ If required, develop and conduct a settlement monitoring program to identify construction effects, adverse trends and the need for additional mitigation measures. ■ Soil sampling and monitoring plans shall be implemented as required prior to, during, and post construction. Track soil in registry as required by Ontario Regulation 406/19.
Soil and Groundwater	Groundwater Quantity	■ Construction dewatering may include impacts to groundwater-dependent natural features (i.e., Lower Don River) as a result of decreases in groundwater discharge to these features and impacts to private groundwater supply wells (if present) caused by a reduction in local groundwater levels. ■ In the case of discharge to the natural environment, the discharge rate and total volume must be considered within the context of the capacity of the conveyance	■ Potential impacts to groundwater-dependent natural features and/or private groundwater supply wells (if present) can be mitigated with measures such as avoidance of dewatering requirements, minimizing dewatering, and/or utilizing groundwater cut-off techniques to physically exclude groundwater from flowing into excavations advanced for construction. ■ Example contingency measures for impacts to groundwater-dependent natural features and/or private groundwater supply wells (if present) include supplementation of flow within the natural features, minimizing dewatering volume requirements, avoidance of dewatering during low-flow conditions, and provision of temporary water supply during the period of supply well impact. ■ Determination of water taking quantities, quality, and resultant dewatering zone of influence will be completed as project planning progresses, for example through completion of a site-	■ Regular site inspections and monitoring activities such as monitoring of water levels in adjacent groundwater and/or surface water features, if required, will be completed by qualified members of the construction team to ensure that mitigation measures are fulfilled and that all regulatory requirements are met.

Discipline	Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities
		route (e.g., drainage ditch, etc.) and receiving waterbody. Introducing a quantity of effluent above the capacity of these features can result in impacts such as erosion, scour, and flooding.	specific hydrogeological investigation, construction dewatering assessment and a plan to manage groundwater. ■ The construction dewatering assessment will be completed as required to: – Provide an estimate of groundwater and/or surface water taking rates and quantities; – Estimate a zone of influence for each dewatering area; – Characterize groundwater and/or surface water quality; – Recommend appropriate dewatering methodologies; and, – Provide an assessment of potential impacts related to the dewatering. ■ Dewatering should be assessed in accordance with the Toronto and Region Conservation Authority Technical Guidelines for the Development and Environmental Management Plans for Dewatering (Toronto and Region Conservation Authority, 2013b), Ontario Regulations 64/16 and 387/04, as amended under the Ontario Water Resources Act, as required. ■ The plan to manage groundwater will be completed as required to: – Evaluate potential groundwater discharge options (i.e., sanitary and/or storm sewer, natural environment, off-site disposal, etc.); – Identify effluent treatment requirements; – Outline monitoring, mitigation, and contingency program (if required); – Determine the potential need for regulatory approvals; and, – Identify notification and reporting requirements. ■ Identification of site-specific mitigation measures inclusive of monitoring programs relating to groundwater-dependent natural features, private supply wells (if present), and geotechnical heave/settlement within the anticipated dewatering zone of influence will be determined prior to works commencement.	
Soil and Groundwater	Groundwater Quality	■ Previous land use may have resulted in local contamination of groundwater or surface water which may be encountered during construction excavation and/or dewatering activities. ■ General construction activities such as vehicle and machinery operation have the potential to affect groundwater and/or surface water quality through minor contaminant releases. Spills may affect the surrounding groundwater quality and nearby supply wells (if present). ■ Improperly managed construction dewatering activities can result in accidental releases of contaminated groundwater to the environment and/or result in the migration of existing impacted groundwater. ■ The following materials may impact groundwater quality within the highly vulnerable aquifer and Event Based Area: – Application of road salt; – Storage/use of organic solvents and/or dense non-aqueous phase liquids; and, – Storage and handling of fuel.	■ The existing groundwater within each potential construction dewatering area will be characterized prior to construction activities, during a site-specific hydrogeological investigation, as required. ■ On-site treatment of dewatering effluent, if required, such that parameters in excess of the established discharge criteria are removed/reduced and discharge can proceed. ■ Dewatering should be assessed in accordance with the Toronto and Region Conservation Authority Technical Guidelines for the Development and Environmental Management Plans for Dewatering (Toronto and Region Conservation Authority, 2013b). ■ Measures such as avoidance of dewatering requirements, minimizing dewatering, and/or utilizing groundwater cut-off techniques to physically exclude groundwater from flowing into excavations advanced for construction could be considered, when on-site treatment is not technically and/or financially feasible. The removal of water to an off-site disposal facility could also be considered. ■ A Spill Prevention and Response Plan, outlining the steps required to prevent and contain any contaminant releases and/or to avoid impacts to groundwater/surface water is required to be developed prior to initiation of construction activities. This Spill Prevention and Response Plan should include a requirement for spill kits to be maintained on-site at all times during construction. ■ Pre-construction (baseline) groundwater quality testing should be performed at all construction dewatering locations before the outset of any discharge activities and compared to appropriate regulatory guidelines (i.e., Provincial Water Quality Objectives for discharge to the natural environment, storm and sanitary by-laws for discharge to municipal sewers). Appropriate water quality management (i.e., filtration systems and/or water treatment systems) will be required to be designed and implemented in the event that exceedances of regulatory guidelines or limits are detected in the influent groundwater quality. Discharge of dewatering effluent will be governed by the discharge approval(s) obtained for the Project, which could include one or a combination of Municipal Discharge Permits, Conservation	■ Monitoring activities such as groundwater and dewatering effluent sample collection and measurement of groundwater parameters (e.g., pH) in the field will be completed as required by qualified members of the construction contractor, and in accordance to the discharge requirements of the approval and/or permit, as applicable. ■ Regular inspections of equipment for fuel/fluid leaks, dewatering equipment and containment tanks for leakage, and installed erosion and sediment control measures.

Discipline	Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities
			Authority Approval, and/or Ministry of the Environment, Conservation and Parks Environmental Compliance Approval. ■ Ensuring that machinery is maintained and free of leaks to reduce the possibility of fluid release and storing any potential contaminants (e.g., oils, fuels, and chemicals) in designated areas using appropriate secondary containment, where necessary. ■ Education of workers regarding appropriate chemical use, handling, storage and transportation procedures, including spill response and reporting requirements. ■ Conduct a review of Source Protection Plan policies and implement the following measures: – A Salt Management Plan that incorporates best management practices where the storage and application of road salt is required; – Best management practices if the handling and storage of dense non-aqueous phase liquids is required; – Best management practices if the storage of organic solvent is required; and – Best management practices if the storage and handling of fuel is required in an Event Based Area.	
Hydrology and Surface Water	Floodplain	■ Potential to impact flooding conditions within the Don River Floodplain	■ Floodplain impact assessment will be conducted during detailed design following Toronto and Region Conservation Authority guidelines once details on the bridge abutment configuration, and other detailed design information are available. Design optimizations on abutment, pier, and embankment placement shall be considered to minimize hydraulic impacts. ■ Toronto and Region Conservation Authority, Waterfront Toronto and City of Toronto will be consulted during detailed design to avoid potential infrastructure conflicts and impacts to flood protection measures/initiatives within the Lower Don Bridge and Don Yard Hydrology and Surface Water Study Area and beyond, as required, with consideration of, but not limited to, the following: – West Don Lands Flood Protection Landform (Toronto and Region Conservation Authority, 2005) – Broadview & Eastern Flood Protection Municipal Class Environmental Assessment (Toronto and Region Conservation Authority, 2021b); – Flood protection measures and tie-in with the existing railway embankment at Don Roadway and Eastern Avenue underpass as identified in the Don Mouth Naturalization and Port Lands Flood Protection Project Environmental Assessment (Toronto and Region Conservation Authority, 2014a); – New Broadview underpass with expanded flood protection tie-ins and drainage with the railway embankment as identified in the Port Lands and South of Eastern Transportation and Servicing Master Plan Class Environmental Assessment (Waterfront Toronto and City of Toronto, 2016); and – Opening of bridge crossing on east side of Don River through railway embankment to accommodate Hybrid 3 as identified in the Gardiner Expressway and Lake Shore Boulevard East Reconfiguration Environmental Assessment (Waterfront Toronto and City of Toronto, 2017). ■ In addition, all necessary studies such as fluvial geomorphic process studies and geotechnical and slope stability assessments will be completed.	■ Develop and undertake a monitoring program of the West Don Flood Protection Landform, as required, in consultation with Toronto and Region Conservation Authority.
Hydrology and Surface Water	Floodplain	■ Potential for flooding impacts on-site during construction	■ Prior to construction, develop a Flood Contingency Plan with specific mitigation measures for any proposed works or temporary laydown and staging areas that are located within the Don River Floodplain. The Flood Contingency Plan may include risk mapping, and a monitoring strategy. ■ Include construction site on Toronto and Region Conservation Authority flood warning system to prepare site in advance of possible flood events	■ Include a monitoring strategy in the Flood Contingency Plan to monitor surface water levels through Toronto and Region Conservation Authority flood warning system during construction activities.

Discipline	Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities
Hydrology and Surface Water	Surface Water/ Stormwater and Drainage	■ Change in stormwater quality and quantity, including: – Erosion of exposed soil and increased sediment loading which may impact receiving waterbodies and/or municipal stormwater drainage system; and, – Increased surface water/stormwater runoff.	■ The overall stormwater quality and quantity control strategy will be developed in accordance with all relevant municipal, provincial, and federal requirements, as amended, and outlined in a stormwater management plan. Stormwater management design will consider guidance provided by the Ministry of the Environment, Conservation and Parks, formerly the Ministry of the Environment and Climate Change, Stormwater Management Planning and Design Manual (2003) and Ontario Ministry of Transportation Drainage Management Manual (2008), Toronto and Region Conservation Authority Stormwater Management Criteria (2012), and the Low Impact Development Stormwater Management Planning and Design Guide (Toronto and Region Conservation Authority/Credit Valley Conservation, 2010), as required. ■ The following stormwater management best management practices will be considered and implemented, as required: – Minimize clearing and amount of exposed soil; – Install key sediment control before grading/land alterations begin; – Sequence construction activities so that the soil is not exposed for long periods of times; – Protect storm drain inlets to filter out debris; and – Stabilize all exposed soil areas as soon as land alterations have been completed. ■ Prior to construction, a stormwater management plan that will outline stormwater discharges management associated with construction activities, and an Erosion and Sediment Control plan will be developed. ■ The Toronto and Region Conservation Authority's Living City Policies (Toronto and Region Conservation Authority, 2014b) will be followed during detailed design, including those policies related to outfall placement. ■ Continue to consult with the Toronto and Region Conservation Authority to align the Lower Don Bridge and Don Yard early works to the Lower Don Special Policy Area requirements, including the approach to floodproofing and flood modelling. ■ The Toronto and Region Conservation Authority's Stormwater Management Criteria (Toronto and Region Conservation Authority, 2012) will be followed, including those policies related to impervious areas. ■ If required, obtain a Municipal Discharge Permit (City of Toronto Private Water Discharge Permit/Agreement) to manage excess surface water/stormwater.	■ Monitoring activities will be implemented as outlined in the stormwater management plan and/or Erosion and Sediment Control Plan and may include regular inspections and reporting on the performance of implemented erosion and sediment control measures, best management practices, and other monitoring activities, as required. ■ All monitoring procedures should stay in place throughout Lower Don Bridge and Don Yard early works construction.
Air Quality	Construction Air Quality	■ Potential air quality impacts could include effects from diesel combustion and particulate emissions. Odour and visible dust may also cause public annoyance. ■ Exhaust emissions from construction vehicles may contribute to increased levels of nitrogen oxides, and volatiles such as benzene and benzo(a)pyrene, which given their existing background concentrations can contribute to existing levels of provincial criteria exceedance. ■ Certain construction activities are likely to emit particulates in higher quantities, which include site preparation and earth works activities, demolition activities, unpaved surfaces with heavy equipment travel, and uncovered soil storage piles. ■ Disruption of contaminated soils may release contaminants.	■ On-site construction vehicle activity shall be managed to control emissions of odourous contaminants and diesel exhaust, including benzene and benzo(a)pyrene emissions from exhaust. A plan to manage air quality will be developed to ensure consistent attention to mitigation of dust and particulates, including silica, from the construction site. The following mitigation measures should be considered in the plan to manage air quality: – All equipment complies with Canadian engine emissions standards. – All equipment visually inspected prior to use and properly maintained. – Implement an anti-idling policy to limit idling to 5 minutes or fewer, depending on weather conditions. – Use of electricity from the grid over diesel generators wherever possible. – Retrofitting of combustion engines with specific exhaust emission control measures such as particulate traps. – If applicable, follow guidelines on hot mix asphalt outlined in the Ontario Hot Mix Producers Association's Environmental Practices Guide: Ontario Hot Mix Asphalt Plants, Fifth Edition (Ontario Hot Mix Producers Association, 2015). ■ Applicable mitigation measures from Environment Canada's Best Practices for the Reduction of Air Emissions from Construction and Demolition Activities (Cheminfo Services Inc., 2005), the Ministry of the Environment, Conservation and Parks' Technical Bulletin Management Approaches for Industrial Fugitive Dust Sources, shall be followed. The following mitigation measures should be considered in the plan to manage air quality: – Complete earthwork grading within 10 days of ceased active construction.	■ The following monitoring activities should be considered in the development of a plan to manage air quality: – Baseline conditions should be established prior to construction for longer than one week to capture representative concentrations under varying meteorological conditions. – On-site meteorological monitoring in conjunction with real-time particulate monitoring representative of receptor impacts. – Place monitors both upwind and downwind of construction activities, where possible. – Application of threshold "Action Level" triggers for implementation of specific and increasing intensity mitigation activities linked to specific construction activities. – Reporting detailing results of ongoing monitoring and mitigation activities. – Monitoring at locations where there are persistent complaints, as required.

Discipline	Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities
			– Temporary seeding or mulching of bare soil and storage piles. – Compression or clodding of soil surfaces and storage piles to reduce erosion. – Confine storage pile activity to downwind side of piles. – Reduction of activities during high wind conditions. – Full or partial enclosure of demolition activities. – Wind screens or barriers where possible or necessary. – Off-site construction of certain structures or parts of structures to minimize air emission due to interference with the normal flow of traffic. – Scheduling certain construction activities (i.e., site preparation and earth works activities, demolition activities, unpaved surfaces with heavy equipment travel, and uncovered soil storage piles) to periods of time when exposure to dust is expected to be limited (e.g., avoid scheduling activities during dry, windy weather conditions). – Landscaping materials ordered close to time of use to reduce on-site storage. – Application of non-chloride soil stabilizers or dust control polymers where feasible. – Daily removal of accumulated mud, dirt and debris deposits on-site, and regular truck washing – Paved and unpaved roadway cleaning, watering or application of a non-chloride dust suppressant. – Minimize drop height of materials on-site. – Covering surface area of hauled bulk material. – Methods and equipment for cleanup of accidental spill of dusty materials. – Limit travel speeds on-site to a maximum of 16 to 24 kilometres per hour. ■ If disruption of contaminated soils is anticipated at any time, minimize contaminants released. ■ Develop a communications protocol which includes timely resolution of complaints.	■ In addition, relevant construction monitoring activities from the following recommended guidelines will be implemented during construction: – Best Practices for the Reduction of Air Emissions from Construction and Demolition Activities (Cheminfo Services Inc., 2005); and – Operations Manual for Air Quality Monitoring in Ontario (Ministry of the Environment, Conservation and Parks, 2018).
Noise and Vibration	Construction Noise	■ Environmental noise may cause annoyance and disturb sleep and other activities. ■ The severity of the noise effects resulting from construction projects varies, depending on: – Scale, location and complexity of the Project – Construction methods, processes and equipment deployed – Total duration of construction near sensitive noise receivers – Construction activity periods (days, hours, time period) – Number and proximity of noise-sensitive sites to construction area(s)	■ Construction noise impact mitigation measures to be considered include but are not limited to the following to meet applicable noise criteria: – Siting construction staging and laydown areas to avoid/reduce adverse impacts to sensitive receptors where feasible. – Use construction equipment compliant with noise level specifications in Ministry of the Environment, Conservation, and Parks guidelines NPC-115 and NPC-118. – Keep equipment in good working order and operate with effective muffling devices. – Equipment enclosures for equipment such as generators and compressors. – Additional equipment silencers/mufflers. – Use of upgraded construction hoarding (considering requirements from Canadian Standards Association Z107.9 for noise barriers) between construction equipment and noise sensitive receivers. – Use of localized movable noise barriers/screens for specific equipment and operations. – Minimize simultaneous operation of equipment where feasible. – Implement a no idling policy on site (unless necessary for equipment operation). – Restrict construction hours where feasible: • Perform construction during daytime hours where feasible. If night-time construction is necessary, the activities with the highest noise levels should be conducted during daytime periods where feasible. • If construction will occur outside of normal daytime hours, inform local residents before construction of type of construction and expected duration outside of daytime hours. • Consider construction duration limits for construction near 90 Distillery Lane (night), future 125/131 Mill Street, 170 Mill Street (night), 180-190 Mill Street, future 495 Front Street East, 502 Front Street East (night), 170 Bayview Avenue (night), and 77 East Don Roadway (night). – Limit the number of heavy trucks on site to the minimum required.	■ Noise levels will be monitored where the impact assessment indicates that noise limits may be exceeded, to identify if any additional mitigation is required and verify mitigation measures(s) effectiveness. ■ Continuous noise monitoring should be completed at each geographically distinct active construction site associated with the Project with monitor(s) located strategically to capture the worst-case construction related noise levels at receptor locations based on planned construction activities, their locations, and the number, geographic distribution and proximity of noise sensitive receptors. ■ Monitoring at locations where there are persistent complaints, as required.

Discipline	Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities
			– Stage construction vehicles away from noise sensitive locations, if feasible. – Establish and apply project-specific construction noise criteria/exposure limits. – Undertake noise monitoring and regular reporting throughout the construction phase. Where noise level limits are exceeded, additional noise mitigation measures shall be implemented. – Review construction and occupation timelines for new noise sensitive development in West Don Lands. As the completion date of these new noise sensitive receivers relative to the early works construction period is not yet determined, mitigation may be adjusted based upon the new developments (unoccupied as of June 2021) construction/occupation schedule. – Develop a communications protocol which includes timely resolution of complaints. – Additional mitigation measures not listed above may be considered.	
Noise and Vibration	Construction Vibration	■ Exposure to vibration may result in public annoyance and complaints. Vibration may also cause damage to buildings and other structures.	■ Construction vibration impact mitigation measures to be considered include but are not limited to the following to meet applicable vibration criteria: – Siting construction staging and laydown areas to avoid/reduce adverse impacts to sensitive receptors where possible. – Utilize equipment with low vibration emissions where possible. – Off-site construction of components away from sensitive areas. ■ Restrict construction hours where feasible: – Perform construction during daytime hours where feasible. If night-time construction is necessary, the activities with the highest vibration levels should be conducted during the daytime periods where feasible. – Review vibration assessment based upon refined site staging, construction areas/equipment, and building locations prior to the commencement of construction, and update if necessary. – Review and refine the construction activities to avoid potential impacts to the Unilever Soap Factory building at 21 Don Roadway, a structure located at the car dealership at 11 Sunlight Park Road, the Cherry Street Interlocking Tower at 385 Cherry Street, Parking structure at 70 Distillery Lane (note that the parking structure appears to extend under 370 Cherry Street). Conduct monitoring and pre-construction inspections in accordance with City of Toronto By-law 514-2008. Monitoring and preconstruction requirements can be determined by calculation of Zone of Influence of construction equipment. – Provide smooth surfaces for trucks to travel and route heavily loaded trucks away from vibration sensitives sites where possible. – Operate construction equipment on lower vibration settings where available. – Maximize distance between equipment and sensitive receivers while receivers where feasible. – Establish and apply project-specific construction vibration criteria limits. – Review the vibration limits for the Cherry Street Interlocking Tower at 385 Cherry Street. It has been noted in the Ontario Line Cultural Heritage Report (AECOM, 2020b) that the Cherry Street Interlocking Tower was built to withstand vibration; however, the design vibration limits should be confirmed by a qualified specialist during the next phases of design. – Do not operate equipment where the City of Toronto By-law 514-2008 prohibited limits are predicted to be exceeded. Alternative construction methods and/or equipment with lower vibration emissions or power settings can be used if they do not exceed the City of Toronto's prohibited vibration limits. – As Project planning and design progress, conduct a review to identify any sensitive structures/operations that require more stringent vibration limits than the limits in City of Toronto By-law 514-2008; assess requirements, review/revise vibration limits for these locations and, if necessary, develop mitigation measures. US Federal Transit Administration Report No. 0123, Transit Noise and Vibration Impact Assessment Manual (2018) could be used as a source of additional criteria. – Develop communications protocol which includes timely resolution of complaints. – Additional mitigation measures not listed above may be considered.	■ Monitoring will be undertaken at locations within the Zone of Influence to ensure compliance with the City of Toronto By-law 514-2008 and to identify the need for additional mitigation if required. ■ Monitoring will be undertaken to ensure compliance with other applicable vibration level limits identified, as required. ■ Monitoring will be undertaken to verify mitigation measure(s) effectiveness. ■ Pre-construction building inspection of the potentially impacted buildings adjacent to the early works construction sites are to be undertaken in accordance with City of Toronto By-law 514-2008. Continuous vibration monitoring along the construction site property lines closest to these structures will be initiated as warranted. ■ Monitoring at locations where there are persistent complaints, if required.

Discipline	Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities
Socio-Economic and Land Use Characteristics	Property	■ Property acquisition – permanent and temporary	■ Specific permanent property requirements associated with the early works infrastructure components will be minimized to the extent feasible as planning progresses. Temporary property requirements associated with construction laydown and access will be minimized as planning progresses. To the extent possible, laydown and access areas will be located in areas that minimize adverse effects to sensitive receptors.	■ None identified.
Socio-Economic and Land Use Characteristics	All land uses and adjacent lands	■ Nuisance effects from construction activities	■ Mitigation measures related to potential nuisance effects are outlined in the Air Quality and Noise and Vibration potential impacts, mitigation measures, and monitoring activities tables. ■ An Erosion and Sediment Control Plan will be developed in accordance with the Erosion and Sediment Control Guide for Urban Construction (Toronto and Region Conservation Authority, 2019), as amended from time to time, that addresses sediment release to adjacent properties and roadways.	■ Monitoring activities related to potential nuisance effects are outlined in the Air Quality and Noise and Vibration potential impacts, mitigation measures, and monitoring activities tables. ■ Erosion and sediment control monitoring to be conducted (e.g., on-site inspection of erosion and sediment control measures).
Socio-Economic and Land Use Characteristics	All land uses and adjacent lands	■ Land use and access disruption	■ Provide well connected, clearly delineated, and appropriately signed temporary walkways and cycling route options, with clearly marked detours where required. ■ Provide temporary walkways with a pedestrian clearway of 2.1 metres, where possible. Temporary walkways required during construction will also meet Accessibility for Ontarians with Disabilities Act requirements for universal accessibility. ■ Provide temporary lighting, as required, and wayfinding signs and cues for navigation around the construction site. ■ Regular (existing) access to businesses during working hours will be maintained, where feasible. Where regular access cannot be maintained, alternative access and signage will be provided. ■ Continue to engage with the City of Toronto and local school board(s), as required, to confirm mitigation measures.	■ Regular monitoring (e.g. on-site inspection) of temporary access paths, walkways, cycling routes and fencing to ensure effectiveness.
Socio-Economic and Land Use Characteristics	Visual Characteristics	■ Visual effects from permanent public-facing structures and construction activities/areas	■ Consult with the City of Toronto as planning progresses. ■ Minimize the visual effects of bridge structure by selecting appropriate building materials and architectural design. ■ A fence/screened enclosure for the construction area(s) will be provided, as required, with particular attention to material storage areas.	■ Regular monitoring (e.g., on-site inspection) of construction visual effects mitigation measures to ensure effectiveness.
Socio-Economic and Land Use Characteristics	Light Pollution	■ Light trespass, glare and light pollution effects	■ Comply with all local applicable municipal by-laws and Ministry of Transportation practices for lighting in areas near or adjacent to highways and roadways regarding outdoor lighting for both permanent and temporary construction activities, and incorporate industry best practices provided in ANSI/IES RP-8-18 – Recommended Practice for Design and Maintenance of Roadway and Parking Facility Lighting. Obtrusive light with respect to adjoining residents, communities, and/or businesses will be limited. ■ Perform the work in such a way that any adverse effects of construction lighting are controlled or mitigated to avoid unnecessary and obtrusive light with respect to adjoining residents, communities and/or businesses.	■ Regular monitoring (e.g., on-site inspection) of light pollution mitigation measures to ensure effectiveness.
Socio-Economic and Land Use Characteristics	Public Realm	■ Potential temporary relocation or removal of streetscaping materials, furniture, and landscaping in the public realm ■ Potential temporary relocation of the “No Shoes” sculpture	■ Temporary relocation or removal of streetscaping materials, furniture, and landscaping in the public realm will be minimized to the extent feasible. Wherever feasible, lands impacted by construction will be restored to the current City of Toronto standard following construction completion. ■ Avoid impacts to the “No Shoes” Mark di Suvero sculpture. Provide protection fence around the sculpture during construction and/or temporarily relocate the sculpture. Consult with the City of Toronto as planning progresses regarding any impacts to this sculpture.	■ There are no monitoring activities associated with the public realm

Discipline	Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities
Built Heritage Resources and Cultural Heritage Landscapes	Impacts to Built Heritage Resources and Cultural Heritage Landscapes	■ Potential direct adverse impacts to LDB-001 (Former Location of the first railway crossing of the Lower Don River) are anticipated. A portion of LDB-001 is located within the Lower Don Bridge and Don Yard Early Works Project Footprint. Based on the conceptual design (**Figure 5-18**), construction activities within LDB-001 could include activities related to early works construction as well as temporary impacts (e.g. temporary laydown area). The 1856 abutment stones on the west side of the Lower Don River are heritage attributes of LDB-001. They may require temporary removal/relocation to accommodate construction activities related to early works.	■ The following mitigation measures were developed in this Heritage Detailed Design Report. ■ If avoidance of LDB-001 and its heritage attributes identified in **Table 5-13** is not feasible then: – Consult with City of Toronto Heritage Planning as planning progresses regarding any physical impact, including stone relocation, to LDB-001 in order to determine and obtain. any approval or permits that may be required. Note, a portion of LDB-001 is within OLS-024[5] – Apply the following steps if the 1856 abutments stones within LDB-001 can remain in-situ during the early works construction: • Mark the location of each 1856 abutment stone on the Detailed Design plan as “To be retained: Implement protection measures prior to construction.” • Install protection measures for each 1856 abutment stone within the public space, such as box or fence hoarding, prior to construction. – Apply the following steps if avoidance of the 1856 abutment stones within LDB-001 during early works construction is not feasible and removal/relocation is required: • Mark the location of each 1856 abutment stone on the Detailed Design plan as “Remove prior to construction, store, reinstate post-construction” • Prior to construction determine an appropriate removal plan and storage location. • Remove 1856 abutment stones prior to construction. • Reinstate 1856 abutment stones within LDB-001 post-construction, preferably in the same location as pre-removal.	■ Early works may impact this resource and construction and post-construction monitoring may be required. ■ If 1856 abutment stones remain in-situ during early works construction the following monitoring may be required: – During construction, monitor the protection of the 1856 abutment stones. – Post construction, remove hoarding and confirm the condition of the 1856 abutment stones meet pre-construction conditions.
Archaeological Resources	Archaeological Potential	■ Potential for the disturbance of unassessed or documented archaeological resources.	■ Areas identified as retaining archaeological potential in the Lower Don Bridge and Don Yard Early Works Project Footprint, as per the Ontario Line South Stage 1 Archaeological Assessment Report (AECOM, 2020e), are shown on **Figure 5-19.** Should ground disturbing activities be planned within these areas, further archaeological assessment must be completed prior to any ground disturbing activities. ■ Any additional archaeological assessments (e.g., Stage 2, Stage 3 if recommended by the Stage 2) shall be completed as early as possible, and prior to ground disturbing activities. This work shall be done in accordance with the Ministry of Heritage, Sport, Tourism and Culture Industries’ Standards and Guidelines for Consultant Archaeologists (2011) to identify any archaeological resources that may be present. ■ Indigenous Nations will be invited to participate in any subsequent archaeological work. All future archaeological assessment findings will be shared with the Indigenous Nations that were engaged during the Stage 1 archaeological assessment.	■ None identified.
Archaeological Resources	Archaeological Resources	■ Potential recovery of archaeological resources during construction.	■ Should previously unknown or unassessed deeply buried archaeological resources be uncovered during construction activities, they may be a new archaeological site and therefore subject to Section 48(1) of the Ontario Heritage Act. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed archaeologist to carry out archaeological field work, in compliance with Section 48 (1) of the Ontario Heritage Act. Any person discovering human remains must immediately notify the police or coroner and the Registrar of Cemeteries, Ministry of Government Services. In addition, consultation with relevant Indigenous Nations will be initiated in the event that archaeological resources or human remains are discovered.	■ None identified.

5. As noted in **Table 3-1** the heritage footprint of OLS-024, the portion of the property that meets O. Reg. 10/06 and is considered a Provincial Heritage Property of Provincial Significance is within the Metrolinx Heritage Property of Provincial Significance Boundary and is not within LDB-001. Therefore, a physical impact to this portion of OLS-024 does not require Minister’s Consent.

Discipline	Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities
Traffic and Transportation	Transportation Network – Roads	■ If required, temporary lane closures along the Don Valley Parkway may result in impeding traffic flow and increased average delay of vehicles, including emergency vehicles. ■ Construction vehicle traffic may impact traffic operations resulting in increased vehicular delays and queue lengths, especially at intersections where construction traffic is required to make left-turning movements (e.g., the intersection of Cherry Street and Lake Shore Boulevard East). ■ Potential overlapping construction timelines with other planned projects (e.g. local development) nearby may result in impacts to the transportation network and its road users.	■ A quantitative traffic impact assessment will be completed, if required, as project planning progresses to consider vehicular traffic impacts as a result of the Lower Don Bridge and Don Yard early works. ■ Develop and implement a transit and traffic management plan(s), which could include temporary changes to intersection lane configurations, traffic signal timing optimization, modifications to existing signal timing plans, etc. The transit and traffic management plan(s) will also address specific emergency services requirements in consultation with the City of Toronto. ■ Traffic signal timing optimization may be assessed/implemented to increase capacity of affected intersections and to aid in the movement of traffic. Traffic signal timing adjustments would require coordination between Metrolinx and City of Toronto, and will be undertaken if required, to determine appropriate changes to traffic signal timings. ■ Consider scheduling construction activities during off-peak periods and weekends to minimize disruptions to road users during the critical peak periods. ■ Co-ordinate with the City of Toronto regarding other ongoing construction projects when scheduling the early works activities to maintain the mobility of road users.	■ The effectiveness of the transit and traffic management plan(s) will be monitored throughout the construction period and adjustments will be made based on actual field observations, as needed.
Traffic and Transportation	Transportation Network – Active Transportation	■ Temporary closure of the Lower Don Trail underneath and/or in proximity to the rail corridor may be required. This would result in temporary discontinuation of the Lower Don Trail which may impact the convenience of pedestrians and cyclists and disrupt trail connectivity.	■ Ensure that appropriate signage and notifications are provided to direct pedestrians and cyclists around the closed section of the Lower Don Trail. The potential detour routes include the Corktown Common Trail and the sidewalks and bike lanes along Bayview Avenue, Mill Street, and Cherry Street. ■ Reduce interference with pedestrians and cyclists. This may include fencing, hoarding, shared-lane markings, signals, wayfinding signs, and lighting as required to provide pedestrians and cyclists with safe, accessible, and continuous routes. ■ If required, co-ordinate with the City of Toronto to ensure any modifications to pedestrian crossing distances at signalized intersections are reflected in revised pedestrian clearance timings. ■ Any temporary pedestrian facilities including temporary or relocated Toronto Transit Commission transit stops will be designed to meet Toronto Transit Commission accessibility standards. ■ Implement flagging where construction vehicles are present to ensure construction vehicle operators are aware of pedestrian and vehicular traffic within the construction area.	■ The effectiveness of the transit and traffic management plan (s) will be monitored throughout the construction period and adjustments will be made based on actual field observations, as needed.
Traffic and Transportation	Transportation Network – Rail	■ Early works construction may require temporary full or partial closure of existing rail tracks, which may disrupt existing commuter and freight rail operations. ■ Partial or full closures and/or modification of the train storage tracks at the Don Yard as required. The extent of track closures is dependent on the type of equipment used and construction sequencing.	■ Consult with rail operators with current service along the rail corridor (i.e., VIA Rail, Canadian National Railway, and Canadian Pacific Railway) to assess how track closures would impact their service and co-ordinate temporary schedules to accommodate all rail services on the open tracks.	■ The effectiveness of the Transit and Traffic Management Plan(s) will be monitored throughout the construction period. Adjustments to the construction staging plans and Transit and Traffic Management Plan(s) will be made based on actual field observations, as needed.
Traffic and Transportation	Transit Network	■ Potential increase of construction vehicles traffic, specifically at the intersection of Cherry Street and Lake Shore Boulevard East, could result in travel time delays to existing surface transit routes (i.e., Toronto Transit Commission bus route #72 Pape and #121 Fort York-Esplanade) that pass through the intersection. ■ Potential temporary lane restrictions on the Don Valley Parkway could result in travel time delays to GO Bus #61 travelling within the Lower Don Bridge and Don Yard Traffic and Transportation Study Area.	■ Co-ordinate with local transit operators and notify transit users regarding travel delays to the bus services in advance. ■ Consider scheduling some construction activities during off-peak periods and weekends to minimize delays to bus services during the critical peak periods.	■ Transit services will be monitored through actual field observations throughout the construction period and additional mitigation measures will be considered, as needed.

Discipline	Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities
Utilities	Private Utilities	■ Utilities modification and relocation. ■ It is anticipated that there will be temporary impacts to existing utilities during the construction of early works, with potential relocations and associated disruptions to be determined. ■ Potential impacts to utilities are under review and will be confirmed as project planning progresses.	■ In-depth utility investigations will be undertaken during detailed design to confirm impacts. Any potential conflicts and association relocation requirements or mitigation measures will be identified in consultation with utility providers. ■ During detailed design, the potential impacts to utilities, relocations and mitigation measures will be further refined and confirmed through a subsurface utility engineering investigation. ■ Appropriate mitigation measures including next steps related to consultation with utility companies and stakeholders, and phasing plans will be determined once the impacts are confirmed. Utility relocations will consider potential impacts to the natural environment and comply with mitigation measures outlined in **Table 6-1**.	■ None identified.
Utilities	Public Utilities and Municipal Servicing	■ Utilities modification and relocation. ■ It is anticipated that there will be temporary impacts to existing utilities during the construction of early works, with potential relocations to be determined. ■ Potential impacts to utilities are under review and will be confirmed as project planning progresses.	■ In-depth utility-related investigations such as subsurface utility engineering investigation will be completed during detailed design. Metrolinx will consult with the City of Toronto during the development of these studies to ensure concerns are addressed. ■ Metrolinx will also consult with the City of Toronto and Toronto Hydro, as required, during detailed design regarding potential impacts to municipal infrastructure and servicing and ensure that applicable City standards, guidelines, and criteria are met. ■ Utility relocations will consider potential impacts to the natural environment and comply with mitigation measures outlined in **Table 6-1**.	■ None identified.

ES.6 Permits and Approvals

Section 7 includes a list of permits that may be required for the Lower Don Bridge and Don Yard early works construction activities. These potential permitting requirements are summarized below.

Federal

It is not anticipated that the Lower Don Bridge and Don Yard early works will require an approval under the Canadian Navigable Waters Act, 2019; however, it should be reviewed prior to construction.

If in-water works in the Don River are required as part of the Lower Don Bridge and Don Yard early works, a Fisheries and Oceans Canada Request for Review under the Fisheries Act, 1985 will be submitted to confirm permitting requirements.

Provincial

A number of provincial permits and approvals have been identified as potentially required, which include, but are not limited to, the following:

- Species at Risk authorizations in accordance with the Endangered Species Act, 2007:
  - Metrolinx will comply with the conditions of the Permit CR-D-002-19 issued on August 7, 2020 under Section 17(1) in accordance with clause 17(2)(d) of the Endangered Species Act, 2007 for Species at Risk that may be affected by the Lower Don Bridge and Don Yard early works including Barn Swallow and bat Species at Risk.
- Registration through the Environmental Activity and Sector Registry in accordance with Ontario Regulation 63/16 for water taking for construction site dewatering in excess of 50,000 litres/day and under 400,000 litres/day.
- Category 3 Permit to Take Water from the Ministry of the Environment, Conservation and Parks for the taking of more than 400,000 litres/day for construction dewatering under the Ontario Water Resources Act, 1990.
- Approvals for the discharge of pumped water, as required, which may include a combination of:
  - Municipal Discharge Permits (City of Toronto Private Water Discharge Permit/Agreement);
  - Conservation Authority notification (Permit for Development, Interference with Wetlands and Alterations to Shorelines and Watercourses); and

  - Environmental Compliance Approvals from the Ministry of the Environment, Conservation and Parks in accordance with the Ontario Water Resources Act, 1990.
- Environmental Compliance Approval(s) from the Ministry of the Environment, Conservation and Parks for equipment held by contractors, owners and operators of that equipment in advance of construction, as required.

Conservation Authority

Metrolinx will consult with Toronto and Region Conservation Authority with respect to construction activities in regulated areas for the Lower Don Bridge and Don Yard early works in relation to Ontario Regulation 166/06: Toronto and Region Conservation Authority Regulation of Development, Interference with Wetlands and Alterations to Shorelines and Watercourses.

Municipal

A range of municipal permits and approvals including Permits to Injure or Remove Trees, and transportation-related permits and approvals (e.g., Street Occupation Permit) may be required for the Project, particularly pertaining to municipally owned lands and infrastructure. Metrolinx as a Crown Agency of the Province of Ontario is exempt from certain municipal processes and requirements. In these instances, Metrolinx will engage with the municipalities to incorporate municipal requirements as a best practice, where practical, and may obtain associated permits and approvals. Metrolinx shall continue to communicate and engage with the City of Toronto during detailed design and construction planning to address municipal concerns.

A construction vibration control form is typically required to accompany a building permit as per the City of Toronto By-law 514-2008. This will be confirmed during the design and implementation phases of the Lower Don Bridge and Don Yard early works. Should a building permit be required, Metrolinx will consult with the City of Toronto.

Metrolinx will consult with City of Toronto Heritage Planning regarding any physical impact to one potential built heritage resource/cultural heritage landscape (LDB-001 – Public Space: Former location of first railway crossing of the Lower Don River) as part of the planning process.

ES.7 Consultation Process

The consultation program followed by Metrolinx for the early works is described in **Section 8** of this Report and all consultation materials are included in **Appendix C**.

The overall approach to consultation for the Project is outlined in Section 7.1.1 of the Ontario Line Final Environmental Conditions Report. To share information and collect feedback related to early works, Metrolinx has undertaken the following communication and engagement activities prior to the publication of the Final Lower Don Bridge and Don Yard Early Works Report and during the 30-day public review period:

- Early works specific updates on the Engagement webpage (Project website) (www.metrolinx.com/ontarioline) including:
  - East segment neighbourhood updates (Lower Don Bridge and Don Yard is within the East segment) – published on September 17, 2020 and updated on June 22, 2021; and
  - The Ontario Line early works webpage (https://www.metrolinxengage.com/en/content/early-works) and environment webpage (https://www.metrolinxengage.com/en/content/ontario-line-environment) updates that includes information related to environmental reporting and timelines, early works timelines, scope overview and locations and provides an option to learn more about each early works location – published on September 17, 2020 and updated on November 30, 2020, March 9, 2021, May 27, 2021, June 17, 2021, June 22, 2021, July 5, 2021 and August 25, 2021.
- Mailings/notifications;
- Emails via the Project email address (ontarioline@metrolinx.com);
- E-newsletters to the Project Distribution List (see **Section 8.1.3** for more details);
- Newspaper advertisements;
- Elected Officials Briefings;
- Outreach to Indigenous Nations, government review agencies and other technical stakeholders;
- Virtual open houses held on April 22, 2021 and June 24, 2021;
- Online consultation via the Engagement webpage (Project website); and
- Meetings with community stakeholders and groups.

In accordance with Section 8(2)(10) of Ontario Regulation 341/20: Ontario Line Project, the consultation record summarized in **Section 8** and provided in **Appendix C** summarizes the Lower Don Bridge and Don Yard early works consultation activities carried out with Indigenous Nations, members of the public, review agencies and other

technical stakeholders, property owners, and other interested parties, including a summary of feedback and comments received.

On June 22, 2021, the Notice of Publication of the Draft Lower Don Bridge and Don Yard Early Works Report was issued to commence the 30-day public review period, effective until July 22, 2021, along with the up to 65-day review and Issues Resolution Process period. The Notice was distributed via:

- Engagement webpage (Project website);
- Newspaper advertisements in three major newspapers and one community newspaper in English and French;
- Email to individuals on the Project Distribution List, including community stakeholders and groups, government review agencies and other technical stakeholders, elected officials, and Indigenous Nations; and
- Mailed to 3,153 property owners within 30 metres of the Lower Don Bridge and Don Yard Early Works Project Footprint and approximately 15,461[6] addresses (i.e., apartments, houses, businesses) within and surrounding the Lower Don Bridge and Don Yard Study Area.

Following the consultation program described in **Section 8**, Notice of Publication of the Final Lower Don Bridge and Don Yard Early Works Report was issued to the public on August 25, 2021 through a variety of media (Project website, registered mail, newspapers, and mail drop to nearby addresses). All parties notified of the Draft Lower Don Bridge and Don Yard Early Works Report were notified of the publication of the Final Lower Don Bridge Early Works Report and provided with access to a copy of it. Input/feedback received during the 30-day public review period of the Draft Lower Don Bridge and Don Yard Early Works Report was incorporated into the Final Lower Don Bridge Early Works Report.

Extensive consultation was also undertaken by Metrolinx for the broader Project, which is detailed in the Ontario Line Final Environmental Conditions Report (AECOM, 2020a) (under separate cover).

[6] The property list has been updated since publishing the Draft Lower Don Bridge and Don Yard Early Works Report from 15,511 to 15,461 to accommodate the most recent Canada Post mail routes, which are updated on a monthly basis.

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1. Introduction

1.1 Purpose of the Ontario Line Lower Don Bridge and Don Yard Early Works

The Ontario Line Project (the Project) is being assessed in accordance with Ontario Regulation 341/20: Ontario Line Project under the Environmental Assessment Act. Ontario Regulation 341/20: Ontario Line Project outlines a Project-specific environmental assessment process that includes an Environmental Conditions Report, Environmental Impact Assessment Report, and an opportunity for Early Works Report(s) for assessment of works that are ready to proceed in advance of the Environmental Impact Assessment Report. The Environmental Conditions Report documents the local environmental conditions of the Ontario Line Study Area and provides a preliminary description of the potential environmental impacts from the Project. Information outlined in the Environmental Conditions Report is used to inform the Early Works Report(s) and Environmental Impact Assessment Report, which study environmental impacts in further detail and confirm and refine preliminary mitigation measures identified in the Environmental Conditions Report.

Ontario Line early works are components of the Project that are proposed to proceed before the completion of the Ontario Line environmental impact assessment process. An overview of the Project is provided in **Section 1.2**. AECOM Canada Limited (AECOM) was retained by Metrolinx and Infrastructure Ontario to complete this Early Works Report (this Report) for the Project. Early works are defined in Ontario Regulation 341/20: Ontario Line Project under the Environmental Assessment Act as follows:

> "any components of the Ontario Line Project that Metrolinx proposes to proceed with before the completion of the Ontario Line assessment process, such as station construction, rail corridor expansion, utility relocation or bridge replacement or expansion."

This Report documents the assessment of the Lower Don Bridge and Don Yard early. The rationale for proceeding with the Lower Don Bridge and Don Yard early works is provided in **Section 1.3.1**. Lower Don Bridge and Don Yard early works are described in detail in **Section 3**.

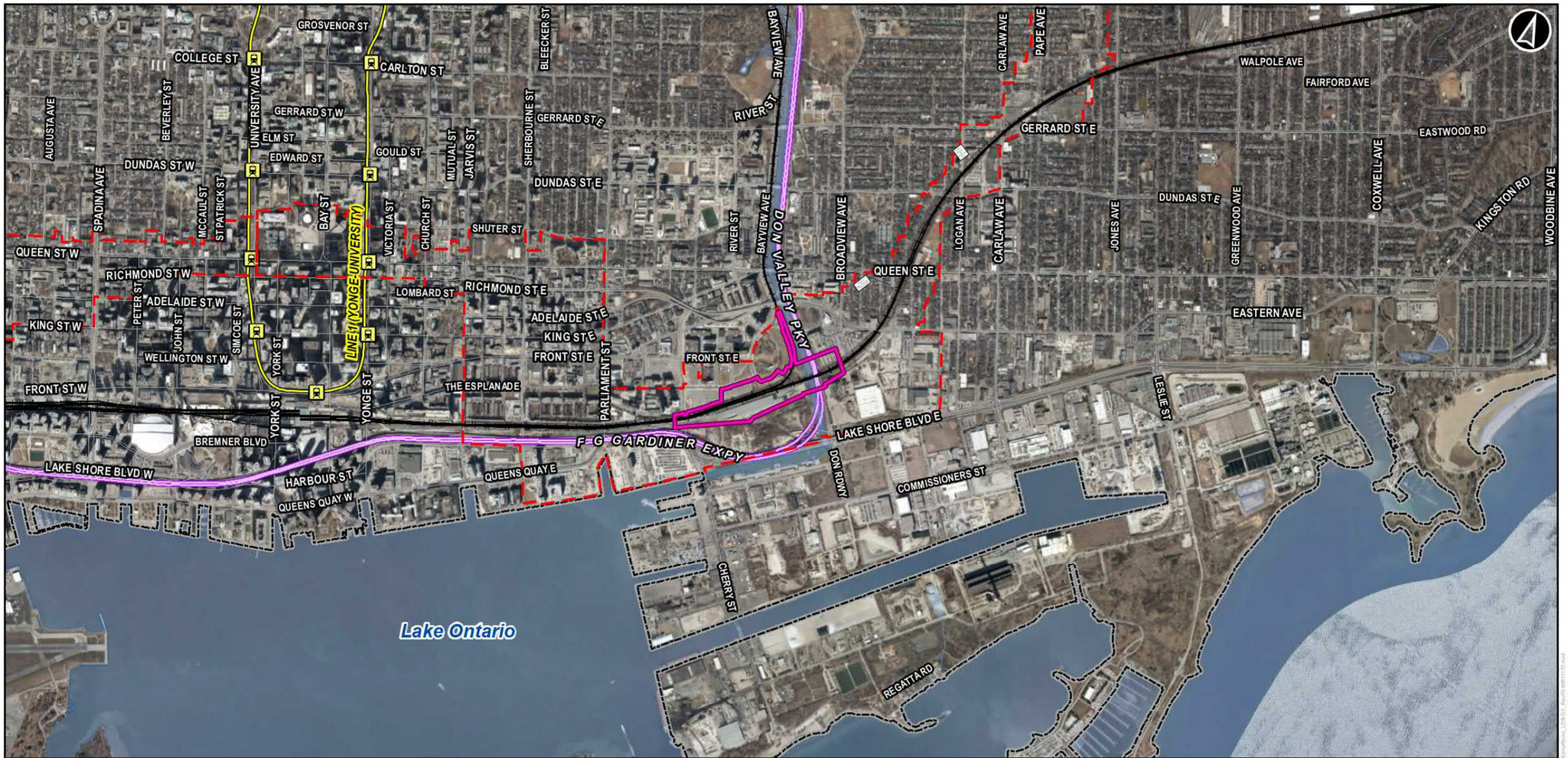
1.2 Ontario Line Project Overview

Metrolinx, an agency of the Province of Ontario, is proceeding with the planning and development of the Ontario Line, extending from Exhibition/Ontario Place to the Ontario Science Centre in the City of Toronto.

The Project is a new approximately 15.6-kilometre subway line with connections to Line 1 (Yonge-University) subway service at Osgoode and Queen Stations, Line 2 (Bloor-Danforth) subway service at Pape Station, and Line 5 (Eglinton Crosstown) light rail transit service at the future Science Centre Station. Fifteen stations are proposed, with additional connections to three GO Transit lines (Lakeshore East, Lakeshore West and Stouffville), and the Queen, King, Bathurst, Spadina, Harbourfront, and Gerrard/Carlton streetcar routes. The Project will reduce crowding on Line 1 and provide connections to new high-order rapid transit neighbourhoods. The Project will be constructed in a dedicated right-of-way with a combination of elevated (i.e., above existing rail corridor/roadway), tunnelled (i.e., underground), and at-grade (i.e., at grade with existing rail corridor) segments at various locations.

The Lower Don Bridge and Don Yard early works location within the context of the Project is shown in **Figure 1-1**.

Figure 1-1: Ontario Line Project and Lower Don Bridge and Don Yard Early Works Location



1.3 Early Works Overview

The Lower Don Bridge and Don Yard early works will include:

- Construction of a new bridge north of the existing Lakeshore East rail corridor[7] bridge over the Lower Don River that will carry the Ontario Line tracks;
- Shift of the nearby Union Station and Lakeshore East rail corridor GO tracks, including tracks on the existing rail bridge, to accommodate Ontario Line infrastructure within the Union Station Rail Corridor[8] and Don Yard;
- Modifications to the existing Lakeshore East rail corridor bridge to accommodate Lakeshore East GO track shifts to accommodate Ontario line infrastructure; and
- Utility and signal infrastructure relocation or protection.

Active transportation access across the Lower Don River will be facilitated via a bridge that will provide a multi-use connection across the river. This bridge is not within the scope of these early works, and will be assessed as part of the Ontario Line Environmental Impact Assessment Report.

1.3.1 Rationale for Proceeding with the Lower Don Bridge and Don Yard Early Works

Lower Don Bridge and Don Yard early works are considered to be of strategic importance in enabling the timely implementation of the Project. These early works are being advanced where the Project interfaces with GO Expansion. Advancing early works and supporting environmental and technical studies in this area provides planning and design efficiencies for the Project and GO Expansion and facilitates the timely implementation of both.

These early works will set the groundwork for other major construction for the Project, reducing risk of construction delays to the main P3 contracts by completing the joint corridor work in advance of the main contracts.

7. Lakeshore East rail corridor extends from the Lower Don River in the City of Toronto to the City of Oshawa.
8. Union Station Rail Corridor extends from approximately west of Bathurst Street to the Lower Don River in the City of Toronto.

1.3.2 Summary of Background Information related to the Lower Don Bridge and Don Yard Early Works

Ontario Line was developed with the intent to accelerate delivery of new transit, serve additional markets and reduce costs per kilometre while building on plans developed by City of Toronto, Toronto Transit Commission and Metrolinx under the umbrella of the Relief Line South Project Assessment and Relief Line North Project Assessment. The Ontario Line concept was developed iteratively and with flexibility to allow for implementation using a public-private partnership, transferring risks to a Project Company that would also have the freedom to determine the exact design and technology within set parameters. These key drivers led to decisions to use modern standard technology, look at a standalone maintenance and storage facility for Ontario Line, and consider at-grade or elevated alignments (Metrolinx, 2019). As shown in **Figure 1-2** below, Lower Don Bridge is located along such an alignment – the joint Ontario Line-GO corridor – and provides the required crossing of the Lower Don River for Ontario Line trains.

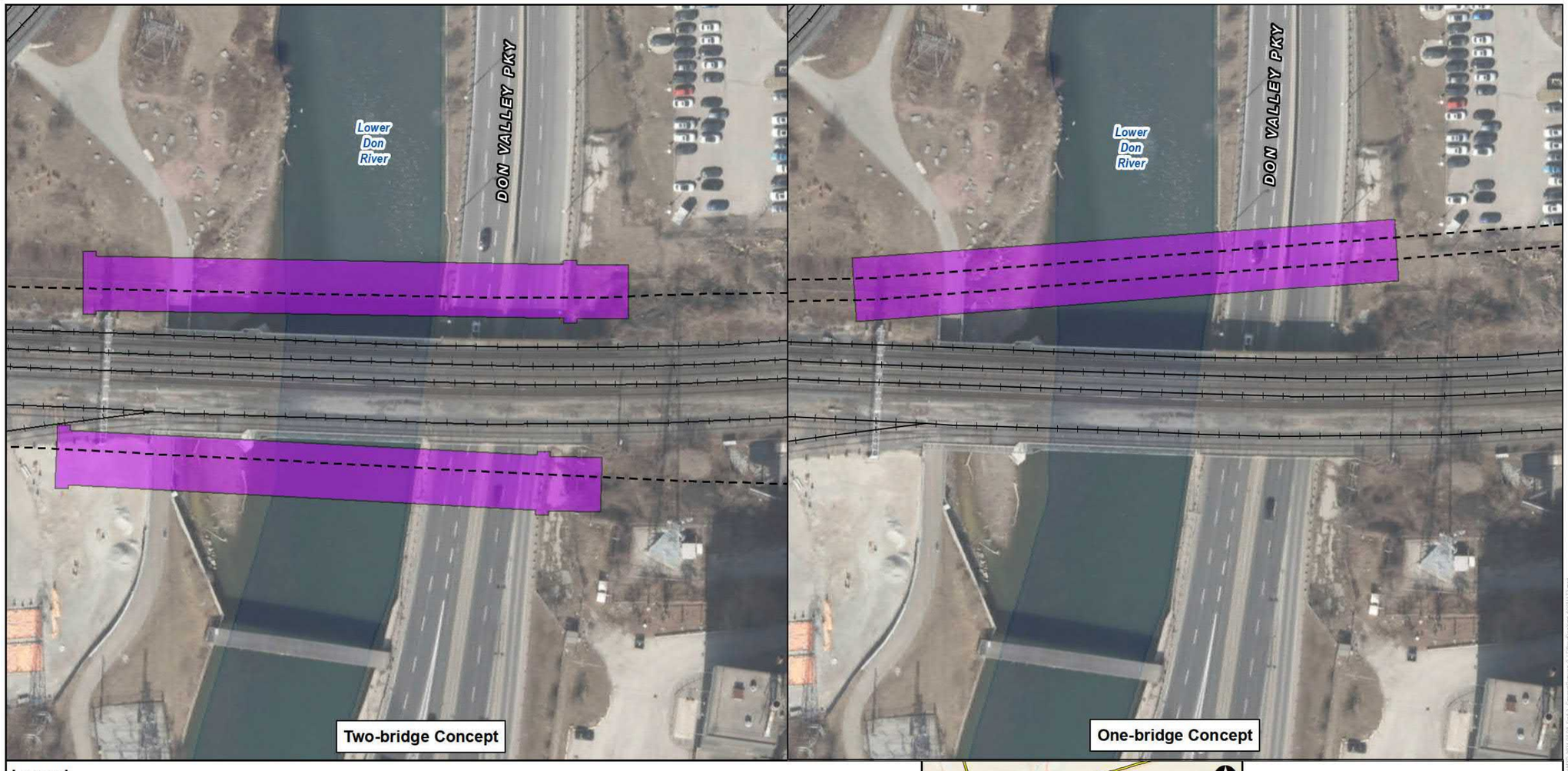
1.3.3 Description of the Alternatives Considered

The Lower Don Bridge is located along the joint Ontario Line – GO corridor Project segment between the tunnel portal located in the Don Yard and the tunnel portal located north of Gerrard Street (**Figure 1-2**). Metrolinx has revised the design concept of this segment for the Ontario Line tracks to be located entirely on the north side of the Lakeshore East GO tracks, as shown in **Figure 1-3** below. As a result, a single Ontario Line bridge north of the existing rail bridge over Lower Don River is required rather than two Ontario Line bridges, one on each side of the existing rail bridge. In addition, a single portal is required north of the existing Lakeshore East corridor tracks, necessitating track shifts to accommodate the new portal structure.

Metrolinx considered alternative methods of delivering the Project including a non-phased approach to Project implementation. It has been determined that a phased approach to implementation – that is, proceeding with Lower Don Bridge and Don Yard early works before the completion of the Ontario Line assessment process – is beneficial for Project planning and design and facilitates timely implementation of both Ontario Line and GO Expansion.

Figure 1-2: Ontario Line Alignment

Figure 1-3: Lower Don Bridge and Don Yard Early Works Alternatives Considered



2. Study Process

2.1 Ontario Regulation 341/20: Ontario Line Project

This Project is being assessed in accordance with Ontario Regulation 341/20: Ontario Line Project, under the Environmental Assessment Act. Ontario Regulation 341/20: Ontario Line Project provides a defined framework for the proponent to follow to conduct assessment and decision-making surrounding the potential environmental impacts of the Project.

Ontario Regulation 341/20: Ontario Line Project requires consultation with Indigenous Nations and interested persons, an Environmental Conditions Report, and an Environmental Impact Assessment Report. Ontario Regulation 341/20: Ontario Line Project provides opportunity for Metrolinx to prepare one or more early works reports.

2.1.1 Early Works Report

2.1.1.1 Draft Early Works Report

The Ontario Line Draft Lower Don Bridge and Don Yard Early Works Report was prepared to satisfy the requirements of Section 8 of Ontario Regulation 341/20: Ontario Line Project. The Ontario Line Draft Lower Don Bridge and Don Yard Early Works Report summarized the local environmental conditions within the discipline-specific study areas developed for the Lower Don Bridge and Don Yard early works. The local environmental conditions were characterized through a combination of desktop review and field studies by practitioners using industry standard techniques and provincial standards, protocols, and guidelines, where appropriate. A detailed description of local environmental conditions is documented in the Ontario Line Final Environmental Conditions Report (AECOM, 2020a)[9], prepared under a separate cover in accordance with Section 4 of Ontario Regulation 341/20: Ontario Line Project.

This Report also provided an assessment and evaluation of the impacts that early works might have on the environment. Based on the potential impacts, a description of mitigation measures and monitoring activities was outlined. A list of any municipal, provincial, federal or other permits and approvals that may be required for the early works was also provided.

9. The Ontario Line Final Environmental Conditions Report (AECOM, 2020) was published on November 30, 2020 in accordance with Ontario Regulation 341/20: Ontario Line Project.

Discipline-specific assessment and evaluation of impacts were undertaken for the following disciplines:

- Natural Environment;
- Soil and Groundwater;
- Hydrology and Surface Water;
- Air Quality;
- Noise and Vibration;
- Socio-Economic and Land Use Characteristics;
- Built Heritage Resources and Cultural Heritage Landscapes;
- Archaeological Resources;
- Traffic and Transportation; and
- Utilities.

Lastly, the Ontario Line Draft Lower Don Bridge and Don Yard Early Works Report provided a consultation record including a description of the consultations carried out with Indigenous Nations and interested persons.

2.1.1.2 Consultation on the Early Works Report

In order to build strong relationships, to develop an understanding of local issues in the surrounding communities, and to ensure communities stay engaged and informed, Metrolinx engages the public and a range of interested parties, including: Indigenous Nations, elected officials, regulatory agencies, community stakeholders and groups and other interested persons. The Lower Don Bridge and Don Yard early works consultation activities are outlined below and further detailed in **Section 8** of this Report. All consultation materials are included in **Appendix C**.

The overall approach to consultation for the Project is outlined in Section 7.1.1 of the Ontario Line Final Environmental Conditions Report (AECOM, 2020a). To share information and collect feedback related to early works, Metrolinx has undertaken the following communication and engagement activities prior to the publication of the Final Lower Don Bridge and Don Yard Early Works Report and during the 30-day public review period:

- Early Works specific updates on the Engagement webpage (Project website) (www.metrolinx.com/ontarioline) including:
  - East segment neighbourhood updates (Lower Don Bridge and Don Yard is within the East Segment) – published on September 17, 2020 and updated on June 22, 2021; and

  - The Ontario Line early works webpage (https://www.metrolinxengage.com/en/content/early-works) and environment webpage (https://www.metrolinxengage.com/en/content/ontario-line-environment) updates that includes information related to environmental reporting and timelines, early works timelines, scope overview and locations and provides an option to learn more about each early works location – published on September 17, 2020 and updated on November 30, 2020, March 9, 2021, May 27, 2021, June 17, 2021, June 22, 2021, July 5, 2021 and August 25, 2021.

- Mailings/notifications;
- Emails via the Project email address (ontarioline@metrolinx.com);
- E-newsletters to the Project Distribution List (see **Section 8.1.3** for more details);
- Newspaper advertisements;
- Elected Officials Briefings;
- Outreach to Indigenous Nations, government review agencies and other technical stakeholders;
- Virtual open houses held on April 22, 2021 and June 24, 2021;
- Online consultation via the Engagement webpage (Project website); and
- Meetings with community stakeholders and groups.

In accordance with Section 8(2)(10) of Ontario Regulation 341/20: Ontario Line Project, the consultation record summarized in **Section 8** and provided in **Appendix C** summarizes the Lower Don Bridge and Don Yard early works consultation activities carried out with Indigenous Nations, members of the public, government review agencies and other technical stakeholders, community stakeholders and groups, elected officials, and other interested parties, including a summary of feedback and comments received.

On June 22, 2021, the Notice of Publication of the Draft Lower Don Bridge and Don Yard Early Works Report was issued through a variety of media to commence the public review period, effective until July 22, 2021, along with the up to 65-day review and Issues Resolution Process period. The Notice was distributed via:

- Engagement webpage on the Project website (www.metrolinx.com/ontarioline);
- Newspaper advertisements in three major newspapers and one community newspaper in English and French;

- Email to individuals on the Project Distribution List, including community stakeholders and groups, government review agencies and other technical stakeholders, elected officials, and Indigenous Nations; and
- Mailed to 3,153 property owners within 30 metres of the Lower Don Bridge and Don Yard Early Works Project Footprint and approximately 15,461[10] addresses (i.e., apartments, houses, businesses) within and surrounding the Lower Don Bridge and Don Yard Study Area.

Extensive consultation was also undertaken by Metrolinx for the overall Project, which is detailed in the Ontario Line Final Environmental Conditions Report (AECOM, 2020a), under separate cover.

2.1.1.3 Issues Resolution Process

In accordance with Section 10(6) of the Ontario Regulation 341/20: Ontario Line Project, Metrolinx established an issues resolution process for the Lower Don Bridge and Don Yard early works. Any concerns raised by Indigenous Nations and interested persons during the 30-day public review period of the Draft Lower Don Bridge and Don Yard Early Works Report have been documented in Section 8.7.2 of this Report, as required by Section 11(1)(b) of Ontario Regulation 341/20: Ontario Line Project. Concerns received after the 30-day public review period will be addressed outside of the issues resolution process.

2.1.1.4 Final Early Works Report

Following the consultation program described in **Section 2.1.1.2** and **Section 8**, the Notice of Publication of the Final Lower Don Bridge and Don Yard Early Works Report was issued to the public on August 25, 2021 through a variety of media (Project website, registered mail, social media, newspapers, and mail drop to nearby addresses). All parties notified of the Draft Lower Don Bridge and Don Yard Early Works Report were notified of the publication of the Final Lower Don Bridge and Don Yard Early Works Report and provided with access to a copy of it. Input/feedback received during the 30-day public review period was incorporated into this Report.

Within 35 days of receipt of the Notice of Publication of the Final Lower Don Bridge and Don Yard Early Works Report, the Minister may issue a notice to Metrolinx imposing conditions related to the early works, in accordance with Section 12 of the Ontario Regulation 341/20: Ontario Line Project.

[10] The property list has been updated since publishing the Draft Lower Don Bridge and Don Yard Early Works Report from 15,511 to 15,461 to accommodate the most recent Canada Post mail routes, which are updated on a monthly basis.

After the 35-day Minister review period, Metrolinx will submit a Statement of Completion of the early works assessment process to the Directors of the Ministry's Environmental Assessment Branch and Central Region Office and post the Statement of Completion on the Project website. Metrolinx shall proceed in accordance with the Final Lower Don Bridge and Don Yard Early Works Report, subject to any conditions imposed by the Minister.

2.1.2 Contents of the Early Works Report

This Report has been prepared in accordance with Section 8 of Ontario Regulation 341/20: Ontario Line Project and contains the information outlined in **Table 2-1**.

Table 2-1: Report Contents in Accordance with Ontario Regulation 341/20: Ontario Line Project

Reg. Section	Requirement	Report Section
Section 8(2)1	A description of the early works including a description of the alternatives that were considered.	**Section 1.3 and Section 3**
Section 8(2)2	The rationale for proceeding with the early works and a summary of background information relating to them.	**Section 1.3**
Section 8(2)3	A map showing the site of the early works.	**Figure 3-1 and Appendix B**
Section 8(2)4	A description of the local environmental conditions at the site of the early works.	**Section 5 and Appendix B**
Section 8(2)5	A description of all studies undertaken in relation to the early works, including, i. a summary of all data collected or reviewed, and ii. a summary of all results and conclusions.	**Section 5, Section 6, and Appendix B**
Section 8(2)6	Metrolinx's assessment and evaluation of the impacts that the preferred method of carrying out the early works and other methods might have on the environment, and Metrolinx's criteria for assessment and evaluation of those impacts.	**Section 6 and Appendix B**
Section 8(2)7	A description of any measures proposed by Metrolinx for mitigating any negative impacts that the preferred method of carrying out the early works might have on the environment.	**Section 6 and Appendix B**
Section 8(2)8	A description of the means Metrolinx proposes to use to monitor or verify the effectiveness of mitigation measures proposed.	**Section 6 and Appendix B**
Section 8(2)9	A description of any municipal, provincial, federal or other approvals or permits that may be required for the early works.	**Section 7 and Appendix B**
Section 8(2)10	A consultation record, including, i. a description of the consultations carried out with Indigenous Nations and interested persons, ii. a list of the Indigenous Nations and interested persons who participated in the consultations,	**Section 8 and Appendix C**

Reg. Section	Requirement	Report Section
	iii. summaries of the comments submitted by Indigenous Nations and interested persons, and iv. a summary of discussions that Metrolinx had with Indigenous Nations, and copies of all written comments submitted by Indigenous Nations.	

2.2 Planning Context

The Province of Ontario and City of Toronto have plans and policies which are relevant to the development of the Project. An overview of the Project is provided in **Section 1.2**. These plans and policies serve as important elements of the planning framework and provide insight into key provincial and municipal objectives, while encouraging strategic transportation development.

The following sections provide an overview of the planning policies affecting the Project. These individual plans and policies, as well as other planning considerations such as municipal strategies and guidelines, and relevant environmental assessment studies, are described in more detail in **Section 5.6** of this Report.

2.2.1 Provincial

2.2.1.1 Provincial Policy Statement, 2020

The Provincial Policy Statement, 2020 is issued under Section 3 of the Planning Act and provides policy direction on matters related to land use planning and development. The Provincial Policy Statement is premised upon the efficient use of land and infrastructure, the protection of environmental resources, and ensuring sufficient land is available for the development of future employment and residential uses.

Of relevance to the Lower Don Bridge and Don Yard Study Area are policies that relate to transportation systems and infrastructure, long-term economic prosperity, and the protection of natural, cultural, and built heritage. In particular, the Provincial Policy Statement promotes:

- Healthy and active communities by facilitating active transportation and community connectivity (Provincial Policy Statement, 2020, Section 1.5.1);
- The planning for and protection of transportation infrastructure and transit to meet current and projected needs (Provincial Policy Statement, 2020, Section 1.6.8.1);

- Providing safe, energy efficient, integrated, and reliable multimodal transportation systems which facilitate the movement of people and appropriately address projected needs (Provincial Policy Statement, 2020, Section 1.6.7);
- Maintaining or restoring the diversity and connectivity of natural features in an area, and the long-term ecological function and biodiversity of natural heritage systems (Provincial Policy Statement, 2020, Section 2.1.2);
- Restricting development and site alteration in, or adjacent to, significant wetlands, woodlands, valley lands, wildlife habitat, and Areas of Natural and Scientific Interest, unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions (Provincial Policy Statement, 2020, Sections 2.1.4 and 2.1.5);
- Restricting development and site alteration in habitat of endangered or threatened species except in accordance with Provincial and Federal requirements (Provincial Policy Statement, 2020, Section 2.1.7); and
- Restricting development and site alteration in or near sensitive surface or groundwater features such that their features and related hydrological functions will be protected, improved, or restored (Provincial Policy Statement, 2020, Section 2.2.2).

The Project is consistent with the objectives of the Provincial Policy Statement as it supports the expansion and optimization of a multi-modal transportation system that provides connectivity to existing local and regional transit and supports long-term economic prosperity. The Project will also support areas that are planned for residential and employment growth and the potential to support multiple modes of travel, foster improved connectivity, and allow for the development of compact, mixed-use communities.

As noted in **Section 1.3.1**, the Lower Don Bridge and Don Yard early works support the of the timely implementation of the Project and are therefore also consistent with the objectives of the Provincial Policy Statement.

2.2.1.2 A Place to Grow: Growth Plan for the Greater Golden Horseshoe

A Place to Grow: Growth Plan for the Greater Golden Horseshoe, 2020 (Growth Plan) is a long-term plan for Ontario designed to promote economic growth, increase housing supply, create jobs, and build communities that make life easier, healthier, and more affordable for people of all ages. As one of the most dynamic and fast-growing regions in North America, the Greater Golden Horseshoe is a designation for many people and businesses relocating from other parts of Canada and around the world. To

accommodate such growth, an integral part of the Plan's vision is focused on investing in transit infrastructure to support the regional transit network.

The Project is consistent with the relevant policies of the Growth Plan by extending the higher-order transit network into existing residential and employment areas, which optimizes the efficiency and viability of existing and planned transit and help develop more vibrant and complete communities.

The Growth Plan identifies Downtown Toronto as an "urban growth centre" and the GO Transit rail lines and subway lines within the Downtown Toronto area "priority transit corridors" (Province of Ontario, 2020). The Growth Plan notes that urban growth centres will be planned:

a) as focal areas for investment in regional public service facilities, as well as commercial, recreational, cultural, and entertainment uses;
b) to accommodate and support the transit network at the regional scale and provide connection points for inter- and intra-regional transit;
c) to serve as high-density major employment centres that will attract provincially, nationally, or internationally significant employment uses; and,
d) to accommodate significant population and employment growth.

Each "urban growth centre" is given a minimum density target to achieve by 2031. The minimum density target for Downtown Toronto is 400 residents and jobs combined per hectare. To support these growth and density targets, "priority transit corridors" are identified with policies for infrastructure development, such as requiring municipalities to recognize these areas in their official plans to implement the policies of the Growth Plan.

The Project promotes the Growth Plan's policies by providing Downtown Toronto with improved regional connections that will accommodate the increased population and employment to be achieved by the density targets.

As noted in **Section 1.3.1**, the Lower Don Bridge and Don Yard early works support the timely implementation of the Project and are therefore also consistent with the objectives of the Growth Plan.

2.2.1.3 2041 Regional Transportation Plan

The 2041 Regional Transportation Plan is a strategic, long-term vision for interconnected transportation in the Greater Toronto and Hamilton Area. The Regional Transportation Plan was adopted by Metrolinx in March 2018. The Regional Transportation Plan is the successor to Metrolinx's first long-term transportation plan, The Big Move (2008).

The Regional Transportation Plan identifies the following five key strategies:

1. Complete delivery of current regional transit projects.
2. Connect more of the region with frequent rapid transit.
3. Optimize the transportation system.
4. Integrate transportation and land use.
5. Prepare for an uncertain future.

Under Strategy 1, the Regional Transportation Plan notes that planning is underway for 13 rapid transit projects including the Relief Line Subway, which is described as a "new subway line linking downtown Toronto, the Bloor-Danforth Subway and Sheppard Avenue" and "will manage congestion along the Yonge Subway Line, from Osgoode Station to Sheppard Avenue East in Toronto" (Metrolinx, 2018). The Relief Line Subway is listed under "Projects in Development" and Relief Line Subway West Extension (Osgoode Station – Bloor West) is listed under "Projects beyond 2041" (Metrolinx, 2018). The Regional Transportation Plan notes that earlier planning will occur for the West Extension (Metrolinx, 2018).

The Project meets the intent of the Regional Transportation Plan, as it will provide a new subway connecting downtown Toronto and providing relief to the existing Yonge-University Subway (Line 1). As noted in **Section 1.3.1**, the Lower Don Bridge and Don Yard early works support the of the timely implementation of the Project and are therefore also consistent with the objectives of the Regional Transportation Plan.

2.2.1.4 The Greenbelt Plan, 2017

The Greenbelt Plan, 2017, identifies where urbanization should not occur in order to provide permanent protection to the agricultural land base and the ecological and hydrological features, areas, and functions occurring within the Greater Golden Horseshoe landscape (Province of Ontario, 2017). The Greenbelt Plan was introduced in 2005 under the Greenbelt Act, 2005, and includes lands within, and builds upon the ecological protections provided by, the Niagara Escarpment Plan and the Oak Ridges Moraine Conservation Plan[11]. The Greenbelt Plan, together with the Growth Plan, builds on the Provincial Policy Statement to establish a land use planning framework for the Greater Golden Horseshoe that supports a thriving economy, a clean healthy environment, and social equity (Province of Ontario, 2017).

The Don River is designated as an Urban River Valley under the Greenbelt Plan, 2017. The Urban River Valley designation promotes protection of natural and open space lands along river valleys in urban areas, provides connectivity between the Greenbelt

11. The Lower Don Bridge and Don Yard Study Area does not fall within the protections of the Niagara Escarpment Plan or Oak Ridges Moraine Conservation Plan.

and Lake Ontario, and directs land use planning in areas where the Greenbelt occupies river valleys in an urban context (Province of Ontario, 2017).

The Project is consistent with the Greenbelt Plan, 2017, as the Urban River Valley policies, provided under Section 6 of the Greenbelt Plan, 2017, note that all existing, expanded, or new infrastructure subject to and approved under the Environmental Assessment Act (or similar approval) are permitted within the Urban River Valley designation, provided that the goals of the Growth Plan and Greenbelt Plan are supported (Province of Ontario, 2017).

A portion of the Don River is located within the Lower Don Bridge and Don Yard Early Works Project Footprint; therefore, the Urban River Valley policies outlined in the Greenbelt Plan, 2017 are applicable to the Lower Don Bridge and Don Yard early works.

2.2.1.5 Conservation Authorities Act, 1998

The Lower Don Bridge and Don Yard Early Works Project Footprint falls under the jurisdiction of the Toronto and Region Conservation Authority. Ontario Regulation 166/06 under Section 28 of the Conservation Authorities Act (1998), establishes regulated areas within Toronto and Region Conservation Authority's jurisdiction where development could be subject to flooding, erosion or dynamic beaches, or where interference with wetlands and alterations to shorelines and watercourses might have an adverse effect on those environmental features. The Lower Don Bridge and Don Yard Early Works Project Footprint is located within the Toronto and Region Conservation Authority Regulation Limit; therefore, Toronto and Region Conservation Authority policies are applicable under the Conservation Authorities Act, 1990.

2.2.1.6 Toronto and Region Conservation Authority Living City Policies, 2014

The Toronto and Region Conservation Authority Living City Policies for Planning and Development in the Watersheds of the Toronto and Region Conservation Authority (Toronto and Region Conservation Authority, 2014b) outlines the objectives and policies approved by the Toronto and Region Conservation Authority's roles and responsibilities in the planning and development approvals process (Toronto and Region Conservation Authority, 2014b). The purpose of the Toronto and Region Conservation Authority Living City Policies include guiding Toronto and Region Conservation Authority's review of planning applications and environmental assessments and provide the basis for approving permit applications under Section 28 of the Conservation Authorities Act.

As noted in **Section 2.2.1.5**, the Lower Don Bridge and Don Yard Early Works Project Footprint is located within the Toronto and Region Conservation Authority Regulation Limit, therefore the policies outlined within the Toronto and Region Conservation Authority Living City Policies apply to the Lower Don Bridge and Don Yard early works.

2.2.2 Municipal

2.2.2.1 City of Toronto Official Plan

The City of Toronto Official Plan (Official Plan) is intended to ensure that the City of Toronto evolves, improves, and realizes its full potential in areas such as transit, land use development, and the environment. Chapters 1 to 5 of the Official Plan contain city-wide policies that guide new development and related decision-making. As a municipal document, the Official Plan reflects provincial policies, plans, and initiatives (as described in **Section 2.2.1**) for effective implementation at the city level.

Further to the Official Plan's city-wide policies, Chapter 6 of the Official Plan is dedicated to Secondary Plans, which are more detailed local development policies to guide growth and change in a defined area of the City. Each Secondary Plan focuses on a key area, community, or neighbourhood to implement visions and objectives specific to these areas.

The following four City of Toronto secondary plans are applicable to the Lower Don Bridge and Don Yard Study Area:

- King-Parliament Secondary Plan;
- Central Waterfront Secondary Plan;
- Downtown Plan; and
- Unilever Precinct Secondary Plan.

The Lower Don Bridge and Don Yard Early Works Project Footprint is within the boundary of the Lower Don: Don River Special Policy Area within the Official Plan.

Refer to **Section 5.6** for descriptions of all secondary plans applicable to the Lower Don Bridge and Don Yard early works.

2.2.3 Applicable Environmental Assessments and Planning Studies

2.2.3.1 Waterfront Transit Reset

The City of Toronto, in partnership with the Toronto Transit Commission and Waterfront Toronto, is undertaking the Waterfront Transit "Reset" study, including a comprehensive assessment of needs and options for transit improvements for the waterfront area. The Waterfront Transit Reset study area extends from the Long Branch GO Station and the Mississauga border in the west to Woodbine Avenue in the east, and south of the Queensway/Queen Street corridor to Lake Ontario.

The Phase 1 study was completed in 2016 and the Phase 2 study was completed in 2018. City Council endorsed the overall Waterfront Transit Network Plan on January 31, 2018 and directed City staff to proceed with detailed planning and design studies (City of Toronto, 2020e). Consultation activities are currently underway for detailed design between Union Station and Cherry Street (City of Toronto, 2020e).

2.2.3.2 Don Mouth Naturalization and Port Lands Flood Protection Project

The Lower Don Bridge and Don Yard Early Works Project Footprint is within the boundary of the Don Mouth Naturalization and Port Lands Flood Protection Project (Toronto and Region Conservation Authority, 2014a).

Toronto and Region Conservation Authority, on behalf of and in cooperation with Waterfront Toronto and the City of Toronto, completed an Individual Environmental Assessment for the Don Mouth Naturalization and Port Lands Flood Protection Project. The environmental assessment study was approved by the Minister of the Environment, Conservation and Parks (formerly the Minister of the Environment and Climate Change) in March 2014. Construction commenced in the Port Lands in late 2018.

A minor amendment to the March 2014 Environmental Assessment Report was released in April 2021 to address the following modifications (Toronto and Region Conservation Authority, 2021a):

- Hydraulic modifications in the vicinity of the Lake Shore Bridge
  - Four-bay Lake Shore Bridge and upstream sediment trap configuration;
  - Hydro One Networks Inc. utility bridge across Don River (to remain); and
  - Flow diversion structures (adjustable and fixed sideflow weir to detachable flow curtain).
- Revised phasing approach to the Don Mouth Naturalization Project
  - Overall Port Lands Flood Protection Project construction phasing approach;
  - Interim sediment management area; and
  - Keating Channel revetment.
- The amendment is currently under agency and stakeholder review (Toronto and Region Conservation Authority, 2021a).

2.2.3.3 Lower Don River West Remedial Flood Protection Project

The West Don Lands area was a brownfield site within the Don River flood plain, and before any revitalization and development of the area could occur, the area required flood mitigation. The Lower Don River West Remedial Flood Protection Project Class

Environmental Assessment (Toronto and Region Conservation Authority, 2005) was undertaken to examine alternative flood protection systems for the elimination of flood risk along the Don River. The study was completed by Toronto and Region Conservation Authority in partnership with Waterfront Toronto, and in 2007 construction began on a flood protection landform along the Don River from the rail corridor to King Street. The landform is eight hectares in size and was constructed to provide flood protection for the West Don Lands community and Toronto's financial district. Corktown Common is located atop the flood protection landform.

2.2.3.4 East Harbour – SmartTrack Transit Project Assessment Process

The East Harbour Station will be located south of Eastern Avenue on the Metrolinx Lakeshore East rail corridor and will occupy lands from the eastern side of the Don Valley Parkway to Eastern Avenue. The transit hub station will serve both Ontario Line and GO service. The station will provide connectivity with the future Broadview Ave streetcar, as well as connectivity with adjacent communities.

In July 2016, Metrolinx issued the Initial Business Case for the East Harbour SmartTrack Station (previously referred to as Don Yard/Unilever). In fall 2016, the City of Toronto confirmed the location, general design concept and inclusion of the station in the SmartTrack program. The Environmental Project Report for the New SmartTrack Stations Project, including East Harbour SmartTrack Station, was completed in 2018 in accordance with Ontario Regulation 231/08 (Transit Project Assessment Process).

Since the completion of the New SmartTrack Stations Project Environmental Project Report, the East Harbour station layout has evolved to accommodate the inclusion of Ontario Line. Early plans had Ontario Line tracks running on either side of the GO tracks within the rail corridor. The revised track alignment has the two Ontario Line tracks running in parallel along the north side of the GO tracks. Design progress at East Harbour Station is ongoing in co-ordination with stakeholders.

2.2.3.5 Lower Don Trail Master Plan

The Lower Don Trail Master Plan was developed by the City of Toronto to provide a long-term strategy to improve access, environmental protection and possibilities for public art in the Don River valley lands (City of Toronto, 2013). The Lower Don Trail Master Plan include the following main principles:

- **Accessibility:** provide clear and safe access to the trail;
- **Connectivity:** connect major destinations, existing infrastructure and neighbourhoods while promoting the Don Valley as a destination unto itself;
- **Preservation:** protect and preserve the most sensitive natural areas;

- **Recreation:** enhance responsible interaction with the natural environment and develop recreation routes;
- **Education:** share the story of the Don Valley's history through public art and other installations;
- **Visibility:** develop clear and consistent wayfinding and interpretive signage, and elevate the visibility of the trail through public art; and
- **Participation:** invite opportunities for public participation in future improvements to the trail system.

In 2018, the City of Toronto began a refresh of the Lower Don Trail Master Plan to expand the existing principles into a larger study area, coordinate with relevant City Plans and strategies, recognize recently completed and upcoming work, and developing a new list of actions and strategies for users to better engage with the trail system (City of Toronto, n.d.b.).

The City of Toronto released a Site Information Bulletin on the Lower Don Trail Phase 2 Improvements on January 25, 2021. Phase 2 includes five components from just north of the Lakeshore East rail bridge for about 2 kilometres of trail north. Within the Lower Don Bridge and Don Yard Study Area, the scope includes general trail improvements including asphalt path widening, grading improvements, planting, guard rails, fencing, line painting and inlaid thermoplastic paving (City of Toronto et al., 2021).

The project is currently on hold; however a draft of the Lower Don Master Plan Refresh is expected to be available to stakeholders and the public by the end of 2021 (City of Toronto, n.d.b.).

2.2.3.6 Gardiner Expressway Strategic Rehabilitation Plan

The City of Toronto developed the Gardiner Expressway Strategic Rehabilitation Plan to establish the immediate and long-term rehabilitation needs of the Gardiner Expressway, improve transportation corridors within the area, and provide more efficient public transit connections (City of Toronto, n.d.c). The rehabilitation is being completed in seven sections, one of which is within the Lower Don Bridge and Don Yard Study Area, the segment between Cherry Street and east of the Don Valley Parkway at Logan Avenue with a projected timeline of planned construction between 2026 and 2029 (City of Toronto, n.d.c). The City of Toronto's website notes that the planned construction timelines are subject to change (City of Toronto, n.d.c).

2.2.3.7 Port Lands and South of Eastern Transportation and Servicing Master Plan and Class Environmental Assessment

The City of Toronto, in collaboration with Waterfront Toronto and Toronto and Region Conservation Authority, completed the Port Lands and South of Eastern Transportation and Servicing Master Plan and Environmental Assessment in 2017 to support Toronto's only active port and continued employment growth in the South of Eastern area. The Transportation and Servicing Master Plan Environmental Assessment identifies preferred solutions for streets, including transit in dedicated rights-of-way, pedestrians and cycling, and water, wastewater and stormwater infrastructure (City of Toronto, 2017b).

2.2.3.8 Gardiner Expressway and Lake Shore Boulevard East Reconfiguration Environmental Assessment and Integrated Urban Design Study

The City of Toronto and Waterfront Toronto completed an environmental assessment for changes to the existing Gardiner Expressway and Lake Shore Boulevard from approximately Lower Jarvis Street to just east of the Don Valley Parkway at Logan Avenue. The preferred alternative includes the removal of the existing Gardiner-Don Valley Parkway connection and rebuilding of the connection along an alignment closer to the rail corridor. The preferred alternative design also requires the lengthening of the Metrolinx Don River/Don Valley Parkway rail bridge, removal of the Logan Street ramps and the addition of two ramps in Keating Channel Precinct (City of Toronto, 2017c).

2.2.3.9 Broadview and Eastern Flood Protection Municipal Class Environmental Assessment

Toronto and Region Conservation Authority, in conjunction with the City of Toronto and Waterfront Toronto completed a Class Environmental Assessment to identify a flood protection solution for an 8-hectare parcel of urban land near the intersection of Broadview Avenue and Eastern Avenue, north of the Metrolinx railway corridor, east of the Don River. The study built upon the outcomes of the Don Mouth Naturalization and Port Lands Flood Protection Project, and the Port Lands and South of Eastern Transportation and Servicing Master Plan, to address the project area that remains at risk to flooding under the regional storm. The Environmental Study Report is available for public and agency review until May 12, 2021 (Toronto and Region Conservation Authority, 2021b).

2.2.3.10 Improving The Esplanade and Mill Street Project

The City of Toronto is proposing changes to both The Esplanade and Mill Street to improve safety; make walking, cycling and taking transit more attractive; and maintain

access to local and citywide destinations (City of Toronto, n.d.d.). The following changes are being proposed for this project:

- Bi-directional cycle tracks on The Esplanade and Mill Street;
- Protected bike lane along the north side of Parliament Square Park;
- Connections to existing bikeways on Bayview Avenue, Cherry Street, Lower Sherbourne Street and Yonge Street; and
- Changes to intersections to enhance safety of road users.

The proposed improvements to The Esplanade and Mill Street overlap with the Lower Don Bridge and Don Yard Study Area.

The Improving The Esplanade and Mill Street Project will be considered by the Infrastructure and Environment Committee in May 2021, and by City Council in June 2021.

2.2.3.11 GO Rail Network Electrification and Union Station Rail Corridor Enhancement

In support of the GO Expansion Program, Metrolinx is electrifying six GO-owned rail corridors including: Union Station Rail Corridor, Lakeshore West Rail Corridor, Kitchener Rail Corridor, Barrie Rail Corridor, Stouffville Rail Corridor, and Lakeshore East Rail Corridor (Metrolinx, 2017).

Since the completion of the GO Rail Network Electrification Environmental Project Report in 2017, an Addendum was prepared to:

- Assess additional electrification infrastructure across various portions of the GO Rail Network that were not previously examined;
- Assess additional infrastructure within the Union Station Rail Corridor to address identified utility conflicts; and
- Update noise, vibration and air quality assessment.

The Environmental Project Report Addendum for the GO Rail Network Electrification Addendum has been reviewed by the Minister of the Environment, Conservation and Parks and is proceeding to the detailed design and implementation phases (Metrolinx, 2021).

3. Early Works Description

3.1 Project Description

The Lower Don Bridge and Don Yard early works will include:

- construction of a new bridge north of the existing Lakeshore East rail corridor[12] bridge over the Lower Don River that will carry the Ontario Line tracks;
- shift of the nearby Union Station and Lakeshore East rail corridor GO tracks, including tracks on the existing rail bridge, to accommodate Ontario Line infrastructure within the Union Station Rail Corridor[13] and Don Yard;
- modifications to the existing Lakeshore East rail corridor bridge to accommodate Lakeshore East GO track shifts to accommodate Ontario line infrastructure; and
- utility and signal infrastructure relocation or protection.

Rail corridor and third-party utility relocations and protection will be completed to facilitate the work described above as well as the future Ontario Line tunnel facilities. Utilities to be relocated include, but are not limited to, Bell 360 and existing Canadian National/GO signal underground fibre optic cables.

Lower Don Bridge and Don Yard early works components are shown in **Figure 3-1**.

Active transportation access across the Lower Don River will be facilitated via a bridge that will provide a multi-use connection across the river. This bridge is not within the scope of these early works, and will be assessed as part of the Ontario Line Environmental Impact Assessment Report.

3.2 Early Works Project Footprint and Study Area

The Lower Don Bridge and Don Yard Early Works Project Footprint, shown in **Figure 3-2**, is defined as the area of direct disturbance associated with the early works construction activities, including anticipated required construction staging and laydown areas and construction access. Construction is anticipated to occur primarily within the existing Metrolinx right-of-way. The extent of lands anticipated to be temporarily

12. Lakeshore East rail corridor extends from the Lower Don River in the City of Toronto to the City of Oshawa.
13. Union Station Rail Corridor extends from approximately west of Bathurst Street to the Lower Don River in the City of Toronto.

impacted by construction staging/laydown and access will continue to be refined and reduced to the extent feasible as project planning progresses.

The Lower Don Bridge and Don Yard Early Works Project Footprint extends from approximately 150 metres east of the Don Valley Parkway in the east to approximately 400 metres west of the Lower Don River in the west, and from south of Eastern Avenue along the Richmond Hill rail corridor to approximately 100 metres south of the Lakeshore East rail corridor. The Lower Don Bridge and Don Yard Study Area, shown in **Figure 3-2**, includes the Lower Don Bridge and Don Yard Early Works Project Footprint and a 500-metre buffer. This general study area was identified for assessment of potential impacts of the Lower Don Bridge and Don Yard early works. As shown in **Table 4-1**, select discipline-specific study areas were identified for assessment of the discipline-specific potential impacts of the Lower Don Bridge and Don Yard early works.

3.3 Construction Activities

Table 3-1 provides a description of the anticipated construction activities for the Lower Don Bridge and Don Yard early works. These typical activities serve as the basis for the assessment of construction-related potential environmental effects. These activities may be expanded, further refined, or found to be unnecessary as the Project progresses through detailed design and construction.

Table 3-1: Anticipated Construction Activities for the Ontario Line Lower Don Bridge and Don Yard Early Works

Anticipated Construction Activity	Description	Associated Equipment
Site Preparation	■ Mobilization of equipment and temporary facilities to the site. ■ Clearing and grubbing of vegetation, tree removal and protection. ■ Erection of temporary and permanent fences. ■ Installation of environmental management features (e.g., erosion and sediment controls). ■ Dewatering works.	■ Site compaction equipment and grading equipment. ■ Vegetation removal equipment. ■ Excavation equipment. ■ Haulage/dump trucks.
Site Servicing/ Removals/ Demolition	■ Relocation and/or extension of services and utilities on the site; which may include both underground and aerial services and utilities (e.g., sewers, water, electrical, communications, gas). This may also involve installation of utilities within the site. Includes utilities on the rail corridor and off the rail corridor. ■ Demolition and removal of Metrolinx owned buildings in Don Yard. ■ Removal and reinstatement of railway track.	■ Excavation equipment including backhoe, dump trucks, spoil removal equipment, jackhammers. ■ Track stabilizer. ■ Hand tools. ■ Mobile crane. ■ Flatbed trucks. ■ Boom truck. ■ Spreader for track work.
Excavating and Grading	■ Excavation and grading activities may involve earth-moving activities and stockpiling, as applicable. Excavated material will be accommodated on-site on the degree practicable; however, where necessary, surplus material will be disposed of off-site at an approved facility. ■ Any off-site disposal shall be done in compliance with applicable regulations, including as it relates to contaminated material that may be encountered. ■ Any groundwater encountered will be managed and disposed of in accordance with applicable regulations and applicable bylaws.	■ Site compaction equipment and general grading equipment, dump trucks, soil removal equipment. ■ Groundwater pumping equipment. ■ Excavation equipment including backhoe, dump trucks, soil removal equipment, jack hammers.
Construction, Rehabilitation and/or Alteration of Bridge	■ All structures will be constructed using standard civil construction techniques. ■ In-water works/works below high-water mark may be required. ■ Includes grounding and bonding. ■ Pile installation, foundations, abutments, retaining walls, bridge girders, decking, backfilling, concrete demolition. ■ Driving / Installing Rock Bolts. ■ Compaction / Backfilling / Grading.	■ Foundation placement equipment. ■ Augured piles or rammed aggregate piers. ■ Drill rigs. ■ Mobile cranes and hoists. ■ Concrete trucks, pumps and vibrators. ■ Mobile cranes and hoists. ■ Flatbed trucks, cranes. ■ Augured piles or rammed aggregate piers. ■ Drill rigs. ■ Bulldozer and excavator. ■ Jackhammer. ■ Front End Loaders. ■ Triaxles Dump Trucks. ■ Concrete Trucks. ■ Rock Bolt Equipment. ■ Hydrovac Equipment.
Construction of Ancillary Facilities	■ Ancillary facilities may include electrical transformer/supply equipment.	■ Flatbed trucks, cranes, concrete trucks. ■ Backhoe, pavement excavation equipment. ■ Mobile cranes and hoists. ■ Concrete trucks, pumps and vibrators, skid steer. ■ Office trailers, generators, temporary hygienic facilities
Temporary Track Diversion/Permanent Track Shifts	■ Grading. ■ Temporary drainage. ■ Relocation/installation of tracks, as required. ■ Temporary relocation of signals, as required. ■ Clear delineation and protection between active rail service and construction work zones. ■ Provision of GO signal overhead bridge support/protection and temporary GO ballast track protection.	■ Site compaction equipment and general grading equipment, dump trucks, spoil removal equipment. ■ Thermal welding. ■ Tie placement (cranes, lifting equipment). ■ Ballast placement equipment. ■ Temporary concrete barriers. ■ Surfacing Equipment, Stabilizers, Tampers

Anticipated Construction Activity	Description	Associated Equipment
Temporary Road / Trail / Multi-Use Path Closures	■ Temporary road/trail/multi-use path closures, as required.	■ Temporary traffic control devices such as signs, signals, barriers, traffic barrels, plate tampers.
Management of Stormwater	■ All precipitation falling within the site will be managed as stormwater within a designed system of collection, conveyance, retention and discharge features, as required. The system will be designed and operated in compliance with applicable standards and regulatory requirements. Surface flows within the site will be managed within the site to ensure discharge to off-site receivers (i.e., municipal storm sewers) is appropriate in terms of water quantity and quality.	■ Site compaction equipment and general grading equipment. ■ Groundwater pumping.

Figure 3-1: Lower Don Bridge and Don Yard Early Works Conceptual Design

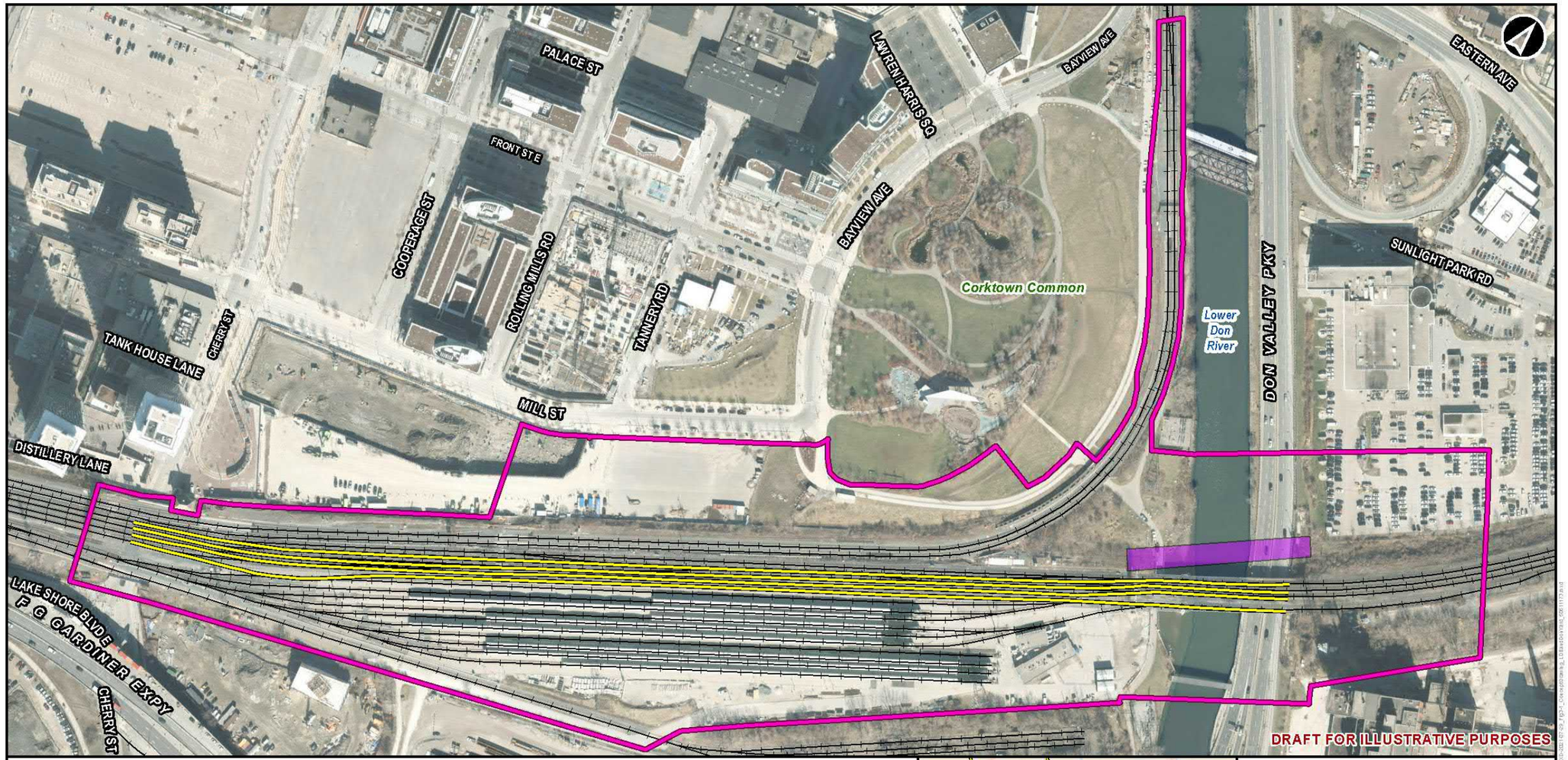
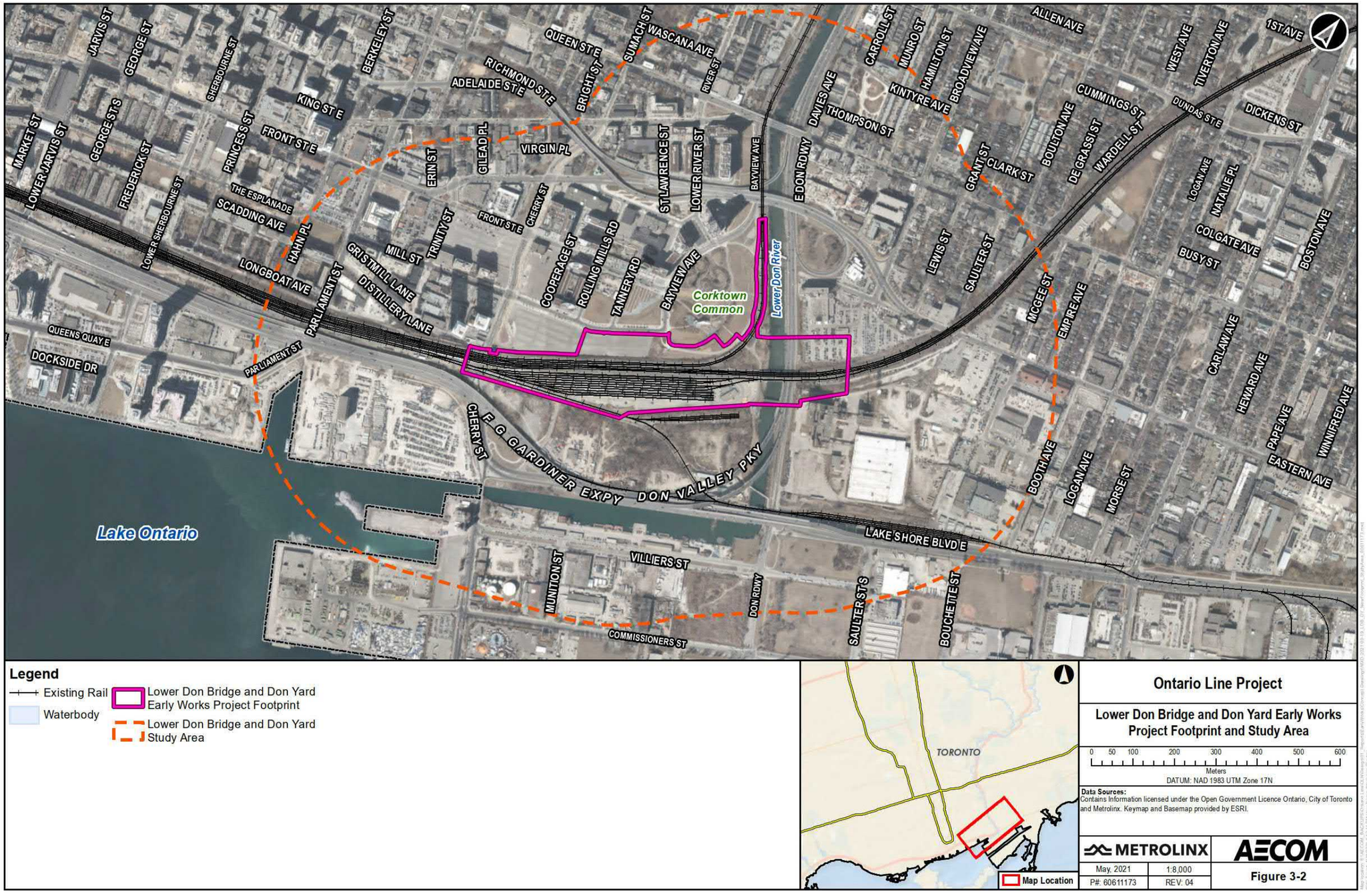


Figure 3-2: Lower Don Bridge and Don Yard Early Works Project Footprint and Study Area



4. Methodology

This Report documents the potential impacts, mitigation measures and monitoring activities associated with Lower Don Bridge and Don Yard early works construction. Potential impacts, mitigation measures, and monitoring activities associated with Project operations and construction of other Project components, except those components that may be advanced as early works, will be documented in the Ontario Line Environmental Impact Assessment Report in accordance with Section 15 of Ontario Regulation 341/20: Ontario Line Project.

As noted in **Section 3.2**, the Lower Don Bridge and Don Yard Early Works Project Footprint represents the area of primary disturbance which may result from any anticipated early works construction activities. Discipline-specific study areas were developed for some environmental disciplines to account for potential impacts from the early works construction. The Lower Don Bridge and Don Yard study areas for each discipline are defined in **Table 4-1**. Methodology used to define the local environmental conditions and complete the impact assessment for each discipline is described in **Section 4.1** to **Section 4.10**.

Table 4-1: Lower Don Bridge and Don Yard Study Area Definition by Discipline

Discipline	Study Area Definition Approach
Natural Environment	The Lower Don Bridge and Don Yard Natural Environment Study Area includes the Lower Don Bridge and Don Yard Early Works Project Footprint and a 120-metre buffer. This buffer has been applied in accordance with the Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement, Second Edition (Ministry of Natural Resources and Forestry, 2010).
Soil and Groundwater	The Lower Don Bridge and Don Yard Soil and Groundwater Study Area includes the Lower Don Bridge and Don Yard Early Works Project Footprint and a 500-metre buffer. This buffer has been applied in accordance with the Hydrogeological Assessment Submissions Conservation Authority Guidelines for Development Applications (Toronto and Region Conservation Authority, 2013a), which recommends well data for private wells within 500 metres be used for impact assessment.

Discipline	Study Area Definition Approach
Hydrology and Surface Water	The Lower Don Bridge and Don Yard Hydrology and Surface Water Study Area includes the Lower Don Bridge and Don Yard Early Works Project Footprint and a 500-metre buffer. Based on the Toronto and Region Conservation Authority's Stormwater Management Criteria (Toronto and Region Conservation Authority, 2012), the zone of potential impacts is defined by presence of waterbodies. The Lower Don River is located within the Lower Don Bridge and Don Yard Early Works Project Footprint. This buffer has been applied to include the Toronto and Region Conservation Authority Regulation Limit and Don River Floodplain based scale and significance of the Don River, and to consider surrounding flood protection initiatives.
Air Quality	The Lower Don Bridge and Don Yard Air Quality Study Area includes the Lower Don Bridge and Don Yard Early Works Project Footprint and a 500-metre buffer. This buffer has been applied in accordance with the Ministry of Transportation's Environmental Guide for Assessing and Mitigating the Air Quality Impact and Greenhouse Gases of Provincial Transportation Projects (Ministry of Transportation, 2020), which states that for major roads, a distance of 500 metres is expected to capture the maximum pollutant concentrations.
Noise and Vibration	The Lower Don Bridge and Don Yard Noise and Vibration Study Area includes the Lower Don Bridge and Don Yard Early Works Project Footprint and an approximately 250 metre buffer. This buffer was developed using noise and vibration screening areas, which were determined by calculating the distances where the applicable criteria are predicted to be met, using a conservative approach where it was assumed that all construction equipment listed in **Table 3-1** would be simultaneously active. The approximately 250 metre night-time noise screening area was the largest and was thus used to define the Lower Don Bridge and Don Yard Noise and Vibration Study Area. This buffer distance is also in accordance with the United States Federal Transit Administration Transit Noise and Vibration Impact Assessment Manual (2018), and City of Toronto By-law 514 (2008).
Socio-Economic and Land Use Characteristics	The Lower Don Bridge and Don Yard Socio-Economic and Land Use Characteristics Study Area includes the Lower Don Bridge and Don Yard Early Works Project Footprint and a 500-metre buffer. This buffer has been applied in socio-economic studies for approved transit project environmental assessments of similar scope (e.g. Lawrence-Kennedy SmartTrack Station – Socio-Economic and Land Use Study (4Transit, 2018) and Barrie Rail Corridor Expansion Volume 2: Spadina-Front GO Station Design and Technical Studies – Socio-Economic and Land Use Study (4Transit, 2018)).

Discipline	Study Area Definition Approach
Built Heritage Resources and Cultural Heritage Landscapes	The Lower Don Bridge and Don Yard Built Heritage Resources and Cultural Heritage Landscapes Study Area includes the Lower Don Bridge and Don Yard Early Works Project Footprint, adjacent properties[14] to account for potential indirect impacts, and properties within 11.1 metres of the Lower Don Bridge and Don Yard Early Works Project Footprint to account for potential structural impacts to built heritage resources and cultural heritage landscapes that may result from vibration. The distance of 11.1 metres from the Lower Don Bridge and Don Yard Early Works Project Footprint was included in the Lower Don Bridge and Don Yard Built Heritage Resources and Cultural Heritage Landscapes Study Area to account for potential vibration impacts to buildings extremely susceptible to vibration damage (including heritage buildings and their foundations) in accordance with the Ontario Line Lower Don Bridge and Don Yard Early Works – Noise and Vibration Report (AECOM, 2020b).
Archaeological Resources	Review of archaeological resources was limited to the Lower Don Bridge and Don Yard Early Works Project Footprint. Based on the Standards and Guidelines for Consultant Archaeologists (Ministry of Tourism and Culture, 2011), only areas of direct construction impacts are subject to further archaeological assessment.
Traffic and Transportation	The Lower Don Bridge and Don Yard Traffic and Transportation Study Area includes the Lower Don Bridge and Don Yard Early Works Project Footprint and adjacent road segments and intersections which meet either of the following criteria: ■ Provide connection to the Lower Don Bridge and Don Yard Early Works Project Footprint (i.e., Lake Shore Boulevard East, Cherry Street, Bayview Avenue, and Don Roadway) and are thus potentially considered a part of the construction vehicles' routes; or ■ Impacted directly by the early works activities within the Lower Don Bridge and Don Yard Early Works Project Footprint (i.e., construction of one new rail bridge over the Lower Don River is anticipated to result in potential lane closures along Don Valley Parkway and the designation of Mill Street and Cherry Street as active transportation detour routes).
Utilities	Review of utilities was limited to the Lower Don Bridge and Don Yard Early Works Project Footprint. This approach captures potential direct impacts to private and public utilities as a result of the early works construction activities.

14. Adjacent is defined in Section 3.1.5 (Heritage Conservation) of the City of Toronto's Official Plan as "those lands adjoining a property of the heritage register or lands that are directly across from and near to a property on the heritage register and separated by land used as a private or public road, highway, street, lane, trail, right-of-way, walkway, green space, park and/or easement, or an intersection of any of these; whose location has the potential to have an impact on a property on the heritage register; or as otherwise defined in a Heritage Conservation District Plan adopted by by-law" (City of Toronto, 2019).

Background information and documentation relevant to the Lower Don Bridge and Don Yard study areas is contained within the Ontario Line Final Environmental Conditions Report (AECOM, 2020a) prepared for the Project. Information sourced from the Ontario Line Final Environmental Conditions Report (AECOM, 2020a) was used to establish local environmental conditions within the Lower Don Bridge and Don Yard study area for each environmental discipline within this Report. Where necessary, review of additional desktop and field information was undertaken.

Preliminary potential impacts and mitigation measures identified in the Ontario Line Final Environmental Conditions Report (AECOM, 2020a) were reviewed and expanded upon in further detail specific to the Lower Don Bridge and Don Yard early works by considering the following:

- Early works components as described in **Section 3.1**;
- Lower Don Bridge and Don Yard Early Works Project Footprint as described in **Section 3.2**;
- Construction activities as described in **Section 3.3**; and
- Local environmental conditions within the Lower Don Bridge and Don Yard study areas as described in **Section 5**.

Mitigation measures and monitoring activities for each environmental discipline have been recommended to mitigate the identified potential impacts.

4.1 Natural Environment

4.1.1 Local Environmental Conditions

A review of available background information was conducted to establish local natural environment conditions within the Lower Don Bridge and Don Yard Natural Environment Study Area. The following aspects of the natural environment were examined:

- Designated Natural Areas and Planning Policy Areas;
- Vegetation Community and Plant Inventory;
- Fish and Fish Habitat;
- Wildlife and Wildlife Habitat; and
- Significant Wildlife Habitat and Species at Risk.

For the purpose of this background information review, terrestrial and aquatic features and functions were identified within the boundaries of the Lower Don Bridge and Don Yard Natural Environment Study Area through a desktop review of available secondary

sources. The natural environment background information review included information from the following sources contained within the Ontario Line Final Environmental Conditions Report (AECOM, 2020a):

- Ontario Ministry of Natural Resources and Forestry Ontario GeoHub base mapping data (Ministry of Natural Resources and Forestry, 2020; Land Information Ontario, 2017; Ministry of Natural Resources and Forestry, 2017a; Ministry of Natural Resources and Forestry, 2017b);
- Wildlife atlases;
- Planning documents and guidelines;
- Open Data Portals;
- Reports; and
- Aerial photography.

Other background information was collected through correspondence with the following agencies:

- Toronto and Region Conservation Authority; and
- Ontario Nature.

In addition to the secondary sources listed above, the following previously completed studies relevant to the Lower Don Bridge and Don Yard Natural Environment Study Area, contained in the Ontario Line Final Environmental Conditions Report (AECOM, 2020a), were also reviewed in support of the background review:

- Union Station Rail Corridor East Enhancements Transit Project Assessment Process Natural Environment Report (AECOM, 2018);
- Natural Environment Existing Conditions – Relief Line South, Toronto, Ontario (Golder Associates, 2018);
- Lakeshore East Rail Corridor Expansion (Don River to Scarborough GO Station) Project – Natural Environment Effects Assessment Report (AECOM, 2017); and
- East Harbour SmartTrack Station – Natural Environment Report (4Transit, 2018a).

Field investigations were not completed for the Lower Don Bridge and Don Yard Study Area as lands within the Lower Don Bridge and Don Yard Study Area were recently investigated in 2016 to support other Metrolinx projects (i.e. Union Station Rail Corridor East Enhancements and Lakeshore East Rail Corridor Expansion [Don River to Scarborough GO Station]). The survey results were reviewed and summarized to

supplement the established existing conditions within the Lower Don Bridge and Don Yard Study Area and were deemed to be sufficient to support an impact assessment.

Detailed methodology for establishing local natural environment conditions is provided in **Appendix B1**. Local natural environment environmental conditions are described in **Section 5.1**.

4.1.2 Impact Assessment

As noted in **Table 4-1**, potential natural environment impacts within 120 metres of the Lower Don Bridge and Don Yard Early Works Project Footprint were assessed. The natural environment preliminary potential impacts, mitigation measures, and monitoring activities to verify the effectiveness of mitigation measures identified in the Ontario Line Final Environmental Conditions Report (AECOM, 2020a) were reviewed and expanded upon in further detail specific to the Lower Don Bridge and Don Yard early works by considering the early works components (described in **Section 3.1**), Lower Don Bridge and Don Yard Early Works Project Footprint (described in **Section 3.2**) and anticipated construction activities (outlined in **Table 3-1**).

For the purpose of the natural environment impact assessment, as a conservative approach, all vegetation communities and buildings overlapping with the Lower Don Bridge and Don Yard Early Works Project Footprint were assumed to be permanently removed during the construction phase.

Detailed methodology for the natural environment impact assessment is provided in **Appendix B1**. The results of the natural environment impact assessment are provided in **Section 6.1**.

4.2 Soil and Groundwater

4.2.1 Local Environmental Conditions

A review of available information was conducted to establish soil and groundwater existing conditions within the Lower Don Bridge and Don Yard Soil and Groundwater Study Area. The following aspects of soil and groundwater were examined:

- Geological setting, including physiography and topography, surficial geology, quaternary geology, and bedrock geology;
- Hydrogeological setting, including regional groundwater flow; and
- Groundwater resources, including source water protection features and Ministry of the Environment, Conservation and Parks' water well records.

The soil and groundwater background information review included information from the following sources contained within the Ontario Line Final Environmental Conditions Report (AECOM, 2020a):

- Ministry of the Environment, Conservation and Parks open data catalogue resources, including the Water Well Records database and Source Water Protection Information Atlas;
- Toronto and Region Conservation Authority reports and plans, including the Source Water Protection Conceptual Understanding of the Water Budget Report (2007), Don River Watershed Plan: Geology and Groundwater Resources (2009), and Toronto and Region Source Protection Area, Approved Updated Assessment Report (2015); and
- Ontario Geological Survey resources, including The Physiography of Southern Ontario, Third Edition (1984), Paleozoic Geology of Southern Ontario (2007), and Metropolitan Toronto Bedrock Contours (1961).

Local soil and groundwater conditions are described in **Section 5.2**.

4.2.2 Impact Assessment

As noted in **Table 4-1**, potential soil and groundwater impacts within 500 metres of the Lower Don Bridge and Don Yard Early Works Project Footprint were assessed. The soil and groundwater preliminary potential impacts and mitigation measures identified in the Ontario Line Final Environmental Conditions Report (AECOM, 2020a) were reviewed and expanded upon in further detail specific to the Lower Don Bridge and Don Yard early works by considering the early works components (described in **Section 3.1**), Lower Don Bridge and Don Yard Early Works Project Footprint (described in **Section 3.1**), and anticipated construction activities (outlined in **Table 3-1**).

The results of the soil and groundwater impact assessment are provided in **Section 6.2**.

4.3 Hydrology and Surface Water

4.3.1 Local Environmental Conditions

A review of available background information was conducted to establish existing hydrology and surface water conditions within the Lower Don Bridge and Don Yard Hydrology and Surface Water Study Area, including:

- Toronto and Region Conservation Authority's Regulated Area online mapping (Toronto and Region Conservation Authority, 2020a);

- Toronto and Region Conservation Authority's Flood Plain online mapping (Toronto and Region Conservation Authority, 2020b); and
- Toronto and Region Conservation Authority's Watersheds online mapping (Toronto and Region Conservation Authority, 2020c).

Local hydrology and surface water conditions are described in **Section 5.3**.

4.3.2 Impact Assessment

As noted in **Table 4-1**, potential hydrology and surface water impacts within 500 metres of the Lower Don Bridge and Don Yard Early Works Project Footprint were assessed. The hydrology and surface water impact assessment considered the early works components (described in **Section 3.1**), Lower Don Bridge and Don Yard Early Works Project Footprint (described in **Section 3.2**), and anticipated construction activities (outlined in **Table 3-1**).

The results of the hydrology and surface water impact assessment are provided in **Section 6.3**.

4.4 Air Quality

4.4.1 Local Environmental Conditions

Local environmental conditions within Lower Don Bridge and Don Yard Air Quality Study Area were established through a review of relevant background information, a definition of appropriate air quality contaminants, and determining existing concentrations of the air quality contaminants from local monitoring stations. Existing air quality is also defined by volume of traffic within the Lower Don Bridge and Don Yard Air Quality Study Area. Higher levels of traffic result in higher local air quality concentrations. The existing levels of air quality contaminant concentrations were compared to federal and provincial standards for acceptable levels of air quality concentration to determine which contaminants exceed standard thresholds within the Lower Don Bridge and Don Yard Air Quality Study Area.

Background information and documentation relevant to Lower Don Bridge and Don Yard Air Quality Study Area is contained within the Ontario Line Final Environmental Conditions Report (AECOM, 2020a), which includes:

- Identification of air quality representative receptors within the Lower Don Bridge and Don Yard Air Quality Study Area;

- Determination of representative background air quality monitoring stations within the National Air Pollution Surveillance network for the Lower Don Bridge and Don Yard Air Quality Study Area. Appropriate representation was based on proximity to the Lower Don Bridge and Don Yard Air Quality Study Area, availability of contaminant monitoring data, and proximity to similar nearby air quality sources as those existing within the Lower Don Bridge and Don Yard Air Quality Study Area;
- Traffic peak levels and/or annual averaged daily traffic volumes along primary routes of travel within the Lower Don Bridge and Don Yard Air Quality Study Area were reviewed, where available; and
- Review of existing meteorological data representative of the Lower Don Bridge and Don Yard Air Quality Study Area.

Emissions from diesel trains traversing the Lower Don Bridge and Don Yard Air Quality Study Area were not assessed due to the relatively low contribution of air contaminants. For example, the Air Quality Assessment Report prepared for the Union Station Rail Corridor East Enhancements Transit Project Assessment Process (AECOM, 2018) included a quantitative assessment of downtown Toronto air quality sources and project source impacts where it was shown that hourly road air contaminant contributions were exponentially higher than those of both GO Train emission contributions and VIA/Canadian National contributions (e.g., 23.9 g/hour of carbon monoxide from roads, compared with 2.0 g/hour from GO rail and 0.05 g/hour from VIA/Canadian National Rail). Certain contaminants had a higher contribution from the Metrolinx GO network within the Union Station Rail Corridor East Enhancements study area, such as NO_X and fine particulate matter ($PM_{2.5}$). These emissions were not specifically quantified in the air quality assessment; however it should be noted that diesel rail traffic can present as a minor source of air quality contamination for these two specific contaminants.

Based on recommendations within the Ministry of Transportation's Environmental Guide for Assessing and Mitigating the Air Quality Impacts and Greenhouse Gas Emissions of Provincial Transportation Projects (Ministry of Transportation, 2020), the following criteria air contaminants from vehicle emissions were considered:

1. Nitrogen dioxide, NO_2 (assessed over 1-hour, 24-hour, and annual averaging periods);
2. Carbon monoxide, CO (assessed over 1-hour and 8-hour averaging periods);
3. Sulphur Dioxide, SO_2 (assessed over 1-hour, 24-hour, and annual averaging period);

4. Particulate matter (<10 microns), PM_{10} (assessed over 24-hour and annual averaging periods);
5. Particulate matter (<2.5 microns), $PM_{2.5}$ (assessed over 24-hour and annual averaging periods);
6. Acetaldehyde (assessed over 30-minute and 24-hour averaging period);
7. Acrolein (assessed over 1-hour and 24-hour averaging periods);
8. Benzene (assessed over 24-hour and annual averaging periods);
9. Benzo(a)pyrene, B(a)P (assessed over 24-hour and annual averaging periods);
10. Formaldehyde (assessed over 24-hour averaging period); and
11. 1,3-butadiene (assessed over 24-hour and annual averaging periods).

The applicable standards for the criteria air contaminants are established by the Ministry of the Environment, Conservation and Parks and Canadian Council of Ministers of the Environment as the Ambient Air Quality Criteria (Ministry of the Environment, 2020) and Canadian Ambient Air Quality Standards (Canadian Council of Ministers of the Environment, 2012), respectively, as shown in **Table 4-2**.

Table 4-2: Summary of Applicable Guidelines and Standards

Criteria Air Contaminant	Source of Standard	Averaging Period	Air Quality Threshold Value (µg/m^3)
NO_2	Ambient Air Quality Criteria	One hour	400
NO_2	Ambient Air Quality Criteria	24 hours	200
NO_2 (1)	Canadian Ambient Air Quality Standards	One hour (2020)	113
NO_2 (1)	Canadian Ambient Air Quality Standards	Annual (2020)	32
NO_2 (1)	Canadian Ambient Air Quality Standards	One hour (2025)	78
NO_2 (1)	Canadian Ambient Air Quality Standards	Annual (2025)	22
CO	Ambient Air Quality Criteria	One hour	36,200
CO	Ambient Air Quality Criteria	Eight hours	15,700
SO_2 (2)	Ambient Air Quality Criteria	10-minute	178
SO_2 (2)	Ambient Air Quality Criteria	One hour	106
SO_2 (2)	Ambient Air Quality Criteria	Annual	11
SO_2 (3)	Canadian Ambient Air Quality Standards	One hour (2020)	183
SO_2 (3)	Canadian Ambient Air Quality Standards	Annual (2020)	13
SO_2 (3)	Canadian Ambient Air Quality Standards	One hour (2025)	170
SO_2 (3)	Canadian Ambient Air Quality Standards	Annual (2025)	10
PM_{10} (4)	Ambient Air Quality Criteria	24 hours	50
$PM_{2.5}$ (5)	Canadian Ambient Air Quality Standards	24 hours (2020)	27
$PM_{2.5}$ (5)	Canadian Ambient Air Quality Standards	Annual	8.8
Acetaldehyde	Ambient Air Quality Criteria	30-minute	500
Acetaldehyde	Ambient Air Quality Criteria	24 hours	500
Acrolein	Ambient Air Quality Criteria	One hour	4.5
Acrolein	Ambient Air Quality Criteria	24 hours	0.4

Criteria Air Contaminant	Source of Standard	Averaging Period	Air Quality Threshold Value (µg/m^3)
Benzene	Ambient Air Quality Criteria	24 hours	2.3
Benzene	Ambient Air Quality Criteria	Annual	0.45
Benzo(a)pyrene	Ambient Air Quality Criteria	24 hours	0.00005
Benzo(a)pyrene	Ambient Air Quality Criteria	Annual	0.00001
1,3-Butadiene	Ambient Air Quality Criteria	24 hours	10
1,3-Butadiene	Ambient Air Quality Criteria	Annual	2
Formaldehyde	Ambient Air Quality Criteria	24 hours	65

Notes: (1) The Canadian Ambient Air Quality Standards Air Quality threshold for nitrogen dioxide is based on the three-year average of the annual 98th percentile of the daily maximum one-hour average concentrations.
(2) The Ambient Air Quality Standards for SO_2 are reported in parts per billion and converted using the factor 2.66 µg/m^3 of SO_2 per 1 ppb of SO_2 (at 20.0°C and 1 atmosphere, rounded).
(3) The Canadian Ambient Air Quality Standards Air Quality threshold for sulphur dioxide is based on the three-year average of the annual 99th percentile of the daily maximum one-hour average concentrations.
(4) The value of 50 µg/m^3 (24 hr) is an interim Ambient Air Quality Criteria and is provided as a guide for decision making.
(5) The Air Quality threshold for fine particulate ($PM_{2.5}$) is based on the 98th percentile ambient measurement (24-hour), annually averaged over three years.

The existing ambient air quality levels were quantified using publicly available historical data from ambient air quality monitoring stations from the National Air Pollution Survey network within Toronto. Data utilized were the most recent and complete data available at the time of the preparation of the Ontario Line Final Lower Don Bridge and Don Yard Early Works Report[15] (**Appendix B2**). The following National Air Pollution Surveillance Air Quality monitoring stations were selected as representative of the ambient air quality of the Lower Don Bridge and Don Yard Air Quality Study Area:

- Toronto West (National Air Pollution Surveillance ID 60430);
- Toronto Downtown (National Air Pollution Surveillance ID 60433);
- Gage Institute Station (National Air Pollution Surveillance ID 60427); and
- Roadside Wallberg (University of Toronto) Station (National Air Pollution Surveillance ID 60439).

These stations are located nearest to the Lower Don Bridge and Don Yard Air Quality Study Area and monitored (in combination) all relevant contaminants for the assessment, since a single station is unable to monitor all contaminants. Where multiple stations were found to monitor a common contaminant, the closest representative station was selected for the assessment.

One-hour, eight-hour, and 24-hour ambient concentrations for the contaminants were obtained from the 90th percentile of hourly measurements from the representative air

15. National Air Pollution Survey data used was from 2017. Traffic data used to estimate existing conditions was determined from traffic counts from 2017, 2018, and 2019. An annual growth rate of 1% was applied to 2017 and 2018 data to produce comparable 2019 AADTs.

quality monitoring stations (the average value was calculated from the available years). The 90th percentile of available background data was used following the methodology outlined in the Ministry of Transportation's Environmental Guide for Assessing and Mitigating the Air Quality Impacts and Greenhouse Gas Emissions of Provincial Transportation Projects (Ministry of Transportation, 2020).

Land use within the Lower Don Bridge and Don Yard Socio-Economic and Land Use Characteristics Study Area was reviewed to identify existing and planned future developments that are considered sensitive or critical receptors.

Detailed methodology for establishing local air quality conditions is provided in **Appendix B2**. Local air quality conditions are described in **Section 5.4**.

4.4.2 Impact Assessment

As noted in **Table 4-1**, potential air quality impacts within 500 metres of the Lower Don Bridge and Don Yard Early Works Project Footprint were assessed. The air quality preliminary potential impacts and mitigation measures identified in the Ontario Line Final Environmental Conditions Report (AECOM, 2020a) were reviewed and expanded upon in further detail specific to the Lower Don Bridge and Don Yard early works by considering the early works components (described in **Section 3.1**), Lower Don Bridge and Don Yard Early Works Project Footprint (described in **Section 3.1**), and anticipated construction activities (outlined in **Table 3-1**).

Land use within the Lower Don Bridge and Don Yard Socio-Economic and Land Use Characteristics Study Area was reviewed to identify existing and planned future developments that are considered sensitive or critical receptors. The Ministry of Transportation's Environmental Guide for Assessing and Mitigating the Air Quality Impacts and Greenhouse Gas Emissions of Provincial Transportation Projects defines a sensitive receptor as a "residential dwelling" and a critical receptor as a "retirement home, hospital, childcare centre, school, or similar institutional building" (Ministry of Transportation, 2020).

Representative receptors within the Lower Don Bridge and Don Yard Socio-Economic and Land Use Characteristics Study Area were selected based on proximity to the Lower Don Bridge and Don Yard Early Works Project Footprint and surrounding emission sources to account for variability in wind directions based on guidance from the Ministry of Transportation's Environmental Guide for Assessing and Mitigating the Air Quality Impacts and Greenhouse Gas Emissions of Provincial Transportation Projects (Ministry of Transportation, 2020).

Detailed methodology for the air quality impact assessment is provided in **Appendix B2**. The results of the air quality impact assessment are provided in **Section 6.4**.

4.5 Noise and Vibration

4.5.1 Local Environmental Conditions

Baseline noise and vibration measurements were collected, as described in the Ontario Line Final Environmental Conditions Report (AECOM, 2020a), to characterize the existing noise and vibration levels within the Ontario Line Study Area. Data relevant to the Lower Don Bridge and Don Yard early works construction have been excerpted from the Ontario Line Final Environmental Conditions Report (AECOM, 2020a) and provided in **Section 5**.

Baseline conditions methodology specific to noise and vibration are described in **Section 4.5.1.1** and **Section 4.5.1.2** below, respectively. Detailed methodology for establishing local noise and vibration conditions is provided in **Appendix B3**. Local noise and vibration conditions are described in **Section 5.5**.

4.5.1.1 Noise

Continuous noise measurements were collected over several days at locations representative of noise sensitive receivers. Noise measurements were conducted using Quest SoundPro Type 1 and 2 sound level meters. Data collected during inclement weather conditions were discounted from statistical analysis.

4.5.1.2 Vibration

Baseline vibration measurements were not required, as the construction vibration assessment in this Report uses absolute limits that do not change based upon the existing vibration levels. The local environment does not have any normally occurring sources of perceptible vibration; the most significant source of vibration near the early works locations are the existing rail lines. Thus, for the majority of the Lower Don Bridge and Don Yard Noise and Vibration Study Area, existing vibration levels are expected to be below human perceptibility, except in close proximity to the existing rail lines.

4.5.2 Impact Assessment

As noted in **Table 4-1**, potential noise and vibration impacts within 250 metres of the Lower Don Bridge and Don Yard Early Works Project Footprint were assessed. The noise and vibration preliminary potential impacts and mitigation measures identified in the Ontario Line Final Environmental Conditions Report (AECOM, 2020a) were

reviewed and expanded upon in further detail specific to the Lower Don Bridge and Don Yard early works by considering the early works components (described in **Section 3.1**), Lower Don Bridge and Don Yard Early Works Project Footprint (described in **Section 3.2**), and anticipated construction activities (outlined in **Table 3-1**).

Impact assessment methodology specific to noise and vibration are described in **Section 4.5.2.1** and **Section 4.5.2.2** below, respectively. Detailed methodology for the noise and vibration impact assessment is provided in **Appendix B3**. The results of the noise and vibration impact assessment are provided in **Section 6.5**.

Noise and vibration criteria from various sources – City of Toronto, the Ministry of the Environment, Conservation and Parks, and the United States Federal Transit Administration – were reviewed for applicability to the Project.

4.5.2.1 Noise

A noise screening was conducted to determine if receptor-specific noise predictions were required. The noise screening was completed by determining the distances where the day or night time criteria are predicted to be met, assuming all construction equipment in **Table 3-1** was active, using a conservative approach to determine the screening distance, which assumed flat ground and no shielding or other noise attenuation effects. The screening distances were then used to create screening areas on maps to determine if any possible sensitive receivers were located within the screening areas.

Noise predictions at selected representative receptors included the modelling of various scenarios, using detailed noise calculation algorithms which account for building and geometric noise shielding effects, ground effects, and air attenuation. The receptor-specific noise predictions were conducted for the nearest (to the Lower Don Bridge and Don Yard Early Works Project Footprint) noise sensitive receivers (closest and with highest noise exposures).

An acoustic model using the International Organization for Standardization 9613 (1996) prediction algorithms was prepared. As the construction equipment cannot all operate in the same physical position, the equipment was modelled as operating over an area closest to the assessed representative receiver. Activities that can only occur at certain locations, for example rail works and bridge construction, was modeled at those specific locations.

The predicted construction noise levels are estimates based on conservative assumptions, reference equipment noise levels and the Lower Don Bridge and Don Yard early works information (Lower Don Bridge and Don Yard Early Works Project Footprint and construction activities) available to date. Results were compared to

guideline limits and mitigation recommendations were made to reduce the noise impacts. The impact assessment will be updated prior to the commencement of construction using the most up-to-date information on construction methods and techniques, equipment, and refined construction areas, as required. If noise levels limits are exceeded during construction, the noise prediction model can be used to determine which noise sources are causing the greatest impacts, and mitigation can be investigated for those specific noise sources.

4.5.2.2 Vibration

The assessment of construction vibration was based on the City of Toronto's definition of Zone of Influence – the area (zone) in which vibration levels are predicted to be at or above a screening threshold. Zone of Influence mapping determines which locations may be above the applicable criteria and where vibration controls may need to be implemented.

The Lower Don Bridge and Don Yard early works vibration Zone of Influence was calculated using the Federal Transit Administration Guide's construction vibration propagation equations to calculate the distances where the screening threshold is met. These distances define the Zone of Influence.

A conservative approach was used, where construction equipment operations within the construction areas were assumed to be unrestricted to specific areas, and the equipment with the maximum vibration levels was used as the basis of assessment. As a result, Lower Don Bridge and Don Yard early works vibration Zone of Influence is based upon the equipment with the highest vibration levels operating at the edge of the Lower Don Bridge and Don Yard Early Works Project Footprint.

Screening distances for the other applicable vibration criteria (City of Toronto By-law prohibited limit, Federal Transit Administration Guide limit for buildings extremely susceptible to building damage, and human perceptibility) were also mapped. Structures within the Lower Don Bridge and Don Yard Early Works Project Footprint were assumed to be the responsibility of Metrolinx and have not been included as receivers in the analysis.

4.6 Socio-Economic and Land Use Characteristics

4.6.1 Local Environmental Conditions

A review of available background information was conducted to establish socio-economic environment existing conditions within the Lower Don Bridge and Don Yard

Socio-Economic and Land Use Characteristics Study Area. The following aspects of the socio-economic environment were examined:

- Land use designations and applicable Secondary Plans under the City of Toronto Official Plan;
- Physical neighbourhood composition, including existing land use and built form patterns, transit and transportation network, and public realm characteristics;
- Community amenities, including institutional uses, parks and recreational uses, community groups and resources, and planned services and facilities;
- Neighbourhood demographics; and
- Future development.

The background information review of socio-economic and land use characteristics included information contained within the Ontario Line Final Environmental Conditions Report (AECOM, 2020a) from the following sources:

- Provincial planning and policy documents, including the Provincial Policy Statement (Ontario Ministry of Municipal Affairs and Housing, 2020), Growth Plan (Province of Ontario, 2019), 2041 Regional Transportation Plan (Metrolinx, 2018), Greenbelt Plan (Province of Ontario, 2017), and Conservation Authorities Act (Province of Ontario, 1998);
- Municipal land use and development planning and policy documents, including the City of Toronto Official Plan and secondary plans (City of Toronto, 2019a), Waterfront Transit Reset (City of Toronto, 2020e), Don Mouth Naturalization and Port Lands Flood Protection Project (Toronto and Region Conservation Authority, 2014a), West Don Lands Flood Protection Landform (Toronto and Region Conservation Authority, 2005), East Harbour SmartTrack Station Environmental Project Report (4Transit, 2018), Port Lands and South of Eastern Master Plan Class Environmental Assessment (City of Toronto, 2017b), and Gardiner Expressway Environmental Assessment (City of Toronto, 2017c);
- City of Toronto open data portal (City of Toronto, 2020d);
- Statistics Canada, 2016 Census of Population (City of Toronto, 2018a); and
- City of Toronto Application Information Centre (City of Toronto, 2020a).

Future development includes recent, ongoing, and proposed development within the Lower Don Bridge and Don Yard Socio-Economic and Land Use Characteristics Study Area based on active development applications available in the City of Toronto's Application Information Centre online database (City of Toronto, 2020d) as of October 23, 2020.

Local socio-economic and land use characteristics are described in **Section 5.6**.

4.6.2 Impact Assessment

As noted in **Table 4-1**, potential socio-economic and land use characteristics impacts within 500 metres of the Lower Don Bridge and Don Yard Early Works Project Footprint were assessed. The socio-economic and land use characteristics preliminary potential impacts and mitigation measures identified in the Ontario Line Final Environmental Conditions Report (AECOM, 2020a) were reviewed and expanded upon in further detail specific to the Lower Don Bridge and Don Yard early works by considering the early works components (described in **Section 3.1**), Lower Don Bridge and Don Yard Early Works Project Footprint (described in **Section 3.1**), and anticipated construction activities (outlined in **Table 3-1**).

The results of the socio-economic and land use characteristics impact assessment are provided in **Section 6.6**.

4.7 Built Heritage Resources and Cultural Heritage Landscapes

4.7.1 Local Environmental Conditions

Background information and documentation relevant to the Lower Don Bridge and Don Yard Built Heritage Resources and Cultural Heritage Landscapes Study Area is contained within the Ontario Line Final Environmental Conditions Report (AECOM, 2020a) prepared for the Project and was reviewed prior to commencing the assessment of built heritage resources and cultural heritage landscapes contained in this Report.

The Ontario Line Cultural Heritage Report: Existing Conditions and Preliminary Impact Assessment (hereafter the ‘Ontario Line Cultural Heritage Report’), completed as part of The Ontario Line Final Environmental Conditions Report (AECOM, 2020a), was used as a primary source of background information for the following:

- Existing cultural heritage conditions within the Lower Don Bridge and Don Yard Built Heritage Resources and Cultural Heritage Landscapes Study Area, including a historical summary of the development of neighbourhoods, and provides the locations of known, previously identified and potential built heritage resources/cultural heritage landscapes within the Lower Don Bridge and Don Yard Built Heritage Resources and Cultural Heritage Landscapes Study Area.

Following background research and utilizing the 40 year old threshold[16], Criteria Checklist for Evaluating Potential for built heritage resources and cultural heritage landscapes (hereafter Criteria Checklist) (Ministry of Heritage, Sport, Tourism and Culture Industries, 2016), and professional judgement, a field review was conducted to document the existing conditions of the properties within the Lower Don Bridge and Don Yard Built Heritage Resources and Cultural Heritage Landscapes Study Area in order to confirm the presence and/or changes to any known and previously identified built heritage resources/cultural heritage landscapes that were documented in the Ontario Line Cultural Heritage Report (AECOM, 2020c), and to identify potential built heritage resources/cultural heritage landscapes and interpretive and commemorative features such as plaques, that were not identified in the Ontario Line Cultural Heritage Report (AECOM, 2020c).

Detailed methodology for establishing local environmental conditions for built heritage resources and cultural heritage landscapes is provided in **Appendix B4**. Local built heritage resources and cultural heritage landscapes are described in **Section 5.7**.

4.7.2 Impact Assessment

As noted in **Table 4-1**, the Lower Don Bridge and Don Yard Built Heritage Resources and Cultural Heritage Landscapes Study Area includes the Lower Don Bridge and Don Yard Early Works Project Footprint, adjacent properties[17] to account for potential indirect impacts, and properties within 11.1 metres of the Lower Don Bridge and Don Yard Early Works Project Footprint to account for potential structural impacts to built heritage resources and cultural heritage landscapes that may result from vibration. The built heritage resources and cultural heritage landscapes preliminary potential impacts and mitigation measures identified in the Ontario Line Final Environmental Conditions Report (AECOM, 2020a) were reviewed and expanded upon in further detail specific to the Lower Don Bridge and Don Yard early works by considering the early works components (described in **Section 3.1**), Lower Don Bridge and Don Yard Early Works Project Footprint (described in **Section 3.2**), and anticipated construction activities (outlined in **Table 3-1**).

16 The 40-year-old threshold may be used an indicator that a property may be of cultural heritage value or interest. While identification of a built heritage resources/cultural heritage landscapes that is 40 years old or older does not confer outright heritage significance, the 40-year-old threshold provides a means to collect information about resources that may retain cultural heritage value or interest. Similarly, if a built heritage resource/cultural heritage landscape is less than 40 years old, this does not preclude the resource from retaining cultural heritage value or interest.

17. Adjacent is defined in Section 3.1.5 (Heritage Conservation) of the City of Toronto's Official Plan as "those lands adjoining a property of the heritage register or lands that are directly across from and near to a property on the heritage register and separated by land used as a private or public road, highway, street, lane, trail, right-of-way, walkway, green space, park and/or easement, or an intersection of any of these; whose location has the potential to have an impact on a property on the heritage register; or as otherwise defined in a Heritage Conservation District Plan adopted by by-law" (City of Toronto, 2019).

The proposed impacts of early works have been evaluated according to the Ministry of Heritage, Sport, Tourism and Culture Industries Information Bulletin 3: Heritage Impact Assessments for Provincial Heritage Properties.

Detailed methodology for the built heritage resource and cultural heritage landscape impact assessment is provided in **Appendix B4**. The results of the built heritage resources and cultural heritage landscapes impact assessment are provided in **Section 6.7**.

4.8 Archaeological Resources

4.8.1 Local Environmental Conditions

The Ontario Line South Stage 1 Archaeological Assessment Report (AECOM, 2020) includes the Lower Don Bridge and Don Yard Early Works Project Footprint and was entered into the Ontario Public Register of Archaeological Reports on July 24, 2020, in support of the Ontario Line Final Environmental Conditions Report.

The Lower Don Bridge and Don Yard Early Works Project Footprint was overlaid with the archaeological mapping prepared for the Ontario Line South Stage 1 Archaeological Assessment Report (AECOM, 2020) to determine the areas retaining archaeological potential within the Lower Don Bridge and Don Yard Early Works Project Footprint.

Local archaeological resources are described in **Section 5.8**.

4.8.2 Impact Assessment

As noted in **Table 4-1**, the archaeological resources impact assessment was limited to Lower Don Bridge and Don Yard Early Works Project Footprint. The archaeological resources preliminary potential impacts and mitigation measures identified in the Ontario Line Final Environmental Conditions Report (AECOM, 2020a) were reviewed and expanded upon in further detail specific to the Lower Don Bridge and Don Yard early works by considering the early works components (described in **Section 3.1**), Lower Don Bridge and Don Yard Early Works Project Footprint (described in **Section 3.2**), and anticipated construction activities (outlined in **Table 3-1**). In addition, recommended methods of completing further archaeological assessment were outlined.

The results of the archaeological resources impact assessment are provided in **Section 6.8**.

4.9 Traffic and Transportation

4.9.1 Local Environmental Conditions

A review of available background information included information contained within the Ontario Line Final Environmental Conditions Report (AECOM, 2020a) from the following sources to establish local traffic and transportation conditions within the Lower Don Bridge and Don Yard Traffic and Transportation Study Area:

- City of Toronto's Open Data Portal (City of Toronto, n.d.a) to obtain mapping data related to roads, pedestrian and cyclist routes related to the Lower Don Bridge and Don Yard Traffic and Transportation Study Area;
- City of Toronto's Road Classification System Update (City of Toronto, 2018) and Vision Zero Mapping Tool (City of Toronto, 2020) to obtain road classification and speed information related to roads within the Lower Don Bridge and Don Yard Traffic and Transportation Study Area; and
- GO Transit website (GO Transit, 2020), VIA Rail website (VIA Rail, 2020), and Toronto Transit Commission website (Toronto Transit Commission, 2020) to obtain transit schedule and route data related to the Lower Don Bridge and Don Yard Traffic and Transportation Study Area.

The Ontario Line Final Environmental Conditions Report (AECOM, 2020a) notes that turning movement counts and signal timing plans were not available at some intersections within the Ontario Line Study Area, and were not collected through new traffic surveys considering the uncharacteristic traffic conditions as a result of the COVID-19 pandemic. As a result of the data limitations related to the identified road network within the Lower Don Bridge and Don Yard Traffic and Transportation Study Area, a quantitative level of service assessment is not included in this Report.

Detailed methodology for establishing local traffic and transportation conditions is provided in **Appendix B5**. Local traffic and transportation conditions are described in **Section 5.9**.

4.9.2 Impact Assessment

As noted in **Table 4-1**, potential traffic and transportation impacts within the Lower Don Bridge and Don Yard Early Works Project Footprint and adjacent road segments and intersections to capture the transportation and transit network elements were assessed. Refer to **Section 5.9.1.1** for a list of studies road segments. The traffic and transportation potential impacts and mitigation measures identified in the Ontario Line Final Environmental Conditions Report (AECOM, 2020a) were reviewed and expanded

upon in further detail specific to the Lower Don Bridge and Don Yard early works by considering the early works components (described in **Section 3.1**), Lower Don Bridge and Don Yard Early Works Project Footprint (described in **Section 3.2**) and anticipated construction activities (outlined in **Table 3-1**).

A quantitative impact assessment was not completed at this stage as the detailed construction staging schemes that describe the potential modifications to the existing transportation network were not available. Quantitative impact assessment will be completed, if required, as planning progresses and this information becomes available. The quantitative impact assessment may include larger study area. Prior to construction, Traffic Control and Management Plan(s) shall be developed to provide more specific mitigation measures and monitoring activities. Traffic Control and Management Plan(s) will outline the potential haul routes, staging and laydown areas, construction access, and road closures and potential detour routes.

Detailed methodology for the traffic and transportation impact assessment is provided in **Appendix B5**. The results of the traffic and transportation impact assessment are provided in **Section 6.9**.

4.10 Utilities

4.10.1 Existing Conditions

Private and public utilities within the Lower Don Bridge and Don Yard Early Works Project Footprint were identified in **Section 5.10**. This list will be confirmed and refined as planning progresses.

4.10.2 Impact Assessment

As noted in **Table 4-1**, the utilities impact assessment was limited to the Lower Don Bridge and Don Yard Early Works Project Footprint. The utilities preliminary potential impacts and mitigation measures identified in the Ontario Line Final Environmental Conditions Report (AECOM, 2020a) were reviewed and expanded upon in further detail specific to the Lower Don Bridge and Don Yard early works by considering the early works components (described in **Section 3.1**), Lower Don Bridge and Don Yard Early Works Project Footprint (described in **Section 3.2**) and anticipated construction activities (outlined in **Table 3-1**).

The results of the utilities impact assessment are provided in **Section 6.10**.

5. Local Environmental Conditions

This section describes the existing natural, technical, socio-economic and cultural aspects of the existing environment in the context of the Lower Don Bridge and Don Yard early works. Information on the following environmental components is provided in the sections below and where applicable, is supplemented with supporting detailed technical reports:

- Natural Environment.....**Section 5.1** and **Appendix B1**
- Soil and Groundwater.....**Section 5.2**
- Hydrology and Surface Water.....**Section 5.3**
- Air Quality.....**Section 5.4** and **Appendix B2**
- Noise and Vibration .....**Section 5.5** and **Appendix B3**
- Socio-Economic and Land Use Characteristics .....**Section 5.6**
- Built Heritage Resources and Cultural Heritage Landscapes .....**Section 5.7** and **Appendix B4**
- Archaeological Resources.....**Section 5.8**
- Traffic and Transportation .....**Section 5.9** and **Appendix B5**
- Utilities.....**Section 5.10**

5.1 Natural Environment

5.1.1 Designated Natural Areas/Planning Policy Areas

According to the Ministry of Natural Resources and Forestry's GeoHub Mapping (2020), there are no Provincially Significant Wetlands, Locally Significant Wetlands, significant valleylands or provincially significant Areas of Natural and Scientific Interest within the Lower Don Bridge and Don Yard Natural Environment Study Area. In addition, there are no woodlands or unevaluated wetlands within the Lower Don Bridge and Don Yard Natural Environment Study Area.

According to the City of Toronto's Interactive Map (City of Toronto, 2020a), there are no Environmentally Significant Areas within the Lower Don Bridge and Don Yard Natural Environment Study Area, however, the Lower Don Bridge and Don Yard Early Works

Project Footprint falls within the City of Toronto's Natural Heritage System (11.25 hectares), and portions fall within the Ravine and Natural Feature Protection By-law Area (0.93 hectares) and Toronto and Region Conservation Authority's regulation limits (6.16 hectares). The Urban River Valley designation under the Greenbelt Plan occurs along the Lower Don River to its mouth at Lake Ontario and partially within the footprint (3.23 hectares).

Further details on the planning policy areas are included in **Appendix B1**.

5.1.2 Ecological Land Classification and Plant Inventory

Ecological Land Classification is the provincially accepted standard for classifying vegetation communities in Ontario. This protocol uses a series of six nested levels (i.e., Site Region, System, Community Class, Community Series, Ecosite, and Vegetation Type) to describe the ecological form and function of a vegetation community in a spatial context, from largest to smallest scale.

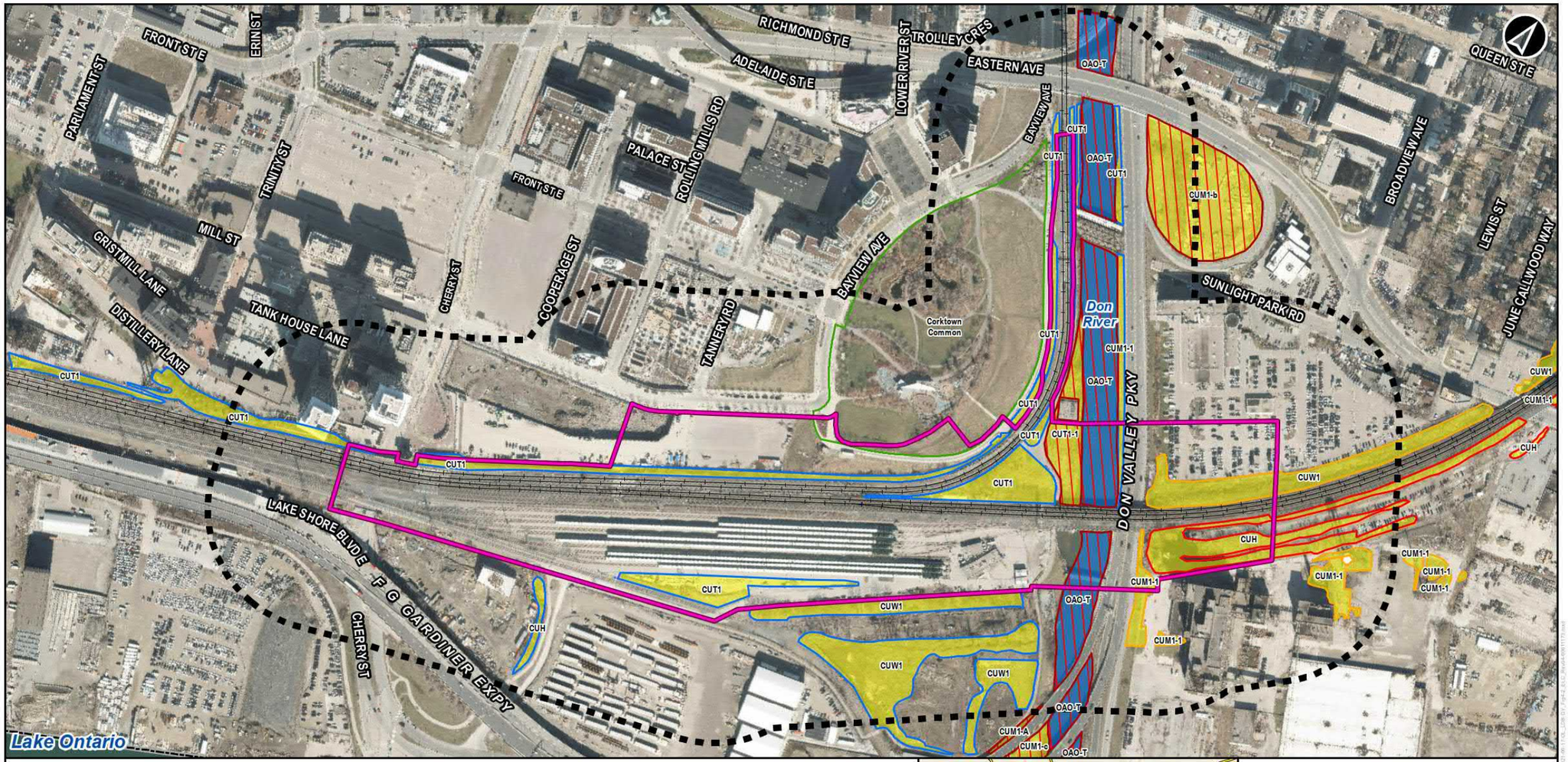
All of the vegetation communities in the Lower Don Bridge and Don Yard Natural Environment Study Area are generally disturbed as a result of anthropogenic activities and are largely limited to narrow vegetation strips within the existing rail corridor and along the Lower Don River, which are surrounded by heavily developed commercial, industrial and residential areas, as shown in **Figure 5-1**. These vegetation communities contained large proportions of non-native and invasive plant species and none were identified as being provincially significant (AECOM, 2017; AECOM, 2018; 4Transit, 2018b). Descriptions of vegetation communities and their structural compositions within the Lower Don Bridge and Don Yard Natural Environment Study Area are summarized in **Table 5-1.**

There were no butternuts (Junglans cinereal) or any other plant Species at Risk, provincially significant or Regional Species of Conservation Concern plants identified in the Lower Don Bridge – Don Yard Natural Environment Study Area (AECOM, 2018).

5.1.3 Fish and Fish Habitat

A portion of the Lower Don River is located within the Lower Don Bridge and Don Yard Natural Environment Study Area. It was found that the Lower Don River within the Lower Don Bridge and Don Yard Natural Environment Study Area provides direct fish habitat important for migration, feeding and refuge. However, conditions are generally non-limiting throughout with no specialized (critically limiting spawning) habitat identified (AECOM, 2017; 4Transit, 2018b). Migratory species (e.g., Chinook Salmon) use the Lower Don River as a seasonal migratory corridor to and from Lake Ontario as no barriers to fish use were identified (AECOM, 2017).

Figure 5-1: Ecological Land Classification Within the Lower Don Bridge and Don Yard Natural Environment Study Area



Legend

- Existing Rail
- Lower Don Bridge and Don Yard Early Works Project Footprint
- Lower Don Bridge and Don Yard Natural Environment Study Area

ELC Collection Method

- ELC Previously Reported (AECOM 2016, Lakeshore Segment 1)
- ELC Field Verified (AECOM 2016, Lakeshore Segment 1)
- ELC Field Verified (AECOM 2019 - 2020)
- ELC (TRCA 2003-2017)
- ELC Field Verified or by Roadside (AECOM 2016, USRC); ELC Field Verified (AECOM 2016, USRC)

ELC Communities

- Cultural (CU)
- Open Aquatic (OA)

Ontario Line Project

Ecological Land Classification Within the Lower Don Bridge and Don Yard Natural Environment Study Area

0 50 100 200
Meters
DATUM: NAD 1983 UTM Zone 17N

Data Sources:
Contains Information licensed under the Open Government Licence Ontario, City of Toronto and Metrolinx. Keymap and Basemap provided by ESRI.

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Figure 5-1

Table 5-1: ELC Vegetation Communities Identified within the Lower Don Bridge and Don Yard Natural Environment Study Area

Cultural Communities	ELC Code	ELC Name	Tree Canopy	Shrub Layer	Ground Layer	General Location	Source
Cultural Meadow (CUM)	CUM1-1	■ Dry-moist Old Field Cultural Meadow	■ No tree canopy layer identified in this community.	■ No shrub layer identified in this community.	■ Cultural meadows were identified through interpretation of aerial imagery. These communities were generally dominated by grasses, weeds, and other herbaceous species.	■ East of the Lower Don River	■ Union Station Rail Corridor East Enhancements Transit Project Assessment Process Environmental Project Report (AECOM, 2018)
Cultural Meadow (CUM)	CUM1-1	■ Dry-moist Old Field Cultural Meadow	■ No tree canopy layer identified in this community.	■ No shrub layer identified in this community.	■ Herbaceous and graminoid species covered 60% or more of the cultural meadow communities which were dominated by invasive species such as dog strangling vine (Cynanchum rossicum), garlic mustard (Alliaria petiolata), and white sweet clover (Melilotus alba).	■ East of the Lower Don River	■ Lakeshore East Rail Corridor Expansion (Don River to Scarborough GO Station) Environmental Project Report (AECOM, 2017)
Cultural Meadow (CUM)	CUM1-A	■ Native Forb Meadow	■ Less than 10% tree cover consisting of Russian olive (Elaeagnus angustifolia).	■ No shrub layer identified in this community.	■ Greater than 60% ground cover primarily dominated by goldenrods (Solidago spp.), grasses and Canada thistle (Cirsium arvense).	■ West of the Lower Don River	■ Toronto and Region Conservation Authority (2003-2017)
Cultural Meadow (CUM)	CUM1-b with a CUP1-A	■ Exotic Cool-season Grass Graminoid Meadow with a Cultural Plantation inclusion	■ Less than 10% tree cover consisting of Austrian Pine (Pinus nigra), giant-toothed aspen (Populus grandidentata) and balsam poplar (Populus balsamifera).	■ No shrub layer identified in this community.	■ Greater than 60% ground cover primarily dominated by grasses, Canada thistle, wild carrot (Daucus carota) and common milkweed (Asclepias syriaca).	■ East of the Lower Don River	■ Toronto and Region Conservation Authority (2003-2017)
Cultural Thicket (CUT)	CUT1	■ Mineral Cultural Thicket	■ Less than 25% tree cover dominated by tree species such as Manitoba maple (Acer negundo), Norway maple (Acer platanoides) and tree-of-heaven. Less common trees noted in the canopy included green ash (Fraxinus pennsylvanica), white mulberry (Morus alba), Carolina poplar (Populus X canadensis) and wych elm (Ulmus glabra).	■ Between 25 and 60% shrub cover dominated by staghorn sumac (Rhus typhina), common buckthorn (Rhamnus cathartica), gray dogwood (Cornus racemosa), Russian olive (Elaeagnus angustifolia) and Oriental bittersweet (Celastrus orbiculatus).	■ Ground species made up more than 60% of this community, including especially tall goldenrod, dog strangling vine and mugwort (Artemisia vulgaris).	■ West of the Lower Don River	■ Union Station Rail Corridor East Enhancements Transit Project Assessment Process Environmental Project Report (AECOM, 2018)
Cultural Thicket (CUT)	CUT1-1	■ Sumac Deciduous Thicket	■ Less than 10% tree cover consisting of tree-of-heaven, Russian olive, Manitoba maple and eastern cottonwood (Populus deltoides).	■ Greater than 60% shrub cover dominated by staghorn sumac with lesser of white mulberry, choke cherry (Prunus virginiana), red-osier dogwood (Cornus sericea), common buckthorn and narrow-leaf willow (Salix exigua)	■ Greater than 60% ground cover dominated by grasses, stinging nettle (Urtica dioica), common milkweed (Asclepias syriaca), Canada thistle (Cirsium arvense) and bouncing bet (Saponaria offinaliz)	■ West of the Lower Don River	■ Toronto and Region Conservation Authority (2003-2017)
Cultural Woodland (CUW)	CUW1	■ Mineral Cultural Woodland	■ The species composition of cultural woodlands varied depending on the location along the Union Station Rail Corridor. Tree canopy cover was 25 to 60% and mainly dominated by Manitoba maple, tree-of-heaven or eastern cottonwood. Less common tree species included black cherry (Prunus serotina) and green ash.	■ The shrub cover generally consisted of Tartarian honeysuckle (Lonicera tatarica), Japanese knotweed (Fallopia japonica), red-osier dogwood, and common buckthorn.	■ Ground cover was largely dominated by stinging nettle and garlic mustard, both highly invasive species. Other ground species consisted of thicket creeper, riverbank grape (Vitis riparia), and common plantain (Plantago major).	■ West of the Lower Don River	■ Union Station Rail Corridor East Enhancements Transit Project Assessment Process Environmental Project Report (AECOM, 2018)
Cultural Woodland (CUW)	CUW1	■ Mineral Cultural Woodland	■ Less than 60% tree canopy was dominated by Manitoba maple, Siberian elm (Ulmus pumila) or black walnut (Juglans nigra). Less dominant trees included tree-of-heaven, Norway maple, green ash and black locust (Robinia pseudoacacia). Red oak (Quercus rubra) was sometimes noted on the edge of city parks but was generally outside of the existing rail corridor.	■ The shrub cover generally consisted of choke cherry, Manitoba maple, honeysuckles, staghorn sumac and common buckthorn.	■ Ground species were largely either dominated by dog strangling vine or garlic mustard, both highly invasive species. Other ground species consisted of thicket creeper, wild carrot, riverbank grape, field horsetail (Equisetum arvense), goldenrods, bracken fern (Pteridium aquilinum), common St. John's wort (Hypericum perforatum) and sometimes to a lesser extent, false Solomon's seal (Maianthemum racemosum).	■ East of the Lower Don River	■ Lake Shore East Rail Corridor Expansion (Don River to Scarborough GO Station) Environmental Project Report (AECOM, 2017)

Cultural Communities	ELC Code	ELC Name	Tree Canopy	Shrub Layer	Ground Layer	General Location	Source
Cultural Hedgerows[18] (CUH)	CUH	■ Cultural Hedgerows	■ The tree canopy was dominated by Manitoba maple, common buckthorn and Russian olive	■ No shrub layer identified in this community.	■ Ground cover consisted of the same herbaceous species described above for cultural thickets and woodlands.	■ West of the Lower Don River	■ Union Station Rail Corridor East Enhancements Transit Project Assessment Process Environmental Project Report (AECOM, 2018)
Cultural Hedgerows[19] (CUH)	CUH	■ Cultural Hedgerows	■ The tree canopy was dominated by Siberian elm, Manitoba maple, tree-of-heaven or black walnut depending on the location. Other less dominant tree species noted included poplar (Populus sp.), Norway maple and black locust.	■ The shrub layer was dominated by thicket creeper. Japanese knotweed was also noted at certain locations.	■ Ground cover consisted of the same herbaceous and grass species described above for cultural meadows.	■ East of the Lower Don River Don Bridge	■ Lake Shore East Rail Corridor Expansion (Don River to Scarborough GO Station) Environmental Project Report (AECOM, 2017)

18. For the purpose of this investigation, cultural hedgerows were roughly defined as narrow strips or rows of trees, either planted or natural growing as remnants of old vegetation communities that were removed in the past, with minimal vegetative cover underneath
19. For the purpose of this investigation, cultural hedgerows were roughly defined as narrow strips or rows of trees, either planted or natural growing as remnants of old vegetation communities that were removed in the past, with minimal vegetative cover underneath

There are 33 species of fish known to occur within the Lower Don River (Toronto and Region Conservation Authority, 2020a; HDR, 2018; AECOM, 2017). The fish community is composed of mainly tolerant warmwater fish species (HDR, 2018). Pollution tolerant generalists are the most common species sampled in the watershed. Refer to **Appendix B1** for a list of fish species.

5.1.4 Wildlife and Wildlife Habitat

Forested ravines, City parks and open spaces that make up the City of Toronto's Natural Heritage System provide important habitats for wildlife in an urban setting (City of Toronto, 2012). The forested ravines of the Lower Don River act as important wildlife corridors and allow for the movement of mammals, herpetofauna, birds and insects including butterflies between different areas to seek food, shelter and mates within the City of Toronto's Natural Heritage System (City of Toronto, 2012). The Lower Don River also provides connectivity from Lake Ontario and the Greenbelt. In addition, the forested river valleys and ravines associated with the Lower Don River Valley support the movement of migratory breeding birds and provide shelter and food for migrant water-dependent birds such as Black-crowned Night-Herons (Nycticorax nycticorax), Spotted Sandpipers (Actitis macularius) and Belted Kingfishers (Megaceryle alcyon) among other bird species (Dougan & Associates and North-South Environmental Inc., 2009). In addition, City parks and open spaces, utility corridors and existing rail corridors may act as stepping stones that provide connectivity to major natural systems (e.g., forested ravines of the Lower Don River) and support wildlife movement (City of Toronto, 2018).

The Corktown Common Park is located outside the Lower Don Early Works Project Footprint but within the Lower Don Bridge and Don Yard Natural Environment Study Area in the West Don Lands adjacent to the Lower Don River. It was previously converted from an industrial brownfield to a 7.30-hectare park, containing a system of restored urban prairie and marsh habitats situated on top of a flood protection landform (Waterfront Toronto, 2020). This park provides habitat for urban wildlife.

Areas that could potentially support herpetofauna tolerant of urban conditions, for example American Toad (Anaxyrus americanus), Dekay's Brownsnake (Storeria dekayi), and Eastern Gartersnake (Thamnophis sirtalis) were also identified close to the Lower Don River (4Transit, 2018a); however, small pockets of low-quality vegetation west of the Lower Don River supporting urban wildlife were documented but generally lacked in amphibian breeding habitat (AECOM, 2018). There is limited wildlife habitat within the existing rail corridor as vegetation communities are largely disturbed, containing a high proportion of non-native and invasive plant species, and highly fragmented with low connectivity to other significant natural features (AECOM, 2017). Although the Lower Don River may function as a movement corridor for small to

medium sized urban wildlife, there is low connectivity to other significant natural features with many barriers to animal movement (i.e., railways, roads, construction areas and fences). The existing rail corridor provides a low-quality movement corridor for some small mammals, birds and insects.

Most of the bird species recorded in the Lower Don Bridge and Don Yard Natural Environment Study Area consist of common species in Ontario that are tolerant to urban disturbances except for Barn Swallow and Chimney Swift, both Species at Risk birds protected under the Endangered Species Act, noted flying over the existing rail corridor (AECOM, 2017). Other bird species recorded included Turkey Vulture (Cathartes aura), Rock Pigeon (Columba livia), Golden-crowned Kinglet (Regulus satrapa), House Sparrow (Passer domesticus), and European Starling (Sturnus vulgaris) (4Transit, 2018a). It is important to note that isolated trees and shrubs, vegetation communities and anthropogenic structures (e.g., buildings, bridges) can provide nesting habitat for many migratory birds, which are protected under the Migratory Birds Convention Act.

No observations or signs of any mammal species were recorded in the Lower Don Bridge and Don Yard Natural Environment Study Area during the site investigations; however, the general area likely supports a range of mammals often found in urban environments, including: Common Raccoon (Procyon lotor), Eastern Cottontail (Sylvilagus floridanus), Eastern Grey Squirrel (Sciurus carolinensis), Striped Skunk (Mephitis mephitis), and a number of small mammals that often go undetected (e.g., shrews, voles, mice) (Dobbyn, 1994).

Refer to **Appendix B1** for comprehensive species lists.

5.1.5 Significant Wildlife Habitat

Significant Wildlife Habitat, including habitats for Species of Conservation Concern, receive protection under the Provincial Policy Statement and should thus be considered when corridors and right-of-way for significant transportation are being planned according to Section 1.6.8.6 of the Provincial Policy Statement. Species of Conservation Concern may also be afforded protection under the Migratory Birds Convention Act or Ontario Fish and Wildlife Conservation Act, 1997.

Significant Wildlife Habitat Screening and habitat screening for Species of Conservation Concern were completed for the Lower Don Bridge and Don Yard Natural Environment Study Area. Species with historical records were deemed unlikely to persist in the general area given the vast urbanization within the City of Toronto and for this reason were not included in the Species of Conservation Concern screening. Refer to **Appendix B1** for the complete Significant Wildlife Habitat screening and Species of Conservation Concern habitat screening.

Based on review of the Significant Wildlife Habitat Criteria Schedules for Ecoregion 7E (MNRF, 2015a), the following Significant Wildlife Habitat types may occur within the Lower Don Bridge and Don Yard Natural Environment Study Area. Refer to **Appendix B1** for the complete Significant Wildlife Habitat screening in the Lower Don Bridge and Don Yard Natural Environment Study Area.

- Habitats of Species of Conservation Concern (refer to **Appendix B1** for the complete Species of Conservation Concern habitat screening):
  - **Confirmed Habitat for Species of Conservation Concern**:
    - **Northern Map Turtle (Graptemys geographica)** – The Lower Don River may serve as a movement corridor for this species due to its moderate flow and less than 1 metre depth. The species may use the Lower Don River as a movement corridor. A single record of this species within the Lower Don Bridge and Don Yard Natura Environment Study Area was reported by Ontario Nature in 2016; however, his species is considered unlikely to be hibernating within or in vicinity of the Lower Don Bridge and Don Yard Early Works Project Footprint due to the lack of suitable habitat present. The species may instead use the Lower Don River as a movement corridor.
  - **Candidate Habitat for Species of Conservation Concern** (refer to **Appendix B1** for the complete Species of Conservation Concern habitat screening)**:**
    - **Common Nighthawk** – This species may nest on the flat, gravel rooftops of buildings in urban areas (Brigham et al., 2011). There are two flat roofed buildings within the Lower Don Bridge and Don Yard Early Works Project Footprint, and others within the Lower Don Bridge and Don Yard Natural Environment Study Area. This species is protected by the federal Migratory Birds Convention Act.
    - **Eastern Wood-pewee (Contopus virens)** – Treed areas (e.g., cultural woodlands) may provide suitable nesting habitat for this species. This species is protected by the federal Migratory Birds Convention Act.
    - **Monarch (Danaus plexippus)** – Cultural meadows may provide suitable foraging and rearing habitat for this species.
    - **Snapping Turtle (Chelydra serpentina)** – The Lower Don River may serve as a movement corridor for this species due to its moderate flow and less than 1 metre depth but is unlikely to provide suitable hibernation habitat within the Lower Don Bridge and Don Yard Early Works Project Footprint.

There were no candidate or confirmed seasonal concentration areas, rare vegetation communities, specialized habitat for wildlife or animal movement corridors identified within the Lower Don Bridge and Don Yard Natural Environment Study Area (refer to **Appendix B1** for the complete Significant Wildlife Habitat screening). Although the Lower Don River within the Lower Don Bridge and Don Yard Natural Environment Study Area acts as a movement corridor for some urban wildlife, it does not qualify as a candidate animal movement (amphibian or deer) corridor based on the criteria described in the Significant Wildlife Habitat Criteria Schedules for Ecoregion 7E (Ministry of Natural Resources and Forestry, 2015a) due to high levels of urbanization, fragmentation and barriers to animal movements (i.e., railways, roads, construction areas, fences).

5.1.6 Species at Risk Habitat Screening

A habitat screening for Species at Risk was completed for the Lower Don Bridge and Don Yard Natural Environment Study Area. Species with historical records were deemed unlikely to persist in the general area given the vast urbanization within the City of Toronto and for this reason were not included in the Species at Risk screenings.

The following Species at Risk have a high probability of occurring within the Lower Don Bridge and Don Yard Natural Environment Study Area:

- **Barn Swallow** – This species is listed as Threatened and receives protection under the provincial Endangered Species Act, as well as the federal Migratory Birds Convention Act. Barn Swallows were observed foraging in the vicinity of the rail bridge crossing the Lower Don River suggesting that active nests may be present under this bridge. The buildings within Lower Don Bridge and Don Yard Early Works Project Footprint have limited potential to support nesting Barn Swallows; however, field surveys will be required to determine if Barn Swallow nests are present on any buildings that may be removed or on the existing rail bridge.
- **Chimney Swift** – This species is listed as Threatened and receives protection under the provincial Endangered Species Act, as well as the federal Migratory Birds Convention Act. There is one confirmed Chimney Swift site within the Lower Don Bridge and Don Yard Natural Environment Study Area. Chimney Swift nests were confirmed in 2017 inside the chimney located at 21 Don Roadway, which is situated on the east bank of the Lower Don River, south of the existing rail corridor, within 120 metres of the Lower Don Bridge and Don Yard, but outside of the Lower Don Bridge and Don Yard Early Works Project Footprint (4Transit, 2018b). No chimneys or smokestacks are visibly present in the Lower Don Bridge and Don Yard Early Works Project Footprint based on background review sources.

The following Species at Risk have a medium probability of occurring within the Lower Don Bridge and Don Yard Natural Environment Study Area:

- **Bat Species at Risk, including Eastern Small-footed Myotis, Little Brown Myotis, Northern Long-eared Myotis and Tri-colored Bat** – Bat Species at Risk are listed as Endangered and receive protection under the Endangered Species Act. There were no hibernacula identified within the Lower Don Bridge and Don Yard Natural Environment Study Area; however, maternity roosting habitats may be present.
- **Butternut** – This species is listed as Endangered and receives protection under the provincial Endangered Species Act. This species may occur within the cultural hedgerows within the existing rail corridor.

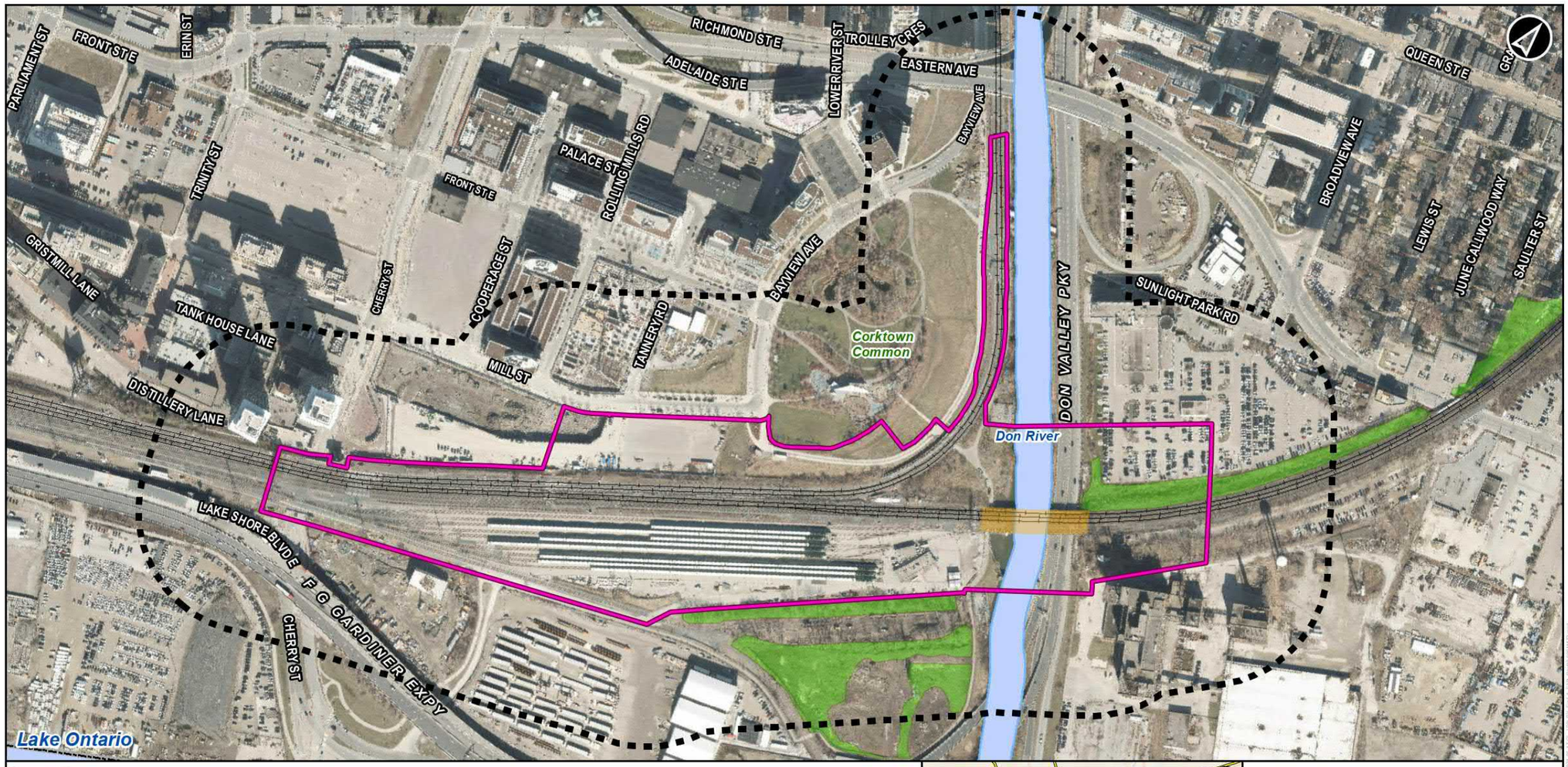
The following Species at Risk had low probability of occurrence due to lack of habitat identified within the Lower Don Bridge and Don Yard Natural Environment Study Area

- Bank Swallow (Riparia riparia);
- Bobolink (Dolichonyx oryzivorus);
- Eastern Meadowlark (Sturnella magna); and
- Blanding's Turtle (Emydoidea blandingii).

Refer to **Figure 5-2** for the potential Species at Risk habitats within the Lower Don Bridge and Don Yard Natural Environment Study Area.

Refer to **Appendix B1** for the full Species at Risk habitat screening.

Figure 5-2: Potential Species at Risk Habitat Within the Lower Don Bridge and Don Yard Natural Environment Study Area



Legend

- Existing Rail
- Lower Don Bridge and Don Yard Early Works Project Footprint
- Lower Don Bridge and Don Yard Natural Environment Study Area

Species at Risk (SAR)

- Potential Bat SAR Natural Roosting Habitat
- Potential Habitat for Barn Swallow

Ontario Line Project

Potential Species at Risk Habitat Within the Lower Don Bridge and Don Yard Natural Environment Study Area

0 50 100 200
Meters
DATUM: NAD 1983 UTM Zone 17N

Data Sources:
Contains Information licensed under the Open Government Licence Ontario, City of Toronto and Metrolinx. Keymap and Basemap provided by ESRI.

METROLINX	AECOM
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Figure 5-2

5.2 Soil and Groundwater

5.2.1 Geological Setting

5.2.1.1 Physiography and Topography

The Lower Don Bridge and Don Yard Soil and Groundwater Study Area is situated within the Iroquois Plain physiographic region, as mapped by Chapman and Putnam (1984). A physiographic map of the area is provided in **Figure 5-3**.

According to the Physiography of Southern Ontario (Chapman and Putnam, 1984), the Iroquois Plain occurs as a lowland bordering the western component of Lake Ontario, extending from the Niagara River to the Trent River over a distance of approximately 305 kilometres. The Iroquois Plain represents the historic bottom of glacial Lake Iroquois and stands in striking contrast to the shoreline areas (and their identifiable features) of the former glacial lake situated farther inland (Chapman and Putnam, 1984). Across its length, the width of the Iroquois plain varies from only a few hundred metres up to about 13 kilometres. In the vicinity of the City of Toronto, the Iroquois Plain is approximately 3 kilometres wide and is cut into previously deposited clay and till; being partly floored with glaciolacustrine sand deposits.

The ground surface topography within the Lower Don Bridge and Don Yard Soil and Groundwater Study Area is shown in **Figure 5-4**. The elevations within the Lower Don Bridge and Don Yard Soil and Groundwater Study Area range from approximately 80 to 95 metres above sea level. The topography in the vicinity of the Lower Don Bridge and Don Yard Soil and Groundwater Study Area is highly affected by the extensive local development and is relatively flat to slightly undulating in nature, with a general downward slope in the direction of the Lower Don River and Lake Ontario.

5.2.1.2 Surficial Geology

The surficial geology within the Lower Don Bridge and Don Yard Soil and Groundwater Study Area is shown in **Figure 5-5**. Identified surficial soils consist of:

i) Till Deposits (undifferentiated older tills, may include stratified sediments);
ii) Coarse-textured Glaciolacustrine Deposits (sand, gravel, minor silt and clay derived from foreshore-basinal deposits);
iii) Coarse-textured Lacustrine Deposits (sand, gravel, minor silt and clay derived from littoral deposits); and
iv) Modern Alluvial Deposits (clay, silt, sand, gravel, may contain organic remains).

Figure 5-3: Physiography Within the Lower Don Bridge and Don Yard Soil and Groundwater Study Area

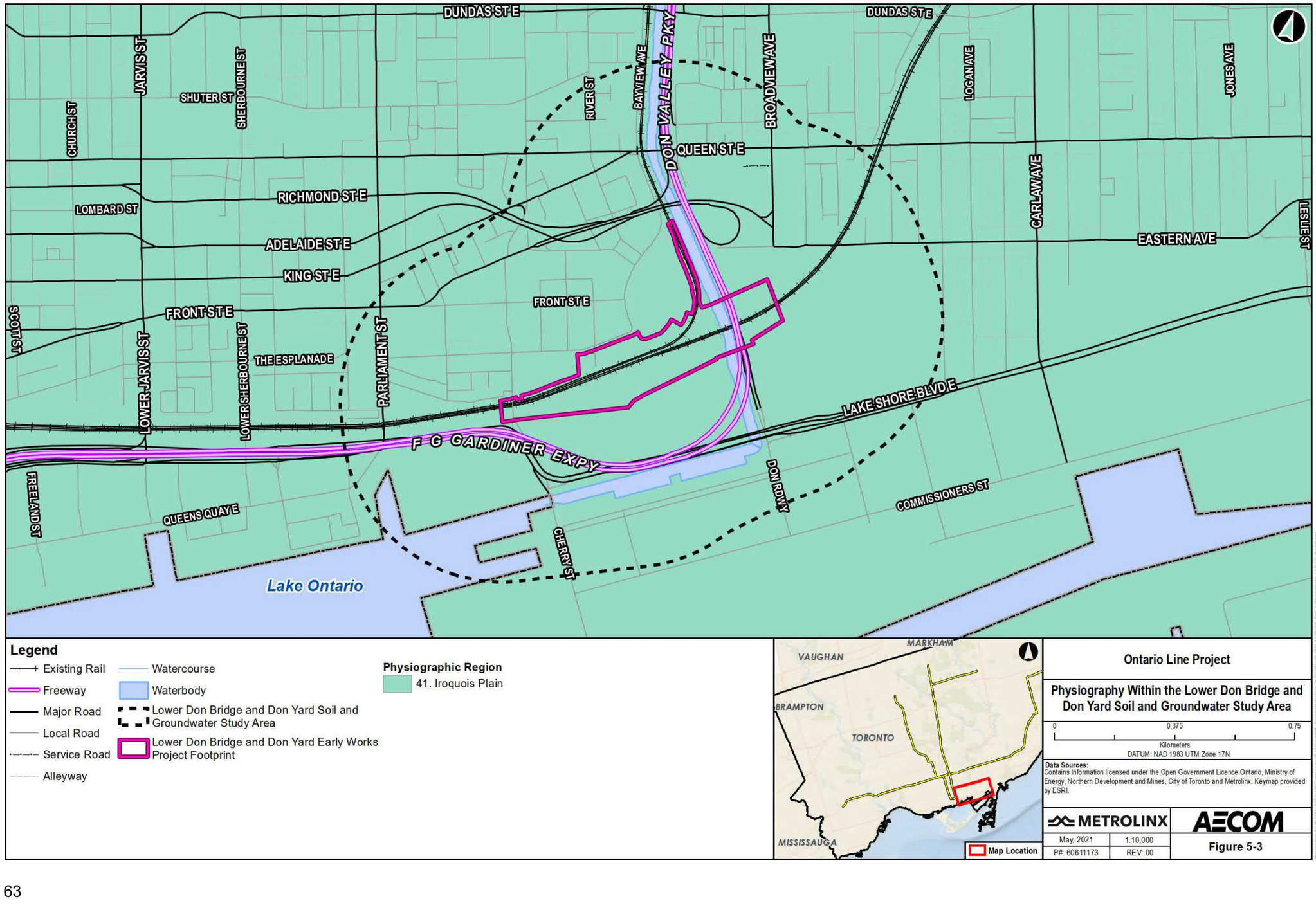


Figure 5-4: Topography and Drainage Within the Lower Don Bridge and Don Yard Soil and Groundwater Study Area

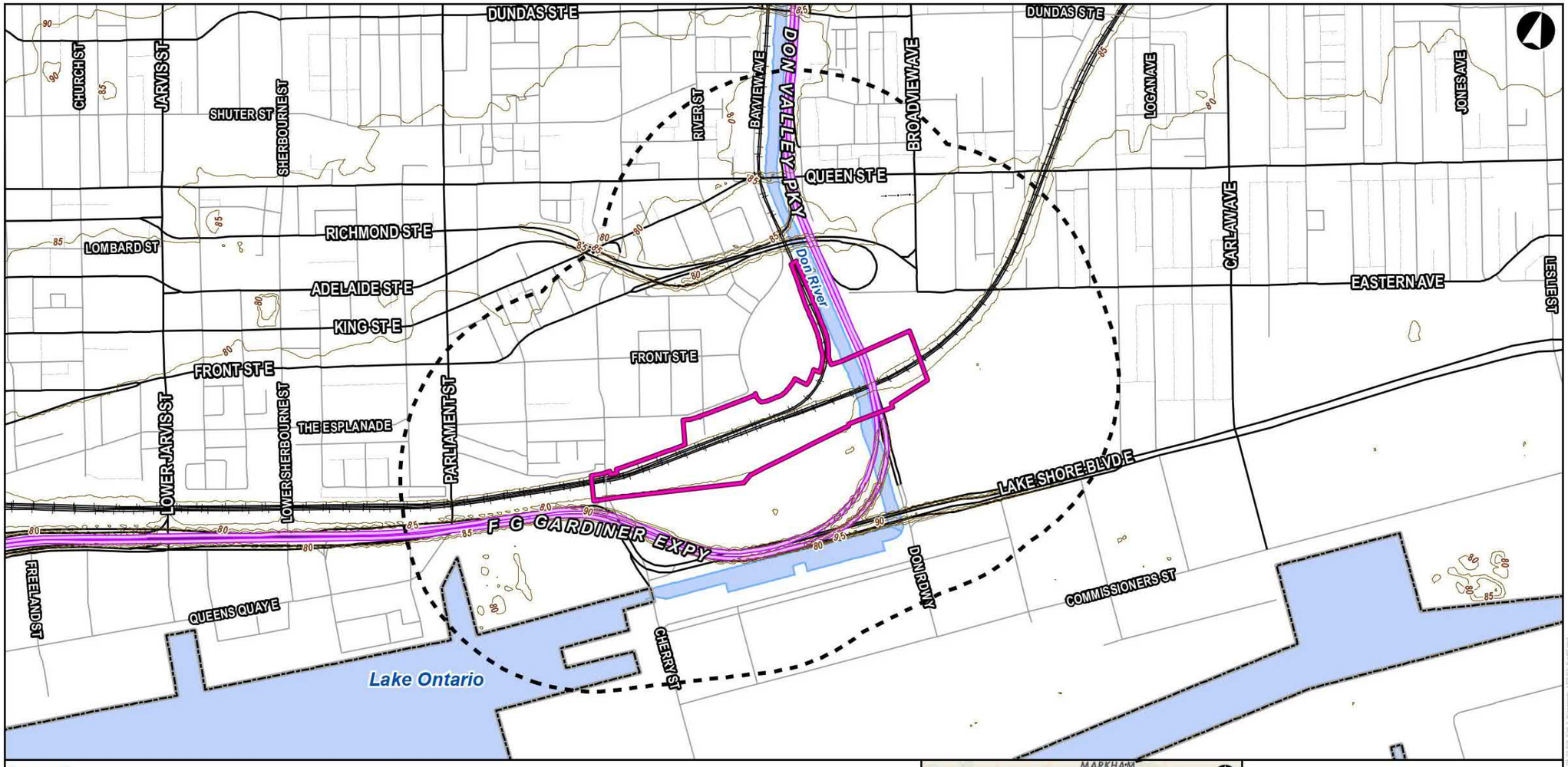
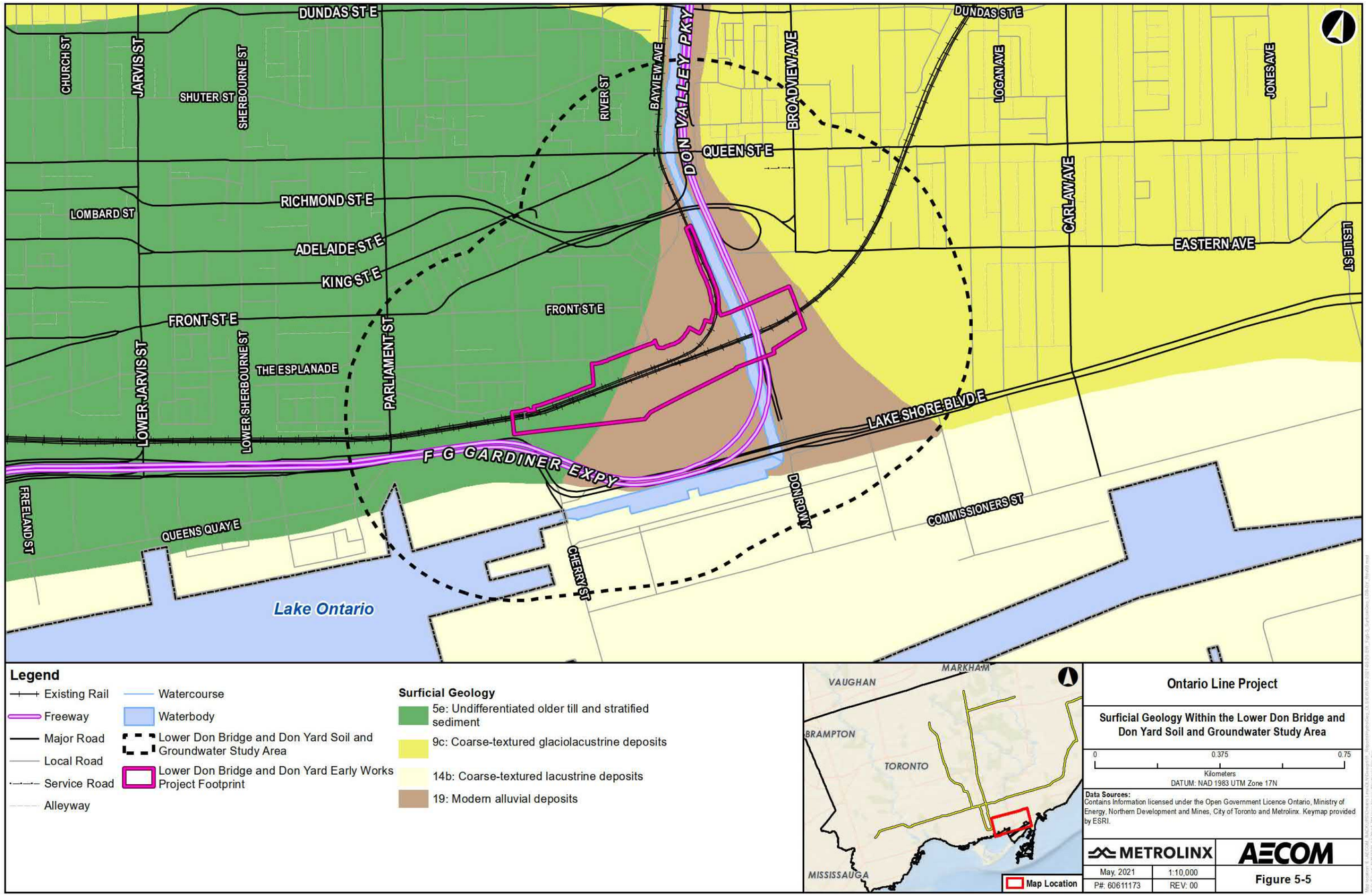


Figure 5-5: Surficial Geology Within the Lower Don Bridge and Don Yard Soil and Groundwater Study Area



5.2.1.3 Quaternary Geology

The Quaternary geology within the Lower Don Bridge and Don Yard Soil and Groundwater Study Area is shown in **Figure 5-6**. A review of Quaternary geology mapping, available at a smaller scale than the Surficial Geology mapping, indicates that the primary surficial deposits within the Lower Don Bridge and Don Yard Soil and Groundwater Study Area are Till Deposits with sandy silt to silt matrices.

5.2.1.4 Bedrock Geology

Bedrock geology within the Lower Don Bridge and Don Yard Soil and Groundwater Study Area is shown in **Figure 5-7**. Based on this Ontario Geological Survey regional mapping, the uppermost bedrock is composed of shale and limestone of the Georgian Bay Formation from the Upper Ordovician period (Armstrong, D.K. and Dodge, J.E.P. 2007).

Based on the Metropolitan Toronto Bedrock Contours map (Rogers et al. 1961), the bedrock surface elevation ranges from approximately 46 to 73 metres above sea level within the Lower Don Bridge and Don Yard Soil and Groundwater Study Area.

5.2.2 Hydrogeological Setting

Hydrostratigraphy is the classification of major stratigraphic units into aquifers and aquitards, with some simplification or combination of units with similar properties. An aquifer is classically defined as a geological unit that is sufficiently permeable to permit the extraction of a useable supply of water.

Where present, surficial aquifer units within the Lower Don Bridge and Don Yard Soil and Groundwater Study Area are typically comprised of coarse-textured unconsolidated (overburden) sand and gravelly sediments, as described in the previous section.

A review of the Ministry of the Environment, Conservation and Parks water well records database indicates that the overburden geologic materials within the Lower Don Bridge and Don Yard Soil and Groundwater Study Area consist primarily of clayey silt, silt, sand, sandy silt, and silty sand. Bedrock was encountered in some of the reviewed Ministry of the Environment, Conservation and Parks well records, at depths ranging from approximately 9 to 31 metres below ground surface within the Lower Don Bridge and Don Yard Soil and Groundwater Study Area.

Figure 5-6: Quaternary Geology Within the Lower Don Bridge and Don Yard Soil and Groundwater Study Area

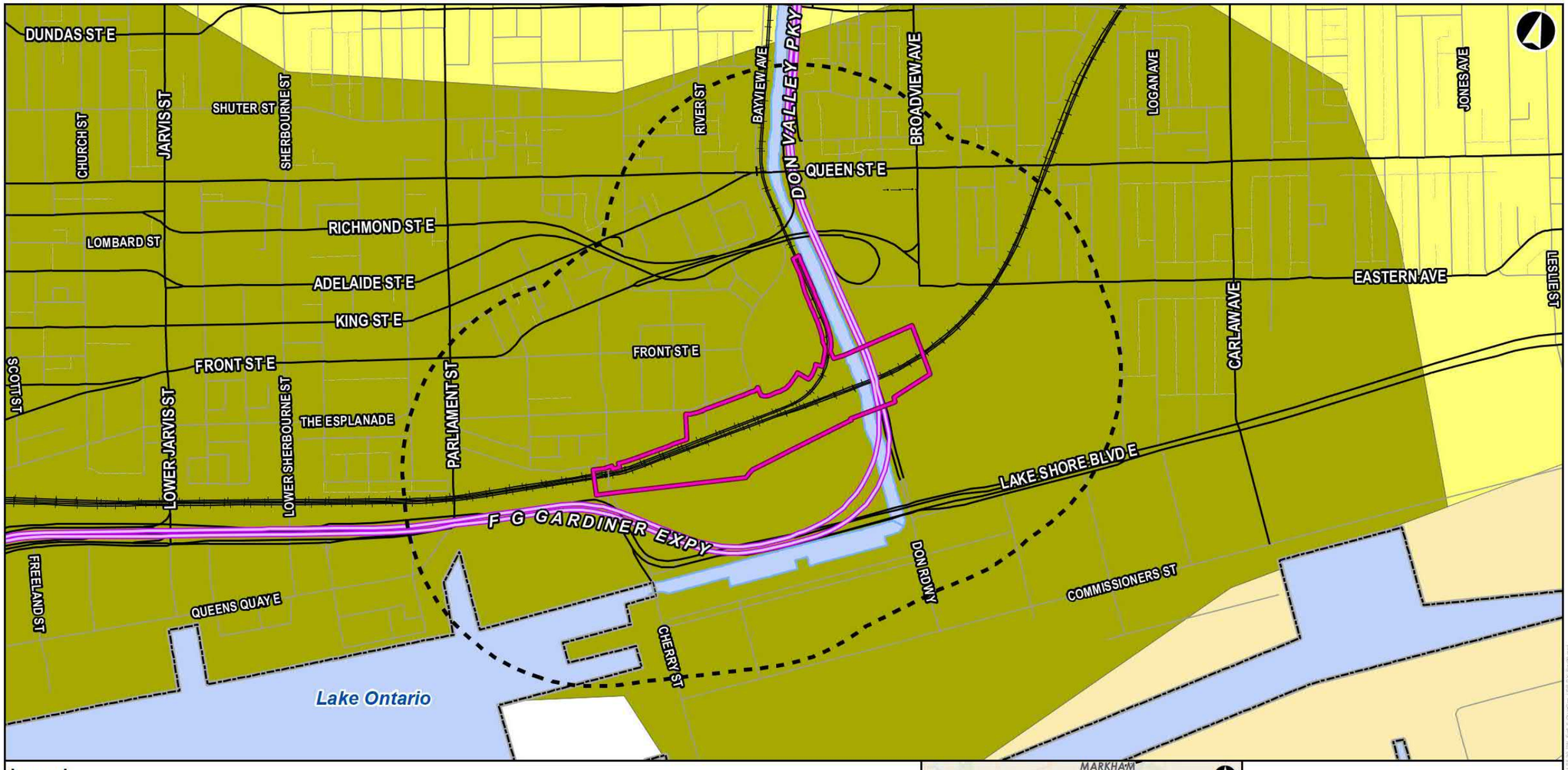
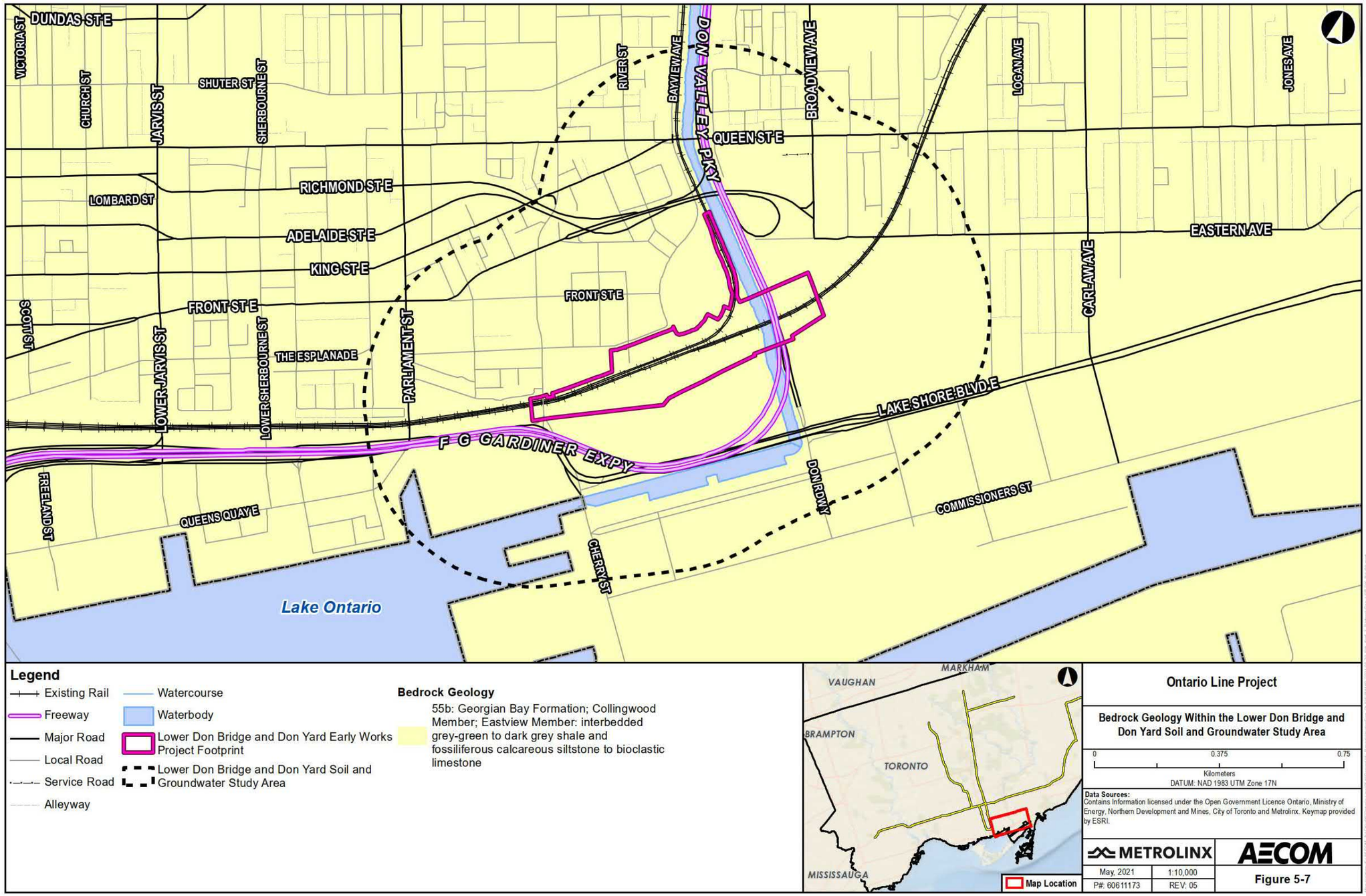


Figure 5-7: Bedrock Geology Within the Lower Don Bridge and Don Yard Soil and Groundwater Study Area



The well-established hydrostratigraphic framework for the Greater Toronto Area is summarized in **Table 5-2** (TRSPA, 2015).

Table 5-2: Hydrostratigraphic Units of the Greater Toronto Area

Age	Geological Units	Hydrostratigraphic Units (Aquifer)	Hydrostratigraphic Units (Aquitard)
Late Wisconsin Glacial Complex	Glaciolacustrine Deposits and Recent Sediments	Surficial Aquifer	N/A
Late Wisconsin Glacial Complex	Halton Till	N/A	Halton Aquitard
Late Wisconsin Glacial Complex	Oak Ridges Moraine/ Mackinaw Interstadial Deposits	Oak Ridges Aquifer Complex	N/A
Late Wisconsin Glacial Complex	Newmarket (Northern) Till	N/A	Newmarket Aquitard
Early-Mid Wisconsin Glacial Lake Deposits	Thorncliffe Formation	Thorncliffe Aquifer Complex	N/A
Early-Mid Wisconsin Glacial Lake Deposits	Sunnybrook Drift	N/A	Sunnybrook Aquitard
Early Wisconsin Delta	Scarborough Formation	Scarborough Aquifer Complex	N/A
Sangamon Interglacial Illinoian Glaciation	Don Formation	N/A	N/A
Sangamon Interglacial Illinoian Glaciation	York Till	N/A	N/A
Late Ordovician Bedrock	Georgian Bay Formation	N/A	Bedrock Aquitard

5.2.2.1 Regional Groundwater Flow

In general, the dynamics of shallow groundwater flow within overburden deposits is related to the surface topography with flow directed to topographic lows, wetlands, and surface watercourses. Deeper aquifer systems, including bedrock aquifer(s), tend to be more uniform and are less influenced by topographic variations. Groundwater flow in shallow aquifer(s) will be primarily horizontal with a minor vertical component (flow rate depends on the hydraulic conductivity and gradient of the unit). Flow within aquitard units tends to be primarily downward towards deeper units. Variations in flow direction will change depending on proximity to surface watercourses/water bodies and subsurface geology.

The surficial/shallow groundwater system within the Lower Don Bridge and Don Yard Soil and Groundwater Study Area is influenced by surface topography and likely flows towards the Don River valley and Lake Ontario.

5.2.3 Groundwater Resources

5.2.3.1 Source Water Protection

The Lower Don Bridge and Don Yard Soil and Groundwater Study Area is located within the Credit Valley, Toronto and Region, and Central Lake Ontario Source Protection Region. The Credit Valley, Toronto and Region, and Central Lake Ontario Source Protection Region is responsible for undertaking a technical assessment of municipal water sources to identify potential vulnerabilities and for developing a Source Protection Plan. The Ministry of the Environment Conservation and Parks defines several source water areas/features that are of relevance to the Lower Don Bridge and Don Yard Soil and Groundwater Study Area. These include:

- Intake Protection Zones;
- Highly Vulnerable Aquifers; and
- Event Based Areas.

These areas are further described below, summarized in **Table 5-3**, and are shown in **Figure 5-8**.

5.2.3.1.1 Intake Protection Zone

Intake Protection Zone applies to those areas of land and water that contribute source water to a surface water drinking water system intake within a specified distance, period of flow time, and/or watershed area and within which it is desirable to regulate or monitor drinking water threats. The Lower Don Bridge and Don Yard Soil and Groundwater Study Area is located within an Intake Protection Zone 3 (Intake Protection Zone-3), as shown in **Figure 5-8**. Intake Protection Zone-3 is an area where modelling has shown that contaminants could be transported to a surface water intake following an extreme event.

5.2.3.1.2 Highly Vulnerable Aquifer

The Lower Don Bridge and Don Yard Soil and Groundwater Study Area overlaps with a regional Highly Vulnerable Aquifer feature, as defined in **Section 5.2.3.1** and shown in **Figure 5-9**. A Highly Vulnerable Aquifer is an aquifer that is susceptible to contamination due to its location near the ground surface, or the type of material found in the ground around the aquifer provides little barrier to contamination.

5.2.3.1.3 Event Based Area

An Event Based Area is an area within a watershed where a spill could pollute the surface water drinking supply. The Lower Don Bridge and Don Yard Soil and Groundwater Study Area is located within an Event Based Area for Stored/Transported Fuel/Oil Spill; Pipeline Fuel/Oil Spill; Wastewater Treatment Plant/Sanitary Sewer.

Figure 5-8: Intake Protection Zone and Event Based Areas Within the Lower Don Bridge and Don Yard Soil and Groundwater Study Area

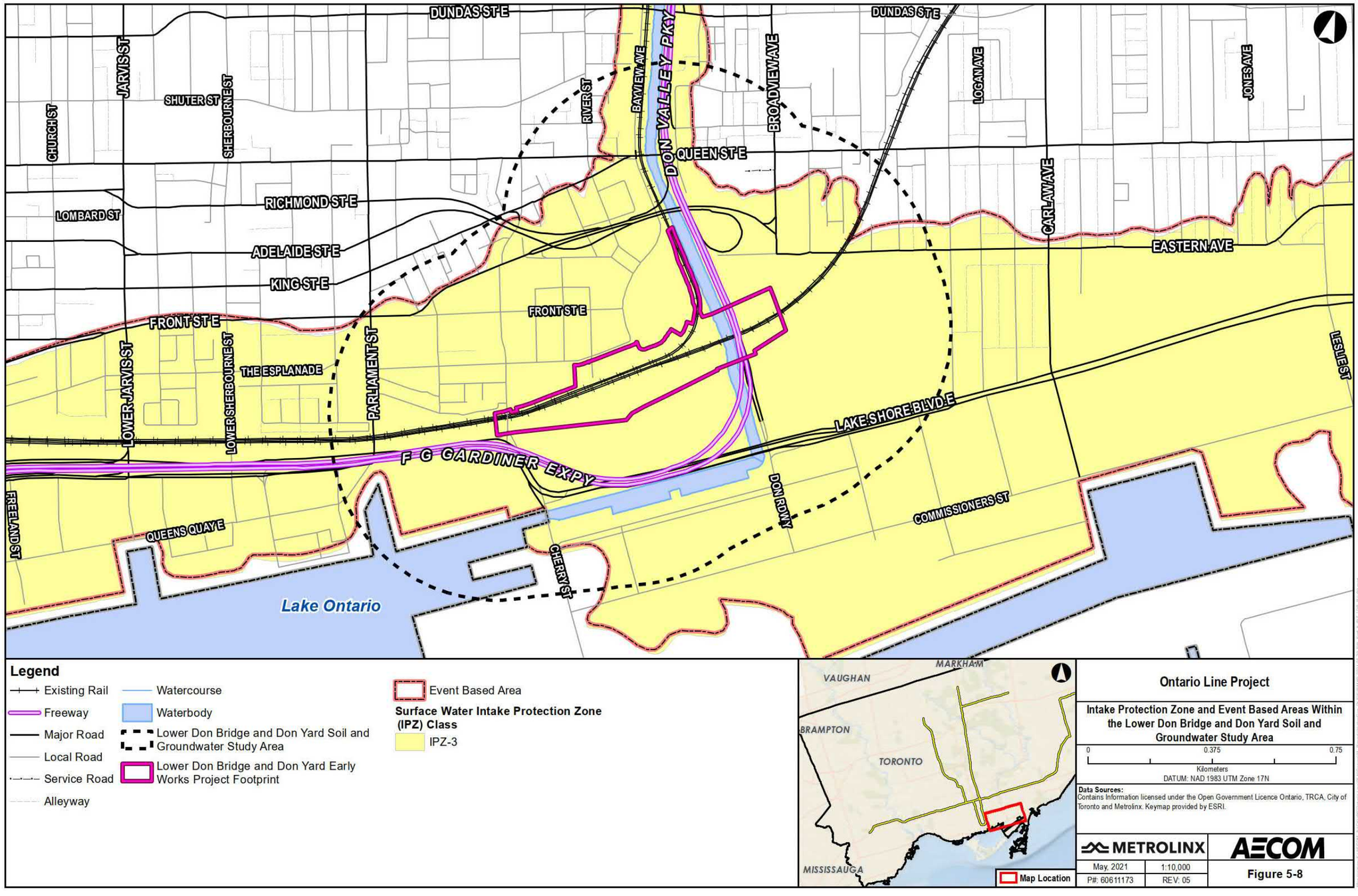


Figure 5-9: Highly Vulnerable Aquifer Within the Lower Don Bridge and Don Yard Soil and Groundwater Study Area

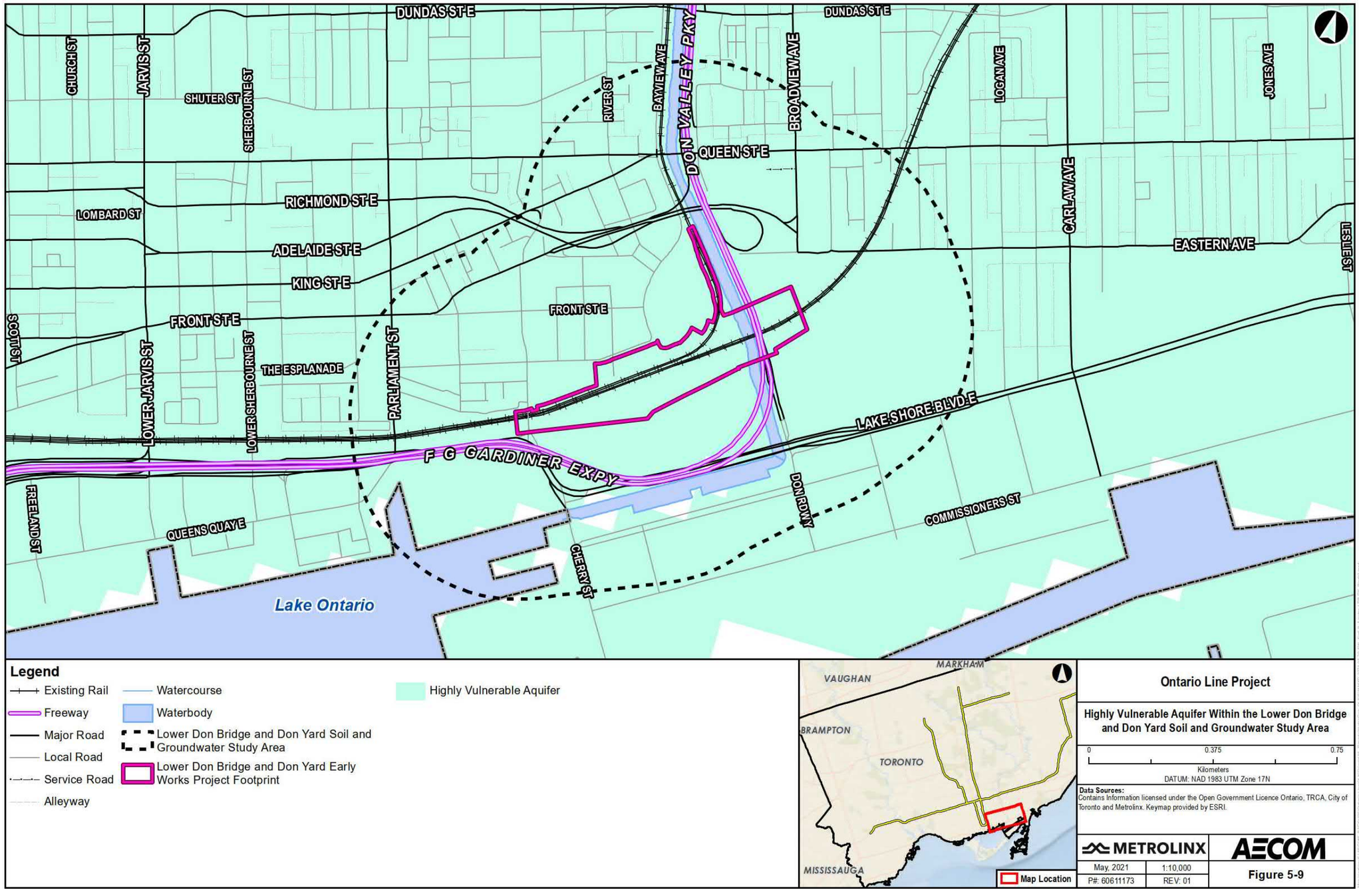


Table 5-3: Source Water Protection Details for the Lower Don Bridge and Don Yard Soil and Groundwater Study Area

Source Water Protection Feature	Present	Source Protection Plan Policies[1]	Legal Effect of Policy
Intake Protection Zone	Yes, Zone 3	No policies related to Intake Protection Zone-3 are specified in the Source Protection Plan	None identified
Highly Vulnerable Aquifer	Yes, Highly Vulnerable Aquifer Score of 6	Related Source Protection Plan policies[2]: SAL-10, SAL-11, SAL-12, SAL-13, DNAP-3, OS-3	Listed policies include both legally binding and non-binding examples
Event Based Area	Yes	Related Source Protection Plan policies[1]: LO-G-1, LO-G-2, LO-G-3, LO-NGS-1, LO-SEW-1, LO-SEW-2, LO-PIPE-1, LO-FUEL-1, LO-FUEL-2	Listed policies include both legally binding and non-binding examples

Source: Source Water Protection Information Atlas (Ministry of the Environment, Conservation, and Parks, January 2020).

Notes:
1. Due to the location of the Lower Don Bridge and Don Yard Soil and Groundwater Study Area within source water areas/features, these are several SPP policies that may be relevant to the Early Works construction.
2. SAL-10: Threat – Application of Road Salt; Implementing Body – Planning Approval Authority; Source Water Protection Area: Highly Vulnerable Aquifer

   SAL-11: Threat – Application of Road Salt; Implementing Body – Ministry of the Environment, Conservation and Parks; Source Water Protection Area: Highly Vulnerable Aquifer

   SAL-12: Threat – Application of Road Salt; Implementing Body – Municipality; Source Water Protection Area: Highly Vulnerable Aquifer

   SAL-13: Threat – Application of Road Salt, and Handling and Storage of Road Salt; Implementing Body – Source Protection Authority and Municipality; Source Water Protection Area: Highly Vulnerable Aquifer

   DNAP-3: Threat – Handling and Storage of a Dense Non-Aqueous Phase Liquid; Implementing Body – Municipality; Source Water Protection Area: Highly Vulnerable Aquifer

   OS-3: Threat – Handling and Storage of an Organic Solvent; Implementing Body – Municipality; Source Water Protection Area: Highly Vulnerable Aquifer

   LO-G-1: Threat – All Lake Ontario Threats; Implementing Body – Ministry of the Environment, Conservation and Parks; Source Water Protection Area: Event Based Area

   LO-G-2: Threat – All Lake Ontario Threats; Implementing Body – Ministry of the Environment, Conservation and Parks; Source Water Protection Area: Event Based Area

   LO-G-3: Threat – All Lake Ontario Threats; Implementing Body – Municipality (Peel, Toronto, Durham); Source Water Protection Area: Event Based Area

   LO-NGS-1: Threat – Spill of Tritium From NGS; Implementing Body – Ministry of the Environment, Conservation and Parks; Source Water Protection Area: Event Based Area

   LO-SEW-1: Threat – The Establishment, Operation or Maintenance of a System That Collects, Stores, Transmits, Treats or Disposes of Sewage; Implementing Body – Ministry of the Environment, Conservation and Parks; Source Water Protection Area: Event Based Area

   LO-SEW-2: Threat – Spill from a Sanitary Trunk Sewer Break; Implementing Body – Ministry of the Environment, Conservation and Parks; Source Water Protection Area: Event Based Area

   LO-PIPE-1: Threat – Pipelines Transporting Petroleum Product (Containing Benzene) Crossing Tributaries of Lake Ontario; Implementing Body – Ministry of the Environment, Conservation and Parks; Source Water Protection Area - Event Based Area

   LO-FUEL-1: Threat – Handling and Storage of Fuel (Petroleum Tank Farm Spill); Implementing Body – Ministry of the Environment, Conservation and Parks; Source Water Protection Area – Event Based Area

   LO-FUEL-2: Threat – Handling and Storage of Fuel (Spill from Petroleum Storage Tanks); Implementing Body – Ministry of the Environment, Conservation and Parks; Source Water Protection Area – Event Based Area

5.2.3.2 Ministry of the Environment, Conservation and Parks Water Well Records

An inventory of local private water wells (i.e., domestic, commercial, industrial, etc.) was prepared within the Lower Don Bridge and Don Yard Soil and Groundwater Study Area by searching the Ministry of the Environment, Conservation and Parks Well Water Information Systems database. Results are shown in **Figure 5-10**, along with the primary use of each well. A total of 589 water well records were found located within the Lower Don Bridge and Don Yard Soil and Groundwater Study Area.

As shown in **Table 5-4**, available well records indicate that approximately 42% of the wells within the Lower Don Bridge and Don Yard Soil and Groundwater Study Area are for dewatering, monitoring and test holes. One hundred (100) abandonment records (approximately 12%) fall within the Lower Don Bridge and Don Yard Soil and Groundwater Study Area, one well (<1%) is identified in the 'Other' category, and one well (<1%) is identified as an industrial well. Approximately 41% of Ministry of the Environment Conservation and Parks water well records did not specify the well use and therefore are classified as 'Unknown'. Within the Lower Don Bridge and Don Yard Soil and Groundwater Study Area, water supply is obtained from both overburden and bedrock sources. The dataset is inconclusive in terms of the primary water supply source(s) within the Lower Don Bridge and Don Yard Soil and Groundwater Study Area, with both overburden and bedrock sources identified.

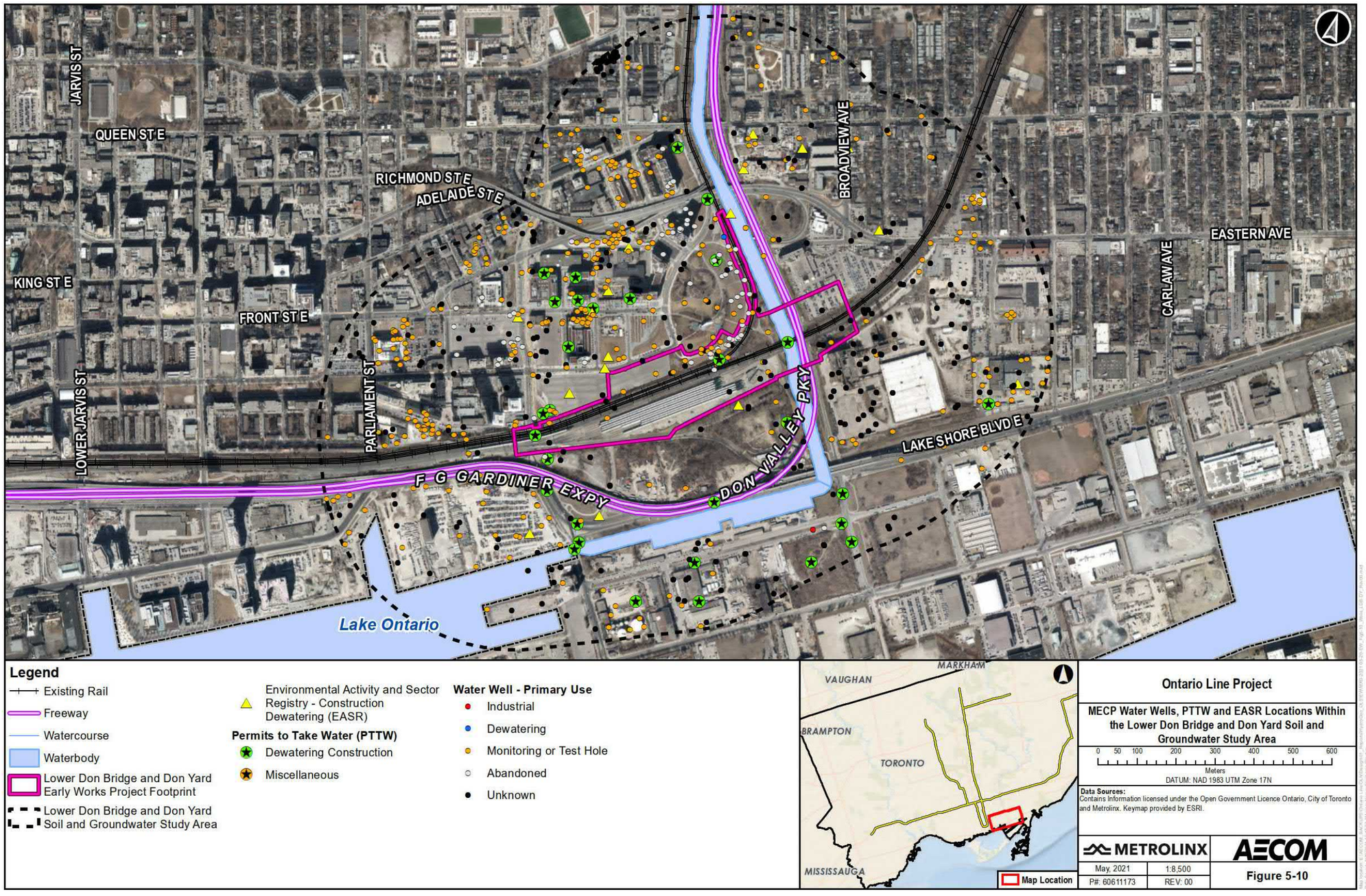
Table 5-4: Summary of Ministry of the Environment, Conservation and Parks Water Well Record Information for the Lower Don Bridge and Don Yard Soil and Groundwater Study Area

Primary Water Use	Number of Well Records	Well Depth (metres)	Primary Well Type
Dewatering/Monitoring and Test Hole	404	2 to 70	6 Bedrock, 7 Overburden, 391 Unknown
Abandoned	100	5 to 29	2 Bedrock, 1 Overburden, 97 Unknown
Industrial	1	11	Overburden
Unknown	334	3 to 64	3 Overburden, 331 Unknown
Other	1	7	Unknown

5.2.3.3 Ministry of the Environment Conservation and Parks Permit to Take-Water and Environmental Activity and Sector Registry Summary

A search of Ministry of the Environment, Conservation and Parks Permit to Take Water database returned 37 water taking source results for 17 permits within the Lower Don Bridge and Don Yard Soil and Groundwater Study Area, all of which were expired with the exception of one active records for construction dewatering purposes.

Figure 5-10: Ministry of the Environment Conservation and Parks Water Wells, Permit to Take Water and Environmental Activity and Sector Registry Locations Within the Lower Don Bridge and Don Yard Soil and Groundwater Study Area



A search of the Ministry of the Environment, Conservation and Parks Environmental Activity and Sector Registry database returned 27 results within the Lower Don Bridge and Don Yard Soil and Groundwater Study Area. Eleven Environmental Activity and Sector Registry records were identified for construction dewatering purposes.

The location of each Permit to Take Water and Environmental Activity and Sector Registry is shown in **Figure 5-10**.

5.2.3.4 Water Level Data

The Ministry of the Environment, Conservation and Parks water well records included a static water level. These reported water levels represent either the water table position or the potentiometric surface depending on whether a given well is installed within an unconfined or confined aquifer. Ministry of the Environment Conservation and Parks water well records do not provide sufficient information to confirm aquifer conditions. The reported static water levels range between approximately 0.61 metres and 3.51 metres below ground surface.

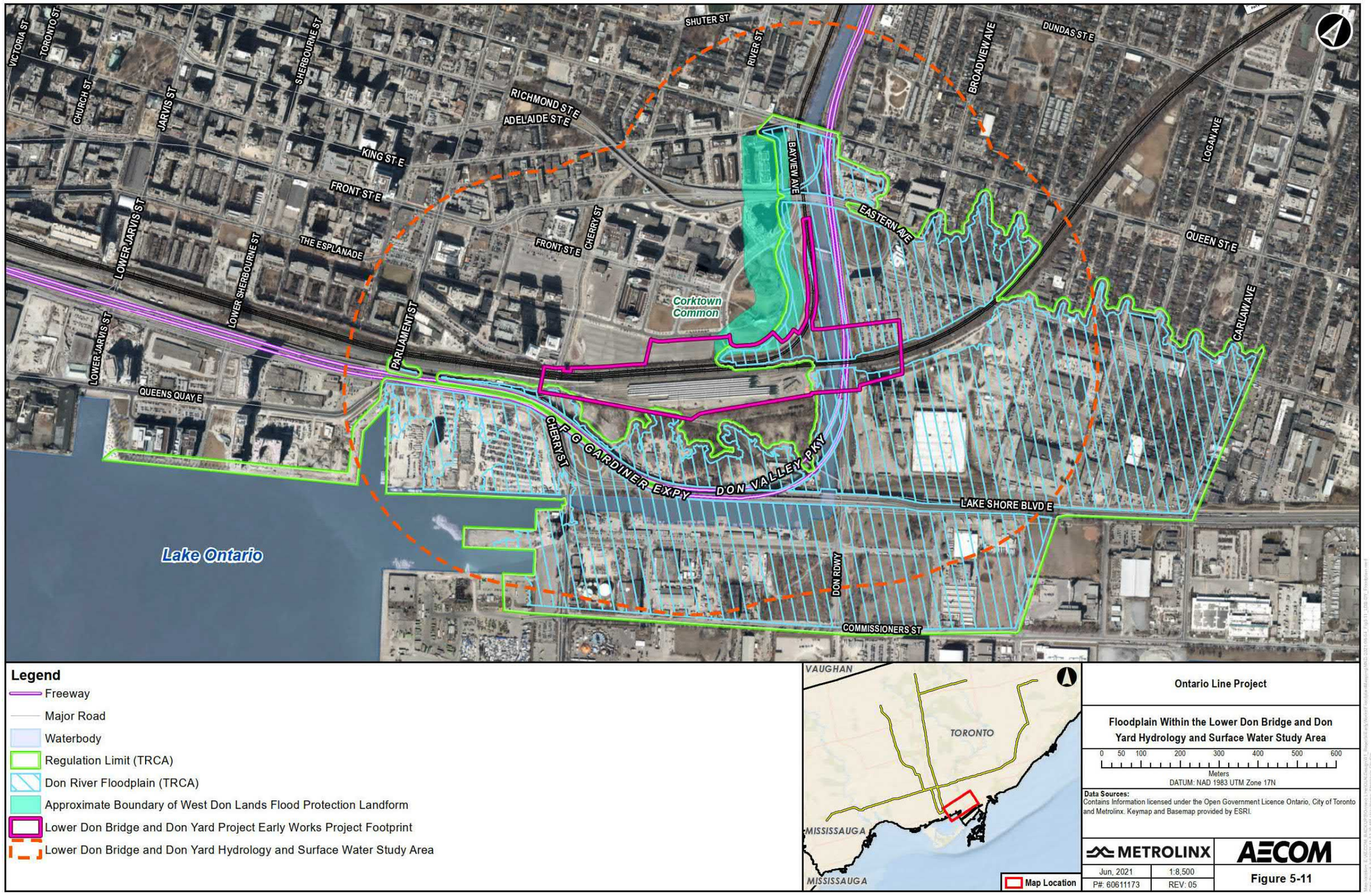
Static water levels may fluctuate considerably in response to changes in precipitation patterns, seasonal fluctuations and temporal variability.

5.3 Hydrology and Surface Water

The Lower Don Bridge and Don Yard Hydrology and Surface Water Study Area is within the Toronto and Region Conservation Authority's Regulation Area (Toronto and Region Conservation Authority, 2020a) and the Don River Floodplain (Toronto and Region Conservation Authority, 2020b).

The West Don Lands Flood Protection Landform (shown in **Figure 5-11**), extending from Queen Street East in the north to the Lakeshore East/Stouffville rail corridor in the south, was constructed in 2012 to protect approximately 500 acres of eastern downtown Toronto, including the Financial District, from flooding in the event of a major storm (Waterfront Toronto, 2016). This flood protection landform was constructed following the approved Lower Don River West Remedial Flood Protection Project Class Environmental Assessment (described in **Section 2.2.3.3**). The West Don Lands Flood Protection Landform contains a 1.5-metre deep clay core, which varies in height to prevent water from penetrating through it (Waterfront Toronto, 2016). It also includes an armoured slope, comprised of varying stone sizes that prevent the clay core from eroding and protects against the Don River's rapid waters (Waterfront Toronto, 2016).

Figure 5-11: Floodplain Within the Lower Don Bridge and Don Yard Hydrology and Surface Water Study Area



5.4 Air Quality

5.4.1 Existing Ambient Air Quality

Representative data for all criteria air contaminants within the Lower Don Bridge and Don Yard Air Quality Study Area were identified as follows for the averaging period combinations listed in **Table 5-5**:

- 1-hour, 8-hour, and 24-hour ambient concentrations for the contaminants were obtained from the 90th percentile of hourly measurements from the representative air quality monitoring stations (the average value was calculated from the available years). The 90th percentile of available background data was used following the methodology outlined in the Ministry of Transportation's Environmental Guide for Assessing and Mitigating the Air Quality Impacts and Greenhouse Gas Emissions of Provincial Transportation Projects (Ministry of Transportation, 2020).
- Annual ambient concentrations for the contaminants were obtained from the mean measurements from the representative air quality monitoring station (the average value was calculated from the available years).

The averaged background concentrations for each contaminant were compared to the applicable federal and provincial standards for all of the applicable time averaging periods and percentile concentrations. The approach to calculating the overall 90th percentile for the data set was to calculate the individual year's 90th percentile data, provided in a 1-year format from the National Air Pollution Surveillance Monitoring online data portal, then to determine the average of a selection of the most recent and complete five years' 90th percentile data.

As shown in **Table 5-5** there are several recorded levels of air quality threshold exceedance within the monitored existing ambient air quality data. Benzene has elevated annual contributions which exceed the threshold guideline from the Ambient Air Quality Criteria. Benzo(a)pyrene, the representative polycyclic aromatic hydrocarbon (PAH), shows extremely elevated levels of concentration for both annual and daily provincial air quality thresholds. This is due mainly to high presence of regional air quality contributions, high traffic volumes within the Greater Toronto Area, and industrial contributions from Toronto, the Greater Toronto Area, and Hamilton.

Table 5-5: Comparison of Existing Ambient Air Quality Data to Standards

Criteria Air Contaminant	Station ID	Averaging Period	Years	Average of Background Data ($\mu g/m^3$)[3]	Statistical Measure	Standard Threshold ($\mu g/m^3$)	Standard Source	% of Standard Threshold
NO_2	60433	One hour	2013 to 2017	49.50	90th Percentile	400	Ambient Air Quality Criteria	12%
NO_2	60433	One hour	2013 to 2017	49.50	90th Percentile	113	Canadian Ambient Air Quality Standards	44%
NO_2	60433	24 hours	2013 to 2017	41.75	90th Percentile	200	Ambient Air Quality Criteria	21%
NO_2	60433	Annual	2013 to 2017	26.68	Mean	32	Canadian Ambient Air Quality Standards	83%
CO	60430	One hour	2013 to 2017	446	90th Percentile	36,200	Ambient Air Quality Criteria	1%
CO	60430	8 hours	2013 to 2017	419	90th Percentile	15,700	Ambient Air Quality Criteria	3%
SO_2 (2)	60430	30-min.	2013 to 2017	6.70	90th Percentile	178	Ambient Air Quality Criteria	4%
SO_2	60430	One hour	2013 to 2017	5.51	90th Percentile	106	Ambient Air Quality Criteria	6%
SO_2	60430	Annual	2013 to 2017	1.84	Mean	11	Ambient Air Quality Criteria	17%
PM_{10} (3)	60433	24 hours	2013 to 2017	25.78	90th Percentile	50	Ambient Air Quality Criteria	51%
$PM_{2.5}$	60433	24 hours	2013 to 2017	13.89	90th Percentile	27	Canadian Ambient Air Quality Standards	51%
$PM_{2.5}$	60433	Annual	2013 to 2017	7.94	Mean	8.8	Canadian Ambient Air Quality Standards	90%
Acetaldehyde (4)	60439	30-min.	2014 to 2017	5.00	90th Percentile	500	Ambient Air Quality Criteria	1%
Acetaldehyde	60439	24 hours	2014 to 2017	1.69	90th Percentile	500	Ambient Air Quality Criteria	0%
Acrolein (5)	60439	One hour	2014 to 2017	0.17	90th Percentile	4.5	Ambient Air Quality Criteria	4%
Acrolein	60439	24 hours	2014 to 2017	0.07	90th Percentile	0.4	Ambient Air Quality Criteria	17%
Benzene	60435	24 hours	2011 to 2014	0.92	90th Percentile	2.3	Ambient Air Quality Criteria	40%
Benzene	**60435**	**Annual**	**2011 to 2014**	**0.61**	90th Percentile	**0.45**	**Ambient Air Quality Criteria**	**134%**
Benzo(a)-pyrene	**60427 60439**	**24 hours**	**2011 to 2015**	**1.21E-04**	90th Percentile	**0.00005**	**Ambient Air Quality Criteria**	**242%**
Benzo(a)-pyrene	**60427 60439**	**Annual**	**2011 to 2015**	**6.72E-05**	90th Percentile	**0.00001**	**Ambient Air Quality Criteria**	**672%**
1,3-Butadiene	60435	24 hours	2011 to 2014	0.10	90th Percentile	10	Ambient Air Quality Criteria	1%
1,3-Butadiene	60435	Annual	2011 to 2014	0.06	90th Percentile	2	Ambient Air Quality Criteria	3%
Formaldehyde	60439	24 hours	2014 to 2017	2.58	90th Percentile	65	Ambient Air Quality Criteria	5%

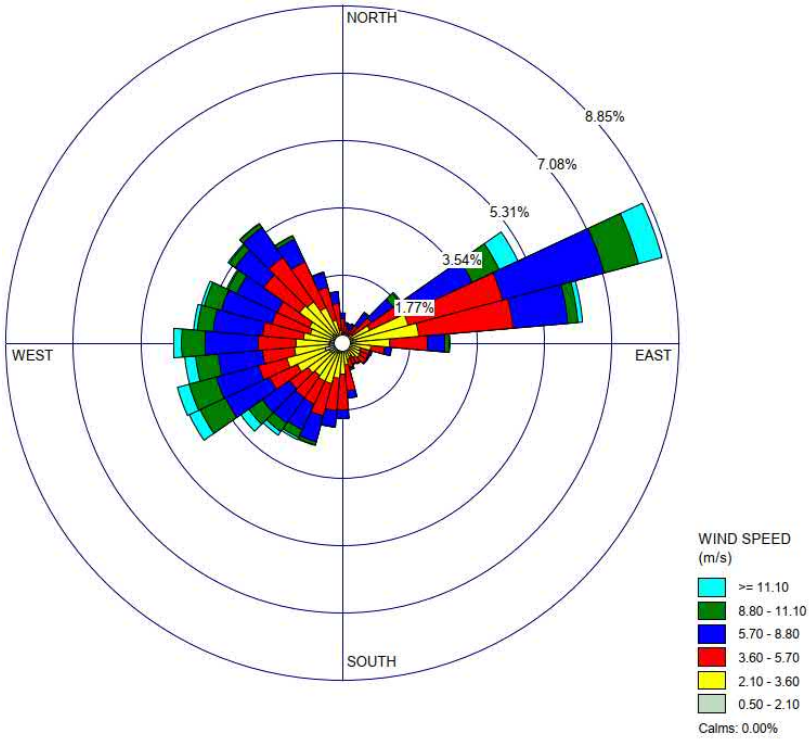
Notes:
(1) Exceedances of the Ambient Air Quality Criteria and Canadian Ambient Air Quality Standards are shown in red.
(2) Concentrations of sulphur dioxide (SO2) are measured on an hourly basis, background concentrations for the 10-minute averaging period have been converted using the Ministry of the Environment, Conservation and Parks' conversion factor where C10min = C60min x (60min/10min)0.28.
(3) PM_{10} was not included in National Air Pollution Surveillance air quality monitoring station measurements, and therefore was estimated using PM2.5 measurements, assuming a ratio of 1 μg/m3 PM10 per 0.54 μg/m3 of PM2.5 as per Lall et al. publication in Atmospheric Environment, Estimation of historical annual $PM_{2.5}$ exposures for health effects assessment (Lall et al., 2004).
(4) Concentrations of acetaldehyde are measured on a 24 hour basis, background concentrations for the 30-minute averaging period have been converted using the Ministry of the Environment, Conservation and Parks' conversion factor where $C_{0.5hr} = C_{24hr} \times (24hr/0.5hr)^{0.28}$.
(5) Concentrations of acrolein are measured on a 24 hour basis, background concentrations for the hourly averaging period have been converted using the Ministry of the Environment, Conservation and Parks' conversion factor where $C_{1hr} = C_{24hr} \times (1hr/24hr)^{0.28}$.

5.4.2 Meteorological Conditions

The local air quality is influenced by both ambient conditions and contributions from traffic and construction activities and is affected by the local and regional meteorological conditions. Predominant wind speeds and wind directions within the Lower Don Bridge and Don Yard Air Quality Study Area will determine the likely areas of most common impacts, and the potential areas of greatest impact. High impact conditions from construction and traffic emissions are created from low speed surface air movement towards a nearby receptor. Additionally, high impact conditions may also form by high speed surface air movement due to an increase in fugitive dust emissions from unpaved surfaces, stockpiles, and material handling. Local surface station meteorological data was used to anticipate areas of high probability impact.

The closest representative meteorological station for the Lower Don Bridge and Don Yard Air Quality Study Area was identified as the Toronto City Centre station located on Toronto Island (Station ID 71265). This station captures the meteorological effects from Lake Ontario which impact the air quality conditions of the Lower Don Bridge and Don Yard Air Quality Study Area. The wind rose for the five-year meteorological period (2015 to 2019) showing the wind direction and wind speed is presented in **Figure 5-12**. The wind rose shows that the predominant wind direction is from the northeast towards the southwest. Secondary predominant winds blow from the west, northwest and southwest.

Figure 5-12: Wind Rose Representative of Meteorological Conditions in the Lower Don Bridge and Don Yard Air Quality Study Area



5.4.3 Traffic Assessment

Major traffic sources within the Lower Don Bridge and Don Yard Air Quality Study Area include the Gardiner Expressway, Don Valley Parkway, Lakeshore East, Bayview Avenue, Cherry Street, Parliament Street, Front Street, Adelaide Street East, Richmond Street East, and Queen Street East. **Table 5-6** shows the summary of annual averaged daily traffic for cars, trucks, and buses (where available) along the major roads within the Lower Don Bridge and Don Yard Air Quality Study Area. Raw turning movement counts of traffic representative of the Lower Don Bridge and Don Yard Air Quality Study Area are included in **Appendix B2**. The purpose of providing representative annual averaged daily traffic data is to demonstrate the relative contribution from each major roadway within the Lower Don Bridge and Don Yard Air Quality Study Area. This data presented in **Table 5-6** indicates that the Gardiner Expressway and Don Valley Parkway are likely to have the greatest impact on the existing local air quality.

Table 5-6: Representative Traffic Data Within the Lower Don Bridge and Don Yard Air Quality Study Area

Road Segment	2019 AADT: Cars	2019 AADT: Trucks	2019 AADT: Bus
Gardiner Expressway	107,512	6,862	--
Don Valley Parkway	88,935	5,677	--
Lake Shore Boulevard East	20,733	1,040	32
Bayview Avenue west of Cherry Street	2,308	180	--
Bayview Avenue east of Cherry Street	2,448	240	--
Eastern Avenue west of Broadview Avenue	11,120	200	168
Eastern Avenue east of Broadview Avenue	12,690	1,712	28
Cherry Street north of Mill Street	3,404	376	56
Cherry Street south of Mill Street	4,820	508	--
Parliament Street, south of Front Street	12,884	1,180	--
Front Street, east of Parliament Street	5680	544	--
Adelaide Street East, east of Parliament Street	17,352	928	--
Richmond Street East, east of Parliament Street	17,352	928	--
Queen Street East, east of Parliament Street	10,568	172	--

5.4.4 Representative Receptors

There is a diverse range of land uses within the Lower Don Bridge and Don Yard Air Quality Study Area. Residential apartment complexes, green space, and industrial space are located west of the Lower Don River. Commercial and industrial land uses are located to the east of the Lower Don River and south of Eastern Avenue.

Residential and commercial land uses are located east of the Lower Don River and north of Eastern Avenue.

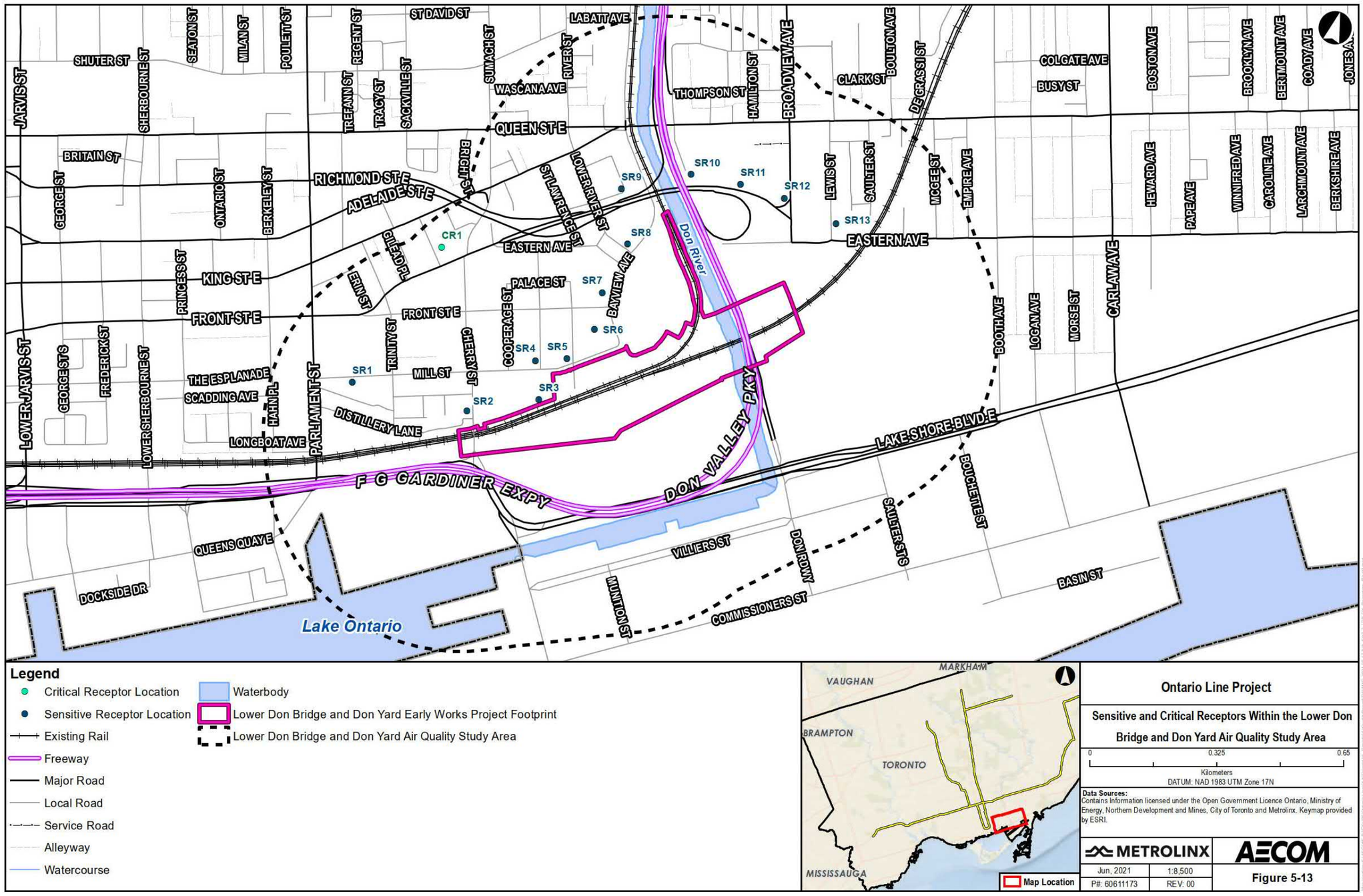
There are future residential developments (i.e., planned or under construction) within the Lower Don Bridge and Don Yard Air Quality Study Area.

A list of sensitive and critical receptors within the Lower Don Bridge and Don Yard Air Quality Study Area is provided in **Table 5-7** and shown in **Figure 5-13**. The future residential buildings at 125/131 Mill Street, 495 Front Street, and 77 to 79 East Don Roadway were identified as representative receptors –SR3, SR6, and SR10, respectively. Sensitive and critical receptors are defined in **Appendix B2**.

Table 5-7: Sensitive and Critical Receptors Within the Lower Don Bridge and Don Yard Air Quality Study Area

Receptor Identification	Receptor Type	Address	Description	UTM Easting (m)	UTM Northing (m)
CR1	Critical	19 Sackville St.	Inglenook Community School	632297.56	4834743.37
SR1	Sensitive	33 Mill Street	Apartment/condo building, window/ balcony second floor	632180.68	4834343.51
SR2	Sensitive	390 Cherry Street	Apartment/condo building, window/ balcony second floor	632483.00	4834359.00
SR3	Sensitive	125/131 Mill Street	Apartment/condo building, under development (future), window/ balcony second floor	632655.87	4834442.25
SR4	Sensitive	170 Mill Street	Apartment/condo building, window/ balcony second floor	632613.87	4834533.94
SR5	Sensitive	180-190 Mill Street	Apartment/condo building, window/balcony second floor	632688.83	4834561.72
SR6	Sensitive	495 Front Street East	Apartment/condo building under development, window/balcony second floor	632734.60	4834654.71
SR7	Sensitive	500 Front Street East	Apartment/condo building, window/ balcony second floor	632726.75	4834750.79
SR8	Sensitive	170 Bayview Avenue	Apartment/condo building, window/ balcony second floor	632752.50	4834889.78
SR9	Sensitive	20 Trolley Crescent	Apartment/condo building, window/ balcony second floor	632695.58	4835019.00
SR10	Sensitive	77-79 East Don Roadway	Apartment/condo building under development (future), window/balcony second floor	632856.98	4835107.70
SR11	Sensitive	130 Eastern Avenue	Apartment/condo building, window/ balcony second floor	632984.98	4835118.88
SR12	Sensitive	68 Broadview Avenue	Apartment/condo building, window/ balcony second floor	633102.00	4835118.57
SR13	Sensitive	9 Lewis Street	Semi-detached housing, window first floor	633248.92	4835094.11

Figure 5-13: Sensitive and Critical Receptors Within the Lower Don Bridge and Don Yard Air Quality Study Area



5.5 Noise and Vibration

5.5.1 Noise

Baseline noise measurements were conducted as part of the Ontario Line Final Environmental Conditions Report (AECOM, 2020a) to characterize the existing noise levels throughout the Ontario Line Study Area. **Table 5-8** presents the baseline noise measurements relevant to the Lower Don Bridge and Don Yard early works. The monitoring locations are shown in **Figure 5-14**.

The Wardell Street monitoring location is conservatively representative of the area surrounding Lewis Street, June Callwood Way, and Saulter Street – residential area north-east of the early works location.

5.5.2 Vibration

Baseline vibration measurements were not required, as the construction vibration assessment in this Report uses absolute limits that do not change based upon the existing vibration levels.

Table 5-8: Relevant Baseline Noise Measurements for the Lower Don Bridge and Don Yard Noise and Vibration Study Area

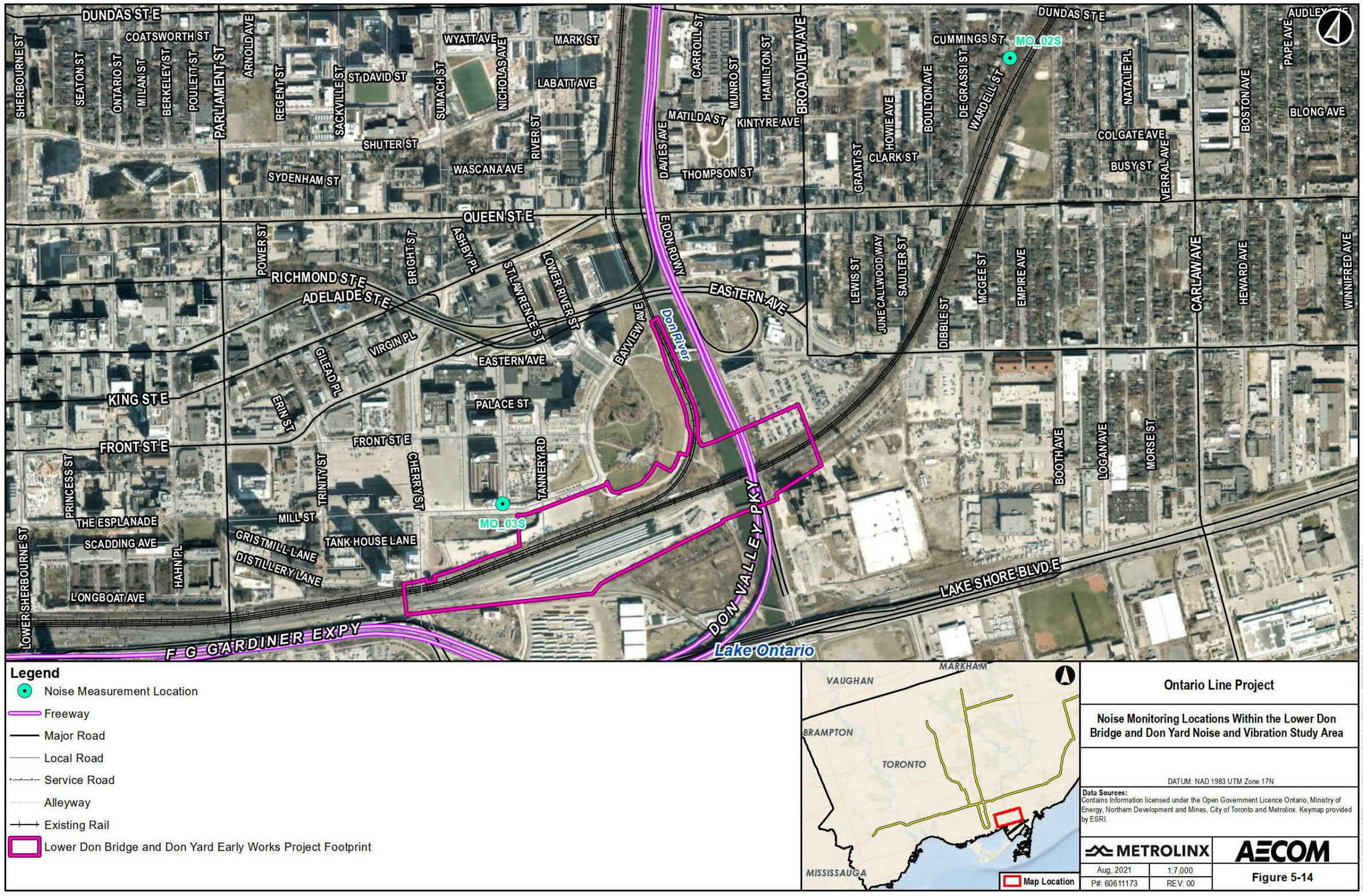
Monitoring Location	Associated Study Area	Daytime (07:00-19:00) Average $L_{eq, 1hr}$ (dBA)	Daytime (07:00-19:00) Min $L_{eq, 1hr}$ (dBA)	Daytime (07:00-19:00) Max $L_{eq, 1hr}$ (dBA)	Evening (19:00-23:00) Average $L_{eq, 1hr}$ (dBA)	Evening (19:00-23:00) Min $L_{eq, 1hr}$ (dBA)	Evening (19:00-23:00) Max $L_{eq, 1hr}$ (dBA)	Night (23:00-07:00) Average $L_{eq, 1hr}$ (dBA)	Night (23:00-07:00) Min $L_{eq, 1hr}$ (dBA)	Night (23:00-07:00) Max $L_{eq, 1hr}$ (dBA)
MO_02S Wardell Street	Lower Don Bridge and Don Yard (east)	64	61	66	62	59	63	52	43	63
MO_03S Mill Street	Lower Don Bridge and Don Yard (west)	64	63	65	64	65	63	58	50	66

Note: 1. Leq is the value of a constant sound pressure level which would result in the same total sound energy as the measured time-varying sound pressure level over equivalent time duration. The Leq,1hr, for example, describes the equivalent continuous sound level over a 1-hour period.

dBA represents A-weighted decibels. The A-weighting Network is a frequency weighting network intended to represent the variation in the ear's ability to hear different frequencies. Overall sound levels calculated or measured using the A-weighting network are indicated by dBA rather than dB.

2. MO_02S Wardell Street monitoring location was included to represent the side streets (Lewis Street, June Callwood Way, and Saulter Street) east of the Lower Don Bridge and Don Yard Early Works Project Footprint.

Figure 5-14: Noise Monitoring Locations Within the Lower Don Bridge and Don Yard Noise and Vibration Study Area



5.6 Socio-Economic and Land Use Characteristics

5.6.1 Physical Neighbourhood Composition

5.6.1.1 Land Use and Built Form Patterns

The lands within the Lower Don Bridge and Don Yard Socio-Economic and Land Use Characteristics Study Area are designated as Parks, Regeneration Areas, and Employment Areas, with pockets of Mixed Use Areas, Open Space, Utility Corridors and Neighbourhoods in the Official Plan (see **Figure 5-15**). Parks are elements of the City's green open space network. Development is generally prohibited in these areas except for recreational and cultural facilities, conservation projects, cemetery facilities, public transit and essential public works and some utilities (City of Toronto, 2019).

Within the Lower Don Bridge and Don Yard Socio-Economic and Land Use Characteristics Study Area, there are multiple low-density industrial properties to the east between Eastern Avenue and Lakeshore Boulevard, Mixed Use Areas to the west of Cherry Street and north east along Eastern Avenue, as well as Neighbourhoods to the north east of Eastern Avenue, between Empire Avenue and the Don Valley Parkway. Parks and Open Space Areas make up the properties along the Don Valley Parkway to just south of Lake Shore Boulevard East.

The Lower Don Bridge and Don Yard Early Works Project Footprint overlaps with two single-storey buildings in the Don Yard as well as a City of Toronto utility building just south of the corner of Mill Street and Bayview Avenue (see **Section 5.10.2**).

The Lower Don Bridge and Don Yard Socio-Economic and Land Use Characteristics Study Area is within the King-Parliament Secondary Plan, Central Waterfront Secondary Plan, Downtown Plan, and Unilever Precinct Secondary Plan development policy areas.

5.6.1.1.1 Central Waterfront Secondary Plan

The Central Waterfront Secondary Plan, the guiding policy document for the ongoing revitalization of Toronto's waterfront, has two precincts undergoing zoning changes: East Bayfront and North Keating. These precincts extend east from the foot of Lower Jarvis Street to Cherry Street and south from approximately Lakeshore Boulevard East to Lake Ontario. They contain private and public lands. The City and Waterfront Toronto have been working closely with private landowners/developers within the two precincts.

The Central Waterfront Secondary Plan includes policies that promote waterfront renewal. The development of this area focuses mainly on lands categorized as

commercial, residential, industrial, park and open space, and institutional uses. The four core principles of the Central Waterfront Secondary Plan include:

- Removing Barriers/Making Connections;
- Building a Network of Spectacular Waterfront Parks and Public Spaces;
- Promoting a Clean and Green Environment; and
- Creating Dynamic and Diverse New Communities.

The Central Waterfront Secondary Plan was adopted by City Council in 2003 as Official Plan Amendment 257 and has since been under appeal.

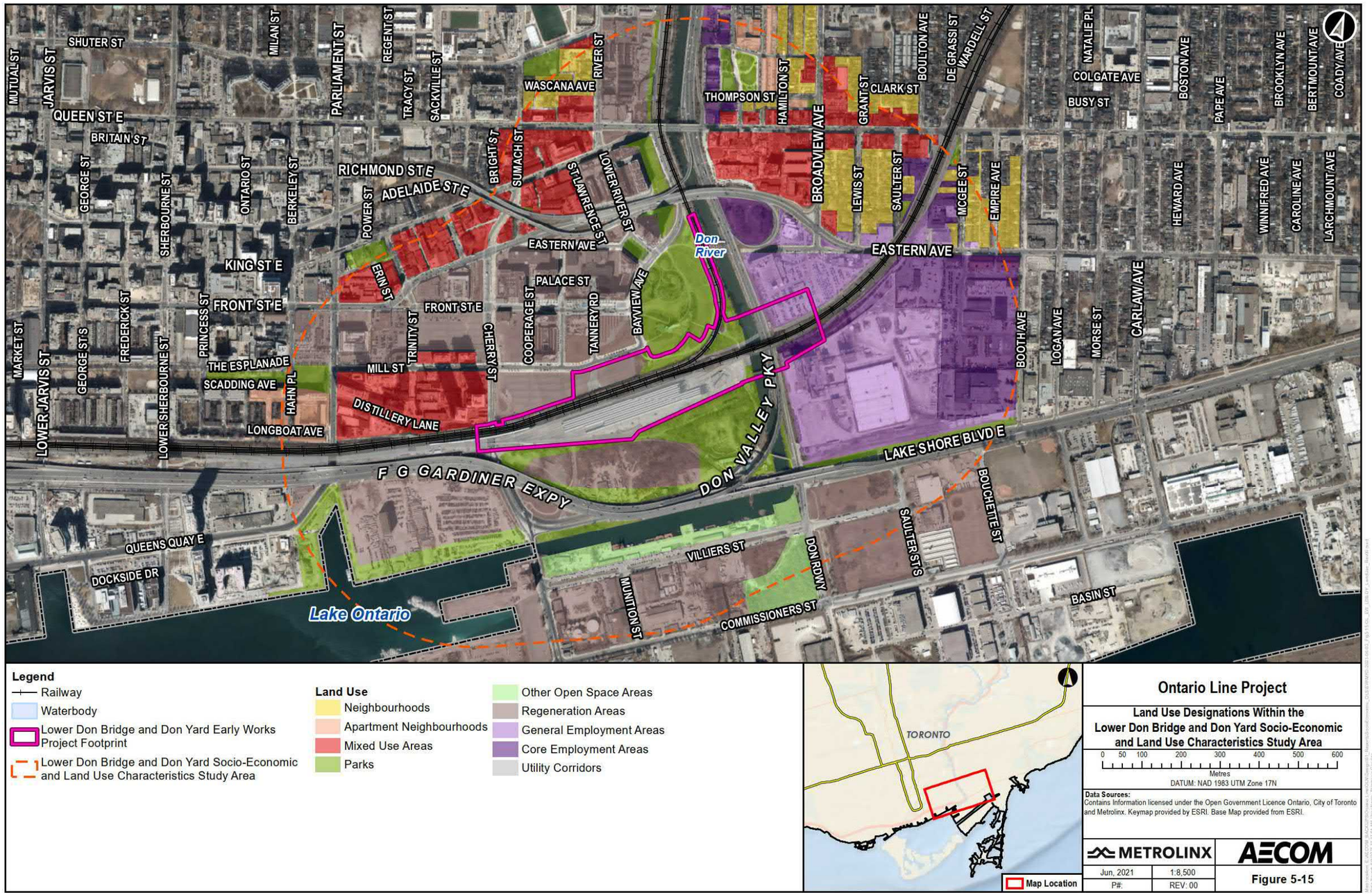
5.6.1.1.2 King-Parliament Secondary Plan

The King-Parliament Secondary Plan area is roughly bounded by Queen Street East to the north, Jarvis, Sherbourne and Parliament Streets to the west, the Don River to the east and rail corridor to the south.

Some of the key Plan objectives include:

- New investment will be attracted to King-Parliament;
- King-Parliament is an area targeted for growth of a variety of land uses to complement existing built form character and scale of the area;

Figure 5-15: Land Use Designations Within the Lower Don Bridge and Don Yard Socio-Economic and Land Use Characteristics Study Area[20]



20. Source of land use designations: City of Toronto, 2019. Official Plan - Map 18 Land Use Plan. Available: http://www.toronto.ca/wp-content/uploads/2017/11/97fe-cp-official-plan-Map-18_LandUse_AODA.pdf

- King-Parliament's role as a major employment area will be promoted and enhanced by encouraging retention and expansion of commercial and light industrial activities;
- Creation of good quality working and living environment will be encouraged and the area's physical character will be retained and where possible enhanced;
- New development will contribute to the achievement of inviting, attractive, pleasant and safe streets and open spaces which meet high urban design standards; and
- Heritage buildings will be retained, restored and re-used.

5.6.1.1.3 Downtown Plan

The Downtown Plan area is roughly bounded by Dupont Street, Bloor Street, and the Don River Valley to the north, the Don River to the west, the Bathurst Street to the east and the Toronto waterfront to the south.

The main objectives of the Downtown Plan include:

- Create a diverse community with easy access to local amenities;
- Enhance the strong employment base, and make Downtown Toronto an economic driver for the City, Region, Province and Country;
- Access to a varied and extensive network of parks and public spaces;
- Conserve heritage buildings, and creating new buildings that are built and scaled to fit within their setting;
- Provision of a range of housing options, including shelters, affordable housing and program and facilities to support the vulnerable population;
- A reliable surface transit network and an expanded subway system;
- Reliable and cost-effective networks of water, wastewater and stormwater infrastructure; and
- Varied streetscapes featuring iconic architecture, layered on centuries of development, that promote public life.

5.6.1.1.4 Unilever Precinct Secondary Plan

The Unilever Precinct Secondary Plan area is roughly bounded by the Lakeshore East rail corridor and Eastern Avenue to the north, Booth Avenue to the west, the Don River to the east and Lakeshore Boulevard East to the south.

The main objectives of the Unilever Precinct Secondary Plan include:

- Offer an opportunity to contribute to the City's long-term economic growth and cultural objectives;
- Create an attractive place for businesses to invest and create jobs; and
- Provide direct access to the City's Downtown and Central Waterfront, while enhancing the vitality and vibrancy of Toronto.

5.6.1.2 Transit and Transportation Network

Refer to **Section 5.9** for a description of local environmental conditions related to transit and active transportation networks.

5.6.1.3 Public Realm Characteristics

Within the Lower Don Bridge and Don Yard Socio-Economic and Land Use Characteristics Study Area, there are three notable public realm elements: the Lower Don Trail, the West Don Lands neighbourhood, and Corktown Common Park.

Although notable public realm characteristics are not currently within the Unilever Precinct Secondary Area (described in **Section 5.6.1.1.4**), it should be noted that the planned future development associated with the Unilever Precinct Plan Planning Framework (City of Toronto, 2018d) will include an all-season public realm network with plazas and parks, pedestrian pathways, public art, and bright lighting designed to create human-scaled spaces to support commercial density and animate the area beyond traditional office hours.

5.6.1.3.1 Lower Don Trail

The Lower Don Trail (see **Image 1** below) is an important pedestrian and cyclist path within the city that rungs alongside the Lower Don River, connecting Toronto's urban neighbourhoods and their communities to valuable greenspace. A portion of the Lower Don Trail is located within the Lower Don Bridge and Don Yard Socio-Economic and Land Use Characteristics Study Area and connects to Corktown Common and Martin Goodman Trail.

Image 1: Lower Don Trail under the Don Valley Parkway ramps[21]

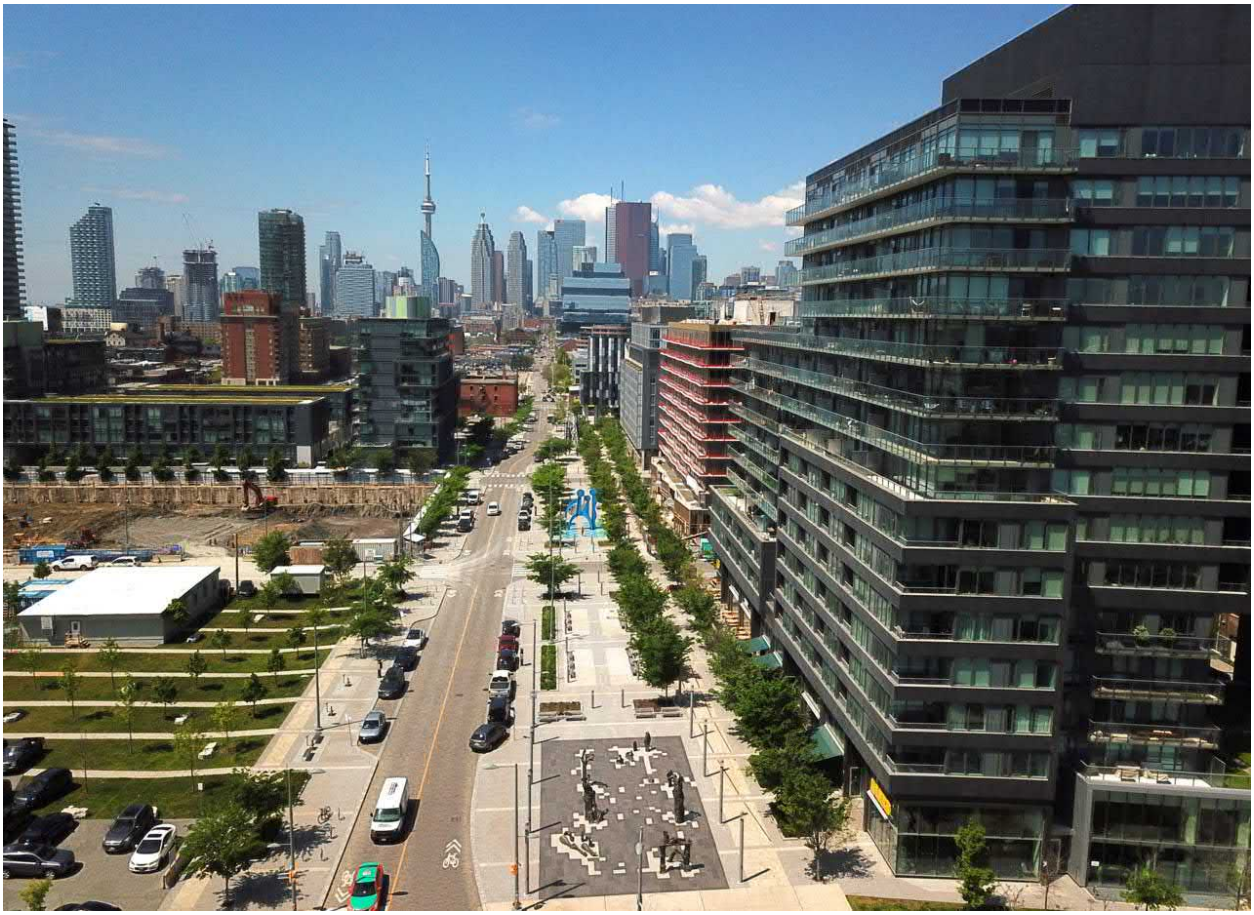
5.6.1.3.2 West Don Lands

The West Don Lands (see **Image 2** below) is a neighbourhood that has been undergoing a transformation from the former brownfield into a sustainable, mixed-use, pedestrian-friendly community surrounding Corktown Common following Waterfront Toronto's West Don Lands Precinct Plan. The first phase of redevelopment was focused on the main parks, Underpass Park and Corktown Common, which both opened in 2015. The first phase of the redevelopment of this area was focused on Underpass Park and Corktown Common, which both opened in 2015. Development of the community was accelerated because a portion of the site was developed for use as the Athletes' Village for the Toronto 2015 Pan/Parapan American Games.

The West Don Lands Committee is a coalition of residents', business, and civil society organizations in, or nearby, the West Don Lands, founded in 1997. The West Don Lands Committee is devoted to the positive redevelopment of Toronto's West Don Lands and neighbouring Regeneration Areas of Toronto's waterfront.

21. Image Source: Sumi, 2020. Pandemic walk: Lower Don River. NOW Toronto. Available: https://nowtoronto.com/lifestyle/health/pandemic-walk-lower-don-river

Image 2: View of the West Don Lands facing Front Street East[22]



5.6.1.3.3 Corktown Common

Corktown Common is an 18-acre park and flood protection landform located at the below Lower River Street and Bayview Avenue (see **Image 3** below). Corktown Common was built on remediated industrial lands in 2013 and provides a community meeting space featuring playground areas, a splash pad, and specialized organic landscape. Corktown Common connects to the Lower Don Trail through the Bala Underpass (see **Image 4** below).

Corktown Common also features the “No Shoes” sculpture (see **Image 5** below) by one of the City of Toronto’s most significant sculptors, Mark di Suvero (City of Toronto, n.d.c). The sculpture was originally created in 1967 and restored and installed in Corktown Common in June 2013 (City of Toronto, n.d.c).

22. Image Source: Landau, J., 2019. Pair of Mid-Rise Condos Rising in the West Don Lands. Available: https://urbantoronto.ca/news/2019/06/pair-mid-rise-condos-rising-west-don-lands

Image 3: View of Corktown Common within Toronto's downtown[23]

Image 4: Bala Underpass connection between Corktown Common and the Lower Don River Trail[24]

23/ Image source: Blanthorn, 2016. Parks and Regeneration: Corktown Common Park and Pavilion, West Don Lands, Toronto, Ontario. Canadian Architect. Available: https://www.canadianarchitect.com/parks-and-regeneration/

24. Image source: Mitanis, 2015. Bala Underpass Mural Adds Colour to Lower Don River Trail. Urban Toronto. Available: https://urbantoronto.ca/news/2015/10/bala-underpass-mural-adds-colour-lower-don-river-trail

Image 5: "No Shoes" Sculpture by Mark di Suvero in Corktown Common[25]

5.6.2 Community Amenities

5.6.2.1 Existing Services and Facilities

5.6.2.1.1 Institutional Uses

According to relevant datasets from the City of Toronto's Open Data Portal (City of Toronto, 2021), there are five institutional uses located within the Lower Don Bridge and Don Yard Socio-Economic and Land Use Characteristics Study Area. These amenities are listed in **Table 5-9** and shown in **Figure 5-16**.

Table 5-9: Institutional Uses Within the Lower Don Bridge and Don Yard Socio-Economic and Land Use Characteristics Study Area

Map ID	Feature Name	Address
12	Inglenook Community School	19 Sackville Street
13	Voice Integrative School	50 Gristmill Lane
14	Grace Toronto Church	95 Trinity Street
23	Queen/Saulter – Toronto Public Library Branch	765 Queen Street East
35	George Brown College – Student Residences	80 Cooperage Street

25. Image source: City of Toronto, n.d. Public Art. Available: https://waterfrontoronto.ca/nbe/wcm/connect/waterfront/waterfront_content_library/waterfront+home/our+vision/design+excellence/public+art

5.6.2.1.2 Recreational Uses, Parks and Open Space

According to relevant datasets from the City of Toronto's Open Data Portal (City of Toronto, 2021), there are 22 recreational uses, parks or open spaces within the Lower Don Bridge and Don Yard Socio-Economic and Land Use Characteristics Study Area. These amenities are listed in **Table 5-10** and shown in **Figure 5-16**.

Table 5-10: Recreational Uses, Parks and Open Spaces Within the Lower Don Bridge and Don Yard Socio-Economic and Land Use Characteristics Study Area

Map ID	Feature Name	Address
1	Open Space (Lower Don River Trail)	No address
3	Corktown Common	155 Bayview Avenue
4	Open Space (Lower Don Recreation Trail)	1 Don Valley Parkway
5	Open Space (Lower Don Recreation Trail)	1 Don Valley Parkway
6	Toronto and Region Conservation Authority Lands	No address
7	Open Space (Lower Don Recreation Trail)	1 Don Valley Parkway
8	Open Space (Lower Don River Trail)	No address
9	Open Space	No address
10	Open Space (Lower Don River Trail)	No address
11	Saulter Street Parkette	25 Saulter Street
15	City of Toronto Open Space	N/A – south west corner of Eastern Avenue and Cherry Street
16	Parliament Square Park	44 Parliament Street
18	Courtyard at Centres D'accueil Heritage Les	33 Hahn Place
21	McClearly Park	755 Lake Shore Boulevard East
27	Canary Commons	475 Front Street East
28	Mini Blossom Park	No address
29	Thompson Street Parkette	120 Broadview Avenue
30	Joel Weeks Park	10 Thompson Street
31	Percy Park	12 Percy Street
32	Lawren Harris Square	No address
33	Underpass Park	29 Lower River Street
34	Eastern & Trinity Parkette	No address

Note: Data retrieved from City of Toronto Open Data Portal 2020c: Open Data Portal. Accessed in March 2021 from: https://open.toronto.ca/

5.6.2.1.3 Community Groups and Resources

According to relevant datasets from the City of Toronto's Open Data Portal (City of Toronto, 2021), there are eight community groups and resources within the Lower Don Bridge and Don Yard Socio-Economic and Land Use Characteristics Study Area. These amenities are listed in **Table 5-11** and shown in **Figure 5-16**.

Table 5-11: Community Groups and Resources Within the Lower Don Bridge and Don Yard Socio-Economic and Land Use Characteristics Study Area

Map ID	Feature Name	Address
2	Wigwamen Housing	75 Cooperage Street
17	Distillery District Early Learning Centre	8 Distillery Lane
19	Harmony B Housing Cooperative	150 Longboat Ave
20	Caroline Co-operative	93 Longboat Ave
22	Ralph Thornton Community Centre	765 Queen St E
24	Friends of Ruby	489 Queen Street East
25	Dixon Hall Neighbourhood Services	58 Sumach Street
26	March of Dimes Canada – Meynell House	30 St Lawrence Street

Note: Data retrieved from City of Toronto Open Data Portal 2020c: Open Data Portal. Accessed in March 2021 from: https://open.toronto.ca/

5.6.2.2 Planned Services and Facilities

Within the Lower Don Bridge and Don Yard Socio-Economic and Land Use Characteristics Study Area there are plans for new or expanded public spaces and community service facilities as part of the Don Mouth Naturalization and Port Lands Flood Protection Project, the Lower Don River West Remedial Flood Protection Project, Improving the Esplanade and Mill Street Project, and the Broadview and Eastern Flood Protection Municipal Class Environmental Assessment; and improvements to existing public spaces through the Lower Don Trail Master Plan and Lower Don Trail Phase 2 Improvements (City of Toronto, et al., 2021). Refer to **Section 2.2.3** for further details on applicable environmental assessments and planning studies within the Lower Don Bridge and Don Yard Socio-Economic and Land Use Characteristics Study Area.

5.6.3 Neighbourhood Demographics

The Lower Don Bridge and Don Yard Early Works Project Footprint is located within Ward 10 Spadina-Fort York, Ward 13 – Toronto Centre, and Ward 14 – Toronto-Danforth in the City of Toronto and the Moss Park and Waterfront Communities – The Island Neighbourhood Profiles. See **Table 5-12** for an overview of the population, immigration rate, and household size and income information.

The Moss Park Neighbourhood, according to 2016 Census data (Statistics Canada, 2018), has a population density of 14,753 people per square kilometre. Almost 73% of the population in this neighbourhood is working age (between 25 and 64), which is higher than the City overall (57% for this age group). Based on the Neighbourhood Profile compared with the City as a whole, the Moss Park Neighbourhood has a lower median household income than the average for the rest of the City.

Table 5-12: Moss Park and Waterfront Communities – The Island Neighbourhood Profiles

Profiles	Moss Park Neighbourhood	Waterfront Communities – The Island Neighbourhood	City of Toronto
Population Change 2011 to 2016	+25.8%	+52.0%	+4.5%
Population Density (people/square kilometre)	14,753	8,943	4,334
Children (Age 0-14)	7.7%	5.5%	14.6%
Youth (Age 15-24)	10.8%	11.9%	12.5%
Working (Age 25-64)	72.7%	75.6%	57.3%
Seniors (Age 65+)	8.8%	7.0%	15.6%
Immigrants	35.1%	36.3%	51.2%
Household Size	1.60	1.61	2.42
Median Household Income	$52,490	$78,479	$65,829

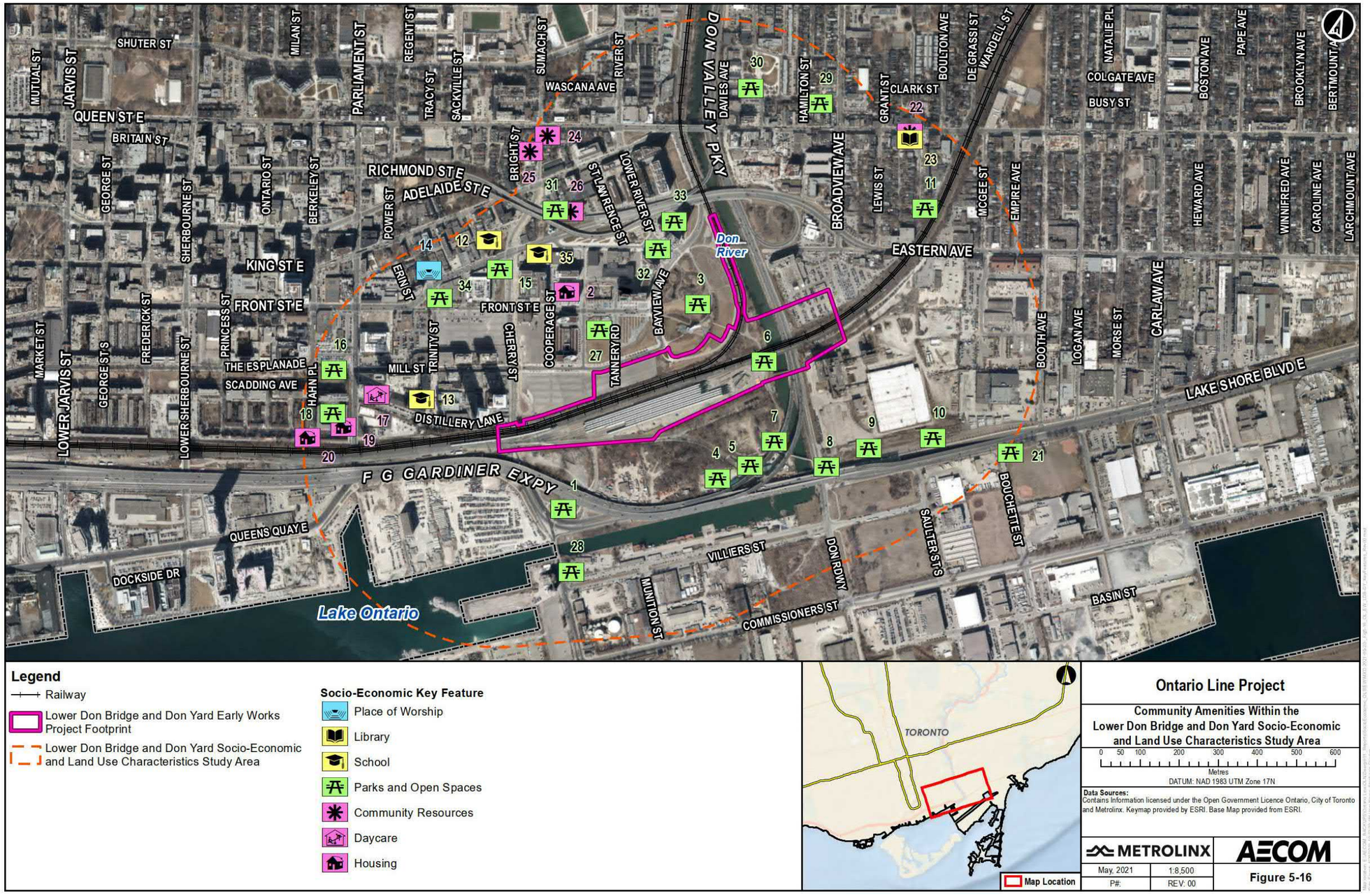
Note: Data retrieved from City of Toronto, 2018a: Statistics Canada, 2016 Census of Population. Available: https://www.toronto.ca/city-government/data-research-maps/neighbourhoods-communities/neighbourhood-profiles/

The Waterfront Communities – The Island Neighbourhood, according to 2016 Census data (Statistics Canada, 2018), has a population density of 8,943 people per square kilometre. Almost 76% of the population in this neighbourhood is working age (between 25 and 64), which is higher than the City overall (57% for this age group). Based on the Neighbourhood Profile compared with the City as a whole, the Waterfront Communities – The Island Neighbourhood has a higher median household income than the average for the rest of the City and has a younger population with more Canadian-born residents.

5.6.4 Future Development

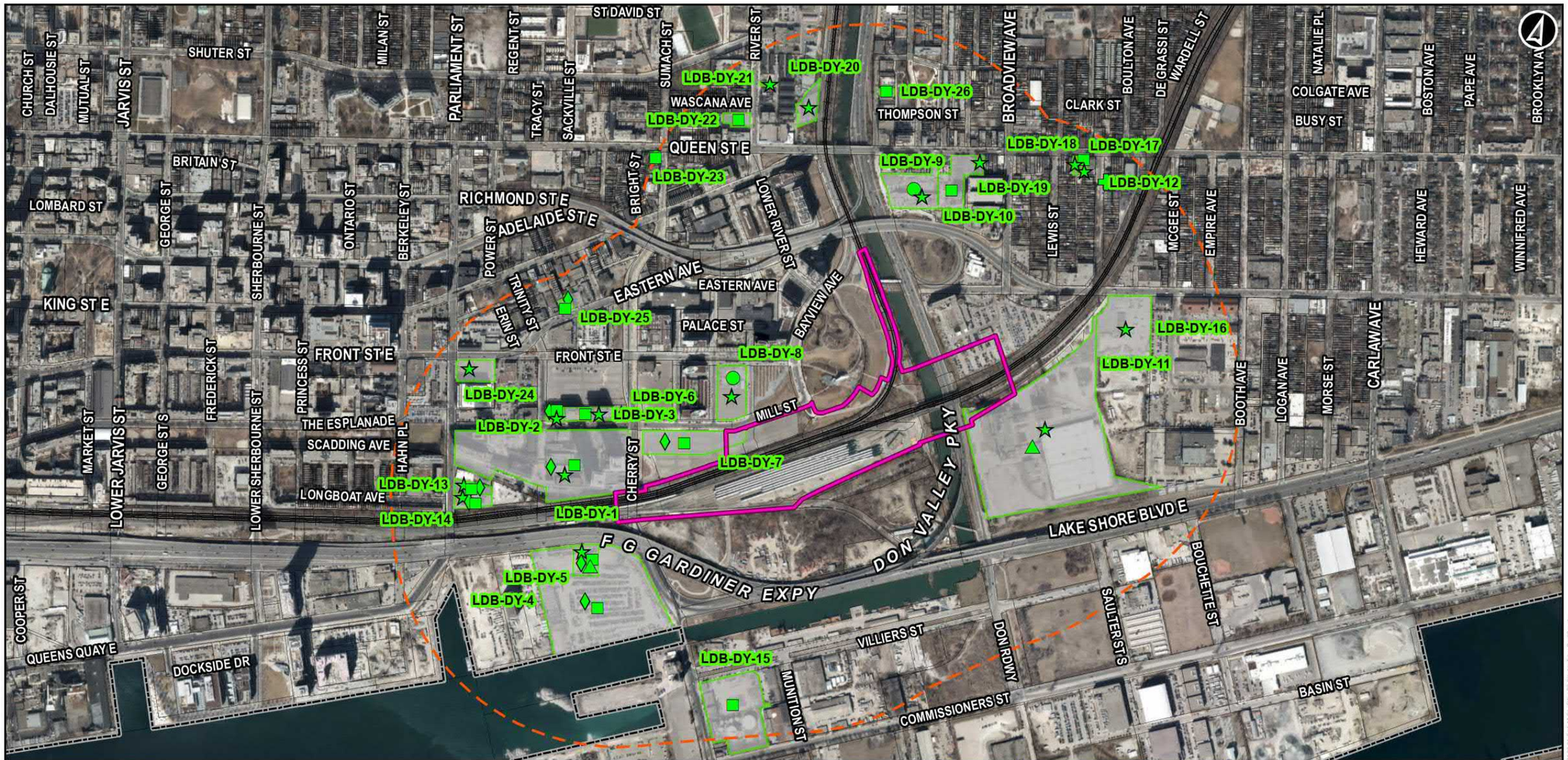
The City of Toronto's online database for Development Applications (City of Toronto, 2020d) was reviewed and it was found that there were 26 applications within the Lower Don Bridge and Don Yard Socio-Economic and Land Use Characteristics Study Area, as of June 3, 2021. These properties are mapped in **Figure 5-17**. See **Table 5-13** for the status of each application.

Figure 5-16: Community Amenities Within the Lower Don Bridge and Don Yard Socio-Economic and Land Use Characteristics Study Area[26]



26. Source of community amenities: City of Toronto, 2021: Open Data Portal. Accessed in January 2020 from: https://open.toronto.ca/

Figure 5-17: Active Development Applications Within the Lower Don Bridge and Don Yard Socio-Economic and Land Use Characteristics Study Area[27]

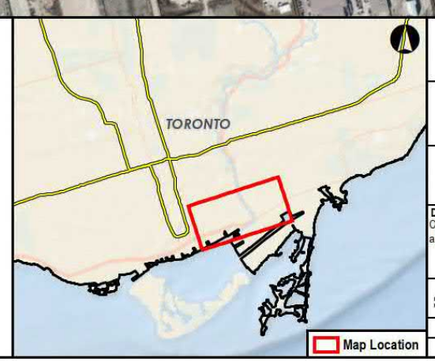


Legend

- Railway
- Lower Don Bridge and Don Yard Early Works Project Footprint
- Lower Don Bridge and Don Yard Socio-Economic and Land Use Characteristics Study Area
- Parcel Fabric
- Parcel with an Active Development Application

Application Type

- Condominium Approval
- OPA
- Rezoning
- Site Plan Approval
- Subdivision Approval
- Part Lot Control Exemption



Ontario Line Project

Active Development Applications Within the Lower Don Bridge and Don Yard Socio-Economic and Land Use Characteristics Study Area

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

Data Sources:
Contains Information licensed under the Open Government Licence Ontario, City of Toronto and Metrolinx. Keymap provided by ESRI. Base Map provided from ESRI.

METROLINX | AECOM

Jun, 2021	1:8,500
P#:	REV: 00

Figure 5-17

Table 5-13: Active Development Applications as of June 3, 2021 for the Lower Don Bridge and Don Yard Socio-Economic and Land Use Characteristics Study Area

Map ID #	Address and File Number	Application Type	Application Details	Status
LDB-DY-1	■ 390 Cherry Street – 19 263645 STE 10 SA 14 174007 STE 28 OZ	■ Site Plan Approval ■ Official Plan Amendment & Rezoning	■ Proposal for a 50-storey (165.7 metres) mixed-use building comprised of 590 residential dwelling units (38,338 square metres) and 29000 square metres of non-residential gross floor area. A total of 687 parking spaces will be provided on the lot in a below grade parking garage.	■ Under Review ■ Ontario Municipal Board Appeal
LDB-DY-2	■ 60 Mill Street – 19 264586 STE 13 OZ 20 105467 STE 13 SA 11 219591 28 OZ	■ Rezoning ■ Site Plan Approval ■ Official Plan Amendment	■ Zoning By-law Amendment to permit a 31-storey hotel tower with a total building height of 115.1 metres (inclusive of mechanical penthouse). A total of 392 hotel suites are proposed with a total gross floor area of approximately 26,944 square metres. The existing heritage Rack House D building is proposed to be incorporated as part of the proposal. ■ Official Plan Amendment and Rezoning application to construct new 6-storey hotel within existing heritage building (Rack House D, at northeast corner of Mill Street and Trinity Street) and construct an additional 28 stories above for new condominium tower; 34 stories in total. A total of 88 hotel rooms and 246 residential condo units are proposed, with retail uses at-grade, and 166 parking spaces leased off-site. On May 15, 2017, the Ontario Municipal Board approved a 7-storey addition to the existing Rack House D Building, resulting in a 12-storey building.	■ Under Review ■ Under Review ■ Ontario municipal Board Appeal
LDB-DY-3	■ 90 Mill Street – 19 228307 STE 13 OZ 20 138382 STE 13 OZ 20 138391 STE 13 SA	■ Rezoning ■ Rezoning ■ Site Plan Approval	■ Revised Zoning By-law Amendment application to permit the development of two 13-storey and one 11-storey mixed use buildings on Blocks 3,4,7 in the West Don Lands. The revised proposal consists of 3,080 square metres of retail space, 839 residential units (252 of which are affordable units). A Site Plan Application is also submitted to implement this revised Zoning By-law amendment application.	■ Under Review ■ Under Review ■ Under Review
LDB-DY-4	■ 324 Cherry Street – 97 036282 STE 28 OZ	■ Official Plan Amendment & Rezoning	■ To construct a retail warehouse (Home Depot).	■ Ontario Municipal Board Appeal
LDB-DY-5	■ 429 Lake Shore Boulevard East – 19 233721 STE 10 SA 16 271924 STE 28 SB 05 171818 STE 28 OZ 21 149632 STE 10 OZ	■ Site Plan Approval ■ Subdivision Approval ■ Official Plan Amendment & Rezoning ■ Rezoning	■ Site Plan Approval and Zoning-By-law Amendment applications for a proposed 11-storey non-residential building comprised of retail and office uses having a non-residential floor area of 20,058 square metres, and 3 levels of below grade parking.	■ Under Review ■ Ontario Municipal Board Appeal ■ Ontario Municipal Board Appeal ■ Under Review
LDB-DY-6	■ 55 Eastern Avenue – 21 151369 STE 13 SA	■ Site Plan Approval	■ Site Plan Approval for a 13-storey non-profit long-term care facility, comprised of 348 long-term care beds in combination with a Seniors Assessment Centre, a Dialysis Clinic, a Personal Support Worker College program and a café/bistro at Cherry and Front Streets. A total gross floor area of 23,773 square metres is proposed, along with 5 vehicle parking spaces, 52 bicycle parking spaces and one Type G loading space.	■ Under Review
LDB-DY-7	■ 125R Mill Street – 20 151415 STE 10 OZ 21 137958 STE 10 SA	■ Official Plan Amendment ■ Rezoning ■ Site Plan Approval	■ Official Plan & Zoning by-law Amendment application to facilitate the development of the site for 45-storey and 32-storey mixed-use towers atop a 6-storey podium. A total of 24,353 square metres of non-residential gross floor area, and 54,455 square metres of residential gross floor area with 661 residential dwelling units are proposed. ■ Proposal for a mixed-use building consisting of a 6-storey podium with two towers located above with heights of 45 and 32-storeys, respectively. The proposed residential gross floor area is 53,061 square metres, and the proposed non-residential gross floor area is 24,132 square metres. A total of 654 residential dwelling units are proposed, of which, 196 will be provided as affordable housing units. Rezoning was approved via Minister's Zoning Order (O. Reg 594/20).	■ Under Review ■ Under Review
LDB-DY-8	■ 475 Front Street East – 19 216972 STE 13 CD 19 215798 STE 13 SA 18 251580 STE 28 SA 17 270052 STE 28 SA	■ Condominium Approval ■ Site Plan Approval ■ Site Plan Approval ■ Site Plan Approval	■ Draft Plan of Condominium for a recently constructed 12-storey mixed-use building containing 187 residential units	■ Draft Plan Approved Jan 26, 2020 ■ Under Review ■ Notice of Approval Conditions Issued Oct 31, 2019 ■ Final Approval Completed Sep 19, 2019
LDB-DY-9	■ 677 Queen Street East – 14 176212 STE 30 OZ	■ Rezoning	■ 718+Zoning By-law Amendment application revised September 2015. Phasing line has changed and as a result there are now fewer units in Phase 2 and more in Phase 1. This circulation for File No 14 176212 is Phase 2 of two-phase project. Both phases are being reviewed together (For Phase 1 please see application File No: 14 176221). Zoning By-law Amendment to permit a mixed-use development with a 4 and 5 storey podium and a height that ranges from 7-storeys along Queen Street East to 13-storeys mid-block. A total of 216 residential units are proposed. The existing automotive building would be demolished.	■ Under Review

Map ID #	Address and File Number	Application Type	Application Details	Status
LDB-DY-10	■ 77-79 East Don Roadway – 19 239061 STE 14 CD 19 104850 STE 14 CD 16 106006 STE 30 SA	■ Condominium Approval ■ Condominium Approval ■ Site Plan Approval	■ Draft Plan of Condominium for 5 commercial condo units located within the southwest and northwest buildings located at 77-79 East Don Roadway (Riverside Square).	■ Under Review ■ Final Approval Completed ■ Final Approval Feb 15, 2020
LDB-DY-11	■ 21 Don Roadway – 18 270302 STE 14 SA 16 270078 STE 30 SB	■ Site Plan Approval ■ Subdivision Approval	■ Site Plan Approval Application for the redevelopment and adaptive re-use of the Soap Factory Building at East Harbour. The Soap Factory Building is the first phase of a comprehensive, master planned commercial redevelopment in the Unilever Precinct, enabled by the Unilever Precinct Secondary Plan (Official Plan Amendment 411) and the East Harbour Zoning By-laws (By-laws No. 1280-2018 and 1281-2018), encompassing a broad variety of non-residential uses.	■ Under Review ■ Under Review
LDB-DY-12	■ 73 Saulter Street – 19 237491 STE 14 PL 15 115050 STE 30 CD	■ Condominium Approval ■ Part Lot Control Exemption	■ Common Elements Condominium for 5 units created through a Consent/Part Lot Control Exemption application at 71-81 Saulter Street (formerly 71-73 Saulter Street). The Common Elements consist of a private driveway to provide access to five freehold townhouse units. ■ Part Lot Control Exemption Application for the 5 existing townhouses located at 71-73 Saulter Street	■ Approved ■ Draft Plan Approved
LDB-DY-13	■ 33 Parliament Street – 17 219060 STE 28 OZ 19 240782 STE 10 SA	■ Official Plan Amendment and Rezoning ■ Site Plan Approval	■ Revised Site Plan Approval application for a proposed 9-storey and 32-storey mixed-use building containing approximately 1,839 square metres of non-residential gross floor area, 485 residential dwelling units, and 213 below grade parking spaces.	■ Ontario Municipal Board Appeal ■ Under Review
LDB-DY-14	■ 31 Parliament Street – 16 188179 STE 28 OZ 19 228251 STE 10 SA	■ Official Plan Amendment and Rezoning ■ Site Plan Approval	■ This application has been appealed to the Ontario Municipal Board. A hearing on the appealed application is scheduled to commence on June 25th, 2018. On March 15th, 2018, a "with prejudice" set of revised plans were submitted for City Staff to review. On July 19, 2018, the Local Planning Appeal Tribunal approved a 37-storey mixed use building. ■ Site Plan Approval application for a 41-storey, plus mezzanine levels mixed use building consisting of 428 residential units, 81 square metres of retail gross floor area and 154 parking spaces in a 4-level underground garage.	■ Ontario Municipal Board Appeal ■ Under Review
LDB-DY-15	■ 309 Cherry Street – 12 131809 STE 30 OZ 16 271912 STE 30 OZ	■ Rezoning ■ Rezoning	■ Rezoning application to complement appeal to Official Plan Amendment 388 for the subject lands in order to permit its re-development for the purposes of a 26-storey new mixed use building complete with 340 dwelling units above retail and office type uses. Included the proposal is the request to assign a hold to a portion of the lands in order to address the flood plain management within the Port Lands. ■ Zoning By-law amendment to permit the redevelopment of the site for an 11-storey building along Cherry Street, one 52-storey tall building atop a podium base ranging in height from 4 to 12-storeys along Commissioners Street, the creation of a 15 metres east-west private road along the north portion of the site and publicly accessible open space in the interior of the site. The development proposal comprises 73,037.8 square metres of gross floor area, resulting in a density of 7.26 times the area of the lot and includes 1,013 residential units and 1,833.8 square metres of non-residential space.	■ Ontario Municipal Board Appeal ■ Ontario Municipal Board Appeal
LDB-DY-16	■ 405 Eastern Avenue – 19 262835 STE 14 SA	■ Site Plan Approval	■ Proposal to demolish the existing 670 square metre Enbridge operations building and construct a new 1,657 square metre single storey warehouse/muster/office space facility adjacent to Eastern Avenue. Below-grade parking is proposed, and accesses as well as the existing rear operations yard will be re-organized and re-paved. The natural gas gate station on-site will remain unchanged. A future phase, also contemplated in this submission, would add two additional floors of office space atop the new facility.	■ Under Review
LDB-DY-17	■ 763 Queen Street East – 14 223583 STE 30 OZ 14 223587 STE 30 SA	■ Rezoning ■ Site Plan Approval	■ Rezoning application for a 6-storey (19.5 metre) mixed-use building containing commercial uses on the ground floor and 29 residential units above. 11 parking spaces are proposed in a parking sorter system with access via June Callwood Way to the rear of the property. The proposal is also subject to Site Plan Application No. 14 223587 STE 30 SA, which is being processed concurrently with this application.	■ Under Review ■ Under Review
LDB-DY-18	■ 751 Queen Street East – 20 233021 STE 14 SA	■ Site Plan Approval	■ Proposal for a 5-storey mixed-use building having a residential gross floor area of 1171.30 square metres, and a non-residential gross floor area of 86 square metres. A total of 9 residential dwelling units are proposed.	■ Under Review
LDB-DY-19	■ 685 Queen Street East – 20 232679 STE 14 SA	■ Site Plan Approval	■ Proposal for the renovation of an existing heritage building with a rear 5-storey addition. In total, the project would have a gross floor area of 2,638 square metres and contain 26 affordable co-op rental units. There would be one basement level, 3 at-grade parking spaces, and 28 bicycle parking spaces provided. The development is targeting Tier 2 of the Toronto Green Standard.	■ Under Review
LDB-DY-20	■ 300 Bayview Avenue – 19 264594 STE 13 SA	■ Site Plan Approval	■ Site Plan Approval for a new motor vehicle sales and service building (Volvo).	■ Ontario Municipal Board Appeal
LDB-DY-21	■ 39 River Street – 20 207542 STE 13 SA	■ Site Plan Approval	■ Proposal to construct a 3-storey stacked townhouse apartment building containing 10 dwelling units and having a gross floor area of 668.6 square metres.	■ Under Review
LDB-DY-22	■ 28 River Street – 16 268409 STE 28 OZ	■ Rezoning	■ Proposed rezoning for a 15 storey (52.9 metres) mixed-use building with ground floor retail and residential uses on the upper floors. 162 dwelling units. 65 parking spaces on 3 levels of underground parking.	■ Appeal Received

Map ID #	Address and File Number	Application Type	Application Details	Status
LDB-DY-23	■ 479 Queen Street East – 20 220233 STE 13 OZ	■ Rezoning	■ The City has received an application to amend the Zoning By-law to allow a 15-storey (51.1 metres plus a 3.7-metre mechanical penthouse) mixed-use building with retail at-grade, 143 dwelling units, 33 vehicle parking spaces in a below grade garage, and 180 bicycle parking spaces.	■ Under Review
LDB-DY-24	■ 281 Front Street East – 20 148542 STE 13 SA	■ Site Plan Approval	■ Site Plan Approval for a 4-storey (38.5 metre) data processing centre with a total non-residential gross floor area of 13,220 square metres.	■ Under Review
LDB-DY-25	■ 18 Eastern Avenue – 16 216777 STE 28 OZ 19 264378 STE 13 SA	■ Official Plan Amendment and Rezoning ■ Site Plan Approval	■ Ontario Municipal Board approval rezoning application for a new mixed-use building: 12 storeys plus mechanical penthouse, 379 dwelling units, 24,671 square metres of residential gross floor area and 892 square metres of retail. ■ Site Plan Approval for new mixed-use building: 12 storeys plus mechanical penthouse, 379 dwelling units, 24,671 square metres of residential gross floor area and 892 square metres of retail.	■ Ontario Municipal Board Approved ■ Under Review
LDB-DY-26	■ 33 Davies Avenue – 21 161284 STE 14 OZ	■ Rezoning	■ Zoning by-law Amendment application to facilitate the development of the site for a 20-storey non-residential building having a gross floor area of approximately 18,994.80 square metres. 48 parking spaces will be provided on the lot, located within a below grade parking structure.	■ Application Received

Note: Data retrieved from City of Toronto Development Applications, 2021: Development Applications. Available: http://app.toronto.ca/DevelopmentApplications/mapSearchSetup.do?action=init

5.7 Built Heritage Resources and Cultural Heritage Landscapes

Based on data collection, including the review of the Ontario Line Cultural Heritage Report (AECOM, 2020b), the 40-year-old threshold, the Criteria Checklist (Ministry of Heritage, Sport, Tourism and Culture Industries, 2016), and the field reviews conducted for early works by a qualified cultural heritage professional on February 25, 2021, a list of known, previously identified and potential built heritage resources/cultural heritage landscapes in the Corktown Station Built Heritage Resources and Cultural Heritage Landscapes Study Area were compiled, as documented in **Table 5-14**. The built heritage resources/cultural heritage landscapes are mapped in **Figure 5-18**.

In summary, a total of seven built heritage resources/cultural heritage landscapes are within the Lower Don Bridge and Don Yard Built Heritage Resources and Cultural Heritage Landscapes Study Area consisting of:

- One National Historic Site also Designated Part IV of the Ontario Heritage Act, which is a potential Provincial Heritage Property of Provincial Significance, and is within a Heritage Conservation District, under study (OLS-029: Gooderham & Worts Distillery National Historic Site and Distillery District Heritage Conservation District, under study);
- One previously identified built heritage resource/cultural heritage landscape and a Metrolinx Provincial Heritage Property (OLS-025: Cherry Street Subway);
- One previously identified built heritage resource/cultural heritage landscape and a Metrolinx Provincial Heritage Property of Provincial Significance (OLS-024: Cherry Street Interlocking Tower);
- Three additional potential built heritage resources/cultural heritages landscapes identified during the field review for this Report that were not included in the Ontario Line Cultural Heritage Report (AECOM, 2020a) (LDB-001: Former location of the first railway crossing of the Lower Don River, LDB-002: Consumer’s Gas Company Bridge, LDB-003: Old Eastern Avenue Bridge); and
- One cultural heritage commemorative plaque, Heritage Toronto Plaque (LDB-004: 155 Bayview Avenue, William Davies Company plaque).

Table 5-14: Description of Known, Previously Identified and Potential Built Heritage Resources/Cultural Heritage Landscapes Within the Lower Don Bridge and Don Yard Built Heritage Resources and Cultural Heritage Landscapes Study Area

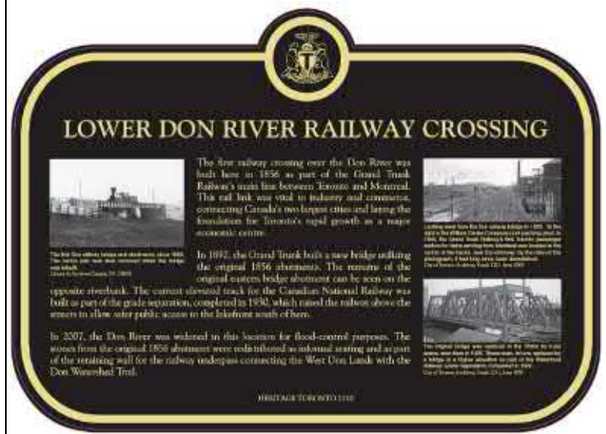
Cultural Heritage Report Ref. No.[28]	Type of Property	Location/Address	Heritage Recognition	Description of Known or Potential Cultural Heritage Value or Interest and Heritage Attributes	Photographs/Digital Image
OLS-024 **Note: a small portion of LDB-001 is in the legal boundary of OLS-024, but is documented in LDB-001**	■ Industrial	■ 385 Cherry Street	■ Previously Identified built heritage resources/cultural heritage landscape ■ Metrolinx Provincial Heritage Property of Provincial Significance	■ Cherry Street Interlocking Tower – 385 Cherry Street **Design or Physical Value:** ■ A brick railway structure built in 1930 to 1931 ■ Building is unique in Ontario as one of a set of three towers designed and constructed expressly for the housing and operation of a railway interlocking machine ■ Electro-mechanical interlocking machine is an early example of control systems that are critical to modern industrial processes. It was the largest system built in Canada ■ The tower was built to exacting specifications with high-quality materials ■ Tower is an aesthetically pleasing and interesting example of railway architecture, as seen in its overall form and mix of classically inspired and Art-and-Crafts motifs **Historical or Associative Value:** ■ The Toronto Terminals Railway Co. built the tower and viaduct, modernizing the rail corridor and creating Toronto's 20th century railway lands ■ The building was designed by J.W. Orrock, Chief Engineer of Buildings for the Canadian Pacific Railway **Contextual Value:** ■ Tower helps define the Union Station Rail Corridor as a working transportation landscape within a formerly industrial area of Toronto ■ Tower is co-located with the Cherry Street Union Station Rail Corridor Subway **Potential to Meet Ontario Regulation 10/06: Yes** ■ Cultural Heritage Evaluation Report (THA, 2013) – Tower satisfied the criteria of Ontario Regulation 9/06 and 10/06 ■ The portion of the property that is a Provincial Heritage Property of Provincial Significance is within the Metrolinx Provincial Heritage Property of Provincial Significance Boundary. ■ The property demonstrates an uncommon, rare or unique aspect of Ontario's cultural heritage. The tower housed and supported the operation of an interlocking machine that was part of a large interlocking system installed as part of the Union Station Rail Corridor. The interlocking system has remained in use since 1931 and is currently used by VIA and GO Transit. The property is of aesthetic, visual or contextual importance to the province. The tower captures the essence of the best railway architecture of the period in its design and construction. The tower is visually linked to Union Station and its train sheds, as well as to the viaduct and the tracks. The property demonstrates a high degree of excellence or creative, technical or scientific achievement at a provincial level in a given period. The interlocking system was state-of-the-art of the 1920s. The technology represented in the interlocking machine was an early development of industrial computers. In effect an interlocking machine is a non-programmable computer with the program fixed in the interlocking bed. The tower's structural design addresses multiple technical requirements for the housing, maintenance and operation of the interlocking equipment; it has remained in use for its original purpose since 1931. The property has a strong or special association with the entire province or with a community that is found in more than one part of the province. The association exists for historic, social, or cultural reasons or because of traditional use. The Union Station Rail Corridor represents a major investment in railways in Ontario during a period of modernization. Union	 View of Cherry Street Interlocking Tower (AECOM, 2021)  Metrolinx Provincial Heritage Property of Provincial Significance Boundary (THA, 2018)

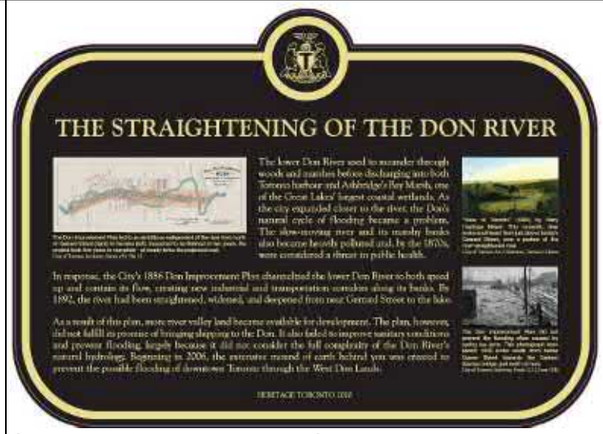
28. For consistency and ease, the built heritage resource/cultural heritage landscape reference numbers were retained from those resources excerpted from the existing conditions tables in the Ontario Line Cultural Heritage Report (AECOM, 2020a).

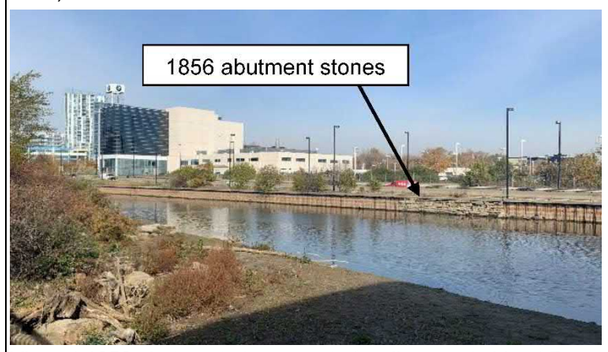
Cultural Heritage Report Ref. No.[28]	Type of Property	Location/Address	Heritage Recognition	Description of Known or Potential Cultural Heritage Value or Interest and Heritage Attributes	Photographs/Digital Image
				Station served as a major landmark for the province; not just for the city. Millions of people across the province used the Union Station Rail Corridor as passengers; thousands of people worked there. The tower is part of that landscape. The property has a strong or special association with the life or work of a person, group or organization of importance to the province or with an event of importance to the province. The Toronto Terminals Railway Co. built the tower; it has importance to the province in modernizing Ontario's busiest passenger rail corridor and operating its system into the present day. **Heritage Attributes:** **Key contextual attributes:** ■ Location adjacent to tracks ■ Full integration with the retaining wall of the corridor's viaduct ■ Iron guard rail fencing atop Cherry Street Bridge ■ Orientation towards the tracks ■ Clear views along the tracks in both directions **Key attributes of its historical association:** ■ Elements associated with railway architecture of its period, especially its shape, scale, and solid masonry ■ Eclectic styling, with rectangular shape, hipped roof with flared eaves, restrained and noble detailing ■ Organization of the building around the interlocking machine and its power sources ■ Apparent complexity of the equipment and separation of the functionality by floor for the equipment and personnel **Key exterior attributes:** ■ Views of the tower when travelling by train to Union Station ■ Views to the tower when looking east along Cherry Street and when looking from the Gooderham and Worts Distillery ■ High proportion of elements surviving from its original period of design and construction ■ Hierarchy of the building as seen in its materials and detailing with a poured in place concrete foundation, all brick first and second storeys, stone belt course band capping the foundation and brick soldier courses marking the first and second storeys ■ Its silhouette, composed of a rectangular block surmounted by a steep hip roof with wide flared eaves ■ Its symmetry in plan and appearance ■ Its solid, well-detailed mid-brown brick construction laid in common bond with horizontal mortar joints raked back from brick face and with vertical joints struck flush with brick ■ Its orientation toward the track as seen in its long rectangular plan parallel to the tracks, the main entrance facing the tracks and the arrangement of most windows toward views of the tracks ■ The principal entry door at track level with its oak door frame and mouldings, and its glazing with divided lights and a transom ■ The restrained application of masonry detailing, such as the soldier course at the second floor, the blind arches above the windows, and contrasting limestone elements, including keystones ■ Stone lintels, and the carved bracket below the Train Directors' bay ■ The shape and scale of the projecting Director's Bay with its view to the tracks ■ The projecting bay of the Train Directors' control desk facing the tracks, including opening for a large undivided window, narrow window returns, pressed metal spandrel wall below the windows, moulded copper profile at the window heads, and exposed concrete floor of the bay supported by robust carved limestone brackets	

Cultural Heritage Report Ref. No.[28]	Type of Property	Location/Address	Heritage Recognition	Description of Known or Potential Cultural Heritage Value or Interest and Heritage Attributes	Photographs/Digital Image
				■ The generous scale of the windows on the third storey, organized symmetrically in groups of three on each side of the bay and on the two ends of the building ■ Exposed and decoratively carved wood rafters and exposed roof boards at flared eaves projection ■ The copper roof cap; ■ All exterior elements that are consistent between the three interlocking towers **Key Interior attributes** ■ The prefabricated steel staircase, newels and welded-wire mesh screen ■ Original oak doors and frames ■ Original oak window frames, casings, mullions, and sills ■ Original finishes in the train operation room **Key attributes related to technical achievements:** ■ Its construction using pier casings ■ The functional hierarchy of the building, with a workshop and power controls in the basement, the relay racks on the ground floor, and the interlocking machine and office on the first floor ■ Access stairs linking all floors ■ The holding basin for the battery array ■ The interlocking machine, consisting of metal cabinets containing the electro-mechanical interlocking bed and its associated relay and inspection compartment in the middle of machine ■ The track diagram board ■ The relay racks, electrical racks from the 1930s onwards, and the related electrical cables ■ The electrical concrete conduit built into the structure ■ The electrical control board in basement battery room	
OLS-025	■ Bridge	■ Cherry Street Subway	■ Previously-Identified Built Heritage Resource/Cultural Heritage Landscape ■ Metrolinx Provincial Heritage Property	■ Cherry Street Subway – Cherry Street under Union Station Rail Corridor **Design or Physical Value:** ■ Two-span plate girder bridge with riveted steel construction ■ Displays a high degree of craftsmanship in its steel and concrete work ■ Historical or Associative Value: ■ Constructed in 1928 to 1929 as part of the Waterfront Viaduct grade separation project constructed in association with Union Station **Contextual Value:** ■ The bridge is important in defining and supporting the transit corridor, and the industrial character of the area as part of the Waterfront Viaduct **Potential to Meet Ontario Regulation 10/06:** No ■ Cultural Heritage Evaluation Report completed by THA, 2016. The bridge was determined to meet criteria of Ontario Regulation 9/06. **Heritage Attributes:** ■ Its construction in 1927 as one of four similar subways in the Waterfront Viaduct, a major City of Toronto initiative to establish a continuous, grade-separated rail line across the southern part of the city. ■ The precise construction and excellent overall condition of the built-up steel frame sections ■ The concrete abutments and deck fascia; board formed with elegant falsework panelling and angled returns to the south ■ Its location within the elevated Union Station Rail Corridor	 Cherry Street Subway, looking south (AECOM, 2019)

Cultural Heritage Report Ref. No.[28]	Type of Property	Location/Address	Heritage Recognition	Description of Known or Potential Cultural Heritage Value or Interest and Heritage Attributes	Photographs/Digital Image
OLS-029	■ Cultural Heritage Landscape-National Historic Site	■ Gooderham and Worts Distillery - National Historic Site (and Distillery District Heritage Conservation District Under Study)	■ Designated Part IV of the Ontario Heritage Act (By-law 154-76-designation for the complex) ■ National Historic Site (NHS) ■ Listed on the Canadian Register ■ City of Toronto Heritage Easement Agreement CA397773, CA397771, CA397781, CA397779, CA397777, CA397775, CA397783, AT228498. ■ Heritage Conservation District Study complete, Plan under study	■ Gooderham and Worts Distillery National Historic Site and Distillery District Heritage Conservation District (Under Study) ■ The Gooderham and Worts Complex was designated as a site of national historic and architectural importance because it is an imposing landmark, containing a number of buildings that collectively bear witness to the evolution of the Canadian distilling industry. ■ The heritage value of the Gooderham and Worts Complex resides in the unique sense of history and place created by: – The completeness of the complex in illustrating the entire distillery process, from the processing of raw materials, to the storage of finished products for export; the physical evidence that it provides about the history of Canadian business, the distilling industry and 19th-century manufacturing processes; the architectural cohesiveness of the site characterized by a high degree of conformity in the design, construction and craftsmanship of its constituent buildings; and the physical relationships among the buildings and between the site and the railway to the south. **Potential to meet Ontario Regulation 10/06: Yes (Criteria 1, 2, 4, 5)** **Heritage Attributes (from historicplaces.ca):** ■ Existing spatial arrangement of the buildings on the site arrayed along lanes and streets; Industrial skyline of pitched roofs, turrets, chimney stacks and parapets ■ Co-ordinated palette of material and paint colours throughout ■ Large scale of the complex; Functional spatial organization, apparent in the rectilinear alignment of buildings along Mill Street; Isolation of storage buildings from one another ■ Location of the complex adjacent to rail line and former shoreline of Toronto Bay; Alignment and connection of buildings with one another to create continuous articulated facades, especially those of: the malthouse and office block (buildings 28 and 31 to 36) and the water tank, still rooms, bottling/mixing room and warehouse (buildings 53 to 59); Unity of design through consistent exterior use of brick, limestone and formal motifs ■ Use of Italianate detailing throughout, including round-arched openings; segmented-arch windows ordered facades; corbelled brickwork and symmetrical arrangement of openings and organization of elevations ■ High level of craftsmanship in the brickwork, stone masonry and timber framing ■ Provision of natural light through the extensive use of multi-pane glazing ■ Survival of numerous functional building types ■ Neoclassical design of the four-storey distillery and mill building (buildings 2 to 5), with segmented-arched windows; pedimented gable ends, limestone stringcourses, stone quoins, and symmetrically arranged openings ■ Reinforced construction of the distillery building (buildings 2 to 5) with thick stone walls, metal braces and timber framing ■ Italianate treatment of the malthouse/office block (buildings 28 and 31 to 36), with façade symmetry, corbelled brickwork, pilasters, and pedimented entrance bay ■ Neoclassical cupola of the of the office building (building 31) ■ Solid masonry construction, buttresses, heavy doors, and substantial wooden windows and shutters of the tank houses and warehouses (buildings 42, 43, 44, 47 to 50, 59, 61 to 65, 75). ■ Massive scale and extensive fenestration of the six-storey rack warehouse (building 42) ■ Functional design of the rack warehouse with solid brick walls reinforced with buttresses, punctuated by a highly symmetrical arrangement of segmented-arched windows (building 42)	 Image of the interactive site plan map of the 2008 Historical Site Map DHD (http://distilleryheritage.com/maps_page2.html)

Cultural Heritage Report Ref. No.[28]	Type of Property	Location/Address	Heritage Recognition	Description of Known or Potential Cultural Heritage Value or Interest and Heritage Attributes	Photographs/Digital Image
				■ High quality of the masonry of the rack warehouse (building 42), evident in: corbelled brickwork along the cornice; brick voussoirs over each window; brick buttresses; limestone lintels; limestone trim at the foundation ■ Substantial, fortified exterior treatment of the rack warehouse, as evidenced in: iron bars on windows; timber exterior shutters; iron hardware on windows and doors ■ Scale and functional design of the malthouse (buildings 35 and 36), with specialized spaces located on each of its three storeys and its attic ■ Interior detailing of the malthouse (buildings 35 and 36), including its small windows, cast-iron columns, roof vents, brick vaults, malting floors, and granary ■ Full-storey multi-paned windows with large transoms on each storey of the west elevations of the pure spirits building block (buildings 53 to 57 and 61 to 62) ■ Cast-iron facades with the elaborate iron railing on the second storey of the four connected structures comprising the pure spirits building (buildings 53 to 57 and 61 to 62) ■ All connecting conveyance ways, for pedestrians and materials, located at the second storey and above ■ Entire complement of supporting buildings in their massing, materials and detailing, including the machine shop (building 8), molasses tank (building 9), cooperage (building 34), steam fitter's shop (building 45), lunch room (building 45a), boiler house (building 46), stable/garage (building 52), bottling/tank house (building 58), pumphouse (building 60) and case warehouse (building 74)	
LDB-001 **Note: a small portion of this resource (specifically the Bala Underpass) is in the legal boundary of OLS-024**	■ Public Space: Former location of the first railway crossing of the Lower Don River	■ Two parcels including the Lower Don Trail on the west bank of the Lower Don River, generally bounded by the river, the existing Lakeshore East rail bridge to the south, and the Metrolinx Richmond Hill GO line/Bala Underpass to the west. ■ The Bala Underpass, including the retaining wall, is within OLS-024 ■ (Note, this resource does not include municipal addresses; northern parcel is owned by the City of Toronto, southern parcel is owned by the Toronto and Region	■ Potential built heritage resource/cultural heritage landscape ■ Identified in Heritage Detail Design Report field review	■ Former location of the first railway crossing of the Lower Don River **Design or Physical Value:** ■ Public space (landscape) between the Bala Underpass associated with the Richmond Hill GO line and the Lower Don River. Includes a landscaped ridge along the Lower Don River with the Lower Don Trail, public space with seating and view of the Lower Don River ■ Two commemorative plaques (currently not extant), formally situated side-by-side, situated along the Lower Don Trail at the Bala Underpass ■ Includes the 1856 abutment stones from the original rail bridge reused for seating in the public space ■ 1856 abutment stones from the original rail bridge used in the retaining wall associated with the Bala Underpass ■ 1856 abutment stones on the east side of the Lower Don River as viewed from the public space (LDB-001) on the west side of the Lower Don River. **Historical or Associative Value:** ■ The public space is representative of where the first railway crossing over the Lower Don River was built in 1856 which formed part of the Grand Trunk's mainline ■ One former plaque commemorates the Lower Don River railway crossing while the other commemorates the straightening of the river in 1892 ■ Grand Trunk built a new bridge in 1892 using the 1856 abutments. ■ In 1930 the Canadian National Railway Bridge was constructed to the south of the 1892 bridge with a current elevated track. Sometime after the 1892 superstructure was removed but left the abutments in situ. ■ In 2007, the river was widened for flood control, impacting the 1856 abutment stones causing removal. Some original stones from the 1856 abutments were relocated to become commemorative features of the original railway crossing and now serve as part of the retaining wall of the Bala Underpass and as makeshift seating on the west side of the Lower Don River adjacent to the Bala Underpass.	

Cultural Heritage Report Ref. No.[28]	Type of Property	Location/Address	Heritage Recognition	Description of Known or Potential Cultural Heritage Value or Interest and Heritage Attributes	Photographs/Digital Image
		Conservation Authority)		■ 1856 abutments on the east riverbank of the Lower Don River are still intact today. **Contextual Value:** ■ Public space along the Lower Don Trail between the Lower Don River to the east, Lakeshore East corridor rail tracks to the south and the Richmond Hill GO line to the west ■ The reuse of the 1856 abutment stones at this location commemorate the original railway bridge at this location on the Lower Don River ■ The plaques were situated along the Lower Don Trail adjacent to the Lower Don River. ■ Located in the vicinity of the West Don Lands neighbourhood **Potential to Meet Ontario Regulation 10/06: No** **Heritage Attributes:** ■ Public space associated with the Lower Don River Bicycle Trail, between the Bala Underpass and the Lower Don River ■ Former 1856 abutment stones of the original railway crossing, now seating stones in the public space adjacent to the Lower Don River and current railway crossing ■ Retaining wall of the Bala Underpass using 1856 abutment stones of the original railway crossing as wing walls ■ View of 1856 abutment stones in their original location on the east side of Lower Don River from public space	 Commemorative plaque images from: https://urbantoronto.ca/news/2014/07/heritage-toronto-unveils-two-don-river-commemorative-plaques The field review on November 6, 2020, indicated the plaques are not extant  View of Bala Underpass (AECOM, 2020a)  View of abutment seating and Bala Underpass (Metrolinx, 2020)

Cultural Heritage Report Ref. No.[28]	Type of Property	Location/Address	Heritage Recognition	Description of Known or Potential Cultural Heritage Value or Interest and Heritage Attributes	Photographs/Digital Image
					 View of abutment seating (AECOM, 2020a)  Former 1856 abutment stones serving as seating (Metrolinx, 2020)  View of 1856 abutment stones part of wall on east side of Don River (AECOM, 2020a)

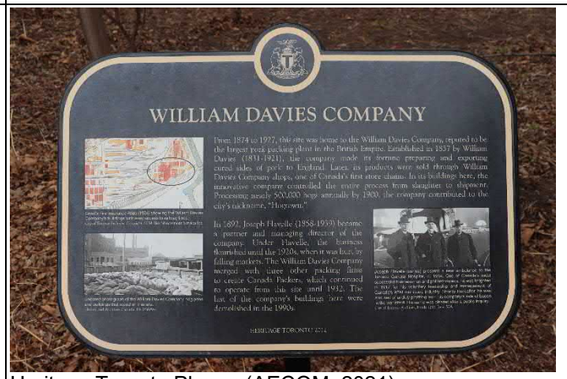
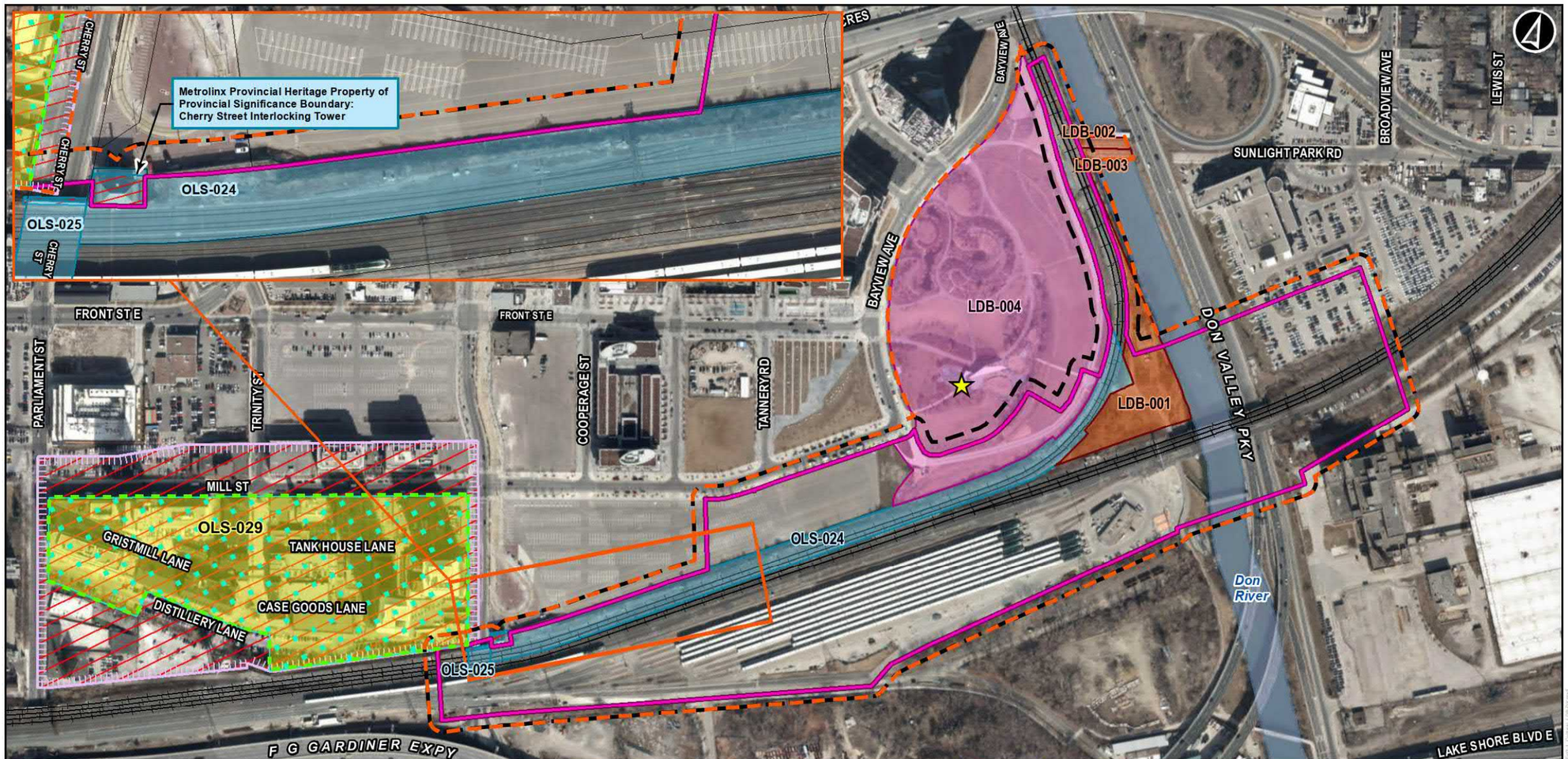
Cultural Heritage Report Ref. No.[28]	Type of Property	Location/Address	Heritage Recognition	Description of Known or Potential Cultural Heritage Value or Interest and Heritage Attributes	Photographs/Digital Image
LDB-002	▪ Bridge	▪ Bridge carrying a gas main over Lower Don River	▪ Potential built heritage resource/cultural heritage landscape ▪ Identified in Heritage Detail Design Report field review	▪ Consumer's Gas Company Bridge **Design or Physical Value:** ▪ Single-span concrete through-arch bridge with enclosed deck **Historical or Associative Value:** ▪ Constructed in 1930 ▪ Constructed by the Consumer's Gas Company to carry a large gas main across the Lower Don River ▪ Replaced an earlier structure which collapsed in 1929 **Contextual Value:** ▪ Located across the Lower Don River, adjacent to the Lower Don Trail and Don Valley Parkway **Potential to Meet Ontario Regulation 10/06: No** **Potential Heritage Attributes:** ▪ Single-span through-arch design ▪ Concrete construction ▪ Enclosed bridge deck	 View of the Consumer's Gas Company Bridge (AECOM, 2021)
LDB-003	▪ Bridge	▪ Former alignment of Eastern Avenue over Lower Don River	▪ Potential built heritage resource/cultural heritage landscape ▪ Identified in Heritage Detail Design Report field review	▪ Old Eastern Avenue Bridge **Design or Physical Value:** ▪ Single-span Baltimore Through-Truss bridge with riveted construction ▪ Rare Canadian example of a truss bridge with three truss lines **Historical or Associative Value:** ▪ Constructed in 1933 to carry Eastern Avenue across the Lower Don River ▪ Replaced an earlier truss bridge which was destroyed by flooding earlier in the year ▪ Abandoned in 1964 when Eastern Avenue was realigned for contrition of the Don Valley Parkway **Contextual Value:** ▪ Located on former alignment of Eastern Avenue across the Lower Don River, adjacent to the Lower Don Trail and Don Valley Parkway **Potential to Meet Ontario Regulation 10/06: No** **Potential Heritage Attributes:** ▪ Single-span Baltimore Through-Truss design ▪ Riveted construction ▪ 14 panel design ▪ Three truss lines ▪ Concrete sidewalks and decorative railings	 View of the Old Eastern Avenue Bridge (AECOM, 2021)
LDB-004	▪ Cultural Heritage Commemorative Plaque	▪ 155 Bayview Avenue - Corktown Common, west side of Bala Underpass	▪ Heritage Toronto Plaque	▪ Heritage Toronto Plaque- 155 Bayview Avenue, within Corktown Common **Design or Physical Value:** ▪ Large interpretative panel with text and graphics **Historical or Associative Value:** ▪ Heritage Toronto Plaque marking the location of a former industrial complex in Corktown Common ▪ Plaque text reads as follows: – William Davies Company ▪ From 1874 to 1927, this site was home to the William Davies Company, reputed to be the largest pork-packing plant in the British Empire. Established in 1857 by William Davies (1831 to 1921), the company made its fortune preparing and exporting cured sides of pork to England. Later, its products were sold through William Davies Company shops, one of Canada's first store chains. In its buildings here, the innovative company controlled the entire process from slaughter to shipment. Processing nearly 500,000 hogs annually by 1900, the company contributed to the City's nickname "Hogtown". ▪ In 1862, Joseph Flavelle (1858 to 1939) became a partner and managing director for the company. Under Flavelle, the business flourished until the 1920s, when it was hurt by falling markets. The William Davies company merged with three other packing firms to create Canada Packers, which continued to operate from this site until 1932. The last of the company's buildings here were demolished in the 1990s. **Contextual Value:** ▪ Context-specific plaque located on reclaimed industrial lands within the West Don Lands neighbourhood, near the Lower Don River, west of the Richmond Hill GO Corridor and east of Bayview Avenue	 Heritage Toronto Plaque (AECOM, 2021)

Figure 5-18: Known, Previously Identified and Potential Built Heritage Resources/Cultural Heritage Landscapes Within the Lower Don Bridge and Don Yard Built Heritage Resources and Cultural Heritage Landscapes Study Area

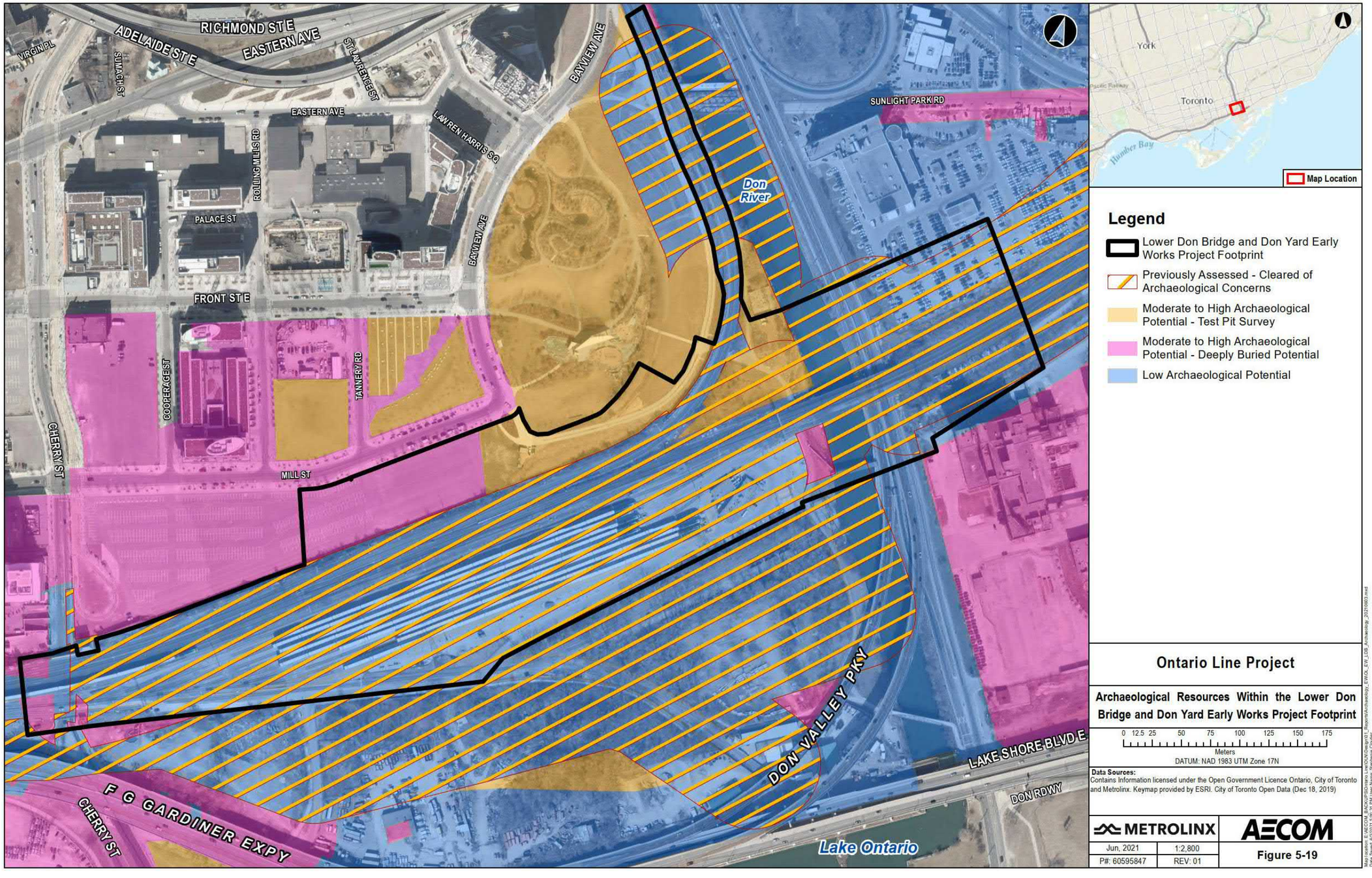


5.8 Archaeological Resources

As per the results of the Stage 1 archaeological assessment developed for the Project, majority of the Lower Don Bridge and Don Yard Early Works Project Footprint has been cleared of archaeological concerns by previous archaeological assessments completed by multiple consultants, including AECOM (2016; 2018; 2020) and ASI (2017). However, there are multiple areas retaining high to moderate archaeological potential within the Lower Don Bridge and Don Yard Early Works Project Footprint. In addition to the possibility of uncovering Indigenous artifacts, these areas have higher potential to uncover various 19th century structures, including remains from the Gooderham and Worts Distillery Complex, and the Toronto Rolling Mills Wharf.

The archaeological resources present within the Lower Don Bridge and Don Yard Early Works Project Footprint are shown in **Figure 5-19**.

Figure 5-19: Archaeological Resources Within the Lower Don Bridge and Don Yard Early Works Project Footprint



5.9 Traffic and Transportation

5.9.1 Transportation Network

5.9.1.1 Roads

An overview of the roads located within the Lower Don Bridge and Don Yard Traffic and Transportation Study Area is described below. All the described roads are under the jurisdiction of the City of Toronto and are classified according to the City of Toronto's Road Classification System Update (City of Toronto, 2018). As part of the City of Toronto's Vision Zero strategy, the City has been implementing speed reductions for several streets within the City (City of Toronto, 2020b). Posted speed reductions that have already been implemented on the roads located within the Lower Don Bridge and Don Yard Traffic and Transportation Study Area, if any, are reflected in the description below.

Gardiner Expressway is an east-west expressway running immediately south of the rail tracks with an eight-lane cross-section and a posted speed of 90 kilometres per hour. Gardiner Expressway provides a connection from/to Don Valley Parkway and Lake Shore Boulevard.

Don Valley Parkway is a north-south expressway with a six-lane cross-section under the rail bridge and a posted speed of 90 kilometres per hour.

Lake Shore Boulevard East is an east-west major arterial road with a six-lane cross-section and a posted speed of 60 kilometres per hour.

Bayview Avenue is a north-south collector road with a two-lane cross-section and a posted speed of 40 kilometres per hour.

Cherry Street is a north-south collector road with a two-lane cross-section and a posted speed of 40 kilometres per hour north of Lake Shore Boulevard East. Cherry Street intersects with Lake Shoe Boulevard East at two locations. At the south intersection with Lake Shore Boulevard East, Cherry Street branches off in the northeast direction as a service road to the Don Yard.

Don Roadway is a north-south collector road with a four-lane cross-section. It extends between Commissioners Street and the Don Valley Parkway and has a posted speed of 50 kilometres per hour.

Mill Street is an east-west local road with a two-lane cross-section and a posted speed of 30 kilometres per hour.

5.9.1.2 Active Transportation

Pedestrians and cyclists are accommodated through major multi-use pathways[29] provided along the Lower Don River Trail and the Martin Goodman Trail and through a minor multi-use pathway which passes across the intersection of Lake Shore Boulevard East and Cherry Street and connects both trails. In addition, the Mill Street, Cherry Street and Bayview Avenue sections within the Lower Don Bridge and Don Yard Traffic and Transportation Study Area provide pedestrians and cyclists with sidewalks and on-street bike lanes that run along both sides of the roads.

Figure 5-20 and **Figure 5-21** illustrate the location and type of pedestrian and cycling facilities provided within the Lower Don Bridge and Don Yard Traffic and Transportation Study Area, respectively.

5.9.1.3 Rail

There are multiple existing rail tracks within the Lower Don Bridge and Don Yard Traffic and Transportation Study Area. These rail tracks are owned by Metrolinx and currently service the following commuter train lines:

- Lakeshore East, Stouffville, and Richmond Hill GO lines; and
- VIA Rail Toronto-Ottawa and Toronto-Montreal lines.

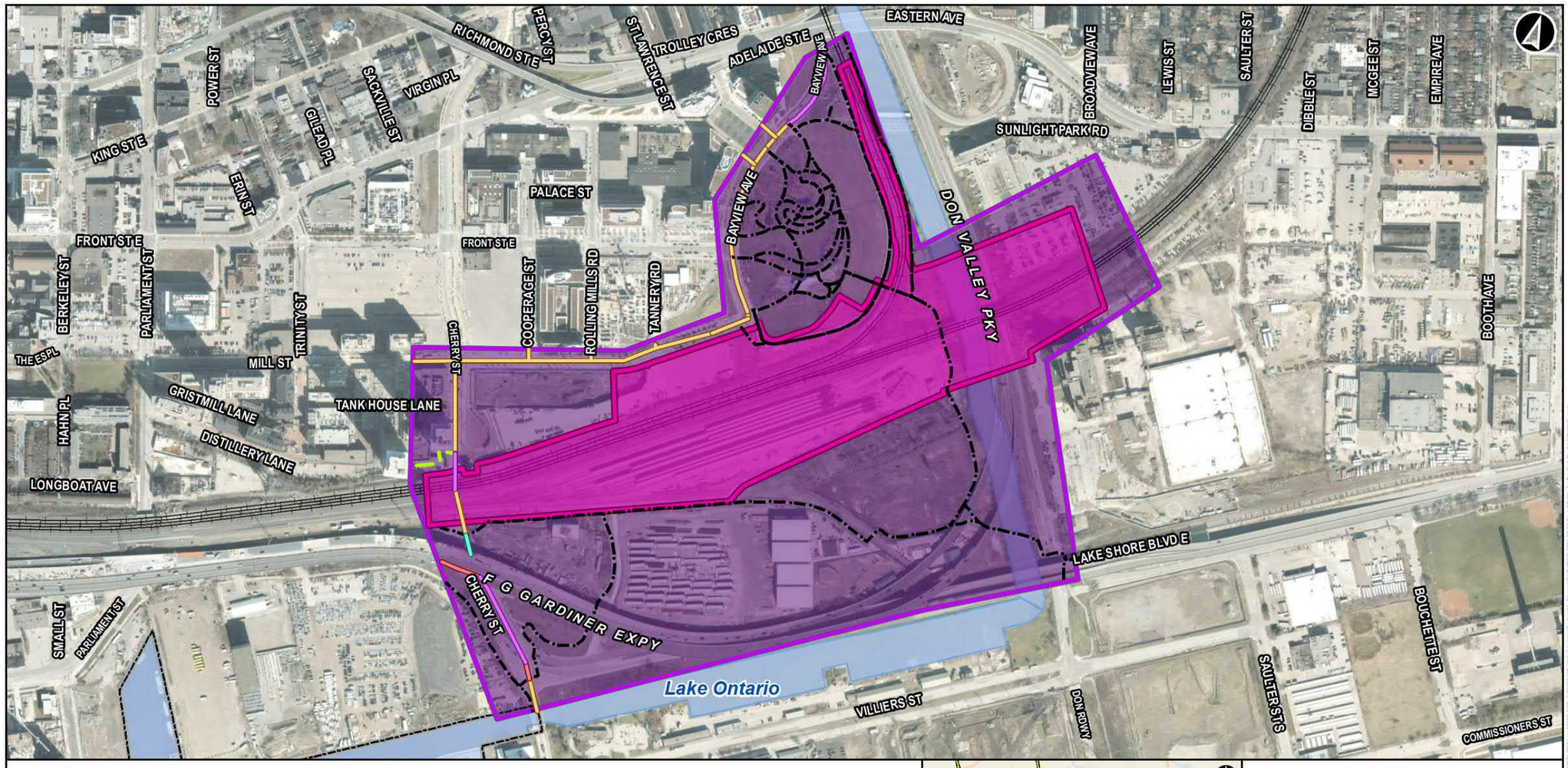
The identified commuter train routes are further described in **Section 5.9.2**. Canadian National Railway and Canadian Pacific Railway freight trains also operate on these rail tracks. Metrolinx's Don Yard, located west of the Don River, is within the Lower Don Bridge and Don Yard Traffic and Transportation Study Area. Don Yard provides train storage capacity in proximity to Union Station and currently has 10 tracks.

5.9.1.4 Transit Network

The existing transit routes that operate within the Lower Don Bridge and Don Yard Traffic and Transportation Study Area are summarized in **Table 5-15** and illustrated in **Figure 5-22**. All transit routes described in **Table 5-15** are operated by the Toronto Transit Commission, with the exception of the Lakeshore East, Stouffville, and Richmond Hill GO lines operated by Metrolinx and the Toronto-Ottawa and Toronto-Montreal lines operated by VIA Rail.

29. Major multi-use pathways connect different parts of the city and collect traffic from minor pathways. Minor multi-use pathways are local connections. (City of Toronto, 2020).

Figure 5-20: Existing Pedestrian Network Within the Lower Don Bridge and Don Yard Traffic and Transportation Study Area



Legend

- Existing Rail
- Waterbody
- Lower Don Bridge and Don Yard Early Works Project Footprint
- Lower Don Bridge and Don Yard Traffic and Transportation Study Area

Facility Type

- Recreational Trail
- Sidewalk on both sides
- Sidewalk on east side only and/or partially on other side
- Sidewalk on south side only and/or partially on other side
- Sidewalk on west side only and/or partially on other side
- Partial sidewalk on at least one side

Ontario Line Project

Existing Pedestrian Network Within the Lower Don Bridge and Don Yard Traffic and Transportation Study Area

0 50 100 200 300
Meters
DATUM: NAD 1983 UTM Zone 17N

Data Sources:
Contains Information licensed under the Open Government Licence Ontario, City of Toronto and Metrolinx. Keymap and Basemap provided by ESRI.

METROLINX	AECOM
Aug, 2021	1:5,000
P#: 60611173	REV: 00

Figure 5-20

Figure 5-21: Existing Cycling Network Within the Lower Don Bridge and Don Yard Traffic and Transportation Study Area

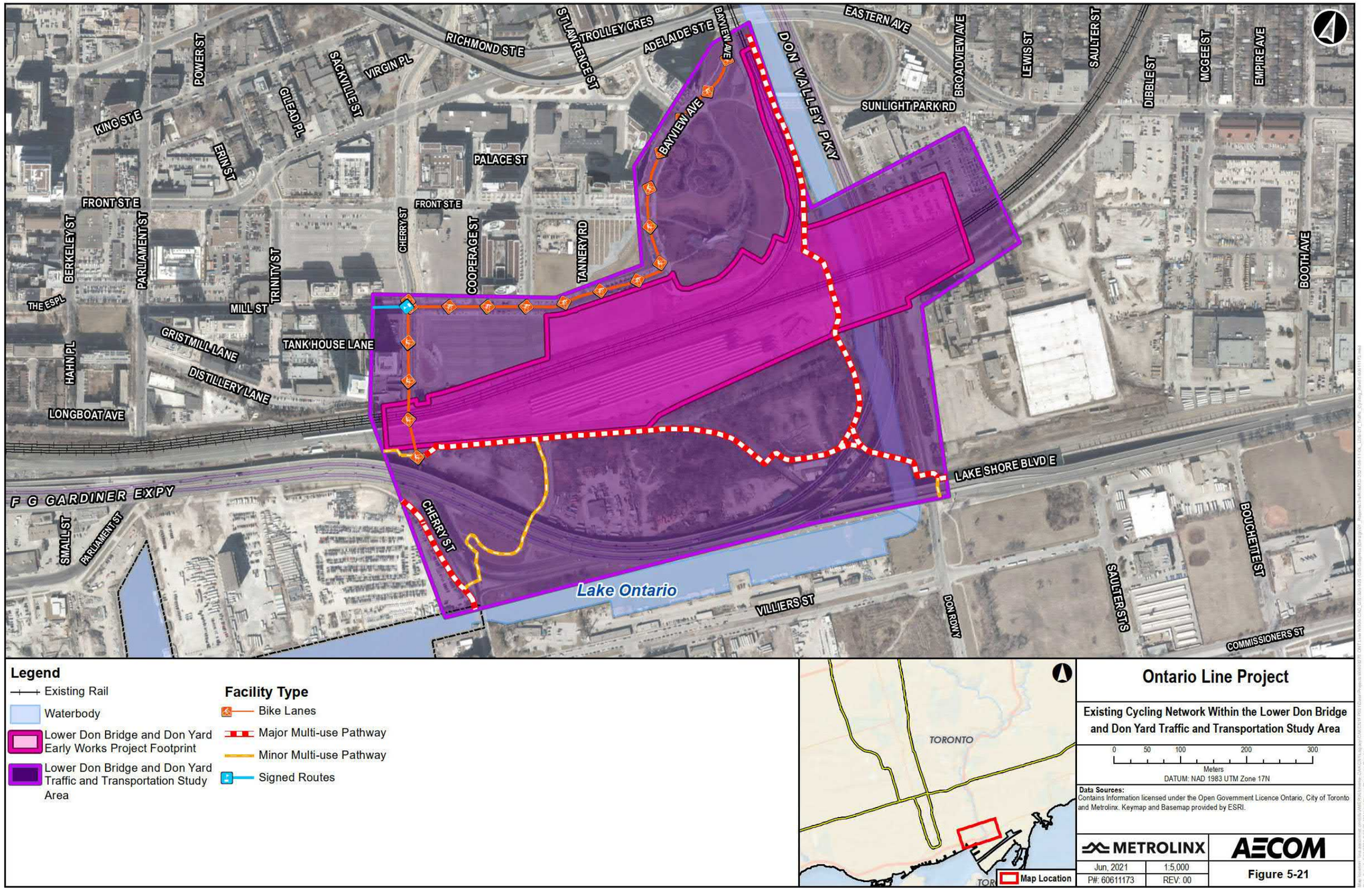
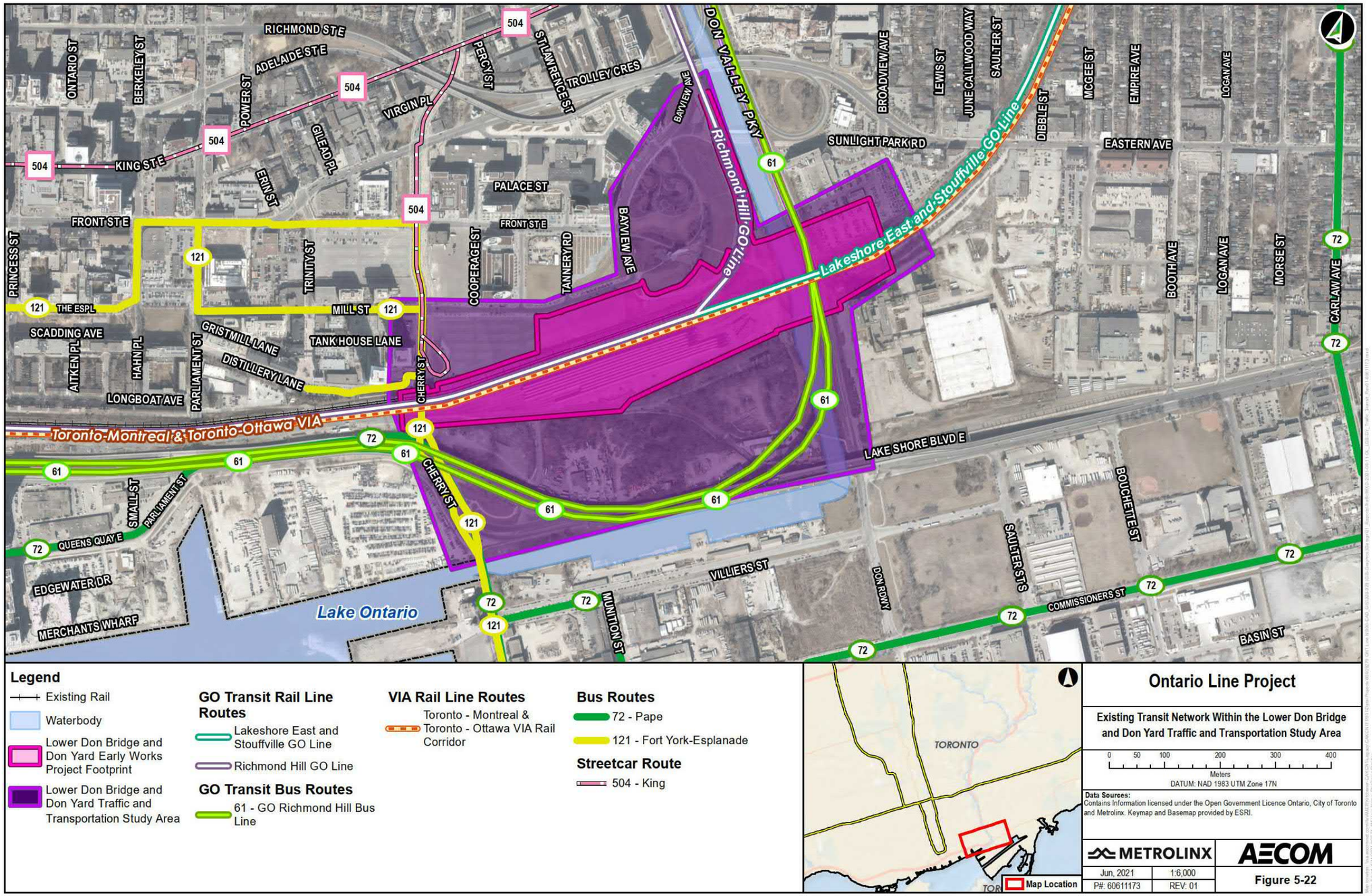


Figure 5-22: Existing Transit Network Within the Lower Don Bridge and Don Yard Traffic and Transportation Study Area



The service headways provided in **Table 5-15** represent the hours of peak transit service within the AM peak period (6:00 AM to 9:00 AM) and PM peak period (4:00 AM to 7:00 PM). Off-peak transit services are generally less frequent than AM and PM peak period services; therefore, only AM and PM peak period service headways are provided in **Table 5-15** to represent the maximum transit service that could be impacted by construction to form the transit impact assessment.

Table 5-15: Existing Transit Routes Within the Lower Don Bridge and Don Yard Traffic and Transportation Study Area

Route Number – Name and Description	Service Headway during Peak Periods
Lakeshore East GO line operates between Union Station in Toronto and Oshawa GO Station in Oshawa, generally in an east-west direction. The train service operates seven days a week between 5 AM and 2 AM. The line does not have any designated stops at the rail tracks section within the Lower Don Bridge and Don Yard Traffic and Transportation Study Area, but the eastbound and westbound trains pass through the noted rail tracks section shortly after each scheduled departure from Union Station and shortly before each scheduled arrival at Union Station.	15-minute for the peak direction (i.e., westbound in the AM peak hour and eastbound in the PM peak hour) 30-minute for the non-peak direction
Stouffville GO line operates between Union Station in Toronto and Lincolnville GO Station in Whitchurch-Stouffville, generally in a north-south direction. The train service operates seven days a week between 9 AM and 7 PM. A bus service complements the train service by operating from 5 AM to 9 AM and from 7 PM to 2 AM. The Line does not have any designated stops at the rail tracks section within the Lower Don Bridge and Don Yard Traffic and Transportation Study Area, but the eastbound and westbound trains pass through the noted rail tracks section shortly after each scheduled departure from Union Station and shortly before each scheduled arrival at Union Station.	30-minute for the peak direction (i.e., southbound in the AM peak hour and northbound in the PM peak hour) 60-minute for the non-peak direction
Richmond Hill GO line operates between Union Station and Gormley GO Station in Richmond Hill, generally in a north-south direction. The train service operates only during weekday peak periods, with southbound trains operating in the morning peak hours between 6 AM and 9 AM and northbound trains operating in the afternoon peak hours between 3 PM and 8 PM. A bus service (i.e., GO Bus #61) runs along Gardiner Expressway and Don Valley Parkway within the Lower Don Bridge and Don Yard Traffic and Transportation Study Area and generally covers the southbound and northbound services during the remaining hours of a typical weekday with the latest southbound departure from Gormley GO Station scheduled at 2:00 PM and the latest northbound departure from Union Station scheduled at 2:40 AM.	30 to 45-minute for the southbound direction in the AM peak period 60-minute for the northbound direction in both the AM and PM peak periods

Route Number – Name and Description	Service Headway during Peak Periods
Toronto-Ottawa VIA Rail line operates between Union Station in Toronto and Ottawa Station in Ottawa, generally in an east-west direction. The train service operates seven days a week. The line does not have any designated stops at the rail tracks section within the Lower Don Bridge and Don Yard Traffic and Transportation Study Area, but the eastbound and westbound trains pass through the noted rail tracks section shortly after each scheduled departure from Union Station and shortly before each scheduled arrival at Union Station.	60-minute for the peak direction (i.e., westbound in the AM and PM peak periods and eastbound in the PM peak period) 180-minute for the non-peak direction
Toronto-Montreal VIA Rail line operates between Union Station in Toronto and Gare Centrale in Montreal, generally in an east-west direction. The train service operates seven days a week. The line does not have any designated stops at the rail tracks section within the Lower Don Bridge and Don Yard Traffic and Transportation Study Area, but the eastbound and westbound trains pass through the noted rail tracks section shortly after each scheduled departure from Union Station and shortly before each scheduled arrival at Union Station.	60-minute for the peak direction (i.e., westbound in the AM and PM peak periods and eastbound in the PM peak period) 180-minute for the non-peak direction
#504A – King streetcar route operates between Dundas West Station and Distillery Loop, generally in an east-west direction. It also serves the St. Andrew and King Station on Line 1 Yonge-University. The route is part of the 10-minute network and operates at 10-minute or better headways, all day, every day. The streetcar route operates mainly along King Street and the Distillery Loop is the only designated stop within the Lower Don Bridge and Don Yard Traffic and Transportation Study Area.	3-minute in both the AM and PM peak periods
#72 – Pape bus route operates between Pape Station on Line 2 Bloor-Danforth and Commissioners Street, and between Pape Station and Union Station on Line 1, generally in a north-south direction. Three services are operated: The **72A (Pape Station-Eastern)** operates at all times except the morning and afternoon peak periods from Monday to Friday. The **72B (Pape Station-Union Station via Queens Quay)** operates all day, every day. The **72C (Pape Station - Commissioners)** operates during the morning and afternoon peak periods from Monday to Friday. Service between Pape Station and Eastern Avenue is part of the 10-minute network and operates at 10 minutes or better, all day, every day. The bus service mainly operates along Pape Avenue, Carlaw Avenue, Commissioners Street, Queens Quay, and Bay Street. The closest northbound and southbound stops to the Lower Don Bridge and Don Yard Early Works Project Footprint are located at the intersection of Cherry Street and Lake Shore Boulevard East.	6-minute in the AM peak period 7-minute in the PM peak period

Route Number – Name and Description	Service Headway during Peak Periods
#121 – Fort York-Esplanade bus route operates between Exhibition Place, the Fort York neighbourhood and the Distillery neighbourhood, and, in the summer, between Ontario Place, the Fork York neighbourhood and Clarke Beach Park (Cherry Beach), generally in an east-west direction. All buses serve Union Station on Line 1, and the Fort York, City Place, Esplanade, and Distillery neighbourhoods. Two services are operated: the **121A (Exhibition (Princes' Gates)-Distillery via Union Station)** branch operates all day, every day outside the summer months. The **121D (Ontario Place-Cherry Beach via Union Station and Distillery)** seasonal branch operates from mid-May to mid-October. The bus service mainly operates along Cherry Street, Front Street, The Esplanade, and Fort York Boulevard. The closest eastbound and westbound stops to the Lower Don Bridge and Don Yard Early Works Project Footprint are located at the intersection of Cherry Street and Mill Street as well as the intersection of Cherry Street and Lake Shore Boulevard East.	13-minute in the AM peak period 18-minute in the PM peak period

Sources: GO Transit, 2020; VIA Rail, 2020; and Toronto Transit Commission, 2020. Accessed September 2020.

5.10 Utilities

5.10.1 Private Utilities

Table 5-16 lists the privately-owned utility providers with infrastructure within the Lower Don Bridge and Don Yard Early Works Project Footprint. A refined list will be confirmed as planning progresses.

Table 5-16: Private Utilities Within the Lower Don Bridge and Don Yard Early Works Project Footprint

Utility Provider	Utility Category
Aptum	Telecommunications
Bell Canada	Telecommunications
Bell 360	Telecommunications
Rogers Communications Partnership	Telecommunications
Cogeco Data Services	Telecommunications
Zayo Group	Telecommunications
Telus Communications Company	Telecommunications
Enbridge	Energy transportation/pipeline
EnWave	Energy services provider
Hydro One Networks Incorporated (HONI)	Electricity

Utility Provider	Utility Category
CN Fiber	Fiber Optics
B-A Oil Company	Energy transportation/pipeline
Sunoco	Energy transportation/pipeline
Trans Northern	Energy transportation/pipeline
Group Telecom	Telecommunications
Imperial Oil	Energy transportation/pipeline

5.10.2 Public Utilities and Municipal Servicing

Table 5-17 lists the public utility providers with infrastructure within the Lower Don Bridge and Don Yard Early Works Project Footprint.

Table 5-17: Public Utilities Within the Lower Don Bridge and Don Yard Early Works Project Footprint

Utility Provider	Utility Category
Toronto Hydro	Electricity
Toronto Water	Water and wastewater treatment

6. Potential Impacts, Mitigation Measures and Monitoring Activities

In accordance with Sections 8(2)6, 8(2)7 and 8(2)8 of Ontario Regulation 341/20: Ontario Line Project, this section describes the potential impacts, mitigation measures, and monitoring activities to verify the effectiveness of mitigation measures associated with the Lower Don Bridge and Don Yard early works.

6.1 Natural Environment

Table 6-1 outlines mitigation measures and monitoring activities to address the potential natural environment impacts that may result from the Lower Don Bridge and Don Yard early works.

Table 6-1: Potential Impacts, Mitigation Measures and Monitoring Activities – Natural Environment

Environmental Component	Potential Impacts	Mitigation Measure(s)	Monitoring Activities
Designated Natural Areas	■ No potential impacts as there are no Designated Natural Areas within 120 metres of the Lower Don Bridge and Don Yard Early Works Project Footprint	■ None Required	■ None Required
Policy Area – City of Toronto Natural Heritage System	■ Vegetation removal within the City of Toronto Natural Heritage System	■ Refer below to mitigation measures described for Vegetation Communities. ■ Consultation with City of Toronto.	■ Refer below to monitoring described for Vegetation Communities.
Policy Area – City of Toronto Ravine and Natural Feature Protection	■ Tree removal within the City of Toronto Ravine and Natural Feature Protection By-law Area	■ Refer below to mitigation measures described for Tree Removal under Vegetation Communities. ■ Compensation for tree removals will be undertaken in accordance with provisions outlined in the Metrolinx Vegetation Guideline (2020). Adhere to all applicable by-laws and regulations for tree removals outside of Metrolinx properties.	■ Refer below to monitoring described for Vegetation Communities.
Policy Area – Toronto and Region Conservation Authority Regulation Areas	■ Vegetation removal within Toronto and Region Conservation Authority Regulated Areas	■ Further consideration to reduce potential impacts on Toronto and Region Conservation Authority's Terrestrial Natural Heritage System to the extent possible will be undertaken during detailed design.	■ Refer below to monitoring described for Vegetation Communities. ■ Recommendations for additional monitoring related to vegetation removal within regulated areas may be determined through consultation with Toronto and Region Conservation Authority.
Policy Area – Urban River Valley under the Greenbelt Plan	■ Vegetation removal within the Urban River Valley	■ Refer below to mitigation measures described for Vegetation Communities, Wildlife and Wildlife Habitat, Migratory Breeding Birds and Nests, Significant Wildlife Habitat and Aquatic Environment. ■ Compensation for the removal of vegetation in accordance with Metrolinx's Vegetation Guideline (2020) approach will consider maintaining or enhancing connectivity along the Lower Don River to the extent possible.	■ Refer below to monitoring described for Vegetation Communities, Wildlife and Wildlife Habitat and Aquatic Environment.
Vegetation Communities	■ Removal of vegetation communities ■ Damage to adjacent vegetation or Ecological Land Classification communities as a result of accidental intrusion	■ Vegetation removal will be reduced and limited to within the Lower Don Bridge and Don Yard early works construction areas. ■ Construction fencing and/or silt fencing, where appropriate, will be installed and maintained to clearly define the Lower Don Bridge and Don Yard early works construction areas and prevent accidental damage or intrusion to adjacent vegetation or Ecological Land Classification communities. ■ Provide compensation for the removal of vegetation in accordance with Metrolinx's Vegetation Guideline (2020). ■ Temporarily disturbed areas will be re-vegetated using non-invasive, preferably native plantings and/or seed mix appropriate to the site conditions and adjacent vegetation communities. Seed mixes will be used in conjunction with an appropriate non-invasive cover crop as needed. ■ Vegetation removals will also consider and mitigate potential impacts to sensitive species (e.g., migratory birds) and features (e.g., Significant Wildlife Habitat). Refer to the wildlife and wildlife habitat and Species at Risk mitigation measures described below.	■ On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Monitoring will include inspection of construction fencing/silt fencing to confirm appropriate installation, maintenance and rehabilitation to prevent accidental damage to vegetation or Ecological Land Classification communities outside of the work construction area. Corrective actions may include additional site maintenance and alteration of activities to reduce impacts. ■ If required, the approach to compensation monitoring will be developed in accordance with Metrolinx's Vegetation Guideline (2020).

Environmental Component	Potential Impacts	Mitigation Measure(s)	Monitoring Activities
Vegetation Communities	■ City and private tree removal	■ An Arborist Report by an International Society of Arboriculture Certified Arborist will be prepared in accordance with the Ontario Forestry Act R.S.O. 1990, and other regulations and best management practices as applicable. ■ The Arborist Report will include, but not be limited to the individual identification of all trees within the Lower Don Bridge and Don Yard early works construction areas including those that require removal or preservation, or trees that may be injured. Trees to be identified may include those on Metrolinx property, trees on public and private lands, and boundary trees. City of Toronto by-laws dictate the minimum area buffers to be inventoried and Diameter at Breast Height which requires inventory. ■ Prior to the undertaking of tree removals, a Tree Removal Strategy/Tree Preservation Plan will be developed during detailed design to document tree protection and mitigation measures that follow the City of Toronto Tree Protection Policy and Specifications for Construction Near Trees Guidelines (2016b) and adherence with best practices, standards and regulations on safety, environmental and wildlife protections. ■ Compensation for tree removals will be undertaken in accordance with provisions outlined in the Metrolinx Vegetation Guideline (2020). ■ Pruning of branches will be conducted through the implementation of proper arboricultural techniques. ■ Tree Protection Zone fencing will be established to protect and prevent tree injuries. Tree Protection Zones will be clearly staked prior to construction using barriers in accordance with local by-law requirements.	■ Regular inspection in areas of vegetation removal will be undertaken as required during construction to ensure that fencing is intact, only specified trees are removed and no damage is caused to the remaining trees and adjacent vegetation communities. ■ On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include additional site maintenance and alteration of activities to reduce impacts. ■ If required, the approach to compensation monitoring will be developed in accordance with Metrolinx's Vegetation Guideline (2020).
Vegetation Communities	■ Potential for the spread of emerald ash borer, associated with removal, handing and transport of ash trees	■ Removal of ash trees, or portions of ash trees, will be carried out in compliance with the Canada Food and Inspection Agency Directive 'D-03-08: Phytosanitary Requirements to Prevent the Introduction into and Spread within Canada of the emerald ash borer. To comply with this Directive, all Ash trees requiring removal, including any wood, bark or chips, will be restricted from being transported outside of the emerald ash borer regulated areas of Canada.	■ On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include additional site maintenance and alteration of activities to reduce impacts.
Vegetation Communities	■ Increased soil erosion and sedimentation	■ Construction fencing and/or silt fencing, where appropriate, will be installed and maintained to clearly define the Lower Don Bridge and Don Yard early works construction areas and prevent accidental damage or intrusion to adjacent vegetation or Ecological Land Classification communities. ■ An Erosion and Sediment Control Plan, in accordance with the Erosion and Sediment Control Guide for Urban Construction (Toronto and Region Conservation Authority, 2019), will be prepared prior to and implemented during construction to reduce the risk of sedimentation to the vegetation communities. ■ Stockpiled materials or equipment will be stored within the Lower Don Bridge and Don Yard early works construction areas but shall be kept at least 30 metres away from any watercourse to the extent possible. If not feasible, install a heavy-duty silt fence and Silt Soxx (or equivalent) around the Lower Don Bridge and Don Yard early works construction areas where within 30 metres from a watercourse.	■ On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include additional site maintenance and alteration of activities to reduce impacts. ■ All erosion and sediment control measures should be inspected weekly, after every rainfall and significant snow melt event, and daily during periods of extended rain or snow melt. ■ All damaged erosion and sediment control measures will be repaired and/or replaced within 48 hours of the inspection.

Environmental Component	Potential Impacts	Mitigation Measure(s)	Monitoring Activities
Vegetation Communities	■ Soil or water contamination as a result of spills (e.g., grease and/or fuel) from equipment use ■ Introduction or spread of invasive species	■ A Spill Prevention and Contingency Plan will be developed and adhered to. Spills will be immediately contained and cleaned up in accordance with provincial regulatory requirements and the contingency plan. ■ Refuelling of equipment will occur at least 30 metres away from any watercourse. ■ Refuelling shall be done within refuelling stations lined with appropriate material to prevent seepage and fuel discharge. ■ All machinery, construction equipment and vehicles arriving on-site should be in clean condition (e.g., free of fluid leaks, soils containing seeds of plant material from invasive species) and be inspected and washed in accordance with the Clean Equipment Protocol for Industry (Halloran et al., 2013) prior to arriving and leaving the construction site in order to prevent the spread of invasive species to other locations.	■ On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include additional site maintenance and alteration of activities to reduce impacts.
Wildlife and Wildlife Habitat – General	■ Disturbance, displacement or mortality of wildlife	■ Prior to construction, investigation of the Lower Don Bridge and Don Yard early works construction areas for wildlife and wildlife habitat that may have established following the completion of previous surveys will be undertaken, as appropriate. ■ If wildlife is encountered, measures will be implemented to avoid destruction, injury, or interference with the species, and/or its habitat. For example, construction activities will cease or be reduced, and wildlife will be encouraged to move off-site and away from the construction area on its own.	■ Regular on-site inspection by on-site environmental workers or construction staff will occur within the construction area to ensure that no wildlife is trapped within the construction area. ■ On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include additional site maintenance and alteration of activities to reduce impacts.
Significant Wildlife Habitat: Northern Map Turtle and Snapping Turtle	■ Disturbance of Northern Map Turtle and/or Snapping Turtle Habitat	■ Refer above to mitigation measures described for Wildlife. ■ Refer below to mitigation measures described for Fish and Fish Habitat with respect to in-water works.	■ Refer above for monitoring requirements described for Wildlife.
Significant Wildlife Habitat: Eastern Wood-pewee	■ Removal of up to 0.32 hectares of candidate habitat for Eastern Wood-pewee	■ Refer below to mitigation measures described for Migratory Breeding Birds and Nests.	■ Refer below for monitoring requirements described for Migratory Breeding Birds and Nests.
Significant Wildlife Habitat: Monarch	■ Removal of up to 0.08 hectares of candidate habitat for Monarchs	■ Identify opportunities to promote pollinator species and habitat in accordance with the Metrolinx Vegetation Guideline (2020). This may include planting or seeding native flowering plants in temporarily disturbed areas.	■ Regular monitoring (site inspections) will be undertaken during construction to prevent unauthorized impacts to habitat used by Monarch.
Significant Wildlife Habitat: Common Nighthawk	■ Removal of candidate nesting habitat for Common Nighthawk	■ Refer below to mitigation measures described for Migratory Breeding Birds and Nests. ■ Demolition of buildings should be scheduled outside of the breeding bird season of April 1 to August 31. If this is not possible and buildings must be demolished during this period, the following will be completed: ■ The roofs will be checked for presence of gravel. If gravel is not present, then the building is unlikely to provide suitable nesting habitat for Common Nighthawk. If gravel is present, a search for eggs and nesting activity for Common Nighthawk on the roof will be conducted. If nests or nesting activity of Common Nighthawk are confirmed, the building cannot be demolished until it is confirmed by a Qualified Biologist that young have fully fledged and left the nest.	■ Refer below for monitoring requirements described for Migratory Breeding Birds and Nests.

Environmental Component	Potential Impacts	Mitigation Measure(s)	Monitoring Activities
Migratory Breeding Birds and Nests	■ Disturbance or destruction of migratory bird nests	■ All works must comply with the Migratory Birds Convention Act, including timing windows for the nesting period (April 1 to August 31 in Ontario). ■ If activities (i.e. vegetation clearing and building demolition) are proposed to occur during the general nesting period, a breeding bird and nest survey will be undertaken prior to required activities. Nest searches by an experienced searcher are required and will be completed by a qualified Biologist no more than 48 hours prior to vegetation removal. ■ If a nest of a migratory bird is found outside of this nesting period (including a ground nest) it still receives protection.	■ Regular monitoring will be undertaken to confirm that activities do not encroach into nesting areas or disturb active nesting sites.
Wildlife Habitat Connectivity	■ Decrease of habitat connectivity for wildlife	■ Refer to the mitigation measures described above for Urban River Valley under the Greenbelt Plan and Vegetation Communities. ■ During detailed design, opportunities to enhance the natural environment and provide a connection to the surrounding natural areas will be explored to the extent feasible.	■ Refer to monitoring described for Vegetation Communities.
Species at Risk – General	■ Habitat loss, disturbance and/or mortality to Species at Risk	■ All requirements of the Endangered Species Act will be met. Species-specific mitigation measures will be implemented, in consultation with Ministry of the Environment, Conservation and Parks.	■ On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include additional site maintenance and alteration of activities to reduce impacts. ■ Species-specific monitoring activities will be developed in accordance with any registration and/or permitting requirements under the Endangered Species Act.
Species at Risk – Barn Swallow	■ Habitat loss, disturbance and/or mortality to Barn Swallow	■ Field surveys will be undertaken prior to construction to confirm the number of nests present at the known locations and whether the nests remain active. ■ Where loss or disturbance cannot be avoided (e.g., due to work on bridge), all requirements under the Endangered Species Act will be met, including any registration, compensation, replacement structures and/or permitting requirements. ■ If disturbance to structures confirmed to provide Barn Swallow habitat is scheduled during the nesting season for Barn Swallow (April 1 to August 31), a nest search will be undertaken to confirm that no Barn Swallow are nesting on structures that may be affected by construction activities on or near these areas. Exclusion measures will be implemented prior to nesting season to dissuade use of these areas for nesting.	■ On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include additional site maintenance and alteration of activities to reduce impacts. Additional monitoring measures will be developed with the Ministry of the Environment, Conservation and Parks, if required.
Species at Risk – Bats	■ Habitat loss, disturbance and/or mortality to Species at Risk Bats	■ All requirements of the Endangered Species Act will be met. Additional monitoring, mitigation and compensation for removal of suitable treed or anthropogenic roosting habitat may be required based on the results of additional surveys and consultation with the Ministry of the Environment, Conservation and Parks.	■ If mitigation is required, on-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include additional site maintenance and alteration of activities to reduce impacts. Additional monitoring measures will be developed in consultation with Ministry of the Environment, Conservation and Parks, if required.

Environmental Component	Potential Impacts	Mitigation Measure(s)	Monitoring Activities
Aquatic Environment – Wetlands and Waterbodies	■ Removal or impacts to aquatic and riparian vegetation; erosion and sedimentation to waterbodies from construction; risk of contamination to waterbodies as a result of spills ■ No impacts to wetlands, as none are present	■ Construction activities will maintain the buffers established during the design phase to reduce potential negative impacts to waterbodies. ■ Shorelines or banks disturbed by construction activities will be immediately stabilized to prevent erosion and/or sedimentation, preferably through re-vegetation with native species suitable for the site. ■ An Erosion and Sediment Control Plan, in accordance with the Erosion and Sediment Control Guide for Urban Construction (Toronto and Region Conservation Authority, 2019), as amended from time to time, will be prepared prior to and implemented during construction to reduce the risk of sedimentation to the waterbody. ■ A Spill Prevention and Response Plan will be developed before work commences to ensure procedures and policies are in place during construction to reduce impacts to watercourses.	■ On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions, if required. Corrective actions may include alteration of activities to reduce impacts and enhance mitigation measures. ■ All erosion and sediment control measures should be inspected weekly, after every rainfall and significant snow melt event, and daily during periods of extended rain or snow melt. ■ All damaged erosion and sediment control measures will be repaired and/or replaced within 48 hours of the inspection.
Aquatic Environment – Fish and Fish Habitat	■ Potential for direct, in-water impacts to fish and fish habitat	■ All requirements of the Fisheries Act will be met. ■ If in-water and/or near water construction works are required, appropriate mitigation measures will be followed, as identified in Applicable Law and through consultation with the relevant authorities such as Fisheries and Oceans Canada. ■ Shorelines or banks disturbed by construction activities will be immediately stabilized to prevent erosion and/or sedimentation, preferably through re-vegetation with native species suitable for the site. ■ An Erosion and Sediment Control Plan, in accordance with the Erosion and Sediment Control Guide for Urban Construction (Toronto and Region Conservation Authority, 2019) as amended from time to time, will be prepared prior to and implemented during construction to reduce the risk of sedimentation to the waterbody. ■ A Spill Prevention and Response Plan will be developed before work commences to ensure procedures and policies are in place during construction to reduce impacts to watercourses. Stockpiled material will be stored at a safe distance from the waterway to ensure that no deleterious substances enter the water. ■ If required, sediment and erosion control measures (silt curtains, silt fence, temporary sedimentation basins) will be installed and will be maintained during the work phase and until the site has been stabilized. ■ Any temporary mitigation measures will be installed prior to the commencement of any site clearing, grubbing, excavation, filling or grading works and will be inspected and maintained on a regular basis. ■ To the extent feasible, schedule work to avoid wet, windy and rainy periods that may result in high flow volumes and/or increase erosion and sedimentation. ■ All equipment fueling and maintenance will be done at a safe distance from the water (i.e., 30 metres or more) to ensure that no deleterious substances enter the waterway. ■ Ensure that all in-water activities, or associated in-water structures, do not interfere with fish passage, constrict the channel width, or reduce flows. ■ Reduce the removal of natural woody debris, rocks, sand or other materials from the banks, the shoreline or the bed of the waterbody below the ordinary high-water mark. ■ Fish screens, if required, will be used to avoid entrainment of fish in pumps and hoses as per the End-of-pipe fish protection screens for small water intakes in freshwater and Fisheries and Oceans Canada's Interim Standard and Code of Practice.	■ On-site inspection will be undertaken to confirm the implementation of the mitigation measures and identify corrective actions if required. Corrective actions may include additional site maintenance and alteration of activities to reduce impacts. ■ All erosion and sediment control measures should be inspected weekly, after every rainfall and significant snow melt event, and daily during periods of extended rain or snow melt. ■ All damaged erosion and sediment control measures will be repaired and/or replaced within 48 hours of the inspection.

Environmental Component	Potential Impacts	Mitigation Measure(s)	Monitoring Activities
		■ If dewatering is proposed, the need for a dewatering zone of influence assessment and dewatering monitoring plan should be evaluated during detailed design. The dewatering monitoring plan, should it be deemed required, will monitor for potential negative effects to adjacent vegetation communities if affected due to dewatering activities, and will provide an adaptive management plan should said negative effects be observed. ■ If dewatering, discharge should be directed into nearby municipal sanitary and storm systems. If this is not possible upon careful evaluation of the alternatives and potential impacts, should discharge into the watercourse be determined as the only feasible option, a staged-approach must be considered, such as on-site storage in ponds and reservoirs, evaporation ponds, and staged-release into the watercourse. ■ Design temporary and permanent water management system and dewatering operations, if required, to maintain downstream flows and to prevent erosion and/or release of sediment laden or contaminated water to the water feature. ■ If required, prior to dewatering isolated work areas, fish will be captured and relocated to suitable habitat outside of the work area under a Licence to Collect Fish for Scientific Purposes from the Ministry of Natural Resources and Forestry.	

Notes: Regulations, standards and guidance documents referenced herein are current as of the time of writing and may be amended from time to time.
If clarification is required regarding regulatory requirements, the appropriate regulatory agencies will be consulted.

6.2 Soil and Groundwater

Table 6-2 outlines mitigation measures and monitoring activities to address the potential soil and groundwater impacts that may result from the Lower Don Bridge and Don Yard early works.

Table 6-2: Potential Impacts, Mitigation Measures and Monitoring Activities – Soil and Groundwater

Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities
Soil Stability and Quality	■ Construction activities will cause displacement of the soils and potentially bedrock. This may result in ground movement and settlement (e.g., through excavation/grading and/or dewatering activities). ■ Dewatering activities can cause soil subsidence/settlement and impacts on surface/subsurface structures within the zone of influence. ■ Potential heaving of the excavation base caused by groundwater pressures below the depth of excavation. ■ If required, use of pressurized fluids subsurface could result in fluid migration to surface. ■ Construction activities (e.g., excavation) could expose contaminated materials and/or result in the spreading of contaminated materials.	■ Complete detailed soil investigations, as project planning progresses; ■ Complete pre-construction inspections of structures within the dewatering zone of influence, as required; ■ Potential heave of an excavation base is mitigated through a groundwater depressurization program completed in advance of excavation that sufficiently lowers the potentiometric head in the confined groundwater system and stabilizes the soils being excavated; ■ Excavation support systems will be employed, as required; ■ Conduct dewatering such that ground loss is controlled/minimized; ■ Use excavation/grading equipment designed to reduce the potential for ground loss and the associated potential for ground settlement; ■ If required, conduct ground treatment such as jet grouting to reduce the risk of ground loss; ■ Develop management plan(s) for the handling, management and disposal of all excavated material (i.e., soil, rock and waste) that is generated or encountered during the work; ■ Development and implementation of remedial action plans, risk assessment and risk mitigation plans for encountering contamination, as necessary; ■ Requirements of Ontario Regulation 406/19: On-Site and Excess Soil Management will be met.	■ If required, develop and conduct a settlement monitoring program to identify construction effects, adverse trends and the need for additional mitigation measures; ■ Soil sampling and monitoring plans shall be implemented as required prior to, during, and post construction. Track soil in registry as required by Ontario Regulation 406/19.
Groundwater Quantity	■ Construction dewatering may include impacts to groundwater-dependent natural features (i.e., Lower Don River) as a result of decreases in groundwater discharge to these features and impacts to private groundwater supply wells (if present) caused by a reduction in local groundwater levels. ■ In the case of discharge to the natural environment, the discharge rate and total volume must be considered within the context of the capacity of the conveyance route (e.g., drainage ditch, etc.) and receiving waterbody. Introducing a quantity of effluent above the capacity of these features can result in impacts such as erosion, scour, and flooding.	■ Potential impacts to groundwater-dependent natural features and/or private groundwater supply wells (if present) can be mitigated with measures such as avoidance of dewatering requirements, minimizing dewatering, and/or utilizing groundwater cut-off techniques to physically exclude groundwater from flowing into excavations advanced for construction. ■ Example contingency measures for impacts to groundwater-dependent natural features and/or private groundwater supply wells (if present) include supplementation of flow within the natural features, minimizing dewatering volume requirements, avoidance of dewatering during low-flow conditions, and provision of temporary water supply during the period of supply well impact. ■ Determination of water taking quantities, quality, and resultant dewatering zone of influence will be completed as project planning progresses, for example through completion of a site-specific hydrogeological investigation, construction dewatering assessment and a plan to manage groundwater. ■ The construction dewatering assessment will be completed as required to: – Provide an estimate of groundwater and/or surface water taking rates and quantities; – Estimate a zone of influence for each dewatering area; – Characterize groundwater and/or surface water quality; – Recommend appropriate dewatering methodologies; and – Provide an assessment of potential impacts related to the dewatering. ■ Dewatering should be assessed in accordance with the Toronto and Region Conservation Authority Technical Guidelines for the Development and Environmental Management Plans for Dewatering (Toronto and	■ Regular site inspections and monitoring activities such as monitoring of water levels in adjacent groundwater and/or surface water features, if required, will be completed by qualified members of the construction team to ensure that mitigation measures are fulfilled and that all regulatory requirements are met.

Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities
		Region Conservation Authority, 2013b). Ontario Regulations 64/16 and 387/04, as amended under the Ontario Water Resources Act, as required. ■ The plan to manage groundwater will be completed as required to: – Evaluate potential groundwater discharge options (i.e., sanitary and/or storm sewer, natural environment, off-site disposal, etc.); – Identify effluent treatment requirements; – Outline monitoring, mitigation, and contingency program (if required); – Determine the potential need for regulatory approvals; and – Identify notification and reporting requirements. ■ Identification of site-specific mitigation measures inclusive of monitoring programs relating to groundwater-dependent natural features, private supply wells (if present), and geotechnical heave/settlement within the anticipated dewatering zone of influence will be determined prior to works commencement.	
Groundwater Quality	■ Previous land use may have resulted in local contamination of groundwater or surface water which may be encountered during construction excavation and/or dewatering activities. ■ General construction activities such as vehicle and machinery operation have the potential to affect groundwater and/or surface water quality through minor contaminant releases. Spills may affect the surrounding groundwater quality and nearby supply wells (if present). ■ Improperly managed construction dewatering activities can result in accidental releases of contaminated groundwater to the environment and/or result in the migration of existing impacted groundwater. ■ The following materials may impact groundwater quality within the highly vulnerable aquifer and Event Based Area: – Application of road salt; – Storage/use of organic solvents and/or dense non-aqueous phase liquids; and, – Storage and handling of fuel.	■ The existing groundwater within each potential construction dewatering area will be characterized prior to construction activities, during a site-specific hydrogeological investigation, as required. ■ On-site treatment of dewatering effluent, if required, such that parameters in excess of the established discharge criteria are removed/reduced and discharge can proceed. ■ Dewatering should be assessed in accordance with the Toronto and Region Conservation Authority Technical Guidelines for the Development and Environmental Management Plans for Dewatering (Toronto and Region Conservation Authority, 2013b). ■ Measures such as avoidance of dewatering requirements, minimizing dewatering, and/or utilizing groundwater cut-off techniques to physically exclude groundwater from flowing into excavations advanced for construction could be considered, when on-site treatment is not technically and/or financially feasible. The removal of water to an off-site disposal facility could also be considered. ■ A Spill Prevention and Response Plan, outlining the steps required to prevent and contain any contaminant releases and/or to avoid impacts to groundwater/surface water is required to be developed prior to initiation of construction activities. This Spill Prevention and Response Plan should include a requirement for spill kits to be maintained on-site at all times during construction. ■ Pre-construction (baseline) groundwater quality testing should be performed at all construction dewatering locations before the outset of any discharge activities and compared to appropriate regulatory guidelines (i.e., Provincial Water Quality Objectives for discharge to the natural environment, storm and sanitary by-laws for discharge to municipal sewers). Appropriate water quality management (i.e., filtration systems and/or water treatment systems) will be required to be designed and implemented in the event that exceedances of regulatory guidelines or limits are detected in the influent groundwater quality. Discharge of dewatering effluent will be governed by the discharge approval(s) obtained for the Project, which could include one or a combination of Municipal Discharge Permits, Conservation Authority Approval, and/or Ministry of the Environment, Conservation and Parks Environmental Compliance Approval.	■ Monitoring activities such as groundwater and dewatering effluent sample collection and measurement of groundwater parameters (e.g., pH) in the field will be completed as required by qualified members of the construction contractor, and in accordance to the discharge requirements of the approval and/or permit, as applicable. ■ Regular inspections of equipment for fuel/fluid leaks, dewatering equipment and containment tanks for leakage, and installed erosion and sediment control measures.

Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities
		■ Ensuring that machinery is maintained and free of leaks to reduce the possibility of fluid release and storing any potential contaminants (e.g., oils, fuels, and chemicals) in designated areas using appropriate secondary containment, where necessary. ■ Education of workers regarding appropriate chemical use, handling, storage and transportation procedures, including spill response and reporting requirements. ■ Conduct a review of Source Protection Plan (SPP) policies and implement the following measures: – A Salt Management Plan that incorporates best management practices where the storage and application of road salt is required; – Best management practices if the handling and storage of dense non-aqueous phase liquids is required; – Best management practices if the storage of organic solvent is required; and, – Best management practices if the storage and handling of fuel is required in an Event Based Area.	

6.3 Hydrology and Surface Water

Table 6-3 outlines mitigation measures and monitoring activities to address the potential hydrology and surface water impacts that may result from the Lower Don Bridge and Don Yard early works.

Table 6-3: Potential Impacts, Mitigation Measures and Monitoring Activities – Hydrology and Surface Water

Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities
Floodplain	■ Potential to impact flooding conditions within the Don River Floodplain	■ Floodplain impact assessment will be conducted during detailed design following Toronto and Region Conservation Authority guidelines once details on the pier configuration and other detailed bridge design information are available. Design optimizations on abutment, pier, and embankment placement shall be considered to minimize hydraulic impacts. ■ Toronto and Region Conservation Authority staff will be consulted during detailed design to avoid potential infrastructure conflicts and impacts to flood protection measures/initiatives within the Lower Don Bridge and Don Yard Hydrology and Surface Water Study Area with consideration of, but not limited to, the following: – West Don Lands Flood Protection Landform (Toronto and Region Conservation Authority, 2005); – Broadview and Eastern Flood Protection Municipal Class Environmental Assessment (Toronto and Region Conservation Authority, 2021b); – Flood protection measures and tie-in with the existing railway embankment at Don Roadway and Eastern Avenue underpass as identified in the Don Mouth Naturalization and Port Lands Flood Protection Project Environmental Assessment (Toronto and Region Conservation Authority, 2014a); – New Broadview underpass with expanded flood protection tie-ins and drainage with the railway embankment as identified in the Port Lands and South of Eastern Transportation and Servicing Master Plan Class Environmental Assessment (Waterfront Toronto and City of Toronto, 2016); and, – Opening of bridge crossing on east side of Don River through railway embankment to accommodate Hybrid 3 as identified in the Gardiner Expressway and Lake Shore Boulevard East Reconfiguration Environmental Assessment (Waterfront Toronto and City of Toronto, 2017). ■ In addition, all necessary studies such as fluvial geomorphic process studies, meander belt and erosion studies, and geotechnical and slope stability assessments will be completed.	■ Develop and undertake a monitoring program of the West Don Flood Protection Landform, as required, in consultation with Toronto and Region Conservation Authority.
Floodplain	■ Potential for flooding impacts on-site during construction	■ Prior to construction, develop a Flood Contingency Plan with specific mitigation measures for any proposed works or temporary laydown and staging areas that are located within the Don River Floodplain. The Flood Contingency Plan may include risk mapping, and a monitoring strategy. ■ Include construction site on Toronto and Region Conservation Authority flood warning system to prepare site in advance of possible flood events	■ Include a monitoring strategy in the Flood Contingency Plan to monitor surface water levels during construction activities.
Surface Water/ Stormwater and Drainage	■ Change in stormwater quality and quantity, including: – Erosion of exposed soil and increased sediment loading which may impact receiving waterbodies and/or municipal stormwater drainage system; and, – Increased surface water/stormwater runoff.	■ The overall stormwater quality and quantity control strategy will be developed in accordance with all relevant municipal, provincial, and federal requirements, as amended, and outlined in a Stormwater Management Report. Stormwater management design will consider guidance provided by the Ministry of the Environment, Conservation and Parks, formerly the Ministry of the Environment and Climate Change Stormwater Management Planning and Design Manual (2003) and Ontario Ministry of Transportation Drainage Management Manual (2008), Toronto and Region Conservation Authority Stormwater Management Criteria (2012), and the Low Impact Development Stormwater Management Planning and Design Guide (Toronto and Region Conservation Authority/Credit Valley Conservation, 2010), as required. ■ The following stormwater management best management practices will be considered and implemented, as required: – Minimize clearing and amount of exposed soil; – Install key sediment control before grading/land alterations begin; – Sequence construction activities so that the soil is not exposed for long periods of times; – Protect storm drain inlets to filter out debris; and, – Stabilize all exposed soil areas as soon as land alterations have been completed. ■ Prior to construction, a Stormwater Management Plan that will outline stormwater discharges management associated with construction activities, and an Erosion and Sediment Control plan will be developed. ■ The Toronto and Region Conservation Authority's Living City Policies (Toronto and Region Conservation Authority, 2014b) will be followed during detailed design, including those policies related to outfall placement. ■ Continue to consult with the Toronto and Region Conservation Authority to align the Lower Don Bridge and Don Yard early works to the Lower Don Special Policy Area requirements, including the approach to flood proofing and flood modelling. ■ The Toronto and Region Conservation Authority's Stormwater Management Criteria (Toronto and Region Conservation Authority, 2012) will be followed, including those policies related to impervious areas. ■ If required, obtain a Municipal Discharge Permit (City of Toronto Private Water Discharge Permit/Agreement) to manage excess surface water/stormwater.	■ Monitoring activities will be implemented as outlined in the Stormwater Management Plan and/or Erosion and Sediment Control Plan and may include regular inspections and reporting on the performance of implemented erosion and sediment control measures, best management practices, and other monitoring activities, as required. ■ All monitoring procedures should stay in place throughout Lower Don Bridge and Don Yard early works construction.

6.4 Air Quality

Table 6-4 outlines mitigation measures and monitoring activities to address the potential air quality impacts that may result from the Lower Don Bridge and Don Yard early works.

The following federal and provincial guidelines for construction mitigation were utilized in the development of mitigation measures:

- Environment Canada's Best Practices for the Reduction of Air Emissions from Construction and Demolition Activities (Cheminfo Services Inc., 2005);
- Ministry of the Environment, Conservation and Parks' Management Approaches for Industrial Fugitive Dust Sources Technical Bulletin (Ministry of the Environment, Conservation and Parks, 2017);
- Ontario Hot Mix Producers Association's Environmental Practices Guide: Ontario Hot Mix Asphalt Plants, Fifth Edition (Ontario Hot Mix Producers Association, 2015); and
- Operations Manual for Air Quality Monitoring in Ontario (Ministry of the Environment, 2018).

Table 6-4: Potential Impacts, Mitigation Measures and Monitoring Activities – Air Quality

Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities
Construction Air Quality	■ Potential air quality impacts could include effects from diesel combustion and particulate emissions. Odour and visible dust may also cause public annoyance. ■ Exhaust emissions from construction vehicles may contribute to increased levels of nitrogen oxides, and volatiles such as benzene and benzo(a)pyrene, which given their existing background concentrations can contribute to existing levels of provincial criteria exceedance. ■ Certain construction activities are likely to emit particulates in higher quantities, which include site preparation and earth works activities, demolition activities, unpaved surfaces with heavy equipment travel, and uncovered soil storage piles. ■ Disruption of contaminated soils may release contaminants.	■ On-site construction vehicle activity shall be managed to control emissions of odourous contaminants and diesel exhaust, including benzene and benzo(a)pyrene emissions from exhaust. A plan to manage air quality will be developed to ensure consistent attention to mitigation of dust and particulates, including silica, from the construction site. The following mitigation measures should be considered in the plan to manage air quality: – All equipment complies with Canadian engine emissions standards. – All equipment visually inspected prior to use and properly maintained. – Implement an anti-idling policy to limit idling to 5 minutes or fewer, depending on weather conditions. – Use of electricity from the grid over diesel generators wherever possible. – Retrofitting of combustion engines with specific exhaust emission control measures such as particulate traps. – If applicable, follow guidelines on hot mix asphalt outlined in the Ontario Hot Mix Producers Association's Environmental Practices Guide: Ontario Hot Mix Asphalt Plants, Fifth Edition (Ontario Hot Mix Producers Association, 2015). ■ Applicable mitigation measures from Environment Canada's Best Practices for the Reduction of Air Emissions from Construction and Demolition Activities (Cheminfo Services Inc., 2005), the Ministry of the Environment, Conservation and Parks' Technical Bulletin Management Approaches for Industrial Fugitive Dust Sources, shall be followed. The following mitigation measures should be considered in the plan to manage air quality: – Complete earthwork grading within 10 days of ceased active construction. – Temporary seeding or mulching of bare soil and storage piles. – Compression or clodding of soil surfaces and storage piles to reduce erosion. – Confine storage pile activity to downwind side of piles. – Reduction of activities during high wind conditions. – Full or partial enclosure of demolition activities. – Wind screens or barriers where possible or necessary. – Off-site construction of certain structures or parts of structures to minimize air emission due to interference with the normal flow of traffic. – Scheduling certain construction activities (i.e., site preparation and earth works activities, demolition activities, unpaved surfaces with heavy equipment travel, and uncovered soil storage piles) to periods of time when exposure to dust is expected to be limited (e.g., avoid scheduling activities during dry, windy weather conditions). – Landscaping materials ordered close to time of use to reduce on-site storage. – Application of non-chloride soil stabilizers or dust control polymers where feasible. – Daily removal of accumulated mud, dirt and debris deposits on-site, and regular truck washing – Paved and unpaved roadway cleaning, watering or application of a non-chloride dust suppressant. – Minimize drop height of materials on-site. – Covering surface area of hauled bulk material. – Methods and equipment for cleanup of accidental spill of dusty materials. – Limit travel speeds on-site to a maximum of 16 to 24 kilometres per hour. ■ If disruption of contaminated soils is anticipated at any time, minimize contaminant release. ■ Develop a communications protocol which includes timely resolution of complaints.	■ The following monitoring activities should be considered in the development of the plan to manage air quality: – Baseline conditions should be established prior to construction for longer than one week to capture representative concentrations under varying meteorological conditions. – On-site meteorological monitoring in conjunction with real-time particulate monitoring representative of receptor impacts. – Place monitors both upwind and downwind of construction activities, where possible. – Application of threshold "Action Level" triggers for implementation of specific and increasing intensity mitigation activities linked to specific construction activities. – Reporting detailing results of ongoing monitoring and mitigation activities. – Monitoring at locations where there are persistent complaints, as required. ■ In addition, relevant construction monitoring activities from the following recommended guidelines will be implemented during construction: – Best Practices for the Reduction of Air Emissions from Construction and Demolition Activities (Cheminfo Services Inc., 2005); and – Operations Manual for Air Quality Monitoring in Ontario (Ministry of the Environment, Conservation and Parks, 2018).

6.5 Noise and Vibration

Table 6-5 outlines mitigation measures and monitoring activities to address the potential noise and vibration impacts that may result from the Lower Don Bridge and Don Yard early works.

Table 6-5: Potential Impacts, Mitigation Measures and Monitoring Activities – Noise and Vibration

Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities
Construction Noise	■ Environmental noise may cause annoyance and disturb sleep and other activities. ■ The severity of the noise effects resulting from construction projects varies, depending on: – Scale, location and complexity of the Project – Construction methods, processes and equipment deployed – Total duration of construction near sensitive noise receivers – Construction activity periods (days, hours, time period) – Number and proximity of noise-sensitive sites to construction area(s)	■ Construction noise impact mitigation measures to be considered include but are not limited to the following to meet applicable noise criteria: – Siting construction staging and laydown areas to avoid/reduce adverse impacts to sensitive receptors where feasible. – Use construction equipment compliant with noise level specifications in Ministry of the Environment, Conservation, and Parks guidelines NPC-115 and NPC-118. – Keep equipment in good working order and operate with effective muffling devices. – Equipment enclosures for equipment such as generators and compressors. – Additional equipment silencers/mufflers. – Use of upgraded construction hoarding (considering requirements from Canadian Standards Association Z107.9 for noise barriers) between construction equipment and noise sensitive receivers. – Use of localized movable noise barriers/screens for specific equipment and operations. – Minimize simultaneous operation of equipment where feasible. – Implement a no idling policy on site (unless necessary for equipment operation). – Restrict construction hours where feasible: • Perform construction during daytime hours where feasible. If night-time construction is necessary, the activities with the highest noise levels should be conducted during daytime periods where feasible. • If construction will occur outside of normal daytime hours, inform local residents before construction of type of construction and expected duration outside of daytime hours. • Consider construction duration limits for construction near 90 Distillery Lane (night), future 125/131 Mill Street, 170 Mill Street (night), 180-190 Mill Street, future 495 Front Street East, 502 Front Street East (night) 170 Bayview Avenue (night), and 77 East Don Roadway (night). – Limit the number of heavy trucks on site to the minimum required. – Stage construction vehicles away from noise sensitive locations, if feasible. – Establish and apply project-specific construction noise criteria/exposure limits. – Undertake noise monitoring and regular reporting throughout the construction phase. Where noise level limits are exceeded, additional noise mitigation measures shall be implemented. – Review construction and occupation timelines for new noise sensitive development in West Don Lands. As the completion date of these new noise sensitive receivers relative to the early works construction period is not yet determined, mitigation may be adjusted based upon the new developments (unoccupied as of June 2021) construction/occupation schedule. – Develop a communications protocol which includes timely resolution of complaints. – Additional mitigation measures not listed above may be considered.	■ Noise levels will be monitored where the impact assessment indicates that noise limits may be exceeded, to identify if any additional mitigation is required and verify mitigation measures(s) effectiveness. ■ Continuous noise monitoring should be completed at each geographically distinct active construction site associated with the Project with monitor(s) located strategically to capture the worst-case construction related noise levels at receptor locations based on planned construction activities, their locations, and the number, geographic distribution and proximity of noise sensitive receptors. ■ Monitoring at locations where there are persistent complaints, as required.
Construction Vibration	■ Exposure to vibration may result in public annoyance and complaints. Vibration may also cause damage to buildings and other structures.	■ Construction vibration impact mitigation measures to be considered include but are not limited to the following to meet applicable vibration criteria: – Siting construction staging and laydown areas to avoid/reduce adverse impacts to sensitive receptors where possible. – Utilize equipment with low vibration emissions where possible. – Off-site construction of components away from sensitive areas. – Restrict construction hours where feasible: • Perform construction during daytime hours where feasible. If night-time construction is necessary, the activities with the highest vibration levels should be conducted during the daytime periods where feasible. – Review vibration assessment based upon refined site staging, construction areas/equipment, and building locations prior to the commencement of construction, and update if necessary. – Review and refine the construction activities to avoid potential impacts to the Unilever Soap Factory building at 21 Don Roadway, a structure located at the car dealership at 11 Sunlight Park Road, the Cherry Street Interlocking Tower at 385 Cherry Street, Parking structure at 70 Distillery Lane (note that the parking structure appears to extend under 370 Cherry Street).Conduct monitoring and pre-construction inspections in accordance with City of Toronto By-law 514-2008. Monitoring and preconstruction requirements can be determined by calculation of Zone of Influence of construction equipment.	■ Monitoring will be undertaken at locations within the Zone of Influence to ensure compliance with the City of Toronto By-law 514-2008 and to identify the need for additional mitigation if required. ■ Monitoring will be undertaken to ensure compliance with other applicable vibration level limits identified, as required. ■ Monitoring will be undertaken to verify mitigation measure(s) effectiveness. ■ Pre-construction building inspection of the potentially impacted buildings adjacent to the early works construction sites are to be undertaken in

Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities
		– Provide smooth surfaces for trucks to travel and route heavily loaded trucks away from vibration sensitives sites where possible. – Operate construction equipment on lower vibration settings where available. – Maximize distance between equipment and sensitive receivers while receivers where feasible. – Establish and apply project-specific construction vibration criteria limits. – Review the vibration limits for the Cherry Street Interlocking Tower at 385 Cherry Street. It has been noted in the Ontario Line Cultural Heritage Report (AECOM, 2020b) that the Cherry Street Interlocking Tower was built to withstand vibration; however, the design vibration limits should be confirmed by a qualified specialist during the next phases of design. – Do not operate equipment where the City of Toronto By-law 514-2008 prohibited limits are predicted to be exceeded. Alternative construction methods and/or equipment with lower vibration emissions or power settings can be used if they do not exceed the City of Toronto's prohibited vibration limits. – As Project planning and design progress, conduct a review to identify any sensitive structures/operations that require more stringent vibration limits than the limits in City of Toronto By-law 514-2008; assess requirements, review/revise vibration limits for these locations and, if necessary, develop mitigation measures. US Federal Transit Administration Report No. 0123, Transit Noise and Vibration Impact Assessment Manual (2018) could be used as a source of additional criteria. – Develop communications protocol which includes timely resolution of complaints. – Additional mitigation measures not listed above may be considered.	accordance with City of Toronto By-law 514-2008. Continuous vibration monitoring along the construction site property lines closest to these structures will be initiated as warranted. ■ Monitoring at locations where there are persistent complaints, if required.

6.6 Socio-Economic and Land Use Characteristics

Table 6-6 outlines mitigation measures and monitoring activities to address the potential socio-economic and land use impacts that may result from the Lower Don Bridge and Don Yard early works.

Table 6-6: Potential Impacts, Mitigation Measures and Monitoring Activities – Socio-Economic and Land Use Characteristics

Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities
Property	■ Property acquisition – permanent and temporary	■ Specific permanent property requirements associated with the early works infrastructure components will be minimized to the extent feasible as planning progresses. Temporary property requirements associated with construction laydown and access will be minimized as planning progresses. To the extent possible, laydown and access areas will be located in areas that minimize adverse effects to sensitive receptors.	■ None identified.
All Land Uses and Adjacent Lands	■ Nuisance effects from construction activities	■ Mitigation measures related to potential nuisance effects are outlined in the Air Quality and Noise and Vibration potential impacts, mitigation measures, and monitoring activities tables. ■ An Erosion and Sediment Control Plan will be developed in accordance with the Erosion and Sediment Control Guide for Urban Construction (Toronto and Region Conservation Authority, 2019), as amended from time to time, that addresses sediment release to adjacent properties and roadways.	■ Monitoring activities related to potential nuisance effects are outlined in the Air Quality and Noise and Vibration potential impacts, mitigation measures, and monitoring activities tables. ■ Erosion and sediment control monitoring to be conducted (e.g., on-site inspection of erosion and sediment control measures).
All Land Uses and Adjacent Lands	■ Land use and access disruption	■ Provide well connected, clearly delineated, and appropriately signed temporary walkways and cycling route options, with clearly marked detours where required. ■ Provide temporary walkways with a pedestrian clearway of 2.1 metres, where possible. Temporary walkways required during construction will also meet Accessibility for Ontarians with Disabilities Act requirements for universal accessibility. ■ Provide temporary lighting, as required, and wayfinding signs and cues for navigation around the construction site. ■ Regular (existing) access to businesses during working hours will be maintained, where feasible. Where regular access cannot be maintained, alternative access and signage will be provided. ■ Continue to engage with the City of Toronto and local school board(s), as required, to confirm mitigation measures.	■ Regular monitoring (e.g. on-site inspection) of temporary access paths, walkways, cycling routes and fencing to ensure effectiveness.
Visual Characteristics	■ Visual effects from permanent public- facing structures and construction activities/areas	■ Consult with the City of Toronto throughout as planning progresses. ■ Minimize the visual effects of bridge structure by selecting appropriate building materials and architectural design. ■ A fence/screened enclosure for the construction area(s) will be provided, as required, with particular attention to material storage areas.	■ Regular monitoring (e.g., on-site inspection) of construction visual effects mitigation measures to ensure effectiveness.
Light Pollution	■ Light trespass, glare and light pollution effects	■ Comply with all local applicable municipal by-laws and Ministry of Transportation practices for lighting in areas near or adjacent to highways and roadways regarding outdoor lighting for both permanent and temporary construction activities, and incorporate industry best practices provided in ANSI/IES RP-8-18 – Recommended Practice for Design and Maintenance of Roadway and Parking Facility Lighting. Obtrusive light with respect to adjoining residents, communities, and/or businesses will be limited. ■ Perform the work in such a way that any adverse effects of construction lighting are controlled or mitigated to avoid unnecessary and obtrusive light with respect to adjoining residents, communities and/or businesses.	■ Regular monitoring (e.g., on-site inspection) of light pollution mitigation measures to ensure effectiveness.
Public Realm	■ Potential temporary relocation or removal of streetscaping materials, furniture, and landscaping in the public realm ■ Potential temporary relocation of the “No Shoes” sculpture	■ Temporary relocation or removal of streetscaping materials, furniture, and landscaping in the public realm will be minimized to the extent feasible. Wherever feasible, lands impacted by construction will be restored to the current City of Toronto standard following construction completion. ■ Avoid impacts to the “No Shoes” Mark di Suvero sculpture. Provide protection fence around the sculpture during construction and/or temporarily relocate the sculpture Consult with the City of Toronto as planning progresses regarding any impacts to this sculpture.	■ There are no monitoring activities associated with the public realm

6.7 Built Heritage Resources and Cultural Heritage Landscapes

Table 6-7 outlines mitigation measures and monitoring activities to address the potential impacts to built heritage resources and cultural heritage landscapes that may result from the Lower Don Bridge and Don Yard early works.

Table 6-7: Potential Impacts, Mitigation Measures and Monitoring Activities - Built Heritage Resources and Cultural Heritage Landscapes

Cultural Heritage Report Ref. No.	Location / Address and Property Name	Heritage Recognition	Meets or Potential to meet Ontario Regulation 10/06	Type and Description of Potential Impact	Mitigation Measures	Monitoring Activities
OLS-024	■ 385 Cherry Street ■ Cherry Street Interlocking Tower	■ Previously Identified built heritage resource/cultural heritage landscape ■ Metrolinx Provincial Heritage Property of Provincial Significance	Yes	**1. No direct adverse impacts from early works** (Impact Type 1 – no anticipated impact, from Appendix H: Preliminary Potential Project-Specific Impacts and Proposed Mitigation Measures – Ontario Line South Study Area, in the Ontario Line Cultural Heritage Report (AECOM, 2020d)) No direct physical impacts are anticipated. The structure located within OLS-024 is adjacent to the Lower Don Bridge and Don Yard Early Works Project Footprint.	■ No mitigation measures required for Lower Don Bridge and Don Yard early works. Continue to avoid OLS-024.	■ Lower Don Bridge and Don Yard early works will have no direct impacts to built heritage resources and cultural heritage landscapes that require monitoring prior, during or post-construction of early works.
OLS-024	■ 385 Cherry Street ■ Cherry Street Interlocking Tower	■ Previously Identified built heritage resource/cultural heritage landscape ■ Metrolinx Provincial Heritage Property of Provincial Significance	**Yes**	**2. No indirect adverse impact from early works**[30] (Impact Type 1 – no anticipated impact, from Appendix H: Preliminary Potential Project-Specific Impacts and Proposed Mitigation Measures – Ontario Line South Study Area, in the Ontario Line Cultural Heritage Report (AECOM, 2020d)) No indirect impacts to the significant views are anticipated. The Cherry Street Interlocking Tower structure is located directly adjacent to Cherry Street, and adjacent to the Lower Don Bridge and Don Yard Early Works Project Footprint. Ground level GO tracks shifts will not impact any identified significant views, including: – Clear views along the tracks in both directions – Views of the tower when travelling by train to Union Station – Views to the tower when looking east along Cherry Street and when looking from the Gooderham and Worts Distillery	■ No mitigation measures required for Lower Don Bridge and Don Yard early works.	■ Lower Don Bridge and Don Yard early works will have no indirect impacts to built heritage resources and cultural heritage landscapes that require monitoring prior, during or post-construction of early works.
OLS-025	■ Cherry Street Subway	■ Previously Identified Built Heritage Resource/Cultural Heritage Landscape ■ Metrolinx Provincial Heritage Property	**No**	**1. No direct adverse impacts from Lower Don Bridge - Don Yard early works** (Impact Type 1 – no anticipated impact, from Appendix H: Preliminary Potential Project-Specific Impacts and Proposed Mitigation Measures – Ontario Line South Study Area, in the Ontario Line Cultural Heritage Report (AECOM, 2020d)). No direct impacts are anticipated. Based on the conceptual design (**Figure 3-1**), the GO tracks proposed to be shifted are located within OLS-025, however the structure itself is not being adversely impacted as part of the Lower Don Bridge and Don Yard early works construction activities.	■ No mitigation measures required for Lower Don Bridge and Don Yard early works. Continue to avoid OLS-025.	■ Lower Don Bridge and Don Yard early works will have no direct impacts to built heritage resources and cultural heritage landscapes that require monitoring prior, during or post-construction of early works.

30. Note, the Cherry Street Interlocking Tower, a railway structure, was built in its present location to withstand vibration and vibration was not included as a potential impact in the Ontario Line Cultural Heritage Report (AECOM, 2020a); however, the design vibration limits of the Cherry Street Interlocking Tower should be confirmed by a qualified specialist during the next phases of design.

Cultural Heritage Report Ref. No.	Location / Address and Property Name	Heritage Recognition	Meets or Potential to meet Ontario Regulation 10/06	Type and Description of Potential Impact	Mitigation Measures	Monitoring Activities
OLS-029	■ Gooderham and Worts Distillery National Historic Site ■ (and Distillery District Heritage Conservation District, Under Study)	■ Designated Part IV of the Ontario Heritage Act (By-law 154-76-designation for the complex) ■ National Historic Site ■ Heritage Conservation District, Under Study (Heritage Conservation District Study is complete, Plan not available online) ■ Listed on the Canadian Register ■ City of Toronto Heritage Easement Agreements CA397773, CA397771, CA397781, CA397779, CA397777, CA397775, CA397783, AT228498.	**Yes**	**1. No direct adverse impacts from Lower Don Bridge - Don Yard early works** (Impact Type 1 – no anticipated impact, from Appendix H: Preliminary Potential Project-Specific Impacts and Proposed Mitigation Measures – Ontario Line South Study Area, in the Ontario Line Cultural Heritage Report (AECOM, 2020d)) No direct physical impacts are anticipated. The boundary of the National Historic Site, including the buildings in the southeast corner of the National Historic Site, and the proposed Heritage Conservation District boundary of OLS-029 are adjacent to the Lower Don Bridge and Don Yard Early Works Project Footprint and therefore, will not experience direct impacts from early works.	■ No mitigation measures required. Continue to avoid OLS-029, the National Historic Site and Heritage Conservation District, under study.	■ Lower Don Bridge and Don Yard early works will have no direct impacts to built heritage resources and cultural heritage landscapes that require monitoring prior, during or post-construction of early works.
OLS-029	■ Gooderham and Worts Distillery National Historic Site ■ (and Distillery District Heritage Conservation District, Under Study)	■ Designated Part IV of the Ontario Heritage Act (By-law 154-76-designation for the complex) ■ National Historic Site ■ Heritage Conservation District, Under Study (Heritage Conservation District Study is complete, Plan not available online) ■ Listed on the Canadian Register ■ City of Toronto Heritage Easement Agreements CA397773, CA397771, CA397781, CA397779, CA397777, CA397775, CA397783, AT228498.	**Yes**	**2. No indirect adverse impacts from Lower Don Bridge – Don Yard early works** (Impact Type 1 – no anticipated impact, from Appendix H: Preliminary Potential Project-Specific Impacts and Proposed Mitigation Measures – Ontario Line South Study Area, in the Ontario Line Cultural Heritage Report (AECOM, 2020d)) No indirect impacts due to vibration are anticipated. Contributing buildings within OLS-029 are approximately 45 metres north of the Lower Don Bridge and Don Yard Early Works Project Footprint, beyond the 11.1 metres vibration buffer.	■ No mitigation measures required for Lower Don Bridge and Don Yard early works.	■ Lower Don Bridge and Don Yard early works will have no indirect impacts to built heritage resources and cultural heritage landscapes that require monitoring prior, during or post-construction of early works.

Cultural Heritage Report Ref. No.	Location / Address and Property Name	Heritage Recognition	Meets or Potential to meet Ontario Regulation 10/06	Type and Description of Potential Impact	Mitigation Measures	Monitoring Activities
LDB-001	■ Public Space: Former location of the first railway crossing of the Don River	■ Potential built heritage resource/cultural heritage landscape ■ Identified in HDDR field review	**No**	**1. Potential direct adverse impact from Lower Don Bridge and Don Yard early works** Potential direct impacts are anticipated. A portion of LDB-001 is located within the Lower Don Bridge and Don Yard Early Works Project Footprint. Based on the conceptual design (**Figure 3-1**), construction activities within LDB-001 could include activities related to early works construction as well as temporary impacts (e.g. temporary staging/laydown area). The 1856 abutment stones on the west side of the Lower Don River are heritage attributes of LDB-001. They may require removal/relocation to accommodate construction activities related to early works.	■ The following mitigation measures were developed in this Heritage Detailed Design Report. ■ If avoidance of LDB-001 and its heritage attributes identified in **Table 5-14** is not feasible then: – Consult with City of Toronto Heritage Planning as planning progresses regarding any physical impact, including stone relocation, to LDB-001 in order to determine and obtain any approval or permits that may be required. Note, a portion of LDB-001 is within OLS-024[31] – Apply the following steps if the 1856 abutment stones within LDB-001 can remain in-situ during the early works construction: • Mark the location of each 1856 abutment stone on the Detailed Design plan as “To be retained: Implement protection measures prior to construction” • Install protection measures for each 1856 abutment stone within the public space, such as box or fence hoarding, prior to construction. – Apply the following steps if avoidance of the 1856 abutment stones within LDB-001 during early works construction is not feasible and removal/relocation is required: • Mark the location of each 1856 abutment stone on the Detailed Design plan as “Remove prior to construction, store, reinstate post-construction” • Prior to construction determine an appropriate removal plan and storage location • Remove 1856 abutment stones prior to construction • Reinstate 1856 abutment stones within LDB-001 post-construction, preferably in the same location as pre-removal.	■ Early works may impact this resource and construction and post-construction monitoring may be required. ■ If the 1856 abutment stones remain in-situ during early works construction the following monitoring may be required: – During construction, monitor the protection of the 1856 abutment stones. – Post construction remove hoarding and confirm the condition of the 1856 abutment stones meet pre-construction conditions.

31. As noted in **Table 5-14**the heritage footprint of OLS-024, the portion of the property that meets O. Reg. 10/06 and is considered a Provincial Heritage Property of Provincial Significance is within the Metrolinx Heritage Property of Provincial Significance Boundary and is not within LDB-001. Therefore, a physical impact to this portion of OLS-024 does not require Minister’s Consent.

Cultural Heritage Report Ref. No.	Location / Address and Property Name	Heritage Recognition	Meets or Potential to meet Ontario Regulation 10/06	Type and Description of Potential Impact	Mitigation Measures	Monitoring Activities
LDB-001	■ Public Space: Former location of first railway crossing of the Don River	■ Potential built heritage resource/cultural heritage landscape ■ Identified in Heritage Detail Design Report field review	**No**	**2. No direct adverse impact from Lower Don Bridge and Don Yard early works** No direct adverse impact is anticipated to the identified view of the 1856 abutment stones on the east side of the Lower Don River. The stones will remain in-situ. Temporary impacts to the view of the 1856 abutment stones on the east side of the Lower Don River may occur during construction of the proposed bridge (**Figure 3-1).** Following construction completion, the view of the 1856 abutment stones from the west side of the Lower Don River will be reinstated. It is anticipated that the proposed bridge will span the Lower Don Trail, the Lower Don River and the Don Valley Parkway and the abutments will be located west of the trail and east of the Don Valley Parkway, thus leaving an unobstructed view of the 1856 abutment stones on the east side of the river.	■ No mitigation measures required for LDB-001 as it relates to the view of the 1856 abutment stones.	■ No monitoring activities required for LDB-001 as it relates to the view of the 1856 abutment stones.
LDB-002	■ Consumer's Gas Bridge ■ Bridge carrying the gas main over Lower Don River	■ Potential built heritage resource/cultural heritage landscape ■ Identified in Heritage Detail Design Report field review	**No**	**1. No direct adverse impacts from Lower Don Bridge and Don Yard early works** No direct physical impacts are anticipated. The structure at LDB-002 is adjacent to the Lower Don Bridge and Don Yard Early Works Project Footprint. LDB-002 is separated from the Lower Don Bridge and Don Yard Early Works Project Footprint by the Lower Don River Trail.	■ No mitigation measures required for Lower Don Bridge and Don Yard early works. Continue to avoid LDB-002.	■ Lower Don Bridge and Don Yard early works will have no direct or indirect impacts to built heritage resources and cultural heritage landscapes that require monitoring prior, during or post-construction of early works.
LDB-002	■ Consumer's Gas Bridge ■ Bridge carrying the gas main over Lower Don River	■ Potential built heritage resource/cultural heritage landscape ■ Identified in Heritage Detail Design Report field review	**No**	**2. No indirect adverse impact from Lower Don Bridge and Don Yard early works** No indirect impacts due to vibration are anticipated. The structure, LDB-002 is adjacent to the Lower Don Bridge and Don Yard Early Works, within the 11.1 metre vibration buffer. However, as a bridge, it is built to withstand vibration.	■ No mitigation measures required for Lower Don Bridge and Don Yard early works.	■ Lower Don Bridge and Don Yard early works will have no indirect or indirect impacts to built heritage resources and cultural heritage landscapes that require monitoring prior, during or post-construction of early works.
LDB-003	■ Old Eastern Avenue Bridge ■ Former Alignment of Eastern Avenue over Lower Don River	■ Potential built heritage resource/cultural heritage landscape ■ Identified in Heritage Detail Design Report field review	No	**1. No direct adverse impacts from early works** No direct physical impacts are anticipated. The structure at LDB-003 is adjacent to the Lower Don Bridge and Don Yard Early Works Project Footprint. LDB-003 is separated from the Lower Don Bridge and Don Yard Early Works Project Footprint by the Lower Don River Trail.	■ No mitigation measures required for Lower Don Bridge and Don Yard early works. Continue to avoid LDB-003.	■ Lower Don Bridge and Don Yard early works will have no direct or indirect impacts to built heritage resources and cultural heritage landscapes that require monitoring prior, during or post-construction of early works.
LDB-003	■ Old Eastern Avenue Bridge ■ Former Alignment of Eastern Avenue over Lower Don River	■ Potential built heritage resource/cultural heritage landscape ■ Identified in Heritage Detail Design Report field review	**No**	**2. No indirect adverse impact from Lower Don Bridge and Don Yard early works** No indirect impacts due to vibration are anticipated. The structure, LDB-003 is adjacent to the Lower Don Bridge and Don Yard Early Works, within the 11.1 metre vibration buffer. However, as a bridge, it is built to withstand vibration.	■ No mitigation measures required for Lower Don Bridge and Don Yard early works.	■ Lower Don Bridge and Don Yard early works will have no indirect or indirect impacts to built heritage resources and cultural heritage landscapes that require monitoring prior, during or post-construction of early works.

Cultural Heritage Report Ref. No.	Location / Address and Property Name	Heritage Recognition	Meets or Potential to meet Ontario Regulation 10/06	Type and Description of Potential Impact	Mitigation Measures	Monitoring Activities
LDB-004	■ Cultural Heritage Commemorative Plaque	■ Heritage Toronto Plaque- within Corktown Common, 155 Bayview Avenue	**No**	**1. No direct adverse impacts from Lower Don Bridge and Don Yard early works** No direct physical impacts are anticipated. A portion of LDB-004 is within the Lower Don Bridge and Don Yard Early Works Project Footprint, however the commemorative plaque is located approximately 50.8 metres north of the Lower Don Bridge – Don Yard Early Works Project Footprint and therefore no direct physical impacts are anticipated.	■ No mitigation measures required for Lower Don Bridge and Don Yard early works. Continue to avoid LDB-004.	■ Lower Don Bridge and Don Yard early works will have no direct impacts to built heritage resources and cultural heritage landscapes that require monitoring prior, during or post-construction of early works.
LDB-004	■ Cultural Heritage Commemorative Plaque	■ Heritage Toronto Plaque- within Corktown Common, 155 Bayview Avenue	**No**	**2. No indirect adverse impact from Lower Don Bridge and Don Yard early works** Indirect impacts due to vibration on LDB-004 are not applicable. This resource is a commemorative plaque and does not contain buildings or structures that would be subject to vibration impacts.	■ No mitigation measures required for Lower Don Bridge and Don Yard early works.	■ Lower Don Bridge and Don Yard early works will have no indirect impacts to built heritage resources and cultural heritage landscapes that require monitoring prior, during or post-construction of early works.

6.8 Archaeological Resources

Early works are anticipated to result in a combination of surface/above grade and below grade impacts. Areas with determined impacts requiring further archaeological assessment will dictate the type of archaeological assessment strategy that should be employed. The further archaeological assessment that could be required for early works include standard surface level testing, a combination of mechanical and hand excavation for deeply buried contexts, and a requirement for archaeological monitoring during construction. The type of impact could also remove the requirement for certain types of archaeological assessment.

Table 6-8 outlines mitigation measures and monitoring activities to address the potential impacts to archaeological resources that may result from the Lower Don Bridge and Don Yard early works.

It should be noted that the Lower Don Bridge and Don Yard Early Works Project Footprint may include lands that will not require ground disturbing activities during early works construction. As planning progresses and specific areas of ground disturbing activities are confirmed, only those areas will require further archaeological assessment.

Table 6-8: Potential Impacts, Mitigation Measures and Monitoring Activities - Archaeological Resources

Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities
Archaeological Potential	■ Potential for the disturbance of unassessed or documented archaeological resources.	■ Areas identified as retaining archaeological potential in the Lower Don Bridge and Don Yard Early Works Project Footprint, as per the Ontario Line South Stage 1 Archaeological Assessment Report (AECOM, 20204), are shown on **Figure 5-19**, and include the following. Should ground disturbing activities be planned within these areas, further archaeological assessment must be completed prior to any ground disturbing activities. ■ Any additional Archaeological Assessments (e.g., Stage 2, Stage 3 if recommended by the Stage 2) shall be completed as early as possible, and prior to the ground disturbing activities. This work shall be done in accordance with the Ministry of Heritage, Sport, Tourism and Culture Industries' Standards and Guidelines for Consultant Archaeologists (2011) to identify any archaeological resources that may be present. ■ Indigenous Nations will be invited to participate in any subsequent archaeological work. All future archaeological assessment findings will be shared with the Indigenous Nations that were engaged during the Stage 1 archaeological assessment. ■ If in-water work is required, a marine archaeological assessment will be completed.	■ None identified.
Archaeological Resources	■ Potential recovery of archaeological resources during construction.	■ Should previously unknown or unassessed deeply buried archaeological resources be uncovered during construction activities, they may be a new archaeological site and therefore subject to Section 48(1) of the Ontario Heritage Act. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed archaeologist to carry out archaeological field work, in compliance with Section 48 (1) of the Ontario Heritage Act. Any person discovering human remains must immediately notify the police or coroner and the Registrar of Cemeteries, Ministry of Government Services. In addition, consultation with relevant Indigenous Nations will be initiated in the event that archaeological resources or human remains are discovered.	■ None identified.

6.9 Traffic and Transportation

Table 6-9 outlines mitigation measures and monitoring activities to address the potential traffic and transportation impacts that may result from the Lower Don Bridge and Don Yard early works.

Table 6-9: Potential Impacts, Mitigation Measures and Monitoring Activities - Traffic and Transportation

Environmental Component	Potential Impacts	Mitigation Measure(s)	Monitoring Activities
Transportation Network – Roads	■ If required, temporary lane closures along the Don Valley Parkway may result in impeding traffic flow and increased average delay of vehicles, including emergency vehicles. ■ Construction vehicle traffic may impact traffic operations resulting in increased vehicular delays and queue lengths, especially at intersections where construction traffic is required to make left-turning movements (e.g., the intersection of Cherry Street and Lake Shore Boulevard East). ■ Potential overlapping construction timelines with other planned projects (e.g. local development) nearby may result in impacts to the transportation network and its road users.	■ A quantitative traffic impact assessment will be completed, if required, as project planning progresses to consider vehicular traffic impacts as a result of the Lower Don Bridge and Don Yard early works. ■ Develop and implement a transit and traffic management plan(s), which could include temporary changes to intersection lane configurations, traffic signal timing optimization, modifications to existing signal timing plans, etc. The transit and traffic management plan(s) will also address specific emergency services requirements in consultation with the City of Toronto. ■ Traffic signal timing optimization may be assessed/implemented to increase capacity of affected intersections and to aid in the movement of traffic. Traffic signal timing adjustments would require coordination between Metrolinx and City of Toronto, and will be undertaken if required, to determine appropriate changes to traffic signal timings. ■ Consider scheduling construction activities during off-peak periods and weekends to minimize disruptions to road users during the critical peak periods. ■ Co-ordinate with the City of Toronto regarding other ongoing construction projects when scheduling the early works activities to maintain the mobility of road users.	■ The effectiveness of the transit and traffic management plan(s) will be monitored throughout the construction period and adjustments will be made based on actual field observations, as needed.
Transportation Network – Active Transportation	■ Temporary closure of the Lower Don Trail underneath and/or in proximity to the rail corridor may be required. This would result in temporary discontinuation of the Lower Don Trail which may impact the convenience of pedestrians and cyclists and disrupt trail connectivity.	■ Ensure that appropriate signage and notifications are provided to direct pedestrians and cyclists around the closed section of the Lower Don River Trail. The potential detour routes include the Corktown Common Trail and the sidewalks and bike lanes along Bayview Avenue, Mill Street, and Cherry Street. ■ Reduce interference with pedestrians and cyclists. This may include fencing, hoarding, shared-lane markings, signals, wayfinding signs, and lighting as required to provide pedestrians and cyclists with safe, accessible, and continuous routes. ■ If required, co-ordinate with the City of Toronto to ensure any modifications to pedestrian crossing distances at signalized intersections are reflected in revised pedestrian clearance timings. ■ Any temporary pedestrian facilities including temporary or relocated Toronto Transit Commission transit stops will be designed to meet Toronto Transit Commission accessibility standards. ■ Implement flagging where construction vehicles are present to ensure construction vehicle operators are aware of pedestrian and vehicular traffic within the construction area.	■ The effectiveness of the transit and traffic management plan (s) will be monitored throughout the construction period and adjustments will be made based on actual field observations, as needed.
Transportation Network – Rail	■ Early works construction may require temporary full or partial closure of existing rail tracks, which may disrupt existing commuter and freight rail operations. ■ Partial or full closures and/or modification of the train storage tracks at the Don Yard as required. The extent of track closures is dependent on the type of equipment used and construction sequencing.	■ Consult with rail operators with current service along the rail corridor (i.e., VIA Rail, Canadian National Railway, and Canadian Pacific Railway) to assess how track closures would impact their service and co-ordinate temporary schedules to accommodate all rail services on the open tracks.	■ The effectiveness of the transit and traffic management plan(s) will be monitored throughout the construction period. Adjustments to the construction staging plans and transit and traffic management plan(s) will be made based on actual field observations, as needed.
Transit Network	■ Potential increase of construction vehicles traffic, specifically at the intersection of Cherry Street and Lake Shore Boulevard East, could result in travel time delays to existing surface transit routes (i.e., Toronto Transit Commission bus route #72 Pape and #121 Fort York-Esplanade) that pass through the intersection. ■ Potential temporary lane restrictions on the Don Valley Parkway, could result in travel time delays to GO Bus #61 travelling within the Lower Don Bridge and Don Yard Traffic and Transportation Study Area.	■ Co-ordinate with local transit operators and notify transit users regarding travel delays to the bus services in advance. ■ Consider scheduling some construction activities during off-peak periods and weekends to minimize delays to bus services during the critical peak periods.	■ Transit services will be monitored through actual field observations throughout the construction period and additional mitigation measures will be considered, as needed.

6.10 Utilities

Table 6-10 outlines mitigation measures and monitoring activities to address the potential utilities impacts that may result from the Lower Don Bridge and Don Yard early works.

Table 6-10: Potential Impacts, Mitigation Measures and Monitoring Activities - Utilities

Environmental Component	Potential Impact	Mitigation Measure(s)	Monitoring Activities
Private Utilities	■ Utilities modification and relocation. ■ It is anticipated that there will be temporary impacts to existing utilities during the construction of early works, with potential relocations and associated disruptions to be determined. ■ Potential impacts to utilities are under review and will be confirmed as project planning progresses.	■ In-depth utility investigations will be undertaken during detailed design to confirm impacts. Any potential conflicts and association relocation requirements or mitigation measures will be identified in consultation with utility providers. ■ During detailed design, the potential impacts to utilities, relocations and mitigation measures will be further refined and confirmed through a subsurface utility engineering investigation. ■ Appropriate mitigation measures including next steps related to consultation with utility companies and stakeholders, and phasing plans will be determined once the impacts are confirmed. Utility relocations will consider potential impacts to the natural environment and comply with mitigation measures outlined in **Table 6-1**.	■ None identified.
Public Utilities and Municipal Servicing	■ Utilities modification and relocation. ■ It is anticipated that there will be temporary impacts to existing utilities during the construction of early works, with potential relocations to be determined. ■ Potential impacts to utilities are under review and will be confirmed as project planning progresses.	■ In-depth utility-related investigations such as subsurface utility engineering investigation will be completed during detailed design. Metrolinx will consult with the City of Toronto during the development of these studies to ensure concerns are addressed. ■ Metrolinx will also consult with the City of Toronto and Toronto Hydro, as required, during detailed design regarding potential impacts to municipal infrastructure and servicing and ensure that applicable City standards, guidelines, and criteria are met. ■ Utility relocations will consider potential impacts to the natural environment and comply with mitigation measures outlined in **Table 6-1**.	■ None identified.

7. Permits and Approvals

The following sections provide a description of the federal, provincial, conservation authority and/or municipal permits that may be required for the Lower Don Bridge and Don Yard early works. Permit and approval requirements will be confirmed as early works detailed design progresses.

7.1 Federal

7.1.1 Canadian Navigable Waters Act, 2019

The Canadian Navigable Waters Act, 2019 includes a schedule of navigable waters that require regulatory approval for works that may interfere with navigation. The Don River is not listed as a navigable waterway; however, Lake Ontario is listed as a navigable waterway that includes the mouths of multiple waterways connecting to Lake Ontario. It is not anticipated that the Lower Don Bridge and Don Yard early works will require an approval under the Canadian Navigable Waters Act, 2019; however, it should be confirmed with Transport Canada prior to construction.

7.1.2 Fisheries Act, 1985

If in-water works in the Don River are required as part of the Lower Don Bridge and Don Yard early works, a Fisheries and Oceans Canada Request for Review under the Fisheries Act, 1985 will be submitted. Fisheries and Oceans Canada's review will confirm permitting expectations and whether a Fisheries Act Authorization or Letter of Advice may be required in the event that the Lower Don Bridge and Don Yard early works is anticipated to result in death of fish and/or harmful alteration, disruption or destruction of fish habitat.

7.2 Provincial

7.2.1 Ontario Water Resources Act, 1990

As prescribed under Ontario Regulation 63/16, water taking for construction site dewatering in excess of 50,000 litres/day and under 400,000 litres/day is subject to registration through the Environmental Activity and Sector Registry. In accordance with Section 34 of the Ontario Water Resources Act, a Category 3 Permit to Take Water from Ministry of the Environment, Conservation and Parks must be obtained for the taking of

more than 400,000 Litres/day of groundwater for the purposes of construction dewatering from any given source. Approvals for the discharge of pumped water may also be required, and could be a combination of Municipal Discharge Permits (City of Toronto Private Water Discharge Permit/Agreement) and/or Ministry of the Environment, Conservation and Parks Environmental Compliance Approvals in accordance with Section 53 of the Ontario Water Resources Act. Any discharge of water would be subject to the terms and conditions of required permits and approvals based on the expected site conditions. Permitting requirements shall be confirmed during detailed design, when specific details such as construction timing and methods are known.

7.2.2 Environmental Protection Act, 1990

Environmental Compliance Approval(s) may be required from the Ministry of the Environment, Conservation and Parks for equipment held by contractors, owners and operators of that equipment in advance of construction, as required.

7.2.3 Endangered Species Act, 2007

Metrolinx will comply with the conditions of the Permit CR-D-002-19 issued on August 7, 2020 under Section 17 (1) in accordance with clause 17(2)(d) of the Endangered Species Act, 2007 for Species at Risk that may be affected by the Lower Don Bridge and Don Yard early works including Barn Swallow and bat Species at Risk.

Individual permits and approvals for construction activities are not required specifically for air quality prior to early works construction, with the exception of Environmental Compliance Approval(s) for equipment held by contractors, owners and operators of that equipment, which will be obtained in advance of construction, as necessary.

7.3 Conservation Authority

Metrolinx will consult with Toronto and Region Conservation Authority with respect to construction activities in regulated areas for the Lower Don Bridge and Don Yard early works in relation to Ontario Regulation 166/06: Toronto and Region Conservation Authority Regulation of Development, Interference with Wetlands and Alterations to Shorelines and Watercourses.

7.4 Municipal

A range of municipal permits and approvals (e.g., Permit to Injure or Remove Trees and/or Street Occupation Permit) may be required for Lower Don Bridge and Don Yard early works, particularly as pertaining to municipally owned lands and infrastructure.

Water, sanitary, and storm servicing will be reviewed during detailed design. Metrolinx will consult with the City of Toronto during detailed design to address impacts to municipal water, sanitary, and storm sewer systems.

Metrolinx will consult with City of Toronto Heritage Planning regarding any physical impact to one potential built heritage resource/cultural heritage landscape (LDB-001 – Public Space: Former location of first railway crossing of the Lower Don River) as part of the planning process.

A construction vibration control form is typically required to accompany a building permit as per the City of Toronto By-law 514-2008. This will be confirmed during the design and implementation phases of the Lower Don Bridge and Don Yard early works. Should a building permit be required, Metrolinx will consult with the City of Toronto.

Metrolinx, as a Crown Agency of the Province of Ontario, is exempt from certain municipal processes and requirements. In these instances, Metrolinx will engage with the City of Toronto to incorporate municipal requirements as a best practice, where practical, and may obtain associated permits and approvals.

Metrolinx shall continue to communicate and engage with the City of Toronto during detailed design and construction planning to address municipal concerns.

8. Consultation Process

8.1 Overview of the Consultation Process

In accordance with Section 11 of Ontario Regulation 341/20: Ontario Line Project, this section summarizes the Lower Don Bridge and Don Yard early works consultation activities carried out with members of the public, technical stakeholders, community stakeholders and groups, elected officials, Indigenous Nations, and other interested parties, including a summary of feedback and comments received. The overall Project record of consultation and summary of correspondence with the public, community stakeholders and groups, government review agencies and other technical stakeholders, elected officials and Indigenous Nations between November 2019 and October 17, 2020 is provided in Section 7 and Appendix C of the Ontario Line Final Environmental Conditions Report.

On June 22, 2021, the Notice of Publication of the Draft Lower Don Bridge and Don Yard Early Works Report was issued to commence the review period, effective until July 22, 2021. The Notice was published on the engagement webpage of the Project website (www.metrolinx.com/ontarioline) and distributed to:

- The individuals on the Project Distribution List, including community stakeholders and groups, government review agencies and other technical stakeholders, elected officials and Indigenous Nations;
- Approximately 15,461 properties (i.e., apartments, houses and businesses) within and surrounding the Lower Don Bridge and Don Yard Study Area; and
- 3,153 property owners within 30 metres of the Lower Don Bridge and Don Yard Early Works Project Footprint.

The Notice was advertised in three major newspapers (Toronto Star, Le Metropolitan, Toronto L'Express) and one community newspaper (Beach Metro) in English and French.

On August 25, 2021, the Notice of Publication of Final Lower Don Bridge and Don Yard Early Works Report was issued. The Notice was published in the same major newspapers that the Notice of Publication of Draft Lower Don Bridge and Don Yard Early Works Report was advertised in. The Notice was also distributed to all individuals, 15,461[32] property owners, community stakeholders and groups, government review

[32] The property list has been updated since publishing the Draft Lower Don Bridge and Don Yard Early Works Report from 15,511 to 15,461 to accommodate the most recent Canada Post mail routes, which are updated on a monthly basis.

agencies and other technical stakeholders, elected officials and Indigenous Nations that received the Notice of Publication of Draft Lower Don Bridge and Don Yard Early Works Report. The Final Lower Don Bridge and Don Yard Early Works Report (this Report) includes updates based on feedback received during the review period of the Draft Lower Don Bridge and Don Yard Early Works Report and is summarized in **Section 8.2.2**.

Consultation records related specifically to Lower Don Bridge and Don Yard early works are documented in **Appendix C3** of this Report. **Appendix C3** has been updated as part of this Final Lower Don Bridge and Don Yard Early Works Report to include all correspondence with the public, community stakeholders and groups, government review agencies and other technical stakeholders, elected officials and Indigenous Nations.

8.1.1 Approach to Consultation

The overall approach to consultation for the Ontario Line Project is outlined in Section 7.1.1 of the Ontario Line Final Environmental Conditions Report (AECOM, 2020a)[33], with further details provided in Appendices C1 to C6 of that report.

To share information and collect feedback related to Lower Don Bridge and Don Yard early works, Metrolinx has undertaken the following communication and engagement activities prior to and following the publication of the Draft Lower Don Bridge and Don Yard Early Works Report and during the 30-day review period:

- Early works specific updates on the Engagement webpage (Project website) (www.metrolinx.com/ontarioline) including:
  - East segment neighbourhood updates (Lower Don Bridge and Don Yard is within the East segment) – published on September 17, 2020 and updated on June 22, 2021; and
  - The Ontario Line early works webpage (https://www.metrolinxengage.com/en/content/early-works) and environment webpage (https://www.metrolinxengage.com/en/content/ontario-line-environment) updates that included information related to environmental reporting and timelines, early works timelines, scope overview and locations and provided an option to learn more about each early works location – published on September 17, 2020 and updated on November 30, 2020, March 9, 2021, May 27, 2021, June 17, 2021, June 22, 2021, July 5, 2021 and August 25, 2021.

33. The Ontario Line Final Environmental Conditions Report (AECOM, 2020) was posted on the Engagement webpage (Project website) on November 30, 2020 in accordance with Ontario Regulation 341/20: Ontario Line Project.

- Mailings/notifications;
- Emails via the Project email address (ontarioline@metrolinx.com);
- E-newsletters to the Project Distribution List (see **Section 8.1.3** for more details);
- Newspaper advertisements;
- Elected Officials Briefings;
- Outreach to Indigenous Nations, government review agencies and other technical stakeholders;
- Virtual open houses held on April 22, 2021 and June 24, 2021;
- Online consultation via the Engagement webpage (Project website); and
- Meetings with community stakeholders and groups.

Further details regarding the consultation process are included in the subsections below and in **Appendices C1 to C3**.

8.1.2 Record of Consultation

Metrolinx maintained a record of consultation related to Lower Don Bridge and Don Yard early works through August 25, 2021. The record of consultation has been divided into three separate appendices:

- **Appendix C1** provides the Project Distribution List used to facilitate notifications to stakeholders and interested parties.
- **Appendix C2** provides a record of all Lower Don Bridge and Don Yard early works consultation materials made available through the Engagement webpage (Project website).
- **Appendix C3** contains a record of consultation and correspondence, including newspaper advertisements and notices, and meetings with the public, community stakeholders and groups, government review agencies and other technical stakeholders, elected officials and Indigenous Nations through August 25, 2021.

All comments received from the public have been redacted to protect personal information.

8.1.3 Identification of Interested Parties

At the outset of the Project, an initial Project Distribution List was developed to facilitate notifications to stakeholders and interested parties. Additional email contacts were collected through the Engagement webpage (Project website) (where individuals could submit their email addresses and select “subscribe”), and through in-person and online consultation activities that took place between January 2020 and August 2021. Individuals have the opportunity to subscribe or unsubscribe to the Project Distribution List at any time.

The Project Distribution List is a live document that is continuously updated in response to Project feedback (e.g., requests to be added) and is used to inform stakeholders and the public of Project milestones (e.g., Notice of Publication of Draft Lower Don Bridge and Don Yard Early Works Report and Notice of Publication of Final Lower Don Bridge and Don Yard Early Works Report).

The Project Distribution List is available in **Appendix C1** of this Report. To protect personal information, individuals and members of the public are not included on the Project Distribution List.

All parties on the Project Distribution List have been notified of the publication of the Draft Lower Don Bridge and Don Yard Early Works Report, including opportunities to review and provide comments, and have been notified of the Final Lower Don Bridge and Don Yard Early Works Report.

8.2 Public Engagement and Feedback

8.2.1 Public Engagement Opportunities

Through July 22, 2021, early works-specific public engagement efforts included posting early works updates to the Engagement webpage (Project website) and providing online engagement opportunities for interested persons (as mentioned in **Section 8.1.1** and described in detail in **Section 8.2.1.1.** below).

8.2.1.1 Engagement Webpage

On September 17, 2020, November 30, 2020, March 9, 2021, May 27, 2021, June 17, 2021, June 22, 2021 and July 5, 2021, information related to Lower Don Bridge and Don Yard early works was published on the Engagement webpage (Project website) (www.metrolinx.com/ontarioline). This information is presented in **Appendix C2** of this Report. Information posted on June 22, 2021 included: the Notice of Publication of Draft Lower Don Bridge and Don Yard Early Works Report; the Draft Lower Don Bridge and

Don Yard Early Works Report and associated appendices; details regarding Lower Don Bridge and Don Yard early works components; updates on the Environmental Assessment process; and key findings, potential impacts and proposed mitigation measures for each of the environmental studies.

Between June 22, 2021 and July 22, 2021, individuals had the opportunity to review the Draft Lower Don Bridge and Don Yard Early Works Report and associated discipline-specific environmental study reports outlining key study findings and provide feedback.

Through July 22, 2021, individuals have been able to provide feedback related to Lower Don Bridge and Don Yard early works using two different formats, 'Contact Us' and 'Ask-A-Question' (in addition to writing directly to the Ontario Line email address). 'Contact Us' is a fillable form where participants provide their name, e-mail address, subject and message. The messages submitted using this form are sent to the Ontario Line email address.

'Ask-A-Question' is a public forum where participants provide their name, topic and question in a fillable form. The questions submitted by participants and the responses from Metrolinx are shared publicly on the Metrolinx Engage website. Participants also have the option to vote for their favourite questions or responses.

From June 22, 2021 to July 22, 2021, individuals have also been able to provide feedback related to Lower Don Bridge and Don Yard early works through the 'Provide Your Feedback' function on the Project webpage. 'Provide Your Feedback' is a fillable anonymous form where participants can provide their feedback on the Draft Lower Don Bridge and Don Yard Early Works Report by answering the following questions:

- What are your thoughts on the results of the Lower Don Bridge and Don Yard early works environmental studies?
- Which Lower Don Bridge and Don Yard early works environmental study is most important to you and why?
- Is there anything else we missed? Please let us know if you have any additional thoughts or concerns about the Draft Lower Don Bridge and Don Yard Early Works Report.

To provide feedback on individual environmental studies, fillable anonymous environmental discipline-specific feedback forms with the following questions were located at the end of each environmental discipline webpage:

- What are your thoughts on the Air Quality study key findings and identified potential impacts and mitigation measures?

- What are your thoughts on the Archaeological Resources study key findings and identified potential impacts and mitigation measures?
- What are your thoughts on the Cultural Heritage Report key findings and identified potential impacts and mitigation measures?
- What are your thoughts on the Hydrology and Surface Water study key findings and identified potential impacts and mitigation measures?
- What are your thoughts on the Natural Environment study key findings and identified potential impacts and mitigation measures?
- What are your thoughts on the Noise and Vibration study key findings and identified potential impacts and mitigation measures?
- What are your thoughts on the Socio-Economic Environment study key findings and identified potential impacts and mitigation measures?
- What are your thoughts on the Soil and Groundwater study key findings and identified potential impacts and mitigation measures?
- What are your thoughts on the Traffic and Transportation study key findings and identified potential impacts and mitigation measures?

All ‘Provide Your Feedback’, environmental discipline-specific feedback form submissions, ‘Contact Us’ and ‘Ask-A-Question’ submissions related to Lower Don Bridge and Don Yard early works received through to July 22, 2021 are available in **Appendix C3**. This appendix includes a summary of public email correspondence and a detailed correspondence record captured through to July 22, 2021.

The following online statistics were collected during the public engagement period for the Draft Lower Don Bridge and Don Yard Early Works Report from June 22, 2021 to July 22, 2021:

- Approximately 550 people visited the early works engagement webpages on the Project website to learn more about early works planned for Lower Don Bridge and Don Yard and share feedback;
- One comment related to Lower Don Bridge and Don Yard early works was received by email;
- No comments or questions related to Lower Don Bridge and Don Yard early works were received through the ‘Contacts Us’ or ‘Ask-A-Question’ features; and
- Twenty-two feedback form submissions were received in response to the Draft Lower Don Bridge Early Works Report.

8.2.2 Public Feedback

Public feedback received by the Project Team prior to and during the review period for the Draft Lower Don Bridge and Don Yard Early Works Report between June 22, 2021 and July 22, 2021 is included in **Appendix C3**. All comments received from the public have been redacted to protect personal information.

A detailed summary of public feedback received up to July 22, 2021 is provided below.

8.2.2.1 Summary of Public Feedback – Email and Contact Us

The following section highlights the key findings identified through public feedback gathered prior to the release of the Draft Lower Don Bridge and Don Yard Early Works Report, and during the review period for the Draft Lower Don Bridge and Don Yard Early Works Report (June 22, 2021 to July 22, 2021). Complete correspondence related to this feedback is found in **Appendix C3**.

Input received via email submissions and the 'Contact Us' and 'Ask-A-Question' features of the Engagement webpage (Project website) fell into the following general themes:

- Location of the Lower Don Bridge;
- Procurement process and design of the Lower Don Bridge; and
- Pedestrian connectivity.

Location of the Lower Don Bridge

- One individual requested clarification regarding the location of the Lower Don Bridge.

Procurement Process and Design of the Lower Don Bridge

- Two individuals requested clarification on the procurement process for the Lower Don Bridge. One of the individuals expressed interest in the design of the bridge and requested to remain updated on the design. One individual noted that they are interested in supplying steel bridges for the Lower Don Bridge and inquired about how they can be involved in the procurement process.
- One individual requested to be kept up to date on the design of the Lower Don Bridge, as the individual is interested in supplying materials. The individual also provided links to previously completed work and contact information.
- One individual requested further clarification on how to get involved in the procurement process for the Lower Don Bridge and Don Yard early works.

Pedestrian Connectivity

- One individual noted concern regarding lack of information about pedestrian connections on the Lower Don Bridge, and requested information on the potential construction of a pedestrian crossing.

All public correspondence related to Lower Don Bridge and Don Yard early works is provided in **Appendix C3**.

8.2.2.2 Summary of Public Feedback – 'Provide Your Feedback' and Draft Lower Don Bridge and Don Yard Early Works Report Environmental Discipline-Specific Forms

The following themes emerged through the online 'Provide Your Feedback' and environmental discipline-specific feedback forms submitted through the Engagement webpage (Project website) from June 22, 2021 to July 22, 2021:

- Design of the Lower Don Bridge and potential impacts to birds;
- Alignment of the Ontario Line;
- Environmental study results;
- Pedestrian and cyclist connectivity;
- Construction impacts;
- Consultation with project stakeholders; and
- Communications and complaints protocol during construction.

What are your thoughts on the results of the Lower Don Bridge and Don Yard Early Works environmental studies?

- **Design of the Lower Don Bridge and Potential Impacts to Birds**
  - One individual expressed concern regarding the lack of details related to potential impacts to surrounding neighbourhoods, and noted that there is no reference to the planned design for the bridge or pedestrian and cyclist crossings.
  - One individual inquired about the design of the Lower Don Bridge and if it will offset the potential impacts to birds.
- **Environmental Study Results**
  - One individual expressed concern about the potential noise impacts from the tracks west of the Lower Don River and Lower Don Bridge on residential condominiums along Mill Street and Front Street.

- One individual noted that they feel the results of the environmental studies are sufficient.
- One individual noted that the two of the natural environment reports cited as references within the report were prepared in 2016 and the habitat and species information could have changed since the preparation of those reports. The individual asked if Metrolinx will be conducting updated natural environment studies for the area.

Which Lower Don Bridge and Don Yard Early Works environmental study is most important to you and why?

- **Environmental Study Results**
  - One individual noted that the details regarding the Cherry Street Interlocking Tower in the report were satisfactory. The individual also noted that the report lacks details on pedestrian and cycling connectivity across the river.
  - One individual noted that flood impacts and impacts to the Lower Don Trail were the most important to them.
  - One individual noted that air quality impacts were the most important to them, and inquired about mitigation measures to ensure air quality pollutants are kept to a minimum.
  - One individual noted that two of the natural environment reports cited as references within the report were prepared in 2016 and the habitat and species information could have changed since the preparation of those reports. The individual asked if Metrolinx will be conducting updating natural environment studies for the area.

Is there anything we missed? Please let us know if you have any additional thoughts or concerns about the Draft Lower Don Bridge and Don Yard Early Works Report.

- **Environmental Study Results**
  - One individual expressed concern about impacts to nearby residents.
  - One individual expressed interest in reviewing Appendix B2 (Air Quality Early Works Report) and noted the appendix numbers were inconsistent with what was provided on the Project webpage.
  - One individual noted that two of the natural environment reports cited as references within the report were prepared in 2016 and the habitat and species information could have changed since the preparation of those

reports. The individual asked if Metrolinx will be conducting updating natural environment studies for the area.

- **Pedestrian and Cyclist Connectivity**
  - One individual requested a map for cycling detours.

What are your thoughts on the Air Quality study key findings and identified potential impacts and mitigation measures?

- **Consultation with Project Stakeholders**
  - One individual inquired about coordination with Waterfront Toronto and the proposed site for construction staging and laydown.
- **Communications and Complaints Protocol during Construction**
  - One individual requested to know if a Community Liaison Committee will be developed to address complaints as a result of construction.

What are your thoughts on the Archaeology study key findings and identified potential impacts and mitigation measures?

- **Construction Impacts**
  - One individual requested to know how Metrolinx will determine if deeply buried archeological resources are present when the tunnel boring machine climbs to the surface.

What are your thoughts on the Built Heritage Resources & Cultural Heritage Landscapes Report key findings and identified potential impacts and mitigation measures?

- **Alignment of the Ontario Line**
  - One individual inquired about where tunneling for the Ontario Line will take place under Berkeley Street between Adelaide Street and King Street.
- **Environmental Study Results**
  - One individual inquired whether a more detailed report on Built Heritage Resources, including historical maps, could be provided.
  - One individual provided suggested revisions to the Heritage Detailed Design Report.
- **Consultation with Project Stakeholders**
  - One individual noted that a different relocation location has been proposed for the Cherry Street Interlocking Tower as part of the Waterfront East Light Rail

Transit project. They suggested that Metrolinx work with the public and other stakeholders to relocate the Cherry Street Interlocking Tower, ensure that the existing Distillery Loop becomes an integrated urban plaza, and build bridges and tunnels that are aesthetically pleasing.

- One individual inquired about the coordination that is taking place with the Toronto Transit Commission and Waterfront Toronto with respect to changes to the Cherry Street Subway to accommodate the Waterfront East Light Rail Transit.

What are your thoughts on the Hydrology & Surface Water study key findings and identified potential impacts and mitigation measures?

- **Consultation with Project Stakeholders**
  - One individual inquired about consultation with Waterfront Toronto and the City of Toronto regarding possible impacts to the stormwater treatment plant at 480 Lake Shore Boulevard East and the widening of the Lower Don River.

What are your thoughts on the Natural Environment Study key findings and identified potential impacts and mitigation measures?

- **Environmental Study Results**
  - One individual noted that Corktown Common is the only green space within walking distance to the surrounding neighbourhoods, and requested that Metrolinx take this into consideration during the early works activities.
- **Construction Impacts**
  - One individual inquired about the cleaning of trucks and vehicles after leaving the construction site to prevent the spread of invasive and non-native species. The individual also asked about the dewatering plan for the site to prevent spread of invasive and non-native species, if water will be used to clean the trucks.

What are your thoughts on the Socio-Economic & Land Use Characteristics study key findings and identified potential impacts and mitigation measures?

- **Consultation with Project Stakeholders**
  - One individual inquired about planned consultation activities with potentially impacted business owners along King Street East. The individual noted that traffic will likely be re-routed and drivers will avoid driving downtown during construction of the Ontario Line Project.

- **Communications and Complaints Protocol**
  - One individual inquired about the protocol for resident complaints about light pollution. The individual requested to know if Metrolinx will be ensuring work lights are directed away from residences.
- **Pedestrian and Cyclist Connectivity**
  - One individual inquired about pedestrian/cycling/active transportation infrastructure on the Lower Don Bridge. The individual noted that active transportation connection is necessary across the river, and expressed concern that these connections are not mentioned in the report.

What are your thoughts on the Traffic & Transportation study key findings and identified potential impacts and mitigation measures?

- **Environmental Study Results**
  - One individual noted that the report does not consider the Toronto Transit Commission's plans to extend the Cherry Street streetcar to connect to the Waterfront East Light Rail Transit. The individual asked Metrolinx to confirm that the Ontario Line plans will not prevent the future Cherry Street streetcar extension.
- **Pedestrian and Cyclist Connectivity**
  - Two individuals expressed concern about pedestrian and cycling connectivity from the east side of the Lower Don River to the Corktown, Canary, and Distillery District areas on the west side of the Lower Don River.
- **Construction Impacts**
  - One individual inquired about plans to redirect trucks to the construction sites during ActiveTO activities. They also expressed concern regarding public and pedestrian road safety as a result of route detours, and requested to know what Metrolinx will do to ensure pedestrian safety in accessing homes and businesses in the area.

What are your thoughts on the Noise & Vibration study key findings and identified potential impacts and mitigation measures?

- **Environmental Study Results**
  - One individual inquired about the design details for noise barriers and suggested planting trees behind the barriers to further alleviate construction noise. The individual asked about which mitigation measures and monitoring activities would be implemented to minimize increases in noise levels during

construction. The individual also inquired about an assessment to the existing conditions of the buildings in close proximity to the construction site, in order to mitigate construction vibration impacts.

No public feedback was received regarding the key findings, potential impacts and mitigation measures for the Soil and Groundwater study.

All public correspondence related to the Draft Lower Don Bridge and Don Yard Early Works Report is provided in **Appendix C3**.

8.3 Engagement with Community Stakeholders and Groups

Ninety-three community stakeholders and groups have been engaged in the Ontario Line Project through August 25, 2021, as listed below. Each of these community stakeholders and groups were notified of the publication of the Draft Lower Don Bridge and Don Yard Early Works Report via email on June 22, 2021 and were advised to provide feedback no later than July 22, 2021. They were also notified of the publication of the Final Lower Don Bridge and Don Yard Early Works Report (this Report) via email on August 25, 2021.

- Aboriginal Labour Force Development Circle;
- Aboriginal Legal Services;
- Amazing Moss Park;
- Anishnawbe Health Toronto;
- Association for Native Development in the Performing and Visual Arts;
- Beaconsfield Village Residents Association;
- Building Roots;
- Campbell House Museum;
- Canadian Council for Aboriginal Business;
- CF Toronto Eaton Centre;
- Chinatown Business Improvement Area;
- CityPlace Fort York Business Improvement Area;
- CityPlace Residents' Association;
- Community Living Toronto;
- Corktown Residents and Business Association;
- Danforth Business Improvement Area;
- Danforth Residents' Association;
- Distillery Historic District;
- Don Mills Residents Inc.;
- Don Valley Community Legal Services;

- Downtown Yonge Business Improvement Area;
- East End Transit Alliance;
- East Waterfront Community Association Toronto;
- Enoch Turner Schoolhouse Foundation;
- Flemingdon Health Centre;
- Fontbonne Ministries;
- Fort York Neighbourhood Association;
- Friends of Corktown Common;
- Friends of Flemingdon Park;
- Friends of Moss Park;
- Friends of Trinity Bellwoods Park;
- Gabriel Dumont Institute;
- Garden District Residents Association;
- Garment District Neighbourhood Association;
- Gooderham and Worts Neighbourhood Association;
- Grange Community Association;
- GreekTown on the Danforth Business Improvement Area;
- Green Communities Canada;
- Lakeshore East Community Advisory Committee;
- Leadership of Downtown Toronto Business Improvement Areas;
- Leaside Green and Leaside Park Terrace Condos;
- Leaside Residents Association;
- Leslieville Business Improvement Area;
- Liberty Village Business Improvement Area;
- Liberty Village Residents Association;
- Lux 9 Inc.;
- March of Dimes Canada;
- Miziwe Biik Aboriginal Employment & Training;
- Native Canadian Centre of Toronto;
- Native Men's Residence;
- Native Women's Resource Centre;
- Nishnawbe Homes;
- Ontario Aboriginal HIV/AIDS Strategy;
- Pape Area Concerned Citizens for Transit;
- Pape Avenue Junior Public School Parent Council;
- Pape Village Business Improvement Area;
- Parkdale Residents Association;
- Parkdale Village Business Improvement Area;
- Queen Street West Business Improvement Area;
- Regent Park Neighbourhood Association;

- Riverside Business Improvement Area;
- Save Jimmie Simpson!;
- Sisters of St. Joseph Toronto;
- St. Lawrence Market Neighbourhood Business Improvement Area;
- St. Lawrence Neighbourhood Association;
- The 519;
- The Bentway Conservancy;
- The Danny Business Improvement Area;
- The Friends of Fort York and Garrison Common;
- The Neighbourhood Association;
- The Ontario Federation of Indigenous Friendship Centres;
- Thorncliffe Park Community Association;
- Thorncliffe Park Women's Committee;
- Thorncliffe Soccer Club;
- Toronto Aboriginal Support Services Council;
- Toronto Community Housing;
- Toronto Council Fire Native Cultural Centre;
- Toronto Entertainment District Business Improvement Area;
- Toronto Entertainment District Residents Association;
- Toronto Financial District Business Improvement Area;
- Toronto Inuit Association;
- Toronto and York Region Métis Council;
- Trinity Bellwoods Business Improvement Area;
- Two-Spirited People of the First Nations;
- United Way of Greater Toronto;
- Wandering Spirit School;
- Waterfront Business Improvement Area;
- West Don Lands Committee;
- West Queen West Business Improvement Area;
- Wigwamen;
- WoodGreen Community Services;
- Wynford-Concord Residents Association; and
- Young Men's Christian Association (YMCA) of Greater Toronto.

The following 16 community stakeholders and groups were engaged with Metrolinx through meetings and phone calls through August 25, 2021, in which Lower Don Bridge and Don Yard early works were discussed:

- CF Toronto Eaton Centre;
- Community Living Toronto;
- Corktown Residents and Business Association;

- Fontbonne Ministries;
- Fort York Neighbourhood Association;
- Lakeshore East Community Advisory Committee;
- Liberty Village Business Improvement Area;
- March of Dimes Canada;
- Pape Area Concerned Citizens for Transit;
- Riverside Business Improvement Area;
- St. Lawrence Neighbourhood Association;
- The Bentway Conservancy;
- The Neighbourhood Organization;
- Toronto Entertainment District Business Improvement Area;
- Toronto Financial District Business Improvement Area; and
- West Don Lands Committee.

On March 8, 2021, Metrolinx met with the Gooderham and Worts Neighborhood Association to provide an update and address questions on the Ontario Line. Items that were discussed included the pedestrian and cycling opportunities for crossing over the Don River, noise and vibration, and construction coordination with developers and the city.

Metrolinx met with the St. Lawrence Neighbourhood Association on September 29, 2020 and November 25, 2020. On September 29, 2020, Metrolinx met with representatives of the St. Lawrence Neighbourhood Association to provide an overview of the project. Items discussed included community impacts such as noise and traffic disruption, the location for the multi-use path for the Lower Don Bridges, station names and more. On November 25, 2020, Metrolinx met with representatives of the St. Lawrence Neighborhood Association to provide an overview of the downtown segment of the Ontario Line. Items that were discussed in the meeting included impacts to the cycle path at the Don Yard, station locations at Moss Park and Corktown, and impacts to local parks.

Metrolinx met with the West Don Lands Committee on September 28 ,2020, May 25, 2021 and June 28, 2021. During the September 28, 2020 meeting, Metrolinx provided updates on the Ontario Line Project and downtown segment. Items that were discussed included the procurement model, construction of stations and tunnels, station location and design, impacts to heritage buildings, naming of the Lower Don Bridge, flood impacts and mitigation, and operations of the Ontario Line. During the May 25, 2021 meeting, Metrolinx addressed the committee's questions about the Ontario Line. Items that were discussed in the meeting included potential impacts to the Block 9 school site, early works at Corktown, and heritage interpretation and commemoration. During the June 28, 2021 meeting, Metrolinx shared information about the Lower Don Bridge and Don Yard early works. Items that were discussed in the meeting included impacts to the

Block 9 school site, the multi-use connection over the Lower Don River and disruption to the community during construction.

Metrolinx will continue to engage with community stakeholders and groups as Lower Don Bridge and Don Yard early works planning progresses.

Correspondence records with community stakeholders and groups related to Lower Don Bridge and Don Yard early works are provided in **Appendix C3** of this Report.

8.4 Engagement with Technical Stakeholders

Technical Stakeholders engaged throughout the Project to-date, including federal, provincial and municipal agencies, conservation authorities and other technical stakeholders (e.g., utility companies) are listed below.

- **Federal Agencies**
  - Fisheries and Oceans Canada; and
  - Transport Canada.
- **Provincial Agencies**
  - Conservation Ontario;
  - Infrastructure Ontario;
  - Ministry of Economic Development, Job Creation and Trade;
  - Ministry of Education, Capital Programs Branch;
  - Ministry of the Environment, Conservation and Parks;
  - Ministry of Heritage, Sport, Tourism and Culture Industries;
  - Ministry of Municipal Affairs and Housing;
  - Ministry of Natural Resources and Forestry;
  - Ministry of the Solicitor General (formerly Ministry of Community Safety and Correctional Services);
  - Ministry of Transportation;
  - Ontario Power Generation; and
  - Ontario Provincial Police.
- **Municipal Agencies**
  - City of Toronto;
  - Toronto Catholic District School Board; and
  - Toronto District School Board.
- **Conservation Authorities**
  - Toronto and Region Conservation Authority.

- **Other Technical Stakeholders**
  - Canadian National Rail;
  - Exhibition Place
  - George Brown College;
  - Hydro One Networks Incorporated;
  - La Cité;
  - Law Society of Ontario;
  - Ontario Heritage Trust; and
  - Ontario College of Art & Design University.

Federal, provincial and municipal agencies, Toronto and Region Conservation Authority and other technical stakeholders including CN Rail, George Brown College, Hydro One Networks Incorporated, La Cite and Ontario College of Art & Design University were provided with the opportunity to review a draft of the Draft Early Works Report in June 2020. Conservation Ontario and Ontario Power Generation noted that they were not interested in receiving further reports or notices related to the Project.

All technical stakeholders listed above received a copy of the Notice of Publication of Draft Lower Don Bridge and Don Yard Early Works Report and the Notice of Publication of Final Lower Don Bridge and Don Yard Early Works Report and a link to review the report via email on June 22, 2021 and August 25, 2021 respectively. Exhibition Place was provided a copy of the Notice of Publication of Draft Lower Don Bridge and Don Yard Early Works Report on June 30, 2021 due to an internal error.

Metrolinx will continue to engage with technical stakeholders as Lower Don Bridge and Don Yard early works planning progresses.

Correspondence records with technical stakeholders related to Lower Don Bridge and Don Yard early works are provided in **Appendix C3** of this Report.

8.5 Engagement with Elected Officials

Elected Officials who were informed of the release of the Draft Lower Don Bridge and Don Yard Early Works Report and Final Lower Don Bridge and Don Yard Early Works Report, and invited to respond or be briefed through August 25, 2021 are listed below.

- Councillor Brad Bradford;
- Councillor Denzil Minnan-Wong;
- Councillor Jaye Robinson;
- Councillor Joe Cressy;
- Councillor Kristyn Wong-Tam;

- Councillor Paula Fletcher;
- Member of Provincial Parliament Chris Glover;
- Member of Provincial Parliament Kathleen Wynne;
- Member of Provincial Parliament Michael Coteau;
- Member of Provincial Parliament Peter Tabuns; and
- Member of Provincial Parliament Suze Morrison.

The following Elected Officials participated in meetings between September 28 and October 29, 2020 in which Lower Don Bridge and Don Yard early works were discussed:

- Member of Provincial Parliament Chris Glover – September 28, 2020;
- Councillor Kristyn Wong-Tam – October 29, 2020;
- Member of Provincial Parliament Peter Tabuns – September 29, 2020;
- Member of Provincial Parliament Kathleen Wynne – October 6, 2020;
- Member of Provincial Parliament Suze Morrison – October 8, 2020;

Metrolinx met with Member of Provincial Parliament Glover on September 28, 2020 to provide updates on the Ontario Line Project. Items that were discussed included project timelines, the Ontario Line Don River crossings, train frequency, flooding impacts and tunneling.

Metrolinx met with Member of Provincial Parliament Tabuns on September 29, 2020 to provide updates on the Ontario Line Project and the East segment alignment. Items that were discussed included environmental reporting, early works, project timelines, community engagement activities, rail safety, property requirements, transit-oriented communities, project costs and ridership projections.

Metrolinx met with Member of Provincial Parliament Kathleen Wynne on October 6, 2020 to provide updates on the Ontario Line and north segment. Items that were discussed included environmental assessment reporting, early works, procurement, staging along the Don Valley and public communications.

Metrolinx met with Member of Provincial Parliament Suze Morrison on October 8, 2020 to provide updates on the Ontario Line downtown segment, the environmental assessment process including early works reports, timelines for the project and community engagement.

Metrolinx met with Councillor Kristyn Wong-Tam on October 29, 2020 to provide updates on the Ontario Line and downtown segment. Items that were discussed included community engagement, the plan for the use of the First Parliament site, community needs in the Moss Park area and potential impacts of a new bridge over the Don River.

Copies of the Notice of Publication of Draft Lower Don Bridge and Don Yard Early Works Report and the Notice of Publication of Final Lower Don Bridge and Don Yard Early Works Report, with a link to review the reports, were provided to Elected Officials via email on June 22, 2021 and August 25, 2021 respectively.

Metrolinx will continue to engage with Elected Officials as Lower Don Bridge and Don Yard early works planning progresses. Correspondence records with Elected Officials related to Lower Don Bridge and Don Yard early works are provided in **Appendix C3** of this Report.

8.6 Engagement with Indigenous Nations

Between February 2020 and August 2021, Metrolinx reached out to Indigenous Nations to: introduce the Project; share drafts of the Draft Environmental Conditions Report and Draft Early Works Report; provide notification of the publication of the Draft and Final Environmental Conditions Report, Draft and Final Exhibition Station Early Works Report, Draft and Final Corktown Station Early Works Report and Draft and Final Lower Don Bridge and Don Yard Early Works Report; and request feedback on the reports.

Indigenous Nations that have been provided information on the Ontario Line Project to-date are listed below:

- Haudenosaunee Confederacy Chiefs Council;
- Huron-Wendat Nation;
- Kawartha Nishnawbe First Nation;
- Métis Nation of Ontario;
- Mississaugas of the Credit First Nation;
- Six Nations of the Grand River;
- Williams Treaties First Nations:
  - Alderville First Nation;
  - Beausoleil First Nation;
  - Chippewas of Georgina Island;
  - Chippewas of Rama First Nation;
  - Curve Lake First Nation;
  - Hiawatha First Nation; and
  - Mississaugas of Scugog Island First Nation.

In February 2020, Metrolinx provided the Indigenous Nations mentioned above, with the exception of Haudenosaunee Confederacy Chiefs Council and Six Nations of the Grand River as they were not introduced until July 2020, with a letter that introduced the

Project and invited participation in the study process. In response to this letter in March 2020, Kawartha Nishnawbe First Nation indicated that the Nation holds Treaty and Aboriginal rights within the Project's study area. They noted that they do not have capacity to participate in reviewing reports and asked whether Metrolinx will be providing assistance. Metrolinx offered to meet to discuss possible opportunities to support the review process but a response from Kawartha Nishnawbe First Nation was not received. Metrolinx continues to welcome a conversation with Kawartha Nishnawbe First Nation in the future.

From April to June 2020, Metrolinx shared draft reports for environmental conditions and early works.

In June 2020, a meeting was held with the Mississaugas of the Credit First Nation and in July 2020, with Curve Lake First Nation to discuss the Subways Program, upcoming Metrolinx projects, ongoing needs and future plans for meaningful engaging with these Nations, and to review the Project and associated preliminary plans for early works.

In July 2020, Metrolinx provided Haudenosaunee Confederacy Chiefs Council and Six Nations of the Grand River with a letter that introduced the Project and invited participation in the study process.

On September 17, 2020, Metrolinx provided all Indigenous Nations with the Notice of Publication of the Draft Environmental Conditions Report and links to the Draft Environmental Conditions Report via email. In response to this email, Six Nations of the Grand River noted it did not have the resources or capacity to review large reports and meet requested deadlines, with the exception of archaeological assessment reports. Metrolinx held a meeting with the Nation on November 25, 2020 to better understand the issues and concerns of the Six Nations of the Grand River and identify opportunities to support meaningful engagement with Six Nations of the Grand River. It was noted during this meeting that the Nation identified that specific treaty information was not included in the archaeological assessments that supports the Ontario Line[34]. The draft meeting minutes from the November 25, 2020 meeting reflecting this concern were submitted to the Six Nations of the Grand River in early January 2021 for further input. Recognizing that the ongoing COVID-19 pandemic may have impacted the operations of the Six Nations of the Grand River office, Metrolinx reached out to the Six Nations of the Grand River for further input from the Nation on how to best address this concern.

34. From the perspective of Six Nations of the Grand River, information regarding Treaty 13, Nanfan Treaty, and the Fort Albany Treaty of 1701, which may be relevant to the Ontario Line Study Area, were not included in the Ontario Line Stage 1 Archaeological Assessment Reports as the reports were prepared early on in the Project and prior to engagement with Six Nations of the Grand River. Metrolinx continues to reach out to the Six Nations of the Grand River for further input on how to best address this concern, such as by including relevant treaty information in forthcoming archaeological assessment reports.

On December 4, 2020, Metrolinx met with Chippewas of Rama First Nation to provide an overview of the subway programs, with a focus on the Ontario Line Project. Items that were discussed included the Ontario Line regulation, anticipated environmental assessment milestones and archaeological assessments and natural environment studies for the Ontario Line Project, including those in support of Exhibition Station early works. Chippewas of Rama First Nation indicated that they would like to continue receiving invitations from Metrolinx to participate in archaeological fieldwork and updates specific to archaeology. Metrolinx confirmed that they would continue to invite the Nation and provide updates.

On February 23, 2021, Metrolinx met with the Mississaugas of the Credit First Nation to discuss the Ontario Line and Eglinton Crosstown West Extension projects, with a particular focus on works occurring in the Don and Humber River systems, including the Ontario Line Lower Don River crossing. Items such as in-water works, property ownership, soil impacts and tree removals and compensation were discussed as well. Mississaugas of the Credit First Nation indicated that they are interested in participating in archaeological and natural environment fieldwork for the Ontario Line Project. Metrolinx confirmed that the Nation will be invited to all archaeological and natural environment fieldwork for the Project.

On April 30, 2021 Metrolinx provided Indigenous Nations with information on the Ontario Line crossings of the Don River and its tributaries and updates on upcoming field surveys and studies, including archaeological assessments. Metrolinx also invited the Nations to participate in upcoming archaeological fieldwork. Chippewas of Rama First Nation was provided with this information and invitation on May 25, 2021, due to an internal error.

On May 13, 2021, Metrolinx met with the Huron-Wendat Nation to provide an overview of the Ontario Line Project as well as the archaeological work associated with the Ontario Line crossings of the Don River system and to discuss the proposed plans relating to archaeology at the First Parliament site. Metrolinx noted that the Huron-Wendat Nation will be invited to participate in archaeological fieldwork for the Ontario Line Project and to review all archaeological assessments.

One comment related to Lower Don Bridge and Don Yard early works has been received to-date from an Indigenous Nation (Hiawatha First Nation) and is outlined in **Table 8-1** and included in **Appendix C3** of this Report. As discussed above, Metrolinx also received concerns related to capacity to review.

Consultation with Indigenous Nations will continue as Lower Don Bridge and Don Yard early works progress. Correspondence records with Indigenous Nations related to Lower Don Bridge and Don Yard early works are provided in **Appendix C3** of this

Report. The complete record of consultation and summary of correspondence with Indigenous Nations through October 17, 2020 is provided in Section 7.7 and Appendix C6 of the Ontario Line Final Environmental Conditions Report (AECOM, 2020a). A copy of the Draft Lower Don Bridge and Don Yard Early Works Report along with the Notice of Publication of Draft Lower Don Bridge and Don Yard Early Works Report was provided to Indigenous Nations on June 22, 2021. A copy of the Final Lower Don Bridge and Don Yard Early Works Report along with the Notice of Publication of Final Lower Don Bridge and Don Yard Early Works Report was provided to Indigenous Nations on August 25, 2021.

8.7 Issues Resolution Process and Final Early Works Report

The Draft Lower Don Bridge and Don Yard Early Works Report was made available to the public, technical stakeholders, elected officials, Indigenous Nations and other interested persons for review from June 22, 2021 to July 22, 2021. During this time, interested parties had the opportunity to submit written comments to Metrolinx. In accordance with Section 10 of Ontario Regulation 341/20: Ontario Line Project, Metrolinx established an issues resolution process to attempt to resolve any concerns raised by interested persons and Indigenous Nations, in a way that does not cause unreasonable delay to the implementation of Lower Don Bridge and Don Yard early works. The issues resolution process involved review of comments provided during the 30-day review period, development of responses to comments, and engagement of subject matter experts to support the development of responses, as required. Based on comments received, no further studies beyond what Metrolinx has already committed to complete have been identified as required.

In accordance with Section 11(1)(b) of Ontario Regulation 341/20: Ontario Line Project, **Section 8.7.1** of this Report includes:

- A description of the issues resolution process in respect of any concerns raised by Indigenous Nations and interested persons;
- A description of the concerns raised by Indigenous Nations and interested persons in the issues resolution process and of the outcome of the process, including what, if anything, Metrolinx did or will do in respect of the concerns raised; and
- A description of any impacts to the timeline for implementation of the Lower Don Bridge and Don Yard early works.

As the Draft Lower Don Bridge and Don Yard Early Works Report has been updated, Metrolinx has issued a Notice of Publication of Final Lower Don Bridge and Don Yard Early Works Report and posted the Report to the Engagement webpage (Project website) (www.metrolinx.com/ontarioline) within 65 days of the issuance of the Notice of Publication of the Draft Lower Don Bridge and Don Yard Early Works Report.

The Minister of the Environment, Conservation and Parks may issue a notice to Metrolinx imposing conditions related to the early works within 35 days after receipt of the Notice of Publication of the Final Early Works Report. The Minister may also choose to inform Metrolinx that no notice will be issued.

In accordance with Ontario Regulation 341/20: Ontario Line Project, the Minister may issue a notice only if:

- The Minister is of the opinion that the way in which Metrolinx addressed a concern raised during the issues resolution process would cause unreasonable delay to the implementation of Lower Don Bridge and Don Yard early works, and the conditions in the Minister's notice modify the way in which the concern is addressed in the Final Lower Don Bridge and Don Yard Early Works Report without causing reasonable delay to the implementation of Lower Don Bridge and Don Yard early works; or
- The Minister is of the opinion that the early works may have an adverse impact on the existing Aboriginal or treaty rights of the Aboriginal peoples of Canada, and the conditions may prevent, mitigate or remedy the adverse impact.

The implementation of Lower Don Bridge and Don Yard early works may proceed if no notice is received within the 35-day period, the Minister informs Metrolinx that no notice will be issued, or if the requirements of the Minister's notice have been satisfied.

8.7.1 Description of Metrolinx Response to Concerns Expressed by Indigenous Nations and Interested Persons

In accordance with Section 11(1)(b) of the Ontario Regulation 341/20: Ontario Line Project, the following section provides a description of what Metrolinx did to respond to concerns expressed by Indigenous Nations and interested persons, including government review agencies and other technical stakeholders.

One comment was received from an Indigenous Nation (Hiawatha First Nation) during the 30-day review period, as outlined in **Table 8-1**.

Prior to publication of the Draft Lower Don Bridge and Don Yard Early Works Report, Indigenous Nations, government review agencies and other technical stakeholders were provided with the opportunity to review the report draft. During this time, Metrolinx received comments from government agencies and other technical stakeholders which were addressed throughout the report prior to the Draft Lower Don Bridge and Don Yard Early Works Report publication, and documented in **Appendix C3** of the Draft Lower Don Bridge and Don Yard Early Works Report. No comments were received from Indigenous Nations during this time.

During the 30-day public review period for the Draft Lower Don Bridge and Don Yard Early Works Report (June 22, 2021 to July 22, 2021), Metrolinx received 23 public comments (one email and 22 Provide Your Feedback submissions) and comments from one Indigenous Nation (Hiawatha First Nation), three community stakeholders and groups and six technical stakeholders (City of Toronto, Ministry of the Environment, Conservation and Parks, Ministry of Heritage, Sport, Tourism and Culture Industries, Infrastructure Ontario, Hydro One Networks Incorporated and Toronto and Region Conservation Authority).

A summary of key themes of comments, questions and concerns received during the review period, what Metrolinx has done in response to the feedback received, and any potential timeline implications is provided in **Table 8-1**. In response to feedback and concerns received by interested persons, Metrolinx revised the Draft Lower Don Bridge and Don Yard Early Works Report as outlined in **Table 8-1** and captured in this Final Lower Don Bridge and Don Yard Early Works Report. In addition to the revisions outlined in **Table 8-1**, Metrolinx clarified the extent of GO track relocations in the vicinity of the existing Lakeshore East rail bridge to include this bridge, as shown in **Figure 3-1**. As there are no changes to the Project Footprint or construction activities assessed within the Project Footprint as a result of this clarification, no further studies and no changes to the potential impacts, mitigation measures, monitoring activities and permits and approvals are required. Responses to comments received did not result in impacts to the timeline for implementation of Lower Don Bridge and Don Yard early works.

Table 8-1: Summary of Key Themes of Feedback Received, Metrolinx Actions in Response to the Feedback, and Implications to the Lower Don Bridge and Don Yard Early Works Timeline

Comment From	Key Themes of Feedback Received	Key Feedback	Metrolinx Actions in Response to Feedback	Lower Don Bridge and Don Yard Early Works Timeline Implications
Public	Design and Location of Lower Don Bridge	■ Inquiry about the location of **Appendix B2** (Air Quality Early Works Report) and note that appendix numbers are inconsistent with what was provided on the Project webpage. ■ Inquiry about the design of the Lower Don Bridge and offsetting potential impacts to birds.	■ Inclusion of bridge rendering in **Appendix A** of the Final Lower Don Bridge and Don Yard Early Works Report. ■ Development and provision of comment responses, including sharing of information (**Appendix C3**). ■ Inclusion of comments and concerns in the Consultation section of the Lower Don Bridge and Don Yard Early Works Report and **Appendix C3** as part of the consultation record.	■ None
Public	Environmental Study Results	■ Inquiries about updated natural environment studies, as the natural environment reports cited as references within the report were prepared in 2016 and the habitat and species information could have changed since the preparation of those reports. ■ Suggestions to preserve Corktown Common, as it is the only green space within walking distance to the surrounding neighbourhoods, ■ Inquiries about where trucks will be cleaned and the plan for managing water used to clean trucks to prevent the spread of invasive and non-native species. ■ Requests for more detailed reporting and maps on Built Heritage Resources and Cultural Heritage Landscapes, and suggestions for revisions to the Heritage Detailed Design Report. ■ Requests for confirmation of impacts to the Cherry Street streetcar and Waterfront East Light Rail Transit connection project.	■ Development and provision of comment responses, including sharing of information (**Appendix C3**). ■ Sharing of link to the Cultural Heritage Report for further detail on Built Heritage Resources and Cultural Heritage Landscapes within the Ontario Line study area and link to the Ontario Line Stage 1 Archaeological Assessment for historical maps. ■ Inclusion of comments and concerns in the Consultation section of the Lower Don Bridge and Don Yard Early Works Report and **Appendix C3** as part of the consultation record.	■ None
Public	Pedestrian and Cyclist Connectivity	■ Concerns regarding lack of details about pedestrian and cyclist connection across the Lower Don Bridge and requests for information on active transportation connections from the West Don Lands and East Harbour GO Station. ■ Request for mapping showing cycling detour routes during early works activities.	■ Inclusion of a statement confirming that a stand-alone multi-use connection across the Lower Don River facilitated via a bridge will be assessed in the Ontario Line Environmental Impact Assessment Report. This clarification was added to **Section 3.1** of the Final Lower Don Bridge and Don Yard Early Works Report. ■ Development and provision of comment responses, including sharing of information (**Appendix C3**). ■ Inclusion of comments and concerns in the Consultation section of the Lower Don Bridge and Don Yard Early Works Report and **Appendix C3** as part of the consultation record.	■ None
Public	Construction Impacts	■ Requests for clarification on construction vehicle routes and concerns about pedestrian and cyclist safety as a result of route detours. ■ Inquiry about the potential recovery of archaeological resources during construction when the tunnel boring machine returns to the surface. ■ Concerns about construction noise and vibration impacts to residents in surrounding buildings, and suggestions for noise barriers to alleviate construction noise impacts. ■ Inquiry about the surface type and height of construction noise barriers and suggestion to plant trees as a noise mitigation measure.	■ Confirmation that construction vehicle and detour routes will become available as project planning progresses. ■ Development and provision of comment responses, including sharing of information (**Appendix C3**). ■ Inclusion of comments and concerns in the Consultation section of the Lower Don Bridge and Don Yard Early Works Report and **Appendix C3** as part of the consultation record.	■ None
Public	Consultation Activities, and Communications and Complaints Protocol	■ Inquiries about coordination with Waterfront Toronto and Toronto Transit Commission with respect to potential changes to the Cherry Street Subway and Waterfront East Light Rail Transit connections. ■ Comment regarding a different relocation option proposed for the Cherry Street Interlocking Tower as part of the Waterfront East Light Rail Transit project. The individual suggested that Metrolinx work with the public and other stakeholders to relocate the Cherry Street Interlocking Tower, ensure that the existing Distillery Loop becomes an integrated urban plaza, and build bridges and tunnels that are aesthetically pleasing. ■ Suggestions to engage with the City of Toronto and Waterfront Toronto regarding possible impacts to the stormwater treatment plant at 480 Lake Shore Boulevard East. ■ Requests for information on the communications and complaints protocols, and if a Community Liaison Committee will be developed to address complaints during construction. ■ Inquiries about consultation activities with impacted businesses.	■ Confirmation that Metrolinx is working with the City of Toronto, Waterfront Toronto and the Toronto Transit Commission to coordinate adjacent infrastructure requirements. ■ Provided Metrolinx Ontario Line Community Relations Team contact information. ■ Confirmation that a Construction Liaison Committee will be developed and will meet regularly to share information and address concerns. ■ Development and provision of comment responses, including sharing of information (**Appendix C3**). ■ Inclusion of comments and concerns in the Consultation section of the Lower Don Bridge and Don Yard Early Works Report and **Appendix C3** as part of the consultation record.	■ None

Comment From	Key Themes of Feedback Received	Key Feedback	Metrolinx Actions in Response to Feedback	Lower Don Bridge and Don Yard Early Works Timeline Implications
Community Groups and Stakeholders	Environmental Study Results and Environmental Impacts	■ East Waterfront Community Association Toronto provided comments related to equipment cleaning, stormwater treatment plant impacts, construction staging and laydown areas, noise barriers, noise and vibration mitigation, recovery of archaeological resources, light pollution, traffic detours, pedestrian and cyclist safety, coordination with other ongoing projects, and community engagement.	■ Development and provision of comment responses, including sharing of information (**Appendix C3**). ■ Inclusion of comments and concerns in the Consultation section of the Lower Don Bridge and Don Yard Early Works Report and **Appendix C3** as part of the consultation record.	■ None
Community Groups and Stakeholders	Environmental Study Results and Potential Environmental Impacts	■ Greektown Business Improvement Area provided comments related to pedestrian and cycling trail closures, coordination with ongoing projects, engagement with Indigenous Nations, hydro outages, traffic and transit impacts, property acquisition, contamination, construction timing and hours of operation, and consultation activities.	■ Development and provision of comment responses, including sharing of information (**Appendix C3**). ■ Inclusion of comments and concerns in the Consultation section of the Lower Don Bridge and Don Yard Early Works Report and **Appendix C3** as part of the consultation record.	■ None
Community Groups and Stakeholders	Engagement with School Board and Potential Socio-Economic and Land Use Characteristics Impacts	■ West Don Lands Committee provided comments related to engagement with the Toronto District School Board and potential impacts to public art in Corktown Common.	■ Development and provision of comment responses, including sharing of information (**Appendix C3**). ■ Inclusion of comments and concerns in the Consultation section of the Lower Don Bridge and Don Yard Early Works Report and **Appendix C3** as part of the consultation record.	■ None
Technical Stakeholders – Provincial and Municipal Agencies	Local Environmental Conditions and Impact Assessment	■ Ministry of Environment, Conservation and Parks provided comments related to noise and vibration, surface water and air quality. ■ City of Toronto provided comments related to Lower Don Trail alignment and impacts to emergency access routes, traffic detours, temporary lane restrictions, Lower Don River pedestrian crossing, floodplain impacts and risks studies, property acquisition, utility relocations, vibration monitoring and exceedances, track realignments over the existing GO railway bridge, lighting impacts and mitigation measures, settlement monitoring program, coordination with ongoing projects, conflicts with adjacent projects, bridge design and building materials, project timelines and stormwater and drainage. ■ Toronto and Region Conservation Authority provided comments related to floodplain impacts, ecological connectivity, Flood Protection Landform monitoring, impacts and mitigation measures, loss of habitat, trail closures, future studies and assessments, project timelines, coordination with stakeholders and adjacent projects, outfall placements, public safety, flood protection, vegetation compensation, Special Policy Areas and pedestrian multi-use bridge. ■ Ministry of Heritage, Sport, Tourism and Culture Industries provided comments related to the relocation of the Cherry Street Interlocking Tower and marine archaeology. ■ Infrastructure Ontario provided comments related to provincial property within and adjacent to the Lower Don Bridge and Don Yard Study Area. ■ Hydro One Networks Incorporated provided comments related to asset relocation, Ontario Line conflicts with transmission corridors, electrical clearance requirements, and changes in grading and drainage within transmission corridors. Hydro One Networks Incorporated requested that Metrolinx continue to engage with Hydro One Networks Incorporated as project planning and design progresses.	■ Updates were made to the following section of the Ontario Line Final Lower Don Bridge and Don Yard Early Works Report and **Appendix B2** to address feedback received from the Ministry of Environment, Conservation and Parks: – **Table 5-5** ■ Updates were made to the following sections of the Ontario Line Final Lower Don Bridge and Don Yard Early Works Report and **Appendix B5** to address feedback received from the City of Toronto: – **Figure 3-1** – **Figure 5-20** ■ Updates were made to the following sections of the Ontario Line Final Lower Don Bridge and Don Yard Early Works Report to address feedback received from the Toronto and Region Conservation Authority: – **Table ES-1** – **Table 6-3** ■ Updates were made to the following sections of the Ontario Line Final Lower Don Bridge and Don Yard Early Works Report and **Appendix B4** to address feedback received from the Ministry of Heritage, Sport, Tourism and Culture industries: – **Table ES-1** – **Table 6-7** ■ Development and provision of comment responses to Infrastructure Ontario and Hydro One Networks Incorporated. ■ Inclusion of comments in the Consultation section of the Lower Don Bridge and Don Yard Early Works Report and **Appendix C3** as part of the consultation record.	■ None
Indigenous Nations	Language Regarding Natural Environment Monitoring Activities	■ Hiawatha First Nation provided a comment suggesting that the monitoring activity for the potential impact of disturbance, displacement or mortality of wildlife, should be revised from “should occur” to “will or must occur”.	■ Revision to the monitoring activity for the potential impact of disturbance, displacement or mortality of wildlife in **Table 6-1** from “should occur” to “will occur”. The text now reads: “Regular on-site inspection by on-site environmental workers or construction staff will occur within the construction area to ensure that no wildlife is trapped within the construction area” ■ Development and provision of comment response (**Appendix C3**). ■ Inclusion of the comment in the Consultation section of the Lower Don Bridge and Don Yard Early Works Report and **Appendix C3** as part of the consultation record.	■ None

8.8 Commitment to Future Consultation

Metrolinx is committed to continuing stakeholder and public engagement and consultation beyond the regulatory requirements set out in Section 10 of Ontario Regulation 341/20. Specifically, Metrolinx will:

- Maintain the Project Engagement Webpage (Project Website) (www.metrolinx.com/ontarioline) so interested parties can access updated Project information;
- Maintain the Project Distribution List to help ensure all interested parties receive Project updates; and
- Continue discussions with members of the public, local stakeholders and Indigenous Nations with respect to potential impacts and mitigation throughout Lower Don Bridge and Don Yard early works planning and construction, as appropriate.

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