Broadview Avenue Extension

Municipal Class Environmental Assessment
Environmental Study Report

December 2023

DILLON CONSULTING

LEA

TORONTO

Table of Contents

Figures

Tables

Appendices (in separate document)

Acronyms, Abbreviations, Definitions

APEC	Areas of Potential Environmental Concern
ASI	Archaeological Services Inc
BEFP	Broadview and Eastern Flood Protection
BIA	Business Improvement Area
CBT	Coxwell Bypass Tunnel (CBT
CF	Cadillac Fairview
CHRA	Cultural Heritage Resource Assessment
CN	Canadian National
CNP	Cycling Network Plan
CPU	Certificate of Property Use
CSA	Canadian Standards Association
CTC	Credit Valley, Toronto and Region, Central Lake Ontario
DBH	Diameter at Breast Height
DFO	Fisheries and Oceans Canada
DMNP	Don Mouth Naturalization Project
DVP	Don Valley Parkway
EA	Environmental Assessment
EAA	Environmental Assessment Act
EASR	Environmental Activity and Sector Registry
EBA	Event Based Area
EHTH	East Harbour Transit Hub
ESA	Environmental Study Assessment
ESA	Environmental Site Assessment (P27)
ESA	Endangered Species Act (p109)
ESR	Environmental Study Report
EV	Electric Vehicle
FPL	Flood Protection Landform
GFA	Gross Floor Area
GHG	Greenhouse Gases
GTA	Greater Toronto Area
HONI	Hydro One Networks Inc
HVA	Highly Vulnerable Aquifers
ISA	International Society of Arboriculture
LLI	Low Level Interceptor
LO	Lake Ontario
LUAC	Land Owners and User Advisory Committee
MCEA	Municipal Class Environmental Assessment
MCR	Municipal Comprehensive Review
MECA	Municipal Class Environmental Assessment
MECP	Ministry of the Environment, Conservation and Parks
MHSTCI	Ministry of Tourism, Culture and Sport
MTSA	Major Transit Station Areas

NPC	Noise Pollution Control Guideline
PEC	Portlands Energy Centre
PIC	Public Information Centre
PLFPEIP	Port Lands Flood Protection and Enabling Infrastructure Project
PSEZ	Provincially Significant Employment Zone
PTTW	Permit to Take Water
RMMs	Risk Management Measures
RNF	Ravines and Natural Features
RNFP	Ravines and Natural Features Protection
ROW	Right-of-Way
RSC	Record of Site Condition
SAC	Stakeholder Advisory Committee
SASP	Site and Area Specific Policy
SFA	Study Focus Area
TAC	Technical Advisory Committee
TBD	To Be Determined
TISA	Tree Inventory Study Area
TOC	Transit Oriented Community
TPAP	Transit Project Assessment Process
TPLC	Toronto Port Lands Company
TRCA	Toronto and Region Conservation Authority
TSMP	Transportation and Servicing Master Plan
TTC	Toronto Transit Commission

Executive Summary

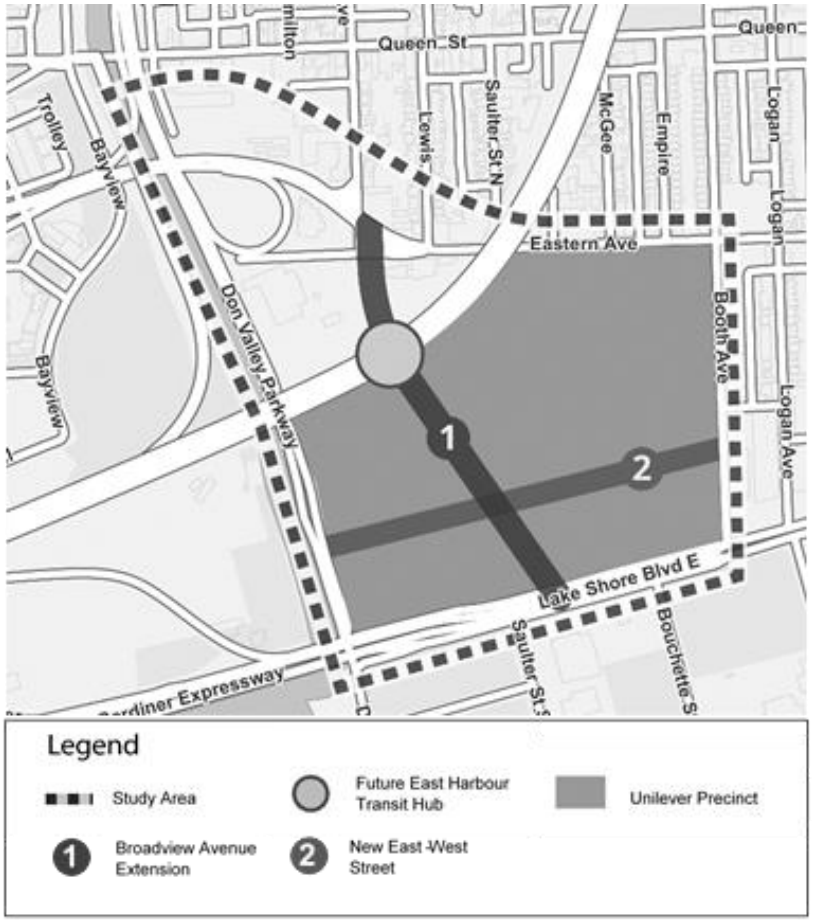
Overview

The Broadview Avenue Extension Environmental Assessment (EA) is about developing and evaluating design alternatives and identifying preferred designs for two proposed new streets previously identified in the Port Lands and South of Eastern Transportation and Servicing Master Plan (TSMP) as Schedule C Municipal Class Environmental Assessment (MCEA) projects:

1. Broadview Avenue Extension from Eastern Avenue to Lake Shore Boulevard East; and
2. New East-West Street through the Unilever Precinct between the Don Roadway and Booth Avenue.

The EA Study Area is illustrated in **Figure ES.1**.

Figure ES.1 - EA Study Area



The Broadview Avenue Extension EA builds on the Port Lands and South of Eastern TSMP finalized in 2017, which identified transportation, stormwater, water and wastewater servicing improvements required to support the long-term transformation of the Port Lands and South of Eastern area.

The Broadview Avenue Extension and the New East-West Street are also required to support the proposed East Harbour Transit Hub and East Harbour Transit Oriented Community (TOC) within the Unilever Precinct.

The Unilever Precinct currently has no internal streets. The area currently includes the now-closed Unilever Soap Factory and various other low-density industrial and commercial land uses. In the future, the area will be a walkable and transit-oriented place, with vibrant and complete streets that connect people to jobs, recreation, amenities, and most other daily needs.

The TSMP satisfied Phases 1 and 2 of the Municipal Class Environmental Assessment (MCEA) process. The Broadview Avenue Extension EA satisfies Phases3 and 4 of the MCEA process. A detailed explanation of the MCEA process is provided in **Chapter 1.0.**

This Environmental Study Report (ESR) documents the work undertaken to satisfy Phases 3 and 4 of the MCEA process. This includes consultation and engagement, completion of more detailed environmental technical studies, development and evaluation of design alternatives, selection of preferred designs and the completion of effects and mitigation plans for implementation of the preferred design.

Problems and Opportunities

The Broadview Avenue Extension EA has been informed by the Problems and Opportunities identified in the 2017 Port Lands and South of Eastern TSMP. An excerpt describing the Problems and Opportunities from the TSMP is below:

"**The Problems and Opportunities identified were based on the need to transform a largely industrial area into a series of vibrant, new transit supportive, mixed-use communities and employment districts offering places for people to live, work and play. The Problems and Opportunities also focused on connecting the South of Eastern area with the Port Lands and the rest of the city and identified the lack of infrastructure (transit, roads, servicing) and connections in the Study Area resulting in a challenge of accommodating future growth. The evolution of the area should support and appropriately conserve the unique heritage resources in the area."**

The Problems and Opportunities from the 2017 TSMP are outlined in more detail in **Chapter 2.1** and **Chapter 8.0**.

Consultation

Consultation was undertaken throughout the project to provide a more thorough understanding of existing conditions, co-ordinate with other area initiatives, inform the development of design alternatives, and identify the preferred designs for the Broadview Avenue Extension and the New East-West Street.

Targeted consultation meetings were held with key stakeholders and other interested parties throughout the EA study, including multiple design workshop meetings with the area property owners including 341 Eastern Avenue, 11 & 22 Sunlight Park Road, and the developer of the East Harbour TOC development.

Consultation also included meeting with the Riverside Business Improvement Area, targeted meetings with film industry stakeholders, in-person Public Meeting and Virtual Public Meeting. Project information was posted online and circulated to stakeholder lists and email lists.

Consulted parties included the public, key area stakeholders, landowners, and Indigenous communities. Agency consultation included Ministry of the Environment, Conservation and Parks, Metrolinx, Waterfront Toronto, HONI, Toronto and Region Conservation Authority, and Ports Toronto.

A Technical Advisory Committee (TAC) also provided input to the EA Study. The TAC consisted of representatives from key City Divisions, the Toronto Transit Commission, Toronto and Region Conservation Authority, and Waterfront Toronto. Further detail on the consultation activities is provided in **Chapter 3.0**.

Existing & Planned Conditions

Existing and planned conditions are detailed in **Chapter 4.0**. The EA Study Area is mainly comprised of privately-owned employment land that includes commercial, industrial, warehouse, office, and parking uses. Various development properties, City-owned municipal rights-of-way, and a Metrolinx rail corridor are also part of the study area. The City of Toronto and the Province own property parcels in addition to the transportation rights-of-way. The existing transportation network lacks transit to support future development, pedestrian facilities, and cycling facilities.

The Port Lands and South of Eastern TSMP EA provided the base existing conditions context for the socio-economic, natural, and physical environment within the study area.

Field reconnaissance, surveys, and comments received during agency, stakeholder, and public consultation also informed the understanding of the existing conditions.

The TSMP also provided recommendations for the future stormwater system, planned street, transit, pedestrian, and cycling networks required to redevelop the area.

To support the future planned intensification, the TSMP identified a preferred street network that included the Broadview Avenue Extension and the New East-West Street, a dedicated streetcar right-of-way along Broadview Avenue, generous sidewalks, an extensive cycling network, and opportunities for tree plantings and green infrastructure.

Other planned future conditions that informed the Broadview Avenue Extension EA include the future East Harbour Transit Oriented Community (TOC) development – a mix of residential, employment and retail uses, affordable housing, new community services and facilities, and new parkland – and the East Harbour Transit Hub.

Planned and future initiatives in the area also include the Broadview Avenue and Eastern Avenue Flood Protection Landform, the Unilever Precinct Planning Framework and Secondary Plan, Gardiner East Reconfiguration 30% Design, and the Lake Shore Boulevard East Public Realm improvements, and the Port Lands Rail Study.

Development & Evaluation of Design Alternatives

The development of design alternatives was guided by the high-level objectives identified in the previously completed 2017 TSMP:

- prioritize safety and accessibility;
- develop and attractive destination with high-quality public realm;
- enhance networks and connectivity;
- support sustainability;
- create an interesting and dynamic urban mix;
- leverage cultural and environmental assets; and
- provide flexibility and certainty in implementation.

The TSMP also identified initial design concepts for the Broadview Avenue Extension and the New East-West Street that were also reinforced in the Unilever Precinct Secondary Plan that was completed in 2018.

The Broadview Avenue Extension and New East-West Street are required to be designed as complete streets that prioritize transit and active transportation. An important goal of the overall street design is to support a 90% mode share towards transit, cycling, and pedestrian travel. This means that only 10% of people travelling to, from, and within the area would be in automobiles. This is a significant guiding goal that is rooted in achieving resilient and sustainable waterfront communities that limit contributions to automobile traffic and associated air pollution in the region. Creating transportation infrastructure that supports walkable, transit-oriented communities is critical to achieving broader environmental goals that reduce the climate impacts of a growing City.

The following City standards and guidelines were also considered when developing design alternatives in this EA:

- TransformTO and Net Zero Strategy;
- Complete Streets Guidelines;
- Green Streets Technical Guidelines;
- Vision Zero 2.0;
- Toronto Walking Strategy;
- City of Toronto Cycling Network Plan;
- On-Street Bikeway Design Guidelines; and
- Road Engineering Design Guidelines.

Broadview Avenue Extension

The Broadview Avenue Extension will be a signature street connecting the Unilever Precinct and the Port Lands with the broader City. It will be a multi-modal corridor that includes a dedicated transit right-of-way, wide sidewalks, raised and separated cycle tracks, urban bioswales, tree plantings and one vehicular traffic lane in each direction. Additional considerations were identified throughout the Broadview Avenue Extension EA including:

- Refining the general alignment and right-of-way width for functional Toronto Transit Commission (TTC) streetcar track geometry;
- Providing space for vehicle lay-bys for short-term loading, deliveries, and film truck activity;
- Protection for the further extension to Unwin Avenue;
- Co-ordinating the design of Broadview Avenue and the rail underpass at the East Harbour Transit Hub;
- Transition for streetcars from mixed traffic to a transit corridor at Eastern Avenue;
- Reflecting the latest cycling design standards and best practices; and
- Establishing locations of transit stops and signalized intersections.

The following design elements were constant in all the three design alternatives developed:

- A street centerline alignment generally consistent with the TSMP alignment;
- Dedicated transit guideway in the centre of the ROW and mountable curbs for emergency vehicles;
- One vehicular traffic through lane in each direction with 3.3 metre (m) lane widths;
- Raised and separated cycle tracks at sidewalk level on both sides of the street that generally achieve 2.0 m widths, where possible;
- A buffer between cycle tracks and sidewalk;
- A minimum buffer distance between cycle tracks and on-street lay-bys of 0.8 m; and
- Generous pedestrian sidewalks.

The following design elements were variables explored in developing the design alternatives:

- green street components;
- location of vehicle lay-bys; and
- configuration of cycle tracks.

Alternative 1: Urban Boulevard (35m ROW)

Figure ES.2 illustrates a typical cross-section for Alternative 1 with a 35 m right-of-way that includes: vehicle lay-bys on one side of the street; trees/bioswales on one side of the street; tree planters on both sides of the street but are smaller on the east side.

Figure ES.2: Alternative 1: Urban Boulevard (25m ROW)

Alternative 2: Balanced Boulevard (37.5m ROW)

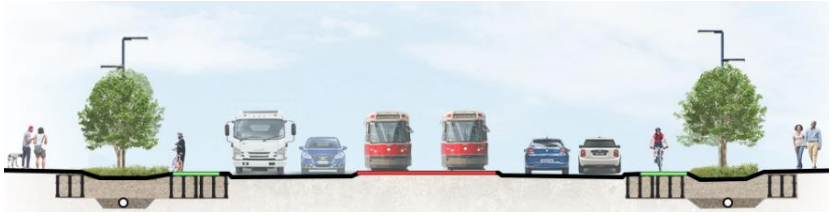
Figure ES.3 illustrates a typical cross-section for Alternative 2 with a 37.5m right-of-way that includes: lay-bys on both sides of the street; street trees on both sides; and bioswales on both sides of the street in select locations, with staggered with some vehicle lay-bys.

Figure ES.3: Alternative 2: Balanced Boulevard (37.5m ROW)

Alternative 3: Green Boulevard (40m ROW)

Figure ES.4 illustrates a typical cross-section for Alternative 3 with a 40m right-of-way that includes: lay-bys, street trees, and dedicated bioswales on both sides of the street.

Figure ES.4: Alternative 3: Green Boulevard (40 m ROW)



Evaluation of Design Alternatives

The evaluation of design alternatives was guided by the following high-level Objectives and is detailed in **Chapter 5.0:**

- Prioritize safety and accessibility;
- Develop an attractive destination with high-quality public realm;
- Enhance networks and connectivity;
- Support sustainability;
- Create an interesting and dynamic urban mix;
- Leverage assets; and
- Provide flexibility and certainty in implementation.

Detailed criteria and measures were developed for each of these objectives. **Table ES.1** below presents a summary of the evaluation of the three design alternatives.

Table ES.1 – Broadview Avenue Extension Evaluation Summary

Objectives	Alternative 1 Urban Boulevard (35 m ROW)	Alternative 2 Balanced Boulevard (37.5 m ROW)	Alternative 3 Green Boulevard (40 m ROW)
Prioritize safety and accessibility	Moderately low	High	Moderately High
Develop an attractive destination with high-quality public realm	Moderately low	High	Moderately High
Enhance networks and connectivity	High	High	High
Support sustainability	Moderately low	Moderately High	High
Create an interesting and dynamic urban mix	High	High	High
Leverage assets	Moderately High	High	High
Provide flexibility and certainty in implementation	Moderately low	High	Moderate
Overall		**Preferred**	

New East-West Street

The starting point for the design alternatives for the new East-West Street was the preferred solution previously identified in the TSMP. The TSMP preferred solution identified a street with vibrant at-grade retail activity that also provides essential vehicle access. It has a minimum 23 m right-of-way with two lanes of vehicular through traffic, generous sidewalks, separated cycle lanes, tree plantings, and a mix of on street parking and centre left-turn lanes to accommodate local traffic needs.

Additional design aspects that were considered through the EA included:

- Providing space to accommodate vehicle lay-bys for short-term loading, deliveries, and film truck activity;
- Identifying locations for left-turn lanes to access local streets;
- Limiting access to a right-in/right-out movements to/from the Don Roadway;
- Pedestrian clearways to support the type and intensity of uses anticipated on a retail main street; and
- Reflecting cycling design standards to achieve safe intersection design for cyclists.

Three design alternatives were proposed. The following were consistent for all of the alternatives:

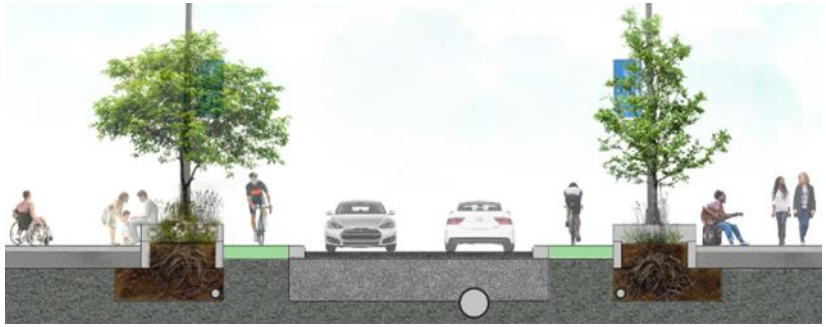
- One vehicular traffic through lane in each direction with 3.2 m lane widths;
- Integration of left-turn lanes at Broadview Avenue and at Booth Avenue;
- Raised and separated cycle tracks on both sides of the street that have 1.8 m widths;
- A minimum buffer distance between bikes and people of 0.6 m. Buffers can include tree planters;
- A minimum buffer distance between bikes and cars of 0.5 m;
- Generous pedestrian sidewalks;
- 6.5 m to be provided for the sidewalk and tree planting zone combined;
- Tree planters with a minimum width of 1.9 m;
- Tactile surface to delineate cycle track and pedestrian space; and
- Integration of layby parking areas.

In developing design alternatives variables for the location and accommodation of left turn lanes and laybys were considered.

Alternative 1: 24 m ROW

Figure ES.5 illustrates a typical mid-block cross-section for Alternative 1, which includes: one through traffic lane in each direction; 6.5 m of space for tree planting and sidewalks; left turn lanes at Broadview Avenue and Booth Avenue; and no vehicle lay-bys.

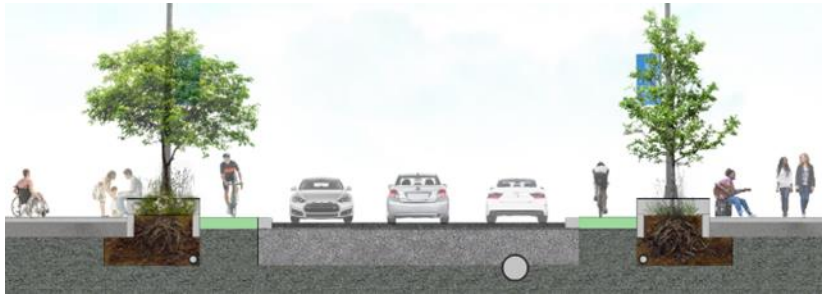
Figure ES.5 - Alternative 1 (24 m ROW)



Alternative 2: 27 m ROW

Figure ES.6 illustrates a typical mid-block cross-section for Alternative 2, which includes: a continuous left-turn lane at all proposed north-south streets between Don Roadway and Booth Avenue.

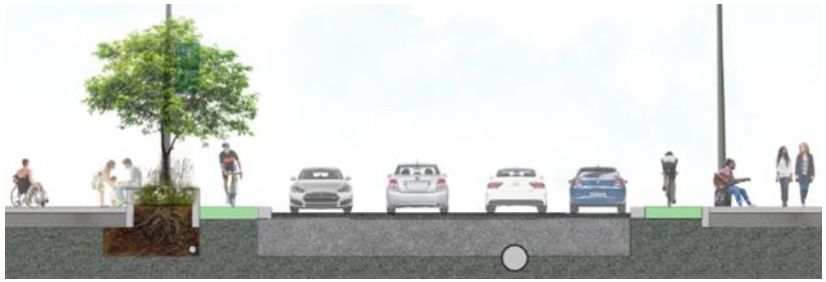
Figure ES.6 - Alternative 2 (27 m ROW)



Alternative 3: 24 m to 27 m ROW

Figure ES.7 illustrates a typical mid-block cross-section for Alternative 3, which includes left turn lanes at key signalized intersections; staggered vehicle lay-bys; and reduced tree planters where vehicle lay-bys are located.

Figure ES.7 - Alternative 3 (24 m to 27 m ROW)



Evaluation of Design Alternatives

The evaluation of design alternatives was guided by the following high-level Objectives and is detailed in **Chapter 6.0**:

- Prioritize safety and accessibility;
- Develop an attractive destination with high-quality public realm;
- Enhance networks and connectivity;
- Support sustainability;
- Create an interesting and dynamic urban mix;
- Leverage assets; and
- Provide flexibility and certainty in implementation.

Detailed criteria and measures were developed for each of these objectives. **Table ES.2** below presents a summary of the evaluation of the three design alternatives.

Table ES.2 - New East-West Street Evaluation Summary

Objective	Alternative 1 24 m ROW	Alternative 2 24 m-27 m ROW	Alternative 3 24 m-27 m ROW
Prioritize safety and accessibility	High	High	High
Develop an attractive destination with high-quality public realm	High	High	Moderately High
Enhance networks and connectivity	Moderately Low	Moderate	High
Support sustainability	High	High	Moderate
Create an interesting and dynamic urban mix	Moderate	Moderate	High
Leverage assets	High	High	High
Provide flexibility and certainty in implementation	Moderately Low	Moderately Low	High
Overall Evaluation			**Preferred**

Preferred Designs

The preferred design alternatives for the Broadview Avenue Extension and the New East-West Street are summarized below. More detail is provided in **Chapters 7.0 and 8.0**, respectively.

Broadview Avenue Extension

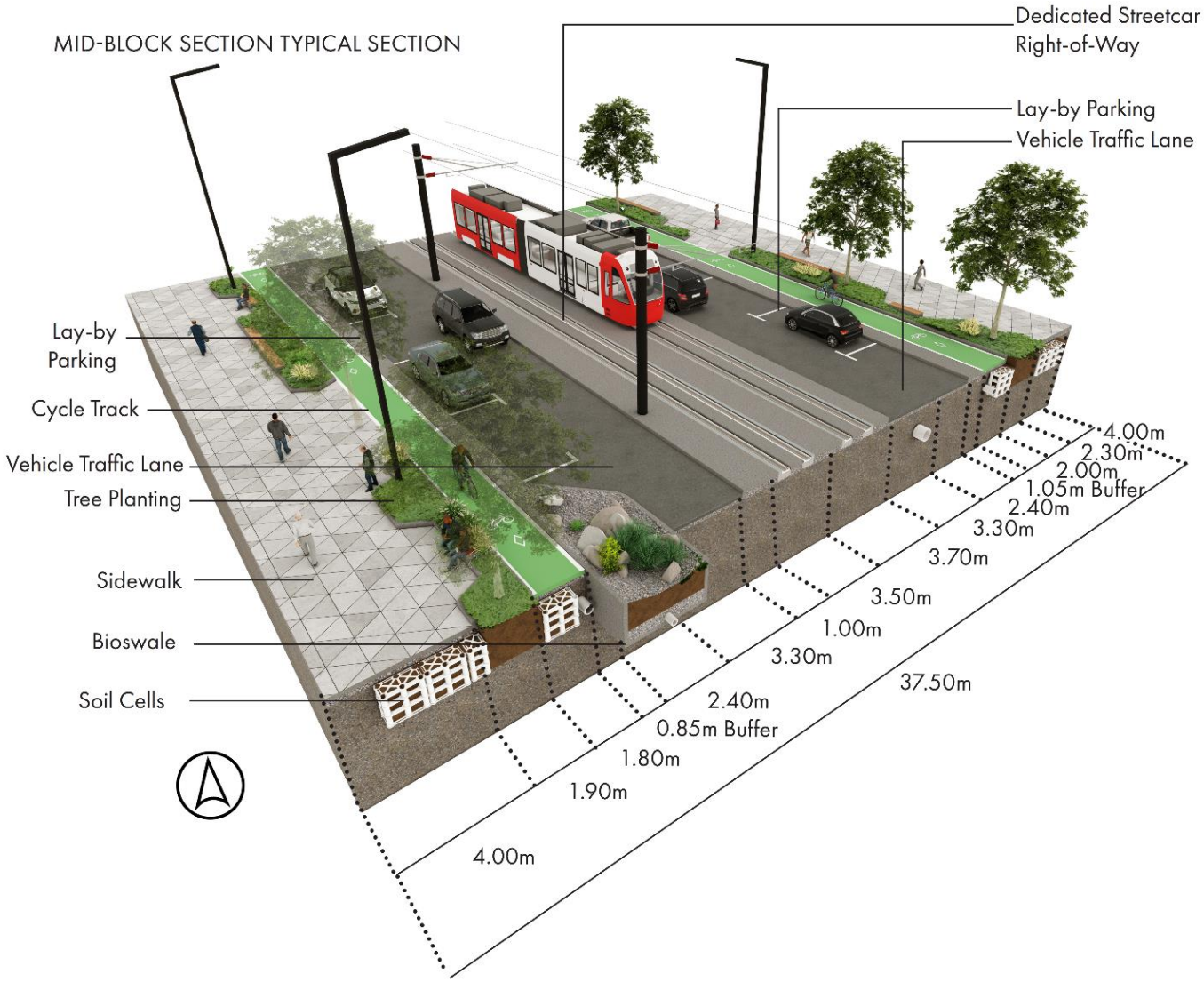
Based on the evaluation of the design alternatives, Alternative 2 – Balanced Boulevard with a typical mid-block 37.5 m right-of-way – was selected as the preferred design alternative. This alternative will achieve the urban design vision for Broadview Avenue as a pedestrian-oriented street that prioritizes walking, cycling and transit use, while considering some needs of private vehicles.

The following cross-section elements are consistent across the entire Broadview Avenue Extension:

- One 3.3 m traffic lane in each direction to accommodate the City's minimum lane width requirements for vehicle traffic as well as potential TTC bus service and emergency vehicles;
- A minimum 8.2 m dedicated transit right-of-way in the centre of the street to accommodate bi-directional streetcar service, including a 1.0 m allocation for catenary poles on one side of the transit guideway, a 3.5 m wide southbound lane, and a 3.7 m wide northbound lane;
- Raised cycle tracks with a width of 2.0 m, where possible, and a minimum of 1.8 m;
- A minimum buffer distance between cycle tracks and sidewalk of 0.6 m;
- A minimum buffer distance between cycle tracks and on-street lay-bys of 0.8 m;
- A minimum of 4.0 m sidewalks on either side of the street; and
- Street trees on both sides of the street planted in structural soil cell systems to retain soil and water for tree health. Bioswales are also included to help manage and filter stormwater runoff.

The typical cross-section for Broadview Avenue will meet the design objectives of prioritizing space, safety, and accessibility for pedestrians and cyclists. The design simultaneously balances the accommodation of green street elements via bioswales and street trees and provides short-term parking and loading vehicle access via lay-bys for the adjacent development blocks. The preferred design alternative cross-section is shown below in **Figure ES.8**.

Figure ES.8 – Broadview Avenue Extension Preferred Design Typical Cross-Section



New East-West Street

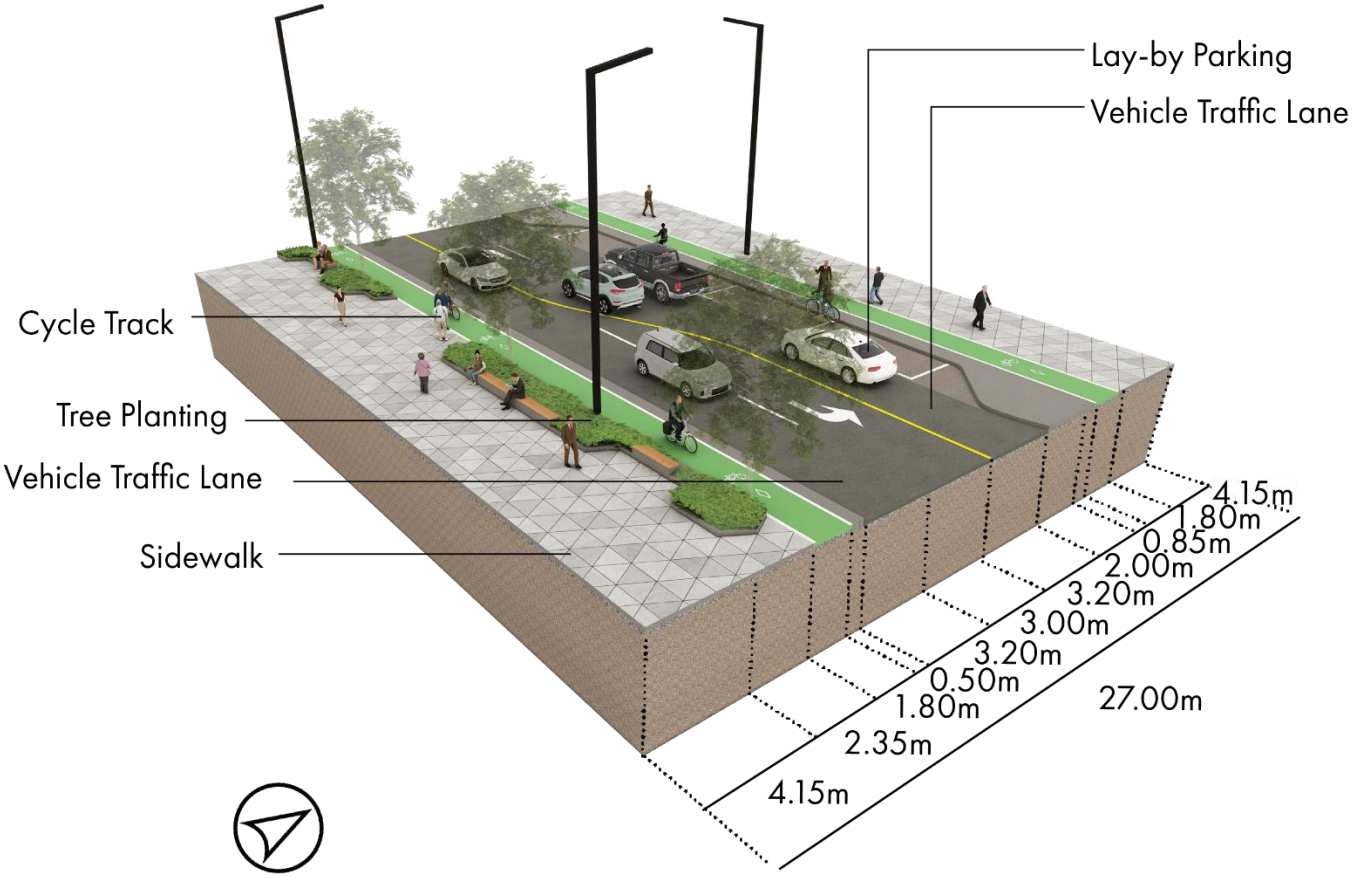
Based on the evaluation of the design alternatives, Alternative 3 – 24 m and 27 m right-of-way – was selected as the preferred design alternative. Additional work will be required as part of the development review process for the East Harbour TOC with respect to the placement of driveways, underground parking access locations, and subsurface utilities.

The following cross-section elements are consistent across the entire New East-West Street recommended design:

- One 3.2 m traffic lane in each direction to prioritize pedestrian-scale and green street elements as TTC buses are not anticipated to travel along the New East-West Street;
- Left-turn lane at signalized intersections with a minimum width of 3.0 m;
- Raised cycle tracks along both sides of the street with a minimum width of 1.8 m plus a minimum 0.6 m buffer;
- A minimum of 3.5 m sidewalks on either side of the street;
- Street trees on both sides of the street except where a vehicle lay-by is accommodated; and
- A vehicle lay-by on one side of the street for each segment with a minimum width of 2.0 m.

The typical cross-section will meet the urban design vision as a green, main street from the Unilever Precinct Plan that supports vibrant, street-level retail activity and that is capable of supporting large, mature trees. **Figure ES.9** below presents the preferred design alternative for the new East-West Street.

Figure ES.9 – New East-West Street Preferred Design Typical Cross-Section



Effects Assessment and Mitigation

Chapter 9.0 details potential impacts and the associated mitigation measures that were considered as part of Phase 3 of the MCEA Process, which included:

- Transportation impacts, including disruption to adjacent properties during construction. Access impacts will need to be mitigated through construction staging.
- The Unilever Precinct is subject to increased flood risk from the Don River caused by the Broadview Avenue Extension's new railway grade separation opening, although is mitigated by the Broadview Eastern Flood Protection landform. Detailed design will need to be coordinated with the Broadview Eastern Flood Protection project, East Harbour Transit Hub, and East Harbour TOC development to analyze and implement appropriate stormwater management strategies such as bioswales, permeable pavers, and end of pipe treatment. Stormwater management analysis for the larger area is being undertaken by the owner of the East Harbour TOC development as part of the development review process for review by the City of Toronto and TRCA.
- There are complex sub-surface utilities and surface infrastructure at and north of Sunlight Park Road that create constraints. Subsurface investigations and consultation with impacted utility companies will need to be conducted to formulate mitigation strategies.
- A Stage 1 Archaeological Assessment was completed for the study. The results of the study indicated that a Stage 2 Assessment was not required.
- The wide sidewalks, cycle tracks, and transit routes help reduce vehicle use and result in decreased greenhouse gas emissions. Tree plantings and bioswales also further help reduce the impacts of climate change.
- Cumulative construction impacts including dust and debris will be present due to multiple infrastructure projects being undertaken in close proximity to one another. Construction activities will need to comply with noise control by-laws, dust and debris will need to be controlled, and air quality monitoring should be undertaken during construction.
- The groundwater table in the study area is high and the study is in a Highly Vulnerable Aquifer area. A Hydrogeological Assessment will need to be

completed to document the study area and confirm water-taking permit requirements.

- Acquisition of three properties north of the Metrolinx rail embankment is required to implement the Broadview Avenue Extension. Affected property owners were consulted to determine impact on their respective properties. Consultation will continue throughout the detailed design phase.
- Operation and maintenance activities will focus on preventing negative environmental impact, and protecting the existing environment.

Preliminary Cost Estimate

A preliminary cost estimate for the section of the Broadview Extension that will advance as a City capital project was prepared. This section extends from just north of the Eastern Avenue intersection to the south edge of the rail embankment. The preliminary cost estimate for this section of the street is $14.9 million. This excludes the cost of the underpass structure itself, which is being delivered as part of the East Harbour Transit Hub project. This estimate also excludes property acquisition costs, costs associated with transit infrastructure (i.e. streetcar tracks and platform), and costs to be determined at subsequent design stages, such as for utility relocations, soil remediation/risk assessment measures and to address other geotechnical matters. For a more detailed breakdown of the cost estimate for this section of the Broadview Extension see **Appendix I**.

The developer of the East Harbour site is responsible for designing and constructing the section of the Broadview Extension from the south side of the rail embankment to Lake Shore Boulevard East, and for the East-West Street.

Permits and Approvals

Permits and approvals may be required in advance of construction of the Broadview Avenue Extension and New East-West Street. Provincial and regional permits may include permits from the Toronto and Region Conservation Authority, the Ministry of Environment, Conservation, and Parks, and Metrolinx. Municipal permits related to ravine and natural features protection, waste disposal, noise, and construction are anticipated to apply to the project. These are further detailed in **Chapter 12.0**.

Next Steps

This EA Study has developed the design to a 10% conceptual level which defines the right-of-way widths, horizontal centreline alignment, general configuration of vehicle traffic lanes, and key elements to be included within the boulevard – sidewalks, cycle tracks, green infrastructure, and vehicle lay-bys – for the Broadview Avenue Extension and the New East-West Street.

Subsequent detailed design work will refine the design and organization of these elements within the boulevard, as well as consider municipal servicing and utilities requirements.

Subsequent detailed design work will also continue to be coordinated with surrounding area projects, including: East Harbour Transit Oriented Community (TOC) Development; East Harbour Transit Hub; Gardiner Expressway Reconfiguration and Lake Shore Boulevard East Public Realm Design; and the Broadview Avenue and Eastern Avenue Flood Protection Project.

1.0 Introduction

This Environmental Study Report (ESR) documents the work undertaken as part of the Broadview Avenue Extension Environmental Assessment (EA) completed by Dillon Consulting and LEA Consulting Ltd. for the City of Toronto. The Broadview Avenue Extension EA focused on developing and evaluating design alternatives and identifying recommended preferred designs for the following new streets in the Unilever Precinct and immediate vicinity:

- the extension of Broadview Avenue from Eastern Avenue to Lake Shore Boulevard East, and
- a New East-West Street through the Unilever Precinct between the Don Roadway and Booth Avenue.

The Broadview Avenue Extension EA builds off of the work completed in the Port Lands and South of Eastern Transportation and Servicing Master Plan (TSMP) that was finalized in 2017. That study identified transportation, stormwater, water and wastewater servicing improvements required to support the long-term transformation of the Port Lands and South of Eastern area.

The Broadview Avenue Extension from Eastern Avenue to Lake Shore Boulevard East and a portion of the New East-West Street are required to support Phase 1 of the East Harbour development. The Broadview Avenue Extension is also required to support the East Harbour Transit Hub.

The TSMP identified the transportation infrastructure requirements for this area and satisfied Phases 1 and 2 of the Municipal Class Environmental Assessment (MCEA) process. The TSMP identified a comprehensive network of complete streets to enhance connections and capacity, and support transit, cycling, and pedestrian activity. The recommended network included the extension of Broadview Avenue from its current terminus at Sunlight Park Road/Eastern Avenue to Unwin Avenue in the Port Lands. It also included the creation of a New East-West Street through the Unilever Precinct from the Don Roadway to Booth Avenue (referred to as Street E in the Unilever Precinct Secondary Plan). The TSMP preferred solution for these two streets identified a preferred alignment for Broadview Avenue, a general alignment for the new East-West Street, minimum right-

of-way widths, lane configurations, and street character to be achieved.

The Broadview Avenue Extension EA builds on the work undertaken in the TSMP and completes Phases 3 and 4 of the MCEA process to advance the designs for these two streets. For Broadview Avenue, the focus of this EA is on the portion of the street that will extend from Eastern Avenue to Lake Shore Boulevard East, including the intersections at Eastern Avenue and at Lake Shore Boulevard East, to improve functionality and compatibility with the existing and future street network. The extension of Broadview Avenue south of Lake Shore Boulevard East will be subject of a separate future EA study to satisfy Phases 3 and 4 of the MCEA process. A design review for the future extension of Broadview Avenue south of Lake Shore Boulevard East has been completed as part of this EA to confirm that the design alternatives and the preferred design supports the future southern extension and supports the required geometry and right-of-way widths on both sides of the intersection at Lake Shore Boulevard East.

The Broadview Avenue Extension EA study also explored two additional transportation improvements in the area to help better inform the Broadview Avenue Extension and New East-West Street. These improvements do not trigger a Schedule B or Schedule C EA, and are pre-approved under the Municipal Class EA.

The improvements are:

- Modifications to the existing Eastern Avenue on-ramp to the Don Valley Parkway (DVP); and
- Improvements to the existing segment of Broadview Avenue, between Eastern Avenue and Queen Street East.

The EA study was also closely coordinated with the East Harbour TOC development, the East Harbour Transit Hub, the Broadview Avenue and Eastern Avenue Flood Protection project, and several other ongoing significant studies and initiatives underway in the area.

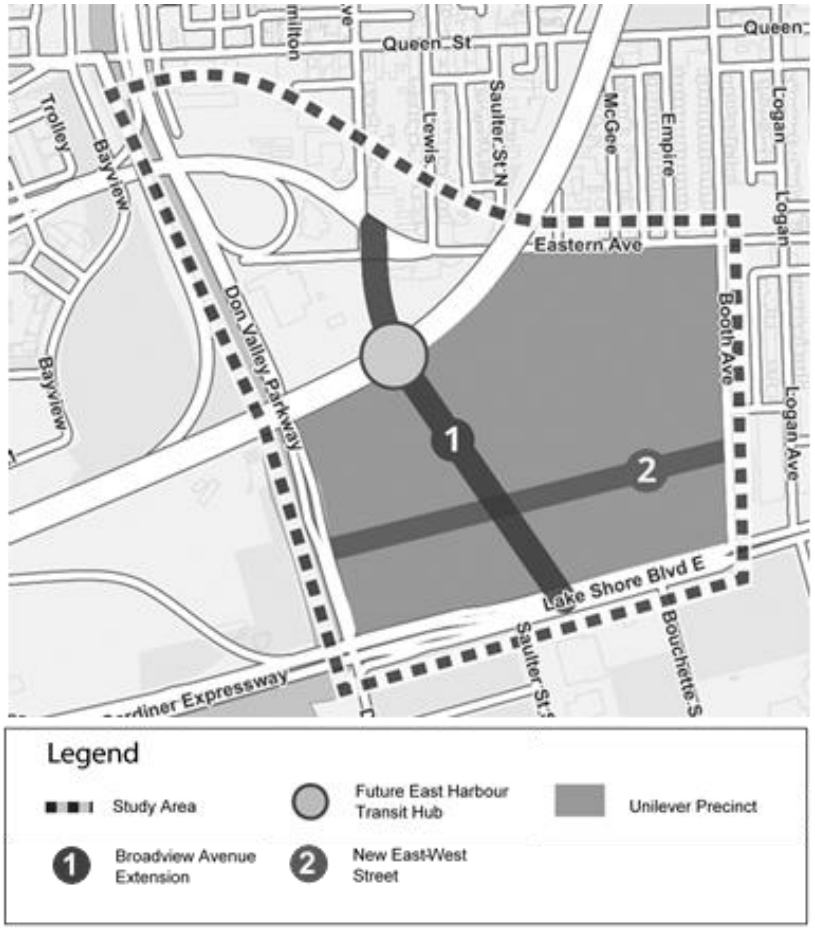
1.1 EA Study Area

The Study Area for the EA is illustrated in **Figure 1.1** and is comprised of the area bounded by Eastern Avenue to the north, Lake Shore Boulevard East to the south, Don Roadway/Don Valley Parkway to the west, and Booth Avenue to the east. Within the study area, the EA is particularly focused on the alignment of two new streets:

1. Broadview Avenue Extension from Eastern Avenue to Lake Shore Boulevard East, and
2. New East-West Street through the Unilever Precinct between the Don Roadway and Booth Avenue.

The EA included the major intersections of these two streets with each other, as well as the surrounding street network at Booth Avenue, Eastern Avenue and at Lake Shore Avenue East. It did not include the intersections of the New East-West Street with the Don Roadway.

Figure 1.1 - EA Study Area

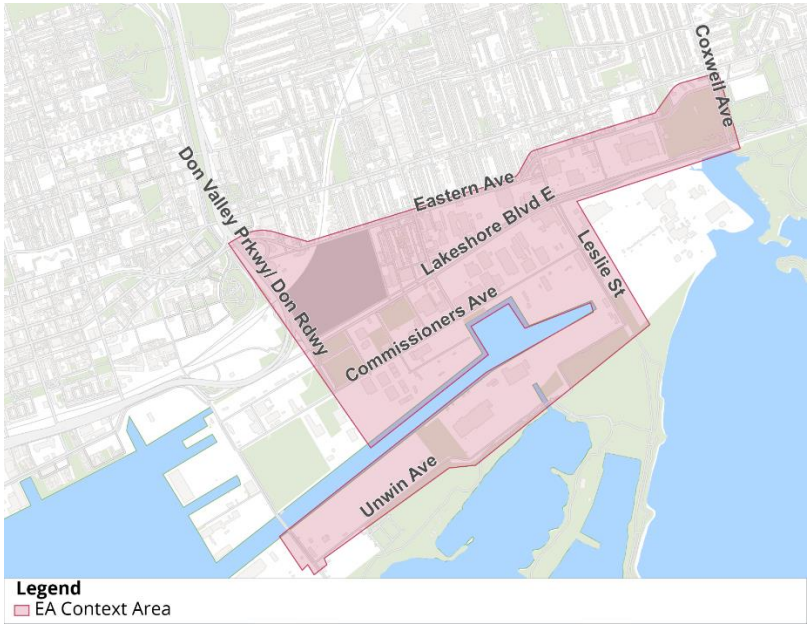


1.2 Broader EA Context Area

In addition to the EA Study Area, there is a larger Broader EA Context Area, shown in **Figure 1.2**, bounded by Eastern Avenue to the north, Unwin Avenue to the south, the Don Roadway and Cherry Street to the west, and Leslie Street and Coxwell Avenue to the east.

The Broader EA Context Area was used to understand the potential impacts that the design alternatives may have on a broader area beyond the focus area. In particular, the Broader Context Area was referenced to identify the complete list of stakeholders for engagement and to assess the impacts to the broader transportation network and natural features of the area.

Figure 1.2 - EA Context Area



1.3 Coordination with Other Area Projects and Initiatives

There are several concurrent projects and initiatives underway in the EA Study Area and broader Context Study Area being led by City of Toronto, Waterfront Toronto, TRCA, and Metrolinx. In addition, private landowners are also active in the area with important large scale development projects. The following list identifies the projects that are most relevant for the Broadview Avenue Extension EA:

- Modifications to Eastern Avenue DVP On-Ramp
- Improvements to Broadview Avenue, Eastern Avenue to Queen Street East
- East Harbour TOC Development
- East Harbour Transit Hub
- Broadview Avenue and Eastern Avenue Flood Protection Project
- Lake Shore Boulevard East Public Realm Project
- Gardiner East Reconfiguration 30% Design Project
- Toronto Port Lands Rail Access Assessment Review (including review of Keating Rail Yard)
- Port Lands Flood Protection and Enabling Infrastructure Project (which includes the Don Mouth Naturalization Project)
- Coxwell Sewer By-pass

Many of these initiatives are in close proximity and require design coordination with the Broadview Avenue Extension EA.

Ongoing coordination between these initiatives is needed as they continue advancing through detailed design and implementation to minimize the impacts, costs, and duration of construction given that they are mostly planned to occur within a similar 5 to 10 years period.

The following sections describe the key area initiatives that were most closely coordinated throughout the Broadview Avenue Extension EA. Additional information about these initiatives is included in **Chapter 4.0**.

1.3.1 Modifications to the Eastern Avenue DVP On-Ramp

To address flood risk in the area south of Eastern Avenue and north of the Metrolinx rail embankment, the Broadview Avenue and Eastern Avenue Flood Protection Project identified the implementation of a flood protection landform (FPL) to be constructed on the east side of the Don Valley Parkway between Eastern Avenue and the Metrolinx rail embankment. As a result, the Eastern Avenue on-ramp to DVP north will need to be rebuilt during the construction of the FPL to accommodate the topography of the landform. This presents an opportunity to revisit the design of the on-ramp in order to improve pedestrian safety along Eastern Avenue and enable on-ramp access to northbound DVP from both the eastbound and westbound lanes of Eastern Avenue.

The current ramp configuration only allows eastbound vehicles to access the DVP from Eastern Avenue. Vehicles travelling westbound on Eastern Avenue are unable to access the ramp and must make a significant detour either north to Thompson Street or south to Villiers Street to access the northbound DVP. The revised design would include both a dedicated eastbound right-turn lane and a dedicated westbound left turn lane with access to the DVP on-ramp. The new design also straightens out the ramp entrance and improves pedestrian safety with a shorter perpendicular pedestrian crossing across the ramp. Additional details related to reconstruction of the Eastern Avenue on-ramp to the DVP are included in **Section 7.1.10**.

The proposed modifications were important considerations for this EA, as they impact traffic operations in the study area and particularly the Broadview Avenue and Eastern Avenue intersection.

1.3.2 Broadview Avenue Improvements, Eastern Avenue to Queen Street East

A parallel design exercise was undertaken for the existing segment of Broadview Avenue from Eastern Avenue north to Queen Street East. The study explored how the Broadview Avenue Streetcar, which currently operates north of Queen Street, will be extended southerly to Eastern Avenue. South of Eastern Avenue the Streetcar will enter into the dedicated streetcar right-of-way that was designed as part of this EA. The City also examined opportunities to improve the block of Broadview Avenue between Queen Street and Eastern Avenue to address

deficiencies in sidewalk space, streetscaping and safe cycling connections. The results of this analysis tie directly into the Broadview Avenue Extension south of Eastern Avenue and informed the design alternatives for the Broadview Avenue and Eastern Avenue intersection.

1.3.3 East Harbour Transit-Oriented Community (TOC)

In April 2021, the Province announced a Transit Oriented Communities (TOC) commercial partnership with Cadillac Fairview for the East Harbour site. The TOC partnership proposes to add 302,000 square metres (3.25 million square feet) of residential development, or approximately 4,300 residential units, to the 926,000 square metres (10 million square feet) of employment development previously approved in the Unilever Precinct Secondary Plan and relevant Zoning By-laws. Materials submitted by Cadillac Fairview in May 2021 propose nine residential towers, nine office towers, and a street network similar to the 2018 East Harbour Master Plan. As part of the commercial Contribution Agreement between Cadillac Fairview and the Province, the two parties have negotiated a capital contribution toward matters they expected the City would require for the East Harbour site, including affordable housing, community services and facilities, and enabling infrastructure for the East Harbour Transit Hub.

1.3.4 East Harbour Transit Hub (EHTH)

The East Harbour Transit Hub is anticipated to be a major transit hub on the Lakeshore East GO line between the Don Valley Parkway and Eastern Avenue. The Broadview Avenue Extension EA is also uniquely positioned to coordinate with the designs for the East Harbour Transit Hub and provide a seamless transition between the Broadview Avenue extension and the new transit hub. To extend Broadview Avenue south of Eastern Avenue to Lake Shore Boulevard, a new underpass is required under the existing Metrolinx railway embankment on the east side of the Don River, which is going to be reconstructed to host the East Harbour Transit Hub. The underpass structure is being addressed through the East Harbour Transit Hub project. However, the Broadview Avenue Extension EA is addressing the horizontal and vertical road profile for the street for coordination with the East Harbour Transit Hub project. Given the resources being dedicated by the Province to advance the design and construction of the East Harbour Transit Hub, it was critical to complete this EA so that the underpass design could be integrated with the station design.

1.3.5 Broadview & Eastern Flood Protection Project

Many of the properties east of the Don River remain vulnerable to flooding under regional storm conditions. The Port Lands Flood Protection and Enabling Infrastructure Project (PLFPEIP) provides a coordinated approach to implementing flood protection in the southeastern area of downtown Toronto, including flood protection for parts of the Port Lands, South of Eastern area, Unilever Precinct, South Riverdale and Leslieville areas. This includes flood protection for the focus study area. The PLFPEIP involves the implementation of the Don Mouth Naturalization Project (DMNP) EA and the Lower Don Lands EA Master Plan Addendum and Environmental Study Report. This flood protection landform south of the rail embankment will be constructed along the east side of the Don Roadway and DVP ramps, and tie-in to the rail embankment at the north end. Confirmation of the preferred design for Broadview Avenue and the new East-West Street assists in finalizing flood protection requirements north of the rail embankment as identified through the Broadview Avenue and Eastern Avenue Flood Protection Project. The preferred solution for the East-West Street as identified in the TSMP takes the landform into consideration and includes improved grading to support flood protection.

1.4 Municipal Class Environmental Assessment (MCEA) Process

The Municipal Class Environmental Assessment (MCEA) process outlines the steps and requirements for municipal infrastructure projects – including roads – to satisfy Ontario's *Environmental Assessment (EA) Act*. The MCEA process recognizes that certain undertakings require greater, or lesser, degrees of assessment, depending on the nature of the work, the estimated cost, and the potential impacts on the environment (this refers to all aspects of the environment including natural, social, economic, cultural, and technical).

When the Broadview Avenue Extension EA commenced in November 2020, the Broadview Avenue Extension and the New East-West Street were both classified as Schedule C MCEA projects. Amendments to the MCEA have since been approved in March 2023. Under the new 2023 MCEA process, several projects have new schedule classifications, or are subject to screening processes. As outlined in Section A.1.4 in the 2023 Amended MCEA, proponents of projects that have been rescheduled **and**

have issued a Notice of Commencement **but not** issued the Notice of Completion prior to the 2023 MCEA Amendments, may choose to either: (a) continue with the class environmental process that was previously started for the project, or; (b) transition the project to the new applicable process based on the categorization of the project in the 2023 Amended MCEA.

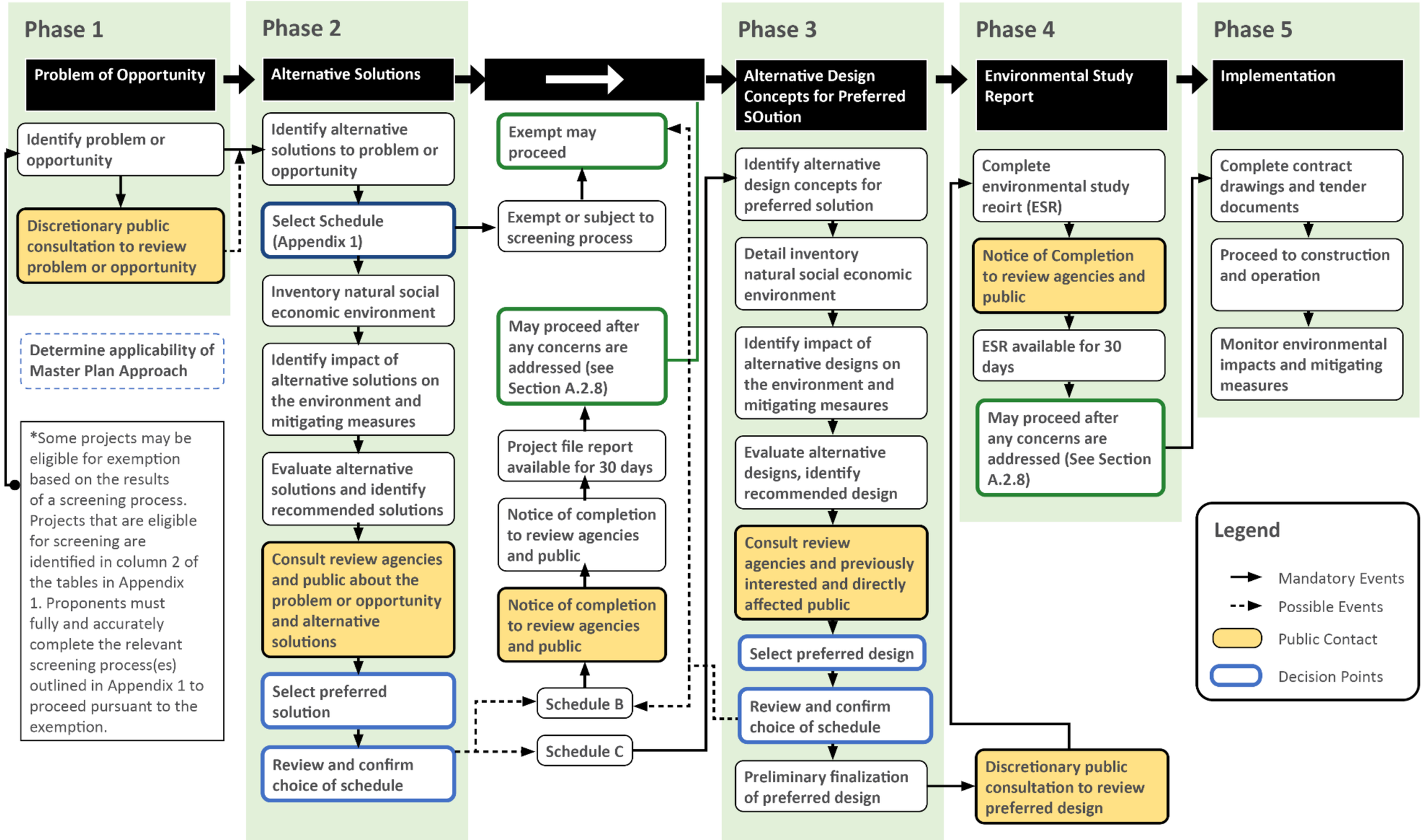
Both the Broadview Avenue Extension and the New East-West Street are still classified as Schedule C projects in the amended 2023 MCEA and as such, the City will continue to complete both projects as Schedule C projects.

Schedule C MCEA projects are required to satisfy all five Phases of the MCEA process, described below and illustrated in **Figure 1.3:**

- Phase 1 – Identifying the problem(s) and/or opportunities;
- Phase 2 – Identifying Alternative Solutions to address the problem(s) and/or opportunities by considering the existing environment. This includes the evaluation of impacts and benefits of the alternative solutions to identify a Preferred Solution;
- Phase 3 – Examining and evaluating alternative designs for implementing the Preferred Solution. This includes the identification of a Preferred Design;
- Phase 4 – Completion of an ESR that documents the rationale, planning, design, impacts and mitigation, and consultation process for the project; and
- Phase 5 – Implement the project, including completion of contract drawings to proceed to construction and operation. This phase includes monitoring construction and operation for environmental provisions and any commitments as documented in the ESR.

The Port Lands and South of Eastern TSMP previously satisfied Phases 1 and 2 of the MCEA process. The Broadview Avenue Extension EA satisfies Phases 3 and 4 of the MCEA process, as required for Schedule C projects.

Figure 1.3 - Municipal Class Environmental Assessment Process



1.4.1 Port Lands and South of Eastern TSMP (MCEA Phases 1 and 2)

The Port Lands and South of Eastern TSMP was completed in November of 2017 to support the planned regeneration and renewal in the Port Lands and the continued employment growth in the South of Eastern area over the next 30 to 50 years. The South of Eastern area includes the lands that make up the Unilever Precinct.

The TSMP was undertaken using the Integrated Approach outlined in the MCEA Guidelines to satisfy requirements of both the Provincial *Environmental Assessment Act* and the *Planning Act*, R.S.O. 1990. The TSMP identified a preferred transportation network, including new streets, transit improvements, and municipal servicing.

Consistent with the MCEA process, an existing conditions assessment documented the environmental conditions of the Study Area in terms of the physical, natural, and socio-economic environment. During Phase 2 of the TSMP, a wide range of Alternative Solutions for transportation, municipal servicing (water, wastewater), and stormwater management were developed and evaluated. Preferred solutions for transportation and servicing were selected and presented to the public and stakeholders for feedback.

The TSMP included recommendations for required future studies, phasing and timing, costing, and monitoring. Class EA schedules were identified for each prospective transportation, servicing, and stormwater project. Future EA studies are required to complete projects identified as Schedule C. The Schedule C projects largely consist of new public streets and stormwater quality treatment facilities. The balance of infrastructure projects in the TSMP were identified as Schedule A+ projects.

Within the Unilever Precinct, preferred solutions were identified for the Broadview Avenue Extension and the New East-West Street. The TSMP identified that these two new streets require the completion of MCEA Phases 3 and 4 to satisfy Schedule C assessment requirements.

2.0 Problems & Opportunities and Vision & Objectives

2.1 Problems & Opportunities

The Broadview Avenue Extension EA has been informed by the Problems and Opportunities identified in the 2017 Port Lands and South of Eastern TSMP, with an excerpt below:

"The Problems and Opportunities identified were based on the need to transform a largely industrial area into a series of vibrant, new transit supportive, mixed-use communities and employment districts offering places for people to live, work and play. The Problems and Opportunities also focused on connecting the South of Eastern area with the Port Lands and the rest of the city and identified the lack of infrastructure (transit, roads, servicing) and connections in the Study Area resulting in a challenge of accommodating future growth. The evolution of the area should support and appropriately conserve the unique heritage resources in the area."

2.2 Vision & Objectives

The Port Lands & South of Eastern TSMP established a long-term vision for the larger EA Context Area of renewal and reinvention, transitioning from an industrial and manufacturing area to a vibrant urban office district supported by amenities, residential activity, complementary uses, and significant investments in city building infrastructure. The TSMP also developed a series of high-level guiding objectives that act as the underlying framework for the development of the transportation network proposed for the Port Lands. The Broadview Avenue Extension EA shares and builds on the long-term TSMP vision and objectives to guide the Broadview Avenue Extension and the New East-West Street. The following objectives have informed the development and evaluation of the design alternatives:

- Prioritize safety and accessibility;
- Transit performance;
- Develop an attractive destination with high quality public realm;
- Enhance networks and connectivity;
- Support sustainability;
- Create an interesting and dynamic urban mix;
- Leverage cultural and environmental assets; and
- Provide flexibility and certainty in implementation.

One of the most important elements guiding the vision and objectives for this EA is the desire to achieve a 90% mode share to transit, cycling, and pedestrian modes for all travellers moving to, from, and through the study area. This is critical in the identification of design alternatives and assessment of impacts. Designs that advance this 90% goal will support a more sustainable and less auto-oriented future. Reducing auto use in the study area will have positive outcomes for the surrounding communities, as well: attracting fewer automobiles to the study area will reduce spillover traffic into surrounding neighbourhoods that may be associated with the Unilever Precinct redevelopment.

2.2.1 Broadview Avenue Extension

Functioning as the civic spine, the Broadview Avenue Extension will be the signature street that connects the Unilever Precinct with the broader city. The TSMP and subsequent Unilever Precinct Plan envision the Broadview Avenue Extension through the Unilever Precinct as a vibrant, multi-modal urban corridor with a minimum 35 metre (m) right-of-way that includes dedicated transit, generous sidewalks, raised and separated cycle tracks, urban bioswales, tree plantings, and two vehicular traffic lanes.

Various key design considerations and visions were identified in the TSMP and were carried forward as part of this EA study for the Broadview Avenue Extension to guide the development of design alternatives. This included ideas such as accommodating continued operational needs at Pinewood Toronto Studios, having limited impacts to cultural heritage resources, and fostering a high quality and safe public realm connecting new office, neighbourhoods and other destinations in the Port Lands. Additional challenges in the TSMP included property impacts associated with existing sites, advancement of more detailed design with the new Basin Transmission Station re-location, and the extension of Broadview Avenue to Unwin Avenue.

The design assumptions to inform the identification and evaluation of design alternatives for the Broadview Avenue Extension are based on these key features along with consultation input received during Phase 3.

2.2.2 New East-West Street

The overall vision for the New East-West Street identified in the TSMP, including the vision that was built upon in the Unilever Precinct Plan, was for the street to be an active retail main street with a minimum 23 m right-of-way with generous sidewalks, separated cycle lanes, tree plantings, and a mix of on-street parking and centre left-turn lanes to accommodate local traffic needs. The New East-West Street is designated as a Major Street that will serve an important vehicular movement function in the Unilever Precinct and will be complemented by a generous public realm that supports animated ground-floor uses like retail and entertainment.

Recognizing the prominent retail function of the New East-West Street, an extended boulevard width of 11 m measured from curb to building face was identified in the Unilever Precinct Plan, allowing for a generous retail spillout zone. This boulevard width will be composed of a combination of the public rights-of-way and private setbacks that seamlessly integrate to provide signature linear public spaces in the Precinct. A variety of retail uses will be concentrated along the New East West Street providing amenities for current and future workers, residents, and the broader community.

As with Broadview Avenue, key design considerations were identified in the TSMP and were carried forward as part of this EA study to guide the development of the design alternatives. The new east-west street was identified as a key connection to alleviate congestion on Eastern Avenue and Lake Shore Boulevard with traffic destined to the Precinct. The street should be designed in a way that supports short-term loading, deliveries, and film truck activity.

The design assumptions to inform the identification and evaluation of design alternatives for the New East-West Street are based on these key features along with consultation input received during Phase 3.

3.0 Consultation

Consultation was undertaken as part of the Broadview Avenue Extension EA with the public, stakeholders, landowners, agencies, City of Toronto staff, and Indigenous communities. The consultation process satisfied the requirements for Phase 3 and 4 of the MCEA process. The focus of consultation for Phases 3 and 4 was on design alternatives phase of work. This includes consultation on the design alternatives, evaluation, recommendations, and mitigation plans. Consultation undertaken as part of Phases 1 and 2 of the MCEA process is documented in the Port Lands and South of Eastern TSMP.

3.1 Port Lands & South of Eastern TSMP (MCEA Phases 1 and 2)

The TSMP consultation process was extensive and integrated multiple consultation opportunities with the public, landowners, businesses, stakeholders, agencies, City of Toronto staff, and Indigenous communities. Consultation activities went beyond the minimum requirements of the MCEA process and included:

- meetings with agencies and businesses, including the film sector;
- stakeholder and landowner advisory committees;
- public meetings and design charrettes;
- project website updates;
- online survey;
- social media outreach;
- hard-copy and email notices; and
- email and letter correspondence.

The entire process for the TSMP spanned a four-year period between 2013 and 2017, with multiple consultation activities throughout this period. A total of over 60 meetings (virtual and in-person) were held.

Key consultation topics included the identification, assessment and recommendations for preferred solutions for the Broadview Avenue Extension and the New East-West Street in the Unilever Precinct.

More information on the consultation undertaken during Phase 1 and 2 of the MCEA process is available in the TSMP EA Report, available at https://portlandsto.ca/wp-content/uploads/TSMP_EA-Report-Sept+29+2017.compressed.pdf.

3.2 Broadview Avenue Extension EA (MCEA Phases 3 and 4)

Building upon the consultation activities undertaken during the TSMP, the consultation process for the Broadview Avenue Extension EA also satisfied and exceeded the consultation requirements for Phases 3 and 4 of the MCEA process, which was completed over a four-year period between 2019 and 2023. Consultation activities utilized informed the development of design alternatives for the Broadview Avenue Extension and the New East-West Street focused on engaging provincial agencies, staff from various City divisions and agencies, staff from other external agencies, landowners, Indigenous communities, and the public. This included the identification of design requirements in order to integrate designs with surrounding area projects and support implementation of the East Harbour Transit Hub, East Harbour TOC development (being led by Cadillac Fairview) and the overall Unilever Precinct Plan.

An in-person public drop-in event and online public consultation were held over three weeks period between June 6, 2022 and June 24, 2022 to present the design alternatives and recommended designs.

The key objectives of the consultation activities were to:

- Build awareness of the project and the focus of Phases 3 and 4 of the MCEA process;
- Build awareness regarding the importance of the Broadview Avenue Extension in supporting the Unilever Precinct redevelopment, including the East Harbour Transit Hub;
- Meet the consultation requirements for the MCEA process;
- Provide opportunities to participate in the consultation process to anyone interested;
- Provide clear, concise information about the project that is easy for the public to access and understand;
- Create opportunities for meaningful two-way exchange of information between agencies, municipal staff, stakeholders and landowners;

- Identify issues and opportunities to be addressed throughout the study that are of importance to the public, stakeholders, landowners, agencies, municipal staff, and Indigenous communities;
- Produce accurate and comprehensive reports that reflect input received; and
- Review and consider input received through the consultation process, and demonstrate how feedback was addressed.

A detailed Consultation Summary Report is included in **Appendix A** that provides more information on the consultation undertaken and includes copies of the following materials:

- EA Notice of Commencement
- Notice of In-Person and Virtual Public Drop-in Event
- Consultation materials (presentations and displays) Stakeholder Meeting summaries
- Summary of public consultation input
- Correspondence with landowners
- Correspondence with Indigenous communities
- Correspondence with agencies, municipal staff, and utility companies
- EA Notice of Completion

The following sections outline consultation activities completed and key issues raised and addressed through consultation. The primary consultation activities completed for the project were:

- Project website: www.toronto.ca/BroadviewExtension
- Canada Post direct mail (16,000+ addresses)
- Emails to project list
- Emails to stakeholder list including resident associations, community groups, organizations, institutions and elected officials
- Notification of agencies
- Notification of Indigenous communities
- Meeting with the Riverside Business Improvement Area
- Targeted meetings with film industry stakeholders
- Meetings with major property owners
- In-person Public Meeting on June 20, 2022
- Virtual Public Meeting on June 21, 2022
- Posting of materials on the project website, and circulation to stakeholder lists and email lists
- Online survey tool

3.3 Agencies

Agency consultation was completed through in-person and teleconference/online meetings with relevant agency representatives and through written correspondence (emails and letters). Agency consultation for Phases 3 and 4 of the EA process was more focused than during Phases 1 and 2 in the TSMP. Agencies consulted were those identified to have an interest in the design alternatives and study process based on previous TSMP input. The agencies that were consulted for the study include:

- Ministry of the Environment, Conservation and Parks (MECP)
- Ministry of Tourism, Culture and Sport (MHSTCI)
- Metrolinx
- Hydro Once Networks Inc (HONI)
- Waterfront Toronto
- Toronto and Region Conservation Authority (TRCA)
- Ports Toronto

3.3.1 Ministry of the Environment, Conservation & Parks (MECP) and Ministry of Heritage, Sport, Tourism & Culture Industries (MHSTCI)

Consultation with MECP and MHSTCI was completed via written correspondence. Following the Notice of Commencement, MECP provided a letter outlining requirements for a Schedule C EA and Indigenous Communities consultation that helped to inform the Indigenous outreach completed for the EA. A copy of the letter is provided in **Appendix A**.

MECP was also consulted by the EA team to gather input on study area site conditions for the Phase 1 Environmental Site Assessment (ESA). Files shared by MECP in 2020 and 2021 for the study area were used in the Phase 1 ESA documentation.

MHSTCI was sent the Stage 1 Archaeological Study and the Cultural Heritage Resource Assessment completed for the EA. No comments were received. MHSTCI reviews and feedback will be monitored beyond the ESR timeline to confirm that directions related to archaeological or cultural heritage resources in the study area are managed

appropriately for the implementation of the preferred design.

3.3.2 Metrolinx

Consultation with Metrolinx included multiple meetings and email correspondence regarding the design of Broadview Avenue in relation to the Metrolinx rail corridor and integration with the East Harbour Transit Hub. The design alternatives and preliminary preferred design was shared with Metrolinx for review and comment. Metrolinx also shared the East Harbour Transit Hub plans with the Broadview Avenue Extension EA team for integration. Through an iterative design process and mutual file sharing, the preferred design for Broadview Avenue through the underpass was identified with support from Metrolinx. Key issues that were resolved during consultation included refining the dimensions of barriers, pillars, lane widths, platforms, and pedestrian connections within the underpass where possible. The design of Broadview Avenue through the underpass reflects the needs of the Transit Hub design, including integrating connections to concourse areas and platforms. The right-of-way for Broadview Avenue is wider through the underpass in order to accommodate the support columns and associated safety barriers for the elevated rail deck. Consultation with Metrolinx will continue beyond the EA in order to finalize detailed designs for the Broadview Avenue underpass in a manner that supports the Transit Hub and integrates the preferred design for Broadview Avenue north and south of the rail corridor.

3.3.3 Hydro One Networks Inc (HONI)

As part of the EA process, notices were shared with utility companies. Hydro One did respond to the notification and informed the project team of the presence of a high voltage transmission underground cable within the study area along Lake Shore Boulevard East and the Don Roadway. Hydro One identified that any transmission line replacement or relocation will require further impact studies. The Broadview Avenue Extension EA team reviewed the location of these facilities. It is not anticipated that the design alternatives would impact these facilities. Further information regarding input and coordination with utility companies as it relates to the preferred design is provided in **Section 4.10**. A copy of the letter from Hydro One is included in **Appendix A**.

3.3.4 Waterfront Toronto

Waterfront Toronto was part of the Technical Advisory Committee (TAC) that was established at the beginning of the EA Study. Additional meetings were also held to facilitate design coordination with other area projects, specifically, the Lake Shore Boulevard East improvements and the Broadview Avenue & Eastern Flood Protection Project.

3.3.5 Toronto & Region Conservation Area (TRCA)

The TRCA was part of the Technical Advisory Committee (TAC) that was established at the beginning of the EA Study. Additional meetings were also held to facilitate design coordination with other area projects, in particular, the Broadview Avenue & Eastern Flood Protection Project. TRCA also received a draft copy of this ESR on January 18, 2023, and provided comments via email, which are included in **Appendix A**.

3.3.6 PortsToronto

As a result of stakeholder outreach, a letter regarding the Broadview Avenue Extension EA was also received from PortsToronto following the notice of the PIC.

PortsToronto does not own land in the direct area of impact that is north of Lake Shore Boulevard East. However, PortsToronto does own significant property and manages extensive shipping operations in the Port Lands, south of Lake Shore Boulevard. The broader EA study area includes the Port Lands area south of Lake Shore Boulevard that is of interest to PortsToronto. The letter from PortsToronto identifies concern with mapping that is being used for the EA. Specifically the letter states:

"PortsToronto is very concerned with what is outlined in the Broader Context plans shown as part of the Environmental Assessment. In particular, the Broader Context demonstrates not one, but two proposed roadways (a Don Roadway and Broadview Avenue Extension) running over the ship channel, which currently operates as an active commercial shipping channel, subject to the ownership and jurisdiction of PortsToronto. While we understand that neither of these bridges over the ship channel form part of the Broadview Avenue Environmental Assessment PortsToronto is concerned that their inclusion has been shown in such a way as to presume the development of at least one, if not both bridges.

To the extent that it may be applicable to a determination in the Broadview Avenue Environmental Assessment, we want to make it clear for the record that at this time neither bridge has been agreed to or authorized by PortsToronto and that no bridge might ever be so approved (and therefore, no bridge might ever be constructed).

In this regard, PortsToronto is always available to discuss this and any other matter with the City as it relates to the Port Lands. We would encourage the City to reach out to PortsToronto at any time."

The mapping that PortsToronto refers to in the letter shows the long-term block and street network plan for the Port Lands as identified in the TSMP and as shown in the in-force Official Plan for the Port Lands. Consultation with PortsToronto regarding the outcomes of the TSMP preferred solution continues outside of the Broadview Avenue Extension EA. It is understood and documented that there are outstanding concerns with potential new bridges crossing the Ship Channel. The Broadview Avenue Extension EA does not include this bridge and has referred the concerns raised by PortsToronto to the appropriate teams at the City of Toronto. Consultation continues on this matter outside of this EA.

3.4 Technical Advisory Committee (TAC)

A Technical Advisory Committee (TAC) was created to allow key staff from key City Divisions, the TTC, the TRCA and Waterfront Toronto the opportunity to provide technical advice, discuss the integration of parallel projects in the study area, identify design assumptions to inform design alternatives, and streamline the evaluation of design alternatives by providing a forum for agency consultation.

For the initial TAC meetings conducted in 2019, the TAC membership was expanded to include representation from First Gulf, the then landowner of the East Harbour Development. The unique nature of Broadview Avenue as the signature street for the East Harbour Development meant that including First Gulf in the TAC would help to coordinate plans for the area. By the time Cadillac Fairview had purchased the East Harbour site from First Gulf in 2020, TAC members were being met with in smaller focused meetings and landowner consultation was being conducted through individual meetings to

focus on specific property owner interests. Multiple meetings were held with Cadillac Fairview throughout the remainder of the EA process. Further information regarding landowner consultation is provided in **Section 3.5.1**.

The full TAC met 4 times during Phase 3 of the study to discuss:

- TAC Meeting #1:
  - design assumptions and objectives to inform the identification of design alternatives (building off of the preferred solution from the TSMP); and
  - initial ideas for design alternatives.
- TAC Meeting #2:
  - preliminary design alternatives;
  - issues and opportunities for the design of major intersections (including the intersections of Eastern and Broadview Avenue, Broadview Avenue and the New East-West Street, and Broadview Avenue and Lake Shore Boulevard East); and
  - evaluation approach and criteria.
- TAC Meetings #3 and #4 (one meeting to focus on Broadview Avenue and one to focus on the New East-West Street):
  - final design alternatives for evaluation;
  - results of the evaluation;
  - identification of preliminary preferred design; and
  - potential refinements to preferred design to explore in next steps.

Following each TAC Meeting, various follow-up meetings were arranged with members of the TAC to address specific needs or issues related to the project. Meetings involved one or more TAC members depending on the issue or focus of discussion. Focused TAC member meetings were held with:

- TTC;
- Metrolinx;
- Waterfront Toronto;
- Transit Expansion Office;
- City Planning (Community Planning and Transportation Planning);
- Transportation Services (Green Streets, Vision Zero, Cycling);

- Fire Services;
- Toronto Paramedic Services;
- Parks, Forestry & Recreation;
- Toronto Water; and
- Engineering & Construction Services (Bridges, Structures, & Expressways)

TAC member discussion and feedback focused on the following key issues and opportunities:

- Size and locations of laybys
- Size and locations of bioswales and raingardens – including purpose and performance expectations for these green street features

  Minimum dimensions for the design of:
  - Sidewalks;
  - Cycle tracks;
  - Buffers between pedestrians, cyclists, laybys and auto traffic lanes;
  - Tree planters – including soil volume requirements;
  - Through lanes and turning lanes;
- Intersection designs to support transit operations and achieve safe and efficient crossings for cyclists and pedestrians;
- Integration of turning lanes at intersections and associated traffic operations;
- Design of transit right-of-way, catenary system and stop platforms;
- Minimizing impacts to private property, including property access;
- Underpass design and integration with the design of the East Harbour Transit Hub;
- Design considerations for fire and emergency service vehicles, including design of mountable transit curbs in coordination with TTC;
- Input into considerations for construction phasing, maintenance and operations; and
- Overall integration of infrastructure plans in the study area, including integration with the Broadview Avenue and Eastern Avenue Flood Protection Project and the Lake Shore Boulevard East Public Realm Design Project.

Feedback heard from TAC members has informed the Broadview Avenue Extension EA Study, including the development and evaluation of design alternatives for

the Broadview Avenue Extension and the New East-West Street.

3.5 Area Landowners

Landowner consultation for the Broadview Avenue Extension EA was extensive given that the majority of the project would be constructed on privately owned land. Landowners in the area of impact include Cadillac Fairview, Talisker, Metrolinx and CreateTO. The City of Toronto also owns a small portion of additional street right-of-way on the southeast corner of the Broadview Avenue and Eastern Avenue intersection, adjacent to Sunlight Park Road. Landowners in the Study Area were notified of the EA Study by Canada Post registered mail-out. The following sections outline key consultation topics and outcomes with landowners.

3.5.1 Cadillac Fairview

As the current owner of the East Harbour TOC development, Cadillac Fairview has proposed an extensive employment and residential redevelopment of the area. The Broadview Avenue Extension and the New East-West Street play a critical role in supporting and accessing the proposed East Harbour development. There has been extensive regular meetings and points of consultation with Cadillac Fairview regarding the Broadview Avenue Extension and New East-West Street. Input from Cadillac Fairview has been considered in the development and evaluation of design alternatives, as well as in refining the preferred designs that will lead to detailed design and implementation.

Through regular meetings, design workshops, letters and email correspondence throughout the EA, Cadillac Fairview identified key issues and opportunities for consideration in the Broadview Avenue Extension EA. The following list summarizes the key issues raised by Cadillac Fairview and their consultant team:

- Consistency with the proposed right-of-way widths of Broadview Avenue Extension and New East West Street in the East Harbour development application.
- Consistency with vertical profile of Broadview Avenue, in particular, the segment south of the rail corridor to Lake Shore Boulevard East.
- Locations and lengths of vehicle lay-bys on the Broadview Avenue Extension and on the New East-West Street.
- Provision of a signalized intersection with left turn movements at Broadview Avenue and Street A.

- Reflection of the cycling facilities designed at the Broadview Avenue and New East-West Street intersection proposed as part of the development application.
- Provisions of northbound and southbound dedicated vehicle right-turn lanes at Broadview Avenue Extension and New East-West Street intersection.
- Modification of the alignment of the New East-West Street near Booth Avenue.
- Provision of a continuous left turn lane on New East-West Street, between Don Roadway and Booth Avenue.
- Signalization of the intersection at New East-West Street and Street D and at Street C.
- Coordination, timing and sequencing of design and construction of the Broadview Avenue Extension with the first phase of the East Harbour TOC development and other area initiatives.

The discussions with Cadillac Fairview have been used to inform the design alternatives and refinements to the preferred design.

There has been consensus reached between the City and Cadillac Fairview about the right-of-way widths, horizontal centreline alignment, general configuration of vehicle traffic lanes, and key elements to be included within the boulevard – sidewalks, cycle tracks, green infrastructure, and vehicle lay-bys – for the Broadview Avenue Extension and the New East-West Street. More detailed correspondence and meeting summaries are provided in **Appendix A**.

Subsequent detailed design work will refine the design and organization of elements within the boulevard, between the curb and property line, as well as consider municipal servicing and utilities requirements. Further engagement with Cadillac Fairview and minor modifications to design elements between the curb and property line will continue in later stages of detailed design work, as part of the development review process for the East Harbour development.

While many refinements have been completed based on the Cadillac Fairview consultation throughout the EA, consultation is ongoing and will continue during detailed design, as the plans for the East Harbour development continue to evolve.

3.5.2 Talisker

Talisker owns the majority of land north of the rail embankment and south of Eastern Avenue within the EA Study Area. There are two Talisker properties in this area that include a BMW car dealership and a Mini car dealership. Consultation has been ongoing with Talisker as part of other area initiatives underway, including the Broadview Avenue and Eastern Avenue Flood Protection Landform and the East Harbour Transit Hub.

Consultation with Talisker for the Broadview Avenue Extension EA has included two meetings (November 10, 2021 and June 8, 2022), email correspondence and a written letter. Talisker identified a number of concerns and feedback for consideration in the EA. The following list identifies the key issues raised by Talisker:

- The Broadview Avenue Extension would bifurcate their property;
- The proposed right of way would have a maximum width of 43m and minimum width of 35m on their property;
- The Broadview Avenue Extension includes a dedicated transit ROW south of Eastern Avenue;
- There will potentially be changes to the grade of the Eastern Avenue Ramp; and
- Changes will impact the operation and use of the Mini dealership site.

Talisker suggested the following feedback to continue to work with the City to reduce impacts to the extent possible:

- Reconsidering the ROW widths and the necessity of dedicated streetcar platforms on their property;
- Working with New Sunlight and BMW/Mini to address the appropriate grade of Eastern Avenue Ramp as it related to Sunlight Park Road and potential access from the Eastern Avenue ramp onto Sunlight; and
- Working with New Sunlight and BMW/Mini to address construction staging and timing.

The input gathered from Talisker was used to inform the design alternatives and refinements to the preferred design. In particular, the typical Preferred Design for Broadview Avenue proposes a typical mid-block right-of-way width of 37.5 m. The design in the area between the rail corridor north to Eastern Avenue was refined to minimize property impacts as it transitions from the 43 m at the rail corridor (necessitated to accommodate the rail

underpass bridge structurally support columns and streetcar platforms at the East Harbour Transit Hub) to 35 m at the Eastern Avenue intersection.

Consultation with Talisker will continue beyond the EA and into detailed design and implementation.

3.5.3 CreateTO

CreateTO, as the development arm of the City of Toronto, owns land in two areas that are relevant to the Broadview Avenue Extension EA:

- Along the north side of Lake Shore Boulevard East from the Don Roadway to Booth Avenue; and,
- On the west side of Booth Avenue between Eastern Avenue and the New East-West Street (these lands are referred to as the Booth Yards and house City offices and equipment including for Parks, Forestry and Recreation).

The Broadview Avenue Extension EA team met with CreateTO in 2021 to discuss the overall EA and design alternatives as well as the key interests of CreateTO. CreateTO was most interested in getting a better understanding of the design alternatives, preferred design and project timelines for implementation.

CreateTO does not currently have plans for the Booth or Lake Shore Boulevard properties but is intending to generate plans over the coming months and years. CreateTO wanted to confirm that the designs for Broadview Avenue and the New East-West Street would support access to their properties and would not impede redevelopment potential. Limiting property impacts was of interest. The Broadview Avenue Extension EA presented the design alternatives and preliminary preferred design and confirmed that future redevelopment of the CreateTO properties would be supported with the implementation of these roads. Limiting property impacts was a core consideration in evaluating design alternatives and refining the preferred design. CreateTO did not raise any critical concerns with the preferred design and would like to continue to be engaged with the project as it progresses through detailed design and implementation.

3.5.4 341 Eastern Avenue

341 Eastern Avenue is located on the south side of Eastern Avenue/Sunlight Park Road, east of Broadview Avenue. The property abuts the north property line of the Talisker BMW site and is accessible from both Sunlight Park Road and Eastern Avenue. Property owners of 341 Eastern Avenue wanted to understand how the Broadview Avenue Extension may impact access to their site and the operations of the business located on the property. The City met with the property owners and outlined the design alternatives, evaluation results, and preliminary preferred design for Broadview Avenue. The property owners would like to remain in contact with the City as the project progresses beyond the EA and into detailed design and implementation. There is concern that construction will impact business operations. In particular, concerns with access, traffic, and noise. The property owners would like to be consulted on construction management plans during detailed design and implementation.

3.5.5 Other Property Owners

There were no other landowner meetings requested by surrounding landowners. Following the completion of the EA, the City will continue to monitor landowner interests and meet with landowners as needed to address issues and opportunities related to the implementation of the preferred design.

3.6 Indigenous Communities

Indigenous consultation for the Broadview Avenue Extension EA followed the requirements of the MCEA process. The approach to Indigenous consultation was also informed by the input received from MECP following the Notice of Commencement. Notices regarding the Broadview Avenue Extension EA and invitations to meet were sent to the following Indigenous Communities: Mississaugas of the Credit First Nation, Huron-Wendat First Nation, Six Nations of the Grand River, and the Haudenosaunee Confederacy Chiefs Council. Copies of the emails issued are included in **Appendix A – Record of Consultation.** The Stage 1 Archaeological Study was shared in follow-up email correspondence. Response was received from the Huron-Wendat First Nation requesting to be informed of additional archeological assessment activity and to be involved potential Stage 2 investigation. No further requests for information, meetings or correspondence was received.

3.7 Film Industry Stakeholders

The EA Study Area and larger Context Area has long been associated with the film and entertainment industry, both for actual location filming as well as film production. As part of the Broadview Avenue Extension EA, meetings were held with key members of the film industry, and City staff from the City's Film & Entertainment Office and City Planning Divisions. The following summarizes the input at these meetings:

- The Broadview Avenue Extension EA Study should be informed by the previous engagement completed with the film industry as part of the **Core Urban Design Guidelines for Designing Film-Friendly Streets** in 2020;
- Provide on-street vehicle lay-by spaces of sufficient minimum length (WB-20 transport truck) to accommodate film vehicle parking during film shoots;
- Minimize conflicts between on-street parking lay-bys and cycling infrastructure;
- Provide electrical power drops, cable channels, and clear pathways across cycling facilities to move equipment; and
- Provide clusters of film parking locations in the broader area to provide flexibility for potential future filming locations.

The EA team reviewed the input and confirmed that some of the lay-bys will be sized to accommodate film vehicle parking. It was noted that not all lay-bys can be designed for film vehicle parking but that this has been considered in the design alternatives and evaluation. The design alternatives have also taken into consideration the need to minimize the potential for conflicts between layby parking and cycling infrastructure. Other input received at these meetings applies primarily to detailed design. The City confirmed that consultation and outreach with the film industry will continue through detailed design in order to integrate design considerations that support film and television operations in the area where possible.

3.8 Riverside Business Improvement Area (BIA)

A stakeholder engagement meeting was also held with members of the Riverside Business Improvement Area (Riverside BIA) and City staff from the Economic Development Division. The following summarizes the input from this meeting:

- Clarifying the anticipated timing for implementation of improvements for the existing segment of Broadview Avenue, between Eastern Avenue and Queen Street East; and
- Need for further discussion and engagement with the BIA about potential improvements at the intersection of Broadview Avenue and Queen Street East, one of the main focal intersections along the BIA corridor, including: existing public art, future opportunities for public art, cycling facilities, CaféTO patio spaces, location of TTC stops, and other public realm improvements.

3.9 Public Consultation

Public consultation for the Broadview Avenue Extension EA included an in-person drop-in event and virtual public meeting, email correspondence and an online survey.

The two events were held to provide the public with details about the EA and an opportunity to ask questions and share feedback with the project team. An in-person event was scheduled to allow members of the public to drop-in and view display boards as well as speak with staff and consultants one-on-one. There were 17 people that attended the session. A virtual event was hosted for the public to participate by phone, computer, tablet or smartphone. Approximately 44 people attended. At both events, staff presented materials outlining the study purpose, design alternatives, evaluation and preferred designs. **Appendix A** includes copies of presentation materials used at the events. These materials were also posted on the project website for public review. Project contact information was provided on the website for people to send questions or comments if they were not able to attend an event.

An online survey outlining the design alternatives, evaluation and preliminary preferred design was also made available for the public to complete from June 6 to June 24, 2022. Members of the public were encouraged to review the consultation materials posted on the project website before completing the survey. A total of 286 surveys were completed. Participation was anonymous and results were reviewed for completion. **Appendix A** provides detailed documentation of responses received to each survey question.

The following bullets summarize feedback received from the public through the public consultation events, online survey and email correspondence. More detailed documentation of input received from the public is provided in the Consultation Summary Report found in the **Appendix A**.

- Questions about the number and location of right-turn or left-turn lanes;
- Requests to reduce the number of on-street vehicle lay-by spaces;
- Request that designs discourage traffic infiltration through existing residential neighbourhoods to the north and east;
- General support for improved network of separated cycling infrastructure and improved protected intersections;
- Request to explore relocating tree plantings to between the cycle tracks and roadway to improve physical protection buffer between cyclists and vehicle traffic;
- Request to integrate the design of the Broadview Avenue Extension with the East Harbour Transit Station rail underpass;
- Suggestion for fully underground station concourse level connection for streetcars to better integrate with East Harbour Transit Station (similar to St. Clair West, Spadina, or Union subway stations);
- Suggestion for additional Alternative to remove the Eastern Avenue DVP on-ramp and instead provide on-ramp connection at Sunlight Park Road, via the Broadview Avenue Extension;
- Request to consider potential signalization of the modified Eastern Avenue DVP on-ramp intersection to improve operations of new westbound left-turn lane;
- Request that Broadview Avenue and Eastern Avenue intersection be designed to prevent vehicle traffic from entering the dedicated streetcar right-of-way to the south;

- Questions about expected construction timelines;
- Questions about phasing timeline of streetcar infrastructure;
- Feedback about more specific design and operational features that would be explored during later detailed design stages (e.g., materials, signage, pavement markings, signal phasing, etc.); and
- Questions and feedback about other infrastructure initiatives underway in the surrounding area (e.g., Gardiner Expressway & Lake Shore Boulevard East re-configuration, Ontario Line transit corridor, connectivity with surrounding cycling network routes, phasing and implementation of area streetcar routes).

3.10 Notices

The Notice of Commencement for the Broadview Avenue Extension EA was issued on November 12, 2020. The Notice was distributed by Canada Post to properties South of Queen Street to Lake Ontario and east of the Don Valley Parkway and west of Coxwell Avenue, and sent via email to the project contact list which includes agencies, municipal groups, landowners, local businesses and community stakeholders. The Notice of Commencement introduced the project and directed interested persons to the project website for more information. Project contact information was also included.

To build awareness of consultation activities for the EA, a variety of methods were used to notify stakeholders and members of the public about the June 2022 events and online survey. An event notice was created to that included information about upcoming events, links to project materials for review and a link to the online survey. A copy of the Notice is included in **Appendix A – Record of Consultation.** The Notice was then shared broadly with stakeholders and the public. This included:

- Posting the notice on the project website;
- Mailing hard copies of the Notice by Canada Post to 17,349 addresses in the broader study area;
- Emailing the Notice to the project contact list;
- Emailing the Notice to the stakeholder contact list which included contacts for resident associations, community groups, organizations, institutions and elected officials;

- Emailing the Notice to Indigenous Communities including the Mississaugas of the Credit First Nation, Huron-Wendat First Nation, Six Nations of the Grand River, and Haudenosaunee Confederacy Chiefs Council;
- Emailing the Notice to agencies and utility companies; and
- Posting the Notice on the City's social media accounts @GetInvovledTO and @TO_Transport

Following completion of the ESR, notification that the ESR was available for public review and comment was posted on the project website and emailed to the project contact lists. A copy of the ESR was also circulated to provincial and municipal agencies, stakeholders, TAC members, utility companies and impacted landowners.

Following the ESR review period, input received will be considered and refinements to the ESR will be made where appropriate. A Final ESR Notice of Completion will be issued and shared with the project contact list and on the project website once ready.

4.0 Overview of Existing and Planned Conditions

This chapter provides an overview of existing and planned conditions used to assess impacts of the design alternatives for the Broadview Avenue Extension and the New East-West Street as part of Phase 3 of the MCEA process. The purpose of baseline conditions documented in Phase 3 is to understand how the environmental components in the study area could be affected by the design alternatives. This informs the evaluation of the design alternatives and assists in the identification of a preferred design.

Relevant socio-economic, natural, and physical environmental components are documented based on the TSMP and available information obtained through a review of secondary information sources such as published data, electronic databases, aerial photographs, published agency reports (municipal and provincial), academic literature and journals, and map interpretation. Data obtained through primary sources such as field reconnaissance and surveys, as well as comments received as part of the consultation process, was also incorporated. The TSMP documented baseline conditions in the broader context study area. That information forms the basis of baseline conditions, which have been updated and refined where needed for the assessment of design alternatives.

This section addresses:

- Port Lands and South of Eastern TSMP
- Policy and Planning Context
- City Standards and Guidelines
- Current Projects and Initiatives
- Natural Environment
- Cultural Environment
- Socio-Economic Conditions and Land Use
- Infrastructure and Transportation
- Servicing and Utilities

Where possible, this document attempts to limit repetition with the TSMP and refers to the TSMP as needed. It is recommended that the TSMP be reviewed for additional information on the conditions in the broader context study area. To provide an understanding of the context for the Broadview Avenue Extension EA,

Chapter 4.0 starts with a summary of the TSMP and the key findings relevant to the Broadview Avenue Extension and New East-West Street.

4.1 Port Lands and South of Eastern TSMP EA

As described in **Chapter 3.0**, the Port Lands and South of Eastern TSMP EA was undertaken as a coordinated infrastructure planning project that addresses the requirements of both the Municipal Class Environmental Assessment (MCEA), 2000 (amended 2007, 2011, & 2015) and the Planning Act, R.S.O. 1990. This planning process provided the opportunity to comprehensively address the infrastructure needed to support the renewal and regeneration of the Port Lands, the continued employment growth in the South of Eastern area as well as the protection of natural and cultural heritage.

Six objectives were developed to guide the TSMP EA. They were used as the underlying basis for the development and evaluation of alternative solutions. These objectives include:

- Interesting and dynamic urban mix
- Connect Port Lands to the city
- Flexibility and certainty in implementation
- Leveraging assets
- High quality public realm
- Contribute to sustainable future of the city

The TSMP includes the lands north of the Ship Channel and east of the Don Roadway to Leslie Street, and all the lands south of the Ship Channel north of, including Unwin Avenue. The TSMP also includes the South of Eastern area, which is bounded by the Don River in the west, Eastern Avenue to the north, Coxwell Avenue to the east, and Lake Shore Boulevard East to the south. The TSMP EA identifies the preferred solutions for streets, including transit in dedicated rights-of way, pedestrian and cycling connections, and water, wastewater and stormwater infrastructure for the above area. These recommended preferred solutions were endorsed by the City Council in 2017. The TSMP balances the needs of the various uses that would be served by the infrastructure network, while taking into account urban design, active transportation, and the Port Lands and South of Eastern's unique cultural heritage attributes. Additionally, these recommended solutions are integrated with ongoing planning studies.

Figure 4.1 through **Figure 4.4** present the recommended master plan from the TSMP for the street network, transit network, pedestrian and cycling network, and the stormwater system. The Broadview Avenue Extension EA focus study area is included on these maps to show the area of interest in this EA in relation to the broader TSMP area. The overall TSMP transportation network and stormwater system form the base context for the Broadview Avenue Extension EA.

The following paragraphs are taken from the TSMP and summarize the recommended master plan:

> The preferred street network consists of a series of complete streets that provides enhanced connections and capacity; supports transit; completes and expands the cycling network; enables achieving a fine-grained block pattern; supports innovative stormwater solutions; provides access to key destinations; avoids sensitive environmental features and minimizes impacts to heritage resources.
>
> The recommended transit network includes the existing, approved, and proposed transit projects. The TSMP EA transit network includes streetcar service in a dedicated right-of-way on Commissioners Street connecting to streetcar service proposed in the Lower Don Lands, as well as streetcar in a dedicated right-of-way in the preferred Broadview Avenue Extension which will connect with streetcar service north of the Study Area. Bus service is also accommodated and able to be expanded. The transit network includes exclusive dedicated transit right-of-way to provide optimum service for the anticipated mix of uses in the Study Area. It has been aligned to capture maximum ridership and to support planned growth, while minimizing potential impacts. Transit hubs are also identified where multiple transit routes converge. One transit hub is identified at the intersection of the Broadview Avenue extension and GO rail; the East Harbour Transit Hub. The TSMP identifies this hub as a focal point for multi-modal interactions.
>
> The series of complete streets proposed in the TSMP EA forms the basis of the TSMP EA pedestrian network. The mobility needs of pedestrians are met not only with high quality pedestrian amenities proposed (such as appropriately sized sidewalks for the function and character of each street) but also with a high degree of access to transit. All streets in the transportation network will have wide sidewalks

on both sides of the streets and include space to accommodate other pedestrian amenities, such as trees and landscaping.

The TSMP proposes an extensive cycling network with a combination of existing and proposed (or improved/realigned) multi-use trails and cycle tracks. The combination of multi-use trails and cycle tracks will serve to meet the needs of both commuter and recreational cyclists. All the major streets have been conceived to enable high-quality cycling facilities and as an integral part of the public realm. Routes for priority raised, separated cycle tracks, or multi-use trails have been identified for the key north-south and east-west high streets, but also streets that will carry high volumes of traffic or accommodate goods movement. Raised cycle tracks are desirable for the balance of the major streets and on some local streets. Some local streets are also imagined to accommodate safe cycling facilities to create a robust and redundant cycling network. The cycling network has been designed to appeal to all cycling abilities and age groups, encouraging cycling to be seen as a safe, primary commuting and leisure travel option.

The recommended system for managing stormwater is the “Water as a Resource” concept which utilizes a treatment train approach and low impact development techniques, or green infrastructure, for managing stormwater. A series of open channels and bioswales are proposed as part of the conveyance and treatment system in combination with a network of new and upgraded sewers.

Designing with water as a resource embeds the movement and treatment of stormwater into the everyday experience of streets and open spaces. The approach daylights stormwater management through the open, vegetated channels and swales that are integrated into the public realm. This approach contributes to the sustainable future of the City, while creating a high quality public realm.

Regarding the stormwater system, the TSMP identifies bioswales as the preferred green infrastructure to be implemented along the Broadview Avenue Extension. **Figure 4.5** illustrates some examples of urban bioswale concepts. Bioswales are typically vegetated, mulched, or landscaped in a manner that reduces the need for irrigation. They typically consist of a drainage course with swales and gently sloped sides to safely maximize the time water spends in the feature. This aids the collection and removal of pollutants, silt and debris. Bioswales must be maintained to establish the best possible efficiency and effectiveness in removal of pollutants from stormwater runoff.

Figure 4.1 - TSMP Recommended Street Network

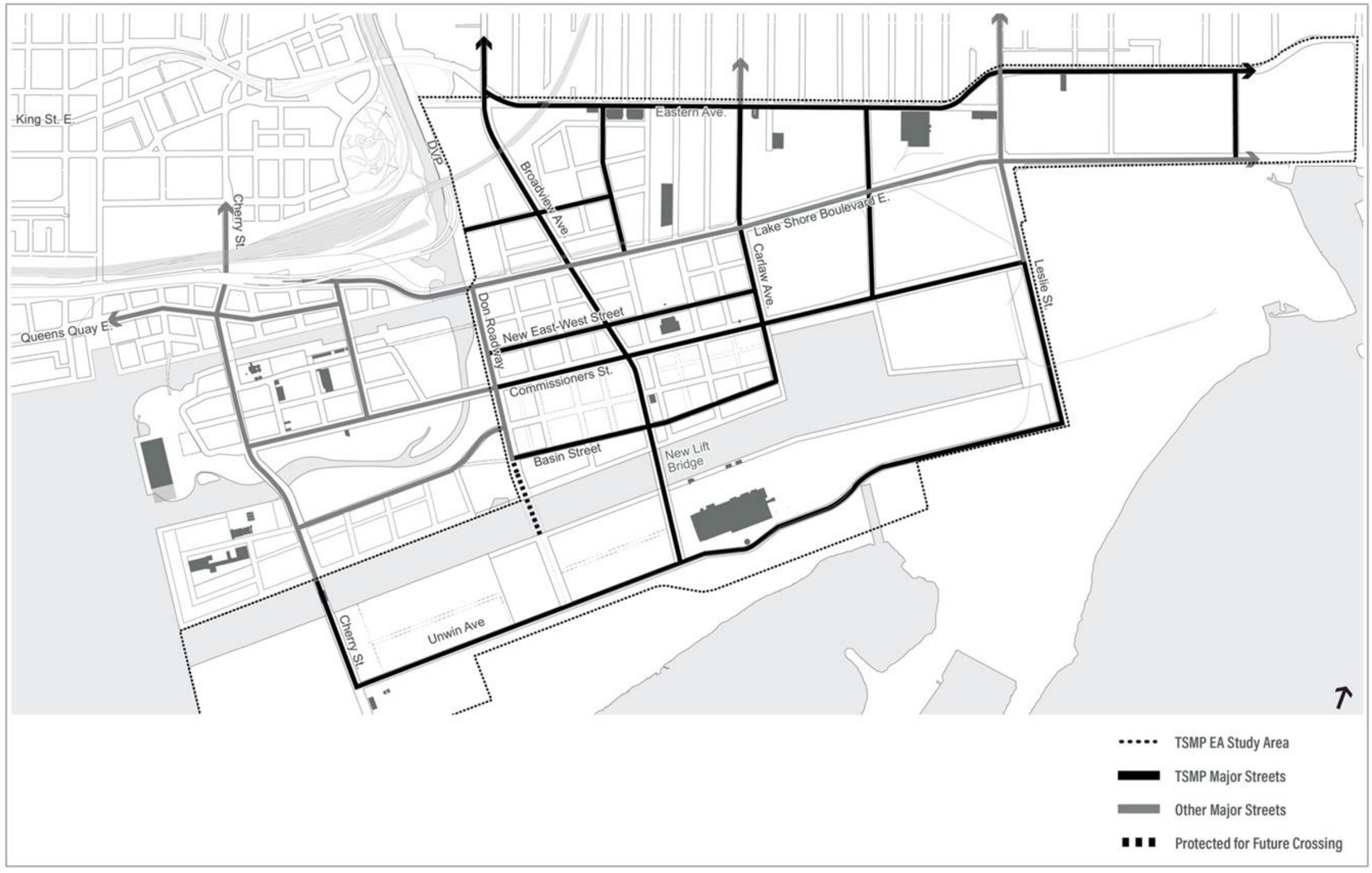


Figure 4.2 - TSMP Recommended Transit Network

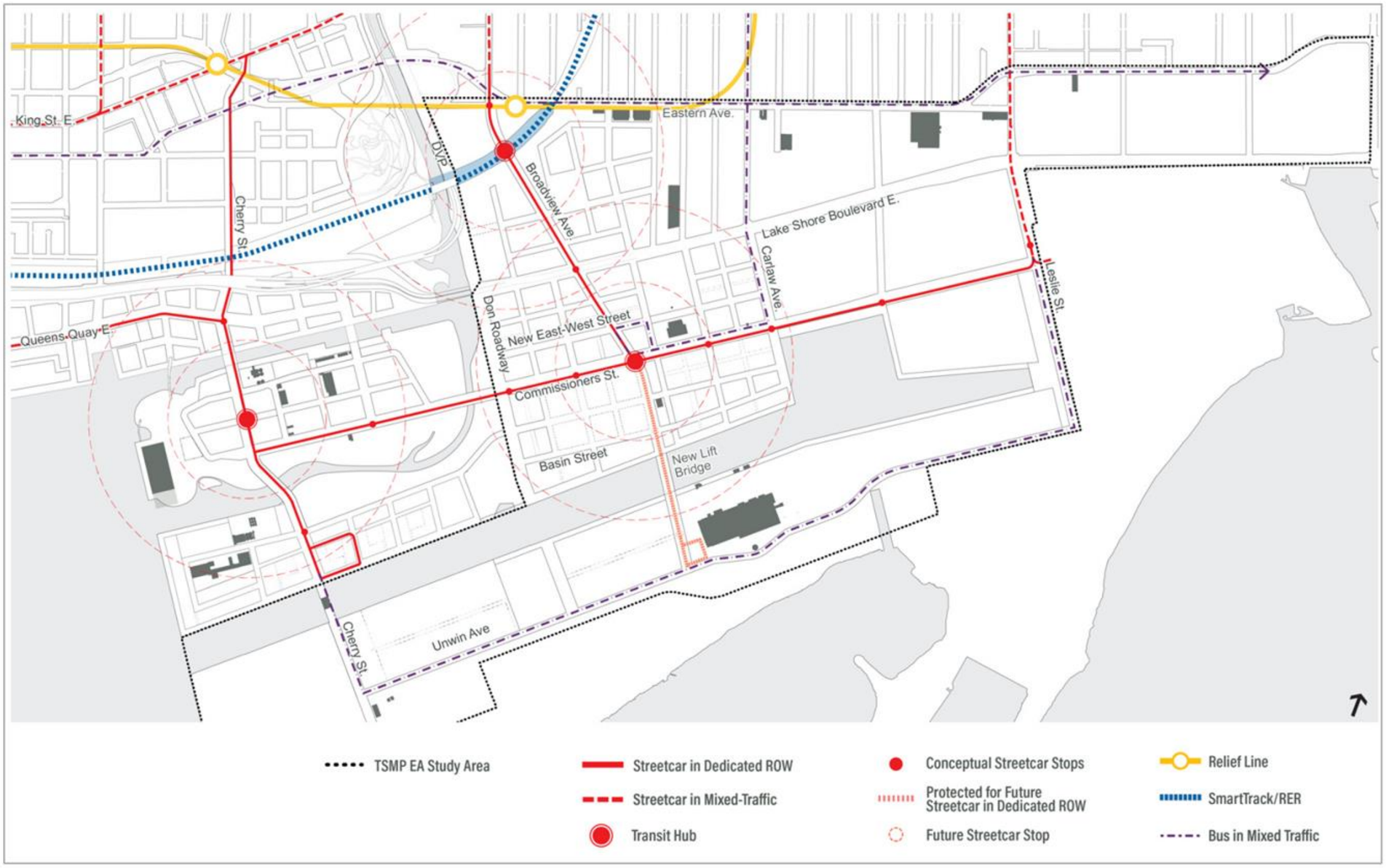


Figure 4.3 - TSMP Recommended Pedestrian and Cycling Network

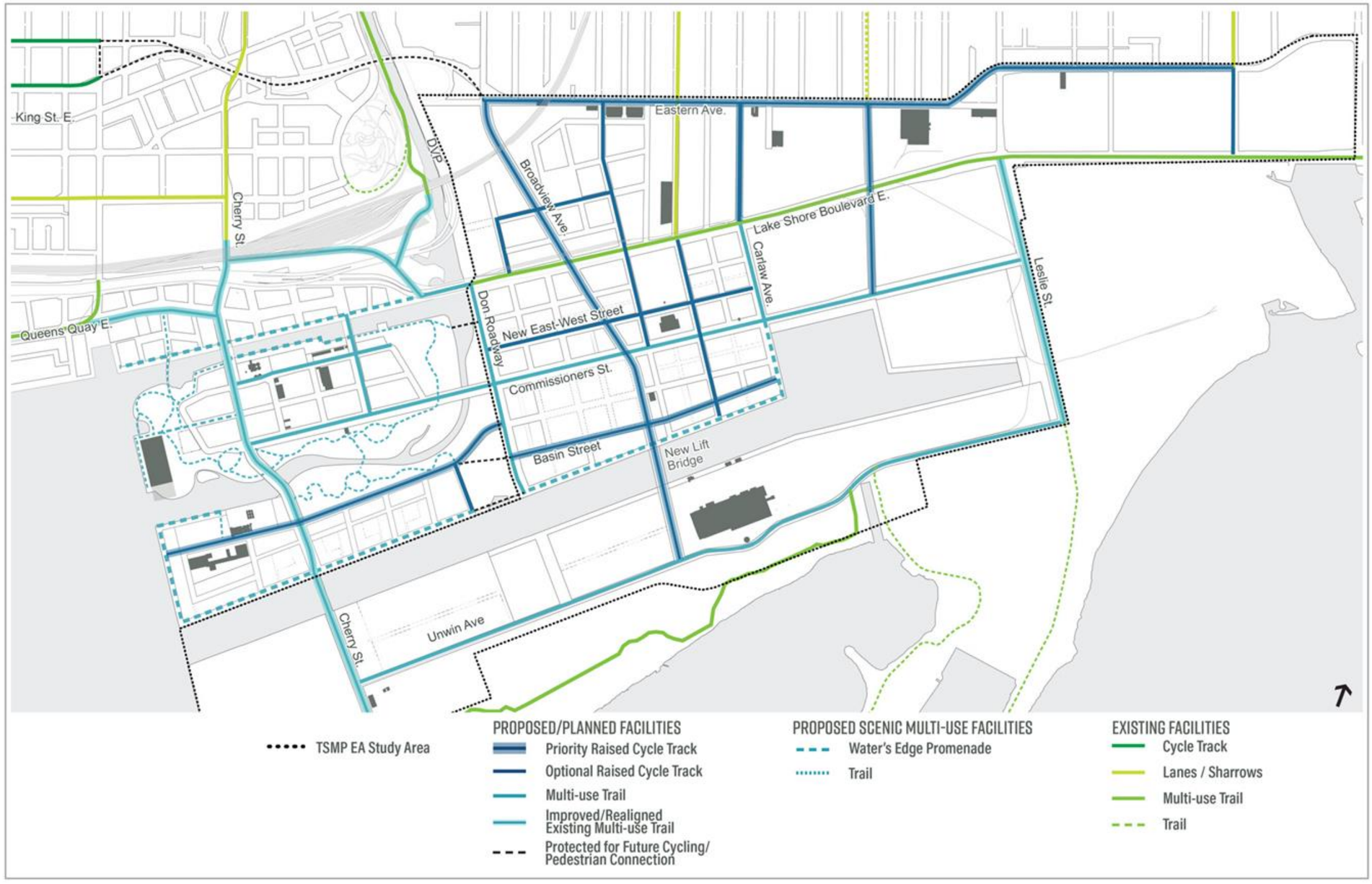


Figure 4.4 - TSMP Recommended Stormwater System

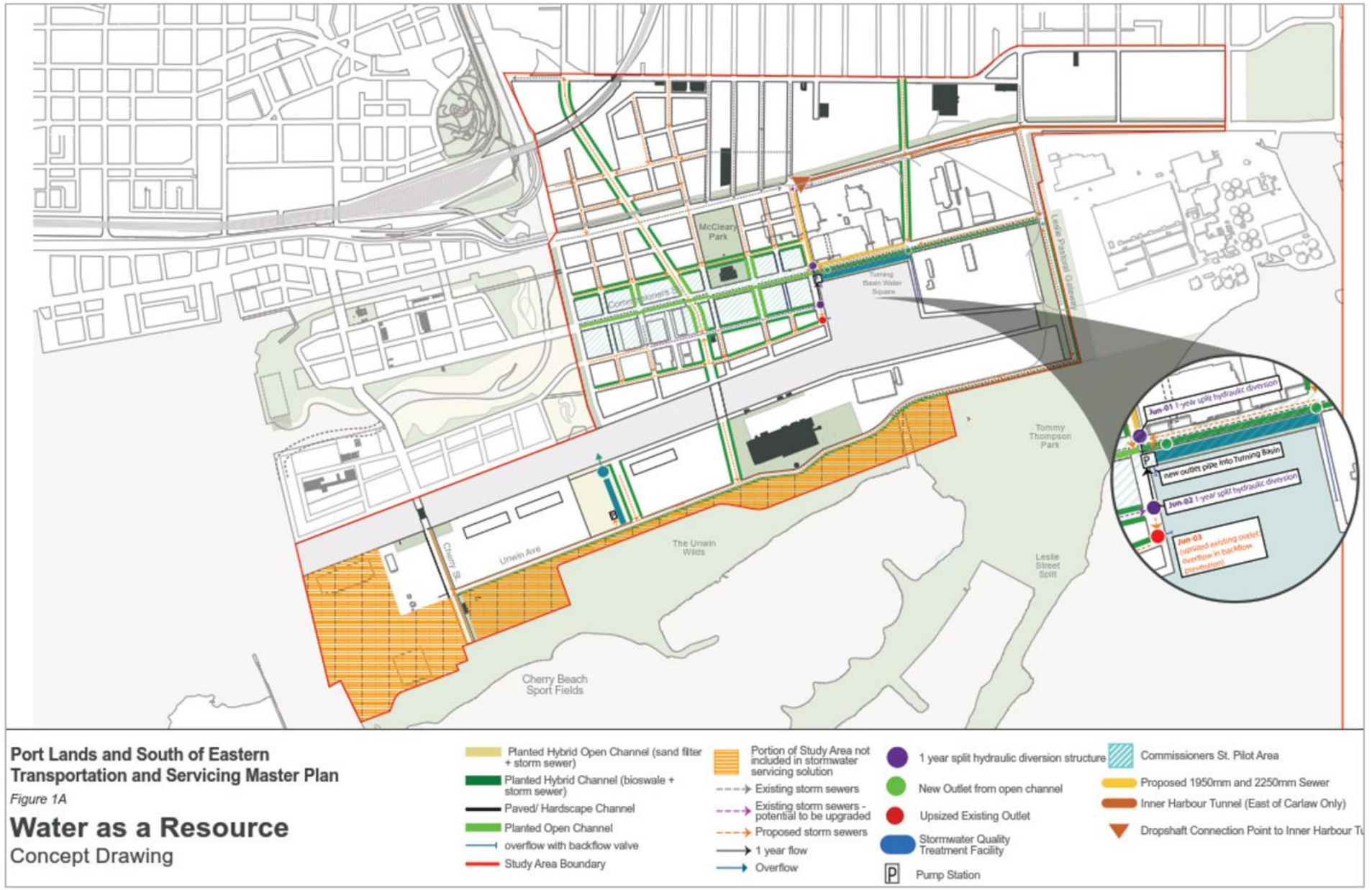


Figure 4.5 - TSMP Bioswale Concept

4.2 Policy and Planning Context

There are multiple City policies, guidelines and initiatives that apply to the study area and are relevant to the Broadview Avenue Extension EA. These include policies such as the City's Official Plan, the Central Waterfront Secondary Plan, and the Port Lands Planning Initiative. These are all documented in detail in the TSMP. The focus of the following sections is on new/updated policy and planning context since the completion of the TSMP that affects the study area. This includes:

- Municipal Comprehensive Review and updated Official Plan policies
- East Harbour Transit Hub and Transit Oriented Community
- Unilever Precinct Secondary Plan and Zoning Bylaw
- Complete Streets Guidelines
- Green Streets Guidelines
- Vision Zero 2.0

The following sections outline the relevance of these to the Broadview Avenue Extension EA.

4.2.1 Municipal Comprehensive Review and updated Official Plan policies

The City of Toronto Official Plan was implemented in 2006 and is intended to guide efficient and effective city-building. The Official Plan provides a long-term vision for growth in the City, and incorporates key services such as transit and infrastructure into its planning and development frameworks.

The Official Plan review process is mandated by the Province of Ontario to satisfy growth planning requirements set out by the Province in A Place to Grow: Growth Plan for the Greater Golden Horseshoe (Growth Plan 2020). The Official Plan review process is technically referred to as the Municipal Comprehensive Review and Growth Plan conformity exercise (referred to as the MCR process).

The City commenced the MCR process in 2020. Key elements of the MCR process include updating policies regarding Managing Forecasted Growth through Intensification, Major Transit Station Areas, Protecting Employment Areas and Updating Environmental Policies. In Summer 2022, the City completed final reports required by the Province for the MCR, including the land

needs assessment and reports on employment policies, land use conversions and policies for Major Transit Station Areas (MTSAs) and Protected-MTSAs.

The policies adopted by Council based on the MCR support increased population and employment density around MTSAs and Protected-MTSAs. These policies affect the focus study area and East Harbour Transit Hub, which is designated as a Protected-MTSA. For the East Harbour Protected-MTSA, the East Harbour Site and Area Specific Policy (SASP) 688 was prepared. The SASP identifies the boundaries and minimum density targets for the area, as shown in **Figure 4.6**. The area includes the Unilever Precinct and sets a minimum density target of 300 residents and jobs combined per hectare.

Figure 4.6 - East Harbour Protected Major Transit Station Area, Minimum Densities

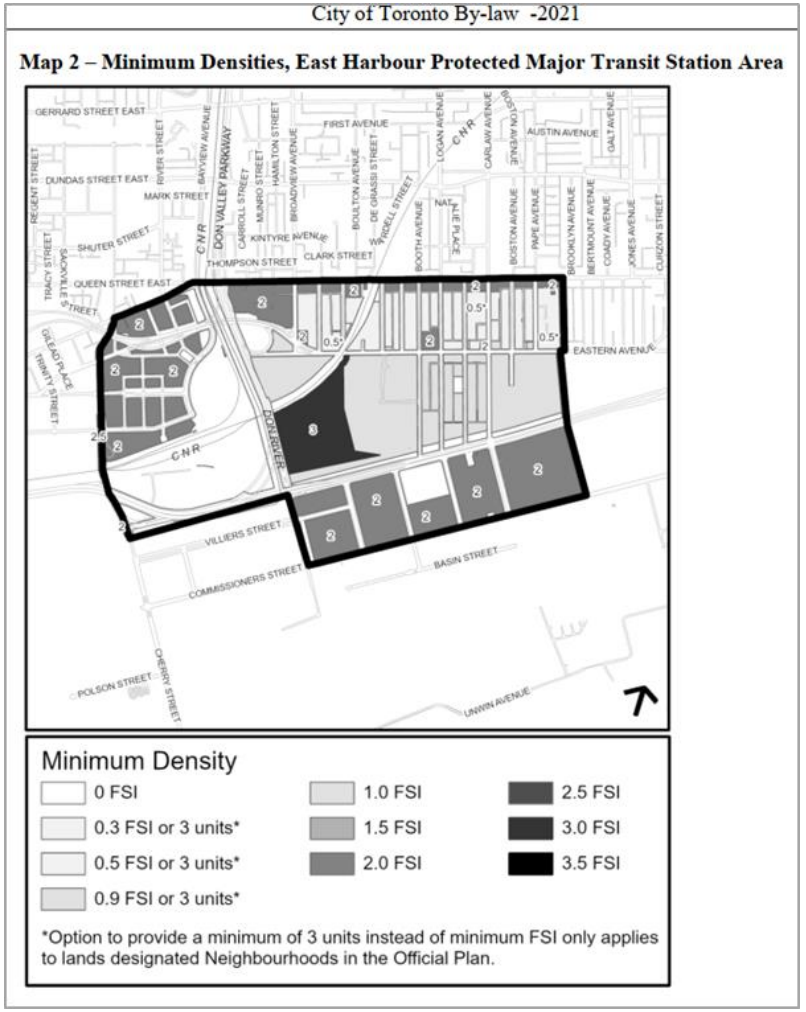


Image source: City of Toronto By-law - 2021

The MCR process also identified environmental policy updates that support TransformTO and the City's Net Zero Strategy. These are discussed further in **Section 4.4**.

In addition to the policy updates completed through the MCR process, the Official Plan acknowledges that the development in the Central Waterfront area is guided by its own Secondary Plan. The Central Waterfront Secondary Plan was amended in 2018 to include the transportation network identified in the TSMP, including the Broadview Avenue Extension. More information on the Central Waterfront Secondary Plan can be found in the TSMP.

4.2.2 Port Lands Flood Protection and Enabling Infrastructure Project

The Port Lands Flood Protection and Enabling Infrastructure Project (PLFPEIP) provides a coordinated approach to implementing flood protection in the southeastern area of downtown Toronto, including flood protection for parts of the Port Lands, South of Eastern area, Unilever Precinct, South Riverdale and Leslieville areas. This includes flood protection for the focus study area, which is currently vulnerable to floods in a major storm event (this is discussed further in **Section 4.8.1**).

The PLFPEIP involves the implementation of the Don Mouth Naturalization Project (DMNP) EA and the Lower Don Lands EA Master Plan Addendum and Environmental Study Report. Implementation involves creating two new outlets for the existing Lower Don River so that floodwaters can run off into the inner harbour of Lake Ontario instead of damaging the surrounding neighbourhoods. This work involves digging a kilometer-long river valley, which ends in a new naturalized Don River mouth. As part of the PLFPEIP, new roads, bridges, utilities and public trails are being constructed. This requires rehabilitation of contaminated soils from years of historic industrial uses. Phase 1 of the extensive construction program for the project is currently underway. When the PLFPEI is complete, 25 hectares (ha) of new greenspace and parkland will be publicly accessible.

As part of the PLFPEIP, a flood protection landform will be constructed along the east side of the Don Roadway, north of Lake Shore Boulevard East and south of the Metrolinx rail embankment. This is referred to as the Don Roadway flood protection landform (also known as the East Harbour Flood Protection Landform) and is located in the focus study area. It will tie into the rail

embankment at the north end and provide some of the flood protection necessary to enable the redevelopment of the Unilever Precinct and East Harbour site. Design alternatives need to consider potential impacts to this landform. This is of particular importance for the New East West Street where it intersects with the Don Roadway. The preferred solution for the New East-West Street as identified in the TSMP takes the landform into consideration and includes improved grading to support flood protection.

More information regarding the PLFPEIP, including the DMNP and the Lower Don Lands EA Master Plan can be found at https://portlandsto.ca/about/

4.2.3 Broadview Avenue and Eastern Avenue Flood Protection Project

In addition to flood protection plans established through the PLFPEIP, the Toronto and Region Conservation Authority (TRCA) and the City of Toronto are also completing the Broadview Avenue and Eastern Avenue Flood Protection Project (BEFP). The BEFP Project addresses the remaining flood risk that exists in the South of Eastern area following the implementation of PLFPEIP. After the PLFPEI is constructed, approximately 8 hectares of urban land bounded by the Don River to the west, Eastern Avenue to the north, and the Metrolinx railway embankment to the south would remain vulnerable to flooding. This is the area where the BMW and Mini dealerships are currently located (information on study area land use and property ownership is found in **Section 4.5.1**). This remainder flood vulnerable area is shown in **Figure 4.7** taken from the BEFP EA. This figure and shows the BEFP study area outlined in red.

Figure 4.7 - Regional Flooding Extent in The Broadview Avenue and Eastern Avenue Area Following Implementation of PLFPEI

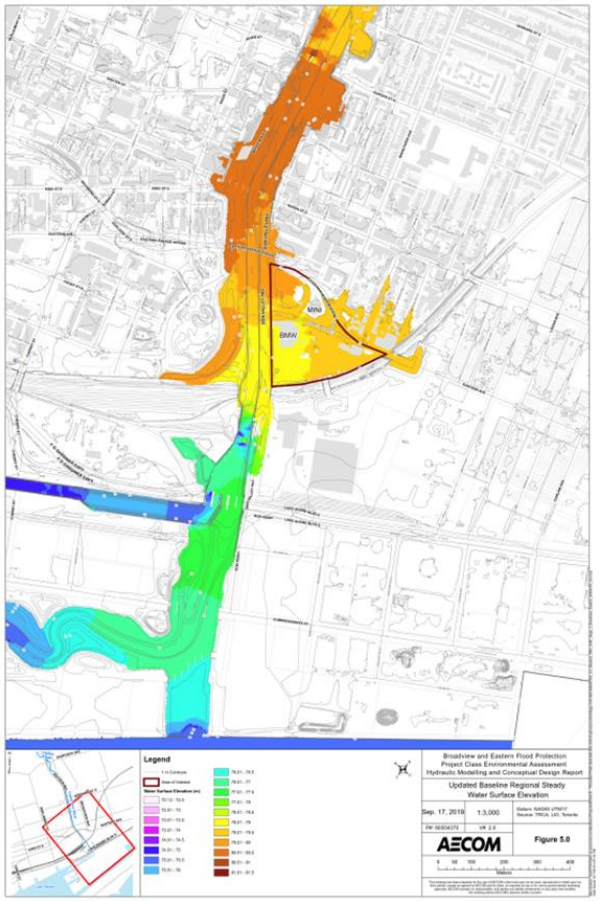


Image Source: Broadview and Eastern Flood Protection Environmental Assessment (2021)

Flooding in the Broadview Avenue and Eastern Avenue area is of particular concern for the Broadview Avenue Extension. The existing Metrolinx rail embankment provides natural flood protection for the East Harbour site. The 8 hectares area that remains flood vulnerable is contained because of the rail embankment. However, the extension of Broadview Avenue south to Lake Shore Boulevard East requires opening up a passage through the rail embankment to create a rail underpass. This would be a significant opening in the rail embankment to accommodate the complete street design for Broadview Avenue. Given that the area north of the rail embankment is vulnerable to flooding in a regional storm event, alternative flood protection to prevent flooding from surging through an underpass and into the Unilever Precinct and the Port Lands would be needed before an opening in the rail embankment could proceed.

The BEFP Project identified a flood protection solution that removes the flood risk in the lands east of the Don River and north of the railway embankment. The preferred design includes a flood protection landform (FPL) that extends from Eastern Avenue, east of the DVP, to the Metrolinx rail embankment. The 10% design for the preferred FPL is illustrated in **Figure 4.8**.

This figure also shows where the alignment of the future Broadview Avenue Extension would be located in relation to the preferred FPL.

The total land area required for the FPL would cover approximately 2 ha (5 acres). The FPL will assume 1.4 ha (3.5 acres) of the BMW site at 1-9 Sunlight Park Road. The FPL will also assume 0.5 ha (1.2 acres) of the area encompassed by the Eastern Avenue on-ramp to the DVP. This would require the reconstruction of the ramp to integrate with the proposed FPL elevations. The on-ramp area is City owned property. Further, the FPL will also assume the western end of Sunlight Park Road, approximately 0.2 ha (0.5 acres), which is a City owned right-of-way. The portion of Sunlight Park Road that would be needed for the FPL would not be replaced. The FPL is designed to eliminate the risk of riverine flooding in the study area.

Figure 4.8 - Preferred FPL Concept for Broadview Avenue and Eastern Avenue Flood Protection

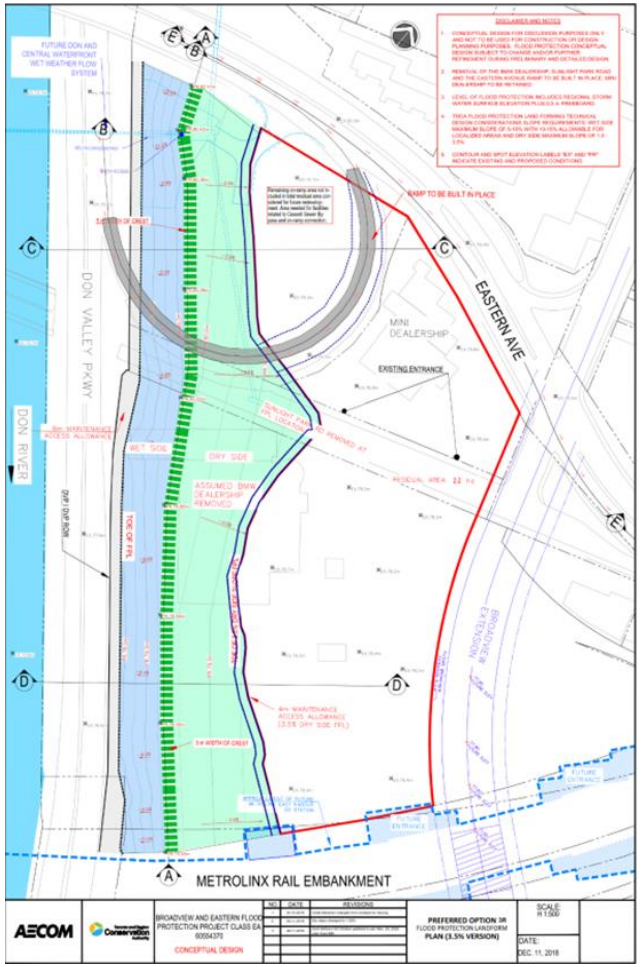


Image Source: Broadview and Eastern Flood Protection Environmental Assessment (2021)

Given the impact that the preferred FPL has on the BMW dealership building, an interim flood protection design was identified in the BEFP EA that allows the BMW building to stay in place until the end of the lease when the business can be relocated with fewer costs. The interim design includes building the north and south legs of the FPL from the preferred design and then re-grading the area around the BMW building to connect the two segments of the FPL. This would provide interim flood protection that would allow the construction of the Broadview Avenue Extension and associated underpass through the rail embankment. **Figure 4.9** illustrates this interim scenario. The assessment of design alternatives for the Broadview Avenue Extension assumed that the interim flood protection design would be the version constructed in the near term and that the ultimate preferred FPL would be constructed at some point in the future when the BMW business was no longer operating on-site and could be removed so that construction of the full FPL could be completed.

Figure 4.9 - Interim Flood Protection Concept for the Broadview Avenue and Eastern Avenue Area

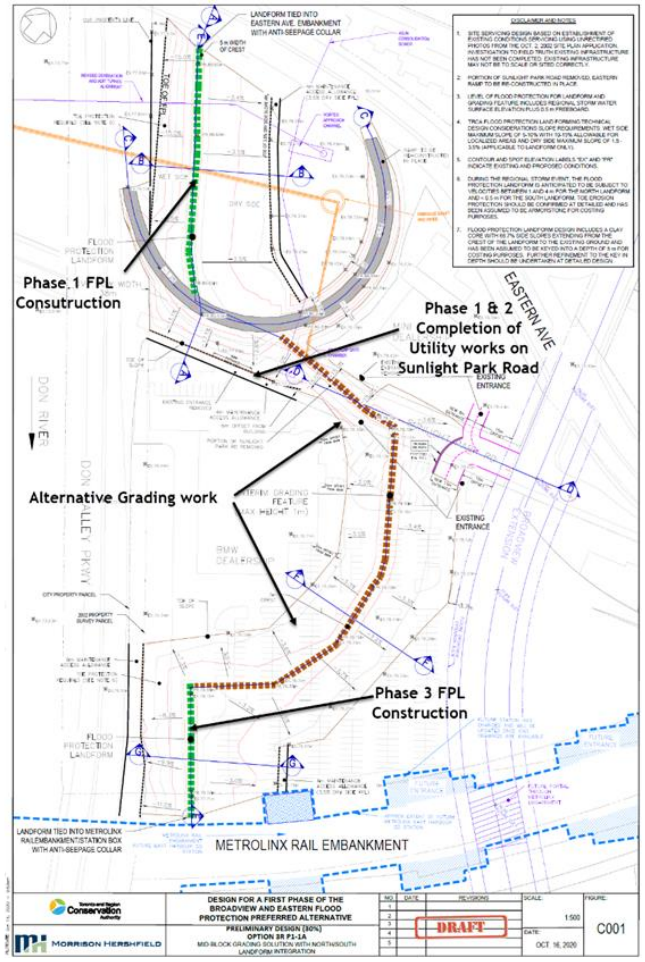


Image Source: Broadview and Eastern Flood Protection Environmental Assessment (2021)

4.2.4 Unilever Precinct Planning Framework and Secondary Plan

With flood protection in place, the Unilever Precinct can be developed. The Unilever Precinct, taking its name from the former Unilever Soap Factory, is a 25-hectare area of employment lands located directly east of downtown Toronto, and forms the western edge of the South of Eastern area.

The precinct is bound by the Don Valley Parkway on the west, Eastern Avenue and the Metrolinx rail corridor to the north, Booth Avenue to the east, and Lake Shore Boulevard East to the south. There are a range of employment uses in the precinct: warehousing, film studios, utilities, and a City works yard facility. The City's works yards includes two buildings listed on the City of Toronto's Heritage Register. Aside from buildings, a large portion of the precinct is occupied by surface parking and outdoor storage. Along the southern edge, running parallel to Lake Shore Boulevard East, is the former Keating Shunting Yard which connected two rail spur lines that are now inactive. The spur lines were used to serve Toronto Water's Ashbridges Bay Treatment Plant and connected to sites in the Port Lands. The Keating Shunting Yard and associated rail spur is being removed. More information is provided on this in **Section 4.3.5**.

In 2016, the City of Toronto initiated the Unilever Precinct Planning Study to guide the renewal and revitalization of the Unilever Precinct. The Study led to the development of the Unilever Precinct Planning Framework, the Unilever Precinct Secondary Plan, and the East Harbour Zoning By-laws.

The precinct's renewal reflects a resurgence of employment development, transforming former industrial lands into the next generation of employment uses. The location and size of the precinct allows for it to function as a modern extension of, and counterpart to, Toronto's Financial District, while providing large office spaces that are not available or feasible in the downtown core. Land use policy will confirm that this area continues to function as a major office node into the future. At the centre of the transportation investments in the Unilever Precinct is the East Harbour Transit Hub which will be located on the Metrolinx rail embankment that forms the northern edge of the precinct. On the elevated rail embankment, the Transit Hub will include a new GO train stop and a new Ontario Line station. This will be

integrated with a Broadview Avenue streetcar stop at grade to provide local and regional higher order transit connections. Together with supporting infrastructure, the development of the Unilever Precinct is a unique opportunity to link major employment with major transit growth, providing value for infrastructure investments and supporting the City's long-term economic prosperity and liveability.

4.2.4.1 Unilever Precinct Planning Framework

The Unilever Precinct Planning Framework is a non-statutory document that provides direction for the redevelopment of the Unilever Precinct through a comprehensive visioning statement and series of recommendations. The planning framework will guide redevelopment and support implementing policy, zoning and other regulatory tools. The framework reflects the results of precinct planning, technical studies, concurrent review of development applications, and community and stakeholder consultations.

The planning framework builds on current and emerging City building objectives from provincial and municipal policy. The planning framework should be read in conjunction with the Toronto Official Plan and the Unilever Precinct Secondary Plan. Building on the lens of renewal and reinvention, the planning framework envisions the Unilever Precinct as a vibrant office district supported by complementary uses. The extension of Broadview Avenue is a key component of this vision; it will function as a signature civic spine that connects the Precinct to surrounding communities. The New East-West Street is identified as the major retail street supporting vibrant pedestrian activity and active main floor retail and commercial enterprises. The development of the planning framework was guided by six key themes. These include:

- Transit and transportation
- Planning for jobs
- Public realm and heritage
- Built form
- Sustainability
- Infrastructure coordination

Figure 4.10 illustrates the land use and block pattern outcomes of the Unilever Precinct Planning Framework.

Figure 4.10 - Unilever Precinct Planning Framework Vision

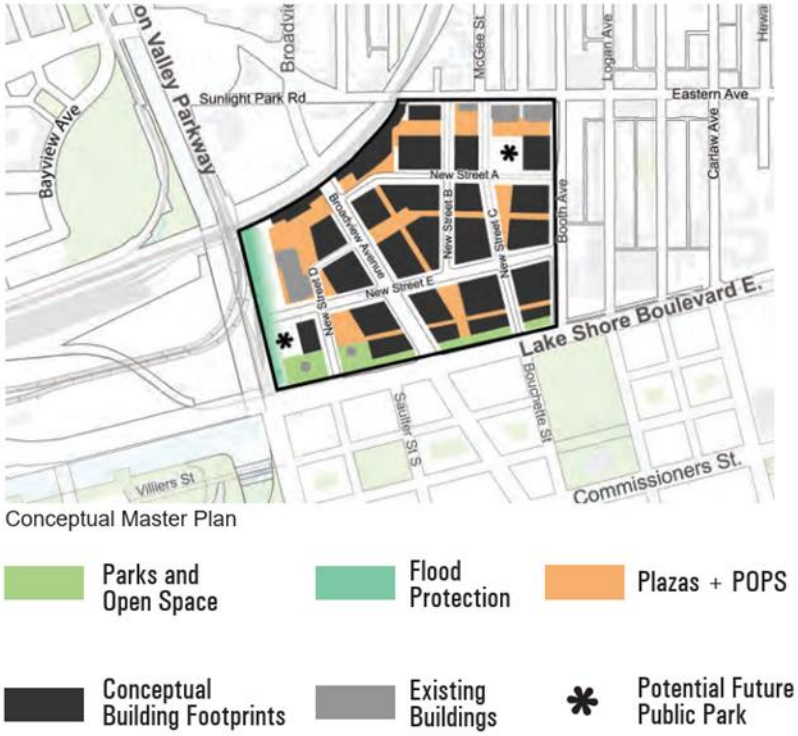


Image Source: Unilever Precinct Plan Planning Framework (2018)

4.2.4.2 Unilever Precinct Secondary Plan

The Unilever Precinct Secondary Plan (OPA 411) was adopted in 2018 as Amendment 231 Site and Area Specific Policy 426 (SASP 426) to the City Official Plan. It provides the policy direction to guide the transformation and redevelopment of the Unilever Precinct and is based on the recommendations of the Planning Framework. **Figure 4.11** from the Secondary Plan identifies the areas that make up the Unilever Precinct. Areas #1 and #2 make up the East Harbour Development site owned by Cadillac Fairview. Metrolinx owns the rail embankment.

Figure 4.11 - Unilever Precinct Areas and Districts

Image Source: City of Toronto By-law 1192-2018

The Secondary Plan states that the area will transition from industrial and manufacturing to urban office, supported by complementary uses that facilitate liveliness throughout the day, evenings and weekends. New flood protection, transit, transportation, and servicing infrastructure will enable this transition and will link the Precinct to its surroundings and to the broader city. Functioning as a civic spine, the extension of Broadview Avenue is the key element that connects the Precinct with surrounding communities. The vision policies in the Secondary Plan include:

a) The Unilever Precinct Secondary Plan area will redevelop as a vibrant urban office district, supported by complementary uses and investments in infrastructure, and connected to surrounding existing and emerging neighbourhoods by a network of multi-use path connections, complete streets, and spectacular public spaces.

b) Buildings, streets, transportation infrastructure, parks, and public open spaces, and community facilities will be designed to a high standard of urban design, sustainability and architectural excellence.

c) Redevelopment within the Precinct will be controlled through the use of a Holding (H) symbol or symbols. Criteria to allow Holding (H) symbols to be removed will include such matters as implementation of higher-order transit, provision of flood protection infrastructure, new public streets and sufficient transportation infrastructure, provision of area services, and provision of other infrastructure. Where appropriate, Holding (H) symbols will be removed in phases.

4.2.4.3 East Harbour Zoning By-laws

The East Harbour Zoning by-laws (By-laws No. and 1281-2018 and the Ministerial Zoning Order (O.Reg. 329/22) issued by the Province on April 8, 2022) provide further direction on land use and built form for the East Harbour lands within the Unilever Precinct and introduce a series of Holding provisions that secure key elements, including infrastructure delivery and design details. These bylaws apply to the lands owned by Cadillac Fairview. Among the required infrastructure investments are provisions for necessary transportation connections including the Broadview Avenue Extension and the New East-West Street.

Since the completion of the Unilever Precinct Planning Framework, Unilever Precinct Secondary Plan and the associated zoning by-laws, there have been multiple advancements in the development application for the East Harbour site and in design plans for the East Harbour Transit Hub. These are being led by Cadillac Fairview and Metrolinx. Further information is provided in **Section 4.3.1** and **4.3.2**.

4.3 Current Planning and Transportation Projects

4.3.1 East Harbour Transit Hub

Located on a 60-acre site directly east of Toronto's downtown core, East Harbour is the largest commercial project currently planned in Canada. Once complete, this 13-million square foot, unique mix of office, retail, residential and institutional developments will employ approximately 50,000 workers. With the population of the Greater Toronto Area (GTA) estimated to reach 9.4-million by 2041, Toronto needs a major new employment node in order to maintain an advantage in the global competition for talent. East Harbour will be a development catalyst for critical infrastructure projects in and around the area and will transform a previously

inaccessible site into a world-class centre for art, commerce, and healthy living. **Figure 4.12** illustrates the master plan from Cadillac Fairview for the East Harbour site.

Figure 4.12 - East Harbour Development Application Master Plan

Image Source: East Harbour Master Plan Update & Planning Rationale Report (2021)

The development application includes 9 office towers ranging from 31 to 48 storeys in height, and 9 residential towers ranging from 23 to 65 storeys in height, adjacent to the future East Harbour transit hub. The addition of residential permissions is a change from the approved planning framework completed in 2018 as permitted by the Ministerial Zoning Order (O.Reg. 329/22). The proposal includes 1,228,000 square metres of development, including 926,000 square metres of commercial development and 302,000 square metres of residential.

Announced by the Province of Ontario in 2019, the proposed Ontario Line will bring 15.6 km of subway service to the City of Toronto to help ease congestion on existing transit lines, and to bring transit to under-serviced neighbourhoods. The Ontario Line has replaced previous plans for a Downtown Relief Line and will feature a stop at the East Harbour. The Ontario Line will stretch across the city with 15 stations between Ontario Science Centre in the northeast to Exhibition Place in the southwest, including links to GO Transit and TTC Lines 1 and 2.

The development plans maintain Broadview Avenue Extension as the signature spine through the site with the New East West Street as the primary retail street. The application refers to the New East-West Street as East Harbour Boulevard. Information in the development application has been reviewed to inform design alternatives and preferred designs for these streets.

4.3.2 East Harbour Transit Oriented Community

As part of the provincial efforts to build transit and address the housing shortage in the Greater Toronto Area (GTA), Infrastructure Ontario has identified the Transit Oriented Communities (TOC) Program as it relates to the New Subway Transit Plan for the GTA. The TOC Program supports partnerships between the Province and private landowners to develop transit hubs that include increased density for housing and employment around new subway transit facilities. The East Harbour Transit Hub is one station that will be a TOC and is financed by Infrastructure Ontario and Cadillac Fairview.

Together Infrastructure Ontario and Cadillac Fairview, with support from Metrolinx, provided a TOC proposal to the City that outlines the vision and development plans for the East Harbour site using a TOC approach. The proposal for the East Harbour TOC applies to the transit station as well as the surrounding East Harbour lands owned by Cadillac Fairview within the Unilever Precinct. Through the East Harbour TOC, changes in land use are proposed in order to support a mix of uses that includes employment and residential space. This is anticipated to support ridership for the transit services located at the East Harbour Transit Hub.

The TOC proposal varies from the Unilever Precinct Secondary Plan that establishes East Harbour as an employment hub and reaffirms the area as a Provincially Significant Employment Zone (PSEZ) as defined in the Growth Plan (2020). The TOC proposal maintains the amount of employment Gross Floor Area (GFA) approved through the Unilever Precinct Secondary Plan and the East Harbour Zoning by-laws, but add 302,000 square metres (3.25 million square feet) of residential uses. The number of residential units are not confirmed but will be in the range of approximately 4,300 units. The Broadview Avenue Extension and the New East-West Street remain the signature streets serving the area.

More information about the East Harbour TOC can be found at https://www.toronto.ca/legdocs/mmis/2022/ph/bgrd/backgroundfile-174786.pdf. Currently, the draft plan of subdivision and site plan for building 1B are under review.

Based on the East Harbour TOC proposal, Cadillac Fairview submitted a revised East Harbour Development Application to the City for the subject lands.

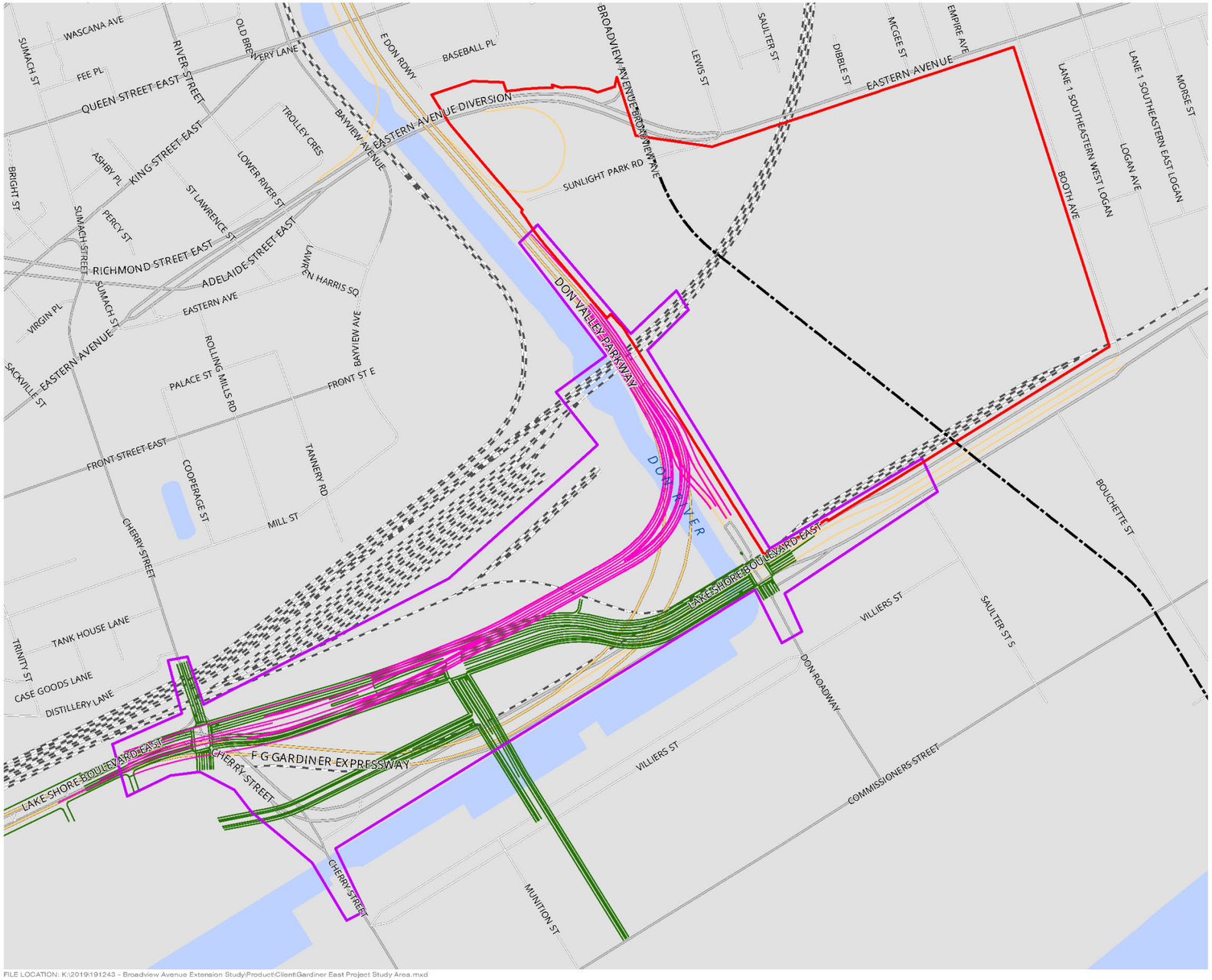
4.3.3 Gardiner East Reconfiguration 30% Design

In 2019 The Gardiner East Reconfiguration 30% design was initiated, based on the **Gardiner Expressway and Lake Shore Boulevard East Reconfiguration EA and Urban Design Study (January 2017)**, and progressed concurrent with the Broadview Avenue Extension EA. The project involves the realignment of the Gardiner-DVP ramps over the Don River, between Cherry Street and the Metrolinx Rail Bridge over the Don Valley Parkway, adjustment to Don Roadway to suit the new ramp tie-ins, and the realignment of Lake Shore Boulevard East between Cherry Street and the Don River including a new lengthened and widened Lake Shore Boulevard bridge over the Don River.

During the project, the Lake Shore Boulevard work and associated public realm work from the Don River east to Logan Avenue, including the Lake Shore Bridge over the Don River, was transferred from the Gardiner East Project to the PLFPEI Project, due to schedule dependencies. This work is currently in construction, with completion targeted in 2024.

The draft Preliminary Design Report was submitted to the City in Spring 2023.

Figure 4.13 - Gardiner Expressway East Study Area



FILE LOCATION: K:\2019\191243 - Broadview Avenue Extension Study\Product\Client\Gardiner East Project Study Area.mxd

BROADVIEW EA
EXTENSION STUDY

FIGURE 4.13
GARDINER EXPRESSWAY EAST
STUDY AREA

- Study Area
- Gardiner Expressway East Study Area
- Proposed Gardiner Expressway Realignment
- Proposed Lakeshore Blvd Realignment
- Proposed Broadview Extension
- Railway
- Water Body

1:5,000

0 50 100 200 m

MAP CREATED BY: GM
MAP CHECKED BY: KS
MAP PROJECTION: NAD 1983 UTM Zone 17N

MAP DRAWING INFORMATION:
DATA PROVIDED BY MNRF, CITY OF TORONTO

DILLON CONSULTING

PROJECT: 191243
STATUS: DRAFT
DATE: 2023-07-27

4.3.4 Lake Shore Boulevard East Public Realm

A condition of the Notice of Approval for the Gardiner Expressway and Lake Shore Boulevard East Reconfiguration EA and Urban Design Study (January 2017) was the development of a Public Realm phasing and implementation plan. This plan was completed in February 2020, and included the conceptual level Public Realm Vision, Phasing, and Implementation Plan for Lake Shore Boulevard from Jarvis Street to Logan Avenue.

The Plan identified a pilot project at Lake Shore Boulevard and Bonneycastle Street, which has since been constructed. As noted in **Chapter 4.0**, the public realm east of the Don River is currently under construction, with completion targeted in 2024.

Figure 4.14 - Vision Study Map

4.3.5 Port Lands Rail Study

In 2021, the City completed the **Port Lands Rail Access Assessment Review study**, a spur rail line from the Keating Yard that runs into the Port Lands through the Broadview Avenue Extension EA Study Area and crossed the future alignment of the Broadview Avenue Extension itself. The Keating Yard is located on the northeast corner of Lake Shore Boulevard East and the Don Roadway. This is a goods movement rail line with historic service to port related industries and activities. It is not used for passenger rail. **Figure 4.15** shows the location of the Harbour Lead Line and Keating Yard.

The study evaluated two potential options for the Harbour Lead Line, which is located within the Broadview Avenue Extension EA Study Area:

i. the re-instatement of the Harbour Lead Line (with a new Keating Rail Yard on Unwin Avenue); and
ii. the decommissioning and removal of the Harbour Lead Line and Keating Rail Yard.

The evaluation centred around six broad criteria: land use and planning, natural environment, socio-economic environment, transportation network, goods movement/ports operations, and costs.

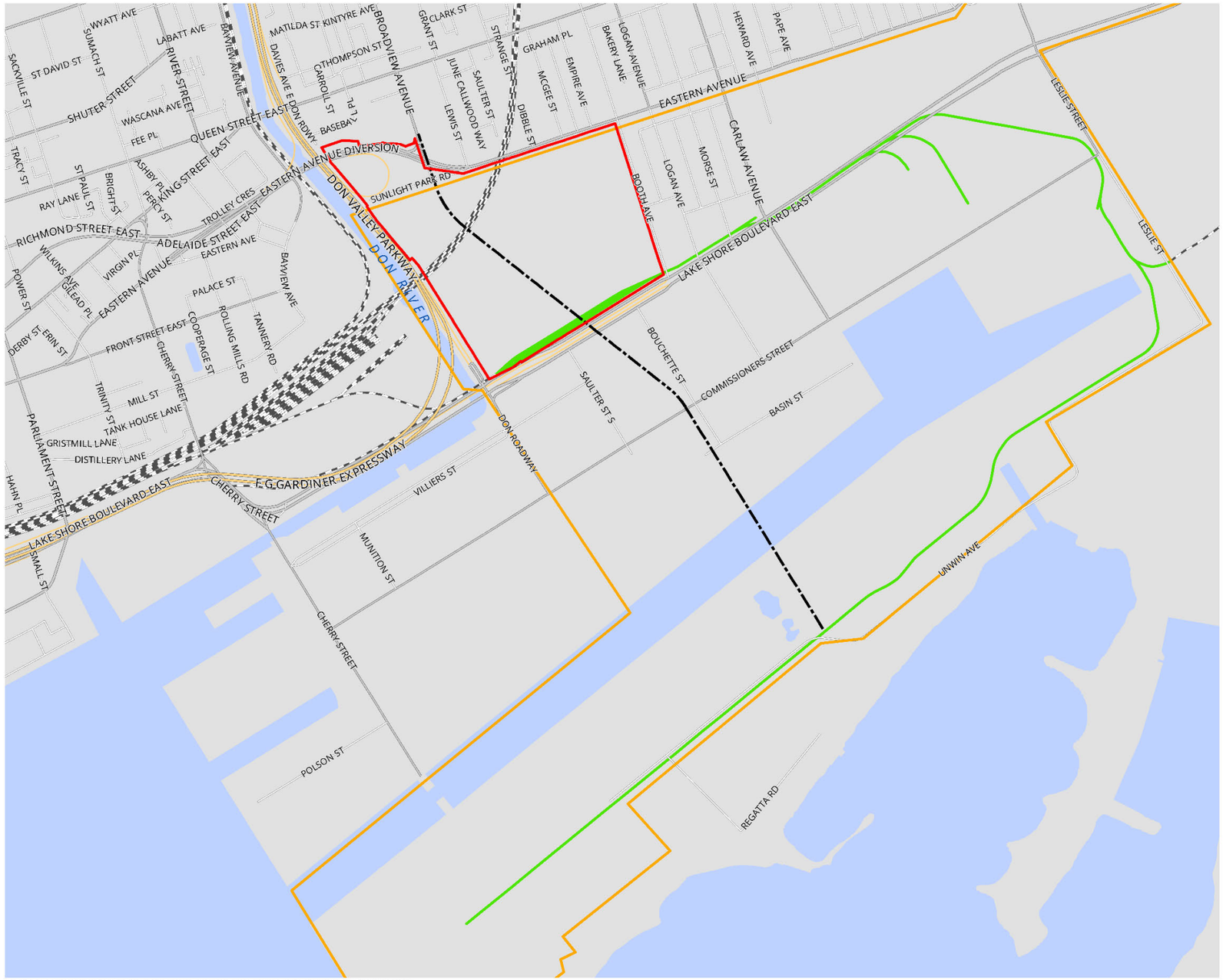
The study also included a review of background documents, existing conditions, and historical, current, and potential future rail operating activity. The study also included engagement with Ports Toronto, Toronto Water, CreateTO, and individual property owners and businesses, among others.

The study determined that the rail spur has not been operational since a section of track was removed along Leslie Street south of Commissioners Avenue in 2018 to facilitate the construction of a new Canada Post Facility.

The study concluded that the removal of the Harbour Lead Line is the most feasible option and highlighted that the cost of reinstatement is approximately ten times greater than removing the rail line.

Removal of the rail lines within the Keating Yard commenced during the completion of this EA. Complete removal of the rail spur line along Lake Shore Boulevard East and into the Port Lands will occur over time as these areas are redeveloped and the roads are improved.

Figure 4.15 - Port Lands Rail Study Area



BROADVIEW EA
EXTENSION STUDY

FIGURE 4.15
PORT LANDS RAIL
STUDY AREA

- Study Area
- Port Lands Rail Study Area
- Proposed Broadview Extension
- Railway
- Rail Recommended for Removal by Rail Study
- Water Body

1:10,000
0 50 100 200 m

MAP CREATED BY: GM
MAP CHECKED BY: KS
MAP PROJECTION: NAD 1983 UTM Zone 17N

MAP DRAWING INFORMATION:
DATA PROVIDED BY MNRF, CITY OF TORONTO

DILLON CONSULTING

PROJECT: 191243
STATUS: DRAFT
DATE: 2023-07-27

FILE LOCATION: K:\2019\191243 - Broadview Avenue Extension Study\Product\Client\Port Lands Rail Study Area.mxd

4.4 City Standards, Guidelines and Strategies

This section provides an overview of pertinent City standards and guidelines that were considered when completing the EA. These documents are "living documents" and are expected to be updated periodically. Since the completion of the TSMP, there are some new and updated strategies and guidelines that have been reviewed for the EA.

4.4.1 TransformTO and Net Zero Strategy

Toronto's **TransformTO Climate Action Strategy** was approved in July 2017. In October 2019 the City Council voted to declare a Climate Emergency, setting the target to achieve Greenhouse Gases (GHG) Net Zero emissions by 2050. Following the *Canadian Net-Zero Emissions Accountability Act*, which became law in June 2021, Toronto adopted the Net Zero Strategy in December 2021. Toronto's **Net Zero Strategy** outlines a pathway to decarbonize 10 years earlier than the previous goal, reducing community-wide greenhouse gas (GHG) emissions to net zero by 2040.

Actions and target goals set for 2030 should provide Toronto with guidance to reach net zero by 2040. These goals were grouped per key sectors such as: Homes and Buildings, Energy, Transportation, Waste, and Corporate Goals. The net zero strategy under Transportation focuses on encouraging active transportation and public transit use, while facilitating a rapid transition to electric vehicles. By 2030, 75 percent of school/work trips (under 5km) should be walked, cycled, or by transit. This Net Zero Strategy should result in decreased investments in carbon-intensive infrastructure and in the implementation of the following proposed actions:

- Expand biking and pedestrian infrastructure
- More transit priority zones
- Managed lanes for transit or high-occupancy vehicles
- Car-free zones in parts of Toronto
- Congestion pricing
- Increase public EV charging infrastructure
- Increase EV charging at residential, commercial, institutional and industrial buildings
- Increase existing bus and streetcar service levels

This strategy will be aligned with several other contributing plans and strategies such as the **Cycling Network Plan (CNP), ActiveTO**, and **RapidTO**.

4.4.2 Complete Streets Guidelines

Toronto's Complete Streets Guidelines were developed in 2015 and 2016 in collaboration with policy makers, City and agency staff, community groups and residents, advocates, researchers, and professionals. Following this process, an implementation plan was developed in 2017. The Complete Street Guidelines reflect, reinforce and build on the vision for Toronto streets in the City's Official Plan.

These guidelines are founded on the principle that all streets are different, and a street's design needs to reflect the specific needs and opportunities of the local context as well as the existing and future uses, users, and dimensions. Additionally, these guidelines outline key design principles related to Complete Street design for pedestrians, cycling, transit, green infrastructure, roadways, and intersections.

Recognizing the interdependence between street design and the people of the city, the health of communities, and the strength of the economy, the Complete Streets Guidelines' vision for street design is: streets for people, streets for placemaking, and streets for prosperity. The goals for Toronto's Complete Street Guidelines build on this vision. Moreover, they act as the organizing framework for setting priorities, decision-making, and the evaluation of alternative designs for Toronto street projects, including the Broadview Avenue Extension.

These goals include:

- Improve Safety and Accessibility
- Give People Choices and Connected Networks
- Promote Healthy and Active Living
- Respect Local Context
- Create Vibrant and Attractive Public Spaces
- Improve Environmental Sustainability
- Support Economic Vitality
- Enhance Social Equity
- Be Flexible and Cost Effective

Complete Streets in the context of this project focuses on increasing active transportation modes (pedestrian and cycling) and transit while reducing the role of automobile; maintaining commercial vehicle activity; accommodating service and/or delivery trucks associated with office, commercial, and warehouse activity; accommodating heavy trucks associated with industry, including aggregate and salt activity; creating a system that

provides a safe and efficient environment for all transport modes; and, supporting place making in the Study Area.

The streets in the study area will be designed to balance all modes of travel (walking, cycling, driving, taking transit, and moving goods) while also recognizing that different streets have different purposes, constraints and character.

4.4.3 Green Streets Technical Guidelines

Toronto's Green Streets Technical Guidelines and the Complete Street Guidelines are compatible and complementary documents. The Green Streets Technical Guidelines provide guidance, standards and selection tools for the planning, design, integration, and maintenance of a range of green infrastructure options that are appropriate for the City's street types and conditions. Released in 2017, the key objectives of these guidelines include:

- Providing an understanding of sustainable stormwater planning and practices;
- Informing the selection of appropriate green infrastructure options to be integrated as part of street retrofit/rehabilitation or new/reconstruction projects; and
- Ensuring that green street designs are attractive, functional, and appropriate to their urban context.

Given the importance of designing green streets in this EA, investments in green infrastructure and green streets will greatly improve stormwater conditions. These may include a range of low impact development stormwater management technologies, including bioswales, trees, and permeable surfaces. These features increase the rate of water infiltration in wet weather conditions and therefore decrease the volume of stormwater that is diverted to municipal storm drains. Permeable surfaces can also improve the quality of stormwater by filtering out impurities and debris.

4.4.4 Vision Zero 2.0

The City's commitment to safe streets is a key component of Complete Streets. Approved by City Council in 2016, the Vision Zero Road Safety Plan is a comprehensive five year (2017 to 2021) action plan that aims to eliminate traffic-related fatalities and serious injuries on Toronto's streets. Through a range of initiatives, this plan focuses on prioritizing the safety of the most vulnerable users.

In 2019, the City of Toronto released an update to Vision Zero RSP, called Vision Zero 2.0. Vision 2.0 recommends a set of data driven, extensive, proactive, and targeted initiatives that will continue to enhance safety for vulnerable road users. Vision Zero 2.0 proposes five key focus actions, including:

- Speed management strategy;
- Road design improvements;
- Proactive application of pedestrian head start signals;
- Proactively addressing high-risk mid-block crossings; and
- Education and Engagement Plan

For this EA, evaluation objectives, criteria and measures were developed based on the TSMP, Unilever Precinct Plan, Vision Zero objectives as well as the implementation of complete streets and green streets guidelines.

4.4.5 Toronto Walking Strategy

The Toronto Walking Strategy provides an integrated approach to the creation of a pedestrian-friendly urban environment. The strategy outlines building and street level enhancements to improve walkability, including pedestrian scale lighting, easy access to the street, and incorporating weather protection elements into building design. Implementation strategies for specific areas of the city are outlined in the City's Secondary Plans, including the Unilever Precinct Secondary Plan, and applied throughout the development review process. Improving walkability in the study area is a core component of this EA.

4.4.6 City of Toronto Cycling Network Plan

The Cycling Network Plan (CNP) outlines the City's planned investments in the near-term and intentions for the long-term to build on the existing network of cycling routes. The CNP is designed to connect the gaps in Toronto's existing cycling network, grow the network into new parts of the city, and to renew the existing routes to improve their quality.

The Plan has three main components:

- Long-Term Cycling Network Vision: To fulfill the long-term vision of the Cycling Network Plan, every street in Toronto should be considered for bikeways and other cycling upgrades. Categories of cycling service based on the cycling impact analysis generate scores to identify routes that bring greater value to the cycling network.

- Major City-Wide Cycling Routes: The network of Major City-Wide Cycling Routes consists of approximately 500 centreline km. High order cycling infrastructure has been installed, or is underway, or planned to link the Greater Toronto Area with other cycling routes in neighbouring municipalities.
- Near-Term Implementation Program: Every three years Transportation Services brings forward new routes based on the cycling network near-term program prioritization framework.

The 2021 Cycling Network Plan Update was approved on December 15, 2021. The Plan includes the next roll out of the near-term program for 2022 to 2024, and recommends increases to budget and staff capacity. The Near-Term Implementation Program adopted for 2022 to 2024 proposes approximately 100 centreline km of new bikeways, as well as upgrades to existing routes and studies for future implementation.

4.4.7 On-Street Bikeway Design Guidelines

Chapters 1 to 3 of the City's On-Street Bikeway Design Guidelines (OSBDG) were adopted by City Council in February 2023, representing the first step in adopting City bikeway standards.

The OSBDG was informed by the 2021 Ministry of Transportation Ontario Traffic Manual Book 18 – Cycling Facilities. New types of bikeways have also been implemented in Toronto and the region including Toronto's first protected intersection, Ontario's first advisory bicycle lanes, etc.

The City engaged with a wide audience to develop the City's OSBDG, including a Technical Advisory Committee of City staff, external stakeholders, the general public, non-profits invested in public realm and bikeway projects, various different Accessibility Committees and Public Health advisors.

The City will continue to work toward the adoption of new chapters with a focus on intersection design. Until such adoption, the Ontario Traffic Manual Book 18 and the Transportation Association of Canada Geometric Design Guide for Canadian Roads Chapter 5 – Bicycle Integrated Design should be utilized to make design decisions. The City has also made progress on adopting a number of construction specifications and standard drawings in order to aid the detail design process.

The OSBDG Chapter 1-3 should be utilized to inform decision making for bikeway facility selection based on the context and conditions of the street and the mid-block design parameters based on current and potential cycling demand.

The adoption of the OSBDG Chapter 1-3 is a step toward fulfilling the City's adopted policies including the Vision Zero Road Safety Plan, the Cycling Network Plan and TransformTO. Together, the City of Toronto can move the needle toward a safer, healthier and more active future where people no matter their age, ability or background will feel safe and comfortable cycling throughout the city.

4.4.8 Road Engineering Design Guidelines

The City provides technical guidelines for the construction and design of city roadways and defines the geometric constraints for different road types. The following three guidelines were considered for the design of roads as part of this project:

- Vehicle Travel Lane Width Guidelines;
- Curb Radii Guidelines; and
- Curb Extension Guidelines

The Vehicle Travel Lane Width Guidelines provide guidance on how and when to reduce current lane widths by reallocating roadway space to improve safety and comfort for pedestrians and cyclists. Wider lane widths favour passenger vehicles by creating a more forgiving and comfortable environment for drivers with a measurable influence on driver behavior and travel speed. The Guidelines offer a flexible approach to determining appropriate lane widths in support of existing City guidelines and strategies related to cycling facilities, accessibility and pedestrian-friendly streets.

Given a number of contextual constraints, standard lane widths cannot be universally applied throughout the city. Therefore, rather than recommending specific lane types (e.g., bicycle lane, parking lane, left-turn lane), the Guidelines are intended to confirm that roadway function and/or classification, surrounding land uses, topography, desired vehicular speed, and transportation modes, are considered when allocating space within the roadway once the number and type of required lanes has been determined. Modifications that may be used to reallocate road space include new or expanded bike lanes, edge lines and painted or raised medians. The Guidelines apply

to all collector, minor arterial and major arterial roads in the city.

The Curb Radii Guidelines outline the maximum curb radius allowed at intersections and their impacts on vehicle types, vehicle speeds, pedestrian crossing distances, visibility, and pedestrian storage. The goal of the guidelines is to appropriately accommodate motor vehicles while improving pedestrian comfort, safety, and visibility. Small curb radii require vehicles to slow down while manoeuvring right turns and allows for a smaller crosswalk setback from the parallel through lane. Similar to the Lane Width Guidelines, the Curb Radii Guidelines accounts for a number of factors and scenarios to design appropriate road radii for all users.

Given the varying characteristics of intersection corners across the city, a standard curb radius cannot be applied to all intersections throughout the city. The design guidelines will be consulted to inform construction of appropriately sized curb radii for the given road classification, heavy truck usage, and the desired vehicular speed.

Thirdly, the Curb Extensions Guidelines provide guidance on localized road narrowing (bump-outs) at intersections or midblock. Curb extensions can reduce pedestrian crossing distances, increase visibility for pedestrians and drivers, and promote cautious driving and reduce excessive speeds, improving the safety of all users. Curb extensions require sufficient roadway space and are designed based on road classification, lane widths, road widths, the presence of sidewalks and the presence of on-street parking. This guideline outlines the design elements associated with curb extensions and the relevant constraints.

4.5 Socio-Economic Conditions and Land Use

This section contains a summary of the socio-economic conditions in the focus study area. Information on the broader context area is documented in the TSMP.

4.5.1 Land Ownership and Existing Uses

The majority of the land in the focus study area is privately owned employment land that includes commercial, industrial, warehouse, office and parking uses. The City of Toronto and the Province also own property in the study area. **Figure 4.16** shows the property ownership and land use in the study area.

Figure 4.16 - Property Ownership Map

The largest privately owned site in the study area is owned by Cadillac Fairview and is referred to as East Harbour. It includes the former Unilever Soap Factory at 21 Don Roadway, the Cinespace Film Studio at 30 Booth Avenue, and 375 and 385 Eastern Avenue adjacent to the rail corridor. Cadillac Fairview also owns the listed heritage building at 415 Eastern Avenue currently tenanted by a furniture retailer.

21 Don Roadway is a former manufacturing site that currently hosts interim uses while plans for East Harbour Development are progressed. Interim uses include using the historic Unilever building for film, arts and entertainment. The adjacent warehousing buildings have been leased to TTC and a car dealership for surface parking and storage.

At 30 Booth Avenue, Cinespace has a building for film/television studios and production, along with considerable space for surface parking. The number of employees working on-site is highly variable and depends on how many productions are happening. This site is included in the East Harbour Development Application from Cadillac Fairview.

North of the rail embankment, Talisker (Sunlight) GP Inc. is the second largest private landowner in the study area, owning 1 to 9 Sunlight Park Road and 10 to 20 Sunlight Park Road. These are commercial properties that Talisker currently leases to BMW Canada Inc. (1 to 9 Sunlight Park Rd.) and MINI Canada (10 to 20 Sunlight Park Rd.). BMW and Mini operate car dealerships on-site with office space, show rooms, car wash facilities and surface parking. Abutting the eastern property line of the BMW site and fronting on Eastern Avenue beside the rail embankment, there are some smaller properties with a mix of commercial and light industrial space owned by private landowners.

The City of Toronto, owns significant land in the study area, within the Unilever Precinct, with the Booth Works Yard at 433 Eastern Avenue and 50 Booth Avenue (referred to as the Booth Yard), and the Keating Rail Yard along the north side of Lake Shore Boulevard East. The Booth Yard includes a large amount of surface parking for City vehicles as well as three buildings, two of which are designated heritage buildings, fronting on Eastern Avenue and Booth Avenue. These buildings host office space for Transportation Services, Parks & Recreation,

Urban Forestry, Municipal Licensing and Standards, Solid Waste Services, and Fleet Services.

The Booth Yard is one of several City yards previously identified by Real Estate Services as a potential candidate for relocation into a modernized, consolidated Yard. CreateTO, as the entity of the City that manages the City's real estate assets, has been directed by Council to lead the planning for redevelopment of the Booth Yard as well as the Keating Rail Yard located at the far south end of the Precinct. Plans for these sites are not yet confirmed but would require preservation of the heritage buildings fronting on Eastern Avenue.

On the south side of Eastern Avenue at 405 Eastern is property owned by Enbridge Gas. This property includes an operations yard, a natural gas regulator station (i.e. gate station) serving a broad surrounding area, and an Enbridge operations building/office. This property is being redeveloped. The development includes demolition of the existing Enbridge operations building and construction of a new three-storey office space facility fronting onto 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 operations onsite will remain unchanged.

On the north side of Eastern Avenue from the Don Valley Parkway to Booth Avenue, there are a number of small and mid-sized residential and commercial properties. The largest of which are the residential properties on the north side of Eastern Avenue, west of Broadview Avenue. Multiple residential condo buildings are located in this area, including the Broadview Avenue Lofts which is 7 storeys and includes 158 units. This area also includes the recently constructed Riverside Square property that is owned by Streetcar Developments. This site includes four buildings with heights ranging from 5 to 20 storeys. The development includes approximately 880 residential units, retail and automobile dealership uses.

Streetcar Developments also owns a series of smaller properties on the east wide of Broadview Avenue, north of Eastern Avenue. These properties include residential and commercial sites that are now closed. Streetcar Developments has submitted a development application to the City to redevelop the area with a mid-rise mixed use residential building with retail/commercial at-grade. The application is under review with the City.

In addition to the various development properties, there are a series of City owned municipal rights-of-way in the study area. These include roads as well as the area that holds the Eastern to DVP on-ramp. The road network is further described in **Section 4.6**.

Metrolinx owns and operates the rail corridor that travels through the study area. This corridor host's GO transit and provides regional transit connections that connect east and west of Union Station.

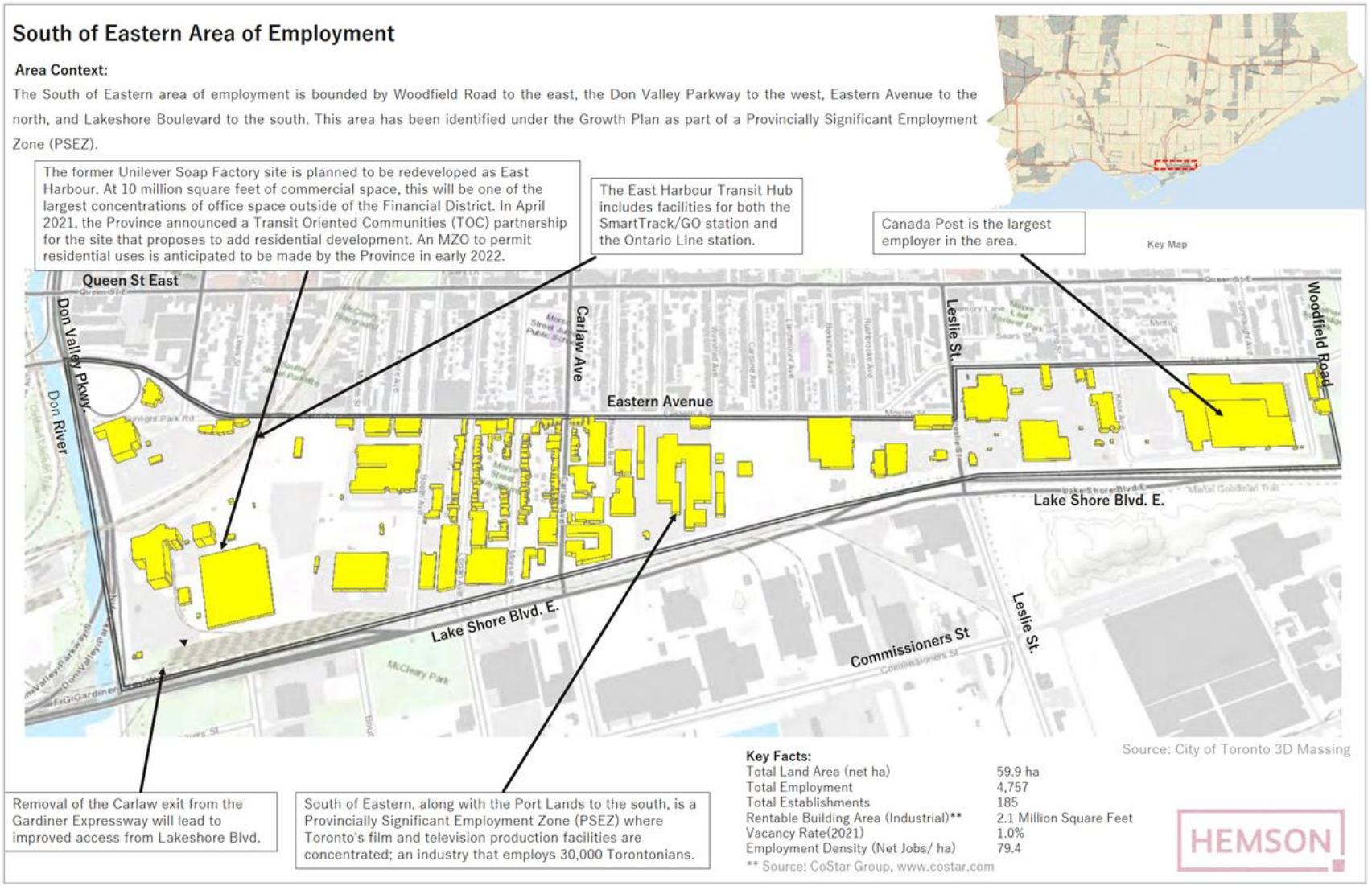
The broader area around the precinct has a wide range of uses and built forms south of Lake Shore Boulevard East and north of Eastern Avenue. The Port Lands, south of Lake Shore Boulevard East between the Don Roadway and Leslie Street, consist primarily low density industrial, manufacturing, transportation, and warehousing uses. Much of the Port Lands is currently undergoing transformation as part of the PLFPEI Project which is described further in **Section 4.8.1**. Once flood protection is completed through the Don Mouth Naturalization, the Port Lands will be redeveloped as envisioned in the TSMP and Port Lands Planning Initiative. The existing industrial, manufacturing and warehousing uses will be integrated with new mixed use.

The areas north of Eastern Avenue include Riverside and South Riverdale and consist of low and medium-density residential uses, supported by some commercial uses, community uses, and open space. Retail activity is concentrated along Queen Street East.

4.5.2 Employment

Based on Hemson Consulting's 2022 report **Future of Toronto Employment Areas and the Office Market** that was prepared for the City as part of the employment studies required for the MCR and Official Plan update, the South of Eastern area hosts approximately 4,800 jobs concentrated in Transportation, Warehousing & Wholesale Trade (34%) and Information & Cultural (15%) industries. This number fluctuates based on the film and television productions underway at any one time. **Figure 4.17** is from the Hemson report and shows the employment uses in the study area and surrounding sites in the South of Eastern area.

Figure 4.17 - South of Eastern Area Employment, Hemson 2022



The South of Eastern area and the Port Lands are the primary areas in the city for film and television production and related artists and businesses. The area includes studios and a number of businesses that support the film industry such as prop suppliers and visual effects. The South of Eastern area is changing, with more employment related development proposed. The area saw investment of almost $29 million in non-residential construction between 2016 and 2021. Significantly more employment is planned in the area with redevelopment applications underway, most notable is the East Harbour Development which will add 50,000 new jobs to the Unilever site.

The continued growth of employment in the South of Eastern as a Provincially Significant Employment Zone, will be supported through improved road, transit, cycling and pedestrian connectivity as set out in the TSMP.

4.5.3 Tourism and Recreation

There are currently no formal tourist or recreational attractions in the on-site study area. The stretch of the Don River west of the study area is occasionally used for water-based activities such as fishing (via boat or western shoreline) and canoeing, as well as walking, jogging and cycling activities along the adjacent Don River Trail. The Don River Trail connects to the Martin Goodman Trail and the Lake Shore Boulevard East multi-use trail. These provide recreational routes for cyclists and pedestrians. Connections to these recreational trails and the Don River will be improved through the implementation of the Gardiner Reconfiguration, PLFPEI, Unilever Precinct Plan and the East Harbour TOC proposal. Within the study area, the East Harbour Development envisions a vibrant mixed use district that includes cultural and entertainment attractions. These will improve tourism and recreation opportunities in the study area.

4.6 Existing Transportation Network

The following sections describe the existing transportation network in the Study Area, including existing streets, transit service, active transportation facilities, and goods movement. Overall, the Study Area lacks a fine-grained street network, transit to support future development, and pedestrian and cycling facilities. The limited transportation system makes the area vulnerable to increased auto dependency and congestion in the future.

4.6.1 Street Network

The major streets within the Study Area include the Don Valley Parkway, Eastern Avenue and Lake Shore Boulevard East. In addition to the major streets, Booth Avenue serves as a collector street. The following subsections describe the hierarchy of streets that exist in the Study Area.

4.6.1.1 Don Valley Parkway

The DVP is an expressway which extends northerly from the Gardiner Expressway to the Highway 401/Highway 404 interchange. It has a posted speed limit of 90 kilometres per hour (km/h). Within the Study Area, the main downtown interchange for the DVP is at Eastern Avenue (Richmond Street/Adelaide Street). This is a partial interchange allowing southbound DVP motorists to exit the DVP and go west onto Richmond Street and eastbound motorists travelling on Adelaide Street or Eastern Avenue to access the northbound DVP. North of the Eastern Avenue interchange, the Parkway has a six-lane cross-section. The Eastern Avenue interchange diverts a high proportion of downtown-oriented traffic via the Richmond Street/Adelaide Street one-way ramps, and south of this interchange the Parkway cross-section narrows to four lanes. At the southern terminus of the DVP, there are entry/exit ramps from an intersection with Lake Shore Boulevard East and the Don Roadway. This is the primary means of facilitating travel to and from the DVP into the Study Area. Motorists travelling along Lake Shore Boulevard East can access the DVP via the north/south connection along the Don Roadway.

4.6.1.2 Lake Shore Boulevard East

Lake Shore Boulevard East is a major arterial street that bisects the Study Area typically consisting of three lanes per direction. It has a speed limit ranging from 50 to 60 km/h. Between the Humber River and downtown Toronto, Lake Shore Boulevard East runs parallel to the Gardiner Expressway and serves as a commuter alternative to the Expressway during periods of congestion as well as waterfront destinations across the city. Within the Study Area, Lake Shore Boulevard East is a six-lane major arterial that provides access to the Port Lands, the South of Eastern area and neighbourhoods to the north, Ashbridges Bay and the beach community before terminating at Woodbine Avenue.

Parking is not permitted at any time along Lake Shore Boulevard East. In 2008, the Average Annual Daily Traffic within the Study Area ranged from 18,000 vehicles to 47,200 vehicles. The Martin Goodman Trail runs along Lake Shore Boulevard East and connects south into the Port Lands at two points – Cherry Street and Leslie Street. There is also a small rail yard (Keating Yard) to the north of Lake Shore Boulevard East that extends just east of the Don Roadway to Booth Avenue. This rail yard presents physical and technical challenges for providing connections from the Port Lands to north of Lake Shore Boulevard East. This yard is the main rail access into the Port Lands. The yard is owned by Toronto Port Lands Company (TPLC) and maintained on their behalf by Toronto Terminals Railway.

It is primarily utilized by Toronto Water. PortsToronto has legal access to utilize the rail corridor and yard. A spur line from this yard crosses into the Lake Shore Boulevard East median through the intersection of Carlaw Avenue, proceeds approximately 500 m in the median before crossing Lake Shore Boulevard East to the south side and into the Port Lands just west of Leslie Street.

4.6.1.3 Eastern Avenue

Eastern Avenue is a major arterial street that extends along the northern boundary of the Study Area. To the west of Logan Avenue, Eastern Avenue is a four-lane minor arterial street. Between Logan Avenue and Leslie, Eastern Avenue is two lanes, with on-street bicycle lanes. To the east of Leslie Street, Eastern Avenue generally returns to a four-lane arterial street, except adjacent to TTC Russell Yard where the street is two lanes. On-street parking is provided east and west of Logan Avenue. There is currently no cycling connection across the DVP. The speed limit on this street is 50 km/hr. In 2013 the Average Annual Daily Traffic within the Study Area was in the order of 17,500 vehicles. The nature of the land use north of Eastern Avenue is primarily residential, while on the south side of Eastern Avenue there is a mix of commercial, industrial, film studio and some residential uses west of Carlaw Avenue.

Eastern Avenue includes a bridge crossing the DVP and Don River, connecting to Richmond Street/Adelaide Street. Richmond Street East is a one-way street travelling westbound into the downtown core, while Adelaide Street East is a one-way street travelling eastbound away from the downtown core.

4.6.1.4 Booth Avenue

Booth Avenue is a collector street that runs north-south street with a 20 m right-of-way width between Eastern Avenue and Lake Shore Boulevard East. The speed limit on this street is 50 km/hr. On-street parking is permitted on the west side and a sidewalk is present on the east side of the street. There is right-in/right-out access to/from Lake Shore Boulevard East.

As part of transportation improvement plans for the study area, the City is preparing new designs for Booth Avenue between Eastern Avenue and Lake Shore Boulevard East. The Booth improvements include additional cycling connections and improving pedestrian sidewalks and transit service.

Existing transit service within proximity to the Study Area is provided by the TTC, which provides all-day every day service via two local bus routes and one express route (note, the express route does not stop or provide any service in the Study Area). Streetcar service is also provided in the general area along Queen Street just north of Eastern Avenue. There is a GO Rail line that travels through the Study Area and continues westward to Union Station via the Lake Shore East line which runs along the Metrolinx rail embankment through the study area. GO bus service operates along the DVP/Gardiner.

4.6.2 Traffic Conditions

4.6.2.1 Data Source and Analysis

The Project team consolidated and examined data, mapping, and reports received from the City relating to existing and future transportation in the area. This included information on existing traffic volumes, traffic controls, and goods movement. Further information relating to data sources and analysis can be found within section 5.7.2.1 of the TSMP.

4.6.2.2 Existing Traffic Volumes

Existing traffic volumes are provided in Section 5.7.2.2 of the TSMP along with a list of survey locations and dates for the available turning movement counts and 24-hour mid-block traffic counts as well as detailed traffic data for both the turning movement and 24 -hour mid-block counts.

While data older than 3 years is typically considered outdated, the location and order of magnitude of volume was reviewed for these locations to confirm their validity. It was determined that in all cases the area was mature such that volumes have been stable for many years or that the volumes were relatively low and not expected to have changed significantly.

4.6.2.3 Goods Movement

Goods movement in the Study Area is provided primarily by truck. In general, the daily truck traffic to and from the area can be broken down as follows:

- Mail distribution centres like the FedEx facility on Commissioners Street and the Canada Post facility on Leslie Street generate frequent daily truck trips, but they are primarily undertaken by delivery vehicles that are smaller in comparison to the trucks utilized by other sites in the Port Lands
- PortsToronto facilities generate intermittent demand based on ship landings and loading/unloading schedules, but when demand is high it requires a substantial number of large trucks to access the facility efficiently over a short window of time. The PortsToronto facility requires some of the largest trucks to service its site
- The Asbridges Bay Wastewater Treatment Plant has a consistent baseline demand. Trucking needs revolve primarily around chemical delivery on a scheduled basis
- Film studio facilities (Pinewood and Netflix) can generate frequent daily trips, with vehicles ranging in size from small vans to semi-trailers
- The concrete batching campus at the corner of Leslie Street and Commissioners Street generates a significant daily volume of cement mixer trucks exiting and entering the study area
- Aggregate, road salt and truck storage facilities along Unwin Avenue and Cherry Street generate a significant amount of dump truck and garbage truck traffic within the study area

Due to the narrow width of the vehicle lanes considered along the Broadview Avenue Extension, large truck traffic would generally be discouraged, with the infrastructure designed to accommodate more moderate sized heavy trucks typical of the urban built environment.

4.6.2.4 Traffic Controls

Traffic control in the area is predominantly signalized or unsignalized (stop or yield signage).

4.6.3 Active Transportation Conditions

4.6.3.1 Bus Routes

Route 143 Downtown/Beach Express provides an east-west express bus service along Eastern Avenue (through the Study Area), between Neville Park Loop and the Downtown Toronto area. No stops are made within the Study Area.

Route 31/31B Greenwood operates limited service along Eastern Avenue east of Leslie Street. Route 31 operates between Line 2 Bloor-Danforth (Greenwood station) and the intersection of Greenwood Avenue and Queen Street East. The 31B route is an extended loop that operates during the late evening until 7:40 am from Monday to Saturday, seven days a week. The bus operates on a one-way loop travelling westbound along Queen Street East to southbound on Leslie Street, then eastbound along Eastern Avenue to northbound along Woodward Avenue and finally westbound along Queen Street East to return back to Greenwood Avenue. Route 31 operates with a frequency ranging from eight to 12 minutes Monday through Friday and between 20 and 25 minutes on the weekend. Route 31B makes four trips during the afternoon peak period on weekdays (every 24 minutes) and operates with a frequency of 25 minutes during the early morning and late evening on Saturdays.

4.6.3.2 Streetcar Routes

There are three streetcar routes that operate along Queen Street, approximately 300 m north of Eastern Avenue. This is within walking distance of those travelling to, and from, the vicinity of Eastern Avenue.

The 501 Queen streetcar route operates between Neville Park Loop, Humber Loop and Long Branch Loop, generally in an east-west direction. It serves the Queen and Osgoode Stations on Line 1 Yonge-University. Two services are operated. The 501 (Neville Park-Long Branch) is the main branch, and operates at all times, seven days a week. The 501 (Neville Park-Humber Loop) short-turn branch also operates at all times, seven days a week. The frequency ranges from five to ten minutes.

The 503 Kingston Road streetcar operates along Queen Street during the weekday peak period only and the 502 Downtowner streetcar operates during the weekday peak period and midday peak. The closest stops to the Study Area are stops located at the intersections of Queen Street and Leslie Street, Jones Avenue, Caroline Avenue, Pape Avenue, Carlaw Avenue, Logan Avenue, Empire Avenue, Boulton Avenue, Broadview Avenue and Carroll Street.

Streetcar service is also provided on Broadview Avenue via the 504 King Street route and the 505 Dundas route. There is a stop at Queen Street and Broadview Avenue on both routes which is within walking distance of those travelling to and from the vicinity of Eastern Avenue.

The 504 King streetcar route operates along King Street West between the Line 2 Bloor-Danforth (Dundas West station) and the Broadview Avenue station. It travels north-south along Broadview Avenue between Queen Street East and Danforth Avenue. The 504 King route operates at all times, seven days a week.

The 505 Dundas streetcar route operates along Dundas Street West between Line 2 Bloor-Danforth (Dundas West station) and Broadview Avenue station. It travels north-south along Broadview Avenue between Queen Street East and Danforth Avenue. The 505 Dundas route operates at all times, seven days a week.

4.6.3.3 Pedestrian Network

The existing street and pathway network in the Port Lands section of the Study Area is generally not conducive to pedestrian travel, and pedestrian activity in most of this area is generally minimal due to the nature of the industrial land uses and the discontinuous nature of the sidewalks. The existing network was planned to serve industrial uses, and as such not all streets include sidewalks or they are only located on one side of the street. Recreational pedestrian activity however can be significant along the Martin Goodman Trail and Cherry Street.

The sidewalk network in the Port Lands is incomplete. The block pattern is coarse, with limited walking route alternatives available. Protected crossings of Lake Shore Boulevard East and Eastern Avenue are widely spaced at approximately 900 m and 625 m respectively, and

therefore those streets act as barriers to north-south pedestrian activity (Logan Avenue and Carlaw Avenue are two exceptions where protected crossings provide north-south pedestrian routes that are continuous across those streets).

Eastern Avenue is not conducive to east-west pedestrian travel due to the limited crossing of the Don River and DVP on the south side of the Eastern Avenue diversion. Pedestrians must cross the free-flow on-ramp to the northbound DVP to access the downtown. East of the DVP free-flow ramp, Eastern Avenue has sidewalks on both sides of the street; however, the width of the sidewalk and the inclusion of utility infrastructure limit the walking environment.

4.6.3.4 Cycling Network

The Study Area contains designated bicycle and multi-use trails, as well as bicycle lanes and routes. The three main multi-use trails used for cycling in the Study Area include the Lake Shore North Trail, the Martin Goodman Trail, and the Lake Shore East Trail.

The Lake Shore North Trail runs along Lake Shore Boulevard East and connects into the Port Lands to the Martin Goodman Trail at two points – Cherry Street and Leslie Street – and back north to the city via the Lake Shore East Trail. The Cherry Street portion of the trail is located on the west side of Cherry Street north of Commissioners Street and then switches to the east side of the street south of Commissioners Street. The Cherry Street trail is the Waterfront Trail and generally substandard in width. The Leslie Street portion of the trail located on the east side of Leslie Street (also the Waterfront Trail) is integrated into the Leslie Street "greening" north of Commissioners Street. The trail connects between Cherry Street and Leslie Street through a predominantly off-street connection south of Unwin Avenue. There is a portion of the trail that is on-street between the channel outlet and Leslie Street, with no dedicated facilities, which can be problematic. This is a private street however the trail facility on the south side is being planned as part of the Baselands Trail Study with anticipated construction for late 2016/early 2017.

The Martin Goodman Trail connects to the Lake Shore East Trail north of the Keating Channel. There are bicycle signals installed for east-west bicycle movements across the north leg of the Lake Shore Boulevard East/Don Roadway intersection and north-south and east-west movements across the Lake Shore Boulevard East and Leslie Street intersection.

There are also existing 1.5 m wide painted bicycle lanes that extend east along Eastern Avenue from just west of Logan Street to Leslie Street; dedicated bike lanes are not provided along Eastern Avenue.

Logan Avenue is a designated signed bicycle route (Bike Route 49), north from Lake Shore Boulevard East through to Riverdale Avenue. This includes a one-block contraflow lane between Lake Shore Boulevard East and Eastern Avenue (dedicated cycling), permitting cyclists to travel northbound along a one-way southbound section.

An off-street path along the east side of the Don Roadway provides a connection to the Lake Shore Boulevard East and Don River multi-use trails.

4.7 Existing and Planned Municipal Services

The TSMP established the status of existing municipal services in the Study Area including water and wastewater infrastructure.

4.7.1 Water Distribution System

Existing water servicing infrastructure serves most properties in the Port Lands. There is a network of distribution water mains ranging in size from 150 to 300 millimeters (mm) in diameter, the majority of which are located north of the Ship Channel. Fire hydrants are present on public right-of-ways throughout the study area. The existing system operates in compliance with the City's Design Criteria for Sewers and Watermains (2009), however it was noted that the maximum pressure readings could result in an internal building pressure exceeding the 2012 Ontario Building Code. Individual pressure reducing valves installed on the building-side of any developments with pressures that exceed the Ontario Building Code maximum pressure can provide protection against building plumbing over-pressurization.

4.7.2 Wastewater Collection System

The current wastewater collection system in the Study Area consists of a separated system of pipes ranging in diameter from 200 to 675 mm. The part of the Port Lands that is located to the north of the Ship Channel is currently served by a sanitary sewer system that connects by gravity at Logan Avenue and Eastern Avenue into a large diameter interceptor sewer, termed the Low Level Interceptor (LLI). Facilities along the east side of the Ship Channel are serviced through an extension of the Leslie Street sewer along Unwin Avenue that terminates west of the Portlands Energy Centre. The remainder of the southern part of the Port Lands, south of the Ship Channel, is currently not connected to a sanitary sewer system.

Properties in the South of the Eastern area portion of the Study Area drain via sanitary sewer that run north to the Low Level Interceptor. The sewer size is mainly 300 mm diameter with a maximum of 450 mm diameter. The trunk sanitary sewer that connects the Port Lands to the Low Level Interceptor via Logan Avenue is 675 mm diameter.

Model analysis indicated that the existing sewers are generally underutilized with sanitary peak flows well below the sewer capacities, functioning well during dry weather flow conditions. Due to operational and design challenges with the Low Level Interceptor, including capacity limitations and back-ups from the pumping station, the 675 mm Logan Avenue and 600 mm Lake Shore sewer and its tributary sewers within Port Lands and Lower Don Lands surcharge under relatively moderate wet weather events, backing up into the Study Area.

The planned construction of a new Port Lands Sanitary Pumping station will be required to support the full build out of the East Harbour Lands. This critical infrastructure is being advanced by Waterfront Toronto and will be delivered as part of a series of major works being undertaken within the Lower Don area. While this new facility will be required to meet the sanitary demands of the East Harbour Precinct at full operational capacity, an alternative solution is proposed to be used on an interim basis for the development to proceed on the East Harbour lands prior to the opening of the pumping station.

4.7.3 Drainage and Stormwater Servicing

Existing stormwater management servicing in the study area includes both old and new systems. The existing study area accommodates runoff from a large external drainage area of approximately 60 hectares, with an overland catchment extending to the north past Gerrard Street East. Storm drainage in the study area is currently accommodated through storm sewers along Sunlight Park Road, Booth Avenue and Lake Shore Boulevard East that outlet to the Don River.

In 2006, Toronto City Council approved the start of the Don River and Central Waterfront Project, a Class EA study intended to look for solutions to improve water quality conditions in the Don River and Toronto's inner harbour. Toronto's waterfront is heavily impacted by stormwater runoff and combined sewer overflows, which contain a mixture of stormwater and untreated sewage. Recommendations from the Class EA include installing a series of integrated underground tunnels and storage shafts that will capture, store, and transport stormwater and combined sewer overflows to a new wet weather flow treatment plant. The construction of underground storage tanks to store peak sanitary flows and to capture combined sewer overflows from remote outfall locations is also proposed, along with a number of other recommendations to better manage wet weather events.

The Coxwell Bypass Tunnel (CBT) is one of the projects in the Don and Central Waterfront set of infrastructure investments. The primary CBT access and storage shaft connecting to a larger tunnel is located in the study area, within the on-ramp area of the Eastern to DVP northbound on-ramp. The CBT includes a storage shaft connecting to a 10.4 km long bedrock tunnel to connect the Ashbridge's Bay treatment plant to the exit shaft at Coxwell ravine park, along with the construction of five vertical shafts and 13 tunnels that will serve as stormwater connections to divert existing combined sewer overflows into the CBT.

Immediately within the project study area, the infrastructure includes a diversion structure that will connect the existing CSO underneath Sunlight Park Road to a vertical drop shaft within the footprint of the Eastern Avenue Flyover. The 1600 mm vertical drop will be connected to an adit tunnel at its base, which will transport stormwater westward underneath the Don River to the CBT that will run parallel to the Don towards Ashbridge's Bay treatment plant.

4.7.3.1 TSMP Servicing Plan

South of the rail embankment, the TSMP envisions a new drainage system to serve the study area. This is illustrated in **Figure 4.18**. The TSMP system identified north of Lake Shore Boulevard East connects to system improvements required to the drainage system in the Port Lands.

The wider drainage improvements have not all advanced in the Port Lands. This is an issue for the East Harbour Development. If the Port Lands drainage system needs to be in place in order for the drainage system in the Unilever Precinct to work, then the East Harbour Development is on hold until such time that the key elements of the overall system is improved.

Given this limitation and the investments needed to upgrade the Port Lands drainage system as per the TSMP, the City and Cadillac Fairview have agreed that drainage for the Unilever Precinct that will include infrastructure along the Broadview Avenue Extension and the New East-West Street will be planned as part of the Plan of Subdivision for the East Harbour Development. This will be reviewed and overseen by Toronto Water.

As part of the City's Wet Weather Flow Management Plans, drainage on private properties must be dealt with on-site. Cadillac Fairview is therefore leading the drainage planning and design for both onsite and right-of-way drainage into order to advance an integrated system that is not reliant on Port Lands improvements.

4.7.3.2 CF Servicing Proposal

The current drainage plans from Cadillac Fairview for the study area are depicted in **Figure 4.18**. This servicing proposal is currently under review by the City and has not yet been approved, and is subject to revision as the development process progresses. As part of the drainage plans, a pumping station may be required to manage stormwater in the underpass, which will be the low point of the Broadview Avenue Extension. Cadillac Fairview is working with the City and Metrolinx to confirm the location and design for the pumping station. A preliminary location is noted on **Figure 4.19** which is under review with the City. If a pumping station is required, efforts should be made to locate the station outside of the proposed ROW to mitigate impacts to the travelled way. The interim sanitary pumping station should be away from any proposed sidewalks, cycle tracks, or roads as the pumping station has significant

impacts above and below ground that would be undesirable for transportation purposes. Once the EA preferred design for the Broadview Avenue Extension and the New East-West Street are confirmed, Cadillac Fairview will integrate the right-of-way design with the servicing plans to provide a compiled infrastructure design plan. This will be further refined in detailed design.

Figure 4.18 - Preferred Drainage Plan from TSMP

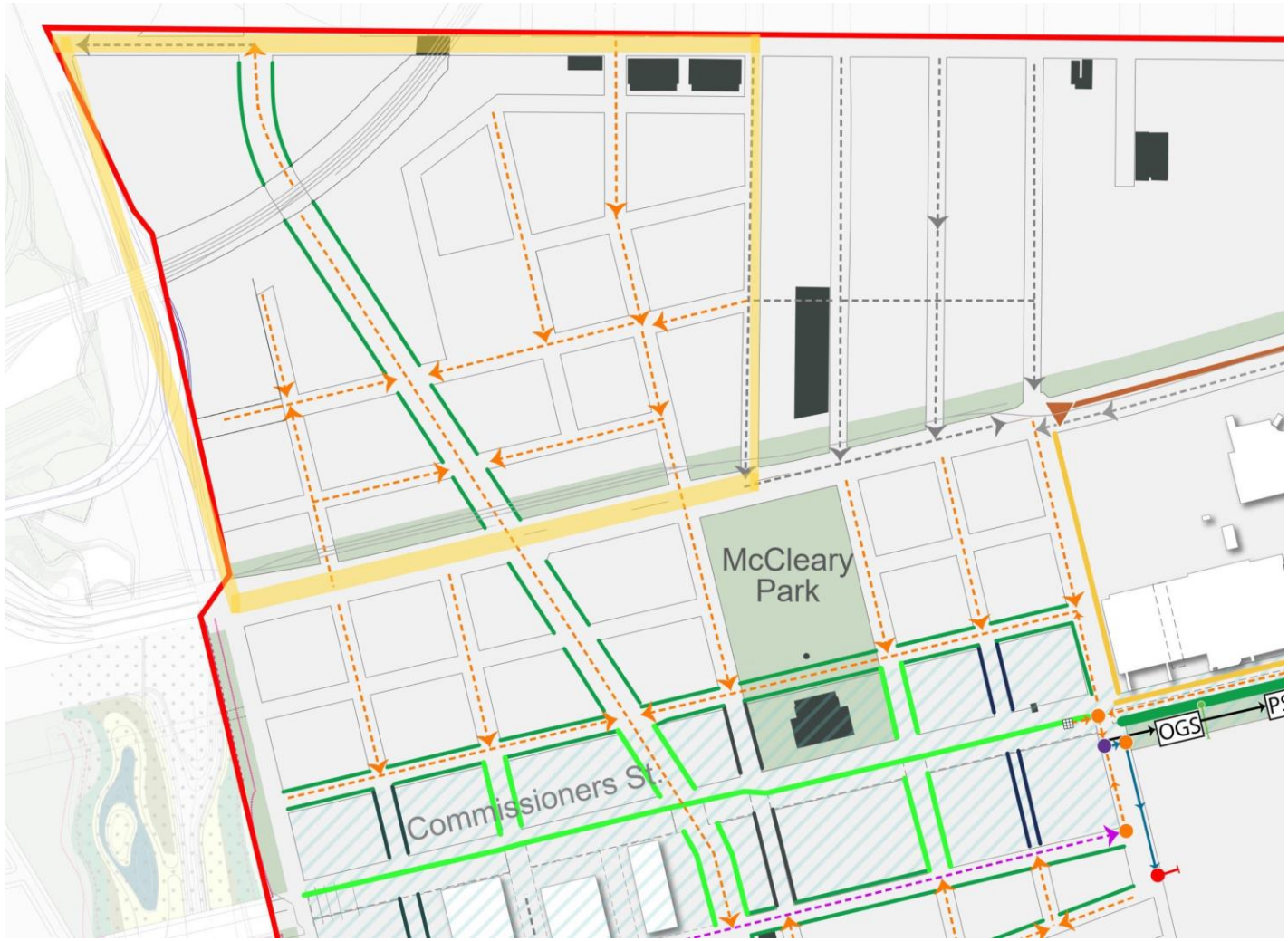


Image Source: Port Lands and South of Eastern Transportation + Servicing Master Plan Environmental Assessment

Figure 4.19 – Proposed Cadillac Fairview Drainage Plans for Unilever Precinct, East Harbour Development Application 2022 (Not yet approved by the City)

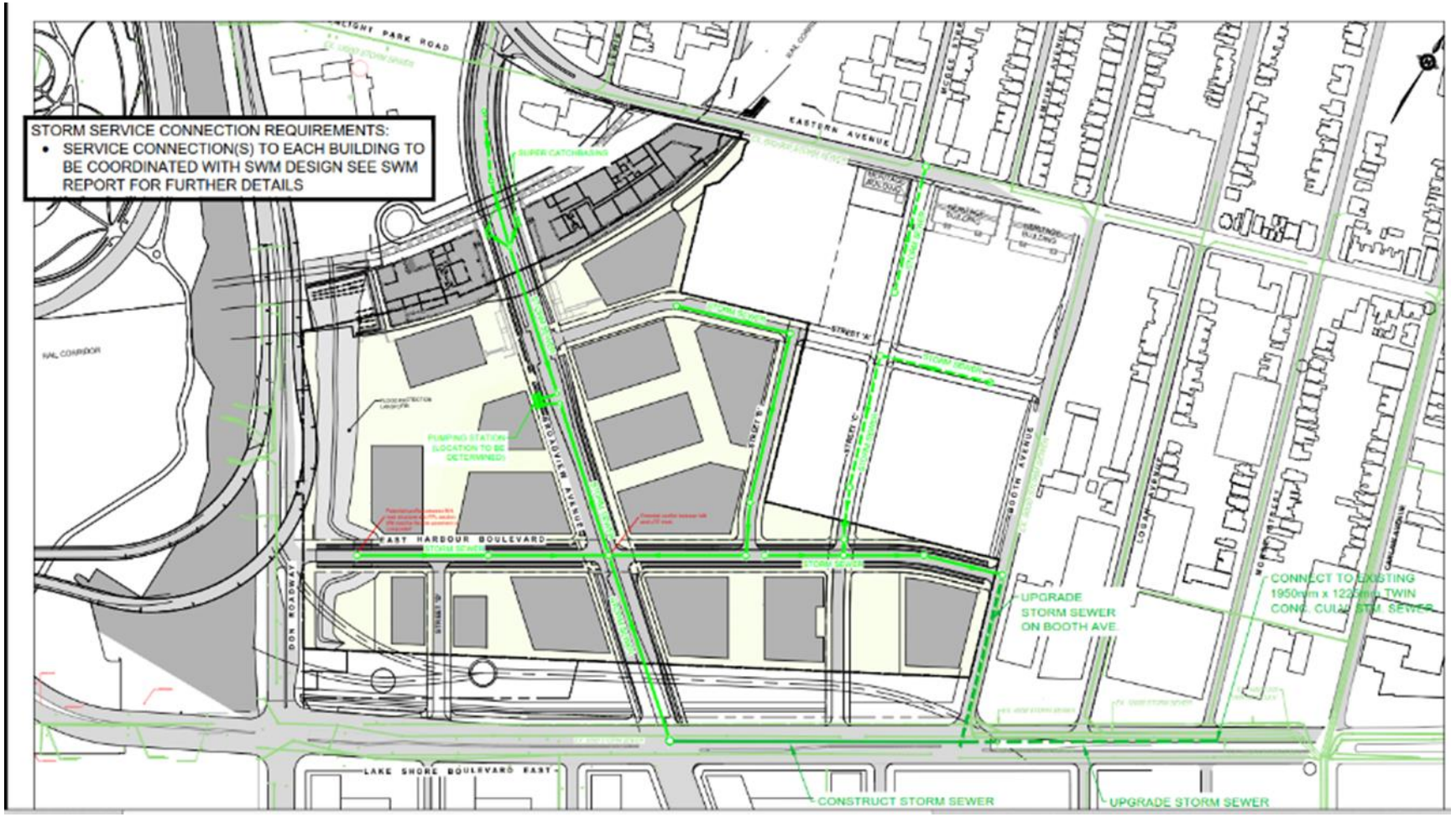


Image Source: East Harbour Development Application (2022) – **Pending Approval by the City; Subject to Change**

4.8 Natural Environment

This section of the report describes the existing natural environment in the study area. A background review of existing conditions and a tree inventory study was conducted to summarize the existing natural environment within the study area.

4.8.1 Watershed and Stormwater Flow Regime

The study area is located in the Don Watershed, which is one of the most heavily urbanized watersheds in the TRCA's jurisdiction. More specifically, the study area is within the Lower Don River sub-watershed. Starting towards the south end of Riverdale Park, the heavily channelized Don Narrows runs along the west side of the project study area and terminates at Toronto's Inner Harbour via the Keating Channel. Towards this south end of the Don River, groundwater interaction along the river increases as it passes through the Iroquois Sand Plain, which is the ancient shoreline of the proglacial Lake Iroquois.

Today, the form and function of the Don River mouth differs dramatically from the original natural mouth that would have existed prior to and during the early periods of European settlement. Prior to the formation of what is now the City of Toronto, the lands along the lakefront were composed of extensive forest and marsh habitats. Ashbridge's Bay Marsh, a 560 ha wetland named after the first settlers east of the Don River, formed the mouth of the Don and was molded over time from depositional materials provided by the river and eroded from the Scarborough Bluffs.

The Lower Don River has been extensively channelized and the adjacent lands urbanized over the last 150 + years. This included the straightening of the Don River from Riverdale Park to Ashbridge's Bay Wetland (called the Don River Improvement Project in the 1880s), and the creation of the Keating Channel in the early 1900s as part of the Toronto Harbor Commissioners creation of the Port Lands. Despite these heavy channelization works, much of the lands surrounding the mouth of the Don remained flood vulnerable up to 2012. As a result of the urbanized conditions in the Lower Don River watershed, sediment laced runoff entering water bodies following wet weather events is high in this setting.

4.8.1.1 Flooding

Historically, flooding within the Lower Don River watershed has been recorded as far back as the late 1800s and were specific to spring and fall rain event. However, as a consequence of rapid development throughout the Don watershed, the frequency of flooding has increased and these events are no longer restricted to any particular time of the year. As recently as July of 2013, extensive flooding occurred throughout Toronto due to a series of severe thunderstorm in a 24-hour period. Within the Lower Don watershed, the Don River exceeded the river banks and resulted in numerous road closures including large stretches of the Don Valley Parkway. The storm and resulting flash flooding that hit the GTA set the record for the province's most expensive natural disaster to date.

While the last few decades have observed mainly nuisance type flooding, the lower Don River would be subject to even more extreme flooding under a tropical storm similar to Hurricane Hazel, which occurred on October 15th, 1954. The Province of Ontario currently uses the rainfall from Hurricane Hazel centred over the Don Watershed to define the limits of flooding, known as the Regulatory Flood. During an event of this kind, south of Queen Street, the Don River valley ends as flood flows spread out across the low-lying lakefilled area of the South of Eastern area and the Port Lands.

The effect of flooding vulnerability is due to the heavy urbanization and historic narrowing of the Don River mouth. The final reach of the Don River lacks the natural capacity to safely contain and convey a Regulatory Flood event. Consequently, approximately 290 hectares of land are currently at risk due to flooding from the Don River in the Port Lands and South Riverdale communities. As noted in **Section 4.2.2** the PLFPEI Project that is currently under construction includes flood protection infrastructure to address flooding to approximately 240 of those 290 hectares.

The remaining 50 hectares include areas such as the constructed naturalized valley system, Keating Channel, and the 8 ha of land north of the rail embankment that are the focus of the Broadview Avenue and Eastern Avenue Flood Protection Project which proposes a flood protection landform to address the remaining flood risk. This is discussed further in **Section 4.2.3**. In addition, a draft functional servicing report for the East Harbour Development submitted in 2023 includes further

information for stormwater management and flood protection for the East Harbour development lands. It should be noted that this report has not yet been approved by the City and is subject to further revisions before being implemented.

The combined implementation of the PLFPEI and the Broadview Avenue and Eastern Avenue Flood Protection will result in the elimination of flood risk in the study area, including for floodwaters as high as a Regulatory Flood Event.

4.8.2 Water Quality and Source Water Protection

A detailed description of water quality in and around the Lower Don River is beyond the scope of this report; but has been well characterized in previous studies such as the Don River Watershed Plan (TRCA, 2009), the City of Toronto's Wet Weather Flow Management Master Plan (City of Toronto, 2003a), and the DMNP EA (TRCA, 2014) and the TSMP (City, 2017). Impacts to water quality within the Lower Don are related primarily to historical industrial activity and the high rate of urbanization. Consequently, bacterial loading, eutrophication, and the discharge and accumulation of contaminants have resulted in the Don watershed being included as one of the six watersheds identified within the Toronto and Region Area of Concern (Environment Canada, 1989).

Due to the urbanized nature of the watershed, stormwater runoff and untreated sewage (from combined sewer overflows) are significant contaminant sources throughout the Don River, with previous reports having indicated that as much as 70% of the total flow of the Don is made up of stormwater that enters the system through 1,185 outfalls. Other point sources, such as combined sewer overflows (CSOs) that discharge effluent directly into the Don River intensify the amount of sediment and contaminant loading the river receives. In response to the poor water quality conditions observed in the Don River and Toronto's Inner Harbour, the City of Toronto's Don River and Central Waterfront Class EA was approved in 2012. The recommendations of this EA included a series of integrated underground tunnels and storage shafts designed to capture, store, and transport stormwater and CSOs for treatment. One of these underground vertical storage shafts is planned to be built on the eastern bank of the Don River within the study area, and once operational will significantly reduce

bacterial loading to the Don River (see **Section 4.7.3** for more information).

4.8.2.1 Source Water Protection

The *Clean Water Act*, 2006 aids communities protect their drinking water supplies through prevention –by developing collaborative, watershed-based source protection plans that are locally driven and based on science. The study area is located in the Toronto and Region Source Protection Area and transects the vulnerable areas identified as Event Based Area (EBA) and Highly Vulnerable Aquifers (HVA) under the *Clean Water Act*, 2006.

Under the *Clean Water Act*, 2006, a "prescribed threat" (hereafter referred to as "threat") is defined as "an activity or condition that adversely affects or has the potential to adversely affect the quality or quantity of any water that is or may be used as a source of drinking water and includes an activity or condition that is prescribed by source protection regulation as a drinking water threat".

The Province has identified 22 activities that, if they are present in vulnerable areas, now or in the future, could pose a threat (listed in Section 1.1 of O. Reg. 287/07). Twenty of these activities are relevant to drinking water quality threats, while two are relevant to drinking water quantity threats. It is possible that activities related to this project may pose threats to vulnerable area(s) identified. In order to address these potential threats, the project must adhere to applicable policies in the CTC Source Protection Plan.

The CTC Source Protection Plan contains policies to protect vulnerable areas in all three Source Protection Areas in the Region: Credit Valley, Toronto and Region and Central Lake Ontario.

Policies that apply to HVAs include SAL 10-12 (application of road salt), DNAP-3 (handling and storage of dense non-aqueous phase liquids), and OS-3 (handling and storage of organic solvents). The Lake Ontario (LO) policies apply in EBAs.

The effects assessment of the preferred design in this study considers if activities associated with the design pose risks to drinking water. No risks have been identified as the project adheres to applicable policies in the CTC Source Protection Plan (Chapter 9.8).

4.8.3 Soils and Groundwater

4.8.3.1 Phase 1 ESA

The majority of the property parcels within the Broadview Avenue Extension Area are currently used for commercial and industrial purposes. Dillon Consulting Limited (Dillon) was retained by the City to conduct a Limited Phase I ESA for the properties located within the study area. The assessment was considered to be a 'Limited' Phase I ESA since an interview was not conducted with a site representative. The Limited Phase I ESA report was prepared in general accordance with the Canadian Standards Association (CSA) Standard Z768-01 (R2016) Phase I Environmental Site Assessment, with exceptions noted herein. Dillon understands that this Limited Phase I ESA has been initiated as a due diligence requirement and will be used as input into the planning and design process. The results of the study are not intended for submission in support of a Record of Site Condition (RSC) under Ontario Regulation (*O.Reg.*) 153/04. A copy of the Phase 1 ESA is included in **Appendix B**.

The objective of the Limited Phase I ESA was to assess actual and/or potential environmental concerns in the study area through a review of available historical records and site reconnaissance. The work identified evidence of actual or potential sources of contamination within the study area and within 250 m surrounding the Study Focus Area (SFA).

Based on information obtained as part of the Limited Phase I ESA records search, the following findings are presented:

- The area has been under industrial use since the early 1900s. Former and current occupants of the area include Canadian National Railway (CN) and Metrolinx Railways, Unilever and Sunlight Soap Works, commercial auto body shops and retailers, Greyhound Canada Transportation Corp, Sunoco Gas, Barrett Tar Roofing Co Ltd, coal gasification, British American Oil Co. Ltd., dry cleaning, salt storage, multiple spill pits and ponds, and Frankel Bros Ltd steel manufacturing and scrap/lumber yard.
- Within the former Ashbridges Bay area, in the early twentieth century, fill was imported from off-Site sources to fill in the Bay. Indication on the quality of fill is unknown. The depth of fill across the study area site ranges to >7.6 metres below ground surface (mbgs) based on borehole records.

- Shallow groundwater flow at the study area is estimated to be highly influenced by the presence of fill materials across the site. Groundwater flow patterns are inferred to be generally southerly with influence from the Don River to a west and Lake Ontario to the south.
- The hydraulic conductivity of the fill materials and native sandy shallow materials are estimated to be high (10^{-6} metre per second [m/sec]), while the conductivity of the underlying native clayey silt till (10^{-9}) and bedrock is estimated to be lower (10^{-7} m/sec) (Terraprobe 2018).

Dillon identified a total of 221 onsite (120) and offsite (101) potentially contaminating activities (PCAs). Some examples of typical PCAs found within the Phase I Study Area include: fuel tanks, former manufacturing facilities, incinerators, auto salvage yards, dry cleaners, rail tracks and spurs, importation of fill material of unknown quality, dump sites, and industrial activities. The report includes details of the PCAs found.

The PCAs identified are considered to be contributing to 16 Areas of Potential Environmental Concern (APECs) in the study area. At least one APEC was identified for each municipal address within the study area.

Based on the results of the investigation, it is reasonable to assume that one or more contaminants may have affected land or water on, in, or under the study area. The development of a due diligence soil and groundwater sampling program (e.g., via a Phase II ESA) is recommended.

It is generally understood by Dillon that the properties conveying lands to the City will be required by the City to obtain an RSC which requires that the Sites are remediated, and/or a risk assessment is conducted and a Certificate of Property Use (CPU) indicating risk management measures (RMMs) for mitigating human health or ecological risks will be registered on title of the conveyed property. The City will need to abide by the conditions of the CPU during construction and long-term management of the SFA.

Prior to construction, a health and safety plan will be required. In addition, depending on the timing for the work, the new On-Site and Excess Soil Management Regulation (O. Reg. 406/19) will govern various aspects of on-site and excess soil management. Soils being imported to the SFA will need to meet the applicable site-specific property standards (as set out in the CPU, and/or

O. Reg. 406/19 following January 1, 2021), and City specifications, as confirmed in consultation with the City.

4.8.3.2 Geology

The Georgian Bay Formation underlies the Study Area. The formation consists of blue-grey shale with minor siltstone, sandstone and limestone interbeds. Upward in section, pale grey to cream, fossiliferous limestone and dolostone interbeds become more common. The Georgian Bay Formation is interpreted to represent a shallowing upward, storm-dominated shelf succession (City of Toronto, 2010). Construction excavations in downtown Toronto commonly intersect and expose this formation. The Georgian Bay Formation is part of a Palaeozoic sequence of Late Ordovician age. The Georgian Bay Formation is underlain by the Blue Mountain Formation. This entire sequence dips (slopes) gently to the south at 5 metres per kilometer (m/km) (City of Toronto, 2010).

4.8.3.3 Hydrogeology

The groundwater level in the study area is generally at the same level as the Lake Ontario water levels and possibly under the influence of the fluctuations in the lake water levels. The depth to the water table generally varies between 1 to 3 m below ground surface and is primarily in the fill material. The Lake Ontario water elevations may vary over any given year by approximately 0.5 to 1 m, subsequently resulting in groundwater level fluctuations within the Study Area (City of Toronto, 2010).

The regional groundwater discharges west and southwesterly towards the Inner Harbour and Ship Channel. Locally, groundwater flow may vary due to presence of subsurface utilities, anthropogenic influences and lake level fluctuations. The horizontal hydraulic groundwater gradient ranges locally from approximately 0.008 to 0.01 m (City of Toronto, 2010).

4.8.4 Fisheries and Aquatic Resources

Due to the lack of fisheries and aquatic resources, shoreline morphology and other factors, there are no fisheries and aquatic resources within the study area. However, the Don River is located on the western edge of the study area within the broader context study area.

Documentation of aquatic resources and fisheries in the Lower Don River near the study area have been documented in multiple recent reports including in the Broadview Avenue and Eastern Avenue Flood Protection EA, the TSMP EA and the Don Mouth Naturalization EA.

The design alternatives and preferred design for the Broadview Avenue Extension and the New East-West Street will not impact the Lower Don River. As such, further information on the aquatic environment is not detailed in this EA. Reference to previous reports is suggested for those interested.

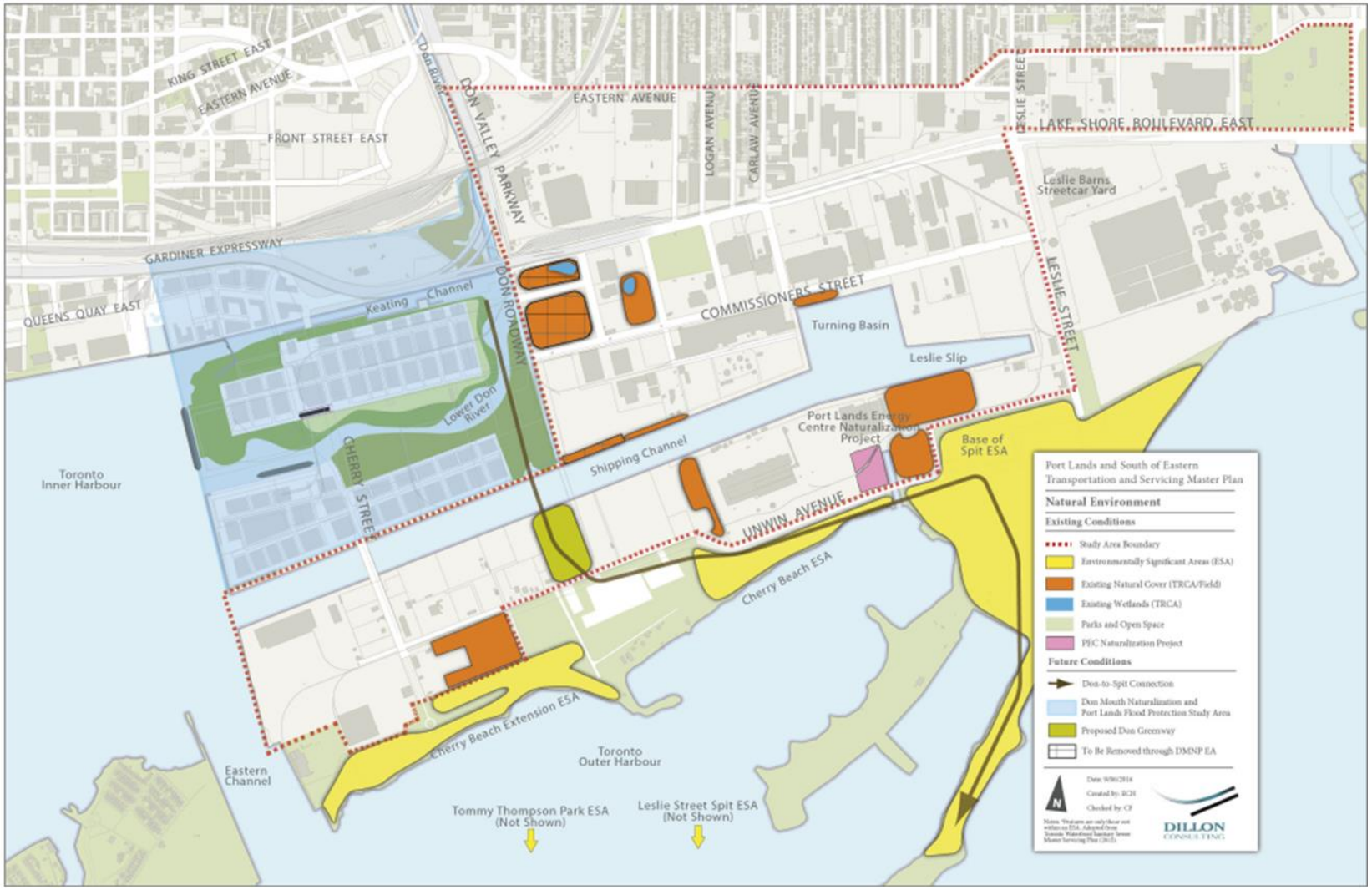
4.8.5 Terrestrial Habitat and Vegetation

The study area is within the eastern extension of the Carolinian floristic region (Ecoregion 7E), which is concentrated in southwestern Ontario and extends along the north shore of Lake Ontario. The Carolinian zone consists of a high proportion of Canada's endangered habitats and most of Ontario's rare or endangered species. The Carolinian floristic region reaches its northeasterly limit around Toronto, where it transitions to the Great Lakes – St. Lawrence Mixed Forest Zone (Ecoregion 6E), which extends north and east through Ontario and Quebec. Areas of transition between two ecoregions can support high biological diversity due to a broader range of environmental conditions (e.g. precipitation, soils) or ecological niches.

As documented in the TSMP, there are limited natural features in the South of Eastern area. As noted earlier, the area is heavily urbanized with employment uses. This is illustrated in **Figure 4.20** which shows the study area and the broader Port Lands.

Since completion of the TSMP, the area has not experienced improvements in natural spaces. In fact, the construction of the PLFPEI Project, components of the Gardiner East Reconfiguration and the Coxwell Sewer Bypass have further disrupted the area. It is expected that when all of the infrastructure projects are complete, the area will be re-naturalized with significant improvements in green space and terrestrial habitat as identified in the Lower Don Lands Master Plan EA, Don Mouth Naturalization EA, the TSMP and the Unilever Precinct Plan.

Figure 4.20 - TSMP Natural Features Mapping



For the purposes of the Broadview Avenue Extension EA a tree inventory study was completed to identify specific vegetation of interest to the EA. **Appendix C** includes a complete copy of the report. The tree inventory was conducted by an arborist certified by the International Society of Arboriculture (ISA). The Tree Inventory Study Area (TISA) consisted of the locations where the road alignments for the preferred solutions for the Broadview Avenue Extension and the New East-West Street would be located. These included locations at 30 Booth Street, Lake Shore Boulevard East and the Broadview Avenue and Eastern Avenue Intersection which are part of the street designs subject to Phase 3 and Phase 4 of the MECA Process.

The area inventoried consisted of the TISA, plus a 6 m approximate zone of influence. In accordance with the City's guidance document **Arborist Report for Development Applications**, the following trees were inventoried:

- Public trees of all sizes situated in the City-owned road ROW and other City-owned and/or publicly owned lands within 6 m of the estimated project limits and outside of RNF protected areas.
- Trees with diameters of 30 centimetres (cm) or more situated on private property or within 6 m the estimated project limits in the tree inventory assessment

No lands designated under City of Toronto Municipal Code, Chapter 658, RNF Protection within 12 m of the TISA limits were present.

The study found that the community of tree species within the TISA range from saplings to established mature specimens, with the majority (76%) being equal to or less than 20 cm diameter at breast height (DBH). In total, 139 trees were observed within or adjacent to the TISA. The detailed assessment information of trees inventoried within the TISA included in **Appendix C**.

A total of 29 species of trees were observed within the TISA. Of the 29 tree species observed, 8 species consisting of: Manitoba Maple (*Acer negundo*), Norway Maple (*Acer platanoides*), Tree-of-heaven (*Ailanthus altissima*), Bur Oak (*Quercus macrocarpa*), English Oak (*Quercus robur*), Northern Red Oak (*Quercus rubra*), American Basswood (*Tilia americana*) and Siberian Elm (*Ulmus pumila*) comprised 65% of all observations. Overall tree species

were evenly split between non-native species and native species.

With the exception of Kentucky Coffee-tree (*Gymnocladus dioicus*), tree species observed were either common native species in Ontario or non-native species frequently planted as landscape trees. Kentucky Coffee-tree is listed as Threatened in Ontario under the Endangered Species Act (ESA), 2007. As such, native stands of Kentucky Coffee-tree are protected under ESA.

The four trees observed within the Study Area were located within the gardens adjacent to the residential buildings located as 60 Broadveiw Ave. Based on their size and location, these individuals have been planted as this species is increasingly being planted as a street tree in many urban municipalities. Since these individuals are planted and occur outside of the historic range of the species, they would not be protected under the ESA.

Tree protection bylaws and federal legislation protecting migratory birds will be applicable to proposed works within the overall study area. These should be reviewed and consulted on with the City once the preferred design and associated construction plans are advanced further through detailed design.

4.8.6 Wildlife Resources and Linkages

Within the Study Area, potential wildlife habitat is restricted to successional features located within the small, isolated meadows and treed areas on decommissioned industrial sites, adjacent residential sites and on rights-of-way as previously described.

Based on the characteristics, maintenance and surrounding land uses of these areas they provide limited function as wildlife habitat and less function as linkage areas/corridors. Constructed features such as culverts, abandoned buildings, and concrete or fill piles may in some cases provide wildlife habitat (e.g., cover, nesting) for species that are well-adapted to urban environments.

Beyond the study area, areas of wildlife resources exist primarily in the Lower Don River corridor and in the five adjacent ESAs.

Further insights to wildlife resources and linkages can be found within Section 5.4.4 of the TSMP.

4.8.7 Noise

The existing noise conditions in the study area are typical of a highly urbanized environment. This includes noise from surrounding transportation corridors, including highways and rail lines, and the active commercial and employment uses in the study area. This summary of noise conditions was prepared using publically available data and site specific monitoring data, as available. Information was also obtained from a Noise and Air Quality Feasibility Study completed by Golder Associates Limited (Golder) on behalf of the City.

The City Noise By-law outlines various prohibitions and limitations on sound levels for some noise sources and procedures for obtaining an exemption. The City's Noise By-law also restricts the time of day during which construction can occur. Most existing noise in the study area is generated from traffic and industry operating in the South of Eastern area, Port Lands and immediate vicinity. Lands in the study area have noise characteristic of the “urban hum” which is the result of the "many unidentifiable noise sources due to the activities of people and primarily composed of road traffic related sound sources" as described in the MECP, Noise Pollution Control Guideline 300, 2013 (referred to as the NPC-300).

The Noise and Air Quality Feasibility Study completed by Golder utilized the NPC-300 as the basis for the analysis. Golder developed an acoustical model and assessed the impact of the existing noise environment in the Port Lands and South of Eastern vicinity. They assessed stationary, impulsive and transportation noise sources. They undertook a long-term continuous noise monitoring program and series of spot check noise measurements. In addition, they utilized previous acoustic assessments prepared for a number of industrial operations within or in the vicinity of the Port lands, including the Billy Bishop Airport, inputted traffic counts provided by the City of Toronto Traffic Safety Unit into the acoustical model, and completed a detailed noise assessment of the Lafarge Cement Terminal on Polson Quay.

The long-term continuous noise monitoring program assisted in understanding noise levels during both the day time and night time periods in the study area, with data logged for approximately one week, but was also used to calibrate the acoustic model. The attended spot check measurements were carried out at various locations around the existing industries and were likewise used to calibrate the model. The traffic counts assisted in determining existing road traffic noise sources.

Based on the Golder Noise and Air Quality Feasibility Study, stationary and impulsive noise sources and transportation noise sources were identified in the study area and dominate the existing noise conditions.

Stationary sources of noise refer to a sound that normally operates within a particular property. They include, among others, noise associated with industrial facilities, works yards and warehousing and truck terminal facilities. Impulsive sources of noise, other than Quasi Steady Impulsive Sound, likewise can occur within a particular property with sound level limits applying to the number of impulses that occur in a one-hour period. The existing activities in the South of Eastern Area and Port Lands contribute to the study area having a high ambient noise environment.

Transportation sources of noise include road, rail and aircraft traffic sources. The Noise and Air Quality Feasibility Study found that vehicles (cars and trucks) that use major transportation routes such as the Gardiner Expressway and DVP are more significant transportation noise sources in the study area during the daytime and night time periods. Existing noise levels within the vicinity of the Gardiner/Lake Shore and DVP corridors west of the Don River exceed the NPC-300's night-time sound level limits for receptors in the study area. This specifically applies to the residential and commercial properties near Broadview Avenue and Eastern Avenue.

4.8.8 Air Quality

Air quality in the study area is generally influenced by local sources from the city as well as long range transport of contaminants from other regions. The study area is located at the confluence of 2 major highways, 2 major arterials and one commuter rail line. This infrastructure heavily influences air quality locally. Air emission sources in the study area include industrial/commercial operations, as well as vehicular traffic. Receptors that may potentially be affected by the project are existing commercial, industrial and limited residential land uses north of Lake Shore Boulevard East.

The Noise and Air Quality Feasibility Study completed by Golder also assessed air quality within, and in the immediate vicinity of the study area. The Feasibility Study found that air quality in the area is generally consistent with air quality in other areas of the city. Overall, the largest source of emissions to background air quality is the major transportation links, in particular the Gardiner

Expressway and Don Valley Parkway. South of Lake shore Boulevard, in the Port Lands, some existing industrial operations were found to exceed the Ontario Ambient Air Quality Criteria with the introduction of sensitive uses in the area, and the presence of elevated plumes. These affect local air quality conditions.

Improving air quality across Toronto is a significant interest of the City and is a core focus of TransformTO and the Net Zero Strategy. Reducing greenhouse gases (GHGs) is critical to improving air quality. The Net Zero Strategy triggers new and accelerated implementation actions to drive down community-wide emissions and establishes the trajectory needed to reach net zero GHGs by 2040.

The Strategy identifies actions and targets to be achieved by 2030 in key sectors, including buildings, transportation and waste. Toronto's community-wide emissions must be cut in half in the next 10 years to meet the 2030 target of a 65 per cent emissions reduction.

The design alternatives for the Broadview Avenue Extension and the New East-West Street will take into account opportunities to support emissions reductions in the transportation sector through active transportation and transit.

4.9 Cultural Environment

This section provides a summary of the cultural environment within the study area including Indigenous knowledge and heritage, built heritage and cultural heritage landscapes and archeology.

A Stage 1 Archaeological investigation and a Build and Cultural Heritage report was completed for the broader Port Lands, with this section focusing only on the immediate Broadview Avenue Study Area. No significant heritage or archaeological features were identified within the immediate Study Area. Archaeological potential is not expected in the immediate Broadview Avenue Extension study area due to the deep and extensive historical disturbance.

The results of background historic research and a review of secondary source material, including historical mapping, revealed a study area (Figure 1-1) with

industrial land use history dating back to the late nineteenth century. Historically, the Study Area is located in the Former Township of York, York County in Lots 8-15, Broken Front Concession.

Before the existence of primarily industrial uses in an around the site, the area was likely home to First Nations populations, including the Mississaugas of the Credit most recently. The Huron-Wendat First Nation, Six Nations of the Grand River, and the Haudenosaunee Confederacy Chiefs Council is also known to have interest in the area.

4.9.1 Indigenous Knowledge and Heritage

The study area does not contain any First Nation reserves. However, archaeological evidence gathered in this area shows that people were likely living and hunting in the area as early as 10,000 years ago, making this one of the longest inhabited areas within the city.

The study area is within the Toronto Purchase (Treaty 13), an agreement made between the Crown and the Mississaugas of the Credit First Nation signed on September 23, 1787, and then renegotiated on August 1, 1805.

A provisional agreement was reached with the Crown on August 2, 1805, in which the Mississaugas ceded 70,784 acres of land bounded by the Toronto Purchase of 1787 in the east, the Brant Tract in the west, and a northern boundary that ran six miles back from the shoreline of Lake Ontario. The Mississaugas also reserved the sole right of fishing at the Credit River and were to retain a 1 mile strip of land on each of its banks, which became the Credit Indian Reserve. On September 5, 1806, the signing of Treaty 14 confirmed the Head of the Lake Purchase between the Mississaugas of the Credit and the Crown (Mississaugas of the Credit First Nation 2017). The Huron-Wendat First Nation, Six Nations of the Grand River, and the Haudenosaunee Confederacy Chiefs Council is also known to have interest in the area.

Further information is included in the Stage 1 Archaeological report included in **Appendix D**.

4.9.2 Cultural Heritage Landscapes and Built Heritage Resources

A Cultural Heritage Resource Assessment (CHRA) was completed for the study area. The purpose of the CHRA was to identify cultural heritage landscapes and/or built heritage resources within the study area. Both desktop data collection and fieldwork were undertaken. This CHRA considered cultural heritage resources in the context of improvements to specified areas, pursuant to the EA Act. The assessment addressed above ground cultural heritage resources over 40 years old.

The results of the desktop data collection and field review determined that there are 5 built and cultural heritage resources within the immediate study area. The cultural heritage landscapes are aligned with an industrial complex and are listed on the Toronto Heritage Register; however, none are designated under the *Ontario Heritage Act*.

Identified cultural heritage resources are historically, architecturally, and contextually associated with early twentieth century land use patterns, industrial processes, and historic industry and settlement in the Study Area.

The cultural heritage report is included in **Appendix E**. During detailed design, the report should be updated to confirm impacts on any heritage resources and identify any required mitigations or buffers.

4.9.3 Archaeology

A Stage 1 Archaeology Report was completed for the project. Through this work it was determined that the Study Area does not require Stage 2 Archaeological Assessment. This is due to documented deep and extensive land disturbance negating archaeological potential. The majority of the Study Area and the entire South of Eastern area do not require further archaeological assessment on account of deep and extensive land disturbance negating archaeological potential.

While the ASI desktop study determined the presence of three areas with Archaeological resources, all areas were south of the immediate Study Area. ASI conducted site reconnaissance and confirmed that the immediate Study Area was extensively disturbed, and historical records confirmed deep historical disturbance.

4.10 Utilities

The Study Area contains a range of utilities to service the existing largely employment uses as well as the residents in the South of Eastern area. The following sub-sections provide an overview of the utilities in the area based on data available at the time of the study.

4.10.1 Communications

Communications utilities are present in the Study Area. Communications infrastructure includes above ground poles and pedestals, and below ground vault and conduit networks for distribution. Communication utilities identified in the Study Area include Bell Canada, TELUS Canada, and Rogers Cable.

Bell Canada infrastructure is present along every right-of-way within the Study Area, while TELUS and Rogers infrastructure is dispersed in pockets within the Study Area. TELUS and Rogers have a large stretch of buried conduit along the eastern limit of the Study Area on Leslie Street, from Unwin Avenue to Eastern Avenue. The major stretch of TELUS conduit continues along Eastern Avenue before terminating along Heward Avenue.

Within the area surrounding the Basin Street Transformer Station, there is a Bell Canada conduit which runs from the Bouchette Avenue and Basin Street intersection up to the Bouchette and Commissioners Street intersection. From this intersection, the conduit splits to the east and west directions along Commissioners Road. In the west direction, the conduit continues and branches up Saulter Street before exiting the west limit of the Study Area. In the east direction, the conduit continues and is connected with multiple Bell Canada conduits throughout the Study Area.

4.10.2 Toronto Hydro

Toronto Hydro installs and maintains the electrical distribution networks that supply power to residents, businesses, street lights and traffic signals within the city including the Study Area. A majority of Toronto Hydro's infrastructure is buried along the rights-of-way in numerous conduits and underground vaults distributed across nearly all rights-of-way in the Study Area. There is a significant concentration of Toronto Hydro conduits and structures starting at Basin Street north of the transmission station, running north along the intersection of Bouchette Street and Commissioners Street.

On the southeast corner of the intersection of Bouchette Street and Commissioners Street, there are two large vaults from which multiple conduits branch out in the north, west and east directions. The conduits to the north terminate shortly after with two Toronto Hydro poles on either side of Bouchette Street just north of its intersection with Commissioners Street. The conduit continues to the west and branches up Saulter Street before exiting the west limit of the Study Area.

4.10.3 Hydro One Networks

Hydro One operates nearly all the electrical transmission stations and high voltage transmission lines within Ontario. Local distributors, including Toronto Hydro, obtain electricity from Ontario Power Generation through Hydro One's main transmission lines. Hydro One is present within the Study Area as is the Portlands Energy Centre (PEC), which is located along the southern limit of the Study Area near Unwin Avenue and Leslie Street.

The PEC generates approximately 25 percent of the City's power needs and supplies power to the area through Hydro One's overhead and underground infrastructure. There is a large overhead hydroelectric corridor with transmission wires that originate at the PEC, cross the Ship Channel to the north and enter the Basin Street transformer station. Hydro One power lines run north from the station along Bouchette Street and west along Commissioners Street before heading north along the Don Roadway.

These high voltage power lines are supported by large steel frame hydroelectric transmission towers contained within boulevard areas along Commissioners Street. Additionally, there are buried high voltage (115 kilovolt) Hydro One conduits that extend out from the PEC toward the northwest limit of the Study Area before crossing the Don River to a transformer station on the west bank of the river.

4.10.4 Enbridge Gas Distribution

Enbridge Gas Distribution (Enbridge) is the natural gas supplier that services the Study Area. Throughout the Port Lands there are a significant number of gas mains that range in size from 50 mm to 500 mm including high pressure distribution mains.

The PEC is a natural gas power generation plant which receives gas from Enbridge to supply its operation. A major gas pipeline exists between Enbridge's operations on Eastern Avenue and the PEC.

This gas line is approximately three kilometers long and runs east along Eastern Avenue, south along Booth Avenue, east along Lake Shore Boulevard East, south along Logan Avenue, west along Commissioners Street, south along Basin Street, east along Unwin Avenue and finally north to the PEC.

4.10.5 Other Pipelines

There are numerous pipelines throughout the lower Don Lands within the Study Area that may have served industrial tenants that no longer exist. Some of the pipelines that served these past tenants are now likely to be abandoned; however, their current status is unknown. It will be necessary to contact property owners within the area to determine their usage.

5.0 Broadview Avenue Extension: Developing & Evaluating Design Alternatives

Building upon the preferred solution identified for Broadview Avenue as part of Phase 2 in the TSMP, Phase 3 of the MCEA process includes identifying and evaluating design alternatives to arrive at a preferred design for the Broadview Avenue Extension. This chapter describes the Broadview Avenue Extension design alternatives and the outcomes of the evaluation.

Throughout the design development process, consultation with members of the Technical Advisory Committee (TAC), stakeholders, and landowners contributed to refinements in design alternatives to integrate plans for an expanded transit hub at East Harbour Station and reflect modifications to development plans in the Unilever Precinct.

5.1 Design Objectives

Broadview Avenue Extension is to be a signature street in this area of the city. The key design objective of the Broadview Avenue Extension is to create a signature civic spine to better connect the Port Lands to the surrounding city, and prioritize space for streetcars, pedestrians, and cyclists while providing essential vehicle access. This includes being both a complete street and a green street that has a vibrant public realm to support an active and attractive street. The green street elements proposed as part of the Broadview Avenue Extension (bioswales, rain gardens, planters), are not proposed to provide a minimum amount of water quality or quantity control. Storm sewers will be designed based on full sizing and will not be reduced based on any expectations in the performance of the green street components. The green street components will provide an opportunity for the City to monitor the potential of green street designs for water quality and quantity improvements that could, in future corridors, lead to downsizing of subsurface infrastructure to manage stormwater. Additionally, the vehicle lay-bys in all design alternatives may include permeable pavers to support improved surface water management.

Since the confirmation of the 35 m preferred solution in the TSMP, there have been additional key design considerations that have emerged that inform the design alternatives for the Broadview Avenue Extension.

Accommodating vehicle lay-bys within the boulevard on Broadview Avenue was identified in the TSMP. This will reduce the impacts of passenger vehicle ride-share services, accommodate goods delivery, WheelTrans accessibility, and film industry needs within the right-of-way. Since the completion of the TSMP, an updated design criteria to address accessibility and safety considerations for vehicle lay-bys in relation to cycle tracks, including integrating a minimum 0.8 m buffer between vehicle lay-bys and cycle track areas, was identified as a key consideration.

The requirements for sidewalk space along Broadview Avenue and the New East-West Street were increased in the Unilever Precinct Secondary Plan, building off of what was identified in the TSMP. Thus, protection of a minimum of 4 m of clear sidewalk space (not impeded by planters, seating or lighting) in order to support pedestrian movements and provide adequate space was added as a key consideration.

Additional consideration was also given to integrating designs for the East Harbour Transit Hub in consultation with Metrolinx. The Transit Hub has been significantly advanced since the completion of the TSMP and should inform the underpass design of the Broadview Avenue Extension.

In addition, since the completion of the TSMP, the City has developed Green Street Technical Guidelines, Complete Street Guidelines, and the Vision Zero 2.0 Road Safety Plan. These helped inform the development and refinement of design alternatives.

The primary design objectives informing the Broadview Avenue Extension design alternatives include:

- Refine the general alignment and right-of-way width from the TSMP at key locations (e.g., Eastern Avenue, rail underpass, Lake Shore Boulevard East) to satisfy functional TTC streetcar track geometry requirements, accommodate safe intersection operations, and achieve Vision Zero objectives for vulnerable users, while maintaining the view corridor to the Hearn Generating Station’s chimney stack;

- Provide space for a future dedicated streetcar right-of-way in the centre of the street and an integrated connection with the East Harbour Transit Hub;
- Develop alternatives that include wide sidewalks and dedicated cycling facilities to prioritize space for pedestrians and cyclists, given the level of intensification proposed as part of the proposed East Harbour TOC development;
- Achieve the vision for the signature green street preferred solution approved in the Port Lands and South of Eastern Transportation and Servicing Master Plan (TSMP);
- Achieve the streetscape (tree planting zone and pedestrian clearway) requirements set out in the Unilever Precinct Secondary Plan;
- Identify opportunities for vehicle lay-bys / on-street short term parking;
- Integrate the design alternatives with the East Harbour Transit Hub and outcomes of the Unilever Precinct redevelopment planning process in consultation with landowners; and
- Develop options that adhere to the City's Green Street, Complete Street, and Vision Zero 2.0 design principles in consultation with City staff.

Integration with surrounding projects that may be affected by the design of Broadview Avenue between Eastern Avenue and Lake Shore Boulevard East was also identified as an important objective. This includes integration with the Broadview and Eastern Flood Protection Project, the Gardiner East 30% design, and the Lake Shore Boulevard East Public Realm Design Project.

5.2 Design Alternatives

Based on the key design objectives, as well as the most recent City design guidelines and standards, the following were assumed to be constants for all design alternatives:

- A street centerline alignment consistent with the TSMP alignment;
- Dedicated transit guideway in the centre of the ROW with a 1.0 m median on one side of the ROW for streetcar catenary poles, and mountable curbs for emergency vehicles;
- One vehicular traffic through lane in each direction with 3.3 m lane widths;
- Raised and separated cycle tracks at sidewalk level on both sides of the street that generally achieve 2.0 m widths (and no less than 1.8 m widths in constrained locations);

- A minimum buffer distance between cycle tracks and sidewalk of 0.6 m;
- A minimum buffer distance between cycle tracks and vehicle travel lane of 0.6 m;
- A minimum buffer distance between cycle tracks and on-street vehicle lay-bys of 0.8 m; and
- Generous pedestrian sidewalks with a minimum clearway width of 4 m.

The variables considered in developing design alternatives focused on the design possibilities for the green street components, vehicle lay-bys, and configuration of cycle tracks.

The process followed to prepare the design alternatives included initial work by the technical consulting team to layout the design constants set out in the TSMP with a minimum 35 m right-of-way. The technical consulting team then identified different ways to achieve the green street vision and integrate vehicle lay-bys. Considerations were made to the effectiveness and efficiency of the designs.

The green street elements for consideration included planters, bioswales and raingardens. Different configurations of green street components were considered in each design alternative, including the size, location, length, and separation between elements.

Green street components such as bioswales and rain gardens were identified based on the area coverage and slopes needed to effectively carry and manage surface water. Options for tree planters were identified to achieve a large tree canopy supported by ample soil volumes.

For vehicle lay-bys, the size, location, and frequency of vehicle lay-bys was considered in the alternatives. Locations for vehicle lay-bys were identified based on how vehicle lay-bys may affect streetscaping, cycle tracks, intersection operations and transit operations. Final locations and lengths of vehicle lay-bys will be determined later through the detailed design process.

To inform the development of design alternatives, consultation input was sought from members of the TAC and landowners, including Metrolinx, TTC, Cadillac Fairview and Talisker. The resulting design alternatives were developed through engagement with key City Divisions, Agencies, and area stakeholders.

Design alternatives for the Broadview Avenue Extension had multiple sub-options depending on how pedestrian space, cycling space, green street space, vehicle lay-bys, and turning lanes were accommodated. To manage the wide range of sub-options and configurations possible, the process to develop the design alternatives focused on making some of the bigger decisions about the required right-of-way space and signature green street elements first before embarking on an analysis of turning lanes and specific intersection designs. The objective with this process was to first identify a preference for the signature green street layout and extents of the right-of-way. Intersection design related to turning movements and cycling space was then examined through a refinement process of the preferred design.

During early consultation for the development of design alternatives, landowners wanted to see options for Broadview Avenue that included more than one vehicle through lane. Interest was expressed to widen the right-of-way to accommodate more vehicle traffic through movements. The project team considered this and determined that the number of lanes along Broadview Avenue was assessed as part of the TSMP and it did not need to be revisited at this stage of the process.

Specifically, as part of Phase 2 of the MCEA process, the TSMP looked at multiple lane configurations including options with four through lanes (two northbound and two southbound lanes). Intersection design and turning lane design was left for the Phase 3 design work. The preferred configurations and extents of turning lanes have been developed through this study and are discussed in **Chapter 7.0** for the preferred design.

Based on the work completed for the TSMP, it is expected that 90% of future trips in the area will be made by people walking, cycling, or taking transit. Transit and active modes of transportation will be predominant in the area.

The City has completed consultation with the public, agencies, stakeholders and landowners regarding the design of the Broadview Avenue Extension. Details regarding the consultation process are provided in **Chapter 4.0**.

The following subsections describe the three design alternatives developed for the Broadview Avenue Extension. Design alternatives focused on the mid-block condition to be achieved between the rail embankment and New East-West Street. Once the preferred mid-block

condition is identified, the transition areas around intersections and the rail underpass can be designed to tie into the preferred design.

5.2.1 Design Alternative 1: Urban Boulevard (35 m ROW)

Alternative 1 introduces vehicle lay-bys into the design. Maintaining 35 m with vehicle lay-bys requires a trade-off with green street elements. There is not enough space to include vehicle lay-bys and green street components side by side on both sides of the street. As such, one side of the street can have vehicle lay-bys and the other side can have a green street component such as a bioswale or raingarden.

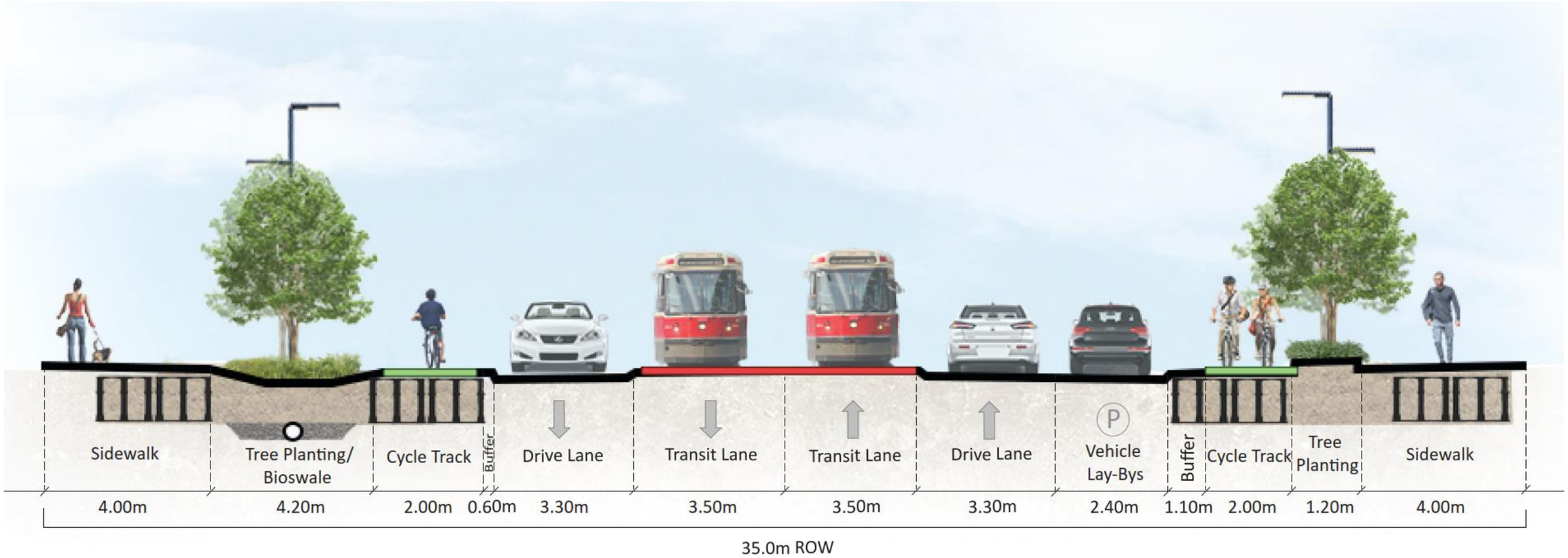
Figure 5.1 illustrates the typical mid-block cross-section for Alternative 1 with a 35 m right-of-way.

The figure shows the vehicle lay-bys on the east side of the street, which compromises the green street elements on that side in order to maintain a 35 m width overall.

The green street elements of bioswales or rain gardens can be implemented on the west side of the street without vehicle lay-bys. Both sides of the street include tree planters; however, the tree planters on the east side of the street are smaller and will not contain the same soil volume as those on the west side of the street.

In summary, for Alternative 1, each side of the street can either have vehicle lay-bys or bioswales/rain gardens. Having both components on each side of the street is not achievable in Alternative 1.

Figure 5.1 - Alternative 1 Urban Boulevard 35 Meters – Mid-Block Illustration

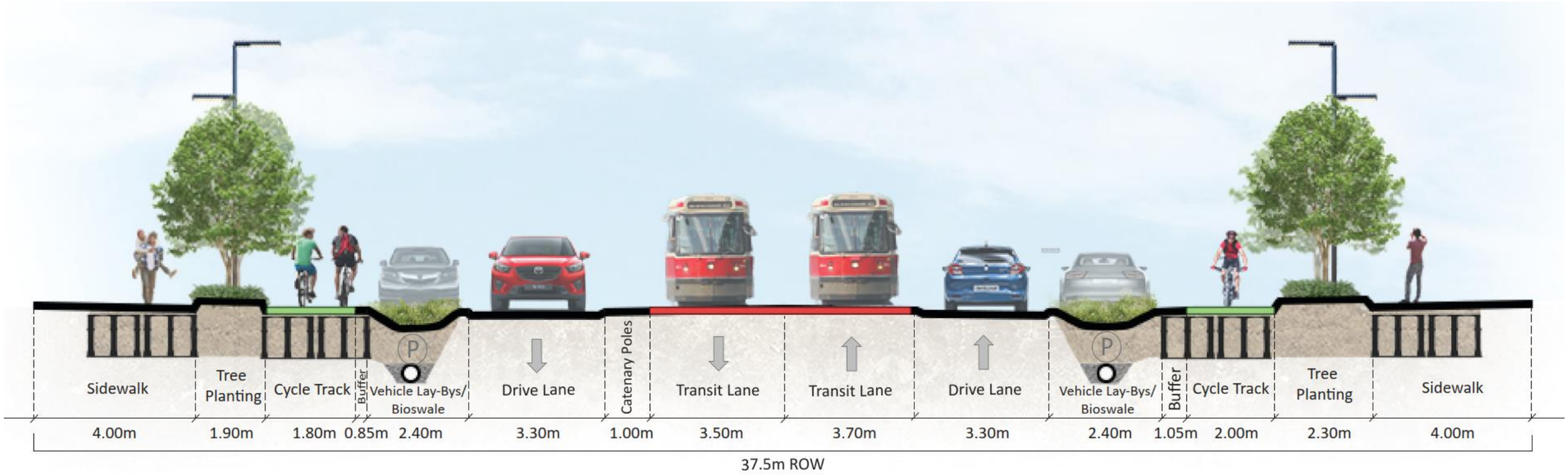


5.2.2 Design Alternative 2: Balanced Boulevard (37.5 m ROW)

Alternative 2 introduces vehicle lay-bys on both sides of the street and achieves the green street vision on both sides of the street. Alternative 2 includes bioswales on both sides of the street that are located between the cycle track and the vehicle through lane. The bioswales will capture road runoff directly and will also act as a buffer from cars for cyclists. Alternative 2 also provides large planters for trees that are separated from the bioswales. This will reduce the risk of over saturation in the tree planters, which can result in tree damage. This approach to planter design will support a large tree canopy on both sides of the street. The vehicle lay-bys are designed to be intermittent with the bioswales in order to avoid expanding the right-of-way further.

Figure 5.2 illustrates the mid-block cross-section for Alternative 2 with a 37.5 m right-of-way.

Figure 5.2 - Alternative 2 Balanced Boulevard 37.5 Meters - Mid-Block Illustration

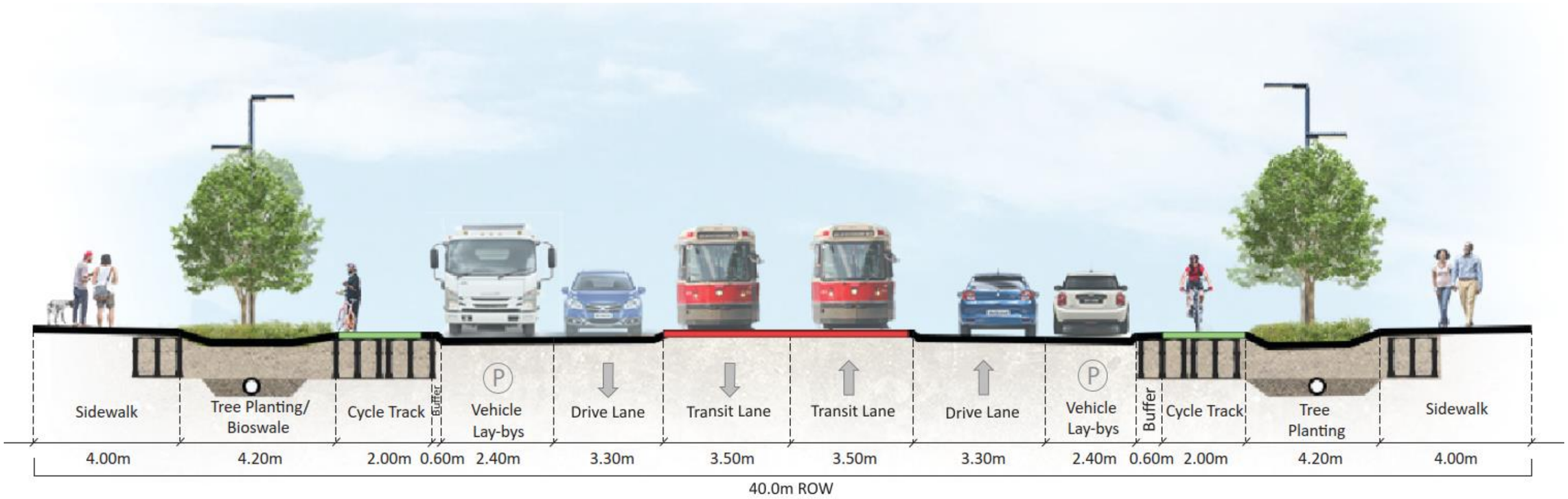


5.2.3 Design Alternative 3: Green Boulevard (40 m ROW)

Alternative 3 provides a wider 40 m right-of-way to achieve both the vehicle lay-bys and full green street infrastructure that would provide both quality and quantity control. This provides the maximum green street design to acknowledge water as a resource. This alternative would include the widest crossing distances for pedestrians. This alternative could be designed to locate the bioswales between the cycle tracks and through lanes in order to maximize the capture of surface water runoff from the roadway.

Figure 5.3 illustrates the mid-block cross-section for Alternative 3 with a 40 m right-of-way.

Figure 5.3 - Alternative 3 Green Boulevard 40 Meters - Mid-Block Illustration



5.3 Evaluating Design Alternatives

The assessment and evaluation of the design alternatives was based on an approach and set of evaluation criteria and measures that were developed by the project team in consultation with the TAC.

The draft criteria were presented to the TAC in conjunction with the review of the draft design alternatives. Comments received on the criteria were considered in their finalization. For each of the criteria, one or more measures were developed. The measures specify the data to be collected and/or the effects to be assessed for each criterion. The criteria and measures considered in the evaluation are organized on the basis of the design objectives outlined in **Section 5.1**. The design objectives were identified based on carrying forward objectives from the TSMP and adding or modifying these based on consultation input and updates to policies since the completion of the TSMP. Revisions were made to the objectives, criteria and measures from the TSMP to more specifically focus on the differences among the Broadview design alternatives. Key differences from the TSMP relate to Vision Zero, Complete Street and Green Street objectives that were informed by relevant City guidelines. The TSMP also covered a much broader area and more complicated network of transportation and servicing options related to the Master Plan. As such, not all TSMP objectives and criteria apply to the assessment of the Broadview Avenue Extension design alternatives. The following design objectives were used in the evaluation of the design alternatives for the Broadview Avenue Extension:

- Prioritize safety and accessibility;
- Develop an attractive destination with high-quality public realm;
- Enhance networks and connectivity;
- Support sustainability;
- Create an interesting and dynamic urban mix;
- Leverage assets; and
- Provide flexibility and certainty in implementation.

A comparative evaluation was completed to identify a preferred design for the Broadview Avenue Extension. To compare the advantages and disadvantages of the design alternatives, both construction effects and long-term operations effects were considered and assessed based on the criteria and measures. It is typical that in EA studies, there is not one design alternative that is

preferred for all the evaluation criteria. As such, when comparing among design alternatives, there are often trade-offs that need to be made to select the technically preferred design. This was the case with the Broadview Avenue Extension design alternatives. The preferred design was therefore determined by identifying which design alternative best supported the design objectives overall.

Alternative 1 scored high in 2 out of the 7 objectives, moderately high in 1 out of the 7 objectives, and moderately low in 4 out of the 7 objectives. This design alternative scored high in terms of enhancing networks and connectivity, and creating an interesting and dynamic urban mix, moderately high in leveraging assets, and moderately low in prioritizing safety and accessibility, developing an attractive destination with high-quality public realm, supporting sustainability, and providing flexibility and certainty in implementation.

Alternative 2 scored high in 6 out of the 7 objectives and moderately high in 1 out of the 7 objectives. This design alternative scored high in terms of prioritizing safety and accessibility, developing an attractive destination with high-quality public realm, enhancing networks and connectivity, creating an interesting and dynamic urban mix, leveraging assets, and providing flexibility and certainty in implementation, and moderately high in supporting sustainability.

Alternative 3 scored high in 4 out of the 7 objectives, moderately high in 2 out of the 7 objectives, and moderate in 1 out of 7 objectives. This design alternative scored high in terms of enhancing networks and connectivity, supporting sustainability, creating an interesting and dynamic urban mix, and leveraging assets, moderately high in prioritizing safety and accessibility, and developing an attractive destination with high-quality public realm, and moderate in providing flexibility and certainty in implementation.

Alternative 2 was chosen as the preferred design as it best supports the design objectives. This design would help create a signature civic spine to better connect the Port Lands to the surrounding city, and prioritize space for streetcars, pedestrians, and cyclists while providing essential vehicle access. **Table 5.1** presents the evaluation summary of the design alternatives and provides the objectives for the assessment. A more detailed evaluation table is included in the **Appendix F**.

Table 5.1 – Broadview Avenue Extension Evaluation Summary

Objectives	Alternative 1 Urban Boulevard (35 m ROW)	Alternative 2 Balanced Boulevard (37.5 m ROW)	Alternative 3 Green Boulevard (40 m ROW)
Prioritize safety and accessibility	Moderately low	High	Moderately High
Develop an attractive destination with high-quality public realm	Moderately low	High	Moderately High
Enhance networks and connectivity	High	High	High
Support sustainability	Moderately low	Moderately High	High
Create an interesting and dynamic urban mix	High	High	High
Leverage assets	Moderately High	High	High
Provide flexibility and certainty in implementation	Moderately low	High	Moderate
Overall		**Preferred**	

6.0 New East-West Street: Developing & Evaluating Design Alternatives

The design alternatives for the New East-West Street were developed and assessed following Phase 3 of the MCEA process. The starting point for developing design alternatives was the preferred solution identified for the East-West Street in Phase 2 of the TSMP. This chapter describes the New East-West Street design alternatives and the outcomes of the evaluation.

Throughout the design development process, consultation with members of the TAC, stakeholders and landowners contributed to refinements in design alternatives in order to reflect modifications to development plans in the Unilever Precinct.

6.1 Design Objectives

The New East-West Street will support the main street vision that was identified in the TSMP and further refined in the Unilever Precinct Plan. This includes designing a street with vibrant at-grade retail activity that prioritizes pedestrian space while providing essential vehicle access, including on-street parking in the form of short-term vehicle lay-bys.

The TSMP preferred solution for the New East-West Street consists of a 23 m right-of way with two lanes of vehicular through traffic, one in each direction. Intersections would have left-turning lanes and, at mid-block, there would be short-term parking on one side of the street. Building off of the TSMP preferred design solution, the Unilever Precinct Plan further refined the design objectives to enhance the pedestrian area. Recognizing the prominent retail function of the New East-West Street, an extended boulevard width was identified to allow for a generous retail spill-out zone.

The TSMP and Unilever Precinct Plan both include a consistent goal to achieve a large tree canopy with planters located throughout the length of New East-West Street.

Based on the TSMP and the Unilever Precinct Plan, the primary design objectives informing the New East-West Street design alternatives include:

- Achieve the vision for a vibrant retail oriented main street set out in the TSMP;
- Achieve the enhanced streetscape vision set out in the Unilever Precinct Secondary Plan which includes providing a greater area of 6.5 m (combined) for the tree planting zone and pedestrian clearway than identified in the TSMP;
- Provide space for on-street vehicle lay-bys to support land uses and film industry; and
- Develop options that adhere to the City's Cycling Design Principles set out in Toronto's Complete Streets Guidelines as well as the Vision Zero 2.0 design principles in consultation with City staff.

Integration with surrounding projects that may be affected by the design of Broadview Avenue and the New East-West Street between the Don Roadway and Booth Avenue was also identified as an important objective. This includes integration with the Gardiner East 30% design and ongoing plans for the design of Booth Avenue.

6.2 Design Alternatives

Based on the key design objectives, as well as the most recent City design guidelines and standards, the following were assumed to be constants for all design alternatives:

- One vehicular traffic through lane in each direction with 3.2 m lane widths;
- Integration of left-turn lanes at Broadview Avenue and at Booth Avenue;
- Raised and separated cycle tracks on both sides of the street that have 1.8 m widths;
- A minimum buffer distance between cycle tracks and sidewalk of 0.6 m;
- A minimum buffer distance between cycle tracks and vehicle lanes of 0.5 m;
- Generous pedestrian sidewalks;
- 6.5 m to be provided for the sidewalk and tree planting zone combined;
- Tree planters with a minimum width of 1.9 m; and
- Integration of vehicle lay-bys on one-side of the street mid-block.

In the development of the design alternatives, the width of the sidewalk and tree planting zones were kept constant with what was specified as part of the Unilever Precinct Plan. This combined with a 1.8 m cycle tracks on both sides of the road, resulted in the variation in the design alternatives occurring within the roadway area; specifically, the location and accommodation of left-turn lanes and vehicle lay-bys.

Initial work by the technical consulting team included laying out the initial design elements from the TSMP within a 23 m right-of-way. It was determined that a minimum cross-section of 24 m would be required to meet the vision and objectives of the TSMP and also accommodate the 6.5 m pedestrian and tree planting area set out in the Unilever Precinct Plan. Therefore, to begin drafting design alternatives for the New East-West Street, Alternative 1 started with a 24 m right-of-way. The technical consulting team then identified different ways to achieve the main street vision and integrate left turn lanes and vehicle lay-bys. The effects of different design configurations on the character of the street were considered.

Consultation input was also sought from members of key City Divisions, the TAC, area landowners and CreateTO.

During early consultation for the development of design alternatives, landowners wanted to see options for the New East-West Street that included more than one vehicle through lane in each direction. Interest was expressed to widen the right-of-way to accommodate more vehicle traffic through movements. This is similar to the questions raised about the number of through lanes in the Broadview design alternatives. As with the Broadview Avenue Extension, the project team considered this and determined that the TSMP did that analysis previously and it should not be revisited at this stage of the process. The number of lanes were determined in Phase 2 of the MCEA study process. Intersection design and left turn lane design was left for the Phase 3 design work. The preferred configurations and extents of turning lanes have been developed through this study and are discussed below in the subsequent sections of **Chapter 7.0**.

The following subsections describe the three design alternatives developed for the New East-West Street. The alignment and footprint of all alternatives falls predominantly within the private property of a single landowner for the East Harbour development area. Connections at the Don Roadway and Booth Avenue fall within municipal property boundaries for these rights-of-way.

6.2.1 Alternative 1: 24 m ROW

Alternative 1 provides a 24 m right-of-way width and does not include vehicle lay-bys in order to protect the necessary 6.5 m of space for tree planting and sidewalks as well as maintain a narrower right-of-way. Left turn lanes are accommodated at Broadview Avenue and Booth Avenue only. This alternative includes one traffic lane in each direction, raised and separated cycle tracks on both sides of the street and wide sidewalks on both sides of the street. This design alternative meets the sidewalk and tree planting area dimensions set out in the Unilever Precinct Plan.

Figure 6.1 illustrates the mid-block cross-section for Alternative 1.

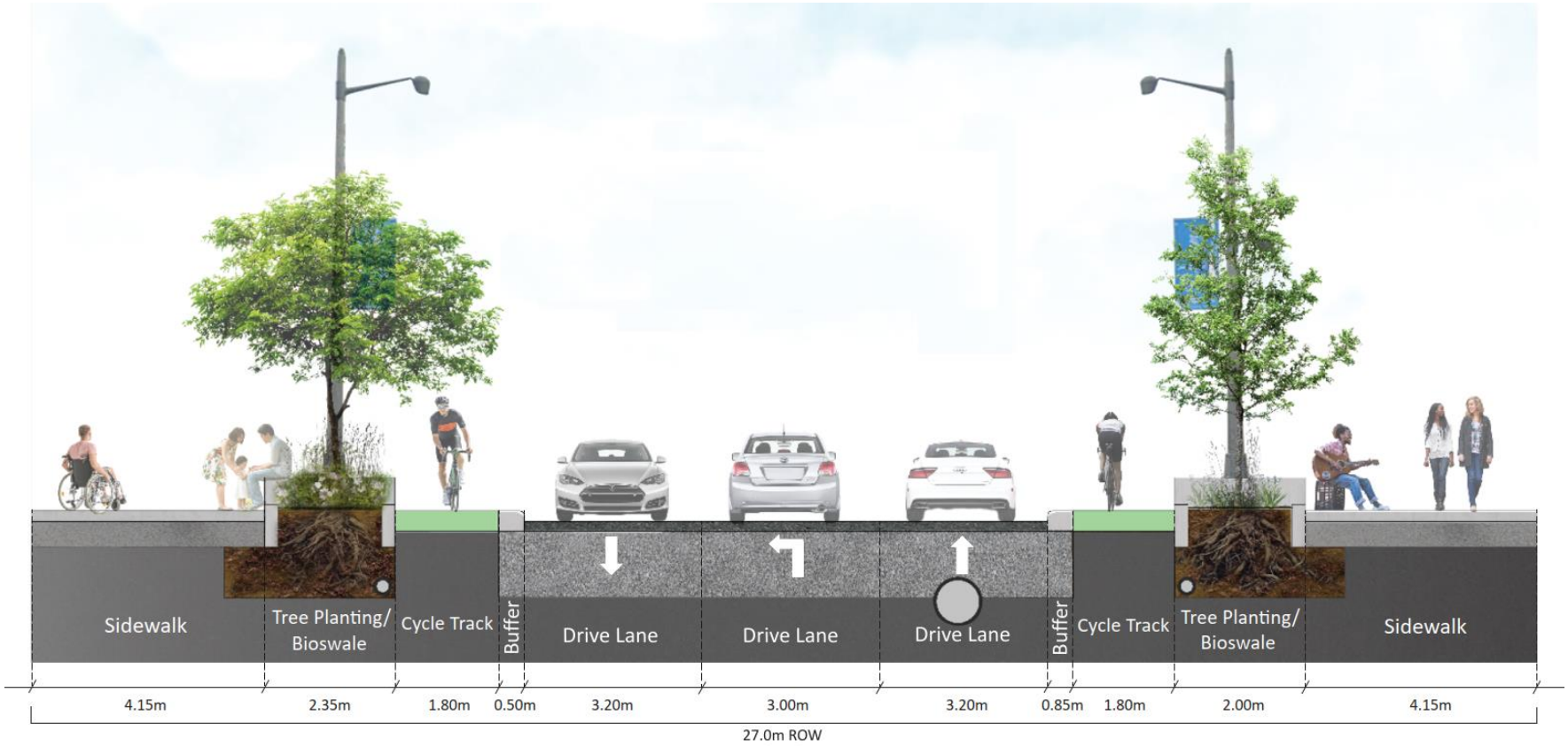
Figure 6.1 - Alternative 1 24 m ROW– Mid-Block Cross-section

6.2.2 Alternative 2: 27 m ROW

Alternative 2 provides a 27 m right-of-way width and does not include vehicle lay-bys in order to protect the necessary 6.5 m of space for tree planting and sidewalks as well as maintain a narrower right-of-way. Left-turn lanes are accommodated at all local north-south streets. Similar to Alternative 1, this alternative includes one traffic lane in each direction, raised and separated cycle tracks on both sides of the street and wide sidewalks on both sides of the street. This design alternative meets the sidewalk and tree planting area dimensions set out in the Unilever Precinct Plan.

Figure 6.2 illustrates the mid-block cross-section for Alternative 2.

Figure 6.2 - Alternative 2 (27 m ROW) – Mid-Block Cross-section

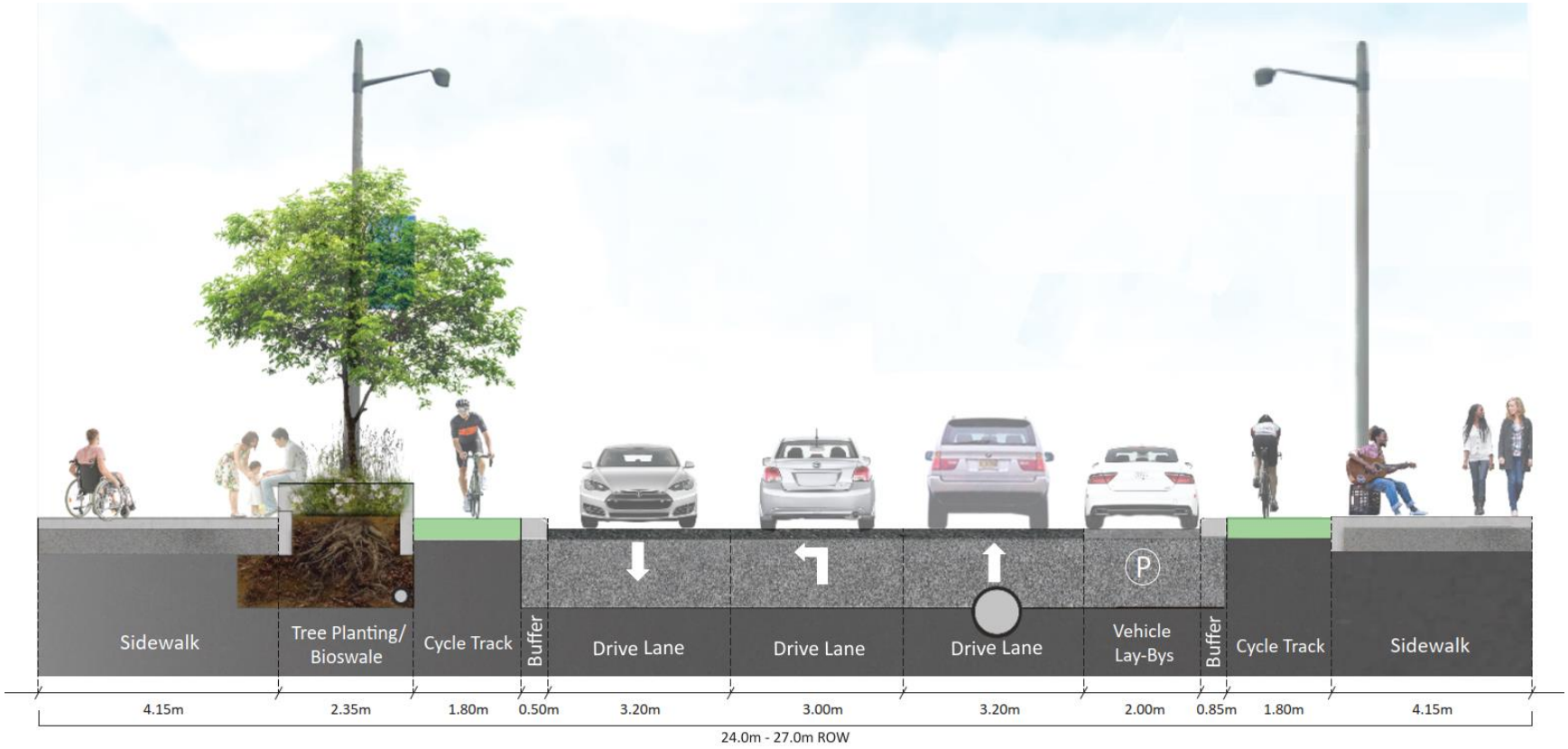


6.2.3 Alternative 3: 24 m-27 m ROW

Alternative 3 provides a flexible right-of-way design with vehicle lay-bys on one side, reduced space for tree planting and a left-turn lane at one local north-south street. Similar to Alternatives 1 and 2, this alternative includes one traffic lane in each direction, raised and separated cycle tracks on both sides of the street and wide sidewalks on both sides of the street. The right-of-way for Alternative 3 would be 27 m when there is a left turn lane and 24 m mid-block along the corridor when there is no left-turn lane. Tree planters are reduced for sections of the corridor with vehicle lay-bys. This maintains a more intimate pedestrian-oriented scale to the street rather than widening the right-of-way to accommodate all elements in a single section. The exact locations and extents of vehicle lay-bys and left-turn lanes would be confirmed in the detailed design phase.

Figure 6.3 illustrates the mid-block cross-section for Alternative 3.

Figure 6.3 - Alternative 3 (24 m-27 m ROW) – Mid-Block Cross-section



6.3 Evaluating Design Alternatives

During the process to create the design alternatives, the project team met with members of the TAC as well as landowners. During these meetings, the process and approach for the evaluation of the alternatives was discussed. The following feedback was received and used to complete the evaluation:

- Include criteria to address safety of vulnerable road users including reducing potential conflict points;
- Where appropriate, carry forward criteria from the TSMP evaluation framework;
- Include balanced criteria for all modes of transportation;
- Include criteria to assess on-street parking/vehicle lay-bys;
- Include criteria to assess adding left-turn lanes at side streets (all options include left turn lanes at Broadview Avenue and at Booth Avenue as a minimum requirement); and
- Consider equity in the evaluation where possible.

The assessment and evaluation of the design alternatives were based on an approach and set of evaluation criteria and measures that were developed by the project team through consultation with the TAC and stakeholders. This is the same process that was followed for the Broadview Avenue Extension design alternatives evaluation.

The draft criteria were presented to the TAC in conjunction with the review of the draft design alternatives. Comments received on the criteria were considered in their finalization. For each of the criteria, one or more measures were developed. The measures specify the data to be collected and/or the effects to be assessed for each criterion. The measures specify the data to be collected and/or the effects to be assessed for each criterion. The criteria and measures considered in the evaluation are organized on the basis of the design objectives outlined in **Section 6.1**. The design objectives were identified based on carrying forward objectives from the TSMP and adding or modifying these based on consultation input and updates to policies since the completion of the TSMP. Revisions were made to the objectives, criteria and measures from the TSMP to more specifically focus on the differences among the New East-West Street design alternatives. Key differences from the TSMP relate to Vision Zero and Complete Street objectives that were informed by relevant City guidelines.

Similar to the Broadview Avenue Extension, a comparative evaluation was completed to identify a preferred design for the New East-West Street. To compare the advantages and disadvantages of the design alternatives, both construction effects and long-term operations effects were considered and assessed based on the criteria and measures. It is typical that in EA studies, there is not one design alternative that is preferred for all the evaluation criteria. As such, when comparing among design alternatives, there are often trade-offs that need to be made to select the technically preferred design. This was the case with the New East-West Street design alternatives. The preferred design was therefore determined by identifying which design alternative best supported the design objectives overall.

Alternative 1 scored high in 4 out of the 7 objectives, moderate in 1 out of the 7 objectives, and moderately low in 2 out of the 7 objectives. This design alternative scored high in terms of prioritizing safety and accessibility, developing an attractive destination with high-quality public realm, supporting sustainability, and leveraging assets, moderate in creating an interesting and dynamic urban mix, and moderately low in enhancing networks and connectivity, and providing flexibility and certainty in implementation.

Alternative 2 scored high in 4 out of the 7 objectives moderate in 2 out of the 7 objectives, and moderately low in 1 of the 7 objectives. This design alternative scored high in terms of prioritizing safety and accessibility, developing an attractive destination with high-quality public realm, supporting sustainability, and leveraging assets, moderate in enhancing networks and connectivity, and creating an interesting and dynamic urban mix, and moderately low in providing flexibility and certainty in implementation.

Alternative 3 scored high in 5 out of the 7 objectives, moderately high in 1 out of the 7 objectives, and moderate in 1 out of 7 objectives. This design alternative scored high in terms of prioritizing safety and accessibility, enhancing networks and connectivity, creating an interesting and dynamic urban mix, leveraging assets, and providing flexibility and certainty in implementation, moderately high in developing an attractive destination with high-quality public realm, and moderate in supporting sustainability.

Alternative 3 was chosen as the preferred design as it best supports the design objectives. This design would support the main street vision from the Unilever Precinct Plan with vibrant at-grade retail activity and prioritize space for pedestrians and cyclists, while providing essential vehicle access.

Table 6.1 presents the evaluation summary of the design alternatives and provides the objectives for the assessment. A more detailed evaluation table is included in the **Appendix F**.

Table 6.1 - New East-West Street Evaluation Summary

Objective	Alternative 1 24 m ROW	Alternative 2 24 m-27 m ROW	Alternative 3 24 m-27 m ROW
Prioritize safety and accessibility	High	High	High
Develop an attractive destination with high-quality public realm	High	High	Moderately High
Enhance networks and connectivity	Moderately Low	Moderate	High
Support sustainability	High	High	Moderate
Create an interesting and dynamic urban mix	Moderate	Moderate	High
Leverage assets	High	High	High
Provide flexibility and certainty in implementation	Moderately Low	Moderately Low	High
Overall Evaluation			**Preferred**

7.0 Broadview Avenue Extension: Preferred Design Alternative

Based on the evaluation of the design alternatives, as detailed in **Chapter 5.0**, the **Alternative 2 - Balanced Boulevard** with a typical mid-block 37.5 m right-of-way was selected as the preferred design alternative for the Broadview Avenue Extension, between Eastern Avenue and Lake Shore Boulevard East.

Additional refinements have been undertaken to identify the preferred configuration for turning lanes at the relevant intersections, intersection designs that achieve safety requirements and limit potential conflicts for vulnerable road users, and intersection approaches where cycling facilities will intersect. These refinements take into consideration consultation with major area stakeholders.

It is recognized that additional work will be required, particularly with respect to design elements that must be coordinated with other area projects, services, and agencies. This includes continued coordination with Metrolinx and Cadillac Fairview for integration of Broadview Avenue with the East Harbour Transit Hub and elements of the TOC Development, and coordination of the Lake Shore Boulevard East and Broadview Avenue intersection with the Lake Shore Boulevard East Public Realm design team.

7.1 Key Design Elements

The recommended alignment and cross section elements will achieve the urban design vision for Broadview Avenue, which envisions Broadview Avenue as a signature civic spine for the area, a gateway to the Port Lands and waterfront areas, and as a green street with a large tree canopy and bioswales to help manage and filter stormwater runoff.

To achieve the key design objectives and preferred design identified for Broadview Avenue, the following key design elements have been included in the overall recommended design for the Broadview Avenue Extension.

7.1.1 Civic Spine of the Unilever Precinct

The Broadview Avenue Extension constitutes one of the most important corridors within the Unilever Precinct, a vital north-south link connecting with the rest of the city.

Identified as a primary street, Broadview Avenue will provide civic purpose and commercial importance to the community. The Broadview Avenue Extension will also provide an animated commercial frontage to the podiums of the buildings along this corridor and provide secondary connections to the dynamic internal public spaces and plazas planned for the East Harbour TOC.

7.1.1.1 Essence and Quality of the Urban Experience

Broadview Avenue will exhibit a heightened quality of space in the City, following the design excellence expected of City of Toronto, Waterfront Toronto and Metrolinx.

Thinking about how the space between the curb to the building edge accommodates pedestrians and commuters is important for Broadview Avenue to create a flexible streetscape environment. This space is needed to accommodate ground floor exterior space needs on a year-round, or seasonal, basis.

A gateway experience, one that is memorable to the Unilever Precinct, shall be provided. Each of the major streets leading to the water's edge plays a unique experience in getting to the shoreline. While the focus of this EA is on the portion of Broadview Avenue that will extend from Eastern Avenue to Lake Shore Boulevard East, it is understood that Broadview Avenue will ultimately extend south of Lake Shore Boulevard to Unwin Avenue, as will be undertaken through a separate MCEA study. Thus, Broadview Avenue will serve as an important gateway to the Port Lands and Waterfront areas.

7.1.1.2 Theming

It is important that the Broadview Avenue Extension be defined as a unique streetscape destination within the City of Toronto. Specific theming will be incorporated into the design as a way of promoting the street as the civic spine of the Unilever Precinct and as a gateway for the Port Lands and Waterfront. Theming will be physically incorporated into the streetscape design through elements such as pavers, planters, and street furnishings. Furthermore, theming will also be incorporated into public art opportunities along the corridor. Ideas for specific themes could include the industrial heritage of the site, the site's natural heritage, as well as the street's identity as a green street.

7.1.1.3 Integration of Street Furnishings

Street furnishing along the Broadview Avenue Extension will support a signature design for the area that would reinforce the street's placemaking potential. This approach will see the same materiality and theming flow throughout the space. Consistent materials will be used in planters, benches, garbage receptacles, bike racks, and other street furniture elements. The design of street furnishings will provide a consolidated approach utilizing planter walls for seating opportunities alongside the integration of paving, planting, and lighting. The paving approach allows for the introduction of integrated planters or site furnishings that would flow seamlessly into the streetscape.

7.1.2 Pedestrian & Cyclist Priority

The Broadview Avenue Extension will be pedestrian centric. Focusing the right-of-way to be pedestrian oriented streetscape is critical. Similarly, environmental considerations should be designed to promote pedestrian comfort throughout the year.

The Broadview Avenue Extension will also support a seamless cycling network to create priority for cycling movement and mitigate conflict between modes. It is important that the Broadview Avenue Extension will provide a safe environment through the integration of space for cyclists to dismount and the smart organization of transportation modes.

7.1.3 Transit Priority

Alongside the emphasis on active transportation and pedestrian importance, it is also important to recognize that the streetscape will be anchored to a major transit plaza and will reflect significant investment in surface transit priority along the corridor itself through the provision of a dedicated transit right-of-way. The streetscape will need to offer safe and regular crossing points across bike lanes and vehicular lanes for pedestrians to access transit vehicles. Signalized intersections should also provide transit signal priority for buses and streetcar vehicles in the transit right-of-way.

7.1.4 Supporting Vehicular Movement

The streetscape will always take into consideration the need for private vehicular movement; however, the overall environment will create a streetscape that discourages the need for through-traffic and that will focus on the needs of immediate users and residents.

Alternative modes will continue to be prioritized in order to reduce overall car ownership and congestion.

7.1.5 Signature Green Street

From the outset, the Broadview Avenue Extension presented a unique opportunity to rethink the role and expectations of a complete street and green street design in the City. Located a few hundred metres from the Don River, Broadview Avenue plays an important role as an example of parallel infrastructure in this part of the City. The extension has the ability to acknowledge and contribute to the ongoing discourse towards sustainable design practices and climate change adaptation. Therefore, it is the objective of this design to raise the current bar in streetscape design and construction, in order to create a green street in the city.

7.1.5.1 Street Tree Planting Approach

Street trees will be an integral part of the character of the Broadview Avenue Extension. Trees must be regarded as an investment into building a better urban forest and tree canopy, contributing to carbon sequestration, inducing micro-climatic conditions, and creating an identifiably healthy urban environment. Aesthetically and functionally, trees will be placed at regular intervals (8 to 9 m) in accordance with the T-CIP Series plans in order to achieve a strong, clear tree canopy and identity for the space as well as climate control regulation through shading.

7.1.5.2 Structural Soil Cells Systems

All street trees for the Broadview Avenue Extension will be planted with soil cells where adequate soil volumes are not possible. Structural soil cells are rigid modular systems that increase soil volume under paved surfaces. They include lightly compacted soils which retain pockets of air and water that are essential to healthy root growth. Following the Toronto Green Streets Technical Guidelines and City of Toronto guidelines regarding soil volumes, the soil cells included within the Broadview Avenue Extension will strive to achieve the maximal amount of soil volume to support street trees along the corridor.

7.1.5.3 Street Tree Species

Tree species planned for the Broadview Avenue Extension will be specifically selected so that they thrive in their environment while providing shading and enhancing the pedestrian experience. Street trees will be chosen using the **Toronto Street Tree Guide**. Tree selection will provide a variety of native Ontario species

and avoid creating a monoculture. Through detailed design and the planting plan, species will also be selected to respond to shade tolerance, reflective and indirect light susceptibility, potential height and obstruction considerations and aesthetic/flowering seasonal potential.

7.1.6 Horizontal Alignment

The Broadview Avenue Extension will operate in a predominantly north-south direction, with a moderate curve just north of the rail corridor to accommodate transition from the existing Broadview Avenue alignment north of Eastern Avenue. As noted in **Chapter 5.0**, the TSMP preferred alignment of the Broadview Avenue Extension included a centreline alignment with the Hearn Plant Stack to create a view corridor with the stack, a designated heritage resource. The recommended alignment for the Broadview Avenue Extension maintains this centreline alignment with the Hearn Plant Stack. The recommended alignment identified in the TSMP was slightly adjusted south of Commissioners Street to accommodate streetcars.

The alignment for the Broadview Avenue Extension will extend south from Eastern Avenue to Lake Shore Boulevard East. South of Eastern Avenue the alignment of Broadview Avenue integrates a spiral curve to the centreline of the transit right-of-way in accordance with TTC track design guidelines. The recommended alignment will intersect with the East Harbour Transit Hub, requiring an underpass at this location to accommodate the Transit Hub and drainage requirements for the area. Details of the underpass are provided in **Section 7.2.2.**

Continuing south, the Broadview Avenue Extension will intersect with proposed Local Street “A”, which will be delivered as part of the East Harbour Development Application being undertaken by others and is planned to extend from Broadview Avenue to the east only, creating a three-legged intersection.

Next, the Broadview Avenue Extension will intersect with the New East-West Street being delivered as part of this EA and the subsequent detailed design process. The New East-West Street will cross Broadview Avenue, creating a four-legged intersection, and will operate between The Don Roadway and Booth Avenue at a 72-degree angle. On-street cycling facilities are planned for the New East-

West Street, which will intersect with the facilities included in the recommended design for the Broadview Avenue Extension. This intersection will be designed as a protected intersection which is outlined in more detail in **Section 7.1.9**.

The terminus of the recommended design for the Broadview Avenue Extension will be the intersection with Lake Shore Boulevard East. Broadview Avenue will intersect Lake Shore Boulevard East at a 70-degree angle to safely accommodate the intersection of cycling facilities along Lake Shore Boulevard East and Broadview Avenue. The recommended design for Broadview Avenue will not preclude the extension of Broadview Avenue further south in the future as the area continues to develop. It is understood that the City intends to determine the design for Broadview Avenue south of Lake Shore Boulevard East through a future MCEA study. This intersection will also be designed as a protected intersection which is outlined in more detail in **Section 7.1.9**.

7.1.7 Preliminary Vertical Alignment

A preliminary vertical alignment for Broadview was determined based on the recommended design speed, understanding of drainage requirements, the requirements of the recommended bioswale elements, and through coordination with the East Harbour Transit Hub and Station design.

The Broadview Avenue Extension is proposed to have a minimum K value of 8 for the sag and crest curves, which satisfies the desired design and posted speed of 30 km/h. The design and posted speed was selected to help meet the key objective of prioritizing pedestrians and cyclists safety, while still providing essential vehicle access.

A minimum slope of 0.5% and a maximum slope of 2% has also been identified to accommodate the recommended bioswale elements. The maximum slope along Broadview is planned to occur in the approach to the underpass where it reaches 2.68% while the road travels under the rail corridor.

7.1.8 Typical Cross Sections

The typical cross-section for Broadview Avenue associated with the preferred design (Alternative 2) through the vehicle lay-by and through the bioswale is shown in **Figure 7.1** and **Figure 7.2**, respectively. This cross-section provides a right-of-way width of 37.5 m. Actual dimensions of some street features described below, such as cycle track width, tree planting areas and bioswales, may be refined and adjusted at detailed design provided the general design intent is maintained.

As will be discussed further below, some sections of Broadview Avenue require additional right-of-way width to accommodate required design features. These expansions to the right-of-way are in line with those permitted under the **City of Toronto Official Plan Chapter 2.2, Policy 5 b)**. The right-of-way width for the typical cross-section will be 37.5 m, with a widened right-of-way in three locations:

- At the intersection with the East Harbour Transit Hub to accommodate a transit stop and streetcar platforms within the right-of-way;
- At the New East-West Street to accommodate dedicated southbound and northbound right-turn lanes; and
- On approach to Lake Shore Boulevard East to accommodate dedicated southbound left and right-turn lanes.

There is also one segment where a 37.5 m right-of-way is not achievable, specifically the section between Eastern Avenue and the rail corridor. This segment will accommodate the transition to the existing Broadview Avenue condition between Eastern Avenue and Queen Street East, which currently exists as an approximate 20 m right-of-way with a recommendation and pending a Council directed Official Plan Amendment to increase the right-of-way width to 23 m, with the additional right-of-way widening entirely on the east side of Broadview Avenue between Eastern Avenue and Queen Street East.

The following cross-section elements are consistent across the entire Broadview Avenue Extension:

- One 3.3 m traffic lane in each direction to accommodate the City's minimum lane width requirements for vehicle traffic as well as potential TTC bus service and emergency vehicles;

- A minimum 7.2 m dedicated transit right-of-way in the centre of the street to accommodate bi-directional streetcar service (includes a minimum 3.5 m southbound and 3.7m northbound lane) plus a 1.0 m strip to accommodate the streetcar catenary poles on one side;
- Raised and separated cycle tracks with a minimum width of 2.0 m where possible and no less than 1.8 m plus a buffer where the cycle track is adjacent to the sidewalk and/or the traffic lane;
- Wide sidewalks at a minimum of 4.0 m on either side of the street as per the Unilever Precinct Secondary Plan; and
- Street Trees on both sides of the road

The typical cross-section for the Broadview Avenue Extension will meet the design objectives of prioritizing space, safety, and accessibility for pedestrians and cyclists while simultaneously balancing accommodation of green street elements via bioswales and street trees and short-term parking and loading vehicle access via vehicle lay-bys for the adjacent development blocks. The traffic lanes will be a minimum width of 3.3 m wide to accommodate potential TTC bus service (e.g. replacement bus service) and emergency vehicles while still minimizing the space dedicated to personal vehicles along the corridor.

Figure 7.1 - Recommended Broadview Avenue Extension Typical Mid-Block Cross-Section Through the Vehicle Lay-By

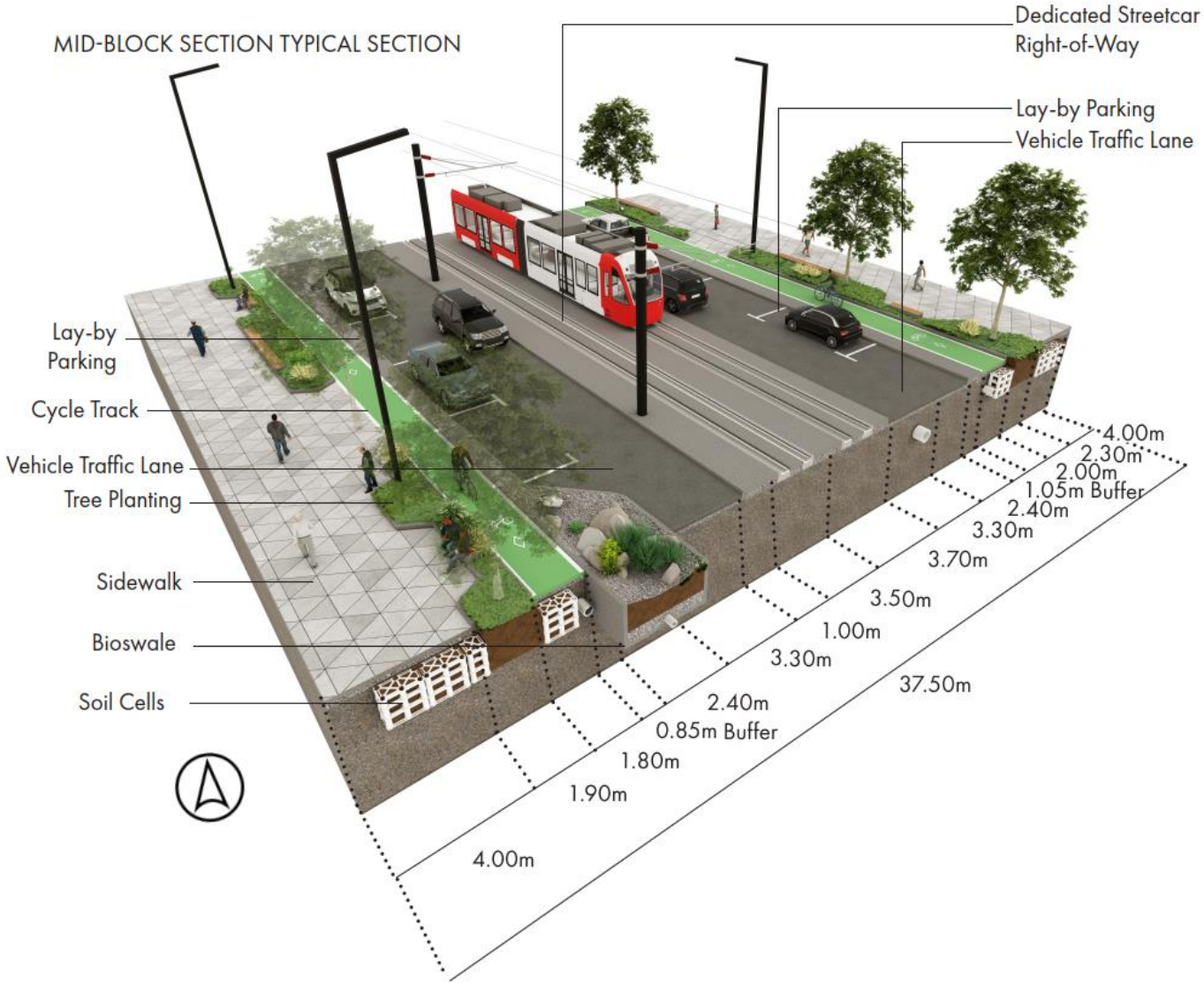
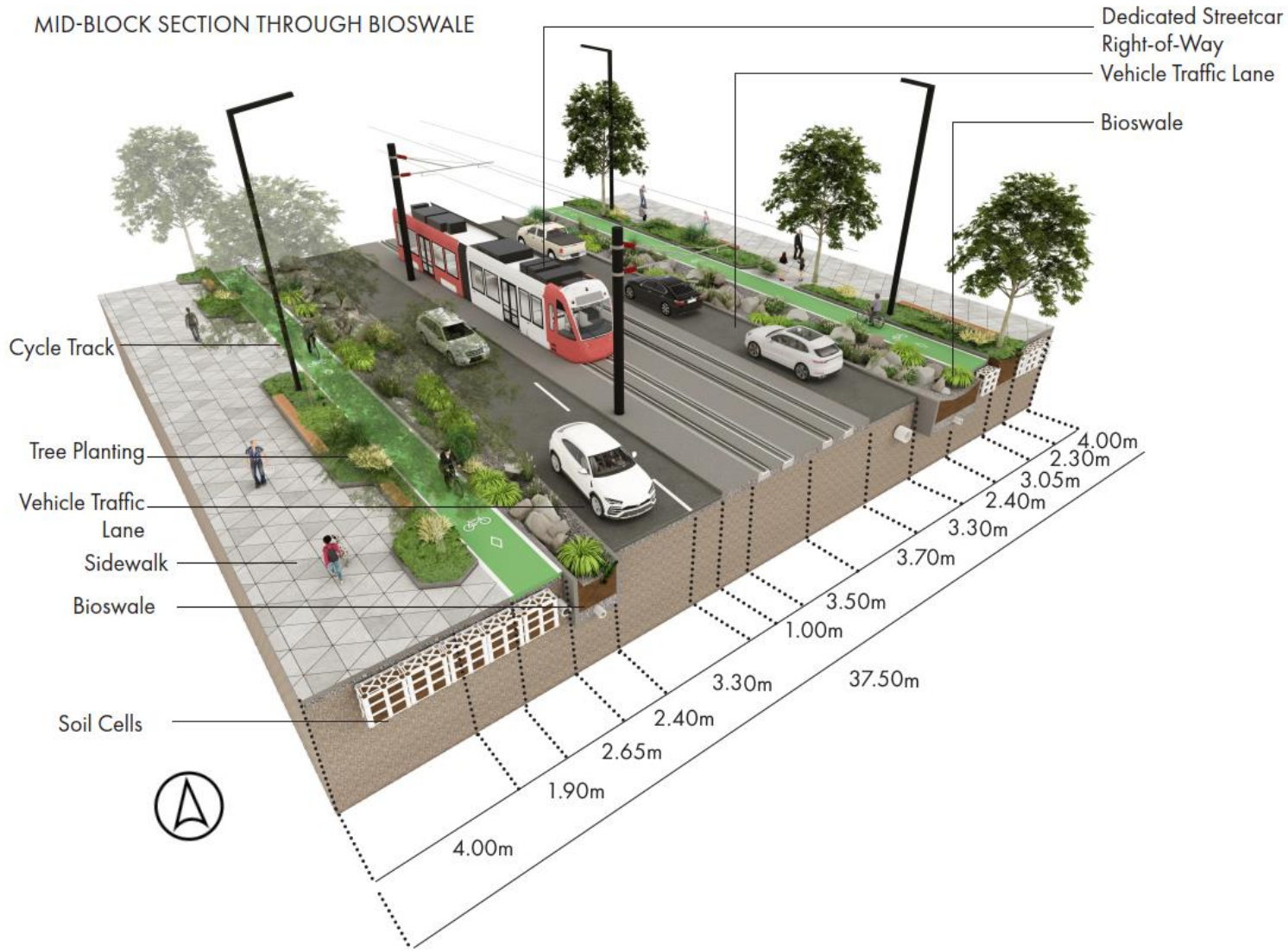


Figure 7.2 - Recommended Broadview Avenue Extension Mid-Block Cross-Section Through the Bioswale



7.1.9 Safe & Protected Intersections

The intersections along the Broadview Avenue Extension are located at Eastern Avenue, the proposed Local Street 'A', the New East-West Street and Lake Shore Boulevard East. The signalized intersections aim to prioritize the safety and accessibility of all users by incorporating effective traffic design features that will make it quick and convenient for all users to pass through the intersection.

Multi-modal safety measures have been incorporated in the intersection design through raised and separated cycle tracks, wide sidewalks, pedestrian crosswalks, tree plantings that separate the cycle tracks from the sidewalks, and a dedicated streetcar right-of-way in the centre of the street.

To improve the visibility of the active transportation infrastructure, the pedestrian crossings will be marked for all crosswalks and the cycle track colour, recommended to be a solid green, will be maintained across the intersection with crossrides to indicate cyclist travel.

Leading pedestrian intervals are also recommended at signalized intersections to improve pedestrian safety by permitting pedestrians to start walking prior to vehicles beginning their movements.

Truck aprons have also been considered at the corners of key intersections to improve safety and minimize conflicts with pedestrians and cyclists where higher volumes of large trucks are expected to be making right-turns.

7.1.10 Supporting Network Improvements

As identified in **Section 1.3**, there are two important improvements being planned by the City of Toronto and located in the Focus Study Area that inform the Broadview Avenue Extension, particularly for the design of the Broadview Avenue and Eastern Avenue intersection, where the Broadview Avenue Extension will tie into the existing of Broadview Avenue corridor to the north. These improvements include:

- Modifications to the existing Eastern Avenue on-ramp to the Don Valley Parkway (DVP); and
- Improvements to the existing segment of Broadview Avenue, between Eastern Avenue and Queen Street East (**The Broadview Avenue Intersection Reconfiguration Feasibility Study and Functional Design**).

The following subsections provide further information on these studies and the preliminary designs that have been used to inform the preferred design for the Broadview Avenue Extension.

7.1.10.1 Broadview Avenue Improvements: Eastern Avenue to Queen Street East

The City has completed a study to determine how the Broadview Avenue right-of-way can be redesigned between Queen Street East and Eastern Avenue to accommodate an extension of streetcar service south of Queen Street East to tie into the dedicated streetcar right-of-way as part of the Broadview Avenue Extension, cycling facilities, and improved pedestrian facilities, in addition to identifying opportunities for vehicle lay-bys and on-street parking along this segment of Broadview Avenue.

The study, titled the **Broadview Avenue Intersection Reconfiguration Feasibility Study and Functional Design**, builds upon the recommendations set out in the Port Lands and South of Eastern TSMP and the expectation of the redevelopment of 21 Broadview Avenue and is being undertaken as a Schedule A+ project under the Environmental Assessment Act (EAA). The results of this study tie directly into the Broadview Avenue Extension south of Eastern Avenue and will inform the design alternatives for the Broadview Avenue and Eastern Avenue intersection.

The study developed and evaluated three mid-block alternatives and four intersection alternatives for the Broadview Avenue and Eastern Avenue intersection.

A summary of the preferred mid-block and intersection design alternatives is provided below, with the full details of the **Broadview Avenue Intersection Reconfiguration Feasibility Study and Functional Design**, including the evaluation of alternatives and functional design drawings of each alternative, is provided in **Appendix F.**

"Design Option 3" was selected as the preferred mid-block alternative for the Ultimate Condition of the Broadview Avenue corridor segment between Queen Street East and Eastern Avenue and includes the following design elements:

- One 3.5 m-wide mixed-traffic/transit lane in both directions;
- Cycle tracks on both sides of the street;

- Minimum 2.1 m wide sidewalks; and
- Additional minimum 1.8 m wide area on both sides of the street, between the cycle track and vehicle/streetcar lane, that functions as additional public realm space to accommodate street lighting/utilities/streetcar poles/tree plantings and occasional vehicle lay-by areas.

"Intersection Option 4" was selected as the preferred intersection alternative for the Ultimate Condition of the Broadview Avenue and Eastern Avenue signalized intersection. This alternative includes the removal of the existing channelized southbound right-turn lane and includes the following design elements:

- Dedicated northbound vehicle left-turn lane
- Shared traffic and transit northbound receiving lane, with separate signal phases for vehicle traffic and transit
- Dedicated southbound transit-only lane to connect to the dedicated streetcar right-of-way south of Eastern Avenue (as part of the Broadview Avenue Extension)
- Shared southbound through and right-turn lane

7.1.10.2 Eastern Avenue On-Ramp to DVP

To address flood risk in the area south of Eastern Avenue and north of the Metrolinx rail embankment, the Broadview and Eastern Flood Protection Project identified the implementation of a flood protection landform (FPL) to be constructed on the east side of the Don Valley Parkway between Eastern Avenue and the Metrolinx rail embankment. As a result, the Eastern Avenue on-ramp to DVP north will need to be rebuilt during the construction of the FPL to accommodate the topography of the landform. This presents an opportunity to revisit the design of the on-ramp to improve pedestrian safety along Eastern Avenue and enable on-ramp access to northbound DVP from both the eastbound and westbound lanes of Eastern Avenue.

The City has identified interest in modifying the existing Eastern Avenue on-ramp to northbound DVP to provide access for westbound traffic on Eastern Avenue. The current Eastern Avenue-to-DVP ramp connection is a channelized right-turn that is only accessible from the eastbound lanes of Eastern Avenue. The City has a policy to remove right-turn channels if possible and not build new ones. Modifications to the Eastern Avenue-to-DVP on-ramp would include removing the channelized

right-turn. This would improve safety for pedestrians on the south side of Eastern Avenue.

The City has examined a variety of options to reconfigure the ramp. These include the following three design concept options:

- Option 1: New westbound left-turn lane from Eastern Avenue;
- Option 2: Connection to Sunlight Park Road via Broadview Avenue; and
- Option 3: New westbound right-turn lane and slip lane north of Eastern Avenue.

Option 1 involves modifying the ramp to intersection with Eastern Avenue at a 90-degree angle to provide a normal intersection and removal of the channelized right-turn lane. This option provides direct access to the DVP from Eastern Avenue and requires less cost and construction complexity compared to the other two design options. This option also allows for a potential future connection to Sunlight Park Road.

Option 2 involves turning the existing ramp into a new north-south street between Eastern Avenue and Sunlight Park Road. This option provides a connection to the DVP from Sunlight Park Road via the Broadview Avenue and Eastern Avenue intersection, as traffic coming from the east must use this intersection. This option also provides the opportunity for future development access or a future extension of the new street created.

Option 3 involves relocating the ramp to the north side of Eastern Avenue via a new slip lane and provides access to the DVP via a new westbound left-turn lane on Eastern Avenue. Ultimately, there is insufficient property available to accommodate this slip lane, thus Option 3 is not preferred, as noted below.

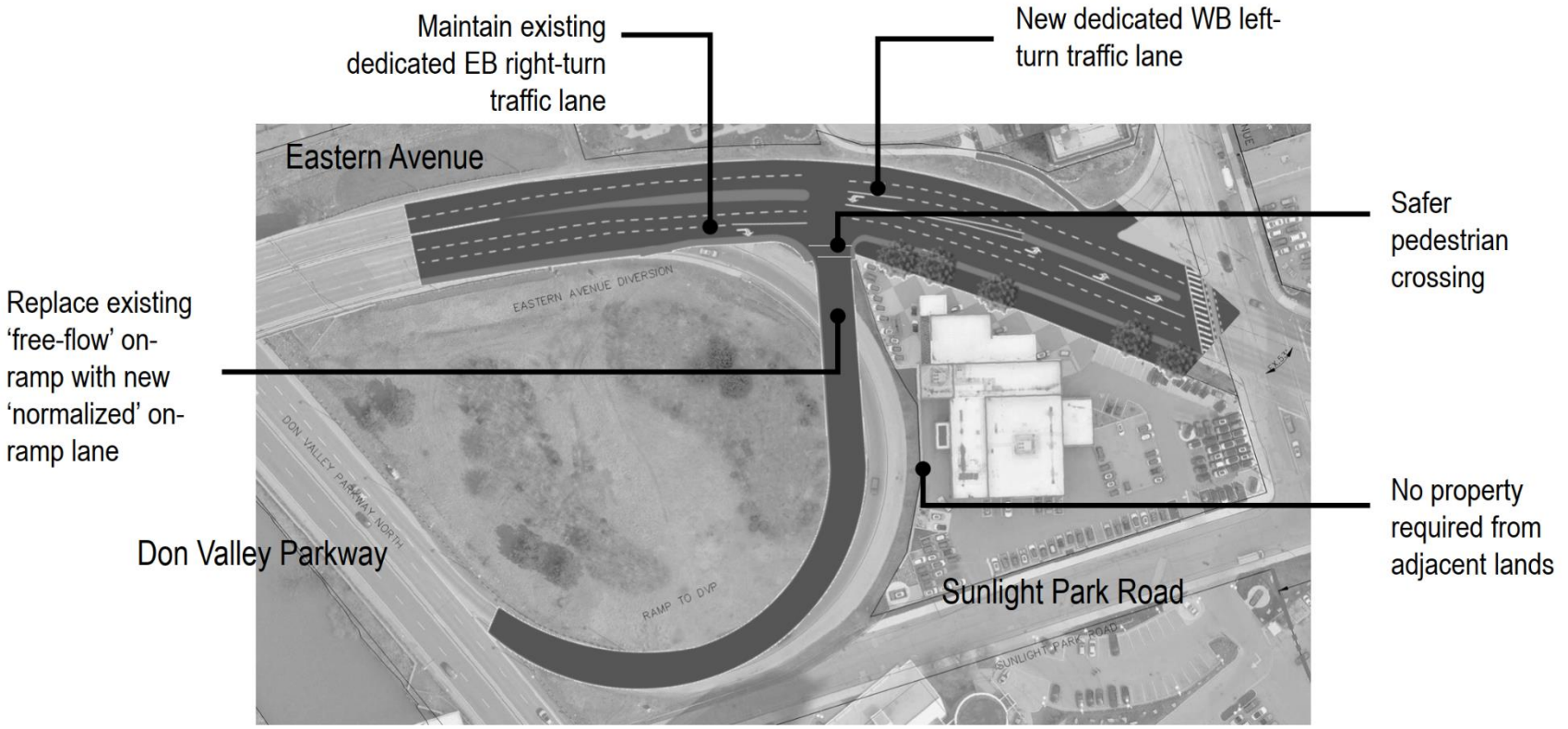
The primary challenges to modifying the on-ramp are:

- The potential property impacts to private property;
- The need to integrate the design with the grading of the FPL so as to not impact flood protection plans that are critical to support future development in the area; and
- The extensive existing and planned sub-surface infrastructure running under Sunlight Park Road and located within the DVP on-ramp area, including significant water, wastewater, stormwater, and gas facilities that cannot be relocated.

Based on this review, the City has determined that Option 1 provides the preferred approach to reconstructing the Eastern Avenue-to-DVP on-ramp. This includes straightening out the ramp entrance, removing the channelized right-turn, shortening the pedestrian crossing, and adding a westbound left-turn lane on Eastern Avenue. This design option will provide eastbound and westbound access to the DVP from Eastern Avenue, improve the pedestrian experience on the south side of Eastern Avenue, and limit impacts to flood protection, private properties, and utilities in the area. The preliminary plans demonstrate that this can be achieved within the existing right-of-way for the on-ramp and Eastern Avenue.

Figure 7.3 illustrates the design concept for the Eastern Avenue- to-DVP on-ramp reconstruction. The preliminary design to reconstruct the on-ramp has been incorporated into the Broadview Avenue Extension EA to inform the traffic assessment and design of the Broadview Avenue and Eastern Avenue intersection.

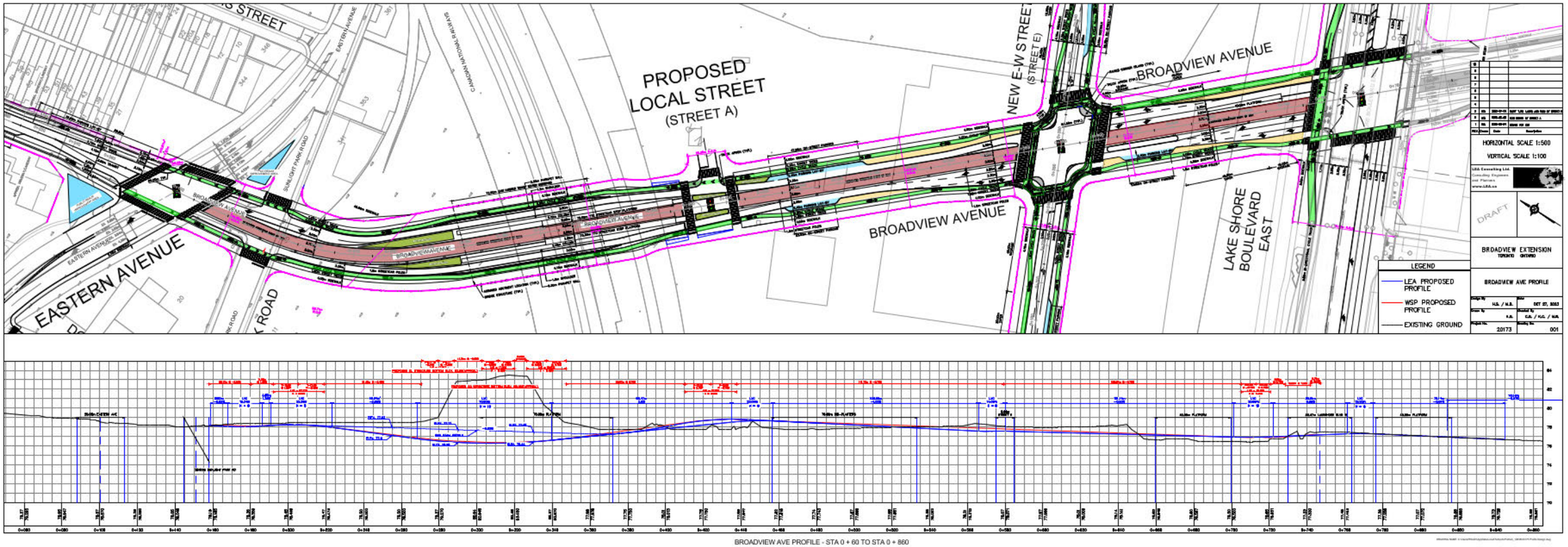
Figure 7.3 - Improvements to Eastern Avenue DVP On-Ramp – Preferred Design Concept



7.2 Overall Corridor Preferred Design

As will be further detailed in the following sub-sections, the typical cross-section blocks were applied to the different segments of the Broadview Avenue Extension corridor, with input from the Broadview Avenue Intersection Reconfiguration Feasibility Study and Functional Design and Eastern on-Ramp to DVP studies informing the design of the Broadview Avenue Extension at Eastern Avenue, where the Broadview Avenue Extension will tie into the existing Broadview Avenue corridor that currently terminates at Sunlight Park Road. At Lake Shore Boulevard East, the preferred design for the Broadview Avenue Extension incorporates the 100% design being constructed for Lake Shore Boulevard East. The full corridor design is shown in **Figure 7.4** with the full design drawing provided in **Appendix G.** As noted above, actual dimensions of some street features described below, such as cycle track width, tree planting areas and bioswales, may be refined and adjusted at detailed design provided the general design intent is maintained.

Figure 7.4 - Overall Broadview Avenue Extension Preferred Design for the Corridor



7.2.1 Eastern Avenue to East Harbour Transit Hub (EHTH) Underpass

This segment of the Broadview Avenue Extension, illustrated in **Figure 7.5,** transitions from a 35 m right-of-way width at Eastern Avenue to a 43 m right-of-way width at the East Harbour Transit Hub (EHTH) under the rail underpass. As the right-of-way approaches the underpass, there is the opportunity to utilize some of the median area needed to develop the streetcar platforms to accommodate low level landscaping. The typical cross-section of this segment generally includes:

- Transit right-of-way with a minimum width of 8.2m;
- Sidewalks with a minimum width of 4m;
- Continuous street tree plantings at a width of 1.9 m on both sides of the street between the cycle track and sidewalk; and
- A 2.0 m wide cycle track and buffer of varying width separating the cycle track from the adjacent traffic lane on both sides of the street.

7.2.1.1 Broadview Avenue & Eastern Avenue Intersection

Broadview Avenue has a proposed 35 m right-of-way on the south side of Eastern Avenue and a proposed 23 m right-of-way on the north side of Eastern Avenue. The signalized intersection has the following design elements:

- Dedicated left-turn lanes in the eastbound, westbound, and northbound directions;
- Pedestrian crosswalks on all four intersection legs
- North-south cycling crossrides; and
- A truck apron on the northwest corner to accommodate larger vehicles making southbound right turns.

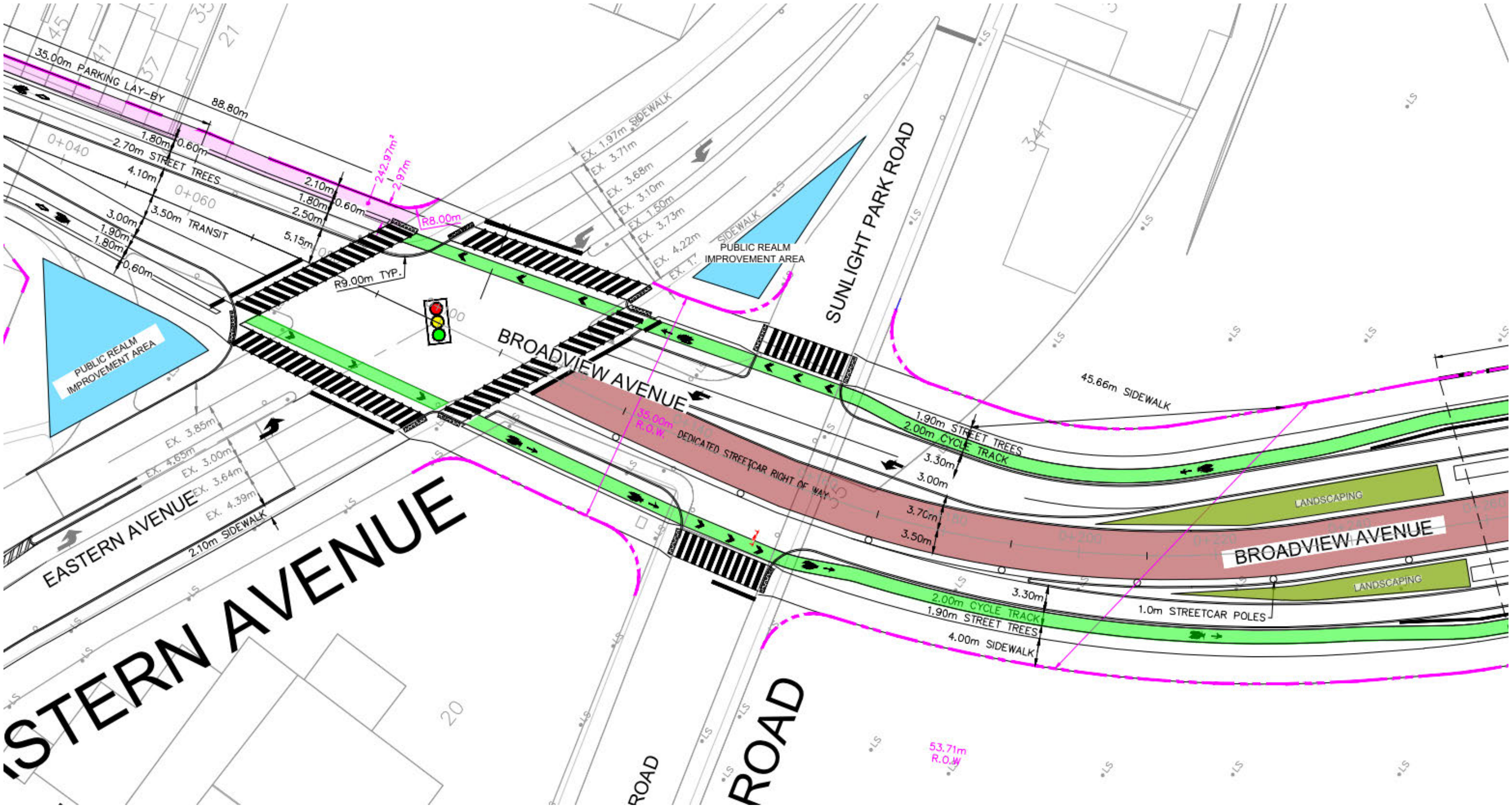
To accommodate the transition of streetcars from operating in mixed traffic north of Eastern Avenue to the dedicated transit right-of-way south of Eastern Avenue, the southbound centre through lane will be a transit-only lane (e.g., no left turns for vehicle traffic) to provide priority for southbound transit vehicles entering the dedicated transit right-of-way on the Broadview Avenue Extension, south of Eastern Avenue. The southbound curb lane will accommodate right-turn and through movements for all other vehicles. Northbound, transit

vehicles will enter mixed traffic north of the intersection, separated in time from general traffic vehicles on a separate phase of the traffic signal.

7.2.1.2 Broadview & Sunlight Park Road Intersection

The unsignalized intersection of Broadview Avenue and Sunlight Park Road is where the street transitions from the existing Broadview Avenue condition north of Eastern Avenue. Given the dedicated transit lanes along Broadview Avenue, no through movements across Broadview Avenue from Sunlight Park Road or left-turn movements to or from Sunlight Park Road will be permitted. A stop control will be provided for the west leg, while the east leg will remain a one-way eastbound flow.

Figure 7.5 - Broadview Avenue Extension Preferred Design – Eastern Avenue to East Harbour Transit Hub (EHTH) Underpass



7.2.2 East Harbour Transit Hub (EHTH) Rail Underpass

The TSMP established that where the Broadview Avenue Extension crosses the EHTH rail corridor, there would be a road-under-rail underpass, rather than a road-over-rail overpass. The structural analysis and detailed design of the rail underpass itself was advanced by Metrolinx as part of the EHTH TPAP and subsequent detailed design work, in coordination with the City.

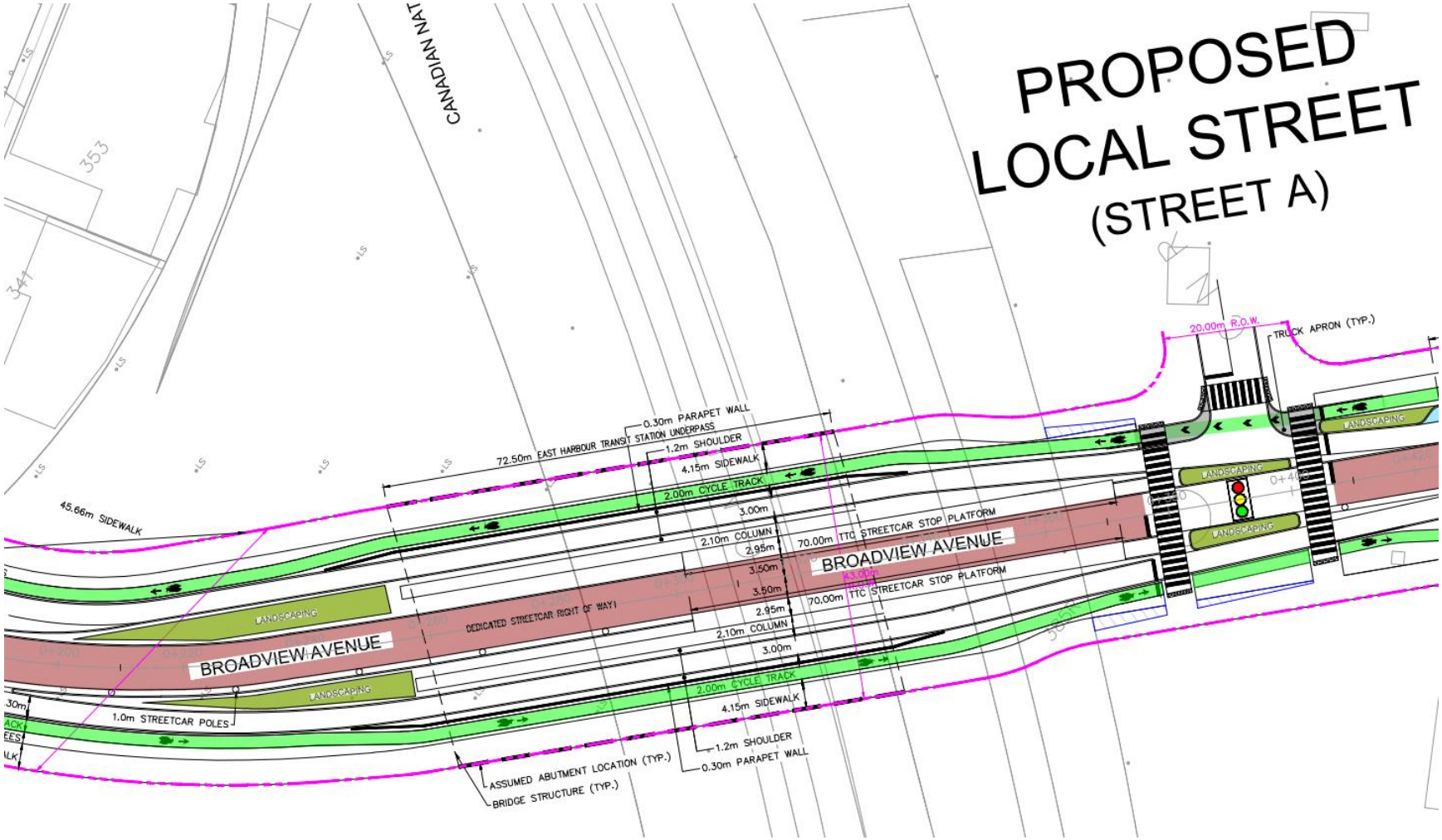
At the rail underpass, the Broadview Avenue Extension will accommodate the additional structural elements necessary for the EHTH and underpass within a widened, 43 m right-of-way. These elements include the streetcar stop platforms, structural support columns, and parapet wall on either side of the street. The parapet wall has been proposed to allow for the separation of the cyclist and pedestrian profile from that of the vehicle path. This will reduce the need for pedestrians and cyclists to navigate significant grade changes while travelling through the underpass.

The EHTH and station area will have a 43 m right-of-way and will include the following cross-section elements, in addition to the typical cross-section elements:

- A 7.0 m wide streetcar right-of-way (3.5 m wide southbound and northbound platform) plus a 2.95 m wide, 70.0 m long streetcar platform on either side;
- A 2.1 m wide column to support the underpass structure on both sides of the streetcar platform;
- A 1.2 m wide shoulder plus a 0.3 m wide parapet wall between the traffic lane and cycle track;
- A 2.0 m wide cycle track plus a 0.6 m wide buffer between the cycle track and adjacent sidewalk and a 0.5m buffer between the parapet wall and the cycle track on both sides of the street; and
- A 4.15 m wide sidewalk on both sides of the street.

A plan view of the Broadview Avenue Extension at the EHTH rail underpass is shown in **Figure 7.6.**

Figure 7.6 - Broadview Avenue Extension Preferred Design –East Harbour Transit Hub (EHTH) Rail Underpass



7.2.3 Street 'A' to New East-West Street

This segment transitions from the 43 m right-of-way at the EHTH rail underpass to the more typical 37.5 m right-of-way width. As Broadview approaches the the New East-West Street, the right-of-way widens to 40.5 m to accommodate a southbound right-turn lane. In addition to the typical cross-section elements, the following will be included:

- A 2.4 m wide vehicle lay-by on both sides of the street;
- Continuous bioswales on both sides of the street, where parking lay-bys are not located;
- Continuous street trees planted on both sides of the street between the cycle track and sidewalk at 1.9 m wide for the west side of the street (which narrows to 1.65 m wide at the New East West Street) and 2.3 m wide for the east side of the street; and
- A 1.8 m wide cycle track plus a 0.85 m wide buffer between the cycle track and bioswale/vehicle lay-by on the west side of the street and a 2.0 m wide cycle tracks plus a 1.05 m wide buffer between the cycle track and bioswale/vehicle lay-by on the east side of the street.

The vehicle lay-bys will accommodate pick-up and drop-off activities, as well as short-term parking demand and deliveries to the adjacent East Harbour Development blocks. The ultimate length of the vehicle lay-bys will be determined at the detailed design stage as the loading and access needs of the adjacent blocks are refined through the development application process. It is recommended that permeable pavers be considered for the vehicle lay-bys to support improved surface water management along this segment of Broadview Avenue.

A plan view of the Broadview Avenue Extension from the proposed Local Street 'A' to the New East-West Street is shown in **Figure 7.7**.

7.2.3.1 Broadview Avenue & Street 'A' Intersection

The intersection of Broadview Avenue and the proposed Local Street 'A' has a 37.5 m right-of-way with the following intersection design elements:

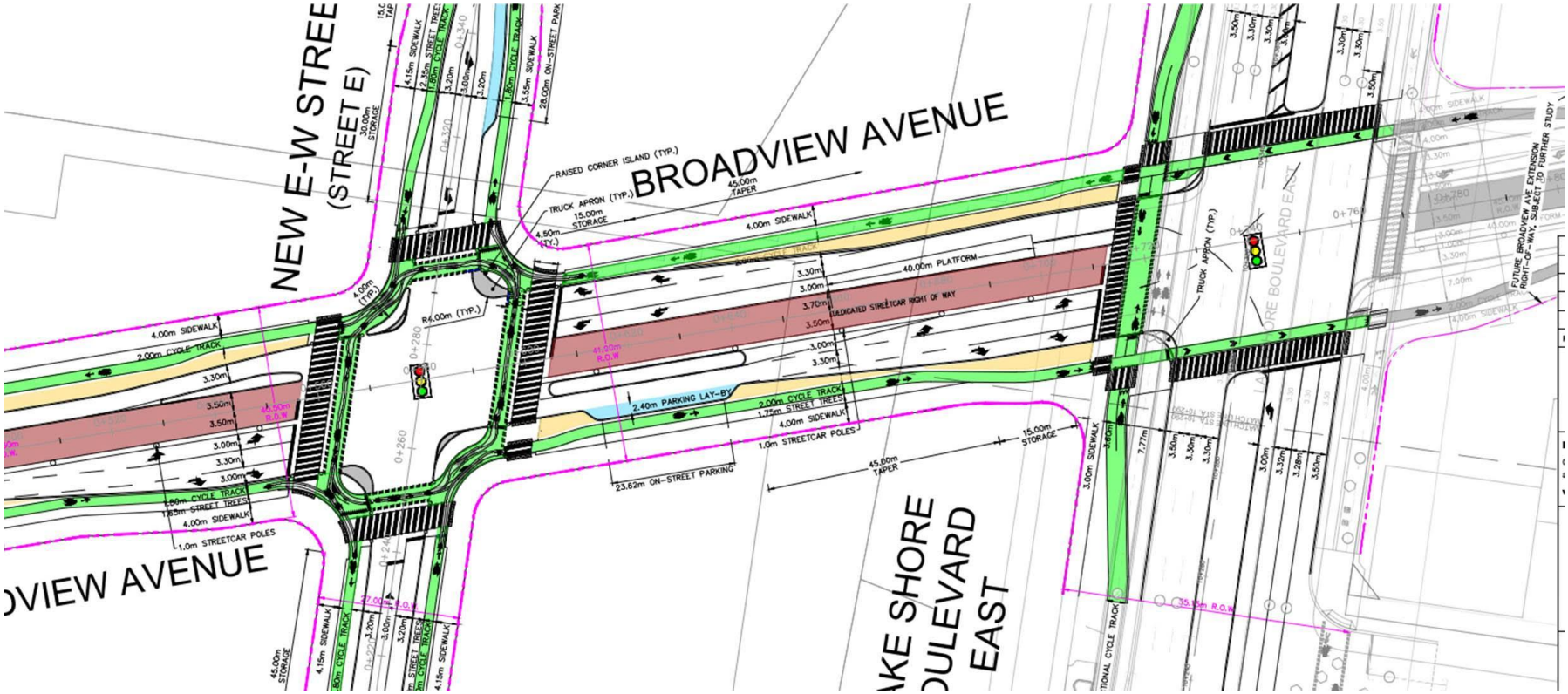
- A marked pedestrian crosswalk for each leg of the intersection, opportunities to include cycling facilities at this intersection crossing Broadview Avenue would be dependent on the proposed design for Street A;

- A streetcar platform, accessible via the pedestrian crosswalk, located immediately north of the intersection; and
- A vehicle parking lay-by located south of the intersection on both sides of the street.

As the proposed Local Street 'A' terminates at Broadview Avenue, the west side of the Broadview Avenue Extension will feature a continuous cycle track interrupted only by the north and south pedestrian crosswalks, while the east side of the street will include crossride markings and continuous cycle track colouring to indicate cyclist travel across the intersection.

No dedicated turn lanes are provided at this intersection as the proposed Local Street 'A' will be a local road with relatively low vehicle volumes anticipated.

Figure 7.7 - Broadview Avenue Extension Preferred Design – Street 'A' to the New East-West Street



7.2.4 New East-West Street to Lake Shore Boulevard East

The segment of Broadview Avenue between the New East-West Street and Lake Shore Boulevard East widens to a 41.9 m right-of-way to accommodate additional southbound turn-lanes at Lake Shore Boulevard East and northbound turn-lanes at the New East-West Street to accommodate the higher vehicle volumes anticipated to be turning onto these streets. A northbound transit stop and streetcar platform are also included in the right-of-way just north of Lake Shore Boulevard East.

In addition to the typical cross-section elements, the following will be included:

- Street trees planted on the west side of the street between the cycle track and sidewalk at 1.75 m wide;
- A 3.0 m wide left-turn lane for northbound and southbound vehicles at the New East-West Street;
- A 3.0 m wide right-turn lane for northbound and southbound vehicles at the New East-West Street;
- A 3.0 m wide, 40.0 m long northbound streetcar platform just north of Lake Shore Boulevard East;
- Space for a potential interim southbound streetcar platform just south of the New East-West Street;
- A 3.0 m wide left-turn lane for southbound vehicles at Lake Shore Boulevard East;
- A 3.0 m wide right-turn lane for southbound vehicles at Lake Shore Boulevard East;
- A 2.0 m wide cycle track plus a buffer between the cycle track and vehicle lay-by/bioswale on the west side of the street and between the cycle track and sidewalk and cycle track and bioswale on the east side of the street;
- A 2.4 m wide, 23.62 m long vehicle lay-by on the west of the street immediately south of the New East-West Street; and
- Continuous bioswales on both sides of the street, including on either side of the vehicle layby on the west side of the street.

A plan view of the Broadview Avenue Extension from the New East-West Street to Lake Shore Boulevard East is shown in **Figure 7.8.**

7.2.4.1 Broadview Avenue & New East-West Street Intersection

At the intersection of Broadview Avenue and the New East-West Street, Broadview Avenue has a 40.5 m right-of-way north of the intersection and a 41.9 m right-of-

way south of the intersection, with the following intersection design elements:

- A marked pedestrian crosswalk for each leg of the intersection;
- Dedicated left-turn lanes in all directions;
- Dedicated right-turn lanes in the northbound and southbound direction;
- Corner islands and bike queuing areas at all four corners of the intersection;
- Crosswalks will be one-stage crossings for the north, east and west approaches, where space permits in the southwest corner a two-staged crossing is recommended;
- Truck aprons at each corner of the intersection; and
- Bioswales located immediately north of the intersection on the east side of Broadview Avenue and south of the intersection on the west side of Broadview Avenue.

Bike queuing areas are proposed at this intersection to accommodate the higher volumes of cyclists anticipated at the confluence of cycle tracks on Broadview Avenue and the New East-West Street. The inclusion of bike queuing areas will accommodate cyclists in a protected area when waiting to turn left while also maintaining continuous access for cyclists travelling through the intersection.

In addition to adding green space to the street, the presence of bioswales at the north and south sides of the intersection will help improve the safety conditions for all transportation modes by concentrating stormwater runoff to prevent street flooding.

Truck aprons are shown at each corner to improve multi-modal safety and minimize conflicts between road users, particularly trucks, cyclists, and pedestrians, where larger vehicles are expected to be making right-turns.

7.2.4.2 Broadview Avenue & Lake Shore Boulevard East Intersection

The intersection of Broadview Avenue and Lake Shore Boulevard East has a 41.9 m right-of-way with the following intersection design elements:

- A marked pedestrian crosswalk for each leg of the intersection;
- Dedicated left-turn lanes in all directions;
- A dedicated right-turn lane in the southbound direction;

- Bike queuing areas at the northeast and southwest corners of the intersection;
- Crosswalks will be two-staged crossings for the north, east, and west approaches;
- Truck aprons at each corner of the intersection;
- A streetcar platform, accessible via the pedestrian crosswalks, located immediately north and south of the intersection; and
- Bioswales located immediately north of the intersection on both sides of Broadview Avenue.

The intersection also provides cyclists with east-west connections through the bi-directional cycle tracks on the north side and shared multi-use path on the south side of Lake Shore Boulevard East.

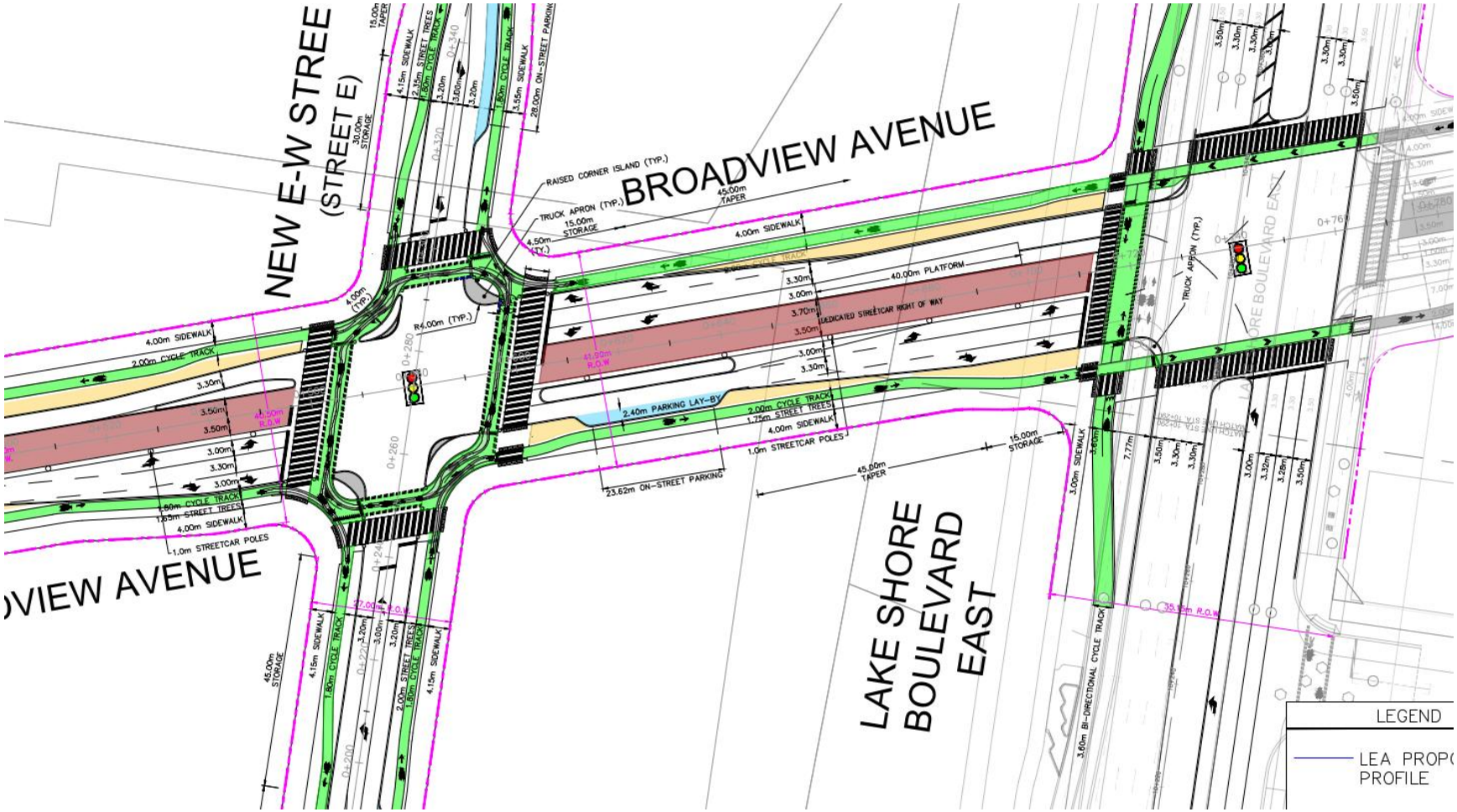
Bike boxes will be provided at the northeast and southwest corners to accommodate cyclists turning from Broadview Avenue onto the bi-directional cycle tracks along the north side of Lake Shore Boulevard East in the anticipated direction of greatest demand.

Truck aprons are shown at each corner to improve multi-modal safety and minimize conflicts between road users, particularly trucks, cyclists, and pedestrians, where larger vehicles are expected to be making right-turns.

The 10% design considered the interim intersection between the Broadview Avenue Extension and Lake Shore Boulevard East, as well as the ultimate extension further south. This consideration was incorporated into the design in order to ensure the geometry of the north approach appropriately considered the requirements of all approaches to the intersection, thereby minimizing the amount of reconstruction required in the long-term.

For the purposes of this consideration a 45.5 m right-of-way applied to the south side of the intersection that transitions to a typical 37.5 m mid-block right-of-way width further south. This incorporates a northbound left turn lane and southbound transit platform in keeping with the recommendations of the TSMP. Further design work will be undertaken as part of a future EA to confirm the Broadview Avenue Extension street design south of the intersection and further south to Unwin Avenue.

Figure 7.8 - Broadview Avenue Extension Preferred Design – The New East-West Street to Lake Shore Boulevard East



7.3 Municipal Servicing and Utilities

The design of the utilities within the Broadview Avenue Extension right-of-way needs to be considered in relation to the City's typical cross-section and standard separation requirements. Generally, utilities within the road allowance need to be designed to avoid potential encroachment or conflict with surface features such as street trees or street lighting.

It is expected that some utility connections will need to be located within the street to service the adjacent development blocks. As the delivery of the Broadview Avenue Extension is anticipated to be undertaken by a combination of the City of Toronto, Metrolinx, and the East Harbour Development Team, coordination of the municipal servicing and utilities will be required. Details of the municipal servicing and utilities will be determined through additional study at the detailed design stage.

The extension of Broadview Avenue will also require an extension of the catenary pole system for the streetcar. A 1.0 m wide concrete strip adjacent to the west side of the dedicated streetcar right-of-way is included in the recommended design to accommodate the catenary poles that will supply electricity to the streetcar route.

The width and placement of the catenary pole strip was identified based on consultation with the TTC. It is noted that additional consultation will be required to identify the implementation plan for the extension of the existing Broadview streetcar route to south of Queen Street East along the existing Broadview Avenue segment between Queen Street East and Eastern Avenue and Broadview Avenue Extension.

The inclusion of bioswales along the identified segments of the Broadview Avenue Extension will support drainage along the Broadview Avenue corridor and help to mitigate flooding by capturing road water runoff. The vertical profile for the Broadview Avenue Extension will accommodate a minimum slope of 0.5% and a maximum slope of 2% through the bioswales to meet quality water treatment requirements and avoid scour and erosion from occurring. A slope greater than 2% would require additional check dams to maintain quality treatment, which could result in issues with maintenance, entrance conflicts, aesthetics, and street tree plantings in the context of the Broadview Avenue Extension, which would further compromise the key design objectives and urban design vision to provide a high-quality public realm and green street.

7.4 Construction Staging Approach / Approach to Implementation

The implementation and phasing plan for Broadview will be determined by other projects being undertaken within the area. As discussed in **Chapter 4.0**, a number of infrastructure and development projects will either be underway or planned within and around the Unilever Precinct.

7.4.1 Phasing

The implementation plan for the Broadview Avenue Extension can be considered in three sections. The section to the south of the rail corridor will be refined, developed and implemented with the proposed East Harbour TOC Development as a condition of Planning Act Approvals. The section under the underpass will be provided in coordination with the East Harbour Transit Station and Hub planning activities. Due to the flood patterns in the area, the construction of the underpass structure is being advanced by Metrolinx as part of the East Harbour Transit Hub and will need to be timed in coordination with the Flood Protection Landform being proposed by the TRCA. Finally, the section to the north of the rail corridor and street-related infrastructure at the underpass is anticipated to be implemented in coordination with the East Harbour Transit Station construction activities subject to appropriate cost sharing arrangements or may require an interim condition if design and construction is not able to advance concurrently with the Transit Hub.

7.4.2 Next Steps

This EA Study has resolved the level of design to a 10% conceptual design. The next phase will take the existing design work and bring it up to a 30% conceptual design level. The design work completed in the current phase of work has provided a framework to build upon while ensuring that the core elements will be elevated in the next level of design.

The 30% detailed design resolution will provide more definition to elements already identified. In terms of the physical design, the streetscape design will be further resolved in regard to the interface of proposed buildings with the street, intersection design, and the relationship to the transit hub. With regards to specific streetscape elements, planting palettes will be identified, site furnishings and materials will be more concretely resolved as well as the selection of paver selection will be

further refined. At this stage of design, opportunities should be found for the integration of theming. Theming may draw upon the site's industrial heritage or natural heritage features of the area. This stage of design should also explore the potential for public art and specific placemaking ideas. Further details regarding the detailed design considerations are provided in **Chapter 10.0.**

8.0 New East-West Street: Preferred Design Alternative

Based on the evaluation of the design alternatives, as detailed in **Chapter 6.0**, the **Alternative 3 – 24 to 27 Meters** with a combination of 24 m and 27 m right-of-way segments was selected as the preferred design alternative for the New East-West Street.

Additional engagement was undertaken with Cadillac Fairview to finalize right-of-way widths, horizontal alignment, locations of left-turn lanes, and vehicle traffic lane configurations, locations of curbs, and locations of vehicle lay-bys.

Additional detailed design work will be undertaken as part of the East Harbour TOC development application process to further determine the configuration of elements within the boulevard, between the curb and property line, the placement of driveways, underground parking access locations, and subsurface utilities.

8.1 Key Design Elements

The following key design elements have informed the preferred design for the New East-West Street.

8.1.1 Main Street That Supports Retail

The New East-West Street is an important corridor within the Unilever Precinct providing an east-west link across the precinct between the Don Roadway and Booth Avenue. The New East-West Street is envisioned as a main street for the Unilever Precinct that supports retail.

8.1.2 Generous Street Tree Canopy

A generous street tree canopy to encourage tree health has been provided along the New East-West Street.

To balance this objective against the vehicular access and short-term loading and parking demand for the adjacent development blocks, vehicle lay-bys must be offset from each other where they are planned within the right-of-way. In order to maintain the typical 24 m right-of-way, outside of where an additional 3.0 m is added to accommodate left-turn lanes, the tree planting zone is stopped to accommodate the vehicle lay-by. To this end to maintain a tree canopy along the street, vehicle lay-bys will not be planned across from each other and must

instead be offset on opposite sides of the street with only one vehicle lay-by per segment.

8.1.3 Pedestrian and Cyclist Priority

Where cycle tracks are adjacent to the traffic lanes along the New East-West Street, a buffer will be provided between the cycle track and roadway. Where cycle tracks are adjacent to the sidewalk, a buffer shall be provided between the cycle track and sidewalk.

8.1.4 Horizontal Alignment

The New East-West Street will operate in a predominantly east-west direction, perpendicular to The Don Roadway and parallel to Lake Shore Boulevard East. As the New East-West Street approaches Booth Avenue the alignment will deflected to establish a 90-degree angle intersect with Booth Avenue. The alignment of the New East-West Street should support the establishment of the adjacent development blocks. The alignment for the New East-West Street is not anticipated to extend beyond the Don Roadway nor Booth Avenue in the future, as these are existing streets with existing barriers to such an extension (i.e. the Don Valley Parkway and Don River to the west of the Don Roadway and existing employment and residential lands east of Booth Avenue).

8.1.5 Preliminary Vertical Alignment

A preliminary vertical alignment for the New East-West Street was determined to minimize required cut-and-fill, the recommended design speed, understanding of drainage requirements, and through coordination with the East Harbour Development Application team.

The New East-West Street is proposed to have a minimum K-value of 5 for the sag curves and a minimum K-value of 20 for the crest curves. It is also understood that the City intends to implement a posted speed limit of 30 km/h for the New East-West Street. The recommended design speed and intended posted speed limits were selected to meet the key objective of prioritizing pedestrians and cyclists while still providing essential vehicle access, as well as to meet Vision Zero objectives.

A minimum slope of 0.55% and a maximum slope of 2.08% has also been identified to accommodate the recommended right-of-way elements. The maximum slope along the New East-West Street is planned to occur at the Don Roadway.

8.1.6 Typical Cross-Sections

The typical cross-section for the New East-West Street associated with the preferred design (Alternative 3) is shown in **Figure 8.4**. This includes a 24 m right-of-way as the base right-of-way and cross-section, with the flexibility to widen the right-of-way by 3 m to 27 m to accommodate dedicated left turn lanes at signalized intersections. The provision of dedicated left-turn lanes is intended to facilitate access management and vehicular traffic flow throughout the Unilever Precinct.

As will be discussed further below, each segment includes a recommended set of design features to balance the needs of the adjacent development blocks against prioritizing a pedestrian-scale right-of-way and green street elements. These expansions to the right-of-way are in line with those permitted under the City's Official Plan and are in keeping with the preferred design direction identified in **Chapter 6.0** through selection of Alternative 3, particularly with respect to flexibility and the need to balance the various user and development needs of the New East-West Street.

The following cross-section elements are consistent across the entire New East-West Street recommended design:

- One 3.2 m traffic lane in each direction to prioritize a pedestrian-scale and green street elements as TTC buses are not anticipated to travel along the New East-West Street;
- Raised and separated cycle tracks with a minimum width of 1.8 m plus a buffer between sidewalks, vehicle lay-bys and vehicle travel lanes;
- Wide sidewalks with a minimum width of 3.55 m on either side of the street;
- Street trees on both sides of the street except where a vehicle lay-by is identified; and
- A vehicle lay-by on one side of the street for each segment at a minimum width of 2.0 m.

Figure 8.1 - Recommended 27 m New East-West Street Cross-Section on Approach to Intersections With a Left-Turn Lane

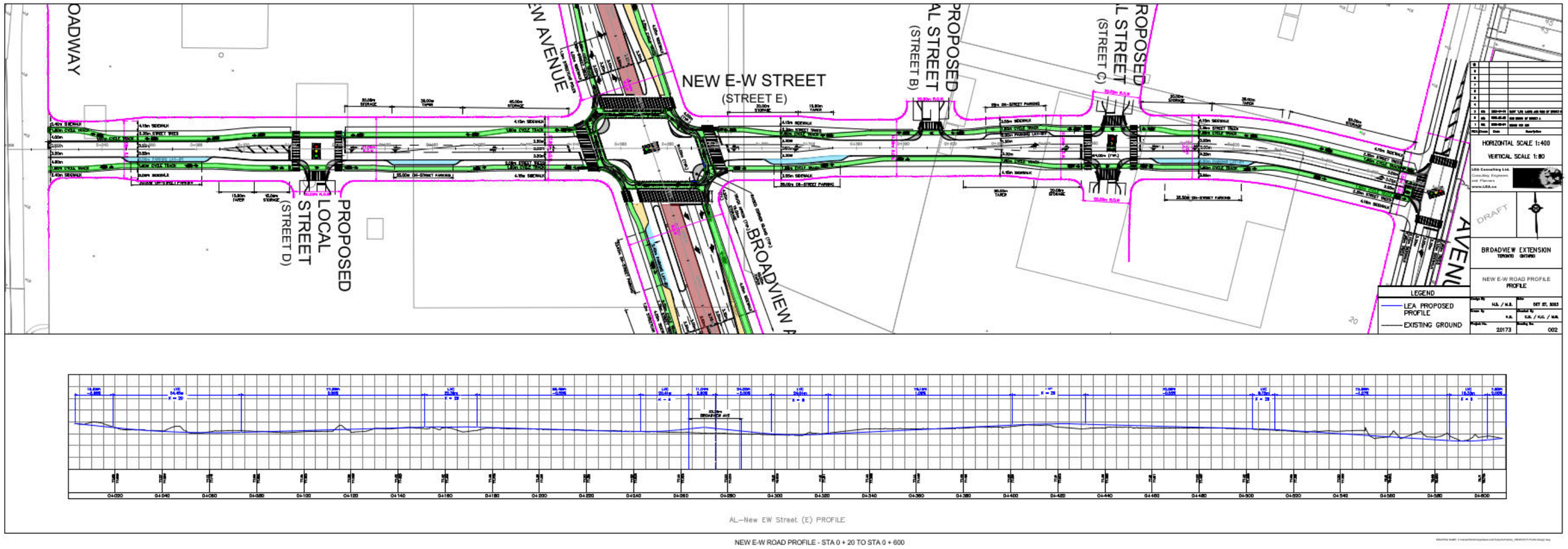
8.1.7 Safe & Protected Intersections

The signalized intersections along the New East-West Street are located at Booth Avenue, Proposed Local Street "C," Broadview Avenue, Proposed Local Street "D," and the Don Roadway. The signalized intersections aim to prioritize the safety and accessibility of all users by incorporating effective traffic design features that will make it quick and convenient for all users to pass through the intersection. Multi-modal safety measures have been incorporated in the intersection design through raised and separated cycle tracks, wide sidewalks, pedestrian crosswalks, and tree planting to separate the cycle tracks from sidewalks. Vehicle parking lay-by areas are also found throughout the street. To improve the visibility of the active transportation infrastructure, the pedestrian crossings are marked with stripes and the cycle tracks are in a solid green colour.

8.2 Overall Corridor Preferred Design

As will be further detailed in the following sub-sections, the typical cross-section blocks were applied to the different segments of the New East-West Street corridor. The full corridor design is shown in **Figure 8.2** with the full design drawing provided in **Appendix H.**

Figure 8.2 - Overall New East-West Street Preferred Design for the Corridor



8.2.1 Don Roadway to Proposed Local Street 'D'

The segment of the New East-West Street from the Don Roadway prior to the east side approach of the proposed Local Street 'D' is recommended to maintain the base 24 m right-of-way, widening to 27 m at Street 'D'. There is the potential for the right-of-way to minimally widen between beyond 24 m at the intersection of the New East-West Street with the Don Roadway to accommodate truck turns for larger trucks. The inclusion of truck aprons will therefore be required at this intersection.

The proposed Local Street 'D' is planned as a local street. Recognizing the larger scale of the adjacent East Harbour Development block, a dedicated left-turn lane is included in the westbound direction. At this point, the driveway locations for the development block north of the New East-West Street have not been finalized as part of the development review process. However, the protection for a future eastbound left-turn lane has been incorporated into the design and its inclusion will be dependent on the final design for the East Harbour TOC development driveways.

In addition to the typical cross-section elements, the following elements are included for the Don Roadway to proposed Local Street 'D' segment:

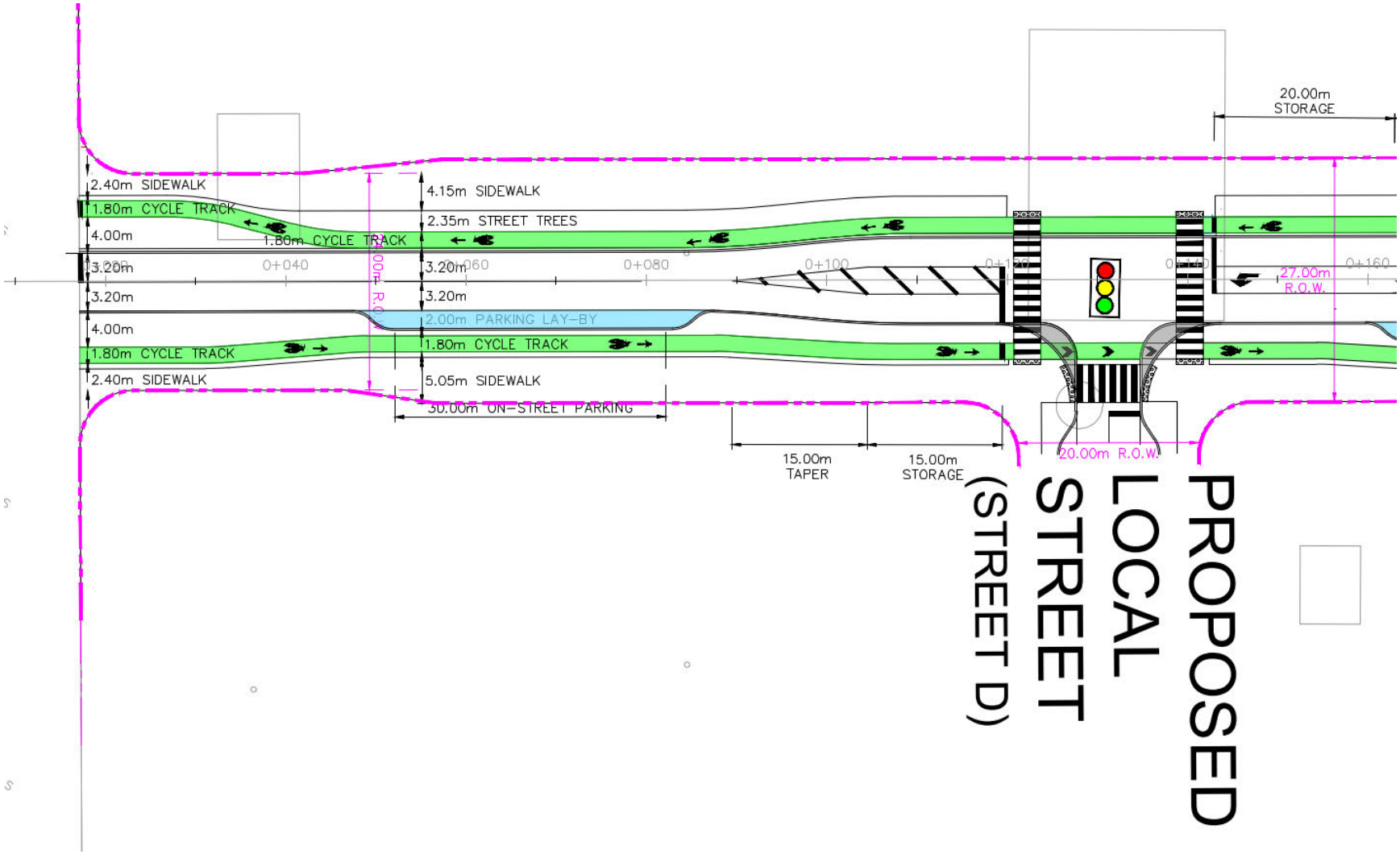
- Continuous 2.35 m wide street tree plantings on the north side of the street between the cycle track and sidewalk;
- A 2.40 m sidewalk at the Don Roadway that widens to a 4.15 m sidewalk on the north side of the street to accommodate truck turning movements at the intersection;
- A 2.40 m sidewalk at the Don Roadway that widens to a 5.05 m sidewalk on the south side of the street to accommodate truck turning movements at the intersection; and
- A 2.00 m wide, 30 m long vehicle lay-by on the south side of the street.

A plan view of this segment of the New East-West Street is shown in **Figure 8.3**.

8.2.1.1 New East-West Street at Don Roadway

The unsignalized intersection of the new East-West Street and the Don Roadway has a 24 m right of way and operates as a right-in/right-out intersection for traffic vehicles.

Figure 8.3 - New East-West Street Preferred Design – the Don Roadway to Proposed Local Street 'D'



8.2.2 Proposed Local Street 'D' to Broadview Avenue Extension

The segment of the New East-West Street between the proposed Local Street 'D' and Broadview Avenue is recommended to be a consistent 27 m right-of-way to accommodate an eastbound left-turn lane at the Broadview intersection and westbound left-turn lane at the proposed Local Street 'D'.

In addition to the typical cross-section elements, the following elements are included for the proposed Local Street 'D' to Broadview Avenue segment:

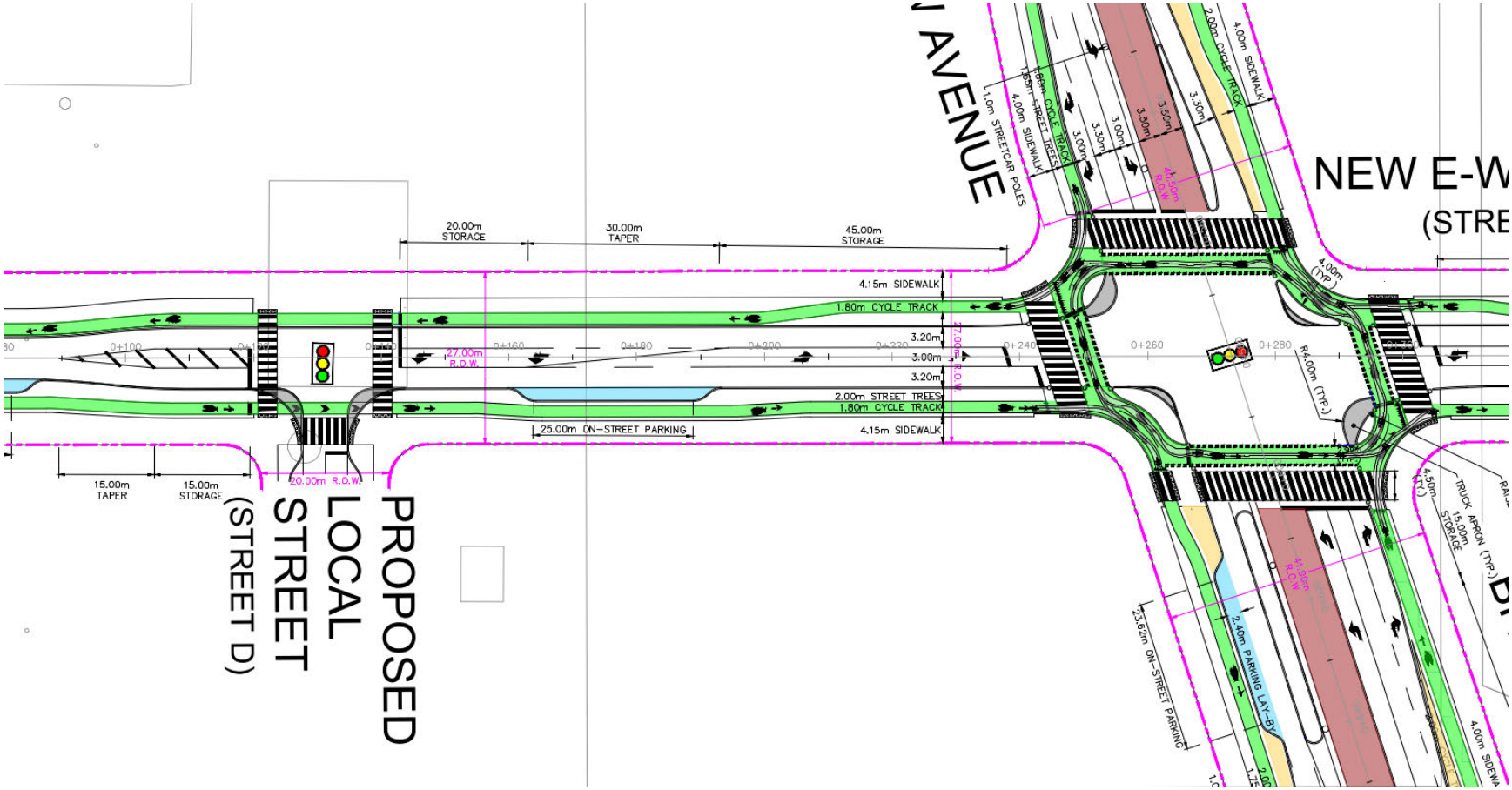
- Continuous street tree plantings at a width of 2.35 m on the north side of the street between the cycle track and sidewalk;
- Street tree plantings at a width of 2.35 m that narrow to 2.00 m east of the vehicle lay-by on the south side of the street between the cycle track and roadway;
- A 4.15 m wide sidewalk on both sides of the street;
- A 2.00 m wide, 25 m long vehicle lay-by on the south side of the street just east of the proposed Local Street 'D'; and
- A 3.00 m eastbound left-turn lane at Broadview.

A plan view of this segment of the New East-West Street is shown in **Figure 8.4.**

8.2.2.1 New East-West Street at Proposed Local 'D'

The signalized intersection of the new East-West Street and Proposed Local Street 'D' has a 27 m right-of-way with intersection design elements including a pedestrian crossing. A westbound left-turn lane is provided to accommodate vehicle access to the adjacent development block. A vehicle parking lay-by area is located directly east of the intersection. Truck aprons have also been provided at the corners of the intersection.

Figure 8.4 - New East-West Street Preferred Design – Proposed Local Street 'D' to Broadview Avenue



8.2.3 Broadview Avenue Extension to Proposed Local Street 'B'

The Preferred Design of the New East-West Street in this segment has a right-of-way of 27 m at the Broadview Avenue Extension to accommodate a westbound left turn lane at the signalized intersection. The right-of-way narrows to 24 m at the Proposed Local Street 'B' unsignalized intersection which has no dedicated left turn lanes. In addition to the typical cross-section elements, the following elements are included in this segment:

- Street tree plantings at 2.35 m wide on the north side of the street between the cycle track and sidewalk;
- Street tree plantings at a width of 2.35 m west of the vehicle lay-by on the south side of the street between the cycle track and sidewalk;
- A 4.15 m sidewalk on the north side of the street;
- A 3.55 m sidewalk on the south side of the street;
- A 2.00 m wide, 28 m long vehicle lay-by on the south side of the street just east of Broadview Avenue; and
- A 3.00 m wide left-turn lane with a storage length of 30 m and taper of 15 m to accommodate westbound left-turns at Broadview Avenue.

A plan view of this segment of the New East-West Street is shown in **Figure 8.5.**

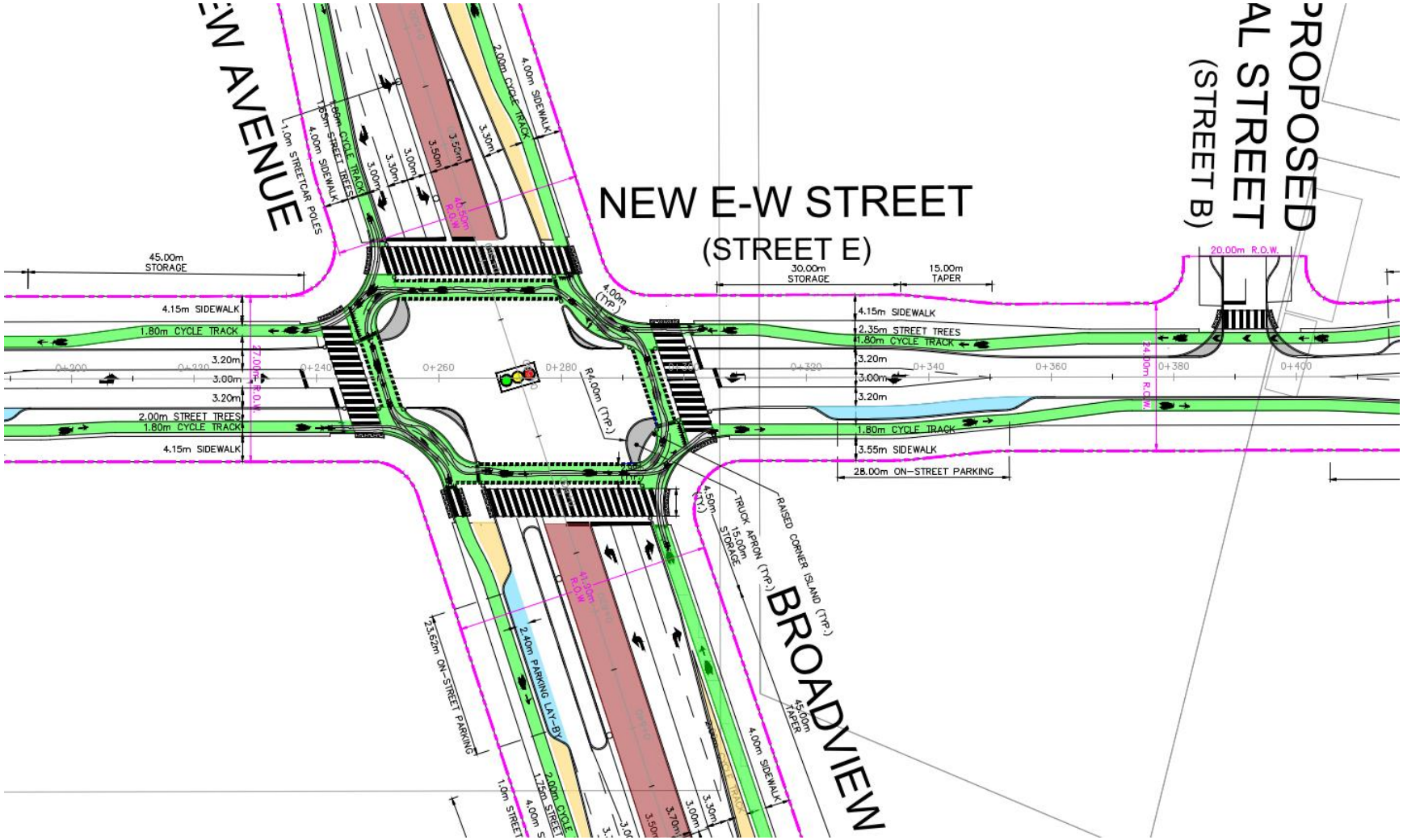
8.2.3.1 New East-West Street at Broadview Avenue Extension

The intersection of the new East-West Street and Broadview Avenue has a 27 m right of way with intersection design elements including a dedicated left-turn lane in all directions, dedicated northbound and southbound right-turn lane, pedestrian crossings, and a fully protected intersection design for cyclists.

The protected intersection design will accommodate cyclists in a protected queueing area. The inclusion of corner islands will increase the visibility of cyclists for vehicles. The intersection also provides cyclists with north-south connections through the cycle tracks located along the Broadview Avenue.

Truck aprons have also been included at the corners of the intersection to improve safety and minimize conflicts with pedestrians and cyclists.

Figure 8.5 - New East-West Street Preferred Design – Broadview Avenue to Proposed Local Street 'B'



8.2.4 Proposed Local Street 'B' to Proposed Local Street 'C'

The segment of the New East-West Street between the proposed Local Street 'B' and proposed Local Street 'C' is recommended to widen from a 24 m right-of-way at Street 'B' to a 27 m right-of-way at Street 'C' to accommodate an eastbound left-turn lane at the proposed Local Street 'C'.

In addition to the typical cross-section elements, the following elements are included for the proposed Local Street 'B' to proposed Local Street 'C' segment:

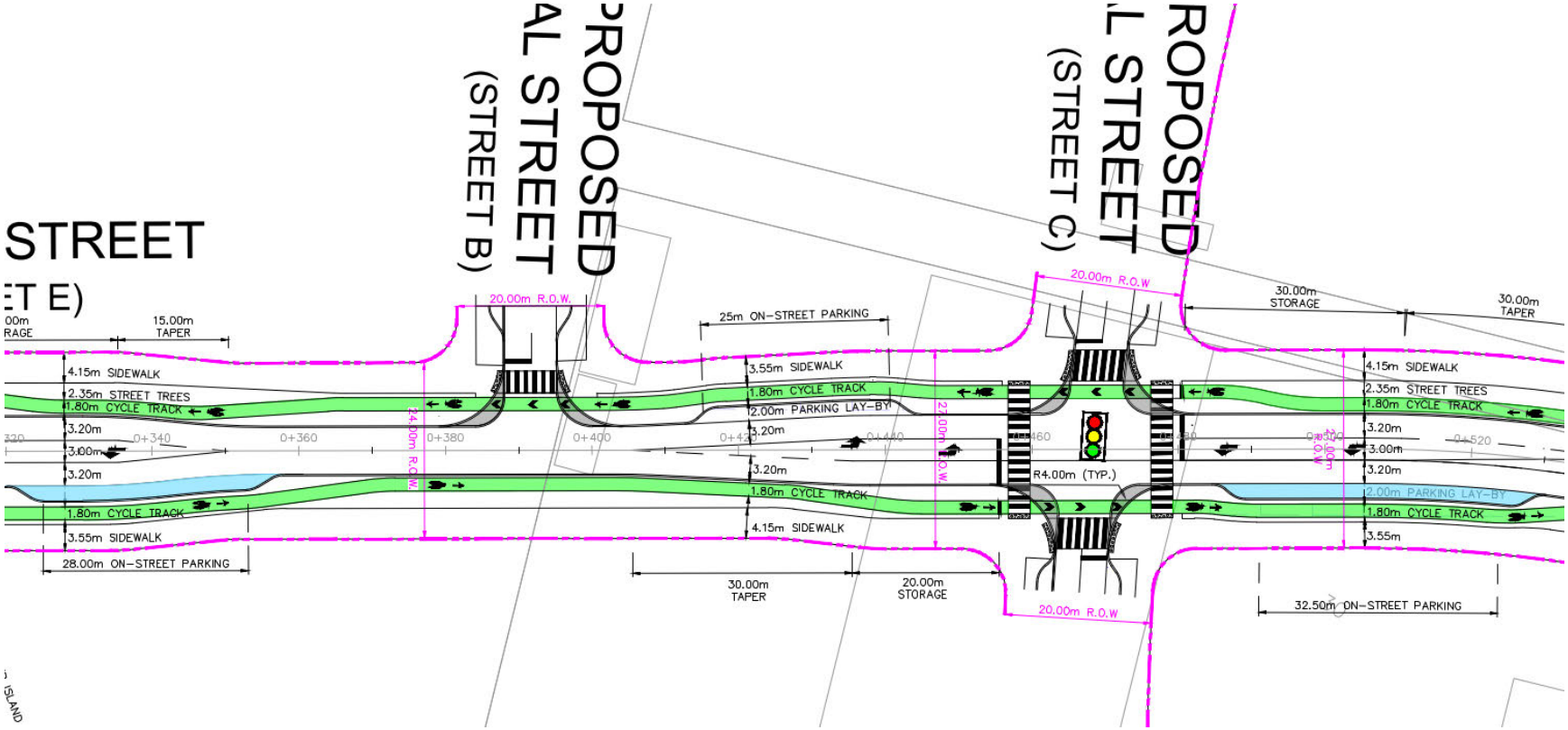
- Street tree plantings at 2.35 m wide on the south side of the street between the cycle track and sidewalk;
- A 4.15 m wide sidewalk on the south side of the street;
- A 3.55 m wide sidewalk on the north side of the street;
- A 2.00 m wide, 25 m long vehicle lay-by on the north side of the street; and
- A 3.00 m wide eastbound left-turn lane at proposed Local Street 'C'.

A plan view of this segment of the New East-West Street is shown in **Figure 8.6.**

8.2.4.1 New East-West Street at Proposed Local "B"

The intersection of the new East-West Street and Proposed Local Street 'B' has a 24 m right of way with no dedicated turn lanes. Multi-modal safety measures have been incorporated in the intersection design including raised and separated cycle tracks, wide sidewalks, pedestrian crossings, and tree planting to separate the cycle tracks from sidewalks. To improve the visibility of the active transportation infrastructure, the pedestrian crossings are marked with stripes and the cycle tracks are in a solid green colour. Vehicle lay-by parking areas are located to the east and west of the intersection on the north and south sides of the street, respectively.

Figure 8.6 - New East-West Street Preferred Design – Proposed Local Street 'B' to Proposed Local Street 'C'



8.2.5 Proposed Local Street 'C' to Booth Avenue

The segment of the New East-West Street between the proposed Local Street 'C' and Booth Avenue is recommended as a 27 m right-of-way to accommodate a continuous left-turn lane to facilitate westbound left-turns at the proposed Local Street 'C' and eastbound left-turns at Booth Avenue, which is an existing street.

In addition to the typical cross-section elements, the following elements are included for the proposed Local Street 'C' to Booth Avenue segment:

- Street tree plantings at 2.35 m wide on both sides of the street between the cycle track and sidewalk (east of the vehicle lay-by on the south side);
- A 4.15 m wide sidewalk on the north side of the street;
- A 3.55 m wide sidewalk on the south side of the street adjacent to the vehicle lay-by that widens to 4.15 m east of the lay-by;
- A 2.00 m wide, 32.50 m long vehicle lay-by on the south side of the street; and
- A back-to-back 3.00 m wide left-turn lane in the centre of the street to accommodate westbound left-turns at the proposed Local Street 'C' and eastbound left-turns at Booth Avenue.

A plan view of this segment of the New East-West Street is shown in **Figure 8.7.**

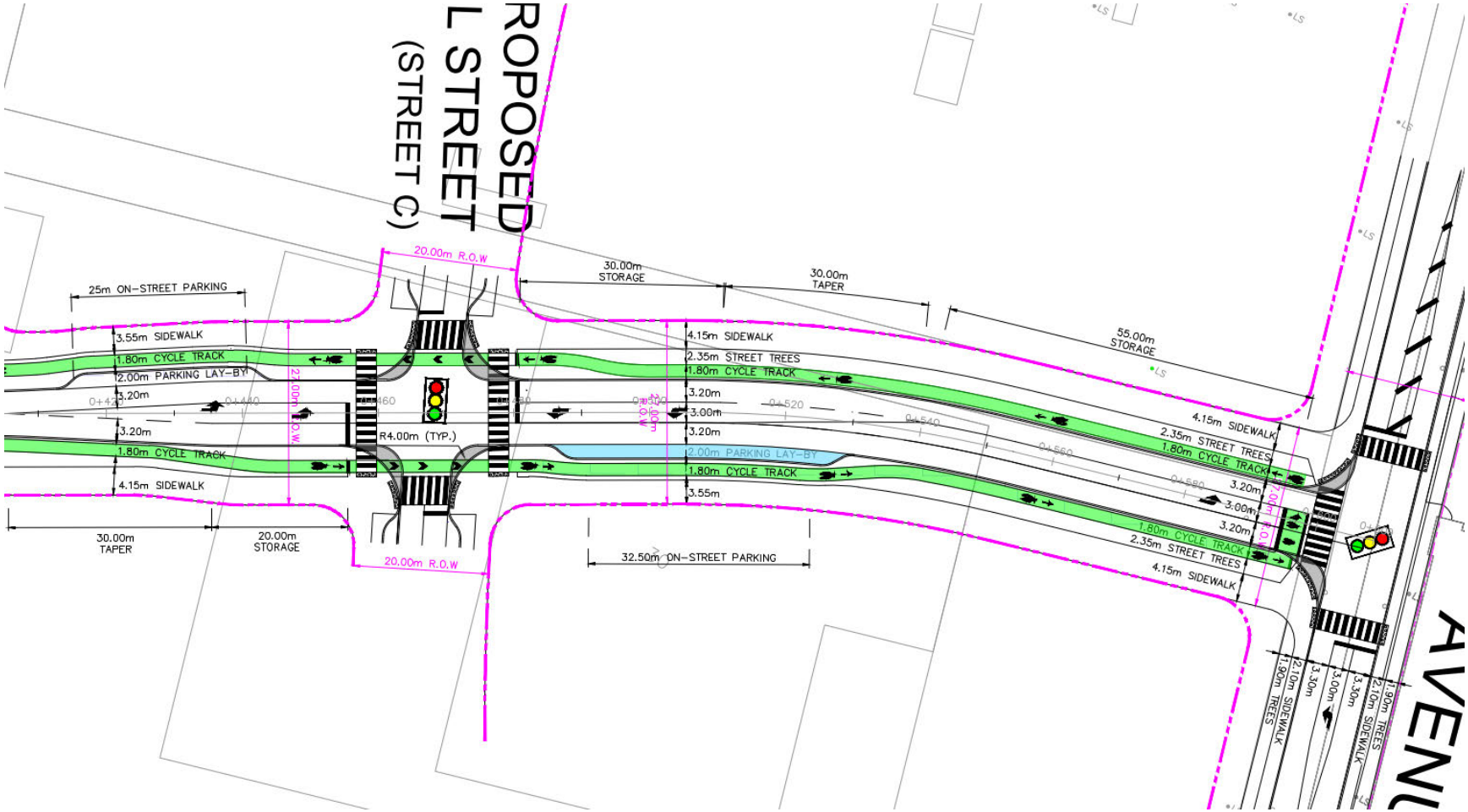
8.2.5.1 New East-West Street at Proposed Local Street "C"

The signalized intersection of the new East-West Street and Proposed Local Street 'C' has a 27 m right of way with intersection design elements including a dedicated left-turn lane and pedestrian crossings. The proposed Local Street 'C' will provide local access to the new East-West Street. Vehicle parking lay-by areas are located to the west and east of the intersection on the north and south sides of the street, respectively.

8.2.5.2 New East-West Street at Booth Avenue

The signalized intersection of the new East-West Street and Booth Avenue has a 27 m right of way with intersection design elements including a dedicated left-turn lane, pedestrian crossings, and bike boxes. The inclusion of bike boxes will allow cyclists to be in a protected area when waiting to turn left while also providing space for cyclists to go through the intersection without waiting for the person in front to turn left.

Figure 8.7 - New East-West Street Preferred Design – Proposed Local Street 'C' to Booth Avenue



8.3 Municipal Servicing and Utilities

The design of the utilities within the New East-West Street right-of-way needs to be considered in relation to the City's typical cross-section and standard separation requirements. Generally, utilities within the road allowance need to be designed to avoid potential encroachment or conflict with surface features such as street trees or street lighting.

It is expected that some utility connections will need to be located within the street to service the adjacent development blocks. As the delivery of the New East-West Street will be undertaken by a combination of the City of Toronto and the East Harbour Development Team, coordination of the municipal servicing and utilities will be required. Details of the municipal servicing and utilities will be determined through additional study at the detailed design stage.

8.4 Construction Staging Approach / Approach to Implementation

Similar to the Broadview Avenue Extension, the implementation and phasing plan for the New East-West Street will be determined by other projects being undertaken within the area. As discussed in **Chapter 4.0**, a number of infrastructure and development projects will either be underway or planned within and around the Unilever Precinct.

8.4.1 Phasing

The design and construction of the New East-West Street will be undertaken and provided to the City as part of the East Harbour TOC Development as a condition of Planning Act approvals.

8.4.2 Next Steps

This EA Study has resolved the level of design to a 10% conceptual design. The next phase will take the existing design work and bring it up to a 30% detailed design level. The design work completed in the current phase of work has provided a framework to build upon while ensuring that the core elements will be elevated in the next level of design.

The 30% functional design resolution will provide more definition to elements already identified. In terms of the physical design, the streetscape design will be further resolved in regard to the interface of proposed buildings with the street and intersection design. With regards to specific streetscape elements, planting palettes will be identified, site furnishings and materials will be more concretely resolved as well as the selection of paver selection will be further refined. Further details regarding the detailed design considerations are provided in **Chapter 10.0**.

9.0 Effects Assessment and Mitigation

Phase 3 of the Class Environmental Assessment process requires identifying the potential impacts and determining appropriate mitigation measures.

The following sections provide an overview of the anticipated impacts of the preferred design for Broadview Avenue Extension and the New East-West Street as well as proposed mitigation measures. A summary of the anticipated impacts and mitigation measures is provided in **Table 9.2**.

9.1 Transportation Impacts

The implementation of the Broadview Avenue Extension and New East-West Street will increase transportation connectivity within the study area by providing new multi-modal transportation routes that are safe and convenient to use. The goal of the Broadway EA is to help achieve the long-term objective of a 90% mode share to transit, cycling and pedestrian modes for all travellers moving to, from and through the study area. It is anticipated that the added active transportation and public transit infrastructure will reduce the number of personal vehicles to the site and encourage sustainable modes of transportation. A reduced vehicular mode share will reduce spillover traffic into surrounding neighbourhoods that may be associated with the Unilever Precinct redevelopment.

The future traffic conditions are expected to be reviewed with individual development proposals. These proposals should be required to confirm their integration with the recommended design to the City through transportation impact studies and other related studies.

The implementation of the recommended design could disrupt access to adjacent properties during construction, primarily north of the Metrolinx Rail Embankment where active commercial uses are currently operating on the Talisker lands and at 341 Eastern Avenue. Access impacts to the south of the rail embankment will be mitigated through the construction process as the recommended design will be delivered in conjunction with new development in the area.

A construction staging plan should also be completed during the detailed design process to maintain access for and mitigate impact on the adjacent properties through the construction process.

9.2 Stormwater

The Unilever Precinct is subject to enhanced flood risk from the Don River due to the additional flood pathway caused by the Broadview Avenue Extension's new railway grade separation at the rail corridor. A flood protection strategy is therefore being sought by the Toronto and Region Conservation Authority (TRCA) to eliminate flood risks to the area through the Broadview and Eastern Flood Protection Project (BEFP) following the full implementation of the Don Mouth Naturalization and Port Lands Floor Protection Project (DMNP). Incorporating best practices for drainage and stormwater management is integral in minimizing impacts to existing watercourses including flood risks. The detailed design of the Broadview Avenue Extension and New East-West Street will be coordinated with the BEFP to minimize flood risks from stormwater runoff.

Stormwater management strategies that will be incorporated in the Broadview Avenue Extension and New East-West Street include end of pipe stormwater facilities and appropriate low-impact development measures such as tree plantings and bioswales along the road network to catch, store and filter stormwater. Other considerations include the use of permeable pavements where possible to increase infiltration, source and conveyance controls, and end of pipe treatments (e.g. Oil-Grit Separator) to improve the quality of, and discharge flow rate for stormwater entering downstream.

As part of the East Harbour Development application a comprehensive stormwater management study has been prepared for the Unilever Precinct. This study will be reviewed by Toronto Water and Development Engineering and the recommendations included therein guide the development of the stormwater sewer system.

9.3 Utilities

The Broadview Avenue Extension EA has identified constraints regarding the site's complex subsurface utilities and surfacing infrastructure that cannot be replaced. Consultation with utility agencies, detailed and up-to-date survey data from Toronto Water

infrastructure and utility infrastructure, and subsurface investigations within the study will be required to be obtained during the next design phase to confirm the presence of utilities in the study area and identify additional conflicts. Any utility conflicts and/or impacted utilities identified will require consultation with applicable utility companies to formulate mitigation and improvement strategies.

Any utility redesigns within the road right-of-way shall be considered in relation to the City's typical cross-sections and standard separation requirements. Generally, utilities within the road allowance shall be designed to avoid potential encroachment or conflict with surface features such as street trees or street lighting.

9.4 Archaeological

A Stage 1 Archaeological Assessment (Stage 1) was completed for the study area as part of the TSMP. Based on the results of the study, it was determined that a Stage 2 Archaeological Assessment is not required for the study area.

No archaeological assessment, no matter how thorough or carefully completed, can necessarily predict, account for, or identify every form of isolated or deeply buried archaeological deposit. In the event that archaeological remains are found during subsequent construction activities, construction and alteration of the site shall stop immediately, and the relevant authorities and Indigenous Communities shall be immediately notified.

9.5 Climate Change

On October 2, 2019, Toronto City Council voted unanimously to declare a climate emergency and accelerate efforts to mitigate and adapt to climate change, adopting a stronger emissions reduction target of net zero by 2050 or sooner. The City has since developed the TransformTO climate action strategy and subsequent Net Zero Strategy, which outlines a pathway to achieve net zero emissions by 2040, as well as a Resilience Strategy, which sets out a vision to support the City in adapting to challenges, particularly as a result of climate change and inequities.

It is expected that 90% of trips undertaken in the area will be made by people walking, cycling, or taking transit. The addition of wide sidewalks, cycle tracks, and transit routes along the Broadview Extension and New East-West Street will encourage people to switch from vehicular use to sustainable modes of transportation such as active transportation and/or transit. A reduction in vehicle use will result in decreased greenhouse gas (GHG) emissions caused by automobiles, thereby supporting the City's TransformTO Net Zero Strategy.

To further reduce and mitigate the impacts of climate change, green space including trees and bioswales are planned for the Broadview Avenue Extension and New East-West Street to provide additional carbon storage and water retention for stormwater runoff.

During the design development process, a commitment shall be made to review, address, and reconfirm sustainable measures in the design of the Broadview Avenue Extension and New East-West Street to further reduce and mitigate the negative effects of climate change.

9.6 Air Quality, Dust, and Noise

To control dust and debris created during the construction of the Broadview Avenue Extension, water, calcium chloride, or other means as recommended by the contractor team and accepted by the City will be applied. In addition to the dust and debris created by the Broadview Avenue Extension, it is recognized that there will be cumulative construction impacts in the area in general due to the number of infrastructure projects being undertaken within the same period, such as the delivery of East Harbour Transit Hub and the Gardiner Expressway reconstruction. It is recommended that ongoing air quality monitoring be undertaken throughout the construction of the Broadview Avenue Extension and be made publicly accessible for the community to access.

With respect to noise generated through construction, construction activities will comply with the City of Toronto noise control by-law. Should exemptions to the noise by-law be required, the appropriate application will be made to City Council.

9.7 Natural Environment

A background review of the existing natural environment in the study area and review of the extensive data and information collected and provided as part of previous projects undertaken in the study area was undertaken as part of the TSMP. The background review was supplemented by a reconnaissance site visit and confirmatory field investigations, also undertaken as part of the TSMP.

The implementation of the recommended design is expected to have minimal impact on the vegetation currently situated within the study area. There are limited vegetation communities at the site since it was converted to an industrial area, with naturalized vegetation restricted to lands directly adjacent to the Don River. This area is considered an environmentally significant area as assessed by the City of Toronto since the Don River supports a variety of plant and animal life. Any impacts of the recommended design are expected to occur in conjunction with the implementation of the East Harbour Transit Hub and development within the area. Some removal of existing trees and natural features is also anticipated.

To mitigate these impacts, the implementation of the recommended design will not be undertaken until the necessary Flood Protection work being undertaken by the TRCA is completed. Additionally, the recommended design of the Broadview Avenue Extension and New East-West Street include bioswales to help manage stormwater and mitigate potential flooding and street trees to develop a tree canopy within the area and offset the minor loss of existing vegetation anticipated.

Construction work will be completed by contractors with close consultation with the City to carefully minimize disruption to the existing natural environment.

9.8 Groundwater and Source Protection

The TSMP identified the groundwater table in the area as being generally high due to the proximity of the area to Lake Ontario. Additionally, the presence of industrial activity and extensive lake filling in the area has resulted in groundwater and soil contamination. As part of the detailed design efforts should be taken to limit the seepage of groundwater into the storm sewer facilities without its appropriate treatment.

Located within the Toronto & Region Source Protection Area, the study area is in a Highly Vulnerable Aquifer area which is characterized by areas with a score of 6 as per the Technical Rules. These aquifers are susceptible to contamination moving from the surface into the groundwater which may deteriorate the area's water quality. Construction for the Broadview Avenue Extension and New East-West Street will therefore be conducted in a sustainable manner that will minimize contamination within the site's soil and groundwater.

9.9 Property Requirements and Impacts

In order to implement the Broadview Avenue Extension, property north of the Metrolinx rail embankment will need to be acquired. This includes privately-owned land as well as Canadian National Railways land adjacent to the Metrolinx rail embankment. These lands encompass the Broadview Avenue Extension between Eastern Avenue and the East Harbour Transit Station. The lands required to implement the remainder of the Broadview Avenue Extension and New East-West Street are owned by either Metrolinx, Cadillac Fairview, CreateTO, or the City of Toronto and will comprise the future East Harbour Transit Hub and East Harbour Development in addition to Broadview Avenue and the New East-West Street; thus, detailed property requirements have been considered north of the rail embankment only for the purposes of this EA Study.

In total, the study recommendations will depend on the partial acquisition of five properties, or approximately 0.5127 hectares (5,127 square meters [m^2]) of property.

The affected property owners were consulted with to determine the impacts of the Broadview Avenue Extension on their respective properties. Details of the landowner consultation process are provided in **Chapter 3.0**. Meetings and email correspondence were undertaken between the City of Toronto and two property owners north of the rail embankment specifically. This included Talisker, owner of the Mini dealership at 20 Sunlight Park Road and the BMW dealership at 11 Sunlight Park Road. Meetings were also held with the owners of 341 Eastern Avenue.

The City will continue to work with the impacted property owners through the detailed design phase. The recommended alignment reflects the City's best efforts at minimizing impact to private property owners, while

working within geometric and design constraints. The affected properties are illustrated in **Figure 9.1**. A summary of the affected properties is summarized below in **Table 9.1**. No buildings are expected to be impacted.

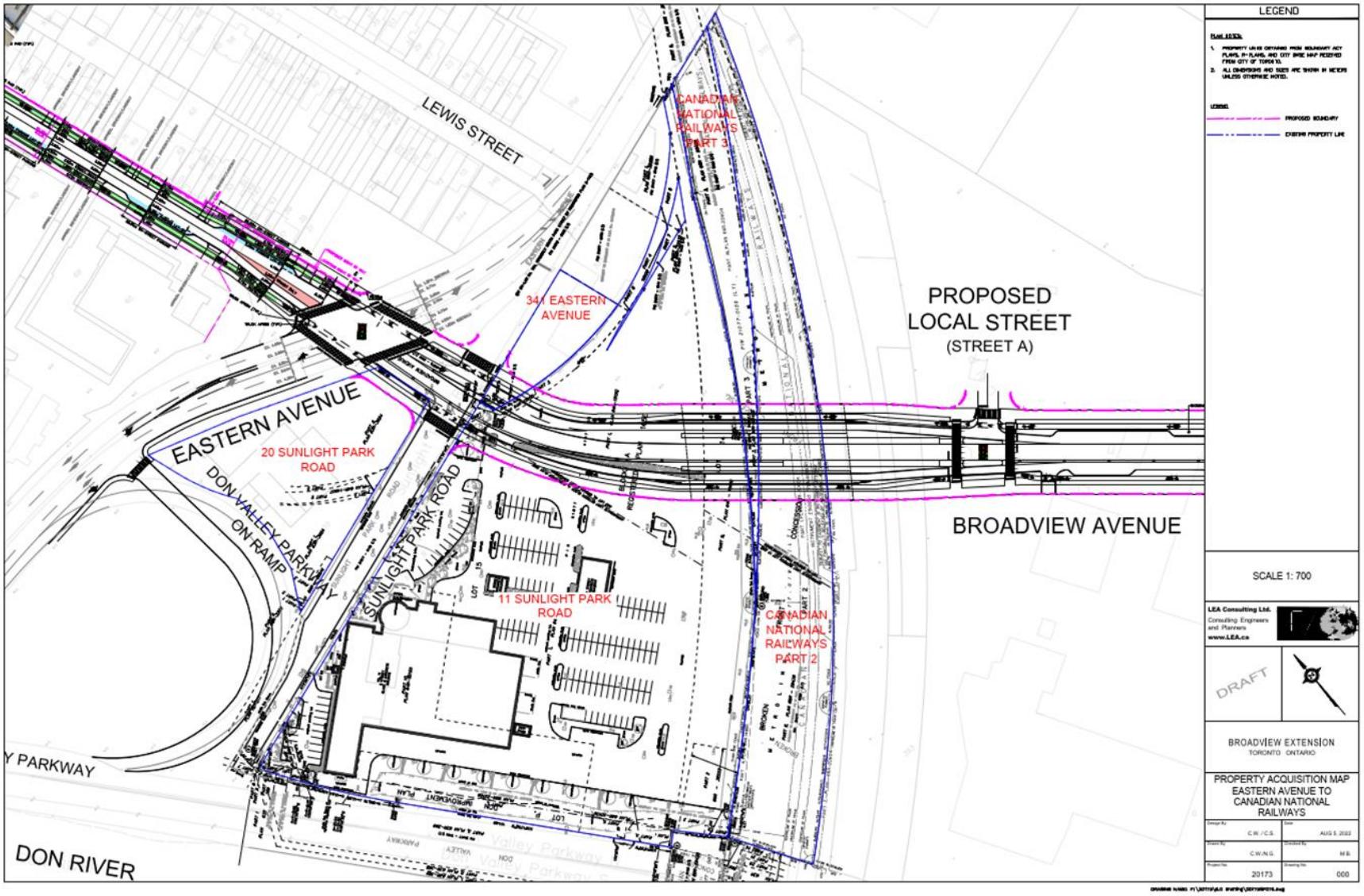
Where property is required for the Broadview Avenue Extension and the New East-West Street, the City will secure property through Planning Act approvals, where possible.

Table 9.1 - Property Impact Summary

Address	Estimated Property Required (m^2)	Total Property Area (m^2)	Percentage of Total Property (%)	Notes and Mitigation Measures
20 Sunlight Park Road	257	5,664	4.54%	No buildings impacted
11 Sunlight Park Road	4,642	36,871	12.60%	No buildings impacted
341 Eastern Avenue	228	1,501	15.20%	No buildings impacted; Potential billboard and outdoor storage impacted
TOTAL	**5,127 m^2**			

*Further minor alignment modifications will be explored at the property negotiation and detail design stage which may alter these figures.

Figure 9.1 - Property Impacts



9.10 Operations and Maintenance Activities

Best management approaches will be adopted to confirm that the Broadview Avenue Extension and New East-West Street will operate well. These approaches will centre around preventing negative environmental impacts, protecting the existing environment, and capitalizing on opportunities for the rehabilitation and enhancement of impacted areas. Post-construction monitoring and maintenance will be conducted to check that all mitigation measures are effective and functioning properly. Operating and maintenance costs will be determined in the detailed design phase of the project.

9.11 Summary

Phase 3 of the Class Environmental Assessment process requires identifying the potential impacts and determining appropriate mitigation measures. **Table 9.2** below indicates the anticipated impacts of the preferred design for the Broadview Avenue Extension and the New East-West Street, as well as proposed mitigation measures.

Table 9.2 - Anticipated Impacts and Proposed Mitigation Measures

Anticipated Impact		Response Mitigation Measure
Transportation Impacts	Disrupt access to adjacent properties during construction	• Access impacts will be mitigated through the construction process as the recommended design will be delivered in conjunction with new development in the area. • A construction staging plan should be completed to maintain access for and mitigate impact on the adjacent properties through the construction process.
Stormwater	Unilever Precinct is subject to enhanced flood risk from the Don River due to the additional flood pathway caused by the Broadview Avenue Extension's new railway grade separation at the rail corridor	• Detailed design will be coordinated with the BEFP to minimize flood risks from stormwater runoff. • Tree plantings and bioswales are planned along the road network to catch, store and filter stormwater. • Other stormwater management strategies that can be implemented include the use of permeable pavements and end of pipe treatments (e.g. Oil-Grit Separator) to improve the quality of, and discharge flow rate for stormwater. • Stormwater management study will be conducted using the City of Toronto Wet Weather Flow Management Guidelines.

Anticipated Impact		Response Mitigation Measure
Utilities	Identified constraints in the study area's complex sub-surface utilities and surfacing infrastructure that cannot be replaced.	• Consultation with utility agencies, detailed and up-to-date survey data from Toronto Water infrastructure and utility infrastructure, and subsurface investigations within the study will be required to confirm the presence of utilities and identify additional conflicts. • Any utility conflicts and/or impacted utilities identified will require consultation with applicable utility companies to formulate mitigation and improvement strategies. • Any utility redesigns within the road right-of-way shall be considered in relation to the City's typical cross-sections and standard separation requirements.
Archaeological	A Stage 1 Archaeological Assessment (Stage 1) was completed for the study area as part of the TSMP. Based on the results of the study, it was determined that a Stage 2 Archaeological Assessment is not required for the study area.	• If archaeological remains are found during subsequent construction activities, construction and alteration of the site shall stop immediately, and the relevant authorities and Indigenous Communities shall be immediately notified.

Anticipated Impact		Response Mitigation Measure
Climate Change	The addition of wide sidewalks, cycle tracks, and transit routes will encourage people to switch from vehicular use to sustainable modes of transportation. It is expected that 90% of trips undertaken in the study area will be made by people walking, cycling, or taking transit.	• A reduction in vehicle use will result in decreased greenhouse gas (GHG) emissions caused by automobiles. • To further reduce and mitigate the impacts of climate change, tree plantings and bioswales are planned to provide additional carbon storage and water retention for stormwater runoff. • During the detailed design process, a commitment shall be made to review, address, and reconfirm sustainable measures to further reduce and mitigate the negative effects of climate change.
Air Quality, Dust, and Noise	Cumulative construction impacts including dust and debris will be present in the study area due to the number of infrastructure projects being undertaken within the same period.	• To control dust and debris created during the construction of Broadview, water, calcium chloride, or other means recommended by the contractor team and accepted by the City will be applied. • It is recommended that ongoing air quality monitoring be undertaken throughout the construction of Broadview and be made publicly accessible for the community to access. • Construction activities will comply with the City of Toronto noise control by-law. Should exemptions to the noise by-law be required, the appropriate application should be made to City Council.

Anticipated Impact		Response Mitigation Measure
Natural Environment	A small portion of the study area, located adjacent to the Don River, is considered an environmentally significant area. Impacts of the recommended design are expected to occur in conjunction with other nearby developments. Some removal of existing trees and natural features is anticipated.	• The implementation of the recommended design will not be undertaken until the necessary flood protection work being undertaken by the TRCA is completed. • The recommended design includes bioswales to help manage stormwater and mitigate potential flooding and street trees to develop a tree canopy within the area and offset the minor loss of existing vegetation anticipated. • Construction work will be completed by contractors with close consultation with the City to minimize disruption to the existing natural environment. • Environmental management plans and site-specific Environmental Impact Studies will be conducted as identified by the City.
Groundwater and Source Protection	Groundwater table in the study area is high due to the proximity of the area. The study area is a Highly Vulnerable Aquifer area which is susceptible to contamination moving from the surface to the groundwater. The presence of industrial activity and extensive lake filling in the study area has resulted in groundwater and soil contamination.	• A Hydrogeological Assessment will be completed which will document the study area's hydrogeology and stratigraphy, confirm water-taking permit requirements, such as the Environmental Activity and Sector Registry (EASR) or Permit to Take Water (PTTW), identify potential impacts, and recommend mitigation measures, which will be incorporated into the Contract Package. • If a MECP's EASR or a PTTW be required, the Hydrogeological Assessment Report will be completed to the level of detail required for a PTTW or EASR. Any EASR registration/PTTW will be completed/obtained prior to the start of dewatering, if required.

Anticipated Impact		Response Mitigation Measure
Property Requirements and Impacts	Properties north of the Metrolinx rail embankment will need to be acquired by the City of Toronto in order to implement the Broadview Avenue Extension. In total, the study recommendations will depend on the partial acquisition of five properties.	• Affected property owners were consulted with to determine the impacts on their respective properties. Consultation between the property owners and City will continue to occur throughout the detailed design phase. • The recommended alignment reflects the City's best efforts at minimizing impact to private property owners, while working within geometric and design constraints, and the preferred solution identified by the TSMP.
Operations and Maintenance Activities	Operations and maintenance activities will need to be conducted to check that all mitigation measures are effective and functioning properly.	• Operations and maintenance activities will centre around preventing negative environmental impacts, protecting the existing environment, and capitalizing on opportunities for the rehabilitation and enhancement of impacted areas. • Operating and maintenance costs will be determined in the detailed design phase of the project.

10.0 Detailed Design Considerations

Through this EA Study, the preferred designs for the Broadview Avenue Extension and New East-West Street have been developed to a 10% (functional level) of design, which largely determined several key aspects of the preferred designs, including:

- Horizontal centreline alignment;
- Overall right-of-way width dimensions;
- Transit right-of-way width dimensions and stop locations;
- Vehicle traffic lane configurations and dimensions, including locations of signalized intersections and right- and left-turn lanes;
- Dimensions and location of wide and continuous sidewalks generally adjacent to the property line;
- Dimensions and configuration of continuous uni-directional cycle tracks, including required buffers from adjacent elements, and the need for protected cycling design elements at intersections; and
- Dimensions and configuration of green infrastructure elements (street trees, bioswales) within the boulevard, including the use of underground soil cells.

The 10% Preferred Designs achieve the vision and key design objectives identified in this EA for the Broadview Avenue Extension and the New East-West Street. Further detailed design work should adhere to the fundamental design of these elements depicted in the Preferred Designs, with an understanding that some minor design refinement will still need to occur, in consultation with City staff and key stakeholders.

Additional design work will also need to be undertaken in subsequent detailed design processes, including:

- Design of transit right-of-way for streetcars and interim bus operations, including: streetcar track geometry; streetcar catenary pole location and design; TTC platform design to accommodate both streetcars and interim bus service, vertical profile under the rail underpass transit stops; transit signal priority; design and operation of the transit right-of-way to and from mixed traffic operations at Broadview & Eastern and Broadview & Lake Shore intersections.

- Vertical profile of the roadway, transit right-of-way, sidewalk, and cycle tracks under the EHTH rail underpass, in co-ordination with the EHTH design process currently underway. In particular, efforts should be made to ensure adequate vertical clearance for vehicles and streetcars; vertical profile to meet streetcar technical operational requirements; vertical profile considerations to reduce stormwater and groundwater impacts; integration of streetcar overhead catenary infrastructure under the underpass.
- Protected intersection design for cyclists, in particular at the following signalized intersections: Broadview & Eastern, Broadview & Street A; Broadview & New East West Street; Broadview & Lake Shore; New East-West Street & Don Roadway; and New East-West Street & Booth.
- Refinement of the curb-to-property line boulevard design, including relationship of green infrastructure with the cycle track and sidewalk and the relationship and integration with the design of adjacent private property.
- Locations of vehicle lay-bys, especially along Street E, which should only be provided on alternating sides of the street on each block, in order to protect sufficient space for continuous rows of tree plantings.
- Determination of the material palette for the streetscape design. This is expected to include the applicable range of pavers for lay-bys and sidewalks. This will also include determining a palette of street furniture that is consistent with overall design of the right-of-way. Finally, streetlighting fixtures will be determined to consistent with the overall design approach.
- As noted the municipal servicing design will be developed through detailed design by the developer of the East Harbour TOC. This will include the design of the green street elements to ensure their success within the right-of-way.
- In addition to the above other technical investigative works may be required through the course of the detailed design process. These should be duly undertaken by the design team and shared with the City to inform the design.

Further detailed design work related to the above design elements is expected to be undertaken during subsequent detailed design processes.

In addition, it is critical that subsequent detailed design work be undertaken in close co-ordination with the designs being advanced for other area initiatives adjacent to the Broadview Avenue Extension and the New East-West Street, including: the East Harbour TOC Development, East Harbour Transit Hub, and Broadview and Eastern Flood Protection Project. It will be important to engage with key area stakeholders and agencies involved in these initiatives, including Metrolinx, TRCA, Waterfront Toronto, and the owner of the East Harbour TOC development.

10.1 Preliminary Cost Estimate

A preliminary cost estimate for the section of the Broadview Extension that will advance as a City capital project was prepared. This section extends from just north of the Eastern Avenue intersection to the south edge of the rail embankment. The preliminary cost estimate for this section of the street is $14.9 million. This excludes the cost of the underpass structure itself, which is being delivered as part of the East Harbour Transit Hub project. This estimate also excludes property acquisition costs, costs associated with transit infrastructure (i.e. streetcar tracks and platform), and costs to be determined at subsequent design stages, such as for utility relocations, soil remediation/risk assessment measures and to address other geotechnical matters. For a more detailed breakdown of the cost estimate for this section of the Broadview Extension see **Appendix I**.

The developer of the East Harbour site is responsible for designing and constructing the section of the Broadview Extension from the south side of the rail embankment to Lake Shore Boulevard East, and for the East-West Street.

11.0 Design Co-ordination with Other Area Initiatives

There are many planned transportation projects surrounding the Broadview Avenue Extension and New East-West Street projects that will support the development of the East Harbour neighbourhood. Design coordination between the Broadview Avenue Extension EA and the surrounding projects are therefore critical in ensuring that the planned transportation improvements are well integrated and support one another in creating an effective and connected transportation system.

11.1 East Harbour TOC Development

The East Harbour Development is being advanced as a transit-oriented community (TOC) that is expected to bring more than 50,000 jobs to the area, residential land uses, and community amenities. The development will benefit from the transit hub that will connect regional GO Trains, the new Ontario Line subway line, and the extension of the Broadview streetcar service through the South of Eastern area and into the Port Lands. The Broadview Avenue Extension and New East-West Street are required to support the East Harbour Development, and the developer of the site is responsible for designing and constructing the section of the Broadview Extension from the rail embankment to Lake Shore Boulevard East and the East-West Street.

The detailed design of the Broadview Avenue Extension at the underpass and to the north to Eastern Avenue will be co-ordinated with the East Harbour Development such that the projects support and integrate well with one another. Details of the construction staging approach and approach to implementation are provided in **Chapter 7.4** for the Broadview Avenue Extension and **Chapter 8.4** for the New East-West Street.

In addition, the design of the New East-West Street where it intersects with the Don Roadway and the south flood protection landform will require further design co-ordination to protect the flood protection landform's functionality.

11.2 Metrolinx SmartTrack and Ontario Line Projects

The Metrolinx SmartTrack Stations Program will provide additional stations across pre-existing GO rail corridors to

expand transit access and connectivity in Toronto. The Ontario Line is a 15.6 km subway line that operates between Exhibition Place (Ontario Place) and the Ontario Science Centre. A SmartTrack station and Ontario Line station comprise the East-Harbour Transit Hub and will offer transit connections with the Broadview streetcar. The Broadview Avenue Extension will further expand multi-modal transportation opportunities in the East Harbour Transit Hub by providing improved active transportation and streetcar routes with connections to the East Harbour SmartTrack station and Ontario Line station. The detailed design of the Broadview Avenue Extension will therefore be coordinated with the East Harbour SmartTrack station and Ontario Line station to establish an effective transportation network with strong active transportation and transit connectivity between the planned transit projects in the East Harbour neighbourhood.

11.3 Gardiner Expressway Reconfiguration and Lake Shore Boulevard East Public Realm Design

The Gardiner Expressway and Lake Shore Boulevard East corridor will be reconfigured between Lower Jarvis Street and Logan Avenue. The design for the reconfiguration includes removing the existing Gardiner-DVP connection and rebuilding the connection along an alignment closer to the rail corridor, reconstructing Lake Shore Boulevard East in a new alignment closer to the rail corridor, widening the Metrolinx Don River/DVP rail bridge, removing the Logan Street ramps while adding two ramps to the Keating Channel Precinct, and widening the Lake Shore-Don River bridge to permit a new left turn onto the DVP.

Lakeshore Boulevard East will include a new public realm design that includes enhanced sidewalks, a new bi-directional cycling trail, and additional landscape improvements. The Gardiner Expressway East Reconfiguration and Lake Shore Boulevard East Public Realm Design will create a multi-modal transportation network that will accommodate future vehicular traffic

demand while providing active transportation improvements. The Broadview Avenue Extension extends to Lake Shore Boulevard East, indicating that transportation connectivity is needed between the two projects. The 10% functional design for the Broadview Avenue Extension, prepared as part of this Study, incorporates the 100% design being constructed for Lake Shore Boulevard East at its intersection with Broadview Avenue. Detailed design of the Broadview Avenue Extension will continue to be coordinated with the Gardiner Expressway Reconfiguration and Lake Shore Boulevard East Public Realm Design to confirm that there is effective transportation connectivity between the projects.

11.4 Broadview and Eastern Flood Protection Project (BEFP)

The Broadview and Eastern Flood Protection Project is a Toronto and Region Conservation Authority (TRCA) initiative that aims to address flood vulnerability for an 8-hectare parcel of urban land located east of the Don River and south of Eastern Avenue. A flood protection strategy is being sought to eliminate flood risks to the area following the full implementation of the Don Mouth Naturalization and Port Lands Flood Protection Project (DMNP).

Although the Broadview Avenue Extension will provide greater transportation connectivity and access to the Port Lands and South of Eastern area, it will also enhance flood risk due to the creation of an additional flood pathway from the project's new railway grade separation. The Broadview and Eastern Flood Protection Project will need to establish strategies to prevent flood risks before the implementation of the Broadview Avenue Extension to minimize the risk of flooding to the area around Broadview and Eastern Avenue and the intersection design plans for Broadview Avenue and Lake Shore Boulevard East. As noted, flood protection is required to advance the East Harbour Development. Confirmation of the preferred design for Broadview Avenue assists in finalizing flood protection as identified through the Broadview and Eastern Flood Protection Project.

As both these projects continue to proceed through detailed design, it will also be important to co-ordinate the design work and construction timing and sequencing of the Broadview Avenue Extension with the Broadview and Eastern Flood Protection Project to minimize potential area flood risks and impacts to the design and functionality of the flood protection landform itself.

12.0 Permits and Approvals

Permits and approvals may be required to facilitate construction of the Broadview Avenue Extension and New East-West Street. Any required permits, approvals, or exemptions required shall be obtained prior to the start of construction. Permits anticipated to be required from, but not limited to, the following regulations discussed in the following sub-sections. The permits will be obtained by either the deisgn team, or Metrolinx during the subsequent design and construction phases. It is noted that additional permits could be required and will be identified during subsequent design and construction stages.

12.1 Provincial and Regional

Permits and/or approvals from the following provincial and regional regulations and agencies are anticipated to apply.

12.1.1 Toronto and Region Conservation Authority

The Broadview Avenue Extension and New East-West Street are located within the TRCA regulatory area. As the recommended design is proposed within TRCA regulated lands (O.Reg. 166/06), further consultation with TRCA and acquiring of the necessary permits will be required during the detailed design stage.

12.1.2 Permit to Take Water

A water-taking permit may be required to facilitate the construction of the recommended design. Further hydrogeological assessment studies may be required to be completed in the next design phase to determine if registry under MECP's Environmental Activity and Sector Registry or permit-to-take-water application is required for construction.

12.1.3 Species-at-Risk

The presence of species-at-risk (SAR) should be reconfirmed during the next design phase. If impacts to confirmed SAR are identified, consultation with the Ministry of Environment, Conservation and Parks (MECP) is required, and permitting requirements associated with the impacts may be required.

12.1.4 Metrolinx

The alignments for the Broadview Avenue Extension and New East-West Street partially fall within the Metrolinx Permit Review Zone and Corridor Development Permit zone. Coordination with Metrolinx will be undertaken to integrate the Broadview Avenue Extension with the East Harbour Transit Hub and Station. Further coordination with Metrolinx to acquire the necessary permits and approvals will also be required at the detailed design stage.

12.2 Municipal

Permits and/or approvals from the following municipal regulations and agencies are anticipated to apply.

12.2.1 Ravines and Natural Features Protection

Lands protected under the City's Ravines and Natural Features Protection (RNFP) By-law are located within close proximity, but outside of the recommended design location, and impacts to these regulated areas are not anticipated. If impacts to areas protected under the RNFP are identified as the design is refined in the detailed design stage, including the staging area, further consultation with the City's Parks, Forestry & Recreation division is required along with potential permitting requirements.

12.2.2 Waste Disposal

A Certificate of Approval for a Waste Disposal Site may be required subject to additional investigation during the detailed design phase. Disposal of contaminated material may be required.

12.2.3 Noise

Construction activities will comply with the City of Toronto noise control by-law. Should construction outside of allowable times be required, a noise by-law exemption shall be sought. During construction, appropriate notice will be provided to the community.

12.2.4 Construction and Road Occupation Permits

The appropriate construction and road occupation permits will need to be obtained prior to construction in order to facilitate the works.

13.0 Commitments and Monitoring

The Broadview Avenue Extension and New East-West Street will be monitored during the construction and post-construction process as outlined in the Draft Plan review/approval process. Consultation will be conducted with key groups including City Divisions, Agencies, and area stakeholders to identify the study area's potential environmental impacts and appropriate mitigation measures, which will then inform and confirm activities that will be monitored in future phases of the project. **Chapter 9.0** summarized the anticipated impacts of the preferred design for the Broadview Avenue Extension and the New East-West Street as well as proposed mitigation measures. Based on the **Chapter 9.0** effects assessment, the following commitments were determined:

Transportation – A traffic assessment for the study area will be conducted as part of the detailed design process to assess the area's planned traffic movements and identify if modifications to the storage lengths provided at the proposed intersections.

Stormwater – A stormwater management study will be conducted and approved by the City and Toronto Water as part of development applications in the area to further examine strategies to optimize stormwater quantity and quality control using the City of Toronto Wet Weather Flow Management Guidelines.

Utilities – Consultation with utility agencies, detailed and up-to-date survey data from Toronto Water infrastructure and utility infrastructure, and subsurface investigations within the study will be required to be obtained during the next design phase to confirm the presence of utilities in the study area and identify additional conflicts.

Archaeological – If archaeological remains are found during subsequent construction activities, construction and alteration of the site shall stop immediately, and the relevant authorities and Indigenous Communities shall be immediately notified.

Climate Change – During the design development process, a commitment shall be made to review, address, and reconfirm sustainable measures in the detailed design to further reduce and mitigate the negative effects of climate change.

Air Quality, Dust, and Noise – Construction activities will comply with the City of Toronto noise control by-law. Should exemptions to the noise by-law be required, the appropriate application will be made to City Council.

Natural Environment – Implementation of the recommended design will not be undertaken until the necessary floor protection work being undertaken by the TRCA is completed. Environmental management plans and site-specific Environmental Impact Studies will be conducted as identified by the City. Additionally, consultation will occur with the MECP and Fisheries and Oceans Canada (DFO) to discuss matters related to Species at Risk.

Groundwater and Source Protection – A hydrogeological assessment will be completed during the detailed design phase and a commitment to this future assessment will be added in the ESR. Should a registration under MECP's EAR or a PTTW be required, registration/PTTW will be completed/obtained prior to the start of dewatering, if required.

Property Requirements and Impacts – Affected property owners were consulted with to determine the impacts on their respective properties. Consultation between the property owners and City will continue to occur throughout the detailed design phase.

Operations and Maintenance Activities – Operations and maintenance activities will center around preventing negative environmental impacts, protecting the existing environment, and capitalizing on opportunities for the rehabilitation and enhancement of impacted areas. Operating and maintenance costs will be determined in the detailed design phase of the project.

14.0 Revisions and Addenda to the Environmental Study Report

This section will delineate minor adjustments that have been contemplated in the recommended design and major changes that would necessitate a formal addendum to the ESR. Any addenda required shall be led with the ESR and the Notice of Filing of Addendum shall be given immediately to all potentially affected members of the public and review agencies, as well as those who were notified in the preparation of the original ESR. The ESR addendum will be placed on the public record with the City of Toronto for a 30-day review period. An eligible person or party with concern regarding the addendum may only make a written request to the Minister of the Environment for a Section 16 Order of the Environmental Assessment Act on the grounds of preventing, mitigating or remedying adverse impacts on constitutionally protected Aboriginal and treaty rights within this 30-day review period. Provided that no Section 16 Orders are received, the City of Toronto may proceed to Phase 5 of the Class EA process, design and construction.

14.1 Lapse of Time

According to the MCEA process, "If the period of time from the filing of the Notice of Completion of Environmental Study Report in the public record or the MECP's denial of a Section 16 Order request(s), to the proposed commencement of construction for the project exceeds ten (10) years, the proponent shall review the planning and design process and the current environmental setting to confirm that the project and the mitigation measures are still valid given the current planning context. The review shall be recorded in an addendum to the Environmental Study Report which shall be placed on the public record."

It should be noted that the above noted expiration of the approval is subject to further extensions offered by the Minister in accordance with Environmental Assessment Act R.S.O 1990, E. 18, s. 11.5 (as amended July 21, 2020). The extension offered by the Minister can be issued at any time including after the 10th anniversary of the approval and the Minister can through the extension set a date in which the approval would expire.

14.2 Change in Planning Context or Background Conditions

Subsequent to the filing of the ESR, any modification to the project or change in the environmental setting for the project shall be reviewed by the proponent. Should the change be considered significant, it should be documented as an addendum to the ESR detailing the circumstances necessitating the change, the environmental implications of the change, and the mitigating measures. A minor change to the undertaking can proceed without an addendum as long as they are in line with the intent of the environmental assessment.

14.3 Land Acquisition

It is anticipated that most of the property required to develop the recommended design for the Broadview Avenue Extension and New East-West Street will be acquired through the planning process as part of either the plans of subdivision or site plans for the adjacent development blocks, particularly south of the Metrolinx Rail Embankment.

North of the rail embankment, lands may be required to be purchased from two identified landowners; Talisker and the owners of 341 Eastern Avenue. As these sites do not currently have active development applications, the realization of the Broadview Avenue Extension north of the rail embankment may occur outside of the development approval process with funding from others to support active development in the Unilever Precinct.

The Broadview Avenue Extension does not extend through any existing buildings and primarily impacts surface parking and storage areas.

Due to constraints within the area and the proposed design of Broadview Avenue, there are limited possibilities for any design modifications to occur. Should recommendations for the alignment and vertical profile be recommended that no longer meet the parameters outlined in **Chapter 7.0** and **Chapter 8.0**, an addendum would be required.

14.4 Archaeological

As noted in **Section 9.4**, a Stage 2 Archaeological Assessment is not anticipated to be required due to the limited archaeological potential identified by the TSMP for the area where the recommended Broadview Avenue Extension and New East-West Street alignments will be

located. Thus, an addendum to this ESR to address archaeological concerns is not anticipated.

14.5 Geotechnical Investigation

As part of this EA Study and the preceding TSMP, geotechnical investigations were not conducted. It is understood that, through the course of the Development Application process for the adjacent development blocks to the New East-West Street and segment of the Broadview Avenue Extension south of the rail corridor, a soil management and soil excavation plan will be prepared for the subject sites. Through this process, it is expected that additional information regarding the soil composition will be obtained.

North of the rail corridor, where there are currently no active development applications, it is expected that further geotechnical investigations will need to be undertaken by the constructing party for the properties north of the rail corridor as redevelopment and/or land acquisition of these lands occurs.

Through the course of the geotechnical investigations, it may be identified that the soil conditions within the proposed ROWs are unsuitable. In such cases a qualified person (as outlined in Ontario Regulation 153/04) will be engaged to develop either a soil treatment or disposal program. The undertaking of these geotechnical investigations is not anticipated to result in any changes to the recommended design nor trigger an addendum.

14.6 Broadview and Eastern Flood Protection (BEFP)

The Broadview and Eastern Flood Protection Project (BEFP) is a Toronto and Region Conservation Authority (TRCA) initiative that aims to address flood vulnerability for an 8-hectare parcel of urban land located east of the Don River and south of Eastern Avenue. Completion of the BEFP is required to accommodate the East Harbour Development and implementation of the Broadview Avenue Extension and New East-West Street. Construction of the Broadview Avenue Extension and New East-West Street must not impact the BEFP to minimize potential area flood risks and impacts to the design and functionality of the flood protection landform itself.

Should the construction of the BEFP, not be completed or the design modified, the implications on the resulting flood plan will be required to be reviewed. This could

result in significant modifications to the design of the Broadview Avenue Extension. Should significant changes be required to Broadview Avenue Extension to respond to changes in the design of the BEFP, an addendum to the ESR would be required.

14.7 Intersection Design

The recommended design for the Broadview Avenue Extension and New East-West Street has been developed based on the latest understanding of the development plans for the adjacent development blocks. The intersection control and recommended configuration within the stud area subject to further detailed traffic analysis. This is expected to include the storage length provided, width of the sidewalks provided, and width of queuing areas cycling facilities.

Any of the above modifications should be considered along with the overall design objectives set forth for the ESR. Minor changes to intersection design, such as the storage length required for turn-lanes, along the Broadview Avenue Extension and New East-West Street will therefore not require an addendum to the ESR.