ENVIRONMENTAL STUDY REPORT (ESR)

City of Toronto

Southwest Agincourt Transportation Connections Study

Submitted to:

City of Toronto

Submitted by:

WSP Canada Inc.

25 York Street Toronto Ontario

M5J 2V5

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Executive Summary

E-1 INTRODUCTION

Southwest Agincourt is intensifying with areas transitioning from predominantly low-rise residential and employment uses to higher-density mixed-use buildings. Ongoing and planned developments between Highway 401 and Sheppard Avenue East, from Kennedy Road to West Highland Creek, will result in approximately 8,000 new residents living in the area along with new retail and office spaces. Transportation infrastructure improvements are needed to support the growing number of people living and working in this area. Increased traffic from anticipated developments will lead to greater traffic congestion without alternative routes, and the area lacks safe active transportation routes. The Study Focus Area is bound by Kennedy Road to the west, Dowry Street to the north, the Stouffville GO Train Line to the east, and Village Green Square to the south. A map of the Study's Focus Area is shown in **Exhibit E-1**.

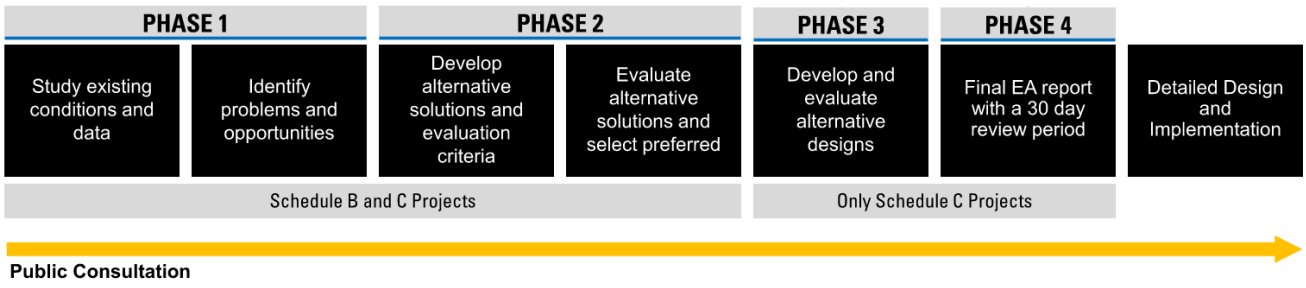
Exhibit E-1: Southwest Agincourt Transportation Connections Study Focus Area

The City's Official Plan and the Agincourt Secondary Plan identify the need for a new complete street between Sheppard Avenue East and Village Green Square. The provision of this new street will address some of the needed transportation improvements in the area. The street will improve transportation network safety, connectivity to local destinations, emergency access and has the potential to improve traffic flow along Kennedy Road and Sheppard Avenue East.

The City of Toronto initiated the Municipal Class Environmental Assessment (MCEA) process in 2019 for the extension of a new complete street that would link Sheppard Avenue East and Village Green Square. This process is approved under the Ontario Environmental Assessment Act. The Southwest Agincourt Transportation Connections Study has met the requirements of Schedule 'C' of the MCEA for the new complete street by completing Phases 1 through 4 of the MCEA process. The final phase, Phase 5, involves the implementation of the recommended improvements. **Exhibit E-2** provides an illustration of the Study process.

- Phase 1: Identify the Problem or Opportunity.
- Phase 2: Identify and Evaluate Alternative Solutions.
- Phase 3: Identify and Evaluate Alternative Designs for the preferred design.
- Phase 4: Prepare and File the Environmental Study Report (ESR) for a 30-day public review period.

Exhibit E-2: 4 Phases of a Schedule 'C' Municipal Class EA



As part of the Study, other opportunities were identified to better connect intensifying mixed-use areas to transit through active transportation network improvements that would be pre-approved projects under the Municipal Class EA process. Additional transportation improvements recommended in the Study include:

- A north-south multi-use trail on the east side of Village Green Square to Sheppard Avenue East, parallel to the Highland Creek under an existing CP Rail bridge connecting to key destinations including Agincourt GO station and Collingwood Park;
- New sidewalk on both sides of Collingwood Street to improve pedestrian safety and accessibility along with on-street parking on one side of the street;
- Interim cycle tracks along Sheppard Avenue East between Gordon Avenue and Agincourt GO station driveway;

- On-street parking and advisory bike lanes on Reidmount Avenue;
- New advisory bike lanes on a segment of Dowry Street and the closure of a segment of Dowry Street to vehicular traffic with expanded public realm to enhance pedestrian and cycling connections to the Agincourt GO Station; and
- Pedestrian and cycling safety enhancements at the Sheppard Avenue intersection at the Agincourt GO driveway.

Notwithstanding the fact that the new north-south multi-use trail is exempt from a Schedule ‘B’ or ‘C’ EA process (based on its 30 percent costing being well under the $4.1 million threshold from the MCEA), the process followed the typical Schedule 'C' process. This was carried out to develop a multi-use trail that best serves the area.

The City of Toronto issued the Notice of Commencement for the Study on June 29, 2020. The Study was undertaken by WSP on behalf of the City and was done in collaboration with key stakeholders at the City of Toronto, partner agencies and other important stakeholders through an extensive program of public and agency consultation.

The Environmental Study Report (ESR) documents the work undertaken to satisfy Phases 1 to 4 of the MCEA process. This includes consultation with interest groups and the public, completion of detailed technical studies, development of Alternative Solutions and Alternative Designs, selection of preferred designs and identifying potential environmental impacts and mitigation plans. The ESR will be placed on the public record for 30 calendar days to provide agencies and interested parties an opportunity to review and comment.

E-2 EXISTING CONDITIONS

The existing conditions of the study area, such as natural environment, socio-economic environment, cultural environment, transportation and utilities have been reviewed and summarized in Section 3.0 of the ESR to define a baseline for assessment of potential impacts as a result of the proposed improvements. The following highlights the key observations from the existing conditions evaluation that influences study consideration:

- There are a few designated natural areas within the study area associated with environmental policy designations. Natural features observed though background review and field investigations are limited to the West Highland Creek watercourse, the treed area surrounding the railway corridor, and Collingwood Park.
- To analyze the existing hydraulic conditions of the Bendale branch of the West Highland Creek, a coupled 1D-2D flood model was constructed in consultation of TRCA to more accurately reflect the hydraulic conditions associated with the double rail crossing between the CP Rail and GO Rail corridors within the study area. Floodplain impacts of any new facility within the existing floodplain limit or new crossings over the West Highland Creek would require significant study and mitigation measures.
- Based on the existing traffic conditions assessment, there are pinch points developing at the arterial-to-arterial intersections along Sheppard Avenue and Kennedy Road that result in longer queues and the impediment of traffic flow in future conditions.

- There is currently a lack of transportation connectivity between Collingwood Street, Cowdray Court and Village Green Square, which result in most pedestrians and motorists having to use Kennedy Road as a means of connecting to Sheppard Avenue or the key points of interest (i.e., Agincourt GO Station or TTC services. There are both traffic congestion developing along Kennedy Road along with the fact that the pedestrian facilities along Kennedy Road do not provide a comfortable environment for pedestrians.

E-3 PROBLEMS AND OPPORTUNITIES

The first phase of the Municipal Class EA process requires studying existing and planned built, natural, social, economic and environmental conditions in an area to inform the identification of problems and opportunities that the EA will address. The Problem and Opportunity Statement developed for this Study is as follows:

The study area is experiencing significant growth and is constrained by the Canadian Pacific Railway, Metrolinx Stouffville GO Rail Corridor, and the West Highland Creek, resulting in a disconnected local street network that limits the movement of people in the area.

The Agincourt Secondary Plan provides direction for the expansion of the transportation network to accommodate the growth that is expected to occur in the area.

The Environmental Assessment will evaluate alternatives to provide for the planned transportation network and grade separation using existing and potential new street and multi-use trail connections. The infrastructure improvements will help support development growth within the Focus Area and improve access to Agincourt GO Station, Collingwood Park, schools, and other local destinations.

E-4 ALTERNATIVE SOLUTIONS

To address the Problem and Opportunity statement, Alternative Solutions were developed and evaluated in Phase 2 of the EA process for their ability to improve connectivity and support the existing and planned development within the study area. There were seven solution groups, out of which five Alternative Solutions were recommended to be carried forward to the next stage of development. Based on the review presented in **Section 4**, **Table E-1** summarizes the evaluation of the Alternative Solutions.

Table E-1: Summary of Evaluation for Alternative Solutions

Alternative Solutions	Recommendation	EA Schedule
Do Nothing	Yes (mandatory to be carried forward in EA evaluation process)	N/A
High occupancy vehicle lane	No	A+ (EA exempt)
New complete street	Yes	C
Optimize existing streets	Yes	A or A+ (EA exempt)
New multi-use trail	Yes	A+ (if project cost ≤ $4.1M) B (if project cost ≥ $4.1M) C (if project cost ≥ $12M)
Other surface transit improvements	Yes	A+ (EA exempt)
Only Transportation Demand Management Measures	No	N/A

E-5 EVALUATION CRITERIA AND METHODOLOGY

The evaluation criteria developed for evaluating Alternative Designs (alternative alignments and street designs) considered the Problem and Opportunity Statement, technical feedback from the Study's Technical Advisory Committee and mandatory considerations from the Municipal Class EA. The project team presented the framework and criteria to the public and stakeholders as part of the first round of consultation for feedback. The evaluation criteria selected were grouped into broad categories, consisting of constructability and design, natural environment, social and economic environment, cultural environment, policy framework, healthy communities and equitable mobility. The evaluation criteria and methodology used are detailed in **Section 5**.

E-6 ALTERNATIVE DESIGNS

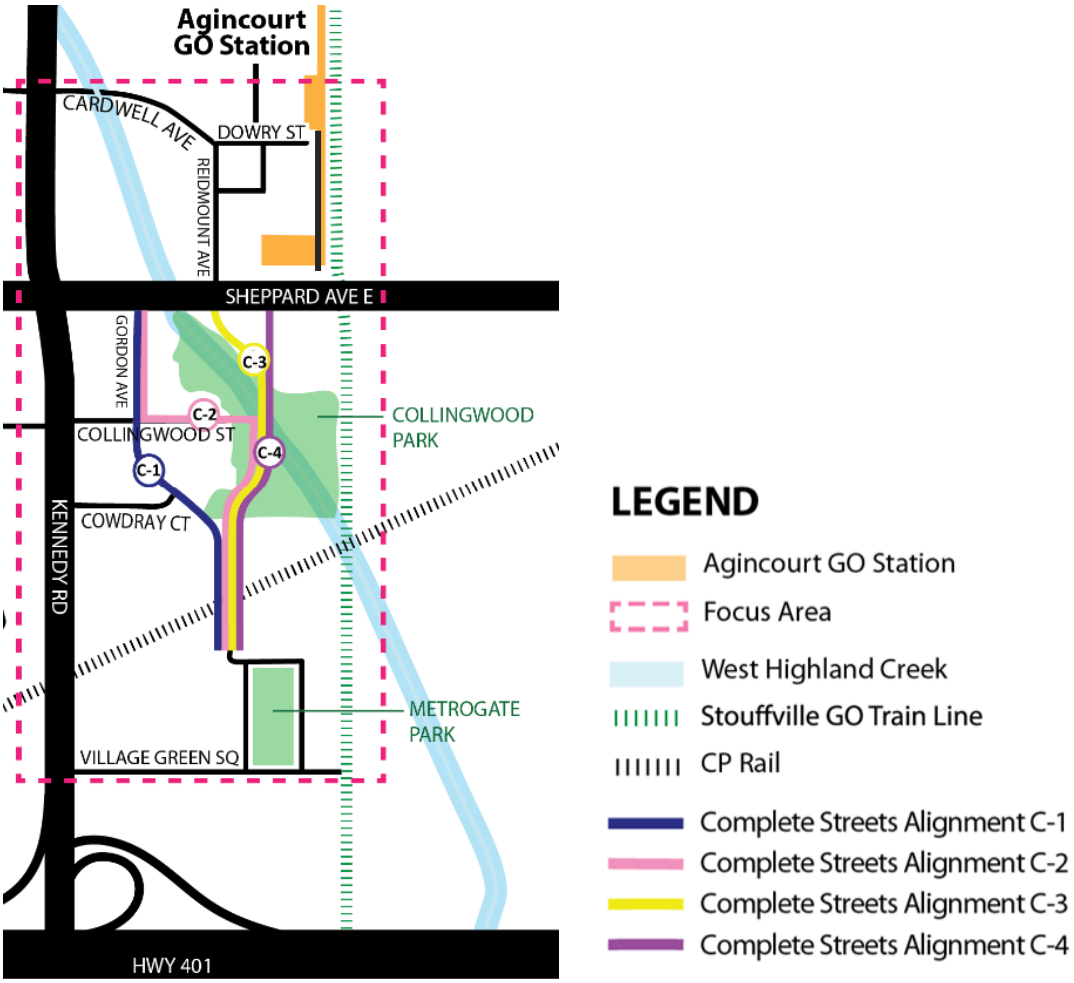
The alternative alignments developed in **Section 4** for the new complete street and multi-use trail Alternative Solutions were evaluated using the criteria and methodology defined in **Section 5**.

E-6-1 New Complete Street

As previously noted, the new complete street alternative solution is required to satisfy phases 1 through 4 of the Municipal Class EA process. In recognition of this, the Study reviewed alternative alignments followed by alternative cross-sections to arrive at a preferred design.

Four potential new complete street alternatives were developed for this category involving different alignments through the study area as shown in **Exhibit E-3**. Each alternative alignment connects Sheppard Avenue, Collingwood Steet, Cowdray Court, and Village Green Square.

Exhibit E-3: Map of Potential New Complete Street Alignments



Based on the comparison of all four new complete street alternatives along with the “Do Nothing” scenario, Alternative C-1 is recommended as the preferred. It provides a direct connection between Sheppard Avenue East and Village Green Square while having the least technical challenges and environmental, socio-economic impacts. The detailed evaluation summary is provided in **Section 6.1**.

Following the selection of the preferred new complete street alignment, different cross-section alternatives were developed for Gordon Avenue and the segment of the new complete street between Collingwood Street and Cowdray Court.

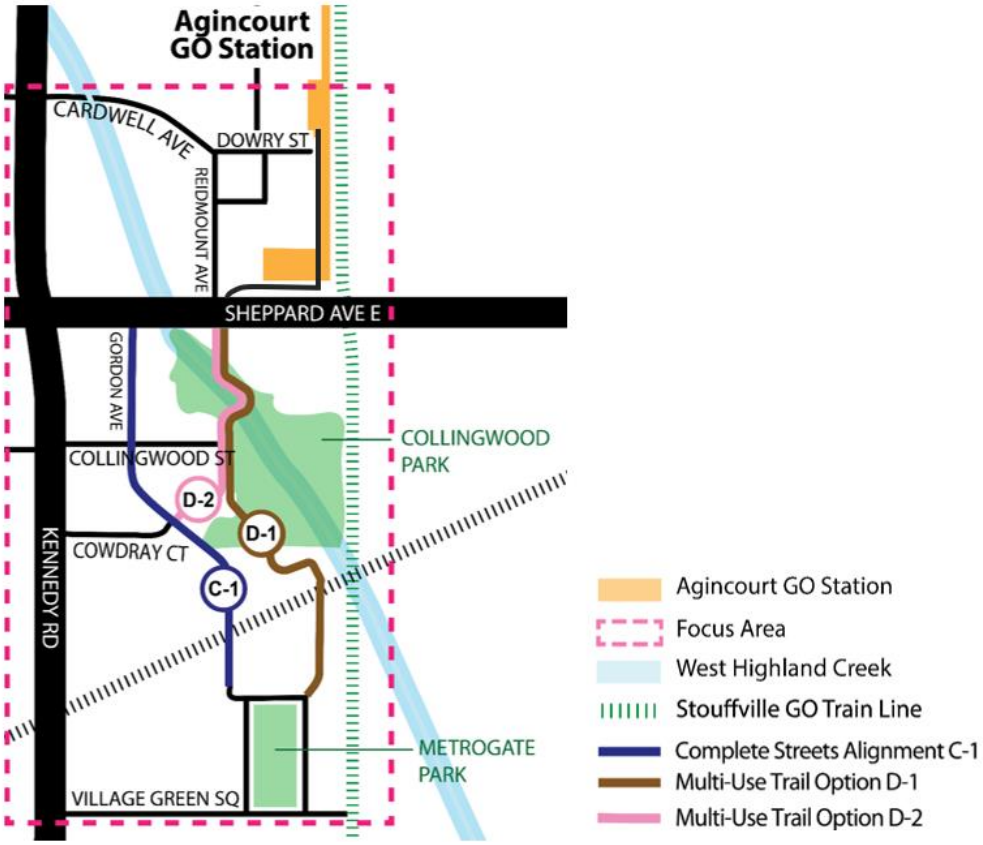
- Gordon Avenue (Sheppard Avenue to Collingwood Street): Two cross-section alternatives were developed and evaluated for the Gordon Avenue section (proposed 20 m ROW) between Sheppard Avenue East and Collingwood Street. The design variables included the relocation of existing overhead hydro lines allowing for a 2.1 m sidewalk on the east side of Gordon Avenue and the type of bikeway. Alternative 2 - Enhanced Option is the recommended cross-section for Gordon Avenue. The detailed evaluation of the cross-section alternative design is provided in **Section 6.1.3**.
- Complete street (new section between Collingwood Street to Cowdray Court): Two cross-section alternatives were developed and evaluated for the new complete street section (proposed 23 m ROW) between Collingwood Street and Cowdray Court. Design variables for this section of the street includes the width and type of the bikeways and planting area size and type. Alternative 2 - Enhanced Option is the recommended cross-section for this segment of the new complete street. The detailed evaluation of the cross-section alternative design is provided in **Section 6.1.3**.

E-6-2 Multi-use Trail

A new multi-use trail connection would serve key destinations and origins in the study area including Agincourt GO Station, Collingwood Park, Kennedy Road/Sheppard Avenue and local transit. As noted earlier, the north-south multi-use trail is exempt from Schedule B and C of MCEA process. The Study assessed two potential multi-trail alignment options considering the objective of transportation connectivity through the area. Each alternative connected Sheppard Avenue to Village Green Square. The two multi-use trail alignments are shown in **Exhibit E-4** and described as follow:

- Alternative D-1 begins at the cul-de-sac of Village Green Square and extends north through the block of land east of the Metrogate development. The new trail then crosses the CP Rail corridor near the double rail crossing under an existing opening. North of the rail tracks, the trail follows the west side of Highland Creek and uses the existing pedestrian bridge over the creek. Once on the east side of Highland Creek, the new trail would require property at 4061 Sheppard Avenue East to connect to Sheppard Avenue East.
- Alternative D-2 relies on the new complete street south of Cowdray Court to provide a connection to Village Green Square south of the CP Rail corridor. It then connects from Cowdray Court and continues west of Highland Creek. From that point on, it follows the same alignment as D-1.

Exhibit E-4: Map of Potential New Multi-use Trail Alignment



Based on the comparison of the two multi-use trail alignment alternatives, Alternative D-1 is recommended as the preferred for the following reasons:

- Provides a new active transportation route that is independent of the new complete street. This provides flexibility in terms of delivery, construction phasing and also network resiliency for active transportation – particularly to/from Agincourt GO Station.
- Provides a consistent user environment along the trail as opposed to D-2, where a pedestrian and cyclist may need to transition from facilities along the new complete street to the multi-use trail environment.

E-6-3 Property Requirements

Property is required to achieve the upgrades to Gordon Avenue and construction of the new complete street and new multi-use trail as discussed in **Section 6.3**. An initial property impact assessment was conducted to identify potential private property needs and are summarized below.

Required for Gordon Avenue improvements and new complete street:

- A portion of 4045 Sheppard Avenue West is needed to facilitate a left-turn lane and street geometry;
- 9 Collingwood Street;
- A small portion of 11 Collingwood Street; and
- 20, 40, 50, 70, 80, 100 Cowdray Court, which is anticipated to be obtained as a condition of the current Plan of Subdivision application that is under review with timing of the conveyance to be determined.

Required for multi-use trail:

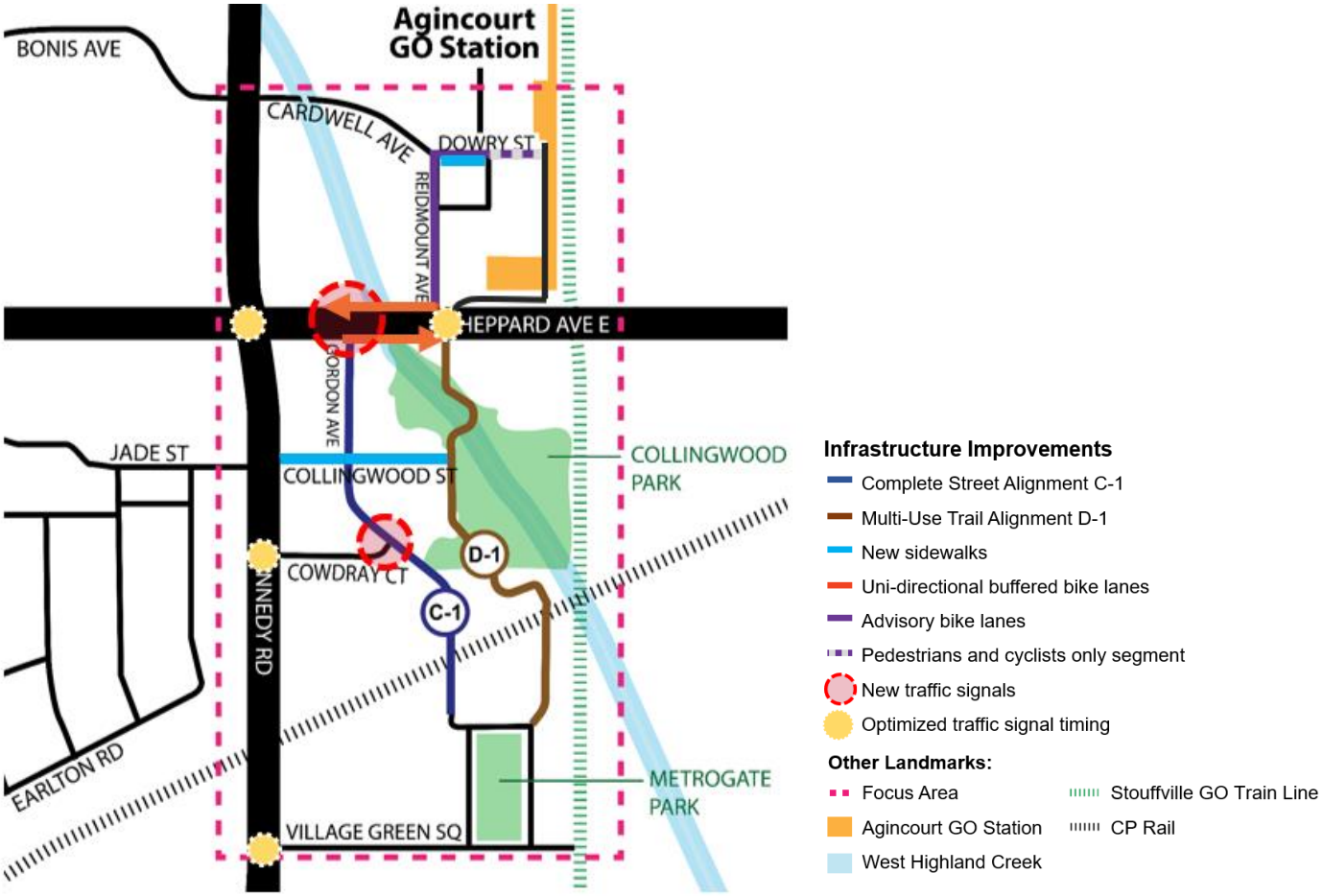
- A portion of 4061 Sheppard Avenue East; and
- 20, 40, 50, 70, 80, 100 Cowdray Court, which is anticipated to be obtained as a condition of the current Plan of Subdivision application that is under review with timing of the conveyance to be determined.

Potentially affected property owners were notified of potential impacts via targeted letters and meetings; and there have been ongoing discussions with the developer of the Cowdray Court lands. Final property requirements will be confirmed during detailed design.

E-7 PREFERRED DESIGNS

The overall transportation improvements, including the preferred design of the new complete street, multi-use trail and other transportation improvements, have been summarized below and are illustrated in **Exhibit E-5**.

Exhibit E-5: Overall Recommended Package of Transportation Improvements



1) A new complete street connecting Sheppard Avenue to Village Green Square. The street includes three sections, as follows:

    a. **Gordon Avenue Section (Sheppard Avenue to Collingwood Street)**: Sidewalks and uni-directional buffered bike lanes will be present on both sides of Gordon Avenue. The street will continue to have one vehicular lane per direction, with a dedicated northbound left-turn lane at the intersection with Sheppard Avenue. The 20 m ROW will be retained for the most part, except for the intersection at Sheppard Avenue where a 23 m ROW is required to accommodate the northbound left-turn lane.;

b. **New Complete Street (New section between Collingwood Street to Cowdray Court)**: Along this new complete street segment there will be sidewalks and uni-directional in boulevard cycle track on both sides of the street. The complete street will feature one vehicular lane in each direction and feature a 23 m ROW. The complete street will intersect with the realigned Cowdray Court as a signalized intersection.

c. **New Complete Street (New section between Cowdray Court to Village Green Square)**: Along this new complete street segment there will be sidewalks and uni-directional in boulevard cycle tracks on both sides of the street. However, the boulevard planting area tapers down approaching the underpass through the CP Rail corridor to achieve the agreed upon 19 m ROW for the underpass structure. South of the underpass, the complete street ties back into the existing ROW along Village Green Square. Pedestrian crossing improvements are proposed at the Village Green Square 'T' intersection south of the underpass.

2) A north-south multi-use trail from the east side of Village Green Square to Sheppard Avenue East, parallel to Highland Creek under the existing CP Rail bridge, connecting to key destinations including Agincourt GO Station and Collingwood Park.

3) Other Transportation Improvements

   a. New sidewalk on both sides of Collingwood Street to improve pedestrian safety and accessibility along with on-street parking on one side of the street;

   b. Interim cycle tracks along Sheppard Avenue East between Gordon Avenue and Agincourt GO station driveway;

   c. Pedestrian and cycling safety enhancements at the Sheppard Avenue intersection at the Agincourt GO driveway;

   d. On-street parking and advisory bike lanes on Reidmount Avenue;

   e. New advisory bike lanes on a segment of Dowry Street and the closure of a segment of Dowry Street to vehicular traffic with expanded public realm to enhance pedestrian and cycling connections to the Agincourt GO Station; and

   f. Realignment and improvement of Cowdray Court.

4) Surface Transit Improvements will be implemented based on TTC's input to the future bus services serving the focus area. Segments of the complete street have been designed to accommodate future bus services as requested by TTC.

5) Signal timing optimization of existing signals along Sheppard Avenue and Kennedy Road will be implemented with consideration of the proposed new signal at Sheppard Avenue and Gordon Avenue as well as the future traffic patterns.

30 percent designs were prepared for the preferred new complete street, multi-use trail and other improvements to existing streets as outlined in the above list. The 30 percent design and cost estimates are detailed in **Section 7**.

The improvements to existing streets as noted in the list above (i.e., Collingwood Street, Sheppard Avenue, Reidmount Avenue, and Dowry Street) are recommended to support the effectiveness of the preferred new complete street and multi-use trail. It is important to note that the improvements to existing streets do not impact private property and are exempt from EA evaluations since they are primarily pavement marking, signage and right-of-way reallocation.

Detailed design considerations for the package of recommended improvements are provided in **Section 7** as well.

E-8 POTENTIAL ENVIRONMENTAL IMPACTS, MITIGATION MEASURES AND COMMITMENTS TO FUTURE WORK

Mitigation of negative effects is applied throughout the MCEA process, including development of alternatives to avoid constraints, and selection of the preferred designs by identifying the alternative that has the least overall effects on the environment. Some negative effects cannot be totally avoided; therefore, additional mitigating measures are identified in order to avoid or minimize effects. These measures will be further developed and finalized in the next phase of design and will be included in the contract documents for implementation during construction. The mitigation measures and commitment to future work related to the complete street are detailed in **Section 8** and account for feedback received from different agencies and stakeholders regarding the preferred package of improvements. Next steps related to the multi-use trail are also identified in Section 8.

E-9 CONSULTATION

Public and stakeholder consultation was an integral component of this EA study. Consultation was undertaken as part of the Study with the public, stakeholders, property owners, businesses, agencies, utilities, and Indigenous First Nations. A Technical Advisory Committee (TAC) was also formed, consisting of representatives from the City of Toronto Divisions and partner agencies, to inform the EA Study.

There were two rounds of consultation, and the consultation process satisfied the requirements for Phases 1 through 4 of the Municipal Class Environmental Assessment process for Schedule C projects. The first round of public consultation occurred in September 2020 and sought public and stakeholder feedback on the Alternative Solutions and their evaluations, and on the alternative alignments for the new complete street and new multi-use trail. The second round of public consultation took place in July 2022. During this round of consultation, members of the public and stakeholders were provided with opportunities to offer feedback on preferred alignments, Alternative Designs and the preferred designs for the new complete street and the new multi-use trail, and other transportation improvements in the study area.

Notification activities for each round of consultation included:

- mailed notices to properties in the study area
- print advertisements in local newspapers
- email notification to key stakeholders, agencies, utilities

- email notification to Indigenous First Nations
- email notification to individual residents and groups who signed up to receive updates
- letters via direct mail to affected property owners.

Opportunities for feedback included:

- two virtual public meetings, one in each round of consultation
- online surveys in each round of consultation
- individual meetings with stakeholders and affected property owners
- correspondence with the project team via phone and email.

A public web page with detailed information about the study, the alternative solutions and design options, opportunities for feedback and a City of Toronto contact was maintained and updated throughout the study.

Further detail on consultation activities and a summary of feedback received are documented in **Section 9**. Detailed public consultation summary reports and records of correspondence are included in **Appendix X**.

1 INTRODUCTION

1.1 Study Purpose and Study Area

Southwest Agincourt is intensifying with areas transitioning from predominantly low-rise residential and employment uses to higher-density mixed-use buildings. Ongoing and planned developments between Highway 401 and Sheppard Avenue East, from Kennedy Road to West Highland Creek, will result in approximately 8,000 new residents living in the area along with new retail and office spaces. Transportation infrastructure improvements are needed to support the growing number of people living and working in this area. Increased traffic from anticipated developments will lead to greater traffic congestion without alternative routes, and the area lacks safe active transportation routes.

The City's Official Plan and the Agincourt Secondary Plan identify the need for a new complete street between Sheppard Avenue East and Village Green Square. The provision of this new street will address some of the needed transportation improvements in the area. The street will improve transportation network safety, connectivity to local destinations, emergency access and has the potential to improve traffic flow along Kennedy Road and Sheppard Avenue East.

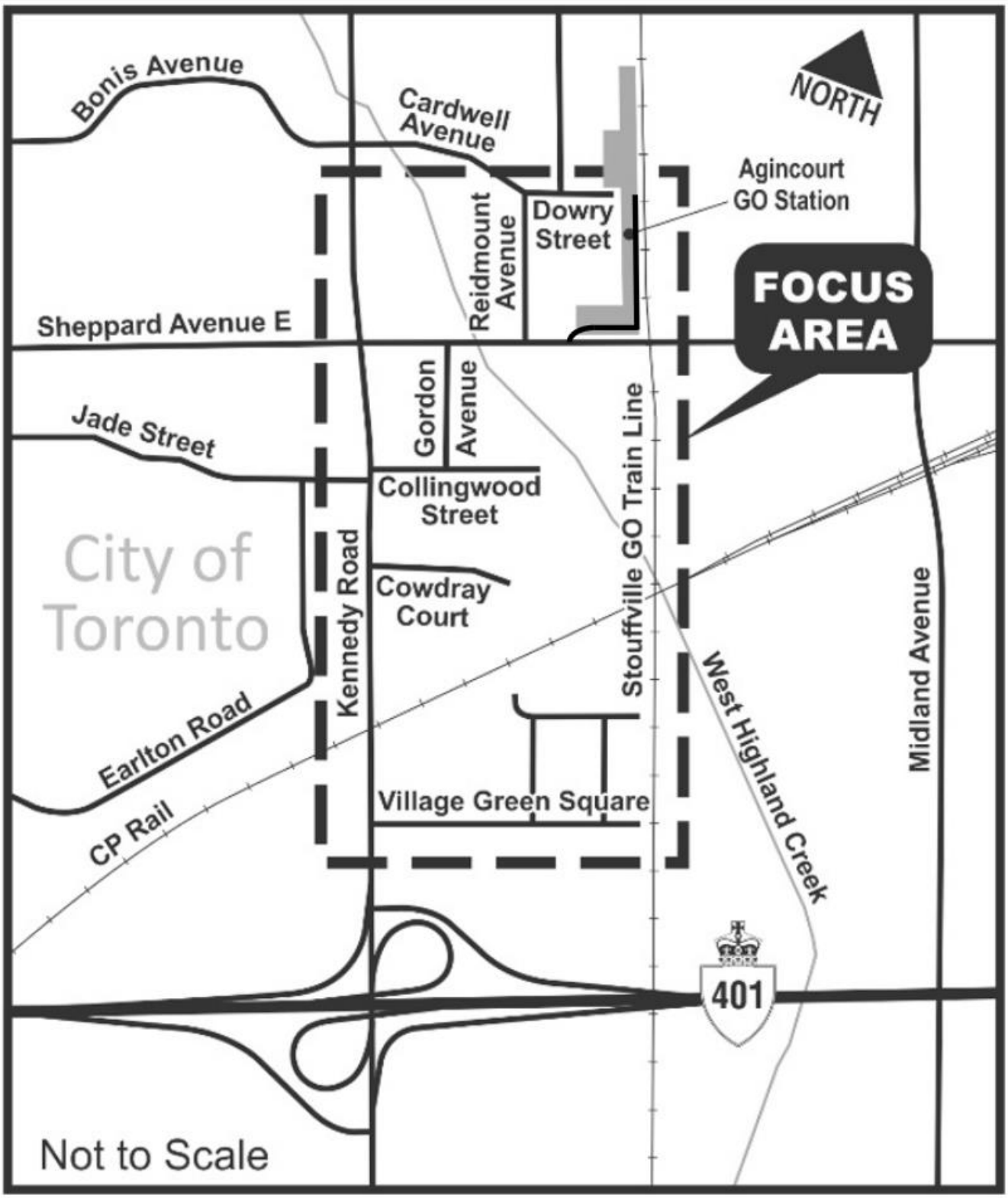
The City of Toronto initiated the Municipal Class Environmental Assessment for the extension of a new complete street connecting Sheppard Avenue East and Village Green Square in 2019 and retained WSP to undertake the study.

The study Focus Area is bound by Kennedy Road to the west, Dowry Street to the north, the Stouffville GO Train Line to the east, and Village Green Square to the south. A map of the study's Focus Area is shown in **Exhibit 1-1**.

The study objectives are as follows:

- Provide high quality transportation infrastructure that addresses the needs of this growing area;
- Improve street network connectivity to key destinations, particularly the Agincourt GO Station, Collingwood Park and schools; and
- Improve the safety of people walking, cycling, taking public transit, and driving.

Exhibit 1-1: Southwest Agincourt Transportation Connections Study Focus Area



1.2 Environmental Assessment Process

This study is being completed to satisfy the Municipal Class Environmental Assessment (MCEA) process, which is approved under the Ontario Environmental Assessment Act.

1.2.1 The Ontario Environmental Assessment Act

The Ontario Environmental Assessment Act governs the planning and decision-making process in Ontario to ensure projects adequately consider and assess potential project effects to the environment during the planning stage to protect and manage the environment. Similar projects with predictable potential effects are assessed as part of a 'Class', which are pre-approved processes, subject to the compliance with the Class EA process (e.g., Municipal Class EA).

1.2.2 MCEA Schedule 'C' Process and Requirements

The Municipal Class Environmental Assessment (Municipal Engineers Association, October 2000, as amended in 2007, 2011, 2015 and 2023) (MCEA) is an approved approach under the Ontario Environmental Assessment Act (1990) which specifically applies to municipal infrastructure projects. This Class EA provides municipalities with a pre-approved planning process under the Environmental Assessment Act to plan and undertake municipal infrastructure projects such as new roads that occur frequently, with predictable environmental effects. The MCEA was amended in 2023 after the Notice of Commencement was issued for this EA. The amendments did not change the project schedule for the north-south street, multi-use trail or other improvements, and this ESR is consistent with both the 2015 and 2023 MCEA documents.

Dependent on the schedule classification, projects are required to implement a portion or all of the phases. Projects are classified into one of three schedules under the Municipal Class EA depending on the complexity and degree of potential environmental effects:

- **"Schedule "A"** projects are pre-approved and generally consist of small projects that are limited in scale with minimal adverse environmental impacts**;**
- **Schedule "A+"** projects are pre-approved, however, the public is to advised prior to project implementation;
- **Schedule "B"** projects generally include improvements or minor expansions to existing facilities or smaller new projects, and require Phases 1 and 2 of the MCEA be completed and that the proponent consult with those who may be affected; and
- **Schedule "C"** projects generally include the construction of new facilities and major expansions to existing facilities. They are subject to the environmental assessment planning process outlined in the Class EA, Phases 1 to 4. Schedule 'C' projects have the highest potential for environmental impacts and must proceed under the full planning and documentation procedures specified under the Municipal Class Environmental Assessment Guidelines.

There are five major phases in completing the MCEA process which includes:

- Phase 1: Identify the Problem or Opportunity.
- Phase 2: Identify and Evaluate Alternative Solutions.
- Phase 3: Identify and Evaluate Alternative Design Concepts for the Preferred Solution.
- Phase 4: Prepare and File the Environmental Study Repot (ESR) for a 30-day public review period.
- Phase 5: Project Implementation.

Based on the scope of the new complete street, a Schedule ‘C’ MCEA has been completed, which assessed the potential environmental impacts of the street (including impacts on the cultural, natural, and socio-economic environment and transportation system).

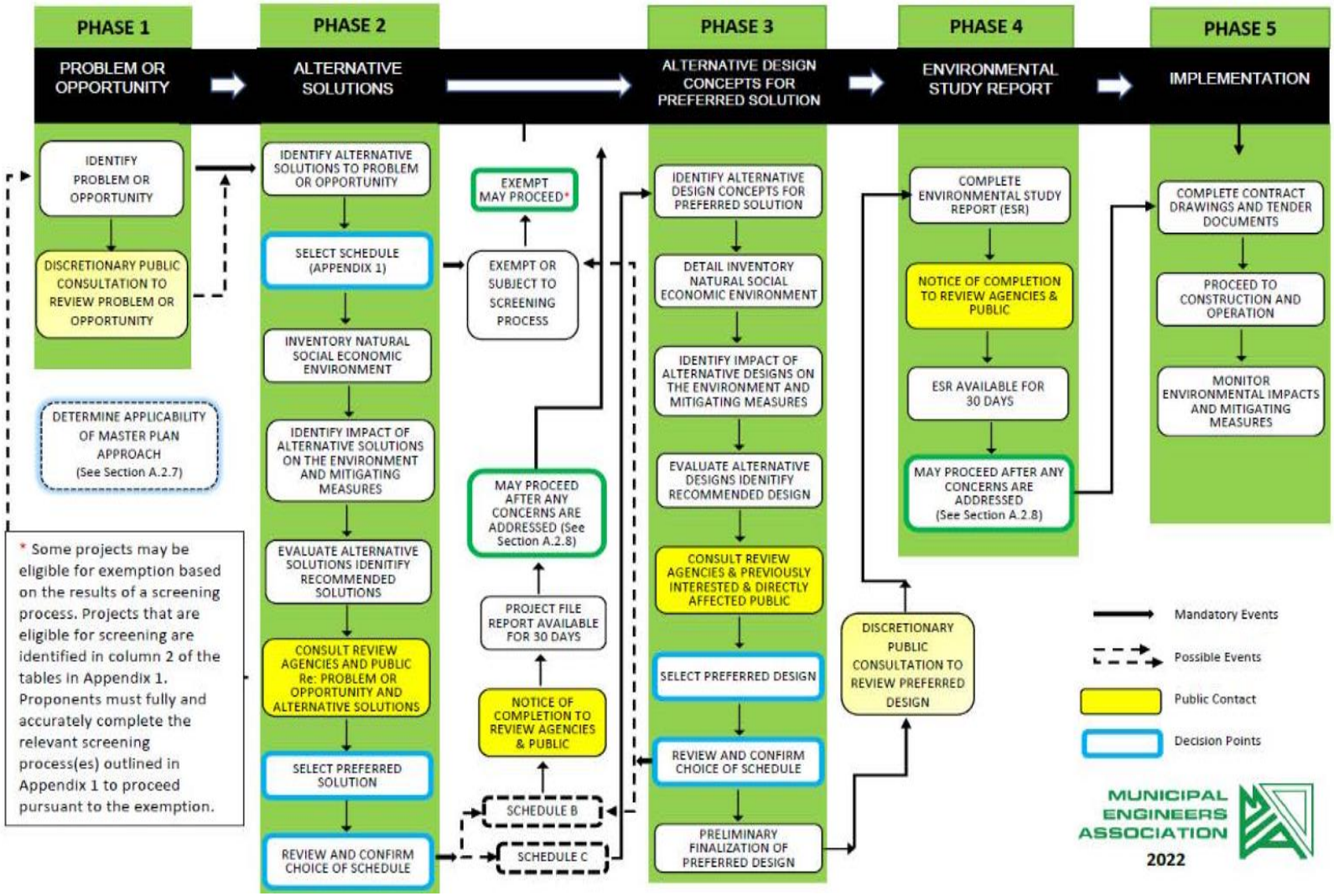
As illustrated in **Exhibit 1-2**, the Municipal Class EA document outlines the planning and design process. Schedule ‘C’ projects are required to follow Phases 1 through 4 of this process.

In addition to the new complete street, other EA-exempt improvements have been evaluated and designed including the following:

- A north-south multi-use trail on the east side of Village Green Square to Sheppard Avenue East, parallel to the Highland Creek under an existing CP Rail bridge connecting to key destinations including Agincourt GO station and Collingwood Park;
- Sidewalks along Collingwood Street;
- Interim cycle tracks along Sheppard Avenue East between Gordon Avenue and Agincourt GO station driveway;
- On-street parking and advisory bike lanes on Reidmount Avenue;
- Advisory bike lanes along the westerly segment of Dowry Street between the northerly and southerly approaches of Reidmount Avenue. For the easterly segment of Dowry Street, an expanded public realm with enhanced pedestrian and cycling connections to the Agincourt GO Station is through the closure this portion of Dowry Street to motor vehicles; and
- Pedestrian and cycling safety enhancements at the Sheppard Avenue intersection at the Agincourt GO driveway.

Notwithstanding that the new multi-use trail is exempt from a Schedule ‘B’ or ‘C’ EA process (based on its 30 percent costing being well under the $4.1 million threshold from the MCEA), the process followed the typical Schedule 'C' process. This was carried out to develop a multi-use trail that best serves the area.

Exhibit 1-2: Municipal Class EA Process



1.2.3 Project Filing

Phases 1 through 4 of the Schedule 'C' process are documented in this Environmental Study Report, which includes the following sections:

- Study background and related studies, including planning policies and documents (Chapter 1);
- Study area problems and opportunities (Chapter 2);
- Description of the existing environment (socio-economic environment, cultural environment, and natural environment) (Chapter 3);
- Alternative designs (Chapter 4);
- Development of evaluation criteria to assess the different alternatives (Chapters 5);
- Evaluation of the alternative design and identification of the preferred design and (Chapters 6);
- Preferred design (Chapters 7);
- Potential environmental impacts, mitigation measures and commitment to future work (Chapters 8); and
- Consultation (Chapters 9).

The Environmental Study Report for this Study will be available for a 30 calendar-day public review period. A Notice of Completion will be published to announce the review period. This notice will be published on the project website and email notification to all interested parties.

1.2.4 Section 16 Requests

During the 30-day review period, if there are outstanding concerns that the project may adversely impact constitutionally protected Aboriginal and treaty rights which cannot be resolved in discussion with the municipality then a person or party may request that the Minister of the Environment, Conservation, and Parks (MECP) make an Order under section 16 of the Environmental Assessment Act. If the Minister determines an Order is warranted, the Minister can require an Individual EA or impose conditions on the project.

1.3 Planning Policy Framework

Provincial, regional and City policies that provide direction about growth, land use planning and environmental protection were reviewed to determine applicability to this EA. The planning policies reviewed that are relevant to this EA are summarized in **Table 1-1**.

Table 1-1: Summary of Planning Policies

Policy and Background Report	Review Findings & Applicability to EA
Province of Ontario	
Provincial Policy Statement (2020)	The 2020 Provincial Policy Statement (PPS) provides policy direction on matters of provincial interest related to land use planning and development. As a key part of Ontario's policy-led planning system, the Provincial Policy Statement sets the policy foundation for regulating the development and use of land. It also supports the provincial goal to enhance the quality of life for all Ontarians. Policies which are applicable to the Southwest Agincourt Transportation Connections Study include, but are not limited to: ▪ *Policy 1.5.1a*: Healthy, active communities should be promoted by planning public streets, spaces and facilities to be safe, meet the needs of pedestrians, foster social interaction and facilitate active transportation and community connectivity. ▪ *Policy 1.6.2:* Planning authorities should promote green infrastructure to complement infrastructure. ▪ *Policy 1.7.1g*: Long-term economic prosperity should be supported by providing for an efficient, cost-effective, reliable multimodal transportation system that is integrated with adjacent systems and those of other jurisdictions, and is appropriate to address projected needs to support the movement of goods and people. ▪ *Policy 1.8.1b:* Planning authorities shall support energy conservation and efficiency, improved air quality, reduced greenhouse gas emissions, and preparing for the impacts of a changing climate through land use development patterns which promote the use of active transportation and transit in and between residential, employment (including commercial and industrial) and institutional uses and other areas). Others relevant areas which the PPS highlights include, but are not limited to, the need for healthy and active communities by planning public streets, spaces and facilities to be safe, meet the needs of pedestrians, foster social interaction and facilitate active transportation and community connectivity (Section 1.5.1) and the provision of an efficient, cost-effective,

Policy and Background Report	Review Findings & Applicability to EA
	reliable multimodal transportation system that is integrated with adjacent systems and those of other jurisdictions, and is appropriate to address projected needs to support the movement of goods and people (Section 1.7.1).
A Place to Grow: Growth Plan for the Greater Golden Horseshoe (2020)	The Growth Plan for the Greater Golder Horseshoe outlines the Province's objectives to plan growth and development in the Greater Golden Horseshoe, which includes the City of Toronto. A key objective of the plan is to support economic prosperity, protect the environment and help communities achieve a high quality of life. A key vision for the Greater Golden Horseshoe is that an "integrated transportation network will allow people choices for easy travel both within and between urban centres throughout the region".[1] Key Policies under Sections 2.2.1 (Managing Growth), 2.2.4 (Transit Corridors and Station Areas), 3.2.3 (Moving People) of the Growth Plan which are applicable to the Southwest Agincourt Transportation Connections Study include, but are not limited to: ▪ Section 2.2.1 Managing Growth ○ **4:** Applying the policies of this Plan will support the achievement of complete communities that: (d) expand convenient access to: (i) a range of transportation options, including options for the safe, comfortable and convenient use of active transportation. ▪ Section 2.2.4 Transit Corridors and Station Areas ○ **8:** All major transit station areas will be planned and designed to be transit supportive and to achieve multimodal access to stations and connections to nearby major trip generators by providing, where appropriate: (a) connections to local and regional transit services to support transit service integration; and (b) infrastructure to support active transportation, including sidewalks, bicycle lanes, and secure bicycle parking.

[1] Source: A Place to Grow: Growth Plan for the Greater Golden Horseshoe (2020)

Policy and Background Report	Review Findings & Applicability to EA
	○ **10:** Lands adjacent to or near to existing and planned frequent transit should be planned to be transit-supportive and supportive of active transportation and a range and mix of uses and activities. ▪ Section 3.2.3 Moving People ○ **3:** Municipalities will work with transit operators, the Province, Metrolinx where applicable, and each other to support transit service integration within and across municipal boundaries. ○ **4:** Municipalities will ensure that active transportation networks are comprehensive and integrated into transportation planning to provide (a) safe, comfortable travel for pedestrians, bicyclists, and other users of active transportation; and (b) continuous linkages between strategic growth areas, adjacent neighbourhoods, major trip generators, and transit stations, including dedicated lane space for bicyclists on the major street network, or other safe and convenient alternatives. Implementation of the Southwest Agincourt Transportation Connections Study will contribute to the success of these Growth Plan policies.
Highway 401 Strategic Rehabilitation EA from Warden Avenue to Brock Road	In 2012, MTO completed an EA (Strategic Rehabilitation of Highway 401 Class Environmental Assessment and Preliminary Design Study) to identify improvements to the Highway 401 corridor from Warden Avenue in Toronto to Brock Road in Pickering. The recommendations include operational improvements, corridor widening in strategic locations, relocation of transfer lanes, and improvements to on/off-ramp geometry. In the study area, key recommendations are related to the corridor between the Kennedy Road and Brimley Road interchanges: ▪ Relocation of core/collector transfers from between Warden and Kennedy to between Kennedy and Brimley to reduce weaving conflicts and congestion. ▪ An additional eastbound collector lane through Kennedy interchange. ▪ An additional westbound collector lane is proposed from Neilson to Kennedy off-ramp.

Policy and Background Report	Review Findings & Applicability to EA
	▪ Geometric improvements to NB off-ramp, Kennedy Road to Highway 401. ▪ Partial re-construction of the existing eastbound and westbound on and off-ramps in order to accommodate the mainline improvements in both directions.
Accessibility for Ontarians with Disabilities Act (2005)	The Province enacted the Accessibility for Ontarians with Disabilities Act (AODA) in 2005 to accommodate Ontarians with disabilities. It sets accessibility related standards regarding goods, services, facilities, employment, accommodation, and buildings in Ontario. The intent of this document is to ensure that Ontarians with disabilities are included / considered in all activities, ranging from website and report formatting to physical infrastructure. AODA also includes guidelines and requirements to ensure public infrastructure including sidewalks, walkways, stairs, curb ramps, tactile walking surfaces, pedestrian signals and parking spaces are designed to accommodate persons with disabilities. The City of Toronto has developed standards for all newly constructed or redeveloped infrastructure to ensure compliance with AODA and all roads and public infrastructure will be designed to comply with AODA.
The Planning Act (2023)	The *Ontario Planning Act* is the overarching legislation governing land-use planning in Ontario, distributing legislative powers between the province and municipalities, and laying out planning policies and plans. The purpose of the Act is to promote sustainable development within a provincial policy framework, encourage co-operation among various interests and provide for planning processes that are fair by making them accessible and efficient. The *Provincial Policy Statement (PPS)* is established under the *Planning Act*, which allows the Minister of Municipal Affairs and Housing to issue policy statements directing land use planning in Ontario, such as promoting provincial interests with respect to protecting farmland, natural resources and the environment. The PPS provides the City provides the city with policy related to growth and development, the use and management of resources, the protection of the environment and public health and safety. Municipalities are the primary implementors of the

Policy and Background Report	Review Findings & Applicability to EA
	PPS through official plans, zoning bylaws and decisions on other planning matters.
Metrolinx	
Regional Transportation Plan (2018)	Metrolinx's 2041 Regional Transportation Plan (RTP) forms the policy basis for improving the transportation system within the Greater Toronto and Hamilton Area (GTHA). The Goals of the 2041 RTP are to achieve strong connections, complete travel experiences, and sustainable and healthy communities. Some of the key objectives of the plan include completing the delivery of current regional transit projects, connecting more of the region with frequent rapid transit, optimizing the transportation system, integrating transportation and land use and preparing for an uncertain future.[2] Goals of the RTP which are applicable to the Southwest Agincourt Transportation Connections Study include, but are not limited to: ▪ **Strong connections**: Connecting people to the places that make their lives better, such as homes, jobs, community services, parks and open spaces, recreation, and cultural activities. ▪ **Complete travel experiences**: Designing an easy, safe, accessible, affordable and comfortable door-to-door travel experience that meets the diverse needs of travelers. ▪ **Sustainable and healthy communities**: Investing in transportation for today and for future generations by supporting land use intensification, climate resiliency and a low-carbon footprint, while leveraging innovation.
City of Toronto	
Toronto Official Plan (2023)	The Official Plan provides guidance and direction that will shape growth and development of the City of Toronto. The vision for the City includes vibrant neighbourhoods, walkable streets, quality transit, green spaces and excellent urban design. The Plan is intended to ensure that the City of Toronto continues to evolve, improve and realize its full potential in

[2] Source: Metrolinx 2041 Regional Transportation Plan (2018)

Policy and Background Report	Review Findings & Applicability to EA
	areas such as transit, land use development and the environment. The urban Structure (Map 2)[1] identifies much of the lands in the study area as being part of an Employment District with Sheppard Avenue East as an Avenue. Through the study area, the Sheppard Transit Corridor is identified as a Higher Order Transit corridor (Map 4)[2], reflecting the previously approved alignment for the Sheppard subway extension to Scarborough Centre. Sheppard Avenue East itself is identified as part of the Surface Transit Priority Network (Map 5)[3]. Collingwood Park, located within the Agincourt study area, is designated as a public park in the Official Plan, Land Use (Map 19)[4]. Currently, there is a mix of land uses in the Agincourt study area including single detached residential, high density residential, employment, mixed use, parks and natural open space. A land use character study showing the land use context for the study area is included in **Appendix A** of this EA. Relevant policies from the Official Plan that must be considered in this study include: **2. Shaping the City** 2.4 Bringing the City Together: A Progressive Agenda of Transportation Change 14. Guidelines, programs and infrastructure will be developed and implemented to create a safe, comfortable and bicycle-friendly environment that encourages people of all ages, abilities and means to bicycle for everyday transportation,

[1] Official Source: City of Toronto Official Plan, Urban Structure (Map 2), February 2019:
Map 2 – Urban Structure February 2019 (toronto.ca)
[2] Official Source: City of Toronto Official Plan, Higher Order Transit Corridors (Map 4), January 2020:
Map 4 Higher Order Transit Corridor (toronto.ca)
[3] Official Source: City of Toronto Official Plan, Surface Transit Priority Network (Map 5), May 2019:
Map 5 Surface Transit Priority Network (toronto.ca)
[4] Official Source: City of Toronto Official Plan, Land Use (Map 19), February 2019:
City of Toronto Official Plan - Map 19

Policy and Background Report	Review Findings & Applicability to EA
	recreation and commercial activity and supports the growth objectives of this Plan, including: ii. developing the off-street system of multi-use trails iii. Developing a network of neighbourhood greenways and implementing a wayfinding strategy to guide people along quiet, local streets between higher-order infrastructure. 15. An urban environment and infrastructure will be created that encourages and supports pedestrian movement throughout the City, for all ages, abilities and means by: a) ensuring safe, accessible direct, comfortable, attractive and convenient pedestrian conditions, including walking routes to workplaces, schools, recreation areas, transit and other important community destinations. e) focusing on improvements to connections and conditions in areas of high need, including areas with: physical barriers; difficult topography or substantial changes in grade; areas travelled frequently by vulnerable users, including people with disabilities, youth and seniors; and around mobility hubs, transit stations or other locations with significant pedestrian volume. **3. Building a Successful City** 3.1.1 The Public Realm 6. City streets are significant public open space which connect people and places and support the development of sustainable, economically vibrant and complete communities. New and existing City streets will incorporate a complete streets approach and be designed to perform their diverse roles by: i. the safe and efficient movement of pedestrians of all ages and abilities, cyclists, transit vehicles and users, goods and services vehicles, emergency vehicles, and motorists across the network. 13. Sidewalks and boulevards will be designed to provide safe, attractive, interesting and comfortable spaces for users of all ages and abilities. a) providing well designed and co-ordinated tree planting and landscaping, amenity spaces, setbacks, green

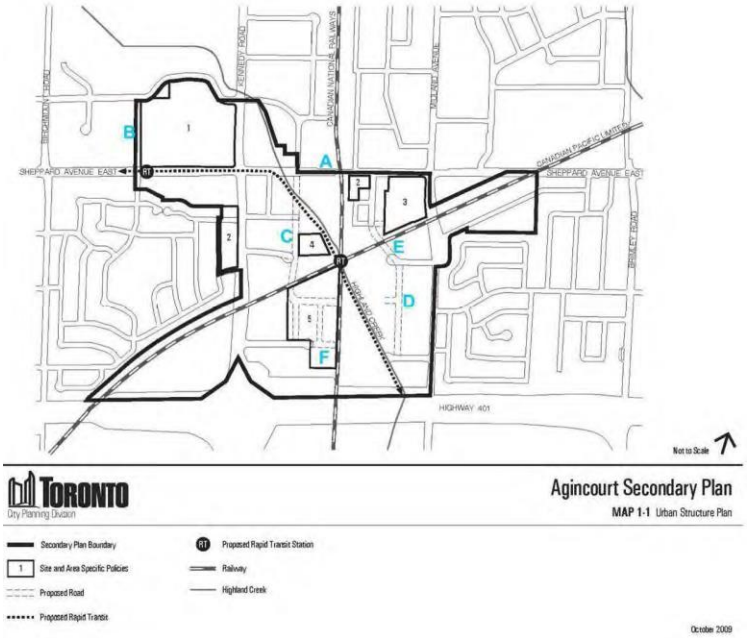
Policy and Background Report	Review Findings & Applicability to EA
	infrastructure, pedestrian-scale lighting, street furnishings and decorative paving as part of street improvements; and b) locating and designing utilities within streets, within buildings or underground, in a manner that will minimize negative impacts on the natural pedestrian and visual environments and enable the planting and growth of trees to maturity. 7. Toronto's concession road grid is a major organizing element to be maintained, improved and recognized in public design initiatives. To improve mobility and recreational opportunities where these streets are interrupted by topographical features or utility corridors, pedestrian and bicycle routes should be established across these features. 8. New streets will be designed to: a) promote a connected grid-like network of streets that offers safe and convenient travel options; b) provide connections with adjacent neighbourhoods; c) extent sight lines and view corridors; d) divide larger sites into smaller development blocks; e) provide access and addresses for new development; f) allow the public to freely enter without obstruction; g) implement the complete streets approach to develop a street network that balances the needs and priorities of the various users and uses within the right-of-way h) provide and improve the frontage, visibility, access and prominence of natural and human-made features including parks, cemeteries, school yards and campus lands; and i) provide access for emergency vehicles. 14. Design measures which promote pedestrian safety and security will be applied to streetscapes, parks, other public and private open spaces, and all new and renovated buildings. **4. Land Use Designations** 4.3 Parks and Open Space Areas 2. Development is generally prohibited within Parks and Open Space Areas except for recreational and cultural facilities, conservation projects, cemetery facilities, public transit and

Policy and Background Report	Review Findings & Applicability to EA
	essential public works and utilities where supported by appropriate assessment. 3. The areas shown as Natural Areas on Maps 13-23 will be maintained primarily in a natural state, while allowing for: a) compatible recreational, cultural and educational uses and facilities that minimize adverse impacts on natural features and functions; and b) conservation projects, public transit, public works and utilities for which no reasonable alternatives are available, that are designed to have only minimal adverse impacts on natural features and functions, and that restore and enhance existing vegetation and other natural heritage features. 4. The areas shown as Parks on Maps 13-23 will be used primarily to provide public parks and recreational opportunities. 4.4 Utility Corridors 5. Where appropriate, development or redevelopment on lands nearby or adjacent to Utility Corridors will: a) protect for access to any potential bicycle and pedestrian trail or park and open space, and provide access where such a recreation facility exists. **5. Implementation: Making Things Happen** 5.2.1. Secondary Plans: Policies for Local Growth Opportunities 4. City-building objectives for Secondary Planning area will identify or indicate the following: f) necessary infrastructure investment with respect to any aspect of: transportation services, environmental services including green infrastructure, community and social facilities, cultural, entertainment and tourism facilities, pedestrian systems, parks and recreation services, or other local or municipal services.
Toronto Green Standard	The Toronto Green Standard builds upon the environmental policies outlined in the City of Toronto's Official Plan by setting sustainable design guidelines and requirements for new developments within the City. It aims to address key environmental priorities including improving air quality and

Policy and Background Report	Review Findings & Applicability to EA
	reducing the urban heat island effect, reducing energy usage and greenhouse gas emissions, reducing stormwater runoff and potable water consumption, protecting and enhancing ecosystem functions, and diverting household and construction waste from landfills. The Standard is divided into 4 Tiers of performance measures. Tier 1 measures must be met for all developments during the planning approval process, but Tiers 2 through 4 are voluntary. Non-residential development built by the City's agencies, corporations, and divisions must meet the performance measures outlined in Tier 2 or higher. The Green Standards performance measures should be reflected in the plan put forth in this EA.
Toronto Green Streets Guidelines	The City's Design Criteria for Green Infrastructure in the Right-of-Way dated September 2021 notes that in alignment with the Toronto's Official Plan, Green Infrastructure (GI) means natural and human-made elements that provide ecological and hydrological functions and processes while also delivering multi-le co-benefits.
Design Criteria for Green Infrastructure in the Right-of-Way	The City's design criteria dated September 2021 provides guidance on consistency in the approach to green infrastructure planning and design in the public ROW. The incorporation of green infrastructure into the City's ROW is an effective way of meeting stormwater management technical performance requirements while achieving greater system resilience and generating multiple co-benefits. ROW GI can manage stormwater generated by our streetscape close to its source, reduce stress on existing infrastructure, contribute toward the mitigation of basement flooding, reduce downstream erosion, manage the quality and quantity of runoff that enters our piped systems, while simultaneously co-benefiting streetscapes with increased tree canopy, vegetated landscape, habitat for bio-diversity and points of public interest.

Policy and Background Report	Review Findings & Applicability to EA
Toronto Accessibility Design Guidelines	The City's 2004 Accessibility Design Guidelines are intended to address the needs of people with disabilities that limit their ability to access their environment. The intention is to create a barrier-free environment. In keeping with the Official Plan, all exterior travel routes, parks and open spaces should be accessible to all members of the public. The guidelines address all elements of the pedestrian environment, as well as transit facilities, emergency routes and parking.
Wet Weather Flow Management Guidelines	The City of Toronto published the Wet Weather Flow Management Guidelines (WWFMG) in 2006 based on the findings of the Wet Weather Flow Master Plan, and ambitious study to determine the optimal course of action to improve and stabilize the health of the numerous watercourse and ravine systems that form one of the most distinctive features of Toronto's geography. The Guidelines provide a framework for land altering activities inside the City's boundaries to implement stormwater management measures that will incrementally achieve the Master Plan goals as the City redevelops over time. The stormwater management measures focus on "managing rainwater where it falls" to address issues with controlling runoff flow rates, ensuring high runoff water quality and providing a healthy water balance by promoting infiltration and evaporation where appropriate to avoid the generation of excess runoff. In the study area, the Guidelines will be comprehensively examined and applied to ensure the overall stormwater management goals are implemented in an appropriate and cost-effective manner.
Vision Zero / Vision Zero 2.0	The City of Toronto has adopted a road safety plan adhering to the principles of "Vision Zero". This plan is defined in the document Vision Zero 2017-2021: Toronto's Road Safety Plan. It is intended to plan and design for the safety of all road users, particularly vulnerable groups. The Vision Zero approach to road safety is to eliminate fatalities and serious injuries in our transportation system; the system needs to be designed and operated in a way that caters to human error in order to address this goal. The City's Plan builds on existing City safety measures, and recommends additional design and operational measures to address the policy goals. Specifically, there are measures intended to support safer pedestrian, cyclist, motorcyclist and vehicular movement.

Policy and Background Report	Review Findings & Applicability to EA
	These measures should be included in the design and operational plan put forth in the recommended solution. The Vision Zero program also has recommendations for measures of effectiveness (specifically focusing on “KSI collisions” (killed and seriously injured). In June 2019, the City also produced a report for action (Vision Zero 2.0 – Road Safety Plan Update). Vision Zero 2.0 focuses on speed management, road design improvements, proactively addressing high-risk mid-block crossings, proactively addressing turning collisions at signalized intersections, and an education and engagement plan. In addition to these focus actions, other supporting initiatives had been proposed. Ideas of potential relevance to this EA include expansion of the red light camera program, district safety action plans, and review of signal operations practice through the lens of vulnerable road user safety. The plan put forward in this EA should consider the measures put forth in both policies.
Agincourt Secondary Plan	The Agincourt Secondary Plan provides planning policy structure for the Agincourt area. New road connections are identified in the Secondary Plan to improve connectivity between the lands north and south of the CP Rail. The Secondary Plan sets out development densities for the area based on a number of road network improvements which included: A) Widening of Sheppard Avenue East; B) Bonis Avenue to Sheppard Avenue East connection; C) A new connection from Reidmount Avenue south to Village Green Square (formerly Sufferance Road); D) Extension of Lamont Avenue south to Emblem Court; E) East-west connection to Midland Avenue; and F) Extension of Sufferance Road (Village Green Square) to the GO Transit/Metrolinx rail line (complete).

Policy and Background Report	Review Findings & Applicability to EA
	The Secondary Plan also identifies the need to expand Collingwood Park to include lands west of the GO Stouffville rail corridor and improve park amenities to meet those  required of a local park and consider opportunities for active recreation. Policies for Urban Form and Design indicate priorities for Collingwood Park to be a major open space focus for the Secondary Plan Area. the Plan also states that the intersection of Highland Creek at Sheppard Avenue East will be designed as a major pedestrian/cycle entry to Collingwood Park. The Secondary Plan encourages pedestrian access from the residential areas to transit facilities on Sheppard Avenue East and any redeveloped parcels should safeguard land in the locality of proposed rapid transit facilities for bus bays, pick up/drop off, commuter parking including cycling and multi modal access where required. With respect to the proposed road and multi-use path connection under study, relevant policies in the Secondary Plan include: ▪ 1.3 The maximum densities are subject to transportation capacity and the availability of other required public services. Development will be phased and proceed as

Policy and Background Report	Review Findings & Applicability to EA
	necessary infrastructure improvements are provided to support development on individual sites. ▪ 2.1 Residential uses south of Cowdray Court may be considered with the timing and funding for the construction of the CN (now GO/Metrolinx)/CP Railway subway station and for a north-south underpass below the CP Railway are both committed. ▪ 4.1 Pedestrian access amenities from residential areas, including areas north of Sheppard Avenue East to the new transit facilities to the south, will be encouraged. Given the above policies, the full development of the lands in the study area – particularly along Cowdray Court – are dependent on the necessary transportation infrastructure to provide vehicular and active transportation connections. Additionally, the identified need for an expansion to Collingwood Park to meet the needs of the new population must be considered in evaluating road options that may impact future expansion potential of Collingwood Park.
Agincourt Feasibility Study, Functional Planning Report (October 2014)	In 2014, Cole Engineering completed a feasibility study on behalf of the City of Toronto, reviewing potential alignments and design options for the future north-south public street, grade separation, and multi-use trail connection. The following is a summary of the key findings: ▪ **Transportation Infrastructure**: there is the potential to improve connections for all modes across the rail corridor and Highland Creek. This would improve circulation for all transportation users and relieve some demand at the Sheppard/Kennedy intersection. There is also the opportunity to improve transportation user safety, incorporating a complete streets design approach. The report also identified constraints associated with the alignment and design of the new public street connection, which must be addressed in the EA. ▪ **Land Use and Development**: Impacts were identified to existing properties between the CP Rail Corridor and Sheppard Avenue East including those within established neighbourhoods. Coordination will be required with concurrent private development proposals.

Policy and Background Report	Review Findings & Applicability to EA
	▪ **Other Municipal Infrastructure**: Public and private subsurface and above ground utilities are located in the vicinity of the proposed works and may require relocation or removal. ▪ **Natural Environment**: Areas neighbouring the study area have been used for activities that generate a variety of chemical wastes, bulk fuel dispensing, manufacturing activities and spill occurrences. Proposed infrastructure that traverses Collingwood Park may result in tree impacts/removals. A new crossing of Highland Creek may have impacts to the creek and floodplain and may require mitigation. Further analysis of the hydrologic conditions will be required for any transportation connection to assess flood flow impacts and determine stormwater management requirements.
Agincourt Mall Planning Framework Review	The goal of the Agincourt Mall Planning Framework Review (AMPFR) is to establish a vision for the development site and the surrounding area supported by strategies to guide land use, building heights and densities, affordable housing, parks and open spaces, streets and blocks, improvements to existing transportation systems, servicing infrastructure and community services and facilities. The AMPFR will recommend a planning framework to properly assess and guide the Agincourt Mall Official Plan Amendment application and its integration with the surrounding area. As part of the AMPFR process, a Corridor Analysis Study is being conducted to establish a preliminary future context for the Agincourt Mall Site. Two preliminary options have been developed for the Corridor Analysis study area based on analysis and stakeholder input. Differences between the two options relate to built form scenarios along the Sheppard Avenue frontage. Both options include the north-south street and grade separation as well as a potential multi-use trail facility along Highland Creek from Village Green Square to Sheppard Avenue East.

Policy and Background Report	Review Findings & Applicability to EA
City of Toronto Bike Plan (2001)	In the City of Toronto, cycling has become an important mode of transportation, whether for commuting or recreation. The Toronto Bike Plan (2001) establishes a vision for cycling, by setting out integrated principles, objectives and recommendations about safety, education and a comprehensive bikeway network.
On-Street Bikeway Design Guidelines and OTM Book 18	OTM Book 18 provides important guidance for the design and selection of various cycling facilities across the province of Ontario. This guide is continually updated to reflect best practices for cycling design.
10 Year Cycling Network Implementation Plan (2016 / 19)	The Ten (10) Year Cycling Network Implementation Plan was approved by Toronto City Council in 2016 and a plan update was approved in 2019. The intent of this plan is to connect and expand the City's cycling infrastructure as well as renew existing cycling infrastructure. The updated plan builds upon the original plan to include a greater focus on cycling safety and equity as well as a detailed short-term implementation plan spanning from 2019 to 2021. Some cycling routes and study areas that are being assessed under the 10 Year Cycling Network Implementation Plan are near the Agincourt EA study area, but there are no cycling routes to be implemented within the Agincourt EA study area in the near-term (2019-2021). As part of the SW Agincourt Transportation Connections Study, active transportation routes are being considered and will take into account to support existing and planned cycling facilities.
Toronto Pedestrian Charter (2002)	In 2002, the City approved the development of the Toronto Pedestrian Charter, which was the first pedestrian charter in North America. The intent of preparing the charter is outlined below: ▪ To outline what pedestrians have a right to expect from the City in terms of meeting their travel needs; ▪ To establish principles to guide the development of all policies and practices that affect pedestrians; and ▪ To identify the features of an urban environment and infrastructure that will encourage and support walking. In 2002, the Charter that reflects the principle that a city's walkability is one of the most important measures of the

Policy and Background Report	Review Findings & Applicability to EA
	quality of its public realm, and of its health and vitality was adopted by Council. The Charter sets out six principles necessary to ensure that walking is a safe and convenient mode of urban travel, which are: accessibility; equity; health and well-being; environmental sustainability; personal and community safety; and community cohesion and vitality. These six principles will be considered in the designs developed during the process of the Agincourt EA.
Toronto Walking Strategy (2009)	The Toronto Walking Strategy sets out a vision, guiding principles, and a framework of 52 actions to enhance the walking experience for pedestrians in the City of Toronto. The 52 actions are categorized into six overarching strategy actions, which are: leadership and support for walking; promoting a culture of walking; integrating networks for walking; designing streets for pedestrians; creating spaces and places for people, and; focus on priority and tower renewal neighbourhoods. The recommended actions range from planning and documentation to development and implementation. Key sections from the Toronto Walking Strategy that are applicable to the Agincourt EA include: ▪ Integrating networks for walking: This section outlines strategy actions for designing a connected and aesthetic walking network; ▪ Designing streets for pedestrians: This section provides strategy actions to increase the safety and attractiveness of walking networks, and; ▪ Creating spaces and places for pedestrians: This section recommends design strategy actions for placemaking for pedestrians.
Toronto Complete Streets Guidelines	The Toronto Complete Streets Guidelines support and expand upon the ‘Complete Streets’ and street design policies outlined in the City of Toronto Official Plan. The Complete Streets Guidelines aim to provide a comprehensive framework for street design across the city by encouraging active transportation and placemaking principles as well as by designing streets to facilitate economic and social interaction. The entirety of this document is applicable to the study area of the Agincourt EA and will be incorporated into the design.

Policy and Background Report	Review Findings & Applicability to EA
Sheppard Corridor Study	A study of the Sheppard Corridor from Don Mills station to McCowan Road was completed by the City in 2008. A detailed examination of the key factors of demographics, housing, land use, economic conditions, transportation and land use matters which impact the Corridor was undertaken. The Sheppard Corridor Study identified potential short and long term growth opportunities. The Study identifies the Agincourt Secondary Plan Area and some of the Mixed Use Areas Avenues Segments as candidates for future study.
Sheppard Avenue East LRT Class EA	An Environmental Assessment was conducted for the Sheppard Avenue East LRT with the intent to improve the speed and reliability of transit along this corridor. The goal of this project was to increase transit usage by making public transit a more attractive mode of travel. The following is a summary of the key findings: ▪ Vegetation and Wildlife: Wildlife habitat is minimal as the existing land use around Sheppard Avenue East primarily industrial, commercial, and residential. A diverse number of vegetation and wildlife species reside in or cross the study area. ▪ Future Growth: Growth is expected along the Sheppard Avenue East corridor and near the Scarborough Town Centre. The City of Toronto Official Plan is directing development and designating areas for growth around these areas. ▪ Urban design: The streets along the LRT corridor should have high quality, unique, and vibrant streetscape designs that promote pedestrian activity. ▪ Impacts of the project: Developments along Sheppard Avenue East have been assessed. Some anticipated impacts of this project include an improvement in air quality and human health from diverting car usage, a reduction in congestion near the corridor, some noise and vibration, and impact on wildlife and vegetation. Based on direction from City, LRT along Sheppard is not being considered as part of this EA since its timeline is beyond that of the EA.

Policy and Background Report	Review Findings & Applicability to EA
Toronto and Region Conservation Authority (TRCA)	
TRCA Crossings Guideline for Valley and Stream Corridors (2015) https://sustainabletechnologies.ca/app/uploads/2015/12/TRCA_2015_Stream-Crossings-Guideline.pdf	TRCA is developing the Highland Creek Watershed Greening Strategy. The strategy prioritizes greening opportunities that can help protect, restore, and enhance natural cover and aquatic habitat; optimize the watershed and human health and well-being benefits of greening opportunities; and identify land securement opportunities to expand the size and connectivity of the natural system. Priority greening sites and opportunities will be identified using greening principles and corresponding site selection criteria. Collingwood Park is a city park located within the Primary Study Area, largely between the east edge of the existing neighbourhood on Collingwood Street and the Metrolinx Stouffville Corridor. The park is maintained by City of Toronto Parks, Forestry, and Recreation. A significant portion of the Primary Study Area is located within the West Highland Creek floodplain. Changes to the floodplain are under TRCA review, and are the result of Metrolinx culvert work to double-track the Stouffville Corridor and proposed regrading related to adjacent development activity. Therefore, alternatives and design options for the north-south public street and potential crossing of the Bendale Branch of West Highland Creek will need to consider impacts on the floodplain and watercourse hydraulics, fluvial geomorphology, and the ecology of the surrounding area.
TRCA Living City Policy	The TRCA Living City Policy strengthens the policies from the TRCA Crossings Guideline for Valley and Stream Corridors. The purpose of the Living City Policy is to create communities where humans and nature can thrive. The document four strategic objectives that it aims to achieve: healthy rivers and shorelines, greenspace and biodiversity, sustainable communities, and businesses excellence. Specific policy recommendations address environmental planning policies and key issues such as climate change, transportation, and energy to guide developers towards more sustainable developments. Key sections from the TRCA Living City Policy that are applicable to the Agincourt EA include, but is not limited to, are:

Policy and Background Report	Review Findings & Applicability to EA
	▪ Section 6.7.1 c: work with municipalities, the building industry and other stakeholders to implement green infrastructure through land use planning for development patterns, municipal standards, and site and building design; ▪ Section 7.4.1.1.1: Policies on stormwater management standards, and; ▪ Section 7.4.4.1: General policies for infrastructure.
TRCA Guideline for Determining Ecosystem Compensations	The TRCA Guideline for Determining Ecosystem Compensation is a guide for replacing losses in the natural system due to development and / or infrastructure planning. However, this guideline is meant to be a last resort for protecting natural features and should only be referenced after a decision to compensate has been made. If the decision to compensate has been made, the guideline provides a series of procedures and recommended actions for the project team to undertake.
TRCA/Credit Valley Conservation Authority Low Impact Development Stormwater Management Planning and Design Guide (2008)	The Low impact Development Stormwater Management Planning and Design Guideline was developed by the TRCA and the Credit Valley Conservation Authority. This document seeks to guide planners, ecologists, and engineers in the development of landscape-based stormwater management planning and design. Section 3.2 of the guideline outlines low impact development site design strategies that may be applicable to the Agincourt EA. This includes, but is not limited to: 5. Fit the design to the terrain; 7. Use innovative street network designs; and 14. Disconnect impervious areas.

2 PROBLEMS AND OPPORTUNITIES

2.1 Problem and Opportunity Statement

Under the Municipal Class Environmental Assessment process, proponents are required to develop and document problems and opportunities that provide reasonable justification to proceed with the project. The Problem and/or Opportunities Statement defines the scope of each Environmental Assessment study and helps to ensure the recommended solution addresses the appropriate problems and opportunities.

The Problem and/or Opportunities Statement developed for the SW Agincourt EA in collaboration with the City and the study team Technical Advisory Committee (TAC) is as follows:

The study area is experiencing significant growth and is constrained by the Canadian Pacific Railway, Metrolinx Stouffville GO Rail Corridor, and the West Highland Creek, resulting in a disconnected local street network that limits the movement of people in the area.

The Agincourt Secondary Plan provides direction for the expansion of the transportation network to accommodate the growth that is expected to occur in the area.

The Environmental Assessment will evaluate alternatives to provide for the planned transportation network and grade separation using existing and potential new street and multi-use trail connections. The infrastructure improvements will help support development growth within the Focus Area and improve access to Agincourt GO Station, Collingwood Park, schools, and other local destinations.

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3 EXISTING CONDITIONS

The Municipal Class Environmental Assessment (MCEA) process requires that existing natural, cultural, economic and social environments be examined so that any potential impacts from the proposed design solution can be evaluated and mitigated. The following sub-sections provide an overview of the existing features within the study area, including the natural environment, socio-economic environment, cultural environment, transportation and utilities.

3.1 Natural Environment

A Natural Environment Report was prepared to document the existing natural environment conditions within the study area and provide a preliminary impact assessment of the preferred alternatives. Preliminary mitigation recommendations are provided as well as recommendations for further study. The impacts and mitigation measures are included in **Section 8**. The Natural Environment Report is found in **Appendix B**.

3.1.1 Vegetation

Background information sources were reviewed, and aquatic and terrestrial field investigations were conducted on May 25, 2020 to document existing conditions and develop an understanding of the general character of the natural features in the focus area, identify potential constraints and sensitivities, and assess the general connectivity to natural features within the surrounding landscape. Maps illustrating the natural environmental sensitivities are provided in **Exhibit 1-1** and **Exhibit 1-2**.

The majority of the study area is comprised of residential, business and industrial land-uses. There are very few designated natural areas within the study area associated with environmental policy designations. Natural features observed though background review and field investigations are limited to the West Highland Creek watercourse, the treed area surrounding the railway corridor, and Collingwood Park that contains a number of planted native and non-native tree and shrub species. The vegetation of the study area can be characterized broadly into three types of communities: disturbed vegetation communities that are associated with cleared lands for apartment complex development and railway maintenance (which contain a number of exotic / introduced / invasive species); residential and parkland communities that are composed of mainly introduced/cultivar species; and small riparian communities that are confined along West Highland Creek. The following vegetation communities are present within the study area: Dry-Moist Old Field Meadow, Common Reed Mineral Marsh, Mineral Cultural Woodland Ecosite, Park Cluster, Wet Depression, Fresh – Lowland Deciduous Forest, Lawn, Forb Mineral Shallow Marsh, Planted Area, and Park Land.

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REIDMOUNT AVENUE
MARILYN AVENUE
LOCKIE AVENUE
DONALDA CRESCENT
ROKER CRESCENT
MONTGOMERY AVENUE
MARYDON CRESCENT
GLEN WATFORD DRIVE
DENNETT DRIVE
SHILTON ROAD
FRANCES CRESCENT
HEATHER ROAD
RURAL AVENUE
ROSS AVENUE
DOWRY STREET
CARDWELL AVENUE
AGINCOURT DRIVE
EAGLESTONE ROAD
BAY MILLS BOULEVARD
CARABOB COURT
BONIS AVENUE
BIRCHMOUNT ROAD
SHEPPARD AVENUE EAST
KENNEDY ROAD
West Highland Creek
AMULET STREET
AMETHYST ROAD
NEDDIE DRIVE
JADE STREET
COLLINGWOOD STREET
LAMONT AVENUE
MIDLAND AVENUE
SALOME DRIVE
HARRISFARM GATE
BRIMLEY ROAD
GARDEN PARK AVENUE
FULHAM STREET
CASS AVENUE
DEMPSTER STREET
MURMOUTH ROAD
LEJUNE ROAD
MARSHA DRIVE
COWDRAY COURT
WEYBRIGHT COURT
SONMORE DRIVE
MIDCROFT DRIVE
MURRAY AVENUE
CARNCASTLE GATE
CORUNDUM CRESCENT
PINE HILL DRIVE
SUNMOUNT ROAD
EARLTON ROAD
ARAMAN DRIVE
ALLANFORD ROAD
PENDER CRESCENT
PITFIELD ROAD
SUMMERGLADE DRIVE
GROVELEAF ROAD
MCDAIRMID ROAD
TERRYHILL CRESCENT
VILLAGE GREEN SQUARE
EMBLEM COURT
MANORGLEN CRESCENT
MARILAKE DRIVE
HIGHWAY 401
HIGHWAY 401 COLLECTOR

Legend

- Flow Direction
- Study Area (approximate)
- Trail
- Railway
- Permanent Watercourse: warmwater (LIO, 2019)
- Waterbody
- Wooded Area (LIO, 2019)

wsp

SOUTHWEST AGINCOURT TRANSPORTATION CONNECTIONS STUDY

Natural Environment Features

0 100 200
Meters
1:7,500

N

Date: June 2020
Project No: 19M-01888-00
Figure No: 2-1A

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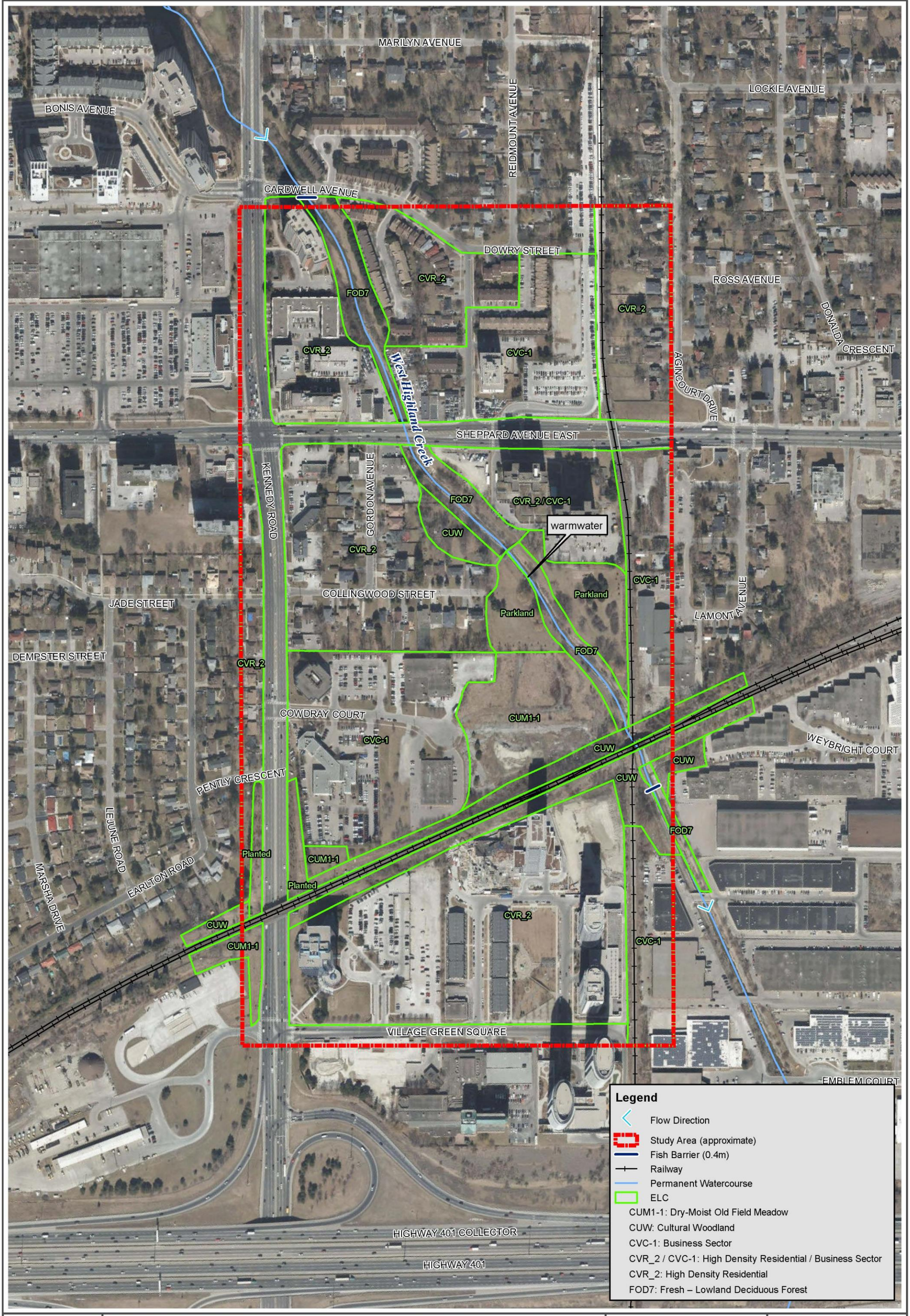


SOUTHWEST AGINCOURT TRANSPORTATION CONNECTIONS STUDY

Existing Conditions

0 50 100 Meters
1:4,000

N

Date: June 2020

Project No: 19M-01888-00

Figure 2-1B

3.1.2 Wildlife

Habitat conditions for wildlife are mostly associated with vegetation communities and the riparian area of West Highland Creek and to a lesser degree the open and scattered tree plantings in Collingwood Park. Wildlife species that use these habitats and were observed during the field surveys are considered to be urban tolerant wildlife and commonly found in urban settings. These include a number of commonly encountered bird species and mammals. There is no suitable amphibian breeding habitat and no amphibian species were identified during the field investigations or through background review. Turtles, as well as mammals, may use the West Highland Creek riparian area as a movement corridor but outside of the Collingwood Park area the corridor is narrow and immediately adjacent to urban development which limits this function.

3.1.3 Species at Risk

Based on correspondence with the Ministry of Natural Resources and Forestry (MNRF), there is potential for SAR bat to be present within the study area, however, based on field investigations, no cavity trees with potential roosting habitat for bats were observed within the NHS limits of the study area. 10 SAR with moderate or minimal potential to be present within the study area were identified based on background resources and field investigations. Of the 10 SAR screened, Snapping Turtle (Special Concern) was the only species identified with a moderate likelihood to be present within the study area and a moderate likelihood of impact to species or habitat. The other nine SAR were determined to have a minimal or no likelihood in terms of magnitude of impacts to the species or habitat.

3.1.4 Fish and Fish Habitat

West Highland Creek is a southerly flowing warmwater and permanent watercourse that originates in L'Amoreaux North Park, northwest of Kennedy Road and McNicoll Avenue. It is a regulated waterbody under TRCA jurisdiction. The creek flows through commercial and residential areas for approximately 5 km before reaching the study area. Within the study area, the watercourse flows primarily though a straightened concrete lined channel. Sections of the banks have soil and vegetation that is slumping down the concrete lined banks. The concrete lined banks have a mean height of 3.5 m, the slope of the banks are steep, and the riparian vegetation consists of grasses, shrubs and forbs. Based on agency correspondence, the following cold and warmwater fish species were identified to be present in the West Highland Creek within the study area: Blacknose Dace (*Rhinichthys atratulus*), Brook Stickleback (*Culaea inconstans*), Creek Chub (*Semotilus atromaculatus*), Fathead Minnow (*Pimephales promelas*), Longnose Dace (*Rhinichthys cataractae*), and White Sucker (*Catostomus commersonii*).

3.2 Tree Inventory

A tree assessment was completed by WSP's Certified Arborists on May 4, 5, 6, and 13, 2020 to identify species, size, and quantity and evaluate the health of vegetation within the City's right-of-way (ROW), trees on private properties, trees within Collingwood Park and trees within the West Highland Creek Ravine and Natural Feature Protection (RNFP) area within the Focus Area limits. Trees were identified in accordance with the City of Toronto's Private and

City tree By-laws (Toronto Municipal Code Chapter 813, Trees). A total of 2,634 vegetation has been inventoried for species, size and condition and separated into individual trees. The study area was split into three sections for the tree inventory (**Exhibit 3-3**): Section A (North), Section B (Central), and Section C (South). The following section highlights the findings of the tree inventory, which is documented in **Appendix C**.

Section A

Tree species within Section A were primarily of native and non-native trees, mainly planted deciduous trees within the City's ROW and on private properties in addition to planted rows of conifers within the West Highland Creek RNFP area. Trees range from young to mature with a DBH range of 10 to 108 cm, with an average DBH of 27 cm. Shrub species frequently encountered within Section A include Common Buckthorn (*Rhamnus cathartica*) and European Spindle (*Euonymus europaeus*).

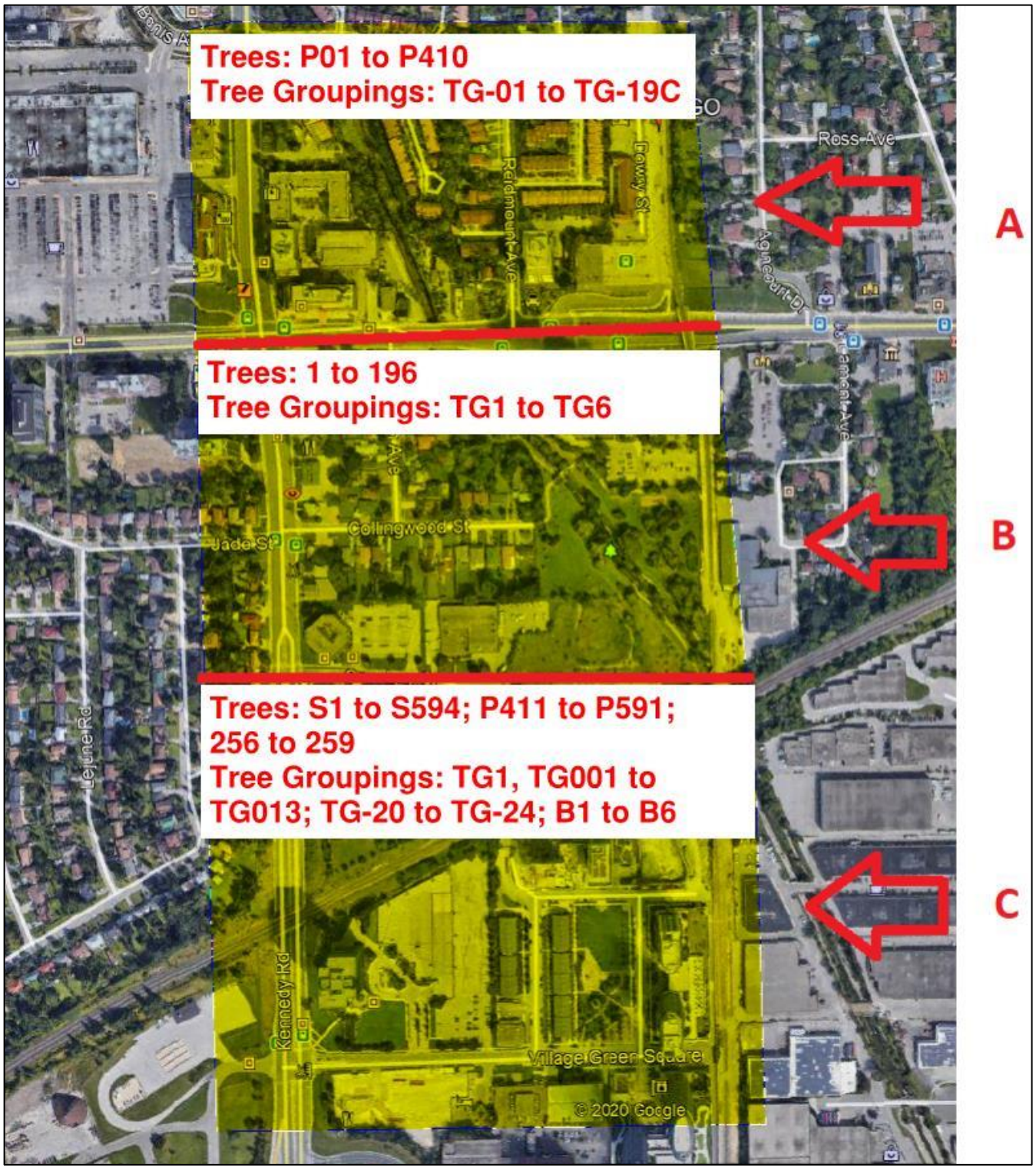
Section B

Tree species within Section B are a mixture of native and non-native trees, primarily planted deciduous trees within the City's ROW and on private properties in addition to some planted and naturally-occurring conifers, planted trees within Collingwood Park and trees within the RNFP area adjacent to West Highland Creek. Trees are young to mature with a DBH range of 10 to 120 cm, with an average DBH of 26 cm. Shrub species frequently encountered within Section B include Russian Olive (*Elaeagnus angustifolia*) and Olive Species (*Eleagnus* sp.).

Section C

Tree species within Section C are a mixture of native and non-native trees, primarily planted deciduous trees within the City's ROW and on private properties in addition to naturally-occurring native and introduced trees within the rail corridor and trees within Metrogate Park. Trees are young to mature with a DBH range of 10 to 110 cm, with an average DBH of 21 cm. Shrub species frequently encountered within Section C include Russian Olive (*Elaeagnus angustifolia*) and Lilac Species (*Syringia* sp.).

Exhibit 3-3: Map of Trees and Tree Groupings Assessed within the Study Area



3.3 Phase 1 Environmental Site Assessment

A Phase 1 Environmental Site Assessment (ESA) was undertaken to identify areas / properties with actual or potential site contamination that may impact evaluation and selection of the preferred alternatives, future roadway design and construction activities. A 250 m buffer zone was added from the perimeter of the study limits to account for migration of contaminants from properties / areas adjacent to the study area. The Phase 1 ESA include a comprehensive record review of the following resources and a site visit on December 16, 2019:

- Historical aerial photographs and topographic and geologic maps;
- Available information from the Ontario Ministry of Environment, Conservation and Parks;
- EcoLog Environmental Risk Information Services records;
- City directories for properties within the study area;
- Fire insurance plans through OPTA Enviroscan; and
- Available environmental reports for properties.

The following section highlights the findings of the Phase 1 ESA, which is documented in **Appendix D**. Based on the findings of the Phase 1 ESA, 105 different properties representing Areas of Potential Environmental Concern (APECs) have been identified within the study area (**Exhibit 3-4**, **Exhibit 3-5**, **Exhibit 3-6**, **Exhibit 3-7,** and **Exhibit 3-8**). The APECs correspond to locations within the study area where potential environmental impacts may be present which are categorized as properties with ‘low’, ‘moderate’ or ‘high’ potential for contamination based on an assessment of the overall relative potential of environmental impacts to be present within the subsurface.

Prepared By: SermoulJ

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GS2 - Gas Station

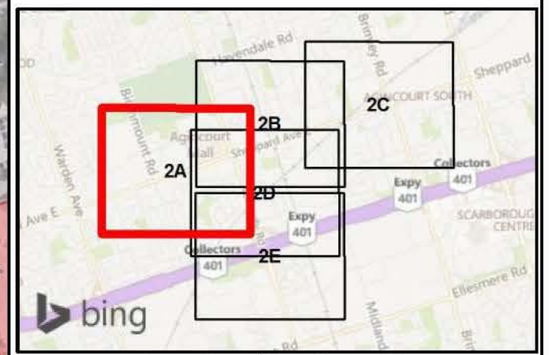
West Highland Creek
MARILYN AVE
REIDMOUNT AVE
PCB2
SPL2
CARDWELL AVE
CUMMURAY BLVD
BONIS AVE
CARABOB CRT
EAGLESTONE RD
AS4/DC3/PCB3
HGS14
HGS3&4 / HIM12
HDC5 / AS6
HDC4
HDC6
HDC7
HGS2
DC4
HGS5 / AS2
GORDON AVE
KENNEDY RD
GS3
WG9
BAY MILLS BLVD
BIRCHMOUNT RD
WG4
AW1
AS3
HIM18
COLLINGWOOD ST
HIM6
FT1
GS2
SPL4
SHEPPARD AVE E
JADE ST
NEDDIE DR
DC1/HDC3/HIM19
GS1/HDC2
DEMPSTER ST
AS1
PENTLY CRES
AMETHYST RD
HORIZON CRES
LEJUNE RD
MARSHA DR
CASS AVE
EARLTON RD
RL2
MORAINE HILL DR
SUNMOUNT RD
ARAMAN DR
KERWOOD CRES
Canadian Pacific
FT3
CARNCASTLE GATE


GS1 - Gas Station

AS3 - Automotive Service Station

LEGEND:
- PROJECT STUDY AREA
- PHASE ONE ESA STUDY AREA (250m BUFFER)
- RAILWAYS
- WATERCOURSES
- SPILL LOCATIONS

Area of Potential Environmental Concern
- HIGH
- MODERATE



TITLE:
AREAS OF POTENTIAL ENVIRONMENTAL CONCERN

PROJECT:
PHASE ONE ENVIRONMENTAL SITE ASSESSMENT
AGINCOURT CLASS ENVIRONMENTAL ASSESSMENT STUDY
TORONTO, ONTARIO

CLIENT:
CITY OF TORONTO

wsp	PROJECT NO.: 19M-01888-00	REVIEWED BY: DS
	DATE: FEBRUARY 2020	FIGURE: **2-3**

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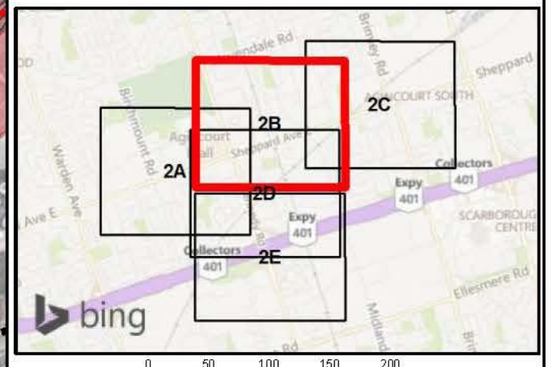
Prepared By: SemoulJ

LEGEND:

- PROJECT STUDY AREA
- PHASE ONE ESA STUDY AREA (250m BUFFER)
- RAILWAYS
- WATERCOURSES
- SPILL LOCATIONS

Area of Potential Environmental Concern

- HIGH
- MODERATE



TITLE:

AREAS OF POTENTIAL ENVIRONMENTAL CONCERN

PROJECT:

PHASE ONE ENVIRONMENTAL SITE ASSESSMENT
AGINCOURT CLASS ENVIRONMENTAL
ASSESSMENT STUDY
TORONTO, ONTARIO

CLIENT:

CITY OF TORONTO

	PROJECT NO.: 19M-01888-00	REVIEWED BY: DS
wsp	DATE: FEBRUARY 2020	FIGURE: **2-4**

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Prepared By: SerroulJ

N

CANHAM CRES
MORAN RD
LAURALYNN CRES
DENNETT DR
SHILTON RD
MONTGOMERY AVE
MARYDON CRES
FRANCES CRES
HEATHER RD
GLEN WATFORD DR
RURAL AVE
SHEPPARD AVE E
BRIMLEY RD
HARRISFARM GATE
TIDWORTH SQ
LAMMERE CRES
CHARTERHOUSE RD
HALLBANK TERR
BROWNSPRING RD
FULHAM ST
GARDEN PARK AVE
MURRAY AVE
SALOME DR
SONMORE DR
MIDLAND AVE
MIDCROFT DR
MCDAIRMID RD
GROVELEAF RD
REDBUD CRES
TERRYHILL CRES
CLEETHORPES BLVD
PITFIELD RD
SNOWHILL CRES
WEYBRIGHT CRT

Canadian Pacific
RL2

WG1
WG2
WG8
WG10
WG12
WG13
WG36 / FT4

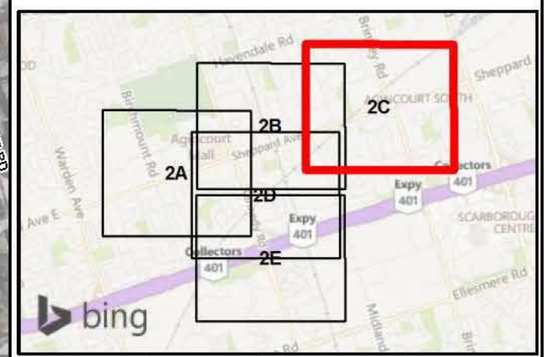
HDC1
HGS10
HGS11
HGS12
HGS8
HGS9/DC5
GS4/HGS4
SPL5
HGS13 / AST
HIM20
DC6
HAS5 / HIM21
IM12 / HIM22 / TD2
IM11
HIM16
IM13
IM14
HIM11
FT2

LEGEND:

- PROJECT STUDY AREA
- PHASE ONE ESA STUDY AREA (250m BUFFER)
- RAILWAYS
- WATERCOURSES
- SPILL LOCATIONS

Area of Potential Environmental Concern

- HIGH
- MODERATE



TITLE:

AREAS OF POTENTIAL ENVIRONMENTAL CONCERN

PROJECT:

PHASE ONE ENVIRONMENTAL SITE ASSESSMENT
AGINCOURT CLASS ENVIRONMENTAL
ASSESSMENT STUDY
TORONTO, ONTARIO

CLIENT:

CITY OF TORONTO

PROJECT NO.:	REVIEWED BY:
19M-01888-00	DS
DATE: FEBRUARY 2020	FIGURE: **2-5**

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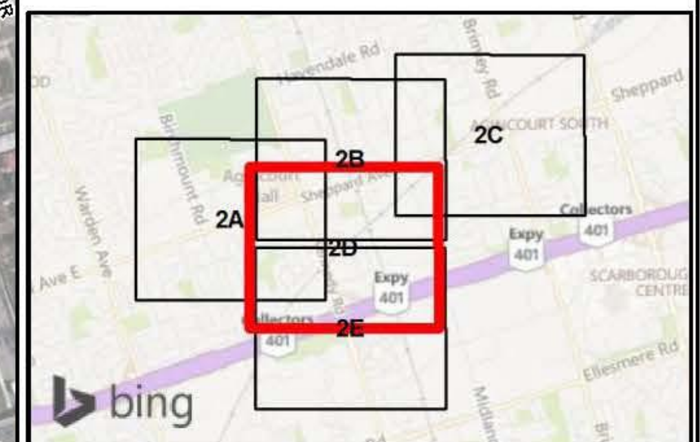
LEGEND:

- PROJECT STUDY AREA
- PHASE ONE ESA STUDY AREA (250m BUFFER)
- RAILWAYS
- WATERCOURSES
- SPILL LOCATIONS

Area of Potential Environmental Concern

- HIGH
- MODERATE



0 50 100 150 200 Metres

TITLE:
AREAS OF POTENTIAL ENVIRONMENTAL CONCERN

PROJECT:
PHASE ONE ENVIRONMENTAL SITE ASSESSMENT
AGINCOURT CLASS ENVIRONMENTAL
ASSESSMENT STUDY
TORONTO, ONTARIO

CLIENT:
CITY OF TORONTO

PROJECT NO.:	REVIEWED BY:
19M-01888-00	DS
DATE: FEBRUARY 2020	FIGURE: 2-6

Prepared By: SermoulJ

N

PENTLY CRES
MARSHA DR
LEJUNE RD
KERWOOD CRES
EARLTON RD
ALLANFORD RD
ARAMAN DR
PENDER CRES
MARILAKE DR
MIDLAND AVE
EMBLEM CRT
VILLAGE GREEN SQ
KENNEDY RD
WILLIAM KITCHEN RD
ANTRIM CRES
DUNDALK DR
GLAMORGAN AVE
PROGRESS AVE
HWY 401 COLLECTOR
HWY 401
Canadian Pacific
GO Transit – Metrolinx
West Highland Creek

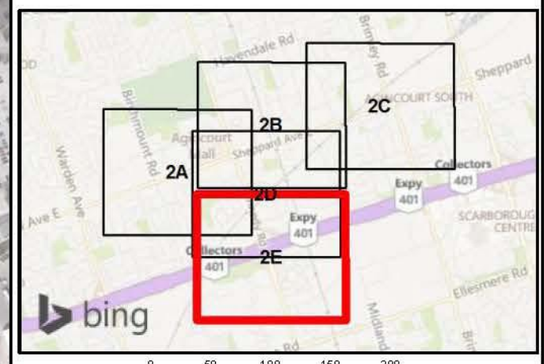
HIM1
AS1
RL2
HIM5 / TD4
HAS1
TD3
AS5 / DC2 / IM9
IM7
IM8
IM5
IM4
IM3
IM2
RL1
WG3
FT3
WG15
IM6
SPL1
SPL3
HIM3
WG11 / HIM2 / PCB1
WG14
HWY1

LEGEND:

- PROJECT STUDY AREA
- PHASE ONE ESA STUDY AREA (250m BUFFER)
- RAILWAYS
- WATERCOURSES
- SPILL LOCATIONS

Area of Potential Environmental Concern

- HIGH
- MODERATE



TITLE:
AREAS OF POTENTIAL ENVIRONMENTAL CONCERN

PROJECT:
PHASE ONE ENVIRONMENTAL SITE ASSESSMENT
AGINCOURT CLASS ENVIRONMENTAL ASSESSMENT STUDY
TORONTO, ONTARIO

CLIENT:
CITY OF TORONTO

	PROJECT NO.:	REVIEWED BY:
wsp	19M-01888-00	DS
	DATE: FEBRUARY 2020	FIGURE: 2 -7

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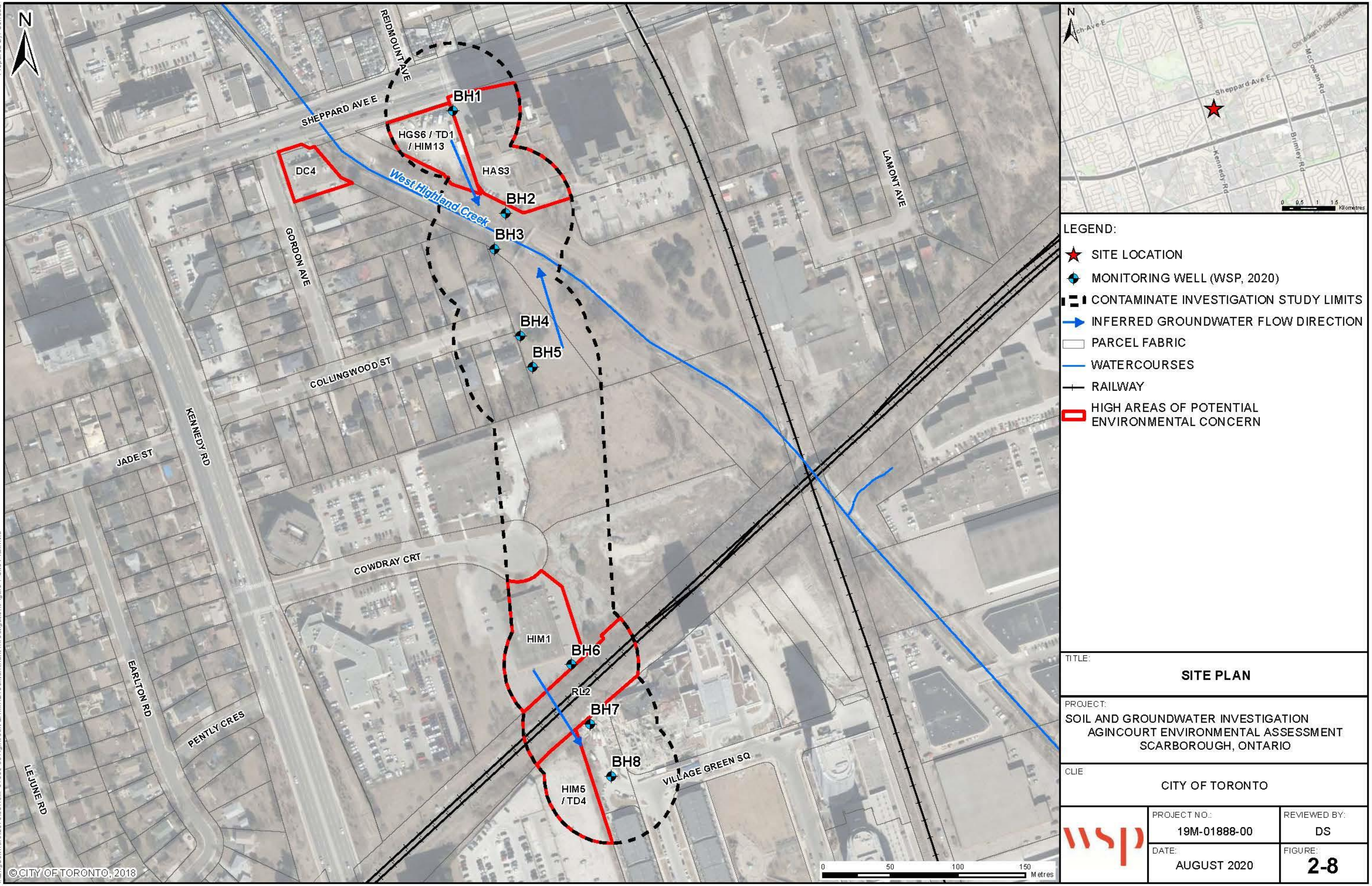
3.4 Contamination

3.4.1 Soil

21 soil samples, including duplicates, were submitted to the laboratory for analysis of one or more of the following parameter packages: M&I, PAH, PHC (F1-F4), BTEX and VOC. Results of laboratory analysis indicate the fill material at BH6 contains levels of SAR exceeding the MECP Table 3 SCS and the fill material at BH8 contains levels of EC and pH and concentrations of benzo(a)pyrene exceeding the Table 3 Site Condition Standards (SCS). Impacted fill material from BH6 and BH8 was identified in the upper 0.6 m of soil stratigraphy. Soil samples analyzed from the native material at BH6 (1.5-2.1 mbgs) and BH8 (2.3-2.9 mbgs) met the Table 3 SCS for parameters which exceeded the Table 3 SCS within the fill material. All soil samples from BH1, BH2, BH3, BH4, BH5, and BH7 met the applicable Table 3 or Table 9 SCS. The locations of the soil samples exceeding the applicable SCS are shown in **Exhibit 3-9** and **Exhibit 3-10**. Detailed soil contamination evaluation is documented in **Appendix E**.

3.4.2 Groundwater

Groundwater was intercepted between 1.27 to 3.78 mbgs across the Project Limits. Groundwater at BH2 contained concentrations of chloride exceeding the Table 3 SCS. All other groundwater samples met the Table 3 SCS or Table 9 SCS, as applicable. The locations of the groundwater sample exceeding the applicable SCS is shown in **Exhibit 3-10**.



LEGEND:

- SITE LOCATION
- MONITORING WELL (WSP, 2020)
- CONTAMINATE INVESTIGATION STUDY LIMITS
- INFERRED GROUNDWATER FLOW DIRECTION
- PARCEL FABRIC
- WATERCOURSES
- RAILWAY
- HIGH AREAS OF POTENTIAL ENVIRONMENTAL CONCERN

TITLE:

SITE PLAN

PROJECT:

SOIL AND GROUNDWATER INVESTIGATION
AGINCOURT ENVIRONMENTAL ASSESSMENT
SCARBOROUGH, ONTARIO

CLIE

CITY OF TORONTO

wsp

PROJECT NO.:	REVIEWED BY:
19M-01888-00	DS
DATE:	FIGURE:
AUGUST 2020	**2-8**

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Prepared By: SerrouU

N

BH1

BH2

BH3

BH4

BH5

BH6

BH7

BH8

SHEPPARD AVE E

REDMOUNT AVE

West Highland Creek

GORDON AVE

LAMONT AVE

COLLINGWOOD ST

KENNEDY RD

JADE ST

COWDRAY CRT

EARLTON RD

PENTLY CRES

LEJUNE RD

BH2 (1.52-4.57 mbgs)		
Parameter	**MECP Standard**	**Result**
Chloride (µg/L)	1,800,000	3,560,000

BH6 (0-0.61 mbgs)		
Parameter	**MECP Standard**	**Result**
Sodium Adsorption Ratio (unitless)	12	12.8

BH8 (0-0.61 mbgs)		
Parameter	**MECP Standard**	**Result**
pH (unitless)	5 to 9	11.8
Electrical Conductivity (mS/cm)	1.4	1.82
Benzo(a)pyrene (µg/g)	0.3	0.346

0 50 100 150 Metres

LEGEND:

- MONITORING WELL (WSP, 2020)
- CONTAMINATE INVESTIGATION STUDY LIMITS
- PARCEL FABRIC
- WATERCOURSES
- RAILWAY

NOTES

1. Monitoring wells BH 2 and BH 3 were compared to MECP Table 9 site condition standards. All other monitoring wells were compared to MECP Table 3 site condition standards.
2. Soil exceedances are shown in orange call out boxes.
3. Groundwater exceedances are shown in blue call out boxes.

MECP Table 3: Full Depth Generic Site Condition Standards for Soil in a Non-Potable Ground Water Condition for Industrial/Commercial/Community Property Use with Medium to Fine Textured Soils.

MECP Table 9: Generic Site Condition Standards for Soil (other than Sediment) for Use within 30 m of a Water Body in a Non-Potable Groundwater Condition for Residential/ Parkland/Institutional/Industrial/Commercial/ Community Property Use.

TITLE:

SOIL AND GROUNDWATER EXCEEDANCES

PROJECT:

SOIL AND GROUNDWATER INVESTIGATION
AGINCOURT ENVIRONMENTAL ASSESSMENT
SCARBOROUGH, ONTARIO

CLIENT

CITY OF TORONTO

PROJECT NO.:	REVIEWED BY:
19M-01888-00	DS
DATE: AUGUST 2020	FIGURE: 2-9

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3.5 Archaeological Assessment

A Stage 1 archaeological assessment was completed as part of the study that included a review of documents pertaining to the project area including historic maps, aerial photographs and local histories, previous archaeological assessment reports, and a site investigation was conducted on May 15, 2020. The following section highlights the findings of the archaeological assessment, which is documented in **Appendix F**.

The Stage 1 archaeological assessment determined that the Agincourt study area is close to indicators of archaeological potential such as proximity to water sources, historic roadways and areas of early Euro-Canadian settlement. The property inspection determined the area to be predominantly disturbed by modern construction activities and do not require further archaeological assessment. However, there are a number of areas that exhibit archaeological potential and will require Stage 2 archaeological assessment through test pit survey as per Standard 2.1.2 of the *Standards and Guidelines for Consultant Archaeologists* if impacted by the recommended plan (**Exhibit 3-11**). These areas include: the residential backyards west of Kennedy Road between Pently Crescent and the CP Railway; the area east of Kennedy Road between the Chrysler dealership and the CP Railway; the area southwest of Kennedy Road and Village Green Square; a section northwest of Kennedy Road and the Highway 401 Westbound off-ramp; the manicured lawn in front of the Village Green Square business complex; Collingwood Park excluding the area around West Highland Creek; the front and backyards of the Collingwood Street and Gordon Avenue residential properties; and the northwest corner of Reidmount Avenue and Dowry Street.

MARILYN AVENUE
REIDMOUNT AVENUE
CARDWELL AVENUE
AGINCOURT DRIVE
ROSS AVENUE
DONALDA CRESCENT
RURAL AVENUE
MIDLAND AVENUE
BONIS AVENUE
KENNEDY ROAD
DOWRY STREET
6 DOWRY STREET
SHEPPARD AVENUE EAST
LAMONT AVENUE
GORDON AVENUE
7
24
23
25
26
21
20

LEGEND

- Photograph Locations
- Study Area

Survey Method

- Disturbed - No Further Work
- Previously Assessed - No Further Work
- Test Pit at 5 m Interval Required

TITLE: FIGURE 9a: RESULTS AND PHOTOGRAPH LOCATIONS

SCALE:	PROJECT NO:	DATE:
1:2,500	19M-01888-00	JUNE 2020

DRAWN BY:	CLIENT:
AST	CITY OF TORONTO

PROJECT: AGINCOURT NORTH-SOUTH STREET AND GRADE SEPARATION

CREDITS: LAND INFORMATION ONTARIO

0 70 140 m N

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3.6 Cultural Heritage and Culture Heritage Landscape Screening Assessment

A cultural heritage assessment was carried out to provide preliminary information about built heritage and cultural heritage landscapes within the study area. The assessment focused on identifying cultural heritage landscapes, above-ground built heritage resources that are older than forty years and recognized heritage resources. The following section highlights the findings of the cultural heritage report, which is documented in **Appendix G**.

Based on the results of the background research and field review, 13 cultural heritage resources were identified during the survey of the study area, as summarized in **Exhibit 3-12** and shown in **Table 3-1**. The list of CHLs and BHRs are documented in the cultural heritage report.

The findings of the cultural heritage assessment are summarized below:

- Four Cultural Heritage Landscapes (CHLs) and 14 Built Heritage Resources (BHRs) were identified within the study area for the Southwest Agincourt Transportation Connections Study.
- Of these BHRs, eight were identified during the field review and six, have been previously identified in pre-cursor studies. Of the CHLs, two were identified during the field review and one was previously identified.
- Most of the identified CHLs and BHRs reflect the nineteenth century development of the study area, as well as residential development typical of the post-war construction boom.

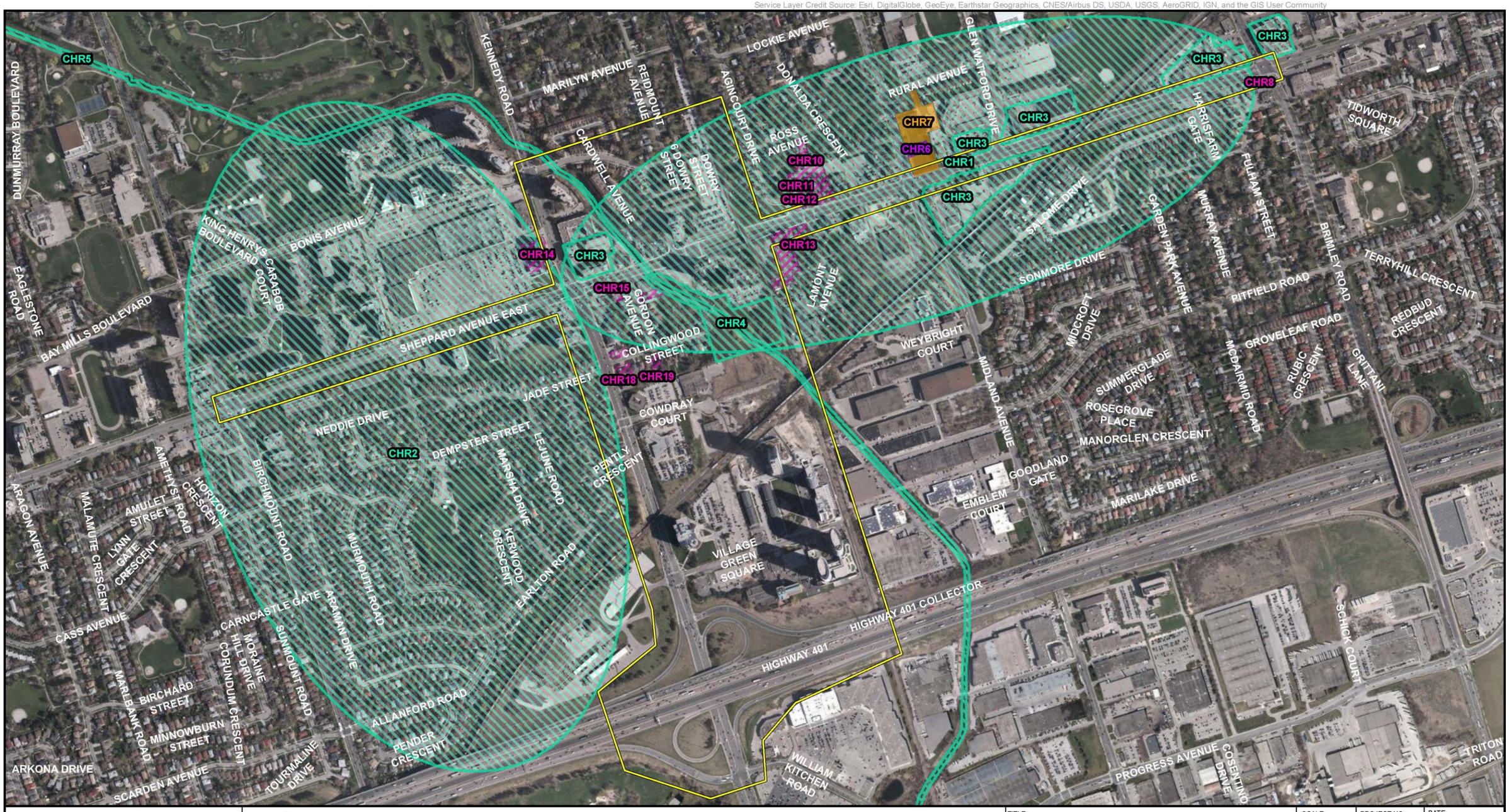
It should be noted that given the preferred complete street alignment (as discussed in Chapters 6 and 7 of this ESR) would require the demolition of BHR-7 (9 Collingwood Street), WSP has completed a Cultural Heritage Evaluation Report (CHER) for this property as documented in the cultural heritage report. The findings confirm that 9 Collingwood Street does not retain Cultural Heritage value of Interest. The CHER completed for 9 Collingwood Street is documented in **Appendix G**.

Table 3-1: Summary of Cultural Heritage Resources/Landscapes in the Study Area

Resource	Type	Address / Location	Recognition
BHR-1	Place of worship	4125 Sheppard Avenue East	Identified in the Sheppard East LRT Class EA Study (URS 2009)
BHR-2	Residential	4023 Sheppard Avenue East	Identified during field review
BHR-3	Residential	4019 Sheppard Avenue East	Identified during field review

Resource	Type	Address / Location	Recognition
BHR-4	Residential	2229 Kennedy Road	Identified in the Agincourt Feasibility Study, Functional Planning Report (Cole Engineering 2014)
BHR-5	Residential	2223 Kennedy Road	Identified in the Agincourt Feasibility Study, Functional Planning Report (Cole Engineering 2014)
BHR-6	Residential	2221 Kennedy Road	Identified in the Agincourt Feasibility Study, Functional Planning Report (Cole Engineering 2014)
BHR-7	Residential	9 Collingwood Street	Identified in the Agincourt Feasibility Study, Functional Planning Report (Cole Engineering 2014) Confirmed through CHER dated February 2022 that property is not a CHVI
BHR-8	Residential	17 Gordon Avenue	Identified in the Agincourt Feasibility Study, Functional Planning Report (Cole Engineering 2014)
BHR-9	Residential	6 Agincourt Drive	Identified during field review
BHR-10	Residential	14 Agincourt Drive	Identified during field review
BHR-11	Residential	16 Agincourt Drive	Identified during field review
BHR-12	Residential	26 Agincourt Drive	Identified during field review
BHR-13	Residential	32 Agincourt Drive	Identified during field review
BHR-14	Residential	36 Agincourt Drive	Identified during field review
CHL-1	Historic Settlement Centre	Agincourt Village	Identified during field review
CHL-2	Cultural Heritage Landscape	Post-War Suburban Development and Tower Parks	Identified during field review
CHL-4	Recreational	Collingwood Park	Identified in the AECOM CHER (2017)
CHL-5	Waterway	West Highland Creek	Identified during field review

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



wsp

LEGEND

- Study Area
- Potential Cultural Heritage Landscape
- Potential Built Heritage Resource
- Known Cultural Heritage Landscape
- Known Built Heritage Resource

Figure 2-11

TITLE: FIGURE 1: OVERVIEW

SCALE:	PROJECT NO:	DATE:
1:8,700	19M-01888-00	FEBRUARY 2020
DRAWN BY: AST	CLIENT: CITY OF TORONTO	

PROJECT: AGINCOURT EA

CREDITS:

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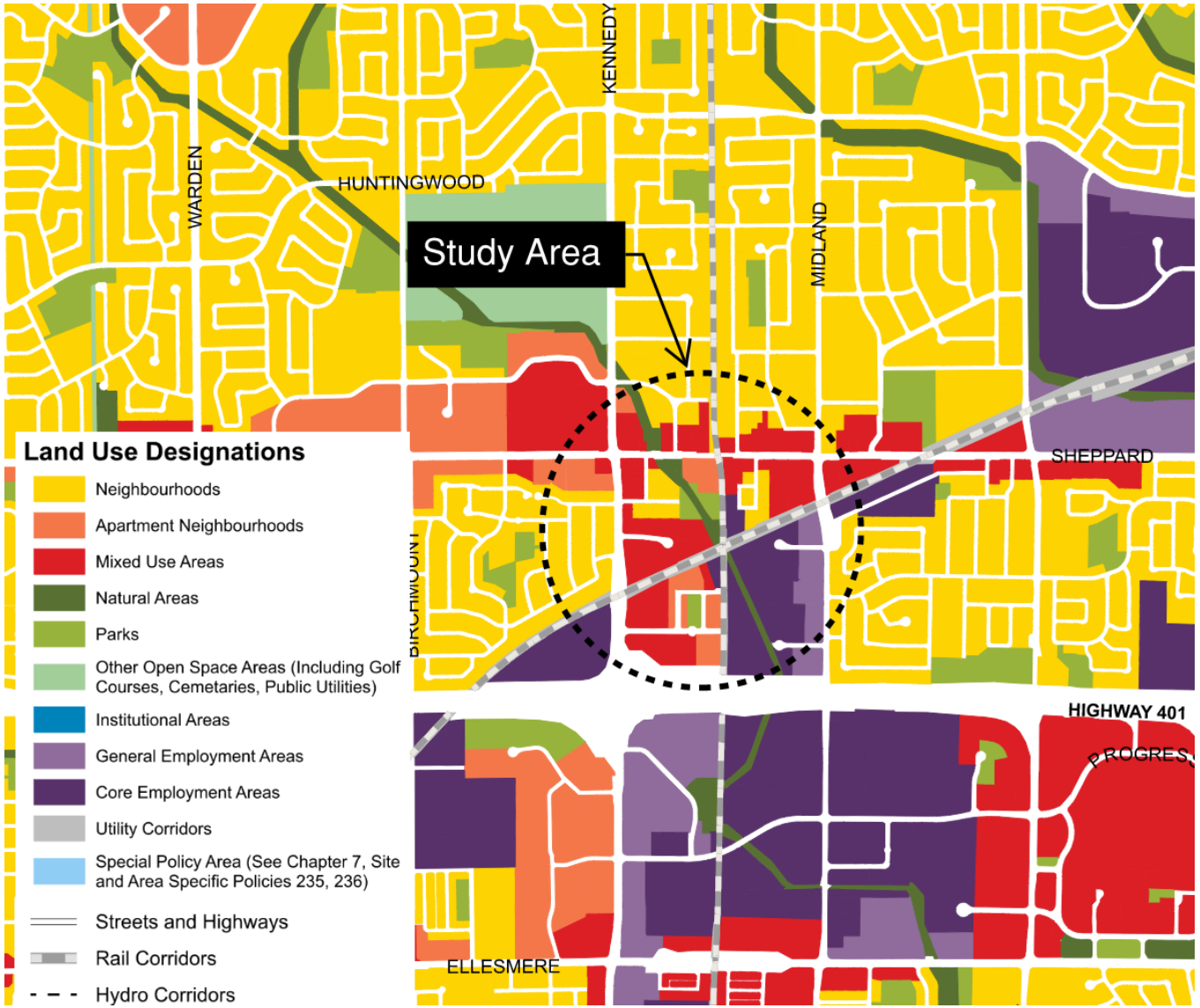
3.7 Socio-Economic and Land Use Characteristic

The study location is within the Agincourt South Malvern-West census area. The following summarizes the key findings from the existing socio-economic and land-use assessment as documented in **Appendix A**. Census data from 2016 indicates that the neighbourhood population is 23,757 with a population density of 3,034 people per square kilometer. The population has increased by 8.0% between 2011 and 2016. There are 8,535 private dwellings in the neighbourhood primarily comprised of 5+ storey apartments (38%) and single-detached houses (34%). A smaller proportion of semi-detached houses (4%), row houses (6%), duplexes (8%), and apartments under 5 storeys (8%) are present within the neighborhood.

The land use in and around the study area is mainly a mixture of residential, commercial and industrial properties intermingled with parkland areas. An engineered creek runs through the central portion of the study area in a northwest to southeast fashion. A CP railway line runs through the southern portion of the study area in a southwest to northeast fashion. A GO railway line forms the eastern boundary of the study area. The study area and surrounding land use can be visualized in **Exhibit 3-13**, which is a land-use designation map from the City of Toronto's Official Plan.

Proposed developments within the study area that were considered as part of the EA include Metrogate Agincourt Redevelopment, development of 20-100 Cowdray Court, Bonis Avenue Residential Development, and the mixed-use development proposed at 4181 Sheppard Avenue East.

Exhibit 3-13: Land Use Designation Map from the City's Official Plan (Map 19 dated January 2024)



3.8 Air Quality

As part of the Agincourt EA study, an AQIA assessing TRAP concentrations in the study area was completed following the MECP Protocol. The following section highlights the findings of the air quality assessment, which is documented in **Appendix H**. The assessment of existing air quality in the study area focused on criteria air contaminants (CACs), compounds that are expected to be released from mobile sources, and contaminants which are generally accepted as indicators of changing air quality. These compounds are emitted from fuel combustion from vehicles travelling on roadways. The criteria air contaminants (CACs) for this project include:

- particulate matter less than 10 microns in diameter (PM10);
- particulate matter less than 2.5 microns in diameter (PM2.5);
- total suspended particulates (TSP);
- nitrogen oxides, expressed as nitrogen dioxide (NO2);
- carbon monoxide (CO); and
- selected volatile organic compounds (VOCs), including benzene, 1-3 butadiene, formaldehyde, acetaldehyde, and acrolein.

The concentrations of the selected contaminants for this assessment resulting from background sources were estimated by analyzing historical monitoring data from ECCC National Air Pollution Surveillance (NAPS) stations and the MECP air monitoring stations in the vicinity of the Project. WSP reviewed the ambient air monitoring data from stations in Ontario and selected the Toronto West, Toronto East, Toronto Gage Institute, Windsor West, and Egbert stations for this assessment to cover the air quality indicators retained for this assessment. Several stations were required due to some contaminants not being measured at closer ambient air monitoring stations. Nearby industrial and commercial facilities with potential to impact existing air quality conditions surrounding the study area were also identified. Twenty-six (26) facilities have been identified within 5 km of the study area which may contribute to existing air quality conditions. A summary of all ambient background concentrations within the study area is provided in **Table 3-2**.

Background concentrations for each contaminant were obtained from the MECP stations listed above. For contaminants with 1-hour averaging periods, the maximum 90th percentile over 5 years was recorded. The 90th percentile over the five-year data set is considered to be representative of ambient background conditions for averaging periods of 30 minutes and one hour. The 90th percentile of the available monitoring data is typically considered a conservative estimate of background air quality (CEA Agency and CNSC, 2009). For contaminants with an 8-hour averaging period, the ambient concentration over 5 years was calculated using the 1-hour ambient concentration, as outlined in Table 7-1 in the MECP *Guideline A-10: Procedure for Preparing an Emission Summary and Dispersion Modelling (ESDM) Report*. For contaminants with a 24-hour averaging period, the maximum 24-hour concentration over 5 years was recorded. For contaminants with an annual averaging period, the average annual mean concentration over 5 years was recorded.

Table 3-2: Summary of Ambient Background Concentrations within the Study Area

Contaminant	Averaging Period	Background Concentration (µg/m³)	Air Quality Indicator (µg/m³)	% of Indicator
PM_{10}	24 h	**56**	50	**113%**
$PM_{2.5}$	24 h	**30**	25	**122%**
	Annual	**8.9**	8.8	**101%**
TSP	24 h	101	120	84%
	Annual	30	60	49%
NO_x (expressed as NO_2)	1 h	53	79.0A	67%
	24 h	70	200	35%
	Annual	**27**	22.6[A]	**118%**
CO	1 h	435	15,000	3%
	8 h	243	6,000	4%
Acrolein	1 h	0.10	4.5	2%
	24 h	0.12	0.4	31%
Benzene	24 h	1.52	2.3	66%
	Annual	**0.77**	0.45	**171%**
1,3-Butadiene	24 h	0.17	10	2%
	Annual	0.08	2	4%
Acetaldehyde	30 min	2.5	500	1%
	24 h	2.5	500	0.5%
Formaldehyde	24 h	6.0	65	9%

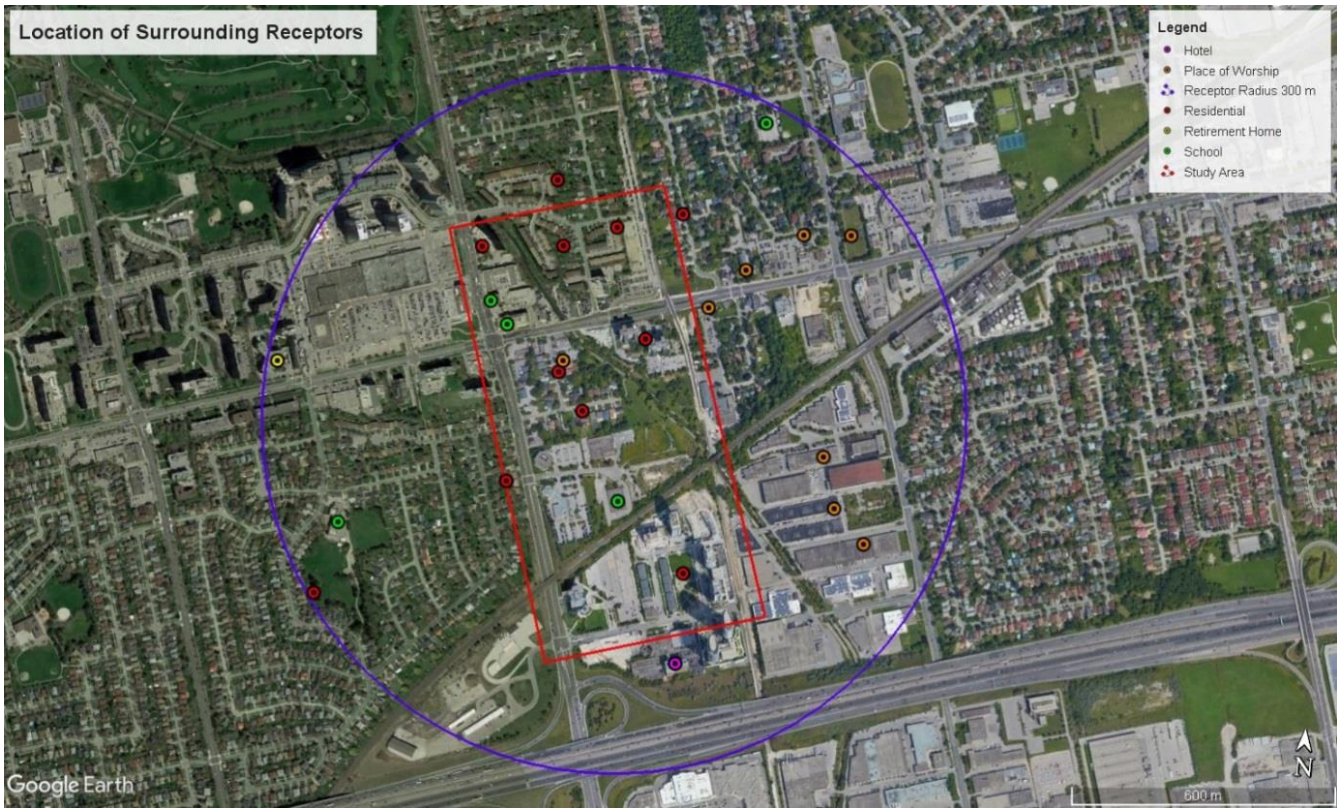
[A] CAAQS published in the Canada Gazette Volume 15, No. 49 — December 9, 2017. Final standard phase of 2025 used.

Based on a review of the background concentrations within the vicinity of the study area, concentrations of PM_{10}, $PM_{2.5}$, annual Nox, and annual benzene were above applicable air quality indicators.

Sensitive receptors within a 300 m radius of the Project were identified in the assessment, as shown in **Exhibit 3-14**. The area surrounding the Project is comprised of residential, commercial, and industrial land use types. Various sensitive receptors have been identified within the project study area, including residential developments, places of worship, schools, and retirement homes:

- Residences: A total of 11 residential subdivisions are located within 300 m of the study area;
- Place of Worship: A total of 8 places of worship are located within 300 m of the study area;
- Schools: A total of 5 schools are located within 300 m of the study area; and
- Retirement Homes: A total of 1 retirement home is located within 300 m of the study area.

Exhibit 3-14: Location of Surrounding Air Quality Sensitive Receptors



3.9 Noise

The existing noise conditions within the study area were documented as part of the noise assessment completed as part of the SW Agincourt EA. For the purpose of the noise existing conditions document, a 600 metres buffer was added to the north and south extent of the study area. The noise assessment was undertaken based on a selection of residential homes adjacent to the new connection within the study area to represent the locations where the potential worst-case noise impacts are expected. The following section highlights the findings of the existing noise assessment, which is documented in **Appendix I**.

A review of the study area identified outdoor living areas (OLAs) that would potentially have the greatest exposure to the project undertaking (i.e., first row of residential housing). These OLA receptors were placed at 3.0 metres from the façade and at a height of 1.5 metres above the existing grade. One exception is R1, which represents a daycare playground area located on the ground level at west side of the condominium building. This receptor was placed in the centre of the playground area at a height of 1.5 metres above grade. The receptor locations are summarized in and shown in **Table 3-3** and **Exhibit 3-15.**

Table 3-3: Noise Receptor Locations

Receptor	Address	Type of Residential Unit
R1	275 Village Green Square	Condominium
R2	27 Collingwood Street	Detached House
R3	11 Collingwood Street	Detached House
R4	28 Collingwood Street	Detached House
R5	1 Gordon Avenue	Detached House
R6	2 Collingwood Street	Detached House

Exhibit 3-15: Noise Receptor Locations

3.9.1 Methodology

Sound levels were calculated using the method outlined in the MECP document "ORNAMENT", October 1989 and the MECP "STAMSON", Computer Program for Road and Rail Traffic Noise Assessment (Version 5.04 issued in 2000). The results of the noise modeling for existing transportation sounds are summarized in the following section.

3.9.2 Results

Vehicular traffic on Kennedy Road, Sheppard Avenue East and Highway 401 were identified as the existing predominant sources of transportation noise in the vicinity of the study area. It should be noted that highly intrusive short duration noise such as train noise is typically excluded from the determination of the ambient. Accordingly, noise related to trains passing by the study area was not included in the noise assessment.

Sixteen-hour sound levels (Leq (16-hr)) were determined using STAMSON. Based on the results of the noise modelling, the existing sound levels are below 55 dBA at all receptor locations except at R6. Since the objective sound level is the higher of 55 dBA or the existing ambient, the existing sound level of 60 dBA will be used as the ambient at R6 in determining noise impacts due to the undertaking of the project at a later stage of noise assessment. On the other hand, the objective sound level of 55 dBA will be used for R1 to R5. **Table 3-4** summarizes the existing sound levels due to the existing traffic on Kennedy Road, Sheppard Avenue East and Highway 401.

Table 3-4: Existing Transportation Sound Levels

Receptor	Existing Sound Level – Leq (16-hr) (dBa)
R1	52
R2	41
R3	48
R4	49
R5	47
R6	58

3.10 Traffic and Multi-modal Assessment

Multi-modal assessment has been completed including the traditional intersection operations assessment for motorists as well as transit, cycling and pedestrian facilities within the study area. The highlights of the evaluation in this section and the full traffic report and multi-modal assessment are documented in **Appendix J** and **Appendix K,** respectively.

The resulting existing traffic conditions (pre COVID-19) are summarized in **Table 3-5**. The existing conditions SimTraffic queues are presented in **Table 3-6** for key intersections of Kennedy Road and Sheppard Avenue, and the Kennedy and Highway 401 interchange off-ramps.

Based on the existing conditions evaluation presented in the above tables and the multi-modal evaluation in the appendix, the key findings are summarized as follows:

1) All of the signalized study intersections are operating at acceptable LOS ‘D’ or better during all of the study periods.

2) With the calibrations noted in **Appendix J**, all of the movements at the study intersections are operating within capacity. At the arterial-to-arterial intersections of Kennedy/Sheppard and Sheppard/Midland, there are movements that are operating at or near capacity.

3) At the intersection of Kennedy Road and Sheppard Avenue, the SimTraffic queues indicate the average northbound left-turn queues exceed the available 50 m storage during all peak periods. Long queues are observed for all through movements, with some queues occasionally spilling into adjacent intersections.

4) The queues projected at both the eastbound and westbound Highway 401 off-ramps at Kennedy Road can be accommodated well within the available storages and the queues are not expected to extend back to the Highway 401 mainline. The north/south queues on Kennedy Road between the closely spaced intersections at Village Green Square and the Highway 401 westbound off-ramp typically exceed the available storage due to the limited storage of approximately 80 m. Signal coordination of these closely spaced intersections is important to minimize delays and queues at the Highway 401 interchanges.

5) The unsignalized intersection of Reidmount Avenue at Sheppard Avenue is experiencing longer minor-street delays in the southbound approach during the weekday AM and Saturday midday peak hours. The volumes in the southbound approach are 55 and 32 during the weekday AM and Saturday midday peak hours, respectively, and the southbound movement is still operating well within capacity. Based on a review of the video at this intersection, the southbound left-turns from Reidmount Avenue onto Sheppard Avenue are taking place generally as two-stage turns. Cars would first find gaps in the westbound traffic flow to turn into the eastbound left-turn lane or the white chevron buffer, before finding gaps to change lanes into the eastbound through lane along Sheppard Avenue. There is likely a correlation between the southbound left-turn movement at this intersection with the signal at the Agincourt GO Station signalized driveway. When the eastbound left-turn queue dissipates into the GO station, there are sufficient gaps for the southbound left-turns to be completed from Reidmount Avenue onto Sheppard Avenue.

6) The unsignalized intersection of Collingwood Street/Jade Street/Kennedy Road is experiencing longer minor-street delays in the westbound approach (turns from Collingwood Street onto Kennedy Road) during the weekday AM and Saturday midday peak hours. However, the turning volumes associated with the longer delays are relatively low ranging from 9 vehicles in the weekday AM peak hour to 29 vehicles in the Saturday midday peak hour. As a result, the westbound movement is still operating well within capacity despite the longer minor-street wait time.

7) At the Village Green Square ‘T’ intersection near the terminus of Village Green Square near the CP Rail corridor, there is currently no signage or pavement marking indicating the right-of-way for cars approaching the intersection. There are some private driveways in proximity of the intersection, which are not expected to generate significant traffic. However, the operations of this intersection as it relates to the complete street initiative will be examined to formalize the intersection control and user right-of-way.

8) There are several segments of roadway where sidewalks are missing on one or both sides of the street. This results in a poor level of pedestrian level of service under existing conditions and offers a circuitous, uncomfortable route to walk to the Agincourt GO Station from the southerly half of the focus area (i.e., near the CP Rail tracks).

9) There are currently no dedicated cycling facility in the focus area. Most cyclists would be cycling in mixed-traffic conditions, which results in a poor level of service for cyclists in the focus area.

10) The existing bus routes along the boundary roadways of Kennedy Road and Sheppard Avenue are generally at acceptable levels of services while operating within mixed-traffic conditions with no on-street parking and limited driveway/side street interruptions.

Based on the overall findings of the existing traffic conditions assessment, there are pinch points developing at the arterial-to-arterial intersections that result in longer queues and the impediment of traffic flow under future conditions. The busiest intersection of Kennedy Road and Sheppard Avenue is also operating close to or at capacity during the peak hour periods and need to be closely monitored. There are notable pedestrian facility gaps, which forces pedestrians to have to take a more circuitous route in more uncomfortable environments. There are also no cycling facility in the focus area and cyclists have to ride in mixed traffic conditions.

It should be noted that the traffic assessment and multi-modal assessment also includes the comprehensive evaluation of the 2035 Do Nothing scenario along with the 2035 future conditions with the four complete street options in place. The development and evaluation of the four complete street options are discussed in Sections 4 and 5 of this ESR.

Table 3-5: Existing Intersection Operations

Intersection	Control Type	Weekday A.M. Peak Hour		Weekday P.M. Peak Hour		Saturday Midday Peak Hour	
		LOS (Delay, sec)	Critical Movement (v/c ratio)	LOS (Delay, sec)	Critical Movement (v/c ratio)	LOS (Delay, sec)	Critical Movement (v/c ratio)
Allanford Rd/Private Dwy & Sheppard Ave	Signalized	A (3)	--	A (3)	--	A (3)	--
Private Dwy/Agincourt Mall Dwy & Sheppard Ave	Signalized	A (4)	--	B (11)	--	B (12)	--
Kennedy Rd & Sheppard Ave	Signalized	C (29)	NB-L (0.98) SB-TR (0.98)	C (34)	NB-L (0.95) SB-TR (0.94)	C (25)	NB-L (1.00)
Kennedy Rd & Bonis Ave/ Cardwell Ave	Signalized	B (17)	--	B (16)	--	B (19)	--
Agincourt GO Station Dwy/4091/4101 Sheppard Ave Dwy & Sheppard Ave	Signalized	A (6)	--	B (10)	--	A (2)	--
Lamont Ave/Private Dwy & Sheppard Ave	Signalized	A (1)	--	A (4)	--	A (1)	--
Midland Ave & Sheppard Ave	Signalized	C (32)	NB-L (0.99)	C (27)	--	C (28)	--
Kennedy Rd & Cowdray Crt	Signalized	A (4)	--	A (2)	--	A (2)	--

Intersection	Control Type	Weekday A.M. Peak Hour		Weekday P.M. Peak Hour		Saturday Midday Peak Hour	
		LOS (Delay, sec)	Critical Movement (v/c ratio)	LOS (Delay, sec)	Critical Movement (v/c ratio)	LOS (Delay, sec)	Critical Movement (v/c ratio)
Kennedy Rd & Private Dwy/Village Green Sq	Signalized	B (18)	--	B (19)	--	B (16)	--
Kennedy Rd & Hwy 401 WB Off-ramp	Signalized	C (26)	WB-L (0.87) WB-R (0.81)	B (20)	WB-L (0.80) WB-R (0.79)	C (21)	WB-L (0.81) WB-R (0.76)
Kennedy Rd & Hwy 401 EB Off-ramp/ William Kitchen Rd	Signalized	C (24)	EB-L (0.81) EB-T (0.81) EB-R (0.79)	C (28)	EB-L (0.84) EB-T (0.83) EB-R (0.80) WB-R (0.88)	C (29)	EB-L (0.87) EB-T (0.88) EB-R (0.85) WB-R (0.88)
Reidmount Ave & Cardwell Ave/ Dowry St	Unsignalized	A (9)	NB-LR (0.09)	A (9)	NB-LR (0.09)	A (9)	NB-LR (0.08)
Gordon Ave & Sheppard Ave	Unsignalized	B (11)	NB-LR (0.04)	B (14)	NB-LR (0.05)	B (12)	NB-LR (0.06)
Sheppard Ave & Reidmount Ave	Unsignalized	E (41)	SB-LR (0.37)	C (22)	SB-LR (0.15)	E (43)	SB-LR (0.27)
Kennedy Rd & Jade St/ Collingwood St	Unsignalized	F (52)	WB-LTR (0.1)	D (29)	WB-LTR (0.19)	E (39)	WB-LTR (0.21)
Collingwood St & Gordon Ave	Unsignalized	A (9)	SB-LR (0.04)	A (8)	SB-LR (0.04)	A (9)	SB-LR (0.05)

Intersection	Control Type	Weekday A.M. Peak Hour		Weekday P.M. Peak Hour		Saturday Midday Peak Hour	
		LOS (Delay, sec)	Critical Movement (v/c ratio)	LOS (Delay, sec)	Critical Movement (v/c ratio)	LOS (Delay, sec)	Critical Movement (v/c ratio)
Private Dwy & Village Green Sq	Unsignalized	D (28)	NB-LTR (0.27)	C (18)	NB-LTR (0.07)	C (18)	SB-LTR (0.23)

1) For signalized intersections within the City jurisdiction, the LOS is based on the overall delay of the intersection. Critical v/c ratios are listed for movements with values over 0.90. For MTO intersection, the v/c threshold is 0.75.
2) For two-way stop controlled intersections, the LOS is based on the delay associated with the critical movement.

Table 3-6: Existing SimTraffic Queues at Key Intersections

Intersection	Movement	Storage [m]	Weekday A.M. Peak Hour		Weekday P.M. Peak Hour		Saturday Midday Peak Hour	
			Avg Queues [m]	95th Queue [m]	Avg Queues [m]	95th Queue [m]	Avg Queues [m]	95th Queue [m]
Kennedy Rd & Sheppard Ave	EBL	30	20	44	24	48	18	35
	EBT	150	67	110	148	216	68	128
	EBR	35	42	70	53	65	36	66
	WBL	20	33	40	33	40	34	39
	WBT	245	84	132	77	121	82	130
	WBTR	245	82	132	69	115	73	126

Intersection	Movement	Storage [m]	Weekday A.M. Peak Hour		Weekday P.M. Peak Hour		Saturday Midday Peak Hour	
			Avg Queues [m]	95th Queue [m]	Avg Queues [m]	95th Queue [m]	Avg Queues [m]	95th Queue [m]
	NBL	50	58	84	60	84	64	83
	NBT	295	84	168	83	137	117	210
	NBR	60	15	32	31	62	31	66
	SBL	50	45	81	46	79	35	64
	SBT	250	91	142	92	155	54	85
	SBTR	250	93	144	94	154	60	93
Kennedy Rd & Hwy 401 WB Off-ramp	WBL	380	83	113	64	89	79	111
	WBLR	380	85	113	67	94	78	109
	WBR	100	60	97	50	76	55	94
	NBT	330	38	56	44	79	48	73
	SBT	80	95	130	93	116	57	108
Kennedy Rd & Hwy 401 EB Off-ramp/ William Kitchen Rd	EBL	500	54	76	63	84	65	90
	EBLT	500	60	81	69	91	73	98
	EBTR	220	57	80	57	78	64	90
	EBR	105	48	74	43	65	49	78

Intersection	Movement	Storage [m]	Weekday A.M. Peak Hour		Weekday P.M. Peak Hour		Saturday Midday Peak Hour	
			Avg Queues [m]	95th Queue [m]	Avg Queues [m]	95th Queue [m]	Avg Queues [m]	95th Queue [m]
	WBR	170	59	96	194	316	243	327
	NBT	135	89	140	115	161	107	155
	NBTR	45	1	7	5	27	6	30
	SBT	330	53	78	49	87	48	86

3.11 Safety Review

Five years of collision data (2015-2019) were aggregated to identify any patterns in locations or types of collisions within the study area. Collision data was provided by the City for this period based on the start date of this EA in 2019. The review is focused on the key intersections within the study area since the connectivity-related improvements from the EA would have the greatest influence on the transportation patterns at these locations. Of the study intersections, the ones identified to have more frequent collision trends have been analyzed in further detail. The review of the collision data will inform the safety aspects to consider in the selection and design of alternative improvements. The details of the safety review are summarized in **Appendix L.** Based on the safety review, the following represent the key findings and potential design considerations that could have an impact on safety:

- Collisions are concentrated at the Kennedy and Sheppard intersection in the study area, followed by the Village Green Square and Kennedy intersection, which is currently the only point of access for all modes of transportation in the highest density block in the study area.
- The highest collision rates within the study area occurred at the intersection of Kennedy Road and Sheppard Avenue East, followed by Kennedy Road and Village Green Square.
- Along Sheppard Avenue East between Midland Avenue and Kennedy Road there have been 6 KSI incidents between 2008 and 2022 involving pedestrians and cyclists. This reflects the safety concerns for active transportation users while crossing Sheppard Avenue East.
- A north-south street contemplated within the study area supports the reduction of the number of vehicles passing through the two intersections with the highest collision rates due to improved connectivity. Based on the existing traffic assessment, the intersection of Kennedy Road and Sheppard Avenue East is experiencing critical northbound left-turns and southbound through movements during the peak periods. A better connected road network could divert some of the trips to the new complete street, where lower traffic volumes, lower conflicting movements and lower speeds result in a safer driver environment.
- The design of recommended transportation improvements should balance the need between critical vehicle turning movement and reduced corner radii consistent with the City’s guidelines.
- The existing and proposed streets should be designed or signed with a lower speed (i.e., 40 km/h) to protect active transportation users in the study area.
- As part of the consideration for selecting the recommended complete street alternative, there may be the potential to normalize the intersections around the Agincourt GO Station access/driveway to 4091 & 4101 Sheppard Avenue East and Reidmount Avenue on Sheppard Avenue East to better meet driver expectations. Even though there have been no collisions reported in recent years at the Agincourt GO Station access intersection onto Sheppard Avenue, the future growth anticipated in the study area will generate more trips to and from Agincourt GO Station for all modes of transportation.

3.12 CP Rail Considerations

The rail corridor that bisects the study area in generally an east-west orientation is the Belleville Subdivision, which is a Principal Main Line Rail Corridor owned by CP Rail. This segment of the Belleville Subdivision is not used for any passenger rail traffic and serves only freight traffic. According to Exhibit 2-1 of the Land Use Study: Development in Proximity to Rail Operations Report by the City of Toronto dated March 2019, the total volume of trains per day in the Belleville Subdivision is 20 trains.

As part of the development and evaluation of various complete street and multi-use trail options, the EA project team met with CP Rail representatives to discuss the constructability and rail-related components. In particular, all four of the complete street alignments would feature a common crossing of the CP Rail corridor near the westerly terminus of Village green Square and south of Cowdray Court. Based on the initial grading evaluation, a road overpass is not feasible and only a road underpass has been advanced in design. Input on the type of underpass structure that would be acceptable to CP Rail, vertical clearance required, as well as the feasibility of having a multi-use trail pass between two existing CP Rail abutments were all received from CP Rail representatives. In 2021, CP Rail staff also noted to the EA project team that there is the intent to widen the CP Rail operations from two tracks in this segment of the rail corridor to three tracks. It was confirmed with CP Rail staff that this would occur to the south of the two existing rail tracks. All of the feedback from CP Rail have been considered in the development of the underpass, road and multi-use trail designs. The minutes of the meeting as well as the key correspondences provided by CP Rail staff are documented in the consultation section of this EA. As it relates to legal requirements to facilitate the proposed multi-use trail (as discussed in Section 5.2), there will be two agreements required. One agreement grants the rights to the crossing and outlines future maintenance responsibilities. This agreement gets filed with the CTA. The other is a Construction Agreement, which covers the design and property access protocols. There may also be requirements for utility permits if any utilities will be crossing CP Rail property.

3.13 Utility Investigations

A detailed analysis of the existing servicing in the study area was completed by WSP to confirm the current capacity in the sanitary, storm, and water distribution networks. An SUE investigation was completed to determine the existing services in the area. The information provided in the SUE was used along with City as-built drawings and other available reports to create existing models of each network. The existing flows were analyzed based on City of Toronto Engineering guidelines. The results of the analyses indicated there is adequate existing capacity in the storm, sanitary, and water distribution networks. Under the proposed conditions, it is recommended that the option of looping the watermain through the proposed underpass from Cowdray Court to Village Green Square be explored in order to provide redundancy to the system as these will be two densely populated areas. The detailed existing utility investigation is documented in **Appendix M**.

3.14 Preliminary Hydraulic and Geomorphic Assessments

To analyze the existing hydraulic conditions of the Bendale branch of Highland Creek, a hydraulic model of it was obtained from the TRCA to establish project floodlines, representing project areas impacted by flood hazards and the hydraulic capacity of the various structures and culverts associated with it. Upon review of the model provided along with notes from a site visit to the project area, it was noted that the hydraulic complexity of the 'double rail crossing' structural culvert over the creek was insufficiently coded to reflect the skewed nature of the GO Transit rail elements, which formed the 'spill over' element ultimately providing the main control for flood elevations in the project area. A coupled 1D-2D flood model was constructed to more accurately reflect the hydraulic complexities involved. In addition, the new model will allow for the future condition of the double rail crossing resulting from planned GO Transit improvements to be considered.

The revised model provided updated flood impact assessments of the project area as represented by revised flood lines and allowed for better resolution of the flood depths and velocities at various points. These are needed to demonstrate the impacts of the various alignment options for both the road corridor and multi-use trail options. The coupled 1D-2D flood model has been submitted to TRCA staff in 2021 for review and comments have been received from TRCA regarding items including how the model evaluates the various alignment alternatives. The EA project team has exchanged several correspondences with TRCA staff regarding the development of the coupled 1D-2D flood model before it was accepted by TRCA for the use of this EA. The complete response to the complete street evaluation (received April 1, 2021) and multi-use trail evaluation (received May 5, 2021) are provided in **Appendix N**.

3.15 Geotechnical Investigation

The borehole investigation was conducted in July 2020. A total of eight boreholes were advanced as per the borehole location plan provided in the geotechnical report.
The boreholes were drilled to varying depths below ground surface (bgs) as summarized in **Table 3-7**. The boreholes were advanced at the locations shown on Figure 1 of the geotechnical report. The borehole program is summarized below. The eight boreholes were conducted at strategic locations to inform the feasibility of a road crossing the CP Rail corridor connecting generally between Cowdray Court and Village Green Square, as well as a potential road crossing the West Highland Creek. The detailed geotechnical investigation is summarized in **Appendix O**.

Table 3-7: Geotechnical Program

Location	EASTING/NORTHING (UTM NAD-27)	Ground Surface Elevation (m)	Depth of Borehole (m)
BH1	Not Recorded	166.71	7.47
BH2	N 638040.08 E 4849209.99	166.69	12.80
BH3	N 638031.88 E 4849183.03	166.07	20.42

Location	EASTING/NORTHING (UTM NAD-27)	Ground Surface Elevation (m)	Depth of Borehole (m)
BH4	N 638050.84 E 4849118.75	166.90	7.47
BH5	N 638059.74 E 4849095.53	166.82	7.47
BH6	N 638088.56 E 4848874.41	167.60	5.18
BH7	N 638102.55 E 4848830.09	168.18	12.19
BH8	N 638118.44 E 4848791.48	168.80	7.47

4 ALTERNATIVE SOLUTIONS

The Southwest Agincourt Connections Study comprehensively assessed a range of alternative solutions from pre-approved to Schedule 'C' projects identified in the MCEA to determine the full suite of improvements needed to support growth in the area. The MCEA requires Schedule 'C' projects to consider Alternative Solutions to the undertaking in order to provide reasonable justification to proceed with the improvements and to clearly demonstrate the need to proceed with the recommended improvements. Accordingly, Alternative Solutions were evaluated for their ability to address the problem and opportunity statement, which focuses on improving traffic conditions and connectivity within the study area.

4.1 Alternative Solutions Summary

The alternative solutions that were evaluated are grouped into seven main headings. The alternative solutions and the evaluation findings are summarized in **Table 4-1**, and expanded further in the following sections.

Table 4-1: Alternative Solutions Evaluation Summary

Alternative Solutions	Recommendation	EA Schedule
Do Nothing	Yes (mandatory to be carried forward in EA evaluation process)	N/A
High occupancy vehicle lane	No	A+ (EA exempt)
New complete street	Yes	C
Optimize existing streets	Yes	A or A+ (EA exempt)
New multi-use trail	Yes	A+ (if project cost ≤ $4.1M) B (if project cost ≥ $4.1M) C (if project cost ≥ $12M)
Other surface transit improvements	Yes	A+ (EA exempt)
Only Transportation Demand Management Measures	No	N/A

4.2 Do Nothing

This alternative assumes no improvements will be made beyond those already planned and approved for the focus area. This Alternative Solution is mandated by the MCEA to be carried forward in EAs for comparison purposes. “Do Nothing” Alternative Solution will be carried forward as the baseline condition, in which the traffic associated with the various developments in the focus area will have to continue using streets that are not well integrated. This Alternative Solution is expected to result in substantial intersection capacity constraints at the intersections along Kennedy Road and Sheppard Avenue including Gordon Avenue, Collingwood Street, Cowdray Court and Village Green Square. From a walking perspective, those trying to access Agincourt GO station would have to take a very circuitous route, first travelling west to access the sidewalks along Kennedy Road before doubling back to the east via Sheppard or Collingwood/Gordon/Sheppard to reach the GO station. From a cycling perspective, the same circuitous routing is required, while sharing the road within high speed motor vehicle traffic along Kennedy Road and Sheppard Avenue. Moreover, road safety is expected to deteriorate under the “Do Nothing” scenario since the higher pedestrian and cyclist demand generated by the future developments in the study area will have limited options of crossing Sheppard Avenue and accessing the Agincourt GO station. As noted earlier, there have been KSIs in the past involving cyclists and pedestrians along Sheppard Avenue within the study area. This indicates safety improvements are required for active transportation crossing over Sheppard Avenue.

4.3 High Occupancy Vehicle Lane

High Occupancy Vehicle (HOV) is the concept of dedicating a lane of traffic to motorists that are in non-single occupant vehicles, as an incentive for carpooling. In the focus area, there are generally three lanes of travel in each direction along Kennedy Road and two lanes in each direction along Sheppard Avenue East. While this initiative could have some benefits along the corridor if introduced for sufficient distances, there is no established HOV facility upstream or downstream of the focus area along the arterial roads, so the volume of HOV vehicles attracted to these lanes is likely to be low. More importantly, this alternative would not address the connectivity aspect of the problem and opportunity statement, particularly over the rail corridors and West Highland Creek. All of the traffic associated with the proposed developments would have to rely on the singular connections onto Kennedy Road or Sheppard Avenue. In addition, traffic turning from Cowdray Court or Village Green Square onto Kennedy Road to head north would have to change lanes if they are not meeting the HOV requirement, which may introduce weaving concerns. The HOV alternative also does not address the user environment and existing road safety issue for pedestrians and cyclists within the study area. This Alternative Solution is not expected to impact the natural and heritage environments of the focus area. **The HOV Alternative Solution is Schedule ‘A+’ (EA exempt) and is not recommended to be carried forward in the EA.**

4.4 Optimization of Existing Streets and Intersections

This category involves repurposing and/or upgrading existing infrastructure that address the problem and opportunity statement. The sub-categories are listed as follows:

- **A-1) Pavement markings**: narrower lanes based on the City of Toronto Lane Width Guidelines (June 2017) and redistribution of ROW for complete street elements with consideration of planned future initiatives by the City of Toronto (i.e., cycling facilities along Sheppard Avenue).
- **A-2) Signal timing optimizations**: as the traffic patterns change in the study area street network, refined allocation of green time may be required to avoid excessive delays. In addition, higher turning movements may require the introduction of advanced turning phases. Where higher pedestrian and cycling volumes are anticipated, enhancements such as a leading pedestrian interval or bicycle phase may be considered.
- **A-3) Reidmount Avenue and Dowry Street ROW improvements**: this alternative would support the north-south street or new multi-use trail alternatives by bringing pedestrians and cyclists to the Agincourt GO station via Reidmount Avenue and Dowry Street. This may be a more attractive active-transportation route than having to use the stairs and the steep sidewalks along the existing GO station driveway from Sheppard Avenue. The pavement widths of Reidmount Avenue and Dowry Street are approximately 8.5 m. There is continuous sidewalk on the east side of Reidmount Avenue, discontinuous segments of sidewalk on the west side of Reidmount Avenue and no sidewalk on Dowry Street. The feasibility of modifying the pavement markings to introduce an interim cycling facility along Reidmount Avenue and Dowry Street will be evaluated as an alternative.
- **A-4) By-law changes**: this involves changes to aspects such as on-street parking, posted speed limit, road classification and traffic calming parameters so that the policies are supportive of addressing the problem and opportunity statement of the EA.
- **A-5) Geometric Improvements**: There are geometric improvements planned at the Village Green Square/Kennedy Road intersection to support the development density proposed by developers. Accordingly, the improvement plans will be incorporated into the future network and considered as part of the “Do Nothing” alternative.

Given how this category addresses the problem and opportunity statement, this category of Alternative Solution is recommended to be carried forward for further traffic assessment. However, this alternative should not be a stand-alone solution to the problem and opportunity statement and needs to be packaged with other options. This option does not consider the physical widening of Kennedy Road or Sheppard Avenue, as both roads have been built to their respective maximum right-of-ways, and further widening would have significant cost and property implications. **This Alternative Solution is considered Schedule ‘A’ or ‘A+’ and is EA exempt.**

4.5 Surface Transit Improvements

This category involves the improvement of local and regional transit facilities and infrastructure that are within the study area. Sub-options are as follows:

- **B-1) Bus stop locations and configuration adjustments**: the existing bus stops will be benchmarked against the current TTC standards to understand if there are highly utilized bus stops that warrant improvements (lengthening of stops, queue jump lane, shelter, etc.). TTC staff noted that there is work underway to evaluate improvements to existing bus stops – including the southbound near-side stop at the Kennedy/Sheppard intersection and others along Kennedy.
- **B-2) New local bus routes through the future improved street network**: based on discussions with TTC staff, there is a branch of the Kennedy bus route through the Metrogate community looping around Village Green Square. If the alternative involving the construction of new complete streets is recommended, then there may be opportunities for TTC to extend the route serving Village Green Square northward to serve the high frequency bus services on Sheppard Avenue and uses along Cowdray Court. This potential future bus route would need to be considered in the design of any new complete street in the study area.

This Alternative Solution is recommended to be carried forward for incorporation with the other alternatives. It is important to note that this option will only consider transit service improvements within the focus area. Broader transit improvements such as extended dedicated transit lanes along Sheppard Avenue or Kennedy Road are not being considered as part of this EA. **This Alternative Solution is considered Schedule 'A+' and is EA exempt.**

4.6 New Complete Streets

This category involves the construction of new complete street(s) that will serve all modes of transportation (e.g., pedestrians, cyclists, transit and motorists), and generally achieve the following intent:

- Span in a north-south orientation from Sheppard Avenue to Village Green Square. The southerly point of a potential new street is at a fixed point at the terminus of Village Green Square (275 Village Green Square).
- Based on the preliminary grade evaluation, the new street would need to connect through the CP Rail corridor via an underpass.

This considers the findings of the 2014 Feasibility Study as well as the findings of the existing conditions inventory. Alternatives evaluated in the 2014 Feasibility Study that were found to be technically unfeasible will not be included in the long list of alternatives. **This Alternative Solution is considered Schedule 'C' and recommended to be carried forward for its potential to address the problem and opportunity statement.**

4.7 New Multi-use Trail

This category intends to provide a standalone multi-use trail, with or without the new complete street alternative solution. The new trail connection would need to serve key destinations and origins in the focus area: Agincourt GO Station, Collingwood Park, Kennedy/Sheppard, school and local transit. There are currently no dedicated cycling facilities in the study area. There is a short segment of trail through the Collingwood Park. **This Alternative Solution is considered as Schedule 'A+' (EA exempt), 'B' or 'C' depending on the cost of the project and is recommended to be carried forward** and has the potential to be both an independent active transportation facility or one that is integrated with the Alternative Solution of building new complete street(s).

4.8 Transportation Demand Management

This alternative would introduce measures to reduce the vehicular demand associated with development growth in the focus area and would encourage alternative modes of transportation. TDM measures are already a City of Toronto requirement for development applications. However, TDM measures alone would not be sufficient since the potential pedestrian, cyclist and transit demands from the development growth would be challenged by the existing disconnected infrastructure. **Therefore, this Alternative Solution is not recommended to be carried forward.**

4.9 Alternative Solutions Summary

Based on the review of the seven categories of Alternative Solutions, the following are recommended to be carried forward for further design and evaluation:

- Do Nothing – for benchmarking purposes;
- Optimization of existing streets and intersections;
- Surface transit improvements;
- New complete street; and
- New multi-use trail.

5 EVALUATION CRITERIA AND METHODOLOGY

The evaluation criteria developed for evaluating Alternative Designs (alternative alignments and street designs) considered the Problem and Opportunity Statement, technical feedback from the Study's Technical Advisory Committee (TAC) and mandatory considerations from the Municipal Class EA. The project team presented the framework and criteria to the public and stakeholders as part of the first round of consultation for feedback. The evaluation criteria selected were grouped into broad categories, consisting of constructability and design, natural environment, social and economic environment, cultural environment, policy framework, healthy communities and equitable mobility. The categories and criteria are summarized in **Table 5-1**. These criteria were assessed either qualitatively or quantitatively.

Table 5-1: Evaluation Criteria

Category	Proposed Criteria
Policy Framework *Does the alternative support existing policies and guidelines?* *This is a qualitative & quantitative assessment*	Conformity with policies and City-wide guidelines including: ▪ Provincial Policy Statement ▪ A Place to Grow: Growth Plan for the Greater Golden Horseshoe ▪ Toronto Official Plan ▪ Agincourt Secondary Plan ▪ Complete Streets Guidelines ▪ Cycling Network Plan ▪ Vision Zero Road Safety Plan ▪ TRCA Introduction to Green Infrastructure Policy and applicable flood plain guidelines ▪ City's Wet Weather Flow Management Guidelines
Healthy Communities *Does the alternative optimize the community's health and safety?* *Does it promote an active lifestyle for all ages and abilities?* *This is a qualitative & quantitative assessment*	▪ Promotion of transportation choice through the provision of well-connected, continuous and comfortable cycling and walking routes ▪ Potential to incorporate streetscape amenities and landscape elements ▪ Supports accessible network for all ages and abilities ▪ Minimize greenhouse gas emissions (air quality) ▪ Changes in neighborhood characteristics ▪ Optimize housing and employment options to promote active lifestyle for all ages and abilities in a complete neighbourhood

Category	Proposed Criteria
Equitable Mobility *Does the alternative deliver on key technical transportation indicators?* *Does the alternative improve transportation access for all people living in the study area?* *This is a quantitative assessment*	▪ Provision of safe and reliable access to high quality, efficient transit, walking and cycling routes ▪ Mitigate vehicular congestion (travel time & intersection operations) ▪ Compatibility with future transit infrastructure & services ▪ New/improved pedestrian routes and connections ▪ New/improved cycling routes and connections ▪ Traffic impacts to existing streets/residents ▪ Network resiliency for emergency service vehicles
Constructability & Design *How feasible is the alternative to implement given constraints such as construction and maintenance costs, and what are the economic benefits?* *This is a quantitative assessment*	▪ Construction costs ▪ Impact on floodplain ▪ Impact on utilities ▪ Lifecycle / Operations and maintenance costs of new infrastructure ▪ Construction phasing
Socio-Economic *Does the alternative negatively impact the study area from a socio-economic perspective* *This is a qualitative & quantitative assessment*	▪ Property impacts ▪ Changes in neighbourhood characteristics ▪ Impacts to existing land uses ▪ Soil contamination ▪ Stormwater management ▪ Noise impact ▪ Impact to Collingwood Park
Natural Environment *Does the alternative negatively impact the natural environment?* *This is a quantitative assessment*	▪ Impact to wildlife/habitat areas including species of concern and at-risk ▪ Impact to groundwater quality or quantity /stormwater ▪ Impact to vegetation including species of concern ▪ Impact to fluvial geomorphology and West Highland Creek
Cultural Heritage *Does the alternative negatively impact the local cultural heritage?* *This is a qualitative & quantitative assessment*	Impact to identified potential cultural heritage resources Impact to archaeological resources or areas of archaeological potential

6 ALTERNATIVE DESIGNS

6.1 New Complete Street

As previously noted, the new complete street alternative solution is required to satisfy all phases of the Municipal Class EA Schedule 'C' process. In recognition of this, the Study conducted a comprehensive evaluation of four new complete street alternatives using the criteria developed in Section 5.

6.1.1 Street Alignment Options

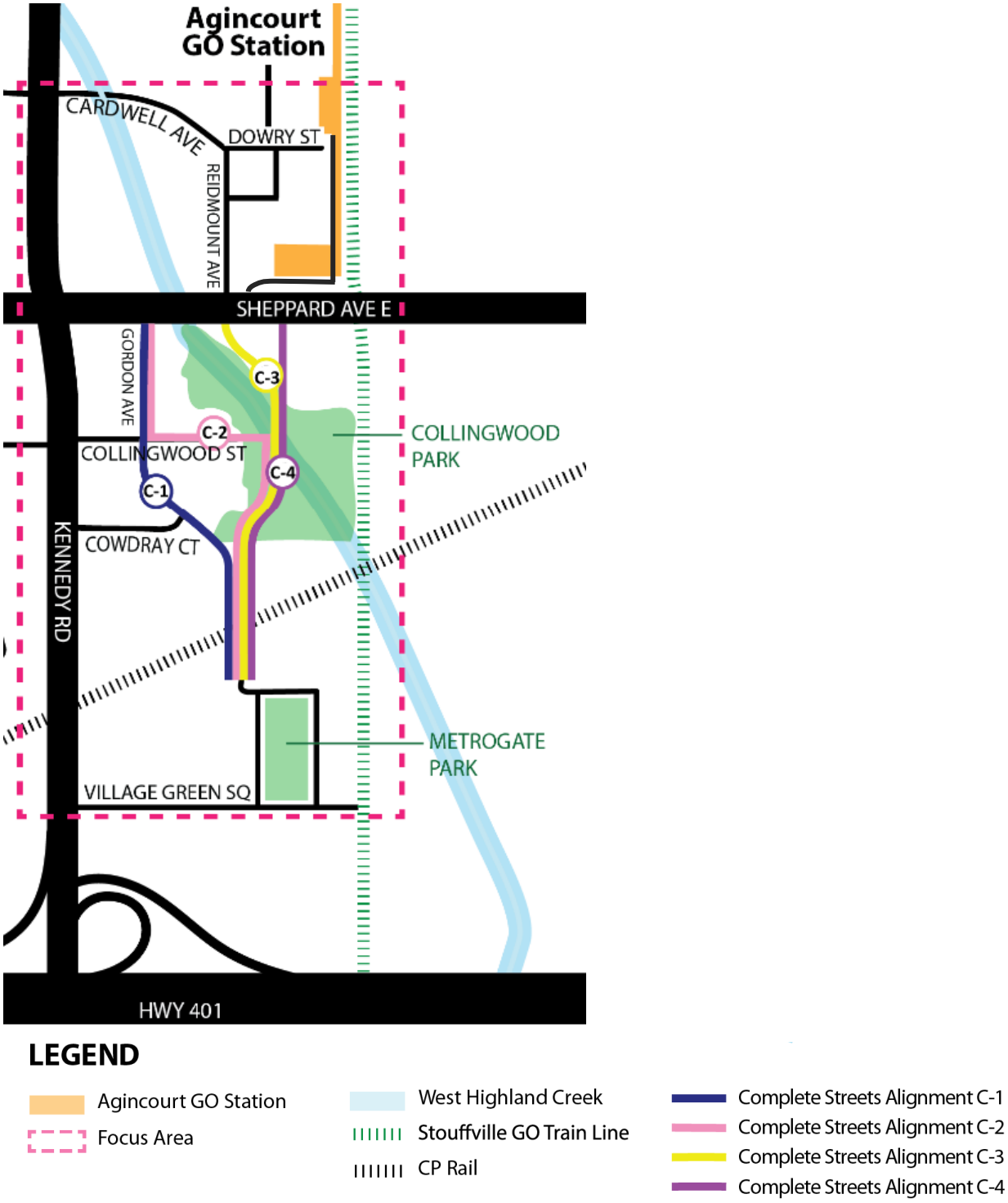
The alignment alternatives needed to address the following two considerations:

1. Extend in a north-south orientation from Sheppard Avenue to Village Green Square- The southerly point of a potential new street is at a fixed point at the terminus of Village Green Square (275 Village Green Square); and
2. Connection across the CP Rail corridor - There are two options for the new complete street to connect through the CP Rail corridor: an underpass or an overpass. However, the current elevations of Village Green Square and the CP Rail corridor makes it not feasible to design a road overpass. This is because it would require a significantly longer span of road south of the CP Rail corridor than what is available within Village Green Square. Therefore, the new complete street will connect across the CP Rail corridor via an underpass with a span no greater than 19 metres based on consultation with CP Rail.

This Study identified four potential new complete street alignments, with each alternative alignment connecting Sheppard Avenue, Collingwood Street, and Village Green Square. The four complete street alignments are shown in **Exhibit 6-1** and described below.

- Alternative C-1: Connects Sheppard Avenue West using the existing Gordon Avenue with a new street forming the south approach of the existing 'T' intersection at Gordon Avenue and Collingwood Street that connects to Village Green Square via a new underpass under the rail corridor along with a realignment of Cowdray Court for improved intersection geometry;
- Alternative C-2: Connects Sheppard Avenue West using the existing Gordon Avenue and Collingwood Street with a new street extending south along Collingwood Park that connects to Village Green Square via a new underpass under the rail corridor;
- Alternative C-3: Features a new street connecting Sheppard Avenue West that aligns with Reidmount Avenue, crosses over West Highland Creek and extends south along Collingwood Park that connects to Village Green Square via a new underpass under the rail corridor; and
- Alternative C-4: Proposes a new street connecting Sheppard Avenue West that aligns with the Agincourt GO station driveway, crosses over West Highland Creek and extends south along Collingwood Park that connects to Village Green Square via a new underpass under the rail corridor.

Exhibit 6-1: Four New Complete Street Alignments



6.1.2 New Complete Street Alternative Alignments Evaluation

A comparative evaluation was conducted to determine the most preferred alignment for the new north-south street. To compare the advantages and disadvantages of the four complete street alternatives, a "Do-Nothing" scenario was considered as a base scenario, which included the current condition of the area. All four alignments were compared against the seven evaluation criteria. It is typical in EA studies to not have a single preferred alternative alignment for all evaluation criteria. Therefore, when comparing evaluation criteria, trade-offs often need to be made to select the preferred alignment. This was also the case with the new north-south street design. The preferred alignment was determined by identifying which street alignment best supported the design objectives overall.

The evaluation results are outlined in the following section, and a comprehensive report is available in **Appendix P**. Please refer to **Exhibit 6-2** for an illustrative summary of the evaluation.

The evaluation results indicate:

- Policy Framework: All alignment alternatives were generally consistent with key provincial and municipal planning and transportation policy objectives, such as the Provincial Policy Statement and Agincourt Secondary Plan, with the exception of the jogged nature of alignment C-2. Jogged alignments are not as desirable from a policy perspective to continuous alignments which provide more direct connections. Alignments C-3 and C-4 had portions of the street located in the flood plain regulated by the TRCA. As a result, alignments C-1 emerged as preferred.
- Healthy Communities: Alignments C-1, C-2 and C-4 are generally consistent with healthy community objectives, such as providing transportation choices by providing well-connected, continuous and comfortable cycling and walking routes, reducing greenhouse gas emissions and lesser impacts on air quality. As a result, C-1, C-2 and C-4 are evenly preferred from a Healthy Communities perspective.
- Equitable Mobility: Alignments C-1 and C-4 better align with equitable mobility objectives than alignments C-2 and C-3. Both alignments C-1 and C-4 provide signalized access onto Sheppard Avenue East to enhance the ease of crossing Sheppard Avenue East for all modes of transportation. Both alignments also improve traffic operations in the study area relative to the existing conditions and Do-Nothing scenario and offer more direct routes for all modes of transportation. Trade-offs with changes and impacts to traffic patterns along existing streets may be proactively mitigated with design measures.

  A detailed future traffic analysis for the 2035 conditions was conducted for each of the four complete street alignment alternatives. The future traffic volumes accounted for planned developments and general traffic growth in the study area.

  The analysis completed shows that the new complete street will mitigate traffic congestion on Kennedy Road and at the intersection of Kennedy Road and Sheppard Avenue. Complete street alternatives C-1, C-2 and C-4 had similar performances, with Alternative C-1 performing slightly better. **Appendix J** details the future traffic operation evaluations.

- Constructability and Design: Alignments C-2, C-3 and C-4 all have a higher floodplain impact than alignment C-1. Alignments C-3 and C-4 also have higher construction and maintenance costs because of the need for a new bridge crossing of West Highland Creek. While the Do Nothing alternative has no cost or constructability issues, Alignment C-1 is the preferred alignment from a Constructability and Design perspective as the Do Nothing alternative does not address the Study's Problem and Opportunity Statement.
- Socio-Economic Environment: Alignment C-1 aligns most with the socio-economic objectives. It has the least impact on Collingwood Park and is better suited to manage stormwater flows in the area. It also avoids property and noise impacts at the two existing high-rise condominium apartment buildings at 4091 and 4101 Sheppard Avenue East that are challenging to mitigate.
- Natural Environment: Alignment C-1 aligns most with the natural environment objectives when compared to the other alignments. Alignment C-1 does not need to cross West Highland Creek, and as such, it has no impact on fish habitat and terrestrial habitat (vegetation, wildlife, species at risk) near the creek, and instead interacts with culturally disturbed vegetation communities.
- Cultural Environment: None of the alternatives impact potential built heritage resources. Alternatives C-2, C-3 and C-4 all have the potential to impact one to two cultural heritage landscapes involving the West Highland Creek and/or Collingwood Park. All Alternatives required further Stage 2 archaeological assessment to be undertaken at detailed design. Therefore, alternative C-1 is preferred from a cultural environment perspective.

Overall Finding: Based on the comparison of all four new complete street alternatives along with the “Do Nothing” scenario, Alternative C-1 is recommended as the preferred alignment for the new complete street. It provides a direct connection between Sheppard Avenue East and Village Green Square while having the least technical challenges and environmental, social and economic impacts.

Exhibit 6-2: New Complete Street Evaluation Summary

Evaluation: Complete Street Alignment Alternatives

Criteria	Do Nothing	C-1 (via Gordon Ave)	C-2 (via Gordon Ave & along Collingwood Park)	C-3 (creek crossing to Reidmount Ave)	C-4 (creek crossing to Agincourt GO Driveway)
Policy Framework	○	●	◕	◑	◕
Healthy Community	○	◕	◕	◑	◕
Equitable Mobility	○	◕	◑	◔	◕
Constructability & Design	●	◕	◑	◔	◕
Socio-Economic Environment	●	◕	◑	◑	◕
Natural Environment	●	◕	◑	◔	◕
Cultural Environment	●	◕	◑	◑	◕
Overall	Not Recommended	**Recommended**	Not Recommended	Not Recommended	Not Recommended

Legend: ○ Least Benefits / Most Impacts → ◔ ◑ ◕ → ● Most Benefits/ Least Impacts

6.1.3 Cross-section Alternatives for the Preferred Alignment

The next step in establishing a preferred design for the new complete street involved developing cross-section alternatives. This included determining street widths along different segments of the street, such as at intersections and at the underpass, and identifying design constants and variables.

The proposed right-of-way (ROW) width of the new complete street varies depending on the location and are summarized below:

- 23 m ROW at Sheppard Avenue East to accommodate a northbound left-turn lane and a protected intersection;
- 23 m ROW for the new sections of the street south of Collingwood Street to the underpass and south of the underpass;
- 20 m ROW south of the northbound left-turn at Sheppard Avenue East to Collingwood Street to minimize impacts to existing residential properties along Gordon Avenue; and
- 19 m ROW at the road underpass to accommodate vehicular lanes and elevated cycle track and sidewalk while respecting CP Rail constraints.

Design constants are features required in all cross-section alternatives. The design constants for the new complete street include:

- One motor vehicular lane in each direction with a left-turn lane at Sheppard Avenue East;
- Sidewalks on both sides of the street;
- Uni-directional (one way) bikeways on either side of the street;
- Signalized intersections at Cowdray Court and Sheppard Avenue East and an all-way stop at Collingwood Street; and
- Protection for potential future bus service.

Due to the limitation of a 19 m wide bridge span that was identified by CP Rail, cross-section alternatives for the underpass were not developed.

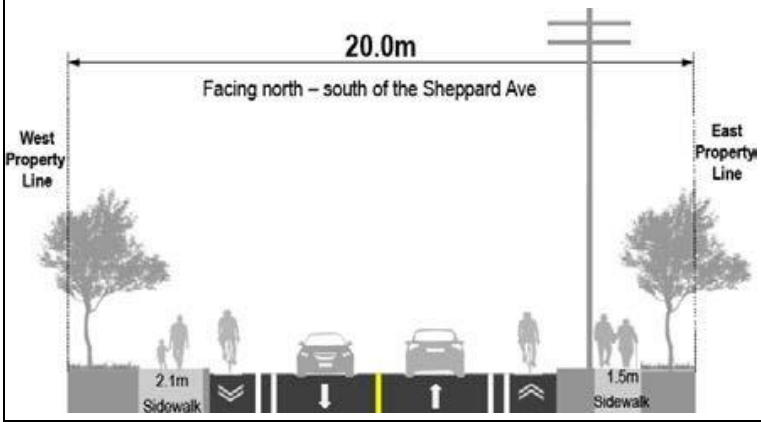
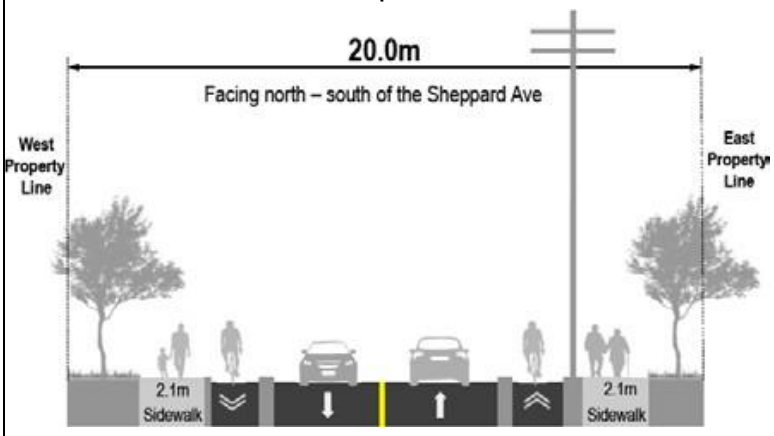
Gordon Avenue Section Cross-section Alternatives

Two cross-section alternatives were developed and evaluated for the Gordon Avenue section (proposed 20 m ROW) between Sheppard Avenue East and Collingwood Street. Both alternatives provide one motor vehicular lane in each direction, 1.6 m wide bike lanes in each direction with a 0.5 m buffer to the vehicular lanes, a 2.1 m pedestrian clearway on the west side of Gordon Avenue, and generally maintain the existing boulevard planting (sod and trees) with retention of mature trees where possible.

Design variables for this section of the street included the relocation of existing overhead hydro lines allowing for a 2.1 m sidewalk on the east side of the street and type of bikeway. Type of bikeway was added as a design variable following public consultation and feedback received

to provide more protection for people cycling. **Exhibit 6-3** provides a summary of the design differences.

Exhibit 6-3: Gordon Avenue Cross-Section Options

Alternatives	Design Variables
Alternative 1: Basic Option 	▪ Existing utility pole locations maintained along Gordon Avenue, resulting in 1.5 m wide sidewalk on the east side of Gordon Avenue ▪ 1.6 m painted buffered bike lane
Alternative 2: Enhanced Option 	▪ Relocation of utility poles to achieve 2.1 m wide sidewalks on both sides of Gordon Avenue ▪ 1.6 m protected street-level cycle track with a poured in place concrete curb and gaps at existing driveways

Alternative 2 - Enhanced Option is the recommended cross-section. **Exhibit 6-4** shows a rendering looking north on Gordon Avenue. It achieves the following objectives:

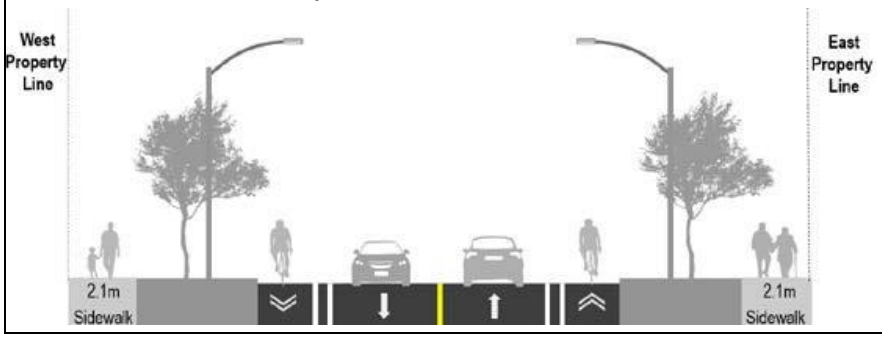
- Better addresses the Problem and Opportunity Statement;
- Improves the pedestrian environment and accessibility along Gordon Avenue;
- Better protects people cycling; and
- Has moderate additional costs and no additional property impacts over the Basic Option.

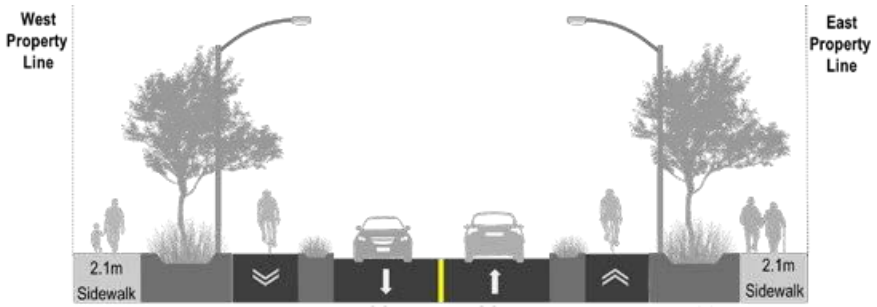
Exhibit 6-4: Illustrative rendering looking north on Gordon Avenue toward Sheppard Avenue East

New Sections Cross-section Alternatives

Two cross-section alternatives were developed and evaluated for the new complete Street section (proposed 23 m ROW) between Collingwood Street and south of Cowdray Court approaching the CP Rail underpass. Both alternatives provide one motor vehicular lane in each direction, 2.1 m pedestrian clearway, new utilities underground with new street lights and have potential for on- street parking opportunities. Design variables for this section of the new complete street includes the width and type of the bikeways and planting area size and type. **Exhibit 6-5** provides a summary of the design differences.

Exhibit 6-5: New Complete Street Cross-Section Options

Alternatives	Design Variables
Alternative 1: Basic Option 	▪ 1.8 m wide buffered bike lanes in each direction ▪ Standard boulevard planting (sod and trees)

Alternatives	Design Variables
Alternative 2: Enhanced Option 	▪ 2.1 m raised cycle track ▪ Green gutters in a wider cycle track buffer ▪ Green infrastructure integrated into planting areas

Alternative 2 - Enhanced Option is the preferred design based on the evaluation undertaken. **Exhibit 6-6** shows a rendering of what the street is envisioned to look like. The Enhanced Option achieves the following objectives:

- Better addresses the Problem and Opportunity Statement;
- Enhances cycling and walking environments (comfort and safety);
- Has moderate additional costs and no additional property impacts over the Basic Option;
- Provides opportunities to improve the natural environment and reduce stormwater run-off; and
- Beautifies the street.

Exhibit 6-6: Illustrative rendering looking north on the New Complete Street towards Cowdray Court

6.2 Multi-use Trail

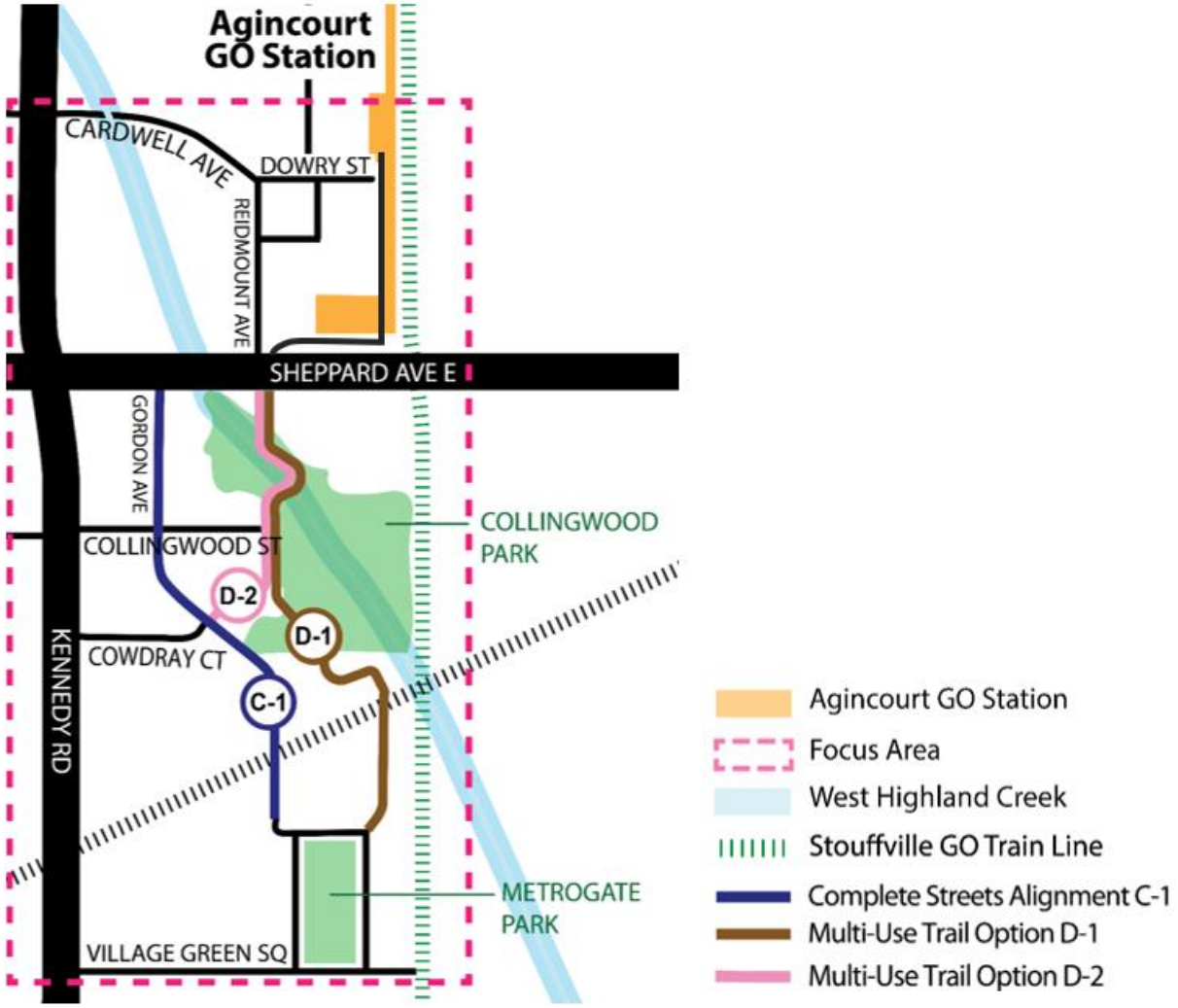
A new multi-use trail connection would serve key destinations in the study area, including Agincourt GO Station, Collingwood Park, Kennedy Road/Sheppard Avenue, and local transit. As noted earlier, this improvement is EA exempt and alternative designs are being evaluated to achieve a more holistic design.

6.2.1 Multi-use Trail Alignment Options

This Study identified two potential multi-use trail alignments. The two multi-use trail alignments are shown in **Exhibit 6-7** and described below.

- Alternative D-1: Begins at the easterly cul-de-sac of Village Green Square and extends north through the block of land east of the Metrogate development. The new trail then crosses the CP Rail corridor near the double rail crossing under an existing opening. North of the CP Rail tracks, the trail generally follows the westerly limit of Collingwood Park and uses the existing pedestrian bridge over the Highland creek. Once on the east side of Highland Creek, the new multi-use trail requires property at 4061 Sheppard Avenue East to connect to Sheppard Avenue East near the Agincourt GO Station signalized driveway intersection. It should be noted that the initial alignment of D-1 follows the westerly limit of Highland Creek once north of the CP Rail tracks. However, based on consultation with TRCA and the public, the trail alignment was shifted west to generally follow the westerly limit of Collingwood Park and minimize the risk of flooding along the multi-use trail.
- Alternative D-2 relies on the preferred new complete street alignment C-1 south of Cowdray Court to provide a connection from Village Green Square south of the CP rail corridor. It then connects from Cowdray Court and continues west of Highland Creek. From that point on, it follows the same alignment as D-1.

Exhibit 6-7: Alignment Options of the Multi-use Trail



6.2.2 Multi-use Trail Alignment Evaluation

A range of pie charts was used to summarize the evaluation results, where a filled circle represents the alternative with the most benefits and least negative impacts, while an empty pie chart represents the alternative with the least benefits and most negative impacts. The evaluation matrix is included in, with a summary of the evaluation below in **Exhibit 6-8**, and the detailed evaluation is documented in **Appendix Q**.

Exhibit 6-8: Multi-use Trail Evaluation Summary

Evaluation Criteria	Complete Street C-1 (baseline)	D-1 (along Highland Creek & GO Rail Line)	D-2 (Connecting to C-1)
Policy Framework			
Healthy Community			
Equitable Mobility			
Constructability & Design			
Socio-Economic Environment			
Natural Environment			
Cultural Environment			
Overall		**Recommended**	Not Recommended

Legend:

The evaluation results indicate:

- **Policy Framework**: Alignments D-1 and D-2 are generally consistent with key policy framework policies. Both alignments provide an additional route choice for active transportation, especially to assess Agincourt GO station. As a result, both alignments D-1 and D-2 are equally preferred.
- **Healthy Communities**: While both alternative D-1 and D-2 meet the healthy community objectives, alternative D-1 better supports and encourages active transportation for all ages and abilities for existing and future residents on both the north and south sides of the CP Rail corridor. D-1 provides an additional option for active transportation for residents residing on the eastern side of Village Green Square.
- **Equitable Mobility**: Alignment D-1 provides a separate all-ages-and-abilities multi-use trail that can serve communities north and south of the CP Rail corridor independent of the new complete street, which offers a direct connection to/from the Agincourt GO Station entrance vicinity as well as those traveling along Sheppard Avenue East. Overall, alignment D-1 provides resiliency in the active transportation network and a more consistent user environment along the trail.
- **Constructability and Design**: Alignment D-1 involves a longer trail, which leads to higher capital and maintenance costs. Compared to alignment D-2, alignment D-1 has more area within the floodplain system. The crossing of alignment D-1 via the CP Rail abutment is in a vicinity where more complicated staging and structures are involved including coordination with the rail authorities.
- **Socio-Economic Environment**: D-2 is slightly more preferred since alignment D-1 has a greater potential to encounter additional contamination at the rail crossing and there are slightly higher risks of floodplain zone/higher storm velocity during a storm event.
- **Natural Environment**: Alignment D-2 has a lower impact on wildlife and wildlife habitat; and also a lower impact on vegetation than D-1.
- **Cultural Environment**: Both alignments D-1 and D-2 rank equally for the cultural heritage objectives. They both have no impact on potential cultural heritage resources and both options will require further Stage 2 archaeology assessment to be completed at detailed design.

Overall Finding: Based on the comparison of the two multi-use trail alignments, Alignment D-1 is preferred over D-2 because it:

- Provides a new active transportation route that is independent of the new complete street. This provides flexibility in terms of delivery, construction phasing and also network resiliency for active transportation – particularly to/from Agincourt GO Station.
- Provides a consistent user environment along the trail as opposed to D-2, where a pedestrian and cyclist may need to transition from facilities along the new complete street to the multi-use trail environment.

6.3 Private Property Impacts

Property is required to achieve upgrades to Gordon Avenue and construction of the new complete street and new multi-use trail. An initial property impact assessment was conducted to identify potential private property needs and are summarized below.

Required for Gordon Avenue improvements and new complete street:

- A portion of 4045 Sheppard Avenue West is needed to facilitate the left-turn lane and street geometry;
- All of 9 Collingwood Street;
- A small portion of 11 Collingwood Street; and
- A portion of 20, 40, 50, 70, 80, 100 Cowdray Court, which is anticipated to be obtained as a condition of the current Plan of Subdivision application that is under review with timing of the conveyance to be determined.

Required for multi-use trail:

- A portion of 4061 Sheppard Avenue West; and
- A portion of 20, 40, 50, 70, 80, 100 Cowdray Court, which is anticipated to be obtained as a condition of the current Plan of Subdivision application that is under review with timing of the conveyance to be determined.

Potentially affected property owners were notified of potential impacts via targeted letters and meetings; and there have been ongoing discussions with the developer of the Cowdray Court lands. Final property requirements will be confirmed during detailed design.

7 PREFERRED DESIGN

This section describes the preferred design for the new complete street and multi-use trail in more detail. The section also presents additional recommendations to improve safety for all transportation modes in the study area, support the effectiveness of the preferred new complete street and multi-use trail, as well as connect people to Agincourt GO Station. The multi-use trail and the additional transportation improvements are Schedule 'A+' and pre-approved/exempt projects under the MCEA. Further details are included the Section 7.3.

This report also includes the preliminary (30 percent) design for the new complete street, multi-use trail and the other transportation improvements, which is included in **Appendix R**. 30 percent costing have also been provided for the new complete street and the multi-use trail.

The preferred design comprises of the following components:

1) A new north-south complete street to provide an alternate street connection from Sheppard Avenue East to Village Green Square by extending Gordon Avenue southward across the existing CP Rail corridor;

2) A north-south multi-use trail from the east side of Village Green Square to Sheppard Avenue East, parallel to Highland Creek under the existing CP Rail bridge, connecting to key destinations including Agincourt GO Station and Collingwood Park;

3) Additional transportation improvements to support the new complete street and multi-use trail:

    a. New sidewalks on Collingwood Street to improve pedestrian safety and accessibility;

    b. New interim cycle tracks along Sheppard Avenue East that would connect people cycling between the new complete street and the Agincourt GO station;

    c. Pedestrian and cycling safety enhancements at the Sheppard Avenue intersection at the Agincourt GO driveway;

    d. On-street parking and advisory bike lanes on Reidmount Avenue;

    e. New advisory bike lanes on a segment of Dowry Street and the closure of a segment of Dowry Street to vehicular traffic will provide an expanded public realm with enhanced pedestrian and cycling connections to the Agincourt GO station; and

    f. Realignment and improvement of Cowdray Court.

4) Surface transit improvements will be implemented based on TTC's input, and segments of the new complete street have been designed to accommodate future bus services in consultation with TTC.

5) Sheppard Avenue and Kennedy Road's existing signal timing will be optimized to account for the proposed new signal at Sheppard Avenue and Gordon Avenue, as well as future traffic patterns.

The overall preferred design package of improvements in this EA is shown in **Exhibit 7-1** and summarized in **Table 7-2** based on the respective EA Schedule designation.

Exhibit 7-1: Overall Recommended Package of Improvements in the EA

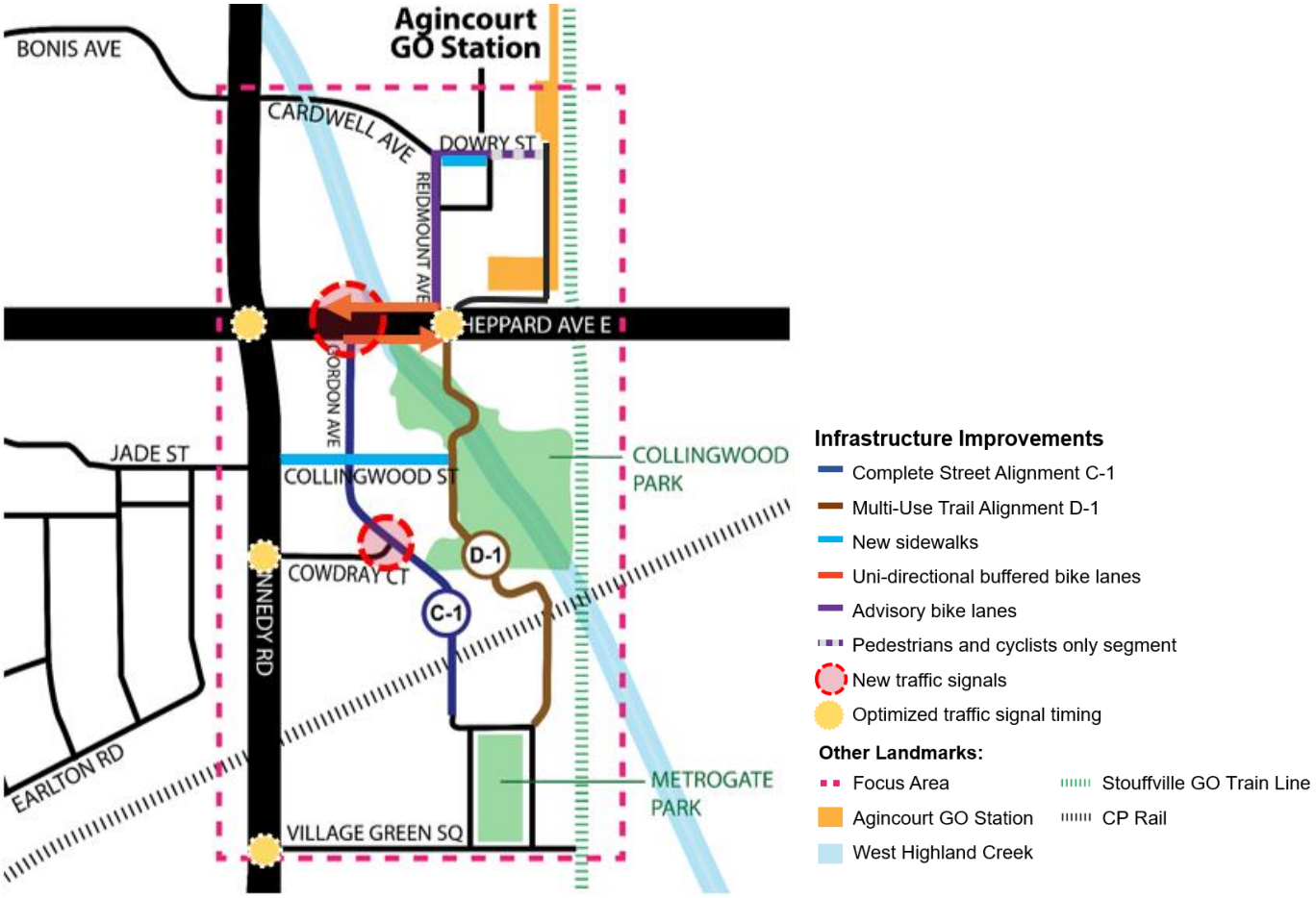


Table 7-1: Preferred Transportation Improvements

ID	Improvement	EA Schedule
1	New complete street	C
2	New multi-use trail	A or A+ (EA exempt)
3-a	New sidewalks along Collingwood Street	A or A+ (EA exempt)
3-b	Interim uni-directional cycle tracks facility along Sheppard Avenue East between Gordon Avenue and Agincourt GO Station driveway	A or A+ (EA exempt)
3-c	Pedestrian and cycling safety enhancements to Sheppard Avenue intersection at Agincourt GO Station/4091-4101 Sheppard Avenue East driveway intersection	A or A+ (EA exempt)
3-d	Advisory bike lane and parking along Reidmount Avenue	A or A+ (EA exempt)
3-e	Pedestrian and cycling improvements along Dowry Street	A or A+ (EA exempt)
3-f	Realignment and ROW improvements along Cowdray Court	A or A+ (EA exempt)
4	Surface transit improvements	A+ (EA exempt)
5	Signal timing optimization at existing signals within the study area	A or A+ (EA exempt)

Each of these components are discussed in detail in the following sections.

7.1 New Complete Street

A new complete street connecting Sheppard Avenue to Village Green Square. The street includes three sections as described below:

a. **Gordon Avenue Section (Sheppard Avenue to Collingwood Street)**: Sidewalks and uni-directional buffered bike lanes will be present on both sides of Gordon Avenue. The street will continue to have one vehicular lane per direction, with a dedicated northbound left-turn lane at the intersection with Sheppard Avenue. The 20 m ROW will be retained for the most part, except for the intersection at Sheppard Avenue where a 23 m ROW is required to accommodate the northbound left-turn lane. **Exhibit 7-2** illustrates the rendered plan of Gordon Avenue.

b. **New Complete Street (new section between Collingwood Street and Cowdray Court**): Along this new complete street segment there will be sidewalks and uni-directional in boulevard cycle track on both sides of the street. The complete street will feature one vehicular lane in each direction and feature a 23 m ROW. The Complete Street will intersect with the realigned Cowdray Court as a signalized intersection. **Exhibit 7-3** illustrates the rendered plan of this new section of the complete street.

c. **New Complete Street (new section between Cowdray Court and Village Green Square):** Along this new complete street segment there will be sidewalks and uni-directional in boulevard cycle tracks on both sides of the street. However, the boulevard planting area tapers down approaching the underpass through the CP Rail corridor to achieve the agreed upon 19 m ROW for the underpass structure. Based on the design criteria and construction parameters provided by CP Rail, a feasible span of the bridge was established as shown in the general arrangement drawings provided in **Appendix R**.

South of the underpass, the complete street ties back into the existing ROW along Village Green Square. Pedestrian crossing improvements are proposed at the Village Green Square 'T' intersection that the new complete street connects with including curb extensions and corner radius refinements to reduce the crossing distance for pedestrians and provide a safer pedestrian crossing environment. The Village Green Square 'T' intersection is also proposed as all-way stop controlled. **Exhibit 7-4** illustrates the rendered plan of this new section of the complete street.

The preferred new complete street alignment and segment width are illustrated in **Exhibit 7-5** and the overall rendered plan of the complete street is shown at the end of **Appendix R.** Rendering of the complete street streetviews along Gordon Avenue and along the new section just south of Cowdray Court were shown earlier in **Exhibit 6-4** and **Exhibit 6-6**.

Exhibit 7-2: Rendered Plan of Gordon Avenue (Sheppard Avenue to Collingwood Street)

Exhibit 7-3: Rendered Plan of New Complete Street (Collingwood Street to Cowdray Court)

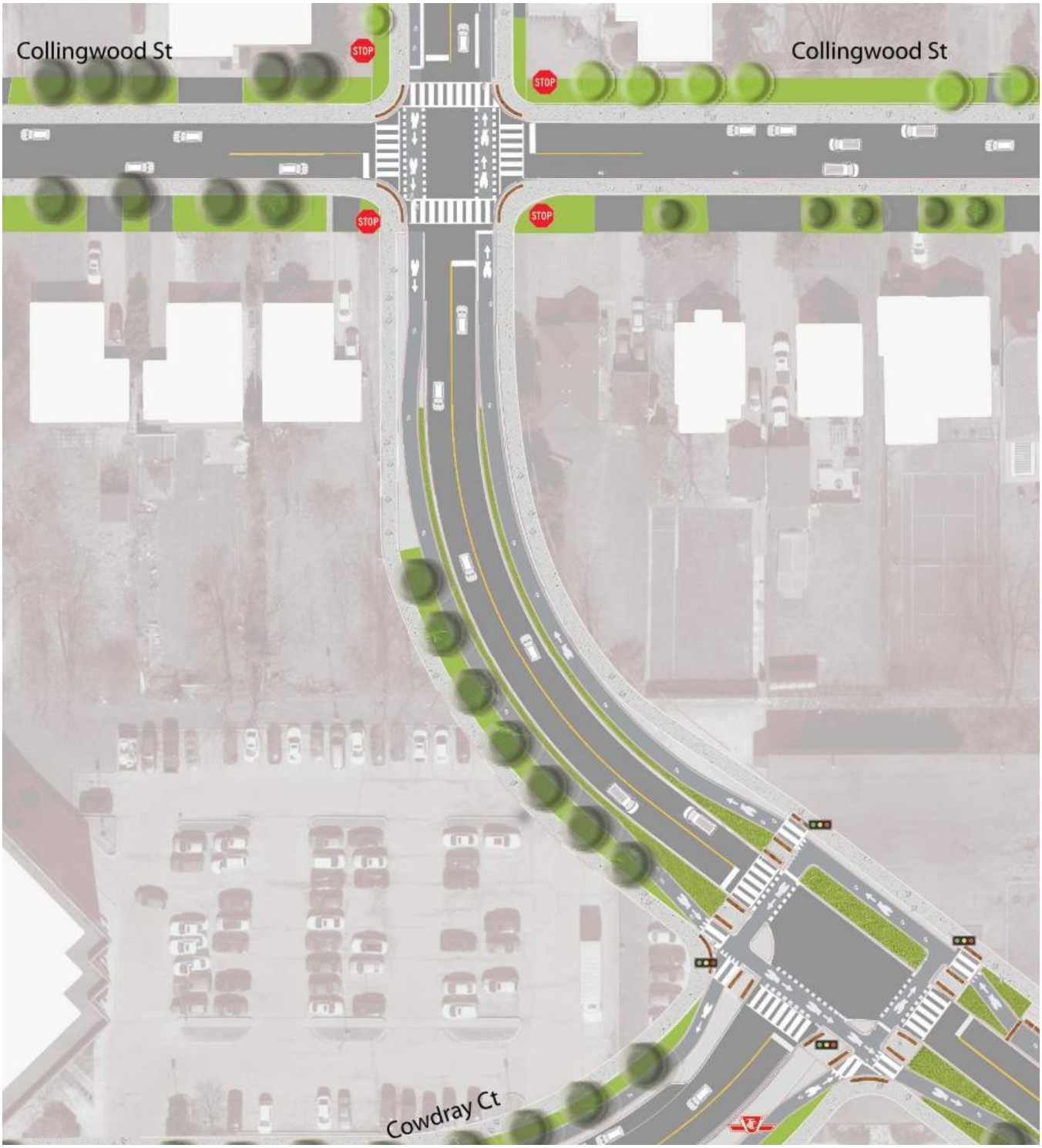


Exhibit 7-4: Rendered Plan of New Complete Street (Cowdray Court to Village Green Square)

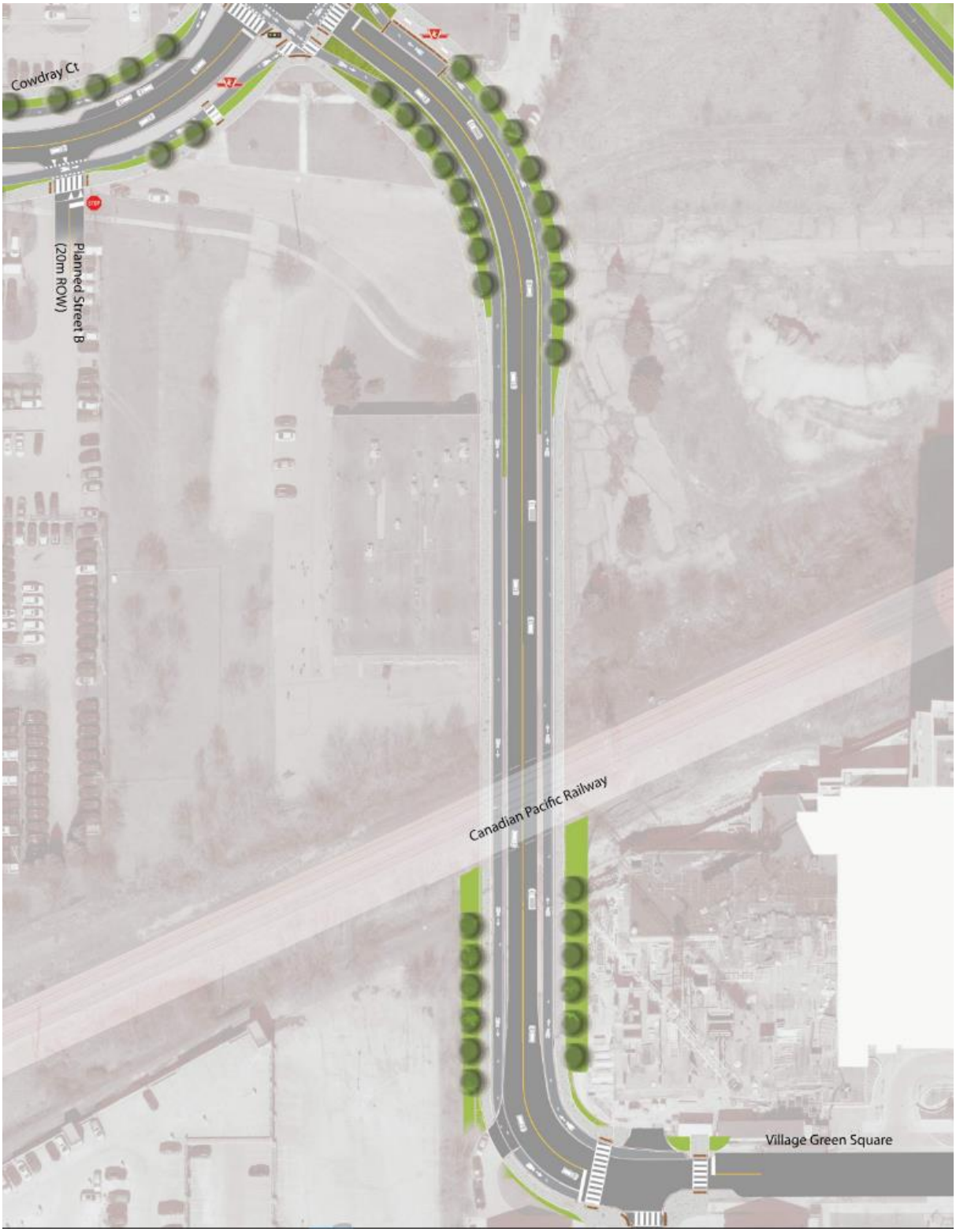
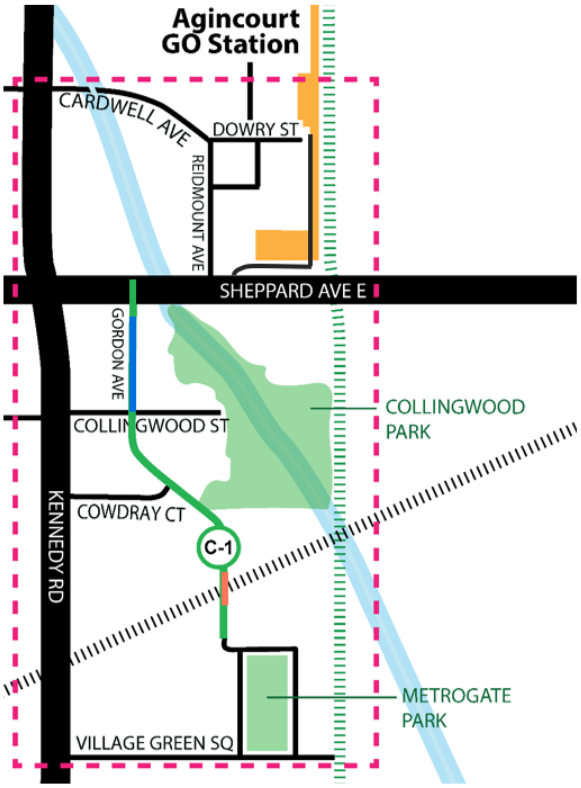


Exhibit 7-5: Preferred New Complete Street Alignment and Segment Widths

23m Street Width:
- At Sheppard Avenue East to accommodate a northbound left-turn lane and protected intersection for pedestrians/cyclists
- South of Collingwood Street to the underpass and south of the underpass

20m Street Width:
- South of Sheppard Avenue East to Collingwood Street to minimize impacts to existing residential properties

19m Street Width:
- At the underpass to accommodate vehicular lanes and elevated cycle track and sidewalk



7.2 Multi-use Trail

The preferred multi-use trail alignment provides a new active transportation route that is independent of the new complete street. This provides flexibility in terms of delivery, construction phasing and also network resiliency for active transportation – particularly to and from Agincourt GO Station.

The multi-use trail is recommended to be designed per City standards and guidelines. The trail follows a 7.6 m width south of the existing pedestrian bridge crossing West Highland Creek with planting on either side, given the constraints are minimal in this length, and meet the City's desired target. The trail width is restricted to 3.3 m over West Highland Creek using the existing bridge. As the trail e 7-1crosses the creek to the north, the trail width increases to 5.4 m, which is with consideration of the constraints related to private property impact related to 4061 Sheppard Avenue East. The trail is also narrower (4.5 m) at the crossing under the CP Rail corridor given the constrained environment. A safety fence is provided near the double rail crossing to discourage trail users from trespassing towards the Metrolinx rail tracks.
Exhibit 7-6 shows the preferred multi-use trail alignment and the various width.
Exhibit 7-7 shows the rendering of the multi-trail looking north through Collingwood Park.

Exhibit 7-6: Multi-Use Trail Alignment and Segment Widths

- **5.4 m trail** north of West Highland Creek due to constraints with existing buildings
- **3.3m trail** over West Highland Creek using the existing bridge
- **7.6m trail** south of West Highland Creek with planting on either side, given constraints are minimal and meet the City's desired targets

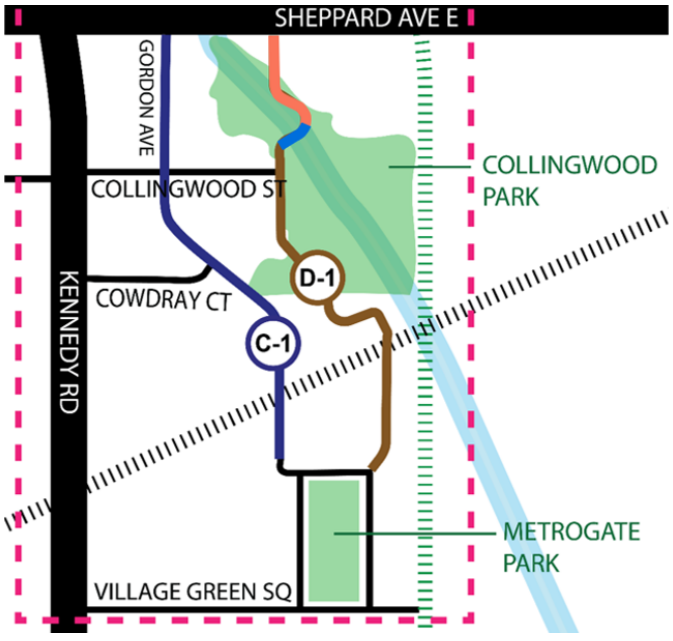


Exhibit 7-7: Rendering of Multi-Use Trail Looking North within Collingwood Park

7.3 Other Transportation Improvements to Existing Streets

In addition to new complete street C-1 and multi-use trail D-1, the following improvements to existing streets are recommended and the respective designs are described herein.

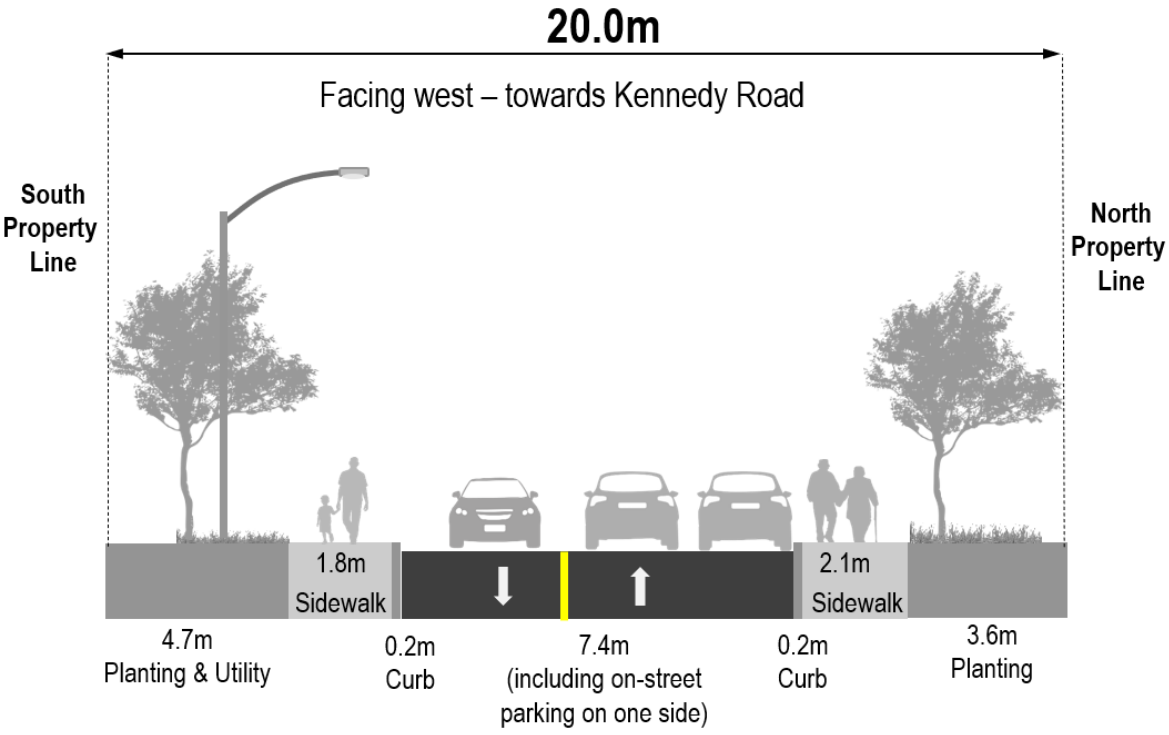
- New sidewalks on Collingwood Street to improve pedestrian safety and accessibility;
- New interim cycle tracks along Sheppard Avenue East that would connect people cycling between the new complete street and the Agincourt GO Station;
- Pedestrian and cycling safety enhancements at the Sheppard Avenue intersection at the Agincourt GO Station driveway;
- On-street parking and advisory bike lanes on Reidmount Avenue; and
- New advisory bike lanes on a segment of Dowry Street and the closure of a segment of Dowry Street to vehicular traffic will provide an expanded public realm with enhanced pedestrian and cycling connections to the Agincourt GO Station.

7.3.1 New sidewalks on Collingwood Street

Collingwood Street currently does not have sidewalks. The proposed improvements include sidewalks on both sides of the street, and crosswalks across the new complete street to improve safety and accessibility for people walking to and from the new complete street, to Collingwood Park and to access Agincourt GO Station.

The pavement width of Collingwood Street was initially proposed as 6.6 m, which is based on the City's lane width guidelines to accommodate two traffic lanes. However, based on feedback received from the public during the second round of public consultation regarding the need for on-street parking, the preferred design includes a 7.4 m wide pavement width to accommodate two lanes of traffic and on-street parking on one side of the street. Based on the local street designation, low traffic volumes along Collingwood Street and precedence from other comparable local streets, this pavement width is sufficient for the proposed vehicular uses. A 2.1 m wide sidewalk is proposed on the north side, which leads to shortened driveways within the City's right-of way, and a 1.8 m wide sidewalk to the south side, with no impacts on private property. The recommended cross-section of Collingwood Street is shown in **Exhibit 7-8**.

Exhibit 7-8: Recommended Cross-section of Collingwood Street



The sidewalk width is reduced to 1.8 m to avoid impact on existing utilities and trees on the south side. The implementation of sidewalk on the south side of Collingwood Street involves curb adjustments and is therefore considered a longer-term initiative.

A conceptual illustration of proposed improvements along Collingwood Street is shown in **Exhibit 7-9**. A larger excerpt of the overall stylized plan of the entire network is provided on the last page of **Appendix R**.

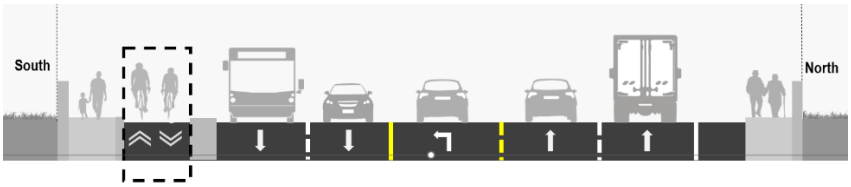
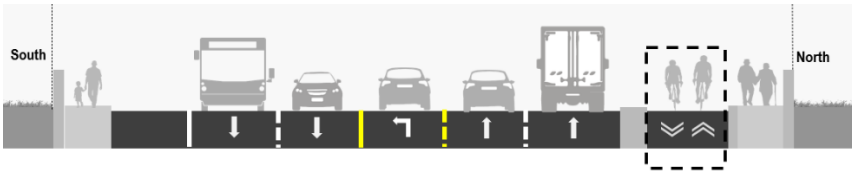
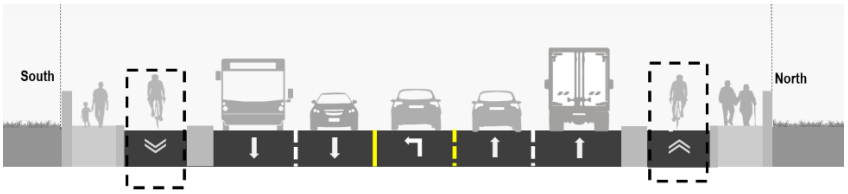
Exhibit 7-9: New Sidewalks Along Collingwood Street

7.3.2 Interim Cycle Tracks on Sheppard Avenue East

Presently, the vehicular lanes along Sheppard Avenue East are wider than the City's current lane width guidelines. There are currently no dedicated bikeways on the street. To provide a safe cycling connection between the new complete street and cycling improvements on Reidmount Avenue and Dowry Street, an interim, quick-build facility is recommended when the new complete street is constructed in advance of any major reconstruction of Sheppard Avenue East.

Three options were explored for potential improvements and evaluated to provide this safe, interim facility. **Table 7-2** below summarizes the options explored. Bi-directional cycle tracks on the north side of Sheppard Avenue East were presented to the public as the initial preferred option for feedback. Generally, there was support for the interim cycle tracks along Sheppard Avenue East. Based on discussions with property owners, some safety and operational concerns related to existing driveway accesses were raised. In comparison, the uni-directional cycle track option reduces conflicts between cyclists and motorists entering and exiting the driveways and was selected as the preferred.

Table 7-2: Sheppard Avenue Interim Cycle Track Option Evaluation

Options	Evaluation
Option 1: Bi-directional cycle tracks on the south side of Sheppard Avenue 	▪ Impacts eastbound curb lane approaching Agincourt GO Station driveway. ▪ Impacts existing TTC bus stop at the south-west corner of Agincourt GO Station driveway/Sheppard Avenue intersection. ▪ Presents safety concerns since it would increase conflict points with existing driveways.
Option 2: Bi-directional cycle tracks on the north side of Sheppard Avenue 	▪ Does not impact the existing TTC bus stop or motor vehicle operations along Sheppard Avenue between Gordon Ave and the GO Station driveway. ▪ Presents safety concerns since it would increase conflict points with existing driveways.
Option 3: Uni-directional cycle tracks on both sides of Sheppard Avenue 	▪ Impacts eastbound curb lane approaching the Agincourt GO Station driveway. ▪ Accommodates the existing TTC bus stop at the south-west corner of Agincourt GO Station driveway/Sheppard Avenue intersection. ▪ Fewer conflict points compared to bi-directional cycle tracks arrangements with existing driveways.

Given the safety concerns associated with Options 1 and 2, Option 3 is the recommended option, which proposes interim uni-directional cycle tracks along Sheppard Avenue. Given the high traffic volumes along Sheppard Avenue East, a 1 m wide poured in place concrete curb buffer is proposed between the uni-directional cycle track and the adjacent traffic lane. Breaks in the concrete buffer are provided at the existing driveway locations along Sheppard Avenue East.

In addition the eastbound cycle track has been designed with a raised cycle track platform at the existing nearside TTC bus stop at the intersection of Sheppard Avenue East/Agincourt GO Station driveway/4091-4101 Sheppard Avenue East driveway. The cycling facility type on Sheppard Avenue East needs to be explored further with the advancement of detailed design and coordination with adjacent studies. A conceptual illustration of the interim cycle tracks is shown in **Exhibit 7-10**. A larger excerpt of the overall stylized plan of the entire network is provided on the last page of **Appendix R**.

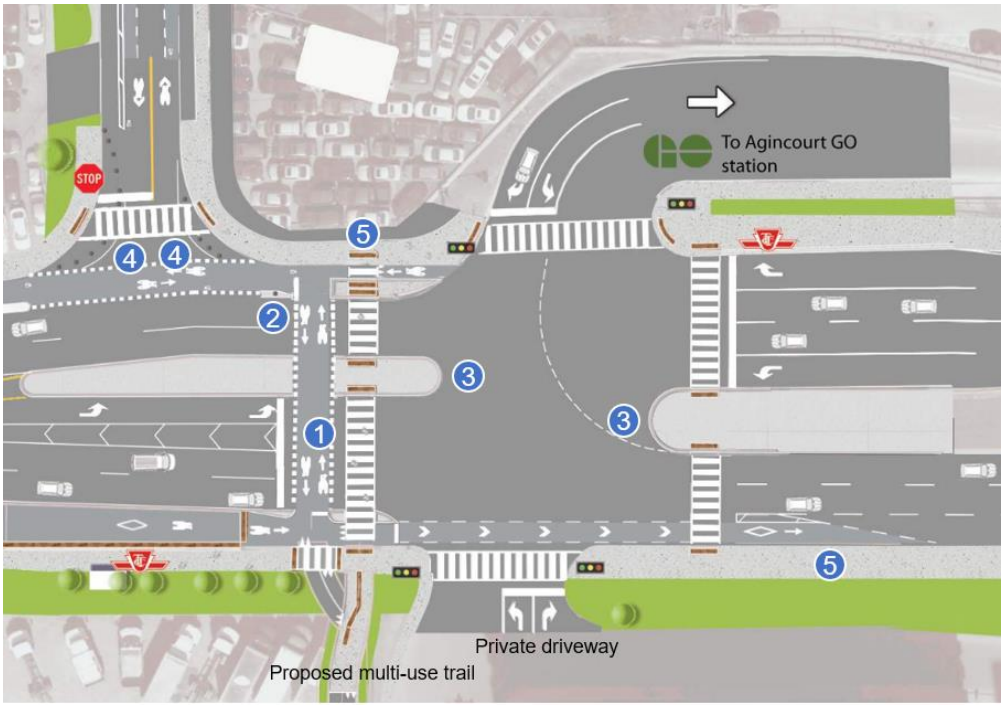
During the detailed design, further assessment will be done to determine the appropriate cycling facility type in consultation with the long-term planned bikeway on Sheppard Avenue East

Exhibit 7-10: Interim Cycle Tracks Along Sheppard Avenue East

7.3.3 Intersection Improvements at Sheppard Avenue / Agincourt GO Station and Private Residential Driveway

The existing intersection at Sheppard Ave East and Agincourt GO Station driveway is challenging to navigate for pedestrians and cyclists. The proposed advisory bike lanes on Reidmount Avenue and Dowry Street in combination with the new multi-use trail connection to Sheppard Avenue East offer an opportunity for creating a safer and more accessible intersection. Five categories of intersection improvements are recommended as shown in the conceptual illustration in **Exhibit 7-11**. A larger excerpt of the overall stylized plan of the entire network is provided on the last page of **Appendix R**.

Exhibit 7-11: Intersection Safety Improvements at Sheppard Avenue East / Agincourt GO Station / 4091-4101 Sheppard Avenue East Driveways



The five intersection safety improvements proposed at this signalized intersection are:

1) Multi-use trail crossing across Sheppard Avenue East with bicycle signals.

2) Physical protection for cyclists at northwest corner and southwest corners of the intersection.

3) Raised medians extended over crosswalk to provide refuge for people cycling and walking across the street, and slow turning vehicles, which also contributes to shorter crossing distances for pedestrians.

4) Tightened corner radii at Reidmount Avenue and Sheppard Avenue East using paint and posts to slow turning vehicles.

5) New Tactile Walking Surface Indicator (TWSI) plates added at all 4 corners to improve accessibility for people with low or no vision.

7.3.4 On-street Parking and Advisory Bike Lanes on Reidmount Avenue

The Study explored potential transportation improvements on Reidmount Avenue between Sheppard Avenue East and Dowry Street with the aim of creating a safer cycling connection to the Agincourt GO station. Two options are available for people cycling to the Agincourt GO Station from Sheppard Avenue East. The first option is to ride through the Agincourt GO Station driveway, which is steep and has mixed traffic conditions. The second option is to ride up Reidmount Avenue and along Dowry Street to access the Agincourt GO Station through its active transportation entrance. The second option is flatter and more comfortable for pedestrians and cyclists. Active transportation improvements are proposed for Reidmount Avenue and Dowry Street to make the route more suitable for cyclists and pedestrians and require less time for implementation.

There is a sidewalk only on the east side of Reidmount Avenue. The presence of transformers on the west side of the street creates discontinuity in the sidewalk, and precludes a near-term sidewalk implementation within the boulevard.

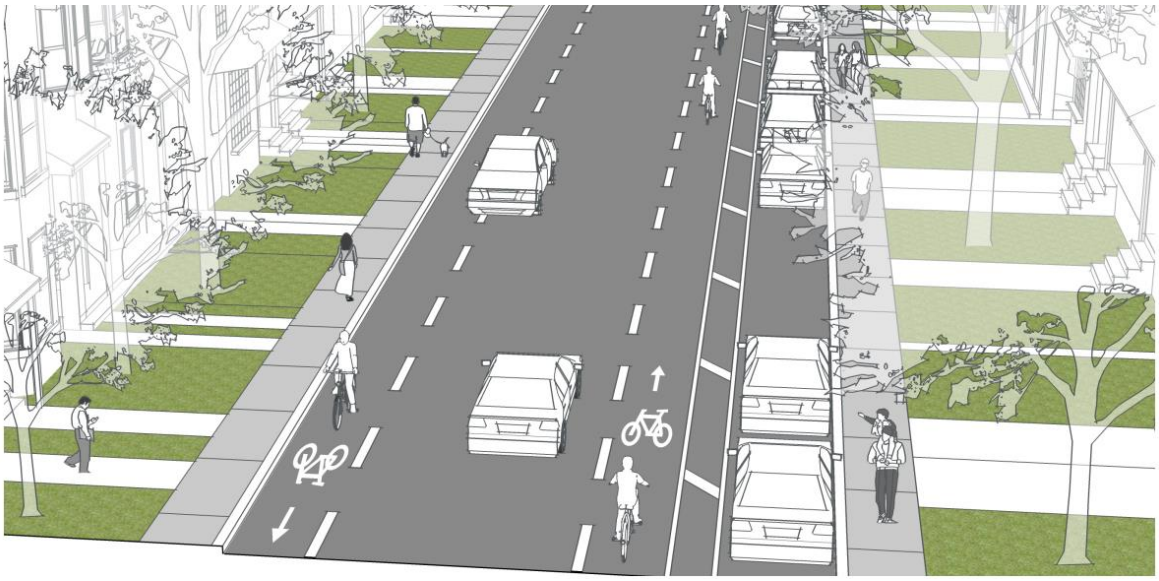
The street currently does not allow for parking on sections of the street. Considering the proximity to the GO station and the lack of short-term on-street parking within the area, opportunities to provide on-street parking on one side of the street were also explored.

Given the low motor vehicular volumes on Reidmount Avenue, the two-way traffic the street accommodates and location of existing curbs, two types of bikeways identified in the City's On-Street Bikeway Design Guidelines were considered - advisory bike lanes and shared lane markings (also known as sharrows).

Advisory bike lanes are a relatively new concept being used in other jurisdictions, such as Ottawa, and in areas with similar characteristics to the Agincourt area. They provide defined space for cycling, while offering opportunity for on-street parking on one side and assisting in traffic calming. Motor vehicles may drive in the advisory bike lane while an on-coming vehicle is approaching since the centre travel lane is narrower than two motor vehicle lanes. Some public education and outreach will need to be undertaken during implementation given these types of facilities are new to Toronto.

Exhibit 7-12 illustrates what an advisory bike lane configuration looks like. The detailed configuration of the advisory bike lane along Reidmount Avenue is provided in the 30 percent design and overall stylized plan provided in **Appendix R**.

Exhibit 7-12: Example of Advisory Bike Lane Configuration



7.3.5 Active Transportation Improvements on Dowry Street

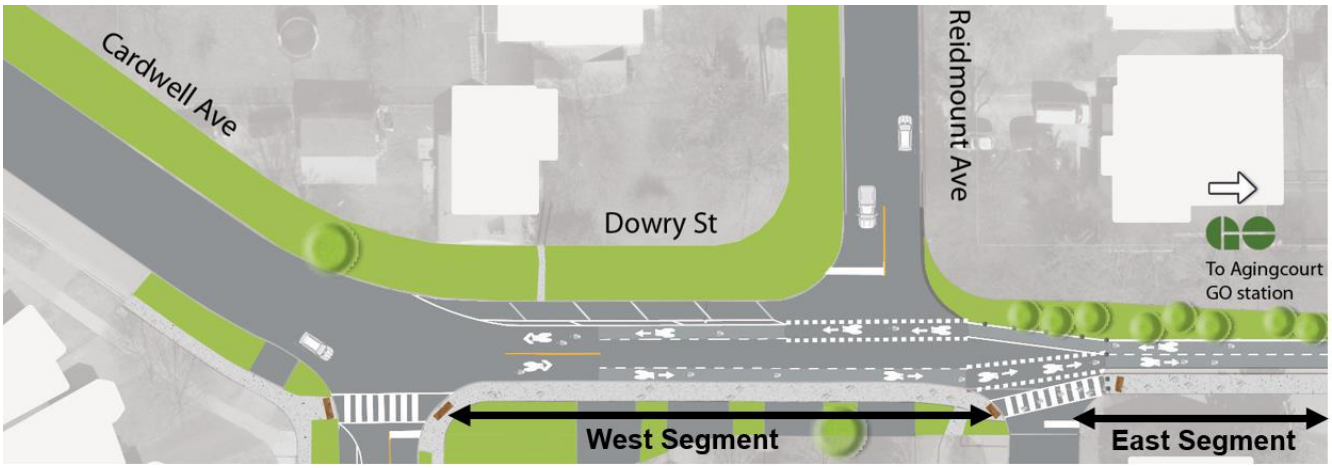
Dowry Street provides an additional point of entry to the Agincourt GO station. There are no sidewalks on both sides of Dowry Street today, and no bikeways on the street. There are no driveway accesses within the eastern segment of Dowry Street, and the street is currently closed to vehicular traffic for the ongoing Agincourt GO Station improvements. The western segment of the street does have driveway access on the south side of the street. Parking is not permitted on either side of the street.

The proposed improvements on Dowry Street aim to create a safer and accessible connection to Agincourt GO station for cyclists and pedestrians. The proposed improvements include continuing the closure of the eastern segment for vehicles, and making this section of street accessible for only pedestrians with a 2.1 m sidewalk and cyclists with a 3 m wide bi-directional cycle tracks. The balance of space would be allocated to greening and other amenities.

The west segment of the street would include advisory bike lanes and a 2.1 m sidewalk on the south side of the street. The proposed improvements also include tightened corner radii at Reidmount Avenue using paint and posts to slow turning vehicles. All the proposed improvements are confined to the City's right-of-way.

A conceptual illustration of the active transportation improvements along Dowry Street is shown in **Exhibit 7-13**. A larger excerpt of the overall stylized plan of the entire network is provided on the last page of **Appendix R**.

Exhibit 7-13: Active Transportation Improvements Along Dowry Street



7.3.6 Realignment and ROW Improvements along Cowdray Court

The new complete street alignment requires the realignment of Cowdray Court in order to meet the new complete street at a 90 degree angle. Additionally, the project team reviewed the planned ROW width of Cowdray Court.

The Official Plan currently identifies a 27 m ROW width for Cowdray Court, which was an old Metro Toronto standard typical within employment areas. With the area transitioning to a mixed-use area, the project team revisited whether a 27 metre ROW width is still appropriate. As part of this, the long-term Cycling Network Plan was reviewed which identifies Kennedy Road as having bikeways and led to consideration for bikeways on Cowdray Court to provide a seamless connection between the new complete street and Kennedy Road. The proposed development at 20, 40, 50, 70, 80 and 100 Cowdray Court was also reviewed to assess the need for different curbside activity treatments. This proposed development's intensity along with retail frontages and residential entrances along Cowdray Court merits some on-street lay-by to accommodate pick-up and drop-off activity, deliveries and short-term parking.

The recommended Cowdray Court design is a 25 m ROW with a cross-section that provides one motor vehicular lane in each direction, a 2.1 m pedestrian clearway, a 2.0 m cycle track, planting, and lay-bys on both sides of the street. The lay-bys are limited to tangent sections of the street and set back from the future Street B intersection and potential near side TTC bus stop along Cowdray Court. The new intersection will be signalized and will function as a protected intersection. In addition, both Cowdray Court and new complete street south of Cowdray Court have been future-proofed for a standard TTC bus operation.

It should be noted that the Cowdray Court improvements will be part of the planning approvals for the redevelopment of 20-100 Cowdray Court.

A conceptual illustration of the streetscape along the realigned Cowdray Court between Kennedy Road to the west and the new complete street is shown in **Exhibit 7-14**. A larger excerpt of the overall stylized plan of the entire network is provided on the last page of **Appendix R**.

Exhibit 7-14: Streetscape of Realigned Cowdray Court

7.4 Surface Transit Improvements

In addition to the geometric and pavement marking improvements identified in Sections **7.1** to **7.3**, transit improvements were also evaluated and designed as part of the recommended improvements. Based on discussions with TTC, the following improvements have been incorporated into the Preferred Design package:

- The new complete street between Cowdray Court and Village Green Square and the realigned Cowdray Court have been designed in terms of lane width and road curvature to accommodate a future TTC bus route. It is anticipated that the existing route that serves the east side Metrogate Park would be extended north of the CP Rail corridor such that buses can drive along the new complete street and turn to and from Kennedy Road via Cowdray Court.
- At the signalized intersection of Cowdray Court and the new complete street, stop bar setbacks, larger radius and a right-turn on red prohibition are all proposed to permit the TTC bus turns at the ‘T’ intersection while balancing the need of active transportation.
- New near-side bus stops have been designed at the south and west approaches of the signalized intersection of Cowdray Court at the new complete street. The bus stops are integrated as part of the raised cycle track platform with a minimum length of 16 m.
- Along Sheppard Avenue East, the existing near-side eastbound bus stop at the Agincourt GO Station/4091-4101 Sheppard Avenue East driveways has generally been maintained at the same location, with the length of the platform maximized to approximately 35 m to accommodate two articulated buses.

- At the intersection of Sheppard Avenue East and Kennedy Road, the westbound left-turn lane has been extended from 18 m to 30 m plus a 40 m taper. This improvement minimizes queue spillback impacts on the westbound buses along Sheppard Avenue East at this intersection.

7.5 Signal Timing Improvements

As traffic patterns change over time and responds to street network improvements recommended in this study, there will be opportunities to optimize the signal timings at the existing signalized study intersections. For example, closely spaced signalized intersections along Sheppard Avenue need to be closely coordinated to ensure the traffic flow along Sheppard Avenue permits side streets such as Gordon Avenue or the Agincourt GO station driveway to exit. The future optimized signal timing plans based on the recommended improvements and the projected future volumes are summarized in **Appendix J.** The City also has the opportunity to conduct corridor signal optimization studies along arterial roads on a regular basis based on its policies.

7.6 Multi-Modal Level of Service

Based on the preferred package of improvements, the future levels of service for pedestrians and cyclists have been evaluated. The results are presented in the second half of **Appendix K** and confirms substantial improvements for pedestrians and cyclists in terms of route directiveness and travel time when traveling to and from key destinations such as the Agincourt GO Station. The multi-use trail not only offers a dedicated and wider facility for walking and cycling, but also provides a comfortable environment to promote non-auto modes of transportation. The evaluation of intersection operations based on the recommended street network is documented in the second half of **Appendix J.**

7.7 Watermain and Sanitary Evaluation

A future watermain and sanitary servicing report has been prepared based on the package of proposed improvement involving option C-1. The report is provided in **Appendix V**.

7.8 Storm Evaluation

A flood plain report has been prepared based on the proposed alignment of the new complete street and multi-use trail as it relates to the site's floodplain context. The report is provided in **Appendix W**.

7.9 Detailed Design Considerations

Table 7-3 summarizes considerations for the detailed design phase broken down by each of the recommended improvements.

Table 7-3: Detailed Design Considerations of Preferred Improvements

Improvement	Detailed Design Considerations
New complete street	▪ New signal timing plans will need to be developed for the signal at Sheppard Avenue and Gordon Avenue and new complete street and Cowdray Court. ▪ At the intersection of the new complete street with realigned Cowdray Court, further coordination with TTC may be required to ensure the accommodation of TTC regular bus movements between Cowdray Court and the complete street. ▪ Opportunities to incorporate on-street parking along the new complete street – south of Collingwood Street should be considered during detailed design. ▪ The construction along Gordon Avenue should be done during off-peak periods, with close coordination and advisory with the residents and businesses along Gordon Avenue. A traffic detour plan should be considered so that residents and visitors will be able to access/egress their homes via either the Gordon/Sheppard or Collingwood/Kennedy gateways.
New multi-use trail	▪ Since the multi-use trail integrates and forms the westerly limit of Collingwood Park, there may be a temporary closure of parts of Collingwood Park during construction (i.e., the park entrance at the terminus of Collingwood Street) and advisory notices will need to be provided. There are minor upgrades proposed (better railing) for the existing pedestrian bridge crossing West Highland Creek, which may involve a short-duration closure. ▪ During detailed design, the multi-use trail alignment need to be reviewed to ensure the trail does not negatively impact slope erosion of the West Highland Creek.
New sidewalks along Collingwood Street	▪ The proposed sidewalk on the north side of Collingwood Street has minimal utility conflict and there is sufficient right-of-way available in the northerly boulevard for it to get implemented. ▪ The sidewalk on the south side of Collingwood Street requires a minor road diet from the south side of the street, which involves curb relocation. There will likely be on-street parking impact and lane closures along Collingwood Street during the delivery of the sidewalk on the south side of Collingwood Street since it involves a road diet.

Improvement	Detailed Design Considerations
	▪ The pavement width for Collingwood Street is intended to permit on-street parking on one side of the street as a response to address the lack of on-street parking the study area. The side of the street to which on-street parking is to be located will need to be studied further during detailed design.
Interim uni-directional cycle tracks along Sheppard Avenue East between Gordon Avenue and Agincourt GO Station driveway	▪ The primary traffic staging required within the project is the implementation of bikeway along Sheppard Avenue East since there are heavy traffic volumes and regular transit services. It is recommended that the road work along Sheppard (asphalt milling to remove existing pavement markings, addition of new pavement markings, signage and poured-in place curbs) be planned for off-peak periods such as evenings or long weekends to minimize traffic impact. ▪ The interim cycle tracks along Sheppard Avenue East should be coordinated with other City initiatives for longer-term cycling facilities along the corridor.
Pedestrian and cycling safety enhancements at the intersection of Sheppard Avenue and Agincourt GO Station/4091-4101 Sheppard Avenue East driveway	▪ The intersection improvements should be implemented along with the multi-use trail to provide a safe connection for the multi-use trail users to/from the Agincourt GO Station. ▪ Coordination with Metrolinx and with the condo board at 4091-4101 Sheppard Avenue East will be required prior to the intersection works since driveway operations may be impacted. This work should be completed during off-peak periods with temporary signage provided to guide all modes of transportation through the intersection while the signal is temporarily out of operation. ▪ The signal timing plans may need to be updated at this intersection based on the reconfiguration to conform with the City's signal timing standard operating procedure.
Advisory bike lanes and parking along Reidmount Avenue	▪ The recommended transportation improvements along Reidmount Avenue are proposed to be quick-build improvements with the use of pavement markings and temporary bollards. The implementation is recommended during off-peak hours with temporary construction-related signage to inform motorists in the area who may require access to properties.

Improvement	Detailed Design Considerations
Pedestrian and cycling improvements along Dowry Street	▪ The recommended advisory bike lanes along a segment of Dowry Street are proposed to be quick-build improvements with the use of pavement markings and temporary bollards. The implementation is recommended during off-peak hours with temporary construction-related signage to inform motorists in the area who may require access to properties. ▪ The segment of Dowry Street to be converted to active transportation only require more extensive reconstruction. This should be coordinated with Metrolinx since pedestrian and cyclist access to the Agincourt GO Station may be impacted.
Realignment and ROW improvements along Cowdray Court	▪ The Cowdray Court realignment will be developed in coordination with the planned development of 20-100 Cowdray Court lands. Since Cowdray Court is currently serving limited uses and much of the existing uses will be closed down during construction, minimal traffic impact/detour is anticipated. The detailed design of the permanent condition of Cowdray Court with the recommended 25 m ROW will need to be undertaken by the developer of 20-100 Cowdray Court to demonstrate compatibility with the proposed internal public and/or private streets.
Signal timing optimization at existing signals within the study area	▪ This should be coordinated with the City's transportation division as they complete their regular signal coordination study along major roadways to ensure compatibility of the proposed signal timing plans delivered as part of the preferred package of improvements.

8 POTENTIAL ENVIRONMENTAL IMPACTS, MITIGATION MEASURES & COMMITMENTS TO FUTURE WORK

Mitigation of negative effects is applied throughout the MCEA process, including developing alternatives to avoid constraints and selection of the technically Preferred Plan by identifying the alternative with the least overall environment impact. Some negative effects cannot be avoided; therefore, additional mitigating measures are identified in order to minimize effects. These measures will be further developed and finalized in the next phase of design and will be included in the contract documents for implementation during construction. Since the complete street is the only improvement required to undergo the mitigation identification phase as part of a Schedule 'C' improvement, **Section 8.1** focuses on the identification of mitigation measures and commitment to future work for the complete street.

In addition to the new complete street, this chapter also summarizes next steps for the multi-use trail in **Section 8.2**.

The mitigation measures and commitments to future work detailed in this chapter account for feedback received from different agencies and stakeholders for the recommended transportation improvements in this study.

8.1 New Complete Street

Please refer to **Table 8-1** at the end of this section for all mitigation measures, commitments to future works and applicable permits / approvals associated with each of the disciplines and external agencies/factors noted in the following sections. **Table 8-1** is organized by each discipline and topic and referenced in via unique subheadings.

8.1.1 Natural Environment

Natural environment impact assessment is documented in **Appendix B** and potential impacts are discussed in two categories:

- Direct Impacts – associated with the permanent removal of natural features/habitats, caused by the actual "footprint" of the undertaking (e.g., clearing and grading of subject lands, direct alteration of surface water/groundwater); and
- Indirect Impacts – associated with; 1) adjacent or off-site effects to habitat (e.g., alterations to surface water and groundwater quality/quantity), and 2) temporary disruption of features/habitats or displacement of species with active construction activities (e.g., impact to water quantity / quality, temporary physical disturbance, erosion, etc.). Impacted area should be restored at the completion of the project.

8.1.1.1 Vegetation

The recommended new complete street alignment is not expected to impact natural vegetation types as the works are contained within the footprint of neighbourhood streets and residential properties with a small section going through culturally disturbed vegetation including Mineral Cultural Meadow (CUM1-1), and Collingwood Park. Vegetation located within the ROW surrounding the work zone consist of planted street trees and landscaped areas. The impacts

of removing street trees and their replacement are described in the Arborist Report (**Appendix C**).

Vegetation expected to be impacted contained a high abundance of invasive and exotic species. These areas are generally considered lower-quality vegetation types, which require minimal mitigation when they are impacted. All vegetation communities were observed to be young / successional, except for a few mature willow trees (> 50 cm DBH) within Collingwood Park parkland; outside the work zone of the new complete street.

No direct impacts on rare or sensitive flora species or vegetation communities are expected.

Indirect impacts may occur if machinery and workers travel outside the proposed work zone. Works can also indirectly impact vegetation by the release of unwanted substances (e.g., construction-generated sediment) into the watercourse and through vegetation clearing / damage beyond the work limits. The FOD7 vegetation community along West Highland Creek is the most susceptible to these indirect impacts as any damage to this area's natural cover reduces the natural cover within the NHS, which is presently limited in this area.

Common Reed and Dog-Strangling Vine pose the highest likelihood to be spread as a result of the proposed works. Common ways of spread include having plant material attach to equipment, vehicles and footwear, then being translocated to a new site, or by being moved during excavation / grading activities and by disturbance to the community which can release the mature seeds to disperse to other habitats.

Please see **Table 8-1A** for vegetation-related mitigation measures, commitments to future works and applicable permits and approvals required.

8.1.2 Wildlife

Habitat features present within the study area include urban environments showing varying levels of previous disturbance. Wildlife species observed were typical of those found in small urban habitats. These species are expected to withstand a higher level of disturbance compared to a more natural setting.

It is expected that the local wildlife populations have been habituated to passing through the creek culverts and under bridge structures. The riparian vegetation of West Highland Creek and CUW parallel to the north side of the CP Rail corridor is assumed to have a low abundance of wildlife movement for a variety of small mammals and herpetofauna. The creek corridor may provide greater wildlife movement opportunities due to the long linear corridor and the parallel strip adjacent to the CP Rail would be expected to provide wildlife movement at the site level only. Based on field observations, there is evidence of coyotes, urban birds and urban herptiles using the creek and green space areas Parkland, fallow field (CUM1-1).

General impacts on wildlife may include:

- Permanent indirect effects associated with road use (road mortality, traffic noise, salt run-off);

- Permanent direct effects associated with the construction footprint (removal of vegetation used by wildlife and loss of habitat specifically for migratory birds); and
- Temporary indirect effects resulting from construction activities (e.g., noise, dust).

Direct impacts on wildlife may occur if they travel into the construction zone or construction staging. However, this is unlikely, as the work's noise / activity is likely to temporarily deter wildlife away from the site.

Wildlife species within the study area observed were typical of open-field habitats in an urban setting. These species are expected to be tolerant of a higher level of disturbance compared to wildlife in more natural or remote habitats. Implementation of vegetation removal outside the bird breeding period, creating an invasive species management plan and having an awareness of SAR and general wildlife species are mitigation measures that will minimize impacts.

Please see **Table 8-1B** for wildlife related mitigation measures, commitments to future works and applicable permits and approvals required.

8.1.3 Species at Risk

One Species at Risk (SAR) species was identified with a high likelihood to be present within the study area but outside the proposed work zone of the complete street.

- **Black Ash** (Endangered) was observed in the naturalized area of West Highland Creek. Works are not expected to cross into the area where Black Ash was observed. No ESA requirements are needed at this time.

Potential mitigation actions may be required after January 25, 2024, as per the Black Ash Ontario Recovery Strategy Series (Catling et al. 2022) (refer to Section 6.4). Two species of Special Concern were identified to have moderate potential to be present within the proposed work zone, including:

- **Barn Swallow** (Special Concern) there was no evidence of the species being present, either in old/active nests or flying in and out beneath the CP Rail bridge at the time of the survey. However, this species has future potential to nest beneath the bridge and culvert structures within the study area including the Sheppard Ave E bridge, West Highland Creek pedestrian bridge and the CP Rail overpass.
- **Snapping Turtle** (Special Concern) may enter the work area opportunistically during the period of migration/travel; however, this is unlikely given the active nature of the site.

8.1.3.1 SAR Bat Maternity Habitat

No roosting features, protected under the ESA, were observed within the limits of the study area. However, it should be noted that many of the residential trees on private property were unable to be assessed. Trees may incidentally be used as rest sites on residential properties and within the FOD7, CUW and the Parkland mature willow trees, located on the north side of West Highland Creek.

Please see **Table 8-1C** for species at risk-related mitigation measures, commitments to future works and applicable permits and approvals required.

8.1.4 Fish and Fish Habitat

The preferred complete street alignment has the potential to impact the water quality of runoff due to increased road surface area, which could in turn impact fish and fish habitat in West Highland Creek if not properly managed. These impacts can be managed effectively with proper drainage and stormwater management design. For the preferred complete street alignment, all runoff will be collected and conveyed to treatment and control via stormwater management systems. No direct discharge into West Highland Creek is anticipated, therefore there are no anticipated impacts to fish and fish habitat. The preferred complete street alignment does not directly impact West Highland Creek. However, various other indirect construction-related impacts, typical of any construction project near water, could occur.

Please see **Table 8-1D** for fish and fish habitat-related mitigation measures, commitments to future works and applicable permits and approvals required.

8.1.5 Tree Inventory

The preferred complete street alignment will result in impacts to vegetation and street trees. A detailed inventory of the existing trees within the study area, recommendations for tree protection, and replacement proposals are provided in the Arborist Report (**Appendix C**).

Please see **Table 8-1E** for tree-related mitigation measures, commitments to future works and applicable permits and approvals required.

8.1.6 Archaeological Assessment

As discussed in Section 3.5, Stage 1 Archaeological Assessment was completed as part of the study that included a review of documents pertaining to the project area including historic maps, aerial photographs and local histories, previous archaeological assessment reports, and a site investigation was conducted on May 15, 2020. The Stage 1 Archaeological Assessment is documented in **Appendix F**.

The findings of the Stage 1 Archaeological Assessment indicate that the study area of this EA is close to indicators of archaeological potential such as proximity to water sources, historic roadways and areas of early Euro-Canadian settlement. The property inspection determined the area to be predominantly disturbed by modern construction activities and do not require further archaeological assessment.

Please see **Table 8-1G** for mitigation measures, commitments to future works and applicable permits and approvals required.

8.1.7 Cultural Heritage and Culture Heritage Landscape Screening Assessment

As discussed in Section 3.6, a cultural heritage assessment was carried out to provide preliminary information about built heritage and cultural heritage landscapes within the study area. The following section highlights the findings of the cultural heritage report, which is documented in **Appendix G**.

The following provides a summary of the assessment results:

- Four Cultural Heritage Landscapes (CHLs) and 14 Built Heritage Resources (BHRs) were identified within the study area for the Southwest Agincourt Transportation Connections Study;
- Of these BHRs, eight were identified during the field review and six, have been previously identified. Of the CHRs, two were identified during the field review and one was previously identified; and
- Most of the identified CHLs and BHRs reflect the nineteenth century development of the study area, as well as residential development typical of the post-war construction boom.
- It was confirmed within a CHER dated February 2022 that the property identified as 9 Collingwood is not a CHVI (Cultural Heritage Value or Interest).

The list of CHLs and BHRs are documented in **Appendix E**. Based on the results of the background data collection and assessment of impacts to the study area, it has been determined that there will be potential indirect impacts to BHR-1, BHR-3, BHR-4, BHR-5, BHR-6, BHR-8.

8.1.8 Socio Economic and Land Use Characteristics

The preliminary preferred design will significantly improve the socio-economic environment of the Southwest Agincourt community by:

- Supporting active transportation and transit use in settlement areas;
- Facilitating safe, energy efficient movement of people and goods;
- Using existing and planned infrastructure efficiently;
- Improving transportation connections within and among transportation systems;
- Providing strong connections, complete travel experiences; and
- Supporting sustainable and healthy communities.

Through planning for sustainable, connected and safe transportation network for the Southwest Agincourt community, the transportation network will support its future growth in a sustainable and future-proof manner.

Please see **Table 8-1H** for cultural heritage-related mitigation measures, commitments to future works and applicable permits and approvals required.

8.1.9 Air Quality

The proposed project is expected to result in significant changes to traffic volumes, particularly where new roadways are proposed; however, the overall air quality in the Project area is not expected to be adversely impacted. As a result, a substantial change in road traffic emissions

is not expected from the Project. The details of the air quality assessment with the C-1 street alignment in place are provided in **Appendix S**.

During construction, which would include the construction of new roadways in the Project area, there is potential for air quality impacts to occur for a limited duration. Construction related air quality impacts may arise from construction vehicle emissions and the creation of dust within the specific areas of construction. Construction activities that have the potential to generate dust include the following:

- Mobilization of construction equipment;
- Vehicle and equipment engine emissions;
- Tree cutting, specifically for new proposed roads;
- Stripping, loading, and stockpiling of Site materials;
- Transportation on haul routes;
- Transport of fill material to the site;
- Placement, grading, and compaction of material;
- Cutting, grinding and drilling;
- Mixing processes; and
- Paving of roadways.

Please see **Table 8-1J** for air quality-related mitigation measures, commitments to future works and applicable permits and approvals required.

8.1.10 Noise

A noise barrier needs assessment has been conducted at the key receptor locations as documented in **Appendix T**. The findings indicate that the unmitigated sound levels at the two backyards immediately siding onto the new proposed road (near Gordon Avenue and Collingwood Street) is predicted to be up to 59 dBA. This is less than the maximum allowable sound level by the City and thus, noise mitigation measures is not required. Other rear yards are expected to meet the design objective without the need for noise mitigation due to increased setback distance and screening from intervening building structures.

Please see **Table 8-1K** for noise-related mitigation measures, commitments to future works and applicable permits and approvals required.

8.1.11 Hydraulic and Geomorphology

An erosion rate fluvial geomorphology assessment has been completed for the West Highland Creek watercourse within the study area as documented in **Appendix U**. The purpose is to understand whether the recommended improvements result in any notable impacts that may require further mitigation. The evaluation finds that the study area has already been progressively urbanized with the watercourse channel having been fully straightened with

engineered floodplain flanks. No meanders are present in the site vicinity of the site and a 100-year erosion rate cannot be determined is not applicable. Therefore, no mitigation measure is required for the West Highland Creek as part of the EA.

Please see **Table 8-1M** for hydraulic and geomorphology-related mitigation measures, commitments to future works and applicable permits and approvals required.

8.1.12 TRCA

Based on feedback from TRCA, TRCA staff will review the following technical drawings submitted through the detailed design process:

- Grading Plan
- Erosion and Sediment Control Plan (refer to Erosion and Sediment Control Guide for Urban Construction)
- Dewatering Plans and any plans for in-water work
- Restoration Plan, including requirements laid out within the Highland Creek Watershed Greening Strategy (2020) and an Invasive Species Management Plan
- SWM Plan with robust use of LIDs

Please see **Table 8-1N** for TRCA-related mitigation measures, commitments to future works and applicable permits and approvals required.

8.1.13 Other Environmental Aspects and External Considerations

In addition to the environmental considerations discussed above, the following disciplines and agencies need to be considered for future commitments as summarized in **Table 8-1**:

- Soil and Groundwater Contamination as discussed in **Table 8-1F**.
- Provision for future TTC services in the recommended designs as noted in **Table 8-1O**.
- Servicing and utility coordination required with stakeholders and providers as noted in **Table 8-1P**.
- Traffic signal coordination required along Sheppard Avenue and Kennedy Road to improve traffic flow along the arterial roads as noted in **Table 8-1Q**.
- Interim cycle tracks recommended along Sheppard Avenue East between Gordon Avenue and the Agincourt GO Station/4091-4101 Sheppard Avenue East driveways need to be coordinated with other City initiatives that may be proposing cycling facilities along Sheppard Avenue as noted **Table 8-1R.**
- Structural design permit and approvals for the road underpass and multi-use trail crossing as it relates to CP Rail and Metrolinx as noted in **Table 8-1S.**

- On-street parking is an important aspect that need to be considered further in the detailed design stage (i.e., the potential on-street lay-by/parking along the improved Cowdray Court or the new complete street) as noted in **Table 8-1T.**
- Geotechnical evaluation findings from the geotechnical report have been accounted for in the pavement design of the new complete street as noted in **Table 8-1U**.
- Details of the watermain, sanitary and storm aspects of civil design need to be advanced in detailed design. Adjacent developments in the vicinity of the complete street should be coordinated as noted in **Table 8-1V**.

Table 8-1: Mitigation Measures, Commitments to Future Works and Permits/Approvals Required

Disciplines	Mitigation Measures	Commitments to Future Works / Next Steps	Permits & Approvals
Natural Environment			
Vegetation (Table 8-1A)	▪ Re-stabilize and re-vegetate exposed surfaces as soon as possible following construction, using native vegetation seed mix and plantings. The vegetation restoration and re-creation plans should consider the incorporating Highland Creek Watershed Greening Strategy (TRCA 2020) guidelines. ○ Extend vegetation buffers along the watercourse while restoring green spaces to enhance the Natural Heritage System (NHS) and have a net benefit to the current ecological systems. Additionally, it is recommended to consider re-naturalization for the lawn adjacent to the watercourse north of Shepard Avenue, as it is likely to provide significant benefits. ○ Delineate any vegetation clearing zones and vegetation retention zones both on the construction drawings and in the field and review them directly with the contractor before clearing and grading. Limit removal and/or prevent encroachment into FOD7 vegetation, where possible. Equipment, materials and other construction activities will not be permitted in this zone. ▪ Any dredged, salvaged or stockpiled materials will be located 30 m away from the watercourse vegetation. ▪ The preferred complete street alignment is not expected to impact natural vegetation types, as the works are contained within the footprint of neighbourhood streets and residential properties. Vegetation communities that are expected to be impacted contained a high abundance of invasive and exotic	Create an invasive species management plan to control the spread of Common Reed and Dog-Strangling Vine. Resources to control the spread of these species are available online through the Ontario Invasive Species Plan Council (https://www.ontarioinvasiveplants.ca/resources/best-management-practices/)	N/A

Disciplines	Mitigation Measures	Commitments to Future Works / Next Steps	Permits & Approvals
	species. Mitigation will include re-stabilizing and re-vegetating disturbed areas using native vegetation seed mix and plantings. The implementation of the recommended mitigations will limit impacts or provide a net benefit for these vegetation features.		
Wildlife (Table 8-1B)	▪ Any wildlife incidentally encountered during construction will not be knowingly harmed and will be allowed to move away on its own. If an animal encountered during construction does not move from the construction zone and construction activities are such that continuing construction in the area would result in harm to the animal, all activities that could potentially harm the animal will cease immediately and the Contract Administrator will be notified. ▪ Any equipment parked overnight in the area will also be inspected to ensure wildlife has not climbed into or beneath it. ▪ Implementation of vegetation removal outside the bird breeding period, creating an invasive species management plan and having an awareness of SAR and general wildlife species are mitigation measures that will minimize impacts. ▪ If a nesting migratory bird is identified within or adjacent to the construction site and the construction activities are such that continuing construction in that area would result in a contravention of the MBCA, all activities will stop, and the Contract Administrator and Environment Canada and Climate Change will be contacted to discuss mitigation options. ▪ To limit impacts on migrating birds, the use of timing windows for vegetation removal is recommended and nest searches if	To protect nesting migratory birds, under the MBCA, the contractor will ensure that: ▪ Vegetation removal, grubbing and grading will be avoided during the migratory bird nesting season (April 1 to August 31). This measure will also serve to protect Monarch's that use vegetation during this period. ▪ If removal during this period cannot be avoided, a qualified individual (i.e., a professional with knowledge of and/or training in avian ecology) can complete a nest sweep within 48 hours before vegetation clearing works. If an active nest is discovered, an appropriate buffer shall be established and maintained until the nest is no longer active or August 31st, whichever comes first. ▪ No active nests (nests with eggs or young birds) will be removed or disturbed under the MBCA.	Nesting migratory birds are protected under the MBCA. No work is permitted to proceed that would result in the destruction of active nests (nests with eggs or young birds), or the wounding or killing of birds protected under the MBCA and/or Regulations under that Act.

Disciplines	Mitigation Measures	Commitments to Future Works / Next Steps	Permits & Approvals
	work may impact structures and vegetation during migratory birds' nesting season (April 1 to August 31). ▪ If required, perform a nest search of the culvert/bridge structures of West Highland Creek before their alteration.		
Species at Risk (Table 8-1C)	▪ If a SAR is found in the construction area, all activities that could potentially harm the animal will cease immediately and the animal will be allowed to move away on its own. If it does not move or is injured, the Contract Administrator will be notified. The Contract Administrator will then contact the MECP SAR Biologist for direction, as these animals are protected under the ESA (2007). ▪ To limit the impact on bats, trees removal is recommended to take place outside the bat active period (active from April 1 to September 31). ▪ Potential mitigation actions required after January 25, 2024 (Catling et al. 2022) may include implementing a 28 m from individual Black Ash within wetland and less suitable dry or upland habitats (to protect seed dispersal and regeneration zones). ▪ Black Ash was observed approximately 50 m from the proposed work limit and thus encroachment into the 28 m buffer will not occur. ▪ Black Ash – potential mitigation actions may be required after January 25, 2024, as per the Black Ash Ontario Recovery Strategy Series (Catling et al. 2022) (refer to Section 6.4). Two species of Special Concern were identified to have moderate potential to be present within the proposed work zone, including: Barn Swallow and Snapping Turtle	N/A	▪ Black Ash – The MECP has issued a temporary suspension of individual and habitat protections until January 25, 2024. ▪ Barn Swallow – down-listed to Special Concern in January 2023, which changes mitigation requirements if this species is found during active works. Active nests will be protected during the breeding season, under the MBCA. No permitting under the ESA will be required for Barn Swallow nests if found at the site.

Disciplines	Mitigation Measures	Commitments to Future Works / Next Steps	Permits & Approvals
	▪ Snapping Turtle – (Special Concern) Suitable habitat is not present for long-term/periodic use by turtles, thus specialized mitigation or permit are not warranted.		
Fish and Fish Habitat (Table 8-1D)	▪ Potential indirect impacts can be managed effectively with proper management of construction activities and associated implementation of mitigation measures. ▪ Concrete washout and temporary construction staging areas if required must be designated outside the natural aquatic features within the study area. ▪ Environmental inspections shall be conducted during construction to ensure that protection measures are implemented, maintained and repaired and that remedial measures are initiated where warranted. ▪ Vehicle maintenance and refuelling shall be confined to designated areas a minimum of 30 m away from watercourses, and all activities shall be controlled to prevent the entry of petroleum products or other deleterious substances, such as debris, waste, rubble, or concrete, into the natural environment. In the case of accidental spills, the Contract Administrator should consult appropriate regulatory agencies. ▪ Standard construction practices for the control of dust will be implemented during the construction period to minimize the generation and spread of dust. ▪ Develop and implement an Erosion and Sediment Control Plan for the site that minimizes the risk of sedimentation of the watercourses and wetlands during all phases of the project. Erosion and sediment control measures should be	N/A	▪ A review of the proposed works for compliance with The Fisheries Act for the preferred complete street alignment. ▪ As no death of fish or harmful alteration or destruction to the bed and banks of the watercourse is expected to result from the proposed road or multi-use trail, the proposed works will not cause a HADD to fish habitat, and a review by DFO is not required.

Disciplines	Mitigation Measures	Commitments to Future Works / Next Steps	Permits & Approvals
	maintained until all disturbed ground has been permanently stabilized. The plan should, where applicable, include: ○ Installation of effective erosion and sediment control measures before starting work to prevent sediment from entering waterbodies and wetlands. ○ Measures for managing water flowing onto the site, as well as water being pumped/diverted from the site such that sediment is filtered out prior to the water entering a waterbody. ○ Measures for containing and stabilizing waste material (e.g., construction waste and materials, uprooted or cut aquatic plants, accumulated debris) above the high-water mark of nearby waterbodies to prevent re-entry. ○ Silt fencing will be monitored and maintained throughout the construction period to ensure proper function. ○ Areas, where temporary disturbance/removal of vegetation is required for construction, should be re-vegetated immediately following construction with a native seed mix and suitable for the adjacent habitat planting of native trees and shrubs to stabilize soils.		
Additional Environmental Factors			
Tree Inventory (Table 8-1E)	▪ Tree planting should not be prevented by relocation or construction of utilities. Street trees are expected and should be provided wherever possible. ▪ Underground utilities shall not preclude tree planting and best efforts shall be required in order to plant street and private trees along the boulevard and other softscape areas.	▪ The full extent of tree impacts and injury as a result of the recommended improvements will be determined at the detailed design stage. Compensation and recommendations for replacement planting will also be determined at	▪ A complete permit application shall be required to be submitted for review prior to the commencement of any construction works, including laydown and staging.

Disciplines	Mitigation Measures	Commitments to Future Works / Next Steps	Permits & Approvals
	▪ Preservation and retention of all bylaw protected trees shall be taken into consideration. Construction methodologies and location of permanent infrastructure shall be considered during design phase. Tree avoidance and injuries are more desirable than removal of healthy trees as the latter are not permitted under the Tree Bylaws. ▪ Confirm the type of green infrastructure that is proposed to be included in the softscape area where tree planting shall be completed. ▪ As design evolves, the arborist report will need to be updated to accurately reflect the proposed tree impact, mitigation, and protection practices for individual trees based on current design. ▪ Only trees that are that are within 2 years of being planted shall be considered for transplanting. Any bylaw-protected tree proposed for transplanting shall be considered by City staff on a case by case basis. ▪ The trees included in a new complete street shall not be counted towards the compensation that is required through the permitting process. ▪ If trees are located outside of the 6 m/12 m buffer, only then can tree protection hoarding not be installed. Otherwise, all trees within 6 m/12 m of the project limits shall require tree protection hoarding. ▪ For RNFP area-based compensation is applied to areas where soil disturbances are occurring on site (including stumping, boreholes, etc.). Current compensation is $260,000/hectare (or $26/m^2). Total area of impacts are	the detailed design phase based on applicable City of Toronto by-laws and TRCA regulation. ▪ Submit a planting plan that includes species, quantity, caliper and location of each species. Only large, long lived shade tree species shall be selected and will be considered for planting. Ornamentals, evergreens and columnar varieties are not permitted. Due to proximity to the road, species selection shall incorporate drought and salt tolerant species. Each tree to be planted between 8 to 10 m apart in order to provide the minimum 30 cubic meters of soil volume required for each tree. Softscape areas are required to be a minimum of 1.8 m wide. If minimum soil volume cannot be achieved, soil cells shall be provided at the sole cost of the developer (if applicable). ▪ Any relocation/ construction of utilities shall not preclude tree planting. It is Urban Forestry's expectation that street trees shall be provided and every effort shall be made to do so.	▪ Tree permit application to be advanced during the detailed design. ▪ For a RNFP permit application, the following are required for review: ELC map with total area of impacts indicated, grading plan, Erosion & Sediment Control Plan, an Invasive Species Management Plan (for Common Reed & Dog Strangling Vine), a planting list (with 100% native species, TRCA seed mix to be used, trees and shrubs selection with quantities, caliper, location, etc.) ▪ In order to comply with municipal bylaws, Urban Forestry needs a list of private property owners whose trees will be impacted by upcoming construction works. The list should include details of each tree, as well as the name, address, and email address (if possible) of the property

Disciplines	Mitigation Measures	Commitments to Future Works / Next Steps	Permits & Approvals
	required to be delineated and noted on site plans to confirm the required compensation.	▪ Landscape plans shall indicate the soil volume for each tree. Dimensions, including depth, shall be provided to confirm soil volume. Property boundaries to indicate private and right of way shall also be included. ▪ Explore tree planting opportunities within Collingwood Park and greenlands during detailed design for tree replacement. ▪ New soil shall be required for the restoration of impacted areas that have been found to be contaminated. Soil requirements shall meet the Construction Specifications for Growing Medium TS 5.10 in boulevards and City of Toronto's Vineland report for soil specifications in naturalized areas. ▪ Any private trees that are not bylaw protected (less than 30cm dbh) shall require the homeowner to be notified of the proposed impacts. This notification is the responsibility of the Contractor. ▪ Snow fencing can only be used within the Right Of Way to ensure that visibility is maintained. If not in	owner(s). This information is necessary for the notification process. ▪ When planting plans are being considered/created, please contact rnfp@toronto.ca for current guidelines on restoration planting. RNFP will offer specific recommendations (or requirements where applicable under MC 658) for planting composition, density, implementation, establishment measures, follow-up management, monitoring, etc. ▪ For a RNFP permit application, the following are required for review: ELC map with total area of impacts indicated, grading plan, Erosion & Sediment Control Plan, an Invasive Species Management Plan (for Common Reed & Dog Strangling Vine), a planting list (with 100% native species, TRCA seed mix to

Disciplines	Mitigation Measures	Commitments to Future Works / Next Steps	Permits & Approvals
		▪ the ROW, then solid fencing shall be required. Parkland and City trees shall require solid fencing unless located in the ROW. Please add language to clarify. ▪ Involve City of Toronto's Urban Forestry – Natural Resource Management unit in the creation of an invasive species management plan noted per section 5.2.1 of the Natural Environment Existing Conditions and Impact Assessment Report. Please contact rnfp@toronto.ca for current contact information for this unit.	▪ be used, trees and shrubs selection with quantities, caliper, location, etc.).
Soil and Groundwater Contamination (Table 8-1F)	▪ Based on the soil chemical results, shallow fill material within the vicinity of BH8 and BH6 is considered impacted exceeding the Table 3 SCS. It is recommended that additional sampling during the detailed design process be carried out to delineate the extent of impacted fill material to be considered for management and disposal of excess impacted soil in the vicinity of BH8 and BH6. ▪ It is recommended that during detailed design, a strategy for excess soil management pursuant to O. Reg. 406/19 should be developed and implemented. This strategy should include a comprehensive in-situ excess sampling program in coordination with the geotechnical program to fully characterize soil quality and identify off-site management options including a tracking and record keeping system. This	A tracking and record keeping system will be required. Soil sample frequency requirements are also mandated as part of the Regulation and are based on the volume of excess soil. New excess soil standards have also been developed.	▪ Groundwater generated during construction may be managed through the municipal storm or sanitary system, pending results of groundwater analysis as compared to the City of Toronto Storm and Sanitary and Combined Sewer Use By-law criteria, and application to the City of Toronto for a discharge permit or agreement.

Disciplines	Mitigation Measures	Commitments to Future Works / Next Steps	Permits & Approvals
	strategy would form part of the construction tender for implementation by the Contractor under the supervision of a Qualified Person. ▪ It is anticipated that the project will generate a significant quantity of excess soil which will need to be appropriately characterized and managed both on-site and off-site.		▪ An excess soil regulation is currently being implemented by Ontario (Excess and On-Site Soil Management Regulation – Ontario Regulation 406/19). The regulation came into effect in January 2021 with the planning requirements being implemented in January 2023. Planning requirements would include an assessment of past uses, excess soil characterization report, and a destination assessment report, and specify defined sampling frequencies and protocols. These is generally required for sites that generate greater than 2,000 m^3 of soil or sites that have PCAs associated with them.

Disciplines	Mitigation Measures	Commitments to Future Works / Next Steps	Permits & Approvals
Archaeological Assessment (Table 8-1G)	The Stage 1 Archeological Assessment Study recommends that a Stage 2 Archaeological Assessment (and further Stage 3 Archaeological Assessment and/or Stage 4 Mitigation, if recommended in the Stage 2 Archaeological Assessment) will be completed as early as possible, prior to the completion of Detailed Design and well in advance of any ground disturbing activities.	There are a number of areas that exhibit archaeological potential and will require Stage 2 archaeological assessment through test pit survey as per Standard 2.1.2 of the Standards and Guidelines for Consultant Archaeologists if impacted by the recommended plan. These areas include: the residential backyards west of Kennedy Road between Pently Crescent and the CP Railway; the area east of Kennedy Road between the Chrysler dealership and the CP Railway; the area southwest of Kennedy Road and Village Green Square; a section northwest of Kennedy Road and the Highway 401 Westbound off-ramp; the manicured lawn in front of the Village Green Square business complex; Collingwood Park excluding the area around West Highland Creek; the front and backyards of the Collingwood Street and Gordon Avenue residential properties; and the northwest corner of Reidmount Avenue and Dowry Street.	The assessments will be conducted in accordance with the Ministry of Citizenship and Multiculturalism's 2011 Standards and Guidelines for Consultant Archaeologists and the City of Toronto's Terms of Reference for Archaeological Assessments
Cultural Heritage and Culture Heritage (Table 8-1H)	▪ Storage and construction staging areas should be appropriately located and/or planned to avoid impacts to any of the identified BHRs and CHLs.	N/A	N/A

Disciplines	Mitigation Measures	Commitments to Future Works / Next Steps	Permits & Approvals
Landscape Screening Assessment (Table 8-1I)	▪ Construction activities should seek to avoid direct impacts to West Highland Creek (CHL-4). If necessary, construction fencing should be erected along the banks of the creek to ensure trees and vegetation are not damaged by any construction machinery or vehicles. ▪ Vibration studies may be required for cultural heritage resources/landscapes that are located close to the limits of the construction for the complete street. These studies should be prepared by a qualified engineer to determine the maximum acceptable vibration levels and the zone of influence of the construction area in order to mitigate any negative impacts to the heritage attributes of these resources. ▪ Should future work require expansion of the Southwest Agincourt Transportation Connections Study area, a qualified heritage consultant should be contacted to confirm the impacts of the proposed work on known or potential BHRs and CHLs.		
Air Quality (Table 8-1J)	▪ Implementation of Construction Code of Practice, operating procedures such as application of dust suppressants, efficient staging of construction activities and minimization of haul distances, covering up stockpiles, etc. ▪ The construction tendering should include requirements for implementation of an emissions management plan within the Environmental Management Plan umbrella. ▪ Standard construction practices for the control of dust will be implemented during construction to minimize the generation and spread of dust.	Dust emissions would typically be managed through best management practices and routine maintenance of the roadway.	N/A

Disciplines	Mitigation Measures	Commitments to Future Works / Next Steps	Permits & Approvals
	▪ The use of dust suppressants to ensure dust is effectively managed and kept to a minimum. ▪ The use of reformulated fuels, emulsified fuels, exhaust catalyst and filtration technologies, cleaner engine repowers, and new alternative-fueled trucks to reduce emissions from construction equipment. ▪ Regular cleaning of construction sites and access roads to remove construction caused debris and dust. ▪ Ensure loads hauling fine-grained materials are covered. ▪ Compliance with posted speed limits and, as appropriate, further reductions in speeds when travelling sites on unpaved surfaces. ▪ Restrictions on the idling of construction equipment unnecessarily so that idling is kept to a minimum. ▪ Re-stabilize and revegetate exposed soil surfaces as soon as possible using native seed mixes appropriate to the study area. ▪ Wash vehicles and equipment prior to leaving the construction site to minimize the potential release of dust off-site.		

Disciplines	Mitigation Measures	Commitments to Future Works / Next Steps	Permits & Approvals
Noise (Table 8-1K)	No mitigation measures are required as the unmitigated sound levels siding onto the new proposed road is predicted to be up to 59 dBA (less than the max allowable sound level by the City). Though not required, to achieve the design objective of 55 dBA at the affected OLAs, acoustic fences 1.8 m in height may be considered in the detailed design stage.	N/A	N/A
Multi-Modal Transportation (Table 8-1L)	From a multi-modal transportation perspective, the following mitigation measures are recommended to support the implementation of the transportation improvements: ▪ Consider implementing all-way stop compliance monitoring at two intersections recommended as all-way stop control along the complete street: Gordon Avenue at Collingwood Street, and Village Green Square internal 'T' intersection just south of the complete street underpass.		N/A
Hydraulic and Geomorphology (Table 8-1M)	No mitigation measure is required for the West Highland Creek as part of the EA.	N/A	N/A
External Agencies, Factors and Sources			
TRCA (Table 8-1N)	Efforts should be made to coordinate with affected utilities (including Toronto Hydro, Toronto Water and other utility companies) where the relocation of utilities is required to facilitate the construction of key project components. Early coordination will help minimize the overall impacts of the project on the existing natural heritage system. Please note that these works may require separate permits from TRCA.	▪ For detailed design, a stormwater management report and plan will be submitted since there is an increase of impervious surface proposed. For Highland Creek, TRCA's stormwater management criteria is as follows: ○ Erosion Control: Retention of the 5 mm storm onsite with the use	▪ Permits under O. Reg. 166/06 will be required for works in TRCA's Regulated Area. ▪ For future TRCA permit applications, please ensure that plans /drawings show the following:

Disciplines	Mitigation Measures	Commitments to Future Works / Next Steps	Permits & Approvals
		of LIDs (Green roofs, permeable pavers, bioswales, etc.). If discharging to a City sewer, then TRCA defers review to the City of Toronto. ○ Quantity Control: Post development runoff peak flow must equal pre-development peak flow runoff. If discharging to a City sewer, then TRCA defers review to the City of Toronto. ○ Quality Control Recommendation: For runoff directly entering a City storm sewer, TRCA defers quality control review to the City of Toronto. For runoff that directly enters the watercourse, TRCA recommends that 80% TSS removal be provided utilizing LIDs or a treatment train approach with an OGS. If there are space constraints TRCA accepts a filtration system (e.g., Jellyfish) when sized correctly to provide 80% TSS removal. ○ A 1D floodplain update may be required due to minor grading changes within the TRCA	○ Regulation limits ○ Regional Storm Flood Plain lines ○ Physical extent of existing natural features (vegetation, wetlands, surface water features, contour lines, Lake Ontario, etc.) ○ Construction limits (east, west, north, south) ○ Proponent's property boundaries (if not a municipal project) ○ TRCA property limits ○ Municipal Roads, trails, bridges, staircases and tunnels. ▪ For works that require a TRCA permit, in general the following details are required on design drawings: ○ Existing conditions details (as is condition) including profiles and cross sections. ○ Details regarding removals and decommissioning of

Disciplines	Mitigation Measures	Commitments to Future Works / Next Steps	Permits & Approvals
		Regulatory floodplain, as such, please ensure that a floodplain mapping update for the 1D HEC-RAS model is included in the scope of the detailed design. In addition, note the comments on Technical Memo 1 dated Sept 2022.	existing infrastructure as required. ○ Design detail for new sections/local improvements (cross-and longitudinal sections). ○ Method(s) for managing creek flows during construction ○ Watercourse protection ○ Stockpile and construction staging areas, access routes. ○ Erosion controls during and post construction (following the Erosion and Sediment Control Guideline for Urban Construction, December 2019). ○ Site restoration and enhancement opportunities. ▪ In addition to detailed design drawings, all supporting documentation (hydraulic modeling, environmental assessment/studies, etc.) used to determine outfall

Disciplines	Mitigation Measures	Commitments to Future Works / Next Steps	Permits & Approvals
			channel design details, if applicable, should be submitted to TRCA for review. ▪ In general, please ensure that the works within TRCA regulated areas are designed in line with these TRCA guidelines that can be downloaded from the TRCA website: ○ TRCA Erosion and Sediment Control Guidelines for Urban Construction (2019). ○ TRCA Geotechnical Engineering Design and Submission Requirements (2007). ○ TRCA Crossings Guideline for Valley and Stream Corridors (2015). ○ TRCA Post Construction Restoration Guidelines (2004). ○ TRCA Guideline for Determining Ecosystem Compensation (2018).

Disciplines	Mitigation Measures	Commitments to Future Works / Next Steps	Permits & Approvals
			○ TRCA Seed Mix Guidelines (2022). ○ TRCA Environmental Impacts Statement Guidelines (2014).
TTC (Table 8-1O)	N/A	During the detailed design stage, the final design will ensure the necessary bus stops are included and that the critical bus turns at the intersection of the new complete street at Cowdray Court are adequately accommodated.	N/A

Disciplines	Mitigation Measures	Commitments to Future Works / Next Steps	Permits & Approvals
Servicing and Utility (Table 8-1P)	N/A	▪ Some minor regrading of the driveways up to the property line that will be done during detailed design. The proposed design does not involve substantial regrading along existing streets (Village Green Square, Gordon Avenue and Collingwood Street. ▪ During detailed design stage, the following need to be evaluated: ○ Seasonally high ground water level. ○ ECS does not accept green infrastructure quality control. ○ ECS does not accept green infrastructure for water balance and quality control subject to having pre-treatment system in place. ○ Pavement design must be in accordance with the most conservative criteria based on the City's design. ○ Further coordination with adjacent developments is recommended from a servicing perspective.	N/A

Disciplines	Mitigation Measures	Commitments to Future Works / Next Steps	Permits & Approvals
Signal Coordination (Table 8-1Q)	N/A	▪ Based on discussions with MTO staff, the City needs to consider pre-existing traffic congestions along Kennedy Road near the Highway 401 off-ramps and determine the necessary signal timing coordination along the Kennedy Road. This is particularly important as developments are approved and built within the study area. ▪ With the addition of a new traffic signal at Gordon Avenue and Sheppard Avenue East, signal coordination for the closely spaced signals along Sheppard Avenue at Kennedy Road, Gordon Avenue and the Agincourt GO Station/4091-4101 Sheppard Avenue East driveways need to be studied closely to ensure traffic flow along Sheppard Avenue is balanced with the side street traffic demand.	N/A

Disciplines	Mitigation Measures	Commitments to Future Works / Next Steps	Permits & Approvals
Interim Cycle Tracks along Sheppard Avenue (Table 8-1R)	N/A	Further assessment of the design of the interim cycle tracks will need to be conducted during detailed design. This assessment should consider other planned cycling facilities along Sheppard Avenue East in the broader study area and impacts to private access along Sheppard Avenue.	N/A
Structural Design (Table 8-1S)	N/A	N/A	During the detailed design, CP Rail need to be engaged for required permit and approvals related to the road underpass through the CP Rail corridor.
On-Street Parking (Table 8-1T)	N/A	Further opportunities for on-street parking should be explored during the detailed design stage.	N/A

Disciplines	Mitigation Measures	Commitments to Future Works / Next Steps	Permits & Approvals
Geotechnical Investigation (Table 8-1U)	▪ A geotechnical and pavement design evaluation has been completed based on the preferred complete street alignment and with consideration of the projected traffic volumes and existing pavement conditions. The recommendation is for Gordon Avenue to be reconstructed in terms of its pavement structure to better serve the projected traffic demand and with consideration of its current poor conditions. New pavement structure has been recommended for the new segment of the street based on available geotechnical information. ▪ The costs associated with the mitigation measures identified in the Geotechnical report as it relates to pavement structure are accounted for in the cost estimate of the new complete street.	N/A	N/A
Watermain, Sanitary, and Storm Servicing (Table 8-1V)	N/A	▪ During detailed design, the servicing consultant for development(s) in the vicinity of the new complete street should explore the possibility of incorporating the complete street drainage design into their respective servicing designs to avoid having multiple systems draining to West Highland Creek. ▪ The storm sewer network and tank will be designed further during detailed design stage of the underpass to ensure the post-development discharge meets the City of Toronto and TRCA criteria.	N/A

Disciplines	Mitigation Measures	Commitments to Future Works / Next Steps	Permits & Approvals
		▪ Coordination with developments along the vicinity of the new complete street (i.e., Cowdray Court development) will be required at detailed design stage to ensure the overland flow routes are provided so that runoff from the preferred complete street will have a safe overland flow route to West Highland Creek and ponding depths do not exceed 0.30 m. ▪ Details of the watermain within the preferred complete street such as plan, profile and sizing design are to be determined at the detailed design stage.	

8.2 Future Work for Multi-use Trail

Notwithstanding the preferred multi-use trail alignment is Schedule A+ (EA exempt), next steps and future detailed design considerations have been documented in this section.

- Although there will be no direct impacts to the creek resulting from the multi-use trail, indirect construction-related impacts could occur typical of any construction project near water. Potential indirect impacts can be managed effectively with proper management of construction activities and associated implementation of mitigation measures. The temporary construction-related impacts on fish and fish habitat associated with the works generally consist of the following:
  - Addition of deleterious substances to the watercourses such as sediment, fuel, oil, and lubricants associated with the use of heavy machinery;
  - Potential removal of riparian vegetation (for multi-use trail works) if vegetation clearing / damage occurs beyond the working limits; and
  - Temporary disturbance of creek banks associated with the use of machinery (for multi-use trail works).
- These potential indirect impacts can be avoided or minimized by the implementation of DFO's measures to protect fish. Therefore, the potential impacts are anticipated to be limited to temporary disturbances, with no permanent impacts.
- During the detailed design, CP Rail and Metrolinx need to be engaged for required permit and approvals related to the multi-use trail crossing through the CP Rail corridor and in proximity of the Metrolinx GO rail corridor.
- A geotechnical engineer will need to review the excavation configuration presented in the proposed design of the armour stone installation where the multi-use trail crosses the CP Rail corridor. The design shows a 1.2 m vertical and 1:1 slope open cut. The detailed design includes details regarding retaining wall type and footing for the structures.
- TRCA through its review of the preferred multi-use trail alignment has also provided the following commentary for detailed design considerations:
  - Provide preliminary grading plans of the multi-use trail in future submissions.
  - Have relevant floodplain elevations labelled on multi-use trail cross sections that are impacted.
  - The preferred multi-use trail alignment features a portion of the trail (north of the creek and south of the underpass) that is located very close to the top of bank. To ensure the trail is not negatively impacted by slope erosion, it should be located at least 6 m from the top of bank. The top of bank south of the underpass is 168.5 m and north of the creek it's 165.5 m. If the distance is less than 6 m then the trail should be shifted west and the drawings should be revised. This will need to be explored further in detailed design.

9 CONSULTATION

Consultation and engagement was an integral component of this EA to provide opportunities for two-way communication with the public, interested and relevant stakeholders, property owners, agencies, and Indigenous communities. Consultation activities provide a forum to identify potentially significant questions and concerns early in the decision-making process and ensure that they are given appropriate consideration.

The consultation activities were carried out to satisfy the statutory requirements of the Municipal Class Environmental Assessment (MCEA) process for Schedule 'C' projects, build awareness and provide clear, concise information about the project, facilitate on-going discussion, and engage with community interest groups to obtain local knowledge of the study area. The following activities were carried out to achieve the consultation goals and objectives:

- Establishment and maintenance of a study mailing list, including agencies, stakeholders and members of the public who had expressed an interest in the study;
- Email updates to those on the study contact list;
- Posting project milestones, updates and consultation materials and reports on the City of Toronto's project website (www.toronto.ca/ConnectingSWAgincourt);
- Publication of study commencement and public consultation notices within the Scarborough North Mirror, Sin Tao and Ming Pao newspapers in English, Simplified Chinese and Traditional Chinese;
- Meetings with stakeholder groups;
- Registered mail and hand delivered letters and emails to potentially impacted property owners. Translated versions of notices were also provided in simplified mandarin;
- Two virtual public meetings to engage and obtain input from the public, and stakeholders;
- Emails to provincial and municipal agencies and utilities; and
- Notification and engagement with Indigenous First Nations.

The consultation for this EA took place in two phases:

- Phase 1: consultation on the problem and opportunity statement, existing conditions, potential options for transportation improvements in the study area, including alternative alignments for a new complete street, and evaluation criteria.

  The consultation report for Phase 1 is dated December 2020 and the presentation material, feedback received and other consultation components are documented in **Appendix X** of this ESR.

- Phase 2: consultation on the preferred street and multi-use trail alignments, the selection of the preferred design alternative concepts for the preferred alignments, and mitigating measures required.

The consultation report for Phase 2 is dated August 2022 and the presentation material, feedback received, and other consultation components are documented in **Appendix X** of this ESR.

9.1 Notification

At the onset of the study, a contact list was developed, which included provincial and federal government agencies, municipal staff, the local Councillor, local interest groups, Business Improvement Areas, local residents and ratepayers associations, and other interested stakeholders and relevant bodies that may hold interest in the study. As the study progressed, the contact list was updated to ensure that all identified interested parties and individuals received study notifications.

A Notice of Study Commencement was issued on June 29, 2020, with distribution through Canada Post to the study area bounded by Birchmount Road, Midland Avenue, Highway 401 and Huntingwood Drive. The distribution details of the Notice of Study Commencement is detailed in the public consultation report for Phase 1.

Notices of Public Consultation were issued prior to each round of consultation, in August 2020 and in July 2022.

The project website (www.toronto.ca/ConnectingSWAgincourt) was launched at the study commencement and remained active with regular updates occurring throughout the course of the study. The website provided an opportunity for the public and stakeholders to review up-to-date study information and content, background information, download study materials, including information presented at the public events and reports, and contact the Project Team directly.

Throughout the study, notification about consultation events and opportunities to provide feedback were issued through multiple channels including Canada Post unaddressed ad mail, email to individuals on the project contact list, and print ads in local and ethnic newspapers. Flyers and print ads were issued in English as well as Traditional Chinese and Simplified Chinese. **Appendix X** includes copies of all notification materials.

9.2 Consultation Activities

9.2.1 Indigenous Community Consultation

The Notices of Commencement and Notices of Public Consultation were sent by email to the following Indigenous communities, identified by the Ontario Ministry of the Environment, Conservation and Parks (MOECP) as potentially affected by the transportation improvements being considered through the study:

- Alderville First Nation
- Beausoleil First Nation
- Chippewas of Georgina Island First Nation
- Chippewas of Rama First Nation

- Curve Lake First Nation
- Hiawatha First Nation
- Mississaugas of Scugog Island First Nation
- Mississaugas of the Credit First Nation

Each community was invited to contact the City of Toronto's Public Consultation Coordinator to indicate that they have an interest the study or would like to provide input. The Stage 1 Archeology Report was provided via email to each First Nation for review in January 2021.

9.2.2 Agency and Utility Consultation

The Notice of Commencement and two Notices of Public consultation were sent by email to all relevant public agencies and utilities to inform them of the study and the potential transportation improvements. At each stage of the study, they were invited to provide input or indicate whether they have an interest in the study. In addition, the progress designs including the recommended plans were circulated to various utility companies for feedback as documented in the Future Servicing Report in **Appendix V**. Over the course of the EA, the project team met and corresponded with agencies including TTC, TRCA, CP Rail and Metrolinx to present findings, collect feedback and establish common understandings. The key outcomes of these discussions are documented in **Appendix X**.

9.2.3 Property Owner Consultation

The transportation improvements that are being recommended through this EA impact private properties in the study area and involve changes to the City-owned right-of-way in front of private properties. Prior to the first and second phases of consultation, letters were sent by registered mail to all owners of potentially impacted properties. The letters encouraged property owners to contact the project team to discuss potential impacts to their property. Letters were mailed to the following addresses:

Street	Property Number
Sheppard Avenue East	4023, 4045-4053, 4054, 4061, 4066, 4068, 4091, 4101
Gordon Avenue	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 16, 17, 18
Collingwood Street	3, 5, 9, 11,15, 17, 19, 21, 22, 23, 24, 25, 26, 27, 28
Cowdray Court	20, 40, 50, 70, 80, 100
Kennedy Road	2223, 2229
Village Green Square	290, 295

During the second phase of consultation, four individual property owner meetings were held in July 2022 to discuss potential private property impact and impact to parking and access. One additional group meeting was held on July 11, 2022 with property owners on Gordon Avenue and Collingwood Street to discuss right-of-way impact.

Copies of all notification to property owners and records of correspondence are included in **Appendix X**.

9.2.4 Consultation with the Agincourt Village Community Association and Metrogate Condominium TSCC 2175 Board of Directors.

The project team held a virtual meeting with the members of the Executive Committee of the Agincourt Village Community Association (AVCA) in July 2020 to introduce the study and to receive initial feedback on the potential transportation improvement options. The AVCA also provided additional feedback during the four-week public consultation period.

During the second phase of consultation, two virtual meetings were held: one with the members of the Executive Committee of the AVCA and one with the directors of the Metrogate condominium board TSCC 2175 to provide an update on the study and to receive feedback on the preferred alternative solutions and design options. Copies from minutes of meetings with stakeholders are included in **Appendix X**.

9.2.5 Virtual Public Consultation Meetings

Virtual Public Meetings were held in each round of consultation: one on September 23, 2020 and one on July 13, 2022. Both were held in the evening through the City's Webex online meeting platform. The meetings were held virtually, based on the advice of the City's Chief Medical Officer of Health to avoid the spread of COVID-19.

Both meetings included a verbal presentation with visual presentation slides delivered by City of Toronto staff and project consultants, and followed by Question & Answer periods facilitated by PCU. Participants were able to join online or by phone. A copy of the materials presented at the two public meetings and feedback received are included in **Appendix X**. The presentation material for both public meetings were posted in advance of the actual meeting dates on the project web page. Hard copies of materials were made available upon request. 69 people attended the first public meeting and 58 people attended the second public meeting.

9.3 Summary of Consultation Feedback – Phase 1

The key feedback received during Phase 1 of consultation are presented herein. Further details of the consultation feedback received are provided in the Consultation Summary Reports included in **Appendix X**.

9.3.1 Feedback from Indigenous Communities

Chippewas of Rama indicated that they had no comments but requested that they be kept informed about study progress and notified about future Stage 2 archaeology assessment. Mississaugas of the Credit First Nation indicated that they reviewed the Stage 1 archeology report and had no concerns.

Correspondence was received from Curve Lake First Nation indicating their interest in the study and requesting information about how the study will assess potential impacts on drinking water, fish, wild game, endangered species, and Aboriginal heritage and cultural values. A response was provided via email on November 24, 2020.Curve Lake also provided comments on the Stage 1 Archeology Assessment report and these comments were addressed.

The Indigenous communities that were notified did not provide any feedback on the transportation improvement options that were being considered.

9.3.2 Feedback from Agencies and Utilities

Responses were received from Aptum Technologies, Telus, Sun Canadian, Enbridge, Rogers, Zayo, the Ontario Ministry of Natural Resources and Forestry, and the Ontario Ministry of Heritage, Sport, Tourism and Culture Industries. Copies of correspondence are included in **Appendix X**.

There were no specific concerns raised with the potential transportation improvements. Some utility providers with infrastructure in the area requested updates during future detailed design work.

9.3.3 Feedback from Property Owners

The project team met with nine potentially impacted property owners during the first round of consultation, including the owner of 9 Collingwood Street. Property owners asked questions about the study process and timeline, and the property acquisition process. Property owners raised a number of concerns about:

- Impacts to property value as a result of the new complete street;
- Impacts on the use of, and access to, private property;
- Safety concerns as a result of increased traffic; and
- Potential changes to quality of life as a result of property impacts and the proximity of the new complete street.

In addition, the property owner of 20, 30, 50, 70, 80 and 100 Cowdray Court submitted written feedback on June 5, 2020 regarding the EA Alternatives Evaluation Criteria Memo dated May 22, 2020 that the Project Team had prepared. The comments mainly discussed how the various alternative alignments would impact the development proposal application at 20, 30, 50, 70, 80 and 100 Cowdray Court, and further considerations for next steps in the EA.

Copies of all correspondence with property owners, including meeting minutes, are included in **Appendix X**.

9.3.4 Feedback from the Agincourt Village Community Association

Members of the Agincourt Village Community Association (AVCA) Executive Committee are supportive of a new complete street and a new multi-use trail. They emphasized the importance of increasing active transportation options in the area and improving safety for

people walking and cycling. Committee members raised concerns about the disruptive impact that a new complete street could have on residential streets.

The members asked that a pedestrian bridge over Sheppard Avenue East be considered at the Agincourt GO Station driveway, to allow for safer crossing. The project team confirmed with Metrolinx that this initiative is not part of its station improvement and communicated to AVCA the City's preference for pedestrian crossings to be at-grade for accessibility reasons. Moreover, the capital cost and property impacts of a pedestrian bridge over Sheppard Avenue would be very significant, and thus not be considered as part of the EA.

Key points of feedback included:

- Complete street alignment options that do not increase vehicle traffic through residential areas north and south of Sheppard Avenue are preferred; maintaining the character of local neighbourhoods should be a priority;
- A new street connection with traffic signals at Gordon Avenue is problematic because of the proximity to Kennedy Road;
- Increasing the street frontage of, and connections to, Collingwood Park would be an improvement for the area;
- The multi-use trail alignment should ensure that there is a safe pedestrian and cycling connection at/across Sheppard Avenue East;
- A pedestrian bridge over Sheppard Avenue East should be considered. This would address concerns about pedestrian safety at the intersection with the Agincourt GO Station driveway and improve the accessibility of the station; and
- The active transportation connection north of Sheppard should be extended to Bonis Avenue to connect with future Agincourt Mall development.

9.3.5 Feedback from the Public

Feedback was received from the public through a variety of channels. All respondents were self- selecting and not a representative sample of the project area. Feedback included:

- 141 responses to the feedback survey;
- 9 phone calls with individuals who provided comments;
- 22 e-mails received with comments; and
- 67 residents of the Chelmsford Spa condominium at 4091 and 4101 Sheppard Avenue East provided feedback through a survey developed by the condominium's property management.

Responses from the public expressed varying levels of support for the alternatives:

- Residents who disagree or expressed concerns with a new complete street and multi-use trail mentioned impacts to Collingwood Park, changes to the character of the area, and impacts to private property.
- Residents of the Chelmsford Spa condominium at 4091 and 4101 Sheppard Ave East who submitted feedback through a survey developed by the condo property management all indicated that they are opposed to a new complete street. The condominium's driveway and parking area would potentially be impacted by complete street alignments C-3 and C-4. Similar property conflict concerns were heard regarding the multi-use trail options.
- Residents who support the need for a new complete street are particularly those along Village Green Square and identified the need to improve connections to Sheppard Avenue for all road users.
- Residents who support the need for a multi-use trail cited the desire for safer, more convenient access to the Agincourt GO Station, better network resiliency, access to Collingwood Park and encourage non-auto mode of transportation.
- Feedback were also received from the public regarding various pedestrian and cycling improvements to existing streets.

9.4 Summary of Consultation Feedback – Phase 2

The second round of consultation was focused on the evaluation of alternatives and the preferred alignments for the new complete street and new multi-use trail, as well as the design concepts for the preferred alternatives. The key feedback received during Phase 2 of consultation are presented herein. Further details of the consultation feedback received are provided in the Consultation Summary Report in **Appendix X**.

9.4.1 Feedback from Agencies and Utilities

The provincial Ministry of Citizenship and Multiculturalism (MCM) submitted comments on the Cultural Heritage Report prepared as part of the study and requested a copy of the Stage 1 Archeology Assessment report.

The feedback received from other agencies and utilities are dealt with directly in the various design elements as discussed in Section 7 of this ESR.

9.4.2 Feedback from Interest Groups

The project team met virtually with representatives of the Metrogate (Village Green Square) condominium boards and property management. Participants raised questions about potential impacts to the townhouses at 290 and 295 Village Green Square, the traffic operations of Village Green Square after the new complete street connection is completed and lighting for the new multi-use trail.

The project team also met with the executive committee of the Agincourt Village Community Association (AVCA) who provided the following points of feedback:

- Concern that adding additional traffic signals will increase congestion on Sheppard Avenue;

- Appreciate safety improvements as part of the proposed design for Sheppard Avenue East at the GO Station driveway; the project team should consider that many students cross Sheppard Avenue to travel to and from school;
- Consider extending the advisory bike lane on Reidmount Avenue up to Marilyn Avenue to connect to future tunnel at the GO station; and
- Consider a bus layby at the Sheppard Avenue/Kennedy Road intersection to help with congestion.

As the study progressed, the AVCA increasingly emphasized the importance of new transportation connections to provide an additional access point to the residents of condominiums at Village Green Square, who currently have a single point of access to and from Kennedy Road.

9.4.3 Feedback from Property Owners

The Project Team met with three property owners with potential private property impacts during the second round of consultation. During these meetings, the Project Team presented how the recommended improvements may impact the respective properties and answered questions related to the design, and EA process.

- 4045-4053 Sheppard Avenue East (July 21, 2022, expressed concerns)
- 4061 Sheppard Avenue East (June 30, 2022, expressed concerns)
- 290 & 295 Village Green Square (July 7, 2022)

No response was received from the owner of 11 Collingwood Street. The owner of 9 Collingwood Street confirmed receipt of the notification via email.

The Project Team also met with the property owner of 15 & 17 Gordon Avenue (Toronto Swatow Baptist Church) regarding the impact to on-street parking along Gordon Avenue as a result of the recommended improvements.

One additional group meeting was held on July 11, 2022 with property owners on Gordon Avenue and Collingwood Street to discuss right-of-way impacts including the shortening of driveway length where the driveway currently extends through the public right-of-way.

In addition, the property owner of 20, 30, 50, 70, 80 and 100 Cowdray Court submitted written feedback through a letter dated March 20, 2023 addressed to members of the Infrastructure and Environment Committee at the City of Toronto. The letter expressed general support for the Preferred Design alternative recommended to the committee and also identified design concerns related to grading and servicing of the new complete street relative to the development application at 20, 30, 50, 70, 80 and 100 Cowdray Court.

Records of all correspondence with property owners are included in **Appendix X**.

9.4.4 Feedback from the Public

During Phase 2 consultation, members of the public and stakeholders were provided with opportunities to offer feedback on the preferred alternative solutions and design options.

- Public consultation activities engaged over 13,000 households through a public notice, and more than 160 individuals through a virtual public meeting and online survey.
- A total of 29 comment submissions (received via phone or email) were recorded and reviewed for consideration and response by the Project Team.
- 2 virtual meetings were held with community interest groups, one with the members of the Executive Committee of the Agincourt Village Community Association (AVCA) and one of the directors of the Metrogate condominium boards (to provide an update and receive feedback on the preferred alternative solutions and design options.
- 58 people attended the virtual public event on July 13, 2022.
- 100 responses were received via the online survey.

9.4.4.1 Feedback on New Complete Street

The feedback received generally supported the recommended alignment and design options for the new complete street. Since there is currently only one access point to Village Green Square at Kennedy Road to Village Green Square, many residents of the area emphasized the pressing need to expedite the construction of a new road connection as the neighbourhood continues to grow through new residential development. They noted that this is especially evident whenever there was a traffic collision or an emergency in the neighbourhood.

Many participants appreciated the inclusion of cycling facilities and green infrastructure south of Collingwood Street. Some would like to see further protection of the cycling facilities north of Collingwood Street, as well as TTC bus service along this corridor between Agincourt GO and Village Green Square.

Since the recommended alignment would include the existing roadway of Gordon Avenue, many residents in the neighbourhood were concerned about the increased traffic congestion and the associated effects of pedestrian safety, noise, litter and air pollution. Others were concerned about the loss of street parking on Gordon Avenue and the impact to the Toronto Swatow Baptist Church and the commercial properties.

After the second round of public consultations, the project team conducted further investigations to identify opportunities for adding on-street parking in the study area. As a result, the design was updated to allow for additional on-street parking along Collingwood Street, in addition to the proposed new street parking on Reidmount Avenue. Furthermore, Section 7.9 of this study identifies the need through detailed design to explore the feasibility of adding more on-street parking along the segment of the new complete street south of Collingwood Street.

Residents living south of the CP Rail corridor expressed concerns about traffic speed and operations on Village Green Square. In response to this feedback, the design was revised to include tighter corner radius and curb extensions at the 'T' intersection where the New Complete Street meets Village Green Square. More information about this can be found in **Section 7.1**. The City will continue to explore traffic management opportunities to address the concerns about Village Green Square.

9.4.4.2 Feedback on Multi-use Trail

Feedback received generally supported the recommended alignment and design options for the new multi-use trail. Many saw the benefits of a car-free pathway that would directly connect Agincourt GO and Village Green Square and provide a safe space for families to walk, roll and bike. Others believed that the trail would connect nearby neighbourhoods to Collingwood Park and further enhance this space.

Some residents raised concerns about safety due to the trail's alignment away from the residential neighbourhood, citing an encampment near the CP Rail underpass. Others were concerned about the lack of winter maintenance, making the trail less usable year-round.

9.4.4.3 Feedback on Collingwood Street

Residents were mostly supportive of the addition of sidewalks and crosswalks on Collingwood Street. Most respondents believed that it would improve safety and accessibility. Some believed that a sidewalk would only be necessary on one side of the street rather than both sides due to the low volume of pedestrian traffic.

9.4.4.4 Feedback on Sheppard Avenue East

Nearly all feedback recognized the need to address the high levels of congestion on Sheppard Avenue East and Kennedy Road today. Many residents were concerned about the potential effects that the recommended changes would have on congestion, including the additional traffic signal at Gordon Avenue and the interim cycle tracks along Sheppard Avenue. Despite being informed about the synchronization of traffic signals, many still believed that the added number of signalled intersections along Sheppard Avenue East and the tight spacing between Kennedy Road and Gordon Avenue would be problematic. While some saw the safety benefits of the interim cycle tracks along Sheppard Avenue connecting Gordon Avenue, the multi-use trail and Agincourt GO, others remained skeptical of including cycling facilities on a short stretch of a busy arterial road.

9.4.4.5 Feedback on Reidmount Avenue and Dowry Street

The feedback received for Reidmount Avenue and Dowry Street were mixed. While some appreciated the prioritization of pedestrians and cyclists, many residents believed that the advisory bike lane design would be unfamiliar, confusing and unsafe to drivers and cyclists. Some did not agree with including cycling facilities at all. Others suggested further protection within the available space and the extension of bike lanes northward to Marilyn Avenue.

9.4.5 Notice of Completion

Following completion of the ESR, notification that the ESR was available for public review and comment was posted on the project web page and notification was emailed to all individuals and stakeholders on the project contact list. The Notice of Completion was also circulated to government agencies, utilities, TAC members, impacted property owners and Indigenous First Nations.

Following the ESR review period, input received will be considered and refinements to the ESR will be made where appropriate.

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