

Halton Region

Municipal Class Environmental Assessment Study

Regional Road 25 from Speers Road to Derry Road (Regional Road 7)

Environmental Study Report

September 2026

Prepared for Halton Region by CIMA Canada Inc. (CIMA+)

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Environmental Study Report

Regional Road 25
From Speers Road to Derry Road (Regional Road 7)
Municipal Class Environmental Assessment
Project No B1514 | File No PR-3379A & PR-3392A

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Appendix C: Natural Environment Report & Tree Inventory

Appendix D: Drainage and Stormwater Management Report

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Appendix F: Preliminary Structural Design Report

Appendix G: Consultation Record

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Appendix I: Geotechnical Investigation Report

Appendix J: Noise Assessment Report

Appendix K: Air Quality Assessment Report

Appendix L: Hydrogeology Report

1 Introduction and Study Process

1.1 Introduction

Halton Region has completed a Municipal Class Environmental Assessment (MCEA) study for Regional Road 25, from Speers Road to Derry Road, in the Towns of Oakville and Milton. The Regional Road 25 MCEA study was carried out in accordance with Schedule 'C' of the Municipal Class Environmental Assessment (October 2000, as amended 2007, 2011, 2015, 2023 and 2024).

Halton Region's Strategic Plan states that an efficient, safe, and sustainable multi-modal transportation network is key to supporting the movement of goods, services, and people, and to ensuring robust economic and vibrant community development. To accommodate future growth and improve network connectivity, a number of planning documents and studies have confirmed the need for improvements along Regional Road 25. These documents include the 2011 Transportation Master Plan, 2015 Active Transportation Master Plan, 2017 Mobility Management Strategy, 2019 Defining Major Transit Requirements in Halton Region, and the Integrated Master Plan. The Regional Road 25 MCEA was carried out to consider a range of corridor improvements to support future travel demand based on the planned land uses along the corridor.

1.2 Study Area

Located generally in the centre of Halton Region, Regional Road 25 is a north-south arterial road that extends throughout the Region and functions as a major transportation spine linking the communities of Oakville, Milton, and Halton Hills. Regional Road 25 also provides connection to provincial highways (Queen Elizabeth Way and Highway 407) and major transit hubs including the Bronte GO Station, Milton GO Station, as well as future transit facilities. The study area for the MCEA is Regional Road 25 between Speers Road in the Town of Oakville and Derry Road (Regional Road 7) in the Town of Milton. The study area is shown in **Figure 1-1**.

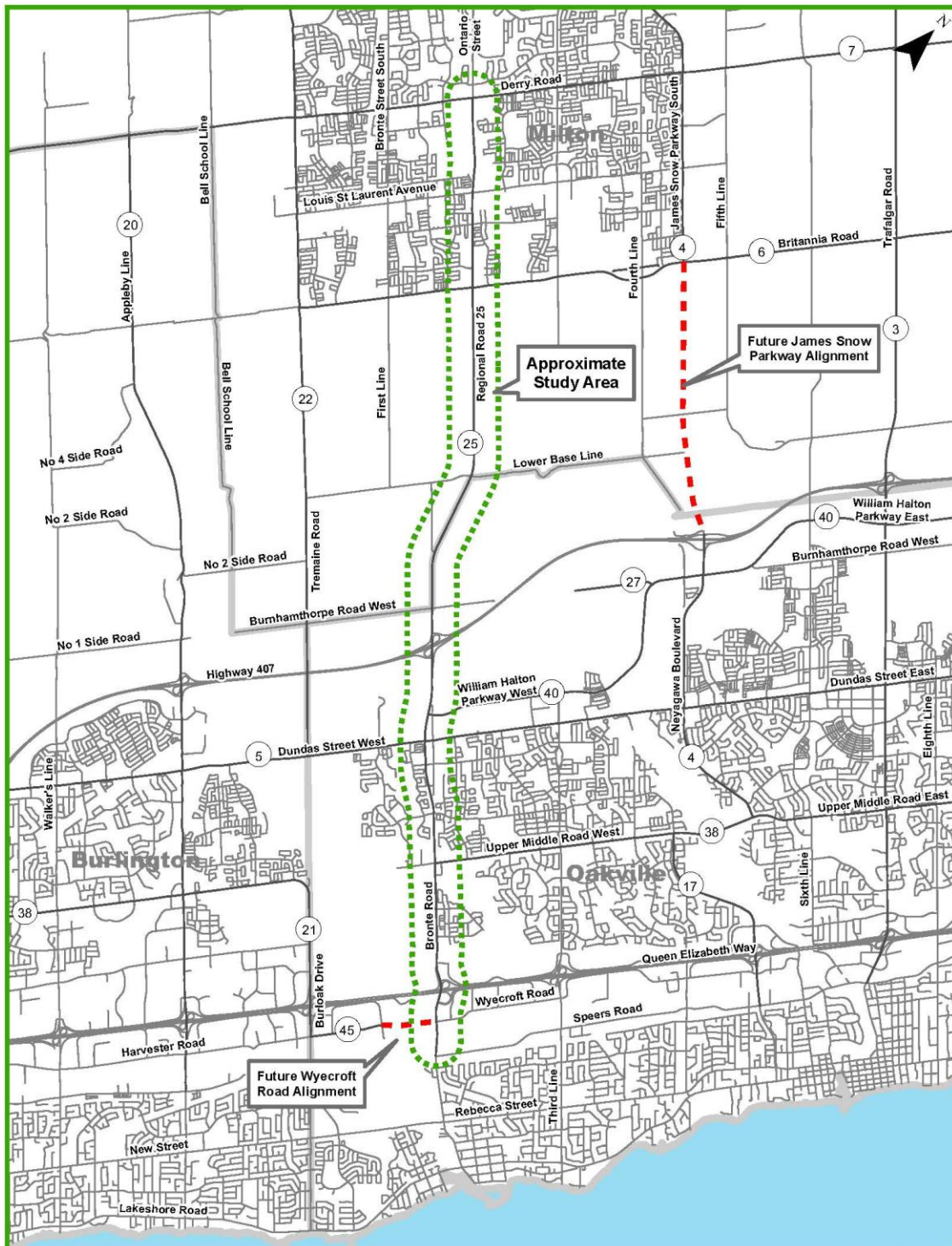


Figure 1-1: Study Area

1.3 Study Objectives

The primary objective of the Regional Road 25 MCEA study is to support future growth, multi-modal travel demand, and network connectivity. This study considered a range of multi-modal transportation improvements including a widening of the roadway, cross-sectional requirements, active transportation, intersection improvements, overall traffic operations, as well as the impact of such improvements on the social, cultural, and natural environments.

This project followed the Schedule 'C' process of the Municipal Class Environmental Assessment (MCEA), (October 2000, as amended in 2007, 2011, 2015, 2023 and 2024), which is an approved process under the *Ontario Environmental Assessment Act*. The framework outlines the process that complies with the requirements of the *Ontario Environmental Assessment Act* by providing a comprehensive, environmentally sound planning process with public participation, and to facilitate dialogue with parties representing diverse interests. This Environmental Study Report documents the planning and decision-making process carried out during the MCEA study.

The Regional Road 25 MCEA study is an integrative process, fundamentally based on the Region's strategic priorities, comprehensive Region-wide plans, and policies such as the Region's Official Plan, 2011 Transportation Master Plan, Integrated Master Plan, and other planning studies. This study builds on the Region's planning framework by providing more specific road right-of-way details that will guide future improvements.

Environmental Assessment Process

Municipal infrastructure projects are subject to the *Ontario Environmental Assessment Act* (EA Act). The Class Environmental Assessment (Class EA) is an approved self-assessment process under the *Ontario Environmental Assessment Act* for a specific group or "class" of projects. Projects are considered approved, subject to compliance with an approved Class EA process. The Municipal Class Environmental Assessment (October 2000, as amended 2007, 2011, 2015, 2023 and 2024) applies to municipal infrastructure projects including roads, transit, water, and wastewater.

1.3.1 Municipal Class Environmental Assessment

The MCEA outlines a comprehensive planning process and rational approach when considering the environmental and technical advantages and disadvantages of alternatives. It also identifies consultation requirements with agencies, directly affected stakeholders, First Nations and Indigenous Communities, and the general public

throughout the process. The key principles of successful environmental assessment planning include:

- Consultation
- Consideration of a reasonable range of alternatives
- Consideration of effects on natural, social, cultural, and economic environments and technical components
- Systematic evaluation
- Clear documentation
- Traceable decision making

Provided that the MCEA planning process is followed, a proponent does not have to apply for formal approval under the *EA Act*.

The MCEA process is shown in **Figure 1-2** and includes:

- Phase 1: Identify the problem or opportunity
- Phase 2: Identify alternative solutions
- Phase 3: Examine alternative methods of implementing the preferred solution
- Phase 4: Prepare and file an Environmental Study Report
- Phase 5: Proceed to detailed design, construction and operation

The classification of projects and activities under the MCEA is as follows:

- **Exempt (formerly Schedule A and A+):** Includes municipal maintenance, operational activities, rehabilitation works, minor reconstruction or replacement of existing facilities, and new facilities that are limited in scale and have minimal adverse effects on the environment. These undertakings are exempt from the requirements of the Environmental Assessment Act. Includes normal or emergency operational and maintenance activities, which are limited in scale and have minimal adverse environmental effects. These undertakings are pre-approved, and the proponent can proceed without further assessment and approval.
- **Eligible for Screening to Exempt:** Some municipal maintenance, operational activities, rehabilitation works, minor reconstruction or replacement of existing facilities, and new facilities may be exempt from the *Environmental Assessment Act* based on the results of the archeological screening and collector road screening processes. If the project is not exempt, it may proceed with the

Schedule B or C MCEA process. Introduced in 2007, these projects are also pre-approved. The public is to be advised prior to the implementation of the project.

- **Schedule B:** Includes projects that have the potential for adverse environmental effects. This includes improvements and minor expansions of existing facilities. These projects are approved subject to a screening process which includes consulting with stakeholders who may be directly affected and relevant review agencies.
- **Schedule C:** Includes the construction of new facilities and major expansions to existing facilities. These undertakings have the potential for significant environmental effects and must proceed under the planning and documentation procedures outlined in the MCEA document.

The MCEA also uses cost thresholds to determine the classification for municipal road projects. For reconstruction of roads with an increase to the number of travel lanes, the cost thresholds for Schedule B and C projects are as follows:

- Schedule B < \$3 Million
- Schedule C ≥ \$3 Million

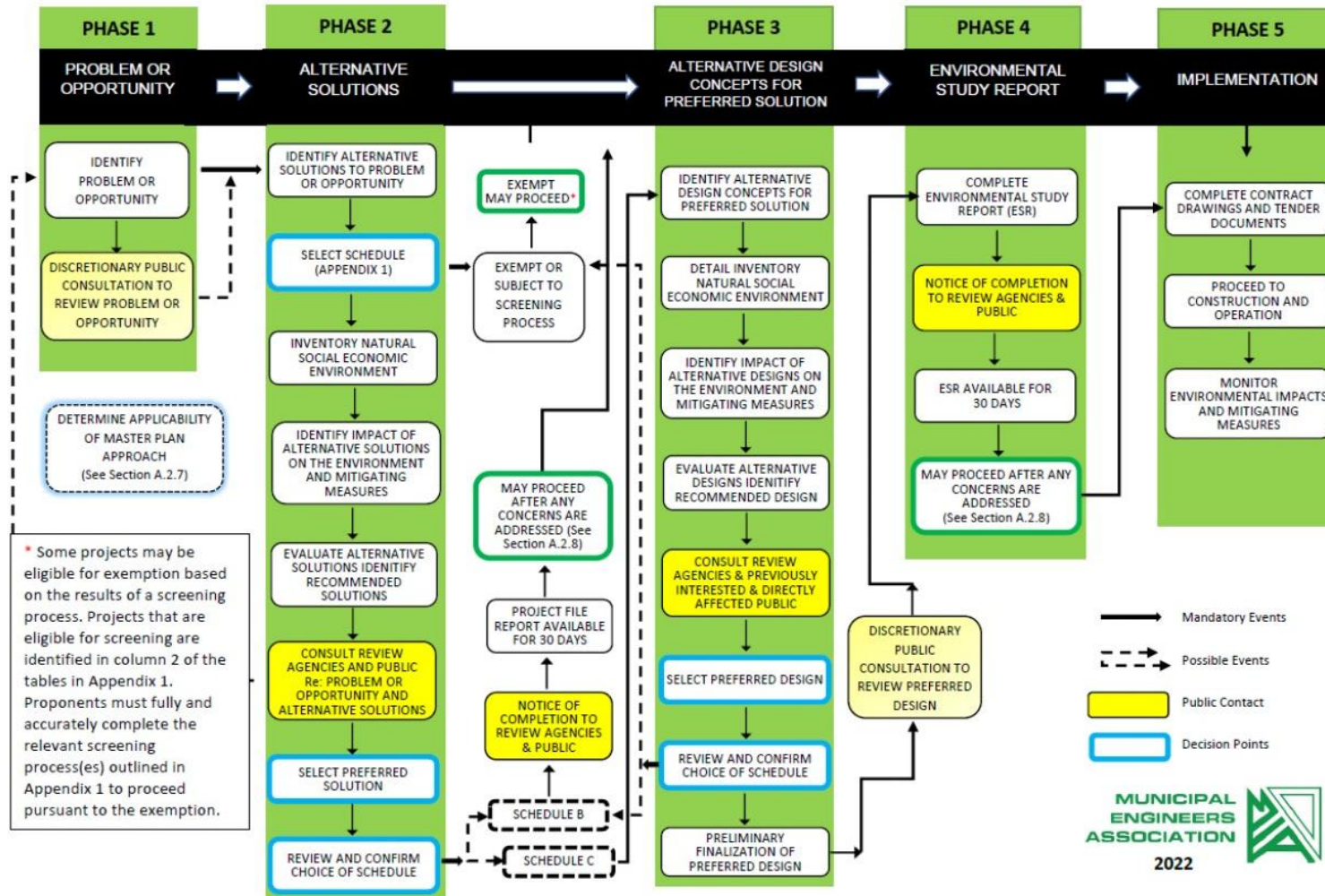


Figure 1-2: Municipal Class Environmental Assessment Process

1.3.2 Project Classification

The Regional Road 25 MCEA was classified as a Schedule C project due to the potential effects and cost of the project. Schedule C projects have the potential for significant environmental impacts and must follow Phases 1 through 4 of the MCEA planning process

1.3.3 Environmental Study Report

The Environmental Study Report (ESR) documents the planning and decision-making process followed to determine the Preferred Plan and environmental significant aspects of planning, design, and construction of the proposed works. The ESR describes the problems being addressed, social, natural, cultural and environmental considerations, planning and design alternatives considered, a description of the Preferred Plan and its environmental effects, proposed mitigation measures, commitments to future work, and consultation undertaken during the study.

It is possible that modifications to the Preferred Plan will be identified during the future detailed design phase of the project. These modifications are not anticipated to change the intent of the project. It is expected that any additional environmental effects would be addressed through mitigation measures recommended during detailed design.

As required by the MCEA, this ESR is being made available to the public, technical agencies, interested parties, and First Nations and Indigenous Communities for review.

A Notice of Completion was filed to announce the completion of the study and commencement of the public review period. The notice was emailed to members of the public on the study email list, technical agencies, interested parties, and First Nations and Indigenous Communities and mailed directly to property owners in the study area. The notice was also posted on Halton Region's website.

The ESR for this study is available for a 30-day public review period. During the review period, parties with outstanding comments are encouraged to bring their concerns to the attention of Halton Region for resolution.

All comments should be sent directly to Halton Region.

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1.3.4 Section 16 Order Requests

The MCEA process includes an appeal provision as the Minister of the Environment Conservation and Parks has the authority and discretion to make an Order under Section 16 of the Environmental Assessment Act. A Section 16 Order may require that the proponent of a project going through a Class EA process:

- Submit an application for approval of the project before they proceed. This is generally referred to as an Individual Environmental Assessment.
- Meet future conditions in addition to the conditions of the Class EA. This could include conditions for future study, monitoring and/or consultation.

The Minister can also refer a matter in relation to a Section 16(6) Order request to mediation.

Before making an Order, the minister must consider the factors set out in Section 16(5) of the *Environmental Assessment Act*.

If a Section 16 Order request is made, the project proponent cannot proceed with the project until the minister makes a decision on the request. If the minister makes a Section 16 Order, the proponent may only proceed with the project if they follow the conditions in the Order.

Reasons for Requesting an Order

A concerned party may ask the minister to make a Section 16(6) Order if:

- they have outstanding concerns that a project going through a Class EA process may have a potential adverse impact on constitutionally protected Aboriginal and treaty rights.
- they believe that an Order may prevent, mitigate, or remedy this impact.

A Section 16(6) Order request cannot be made to simply delay or stop the planning and implementation of a project that is going through the MCEA process. Prior to making a Section 16(6) Order request, the concerned party should first try to resolve any concerns directly with the project proponent, in this case, Halton Region.

Timing for an Order Request

During the 30-day review period, anyone can review the documentation, submit any comments or concerns to the proponent, and request a Section 16(6) Order.

To request a Section 16 Order for a project, on the grounds that an Order may prevent, mitigate, or remedy potential adverse impacts on constitutionally protected, Aboriginal and treaty rights, a concerned party must make the request before the public comment period is complete.

For more information and specific instruction, please visit:

<https://www.ontario.ca/page/class-environmental-assessments-section-16-order>

1.3.5 The Federal Impact Assessment Act

Under the *Impact Assessment Act* (IAA 2019), a federal environmental assessment is required for “designated projects”. A designated project is one that includes one or more physical activities that are set out in the regulations under IAA 2019 or by order of the federal Minister of the Environment and Climate Change.

The scope of the Regional Road 25 MCEA study was reviewed by the project team against the federal Regulations Designating Physical Activities. The project team determined that the potential range of physical activities contemplated by the study are not “designated” and therefore will not require consideration of a federal environmental assessment.

More information about the IAA is available on the Impact Assessment Agency of Canada webpage at: <https://www.canada.ca/en/impact-assessment-agency.html> .

1.4 Study Approach and Organization

To fulfill the MCEA requirements, the study followed the process depicted in **Figure 1-3**. This process ensures a thorough understanding of the problems being addressed, the alternatives considered, potential environmental effects, and mitigation measures. The process also includes consultation with the public, technical agencies, interested parties, and First Nations and Indigenous Communities. This consultation is documented in Chapter 6 of the Environmental Study Report.

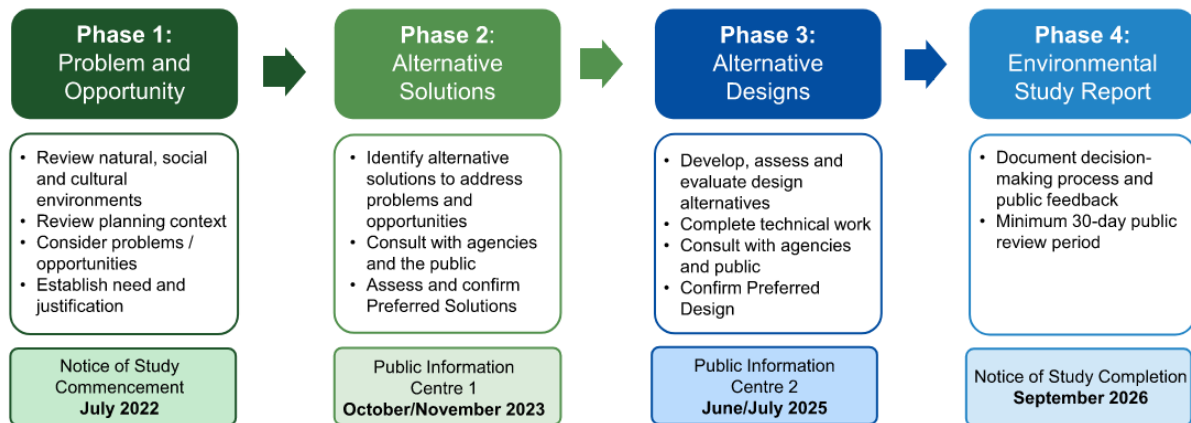


Figure 1-3: Regional Road 25 MCEA Study Process

The Regional Road 25 MCEA was carried out under the direction of staff at Halton Region. Internal consultation was conducted with staff across Regional departments to provide input reflective of the various department mandates and responsibilities.

The consultant team was led by CIMA Canada Inc. (CIMA+). CIMA+ led the following activities on behalf of Halton Region:

- Project Management
- MCEA Process and Consultation
- Traffic Engineering
- Road Safety
- Road Design
- Natural Environment Assessment
- Drainage and Stormwater Management
- Hydrological Investigation
- Structural Design
- Topographic Survey

The following activities were undertaken by subconsultants engaged by CIMA+:

- Stage 1 Archaeological Assessment completed by Timmins Martelle Heritage Consultants
- Cultural Heritage Assessment completed by Timmins Martelle Heritage Consultants
- Structural Design completed by Doug Dixon and Associates
- Geotechnical Investigation completed by Thurber Engineering Limited

- Fluvial Geomorphological Assessment completed by GEO Morphix Limited
- Noise Assessment completed by RWDI
- Air Quality Assessment completed by RWDI

2 Need and Justification

2.1 Planning Context

This section summarizes Provincial, Regional, and Local plans and policies relevant to the Municipal Class Environmental Assessment (MCEA) study. All aspects of the study, including identifying problems and opportunities, evaluating alternatives, and developing the preferred design, were carried out considering the policy framework to ensure the final recommendations are consistent with the Region's planning and transportation policies.

2.1.1 Provincial

2.1.1.1 Provincial Planning Statement (2024)

Issued under the *Planning Act*, the Provincial Planning Statement (PPS) is the guiding policy document for the use, management and protection of land and infrastructure within the Province of Ontario. The PPS came into effect in 2024 and replaces both the Provincial Policy Statement (2020), and A Place to Grow: Growth Plan for the Greater Golden Horseshoe (2019). The new PPS is designed to streamline land use planning and make the planning process more responsive to local needs. It should be noted that while the PPS largely replaces the Growth Plan, Growth Plan policies continue to apply where the Greenbelt Plan references them.

Sections of the PPS that are applicable to the planning of transportation infrastructure and this project include:

- Section 2.5 Rural Areas in Municipalities and Section 2.6 Rural Lands in Municipalities: These policies aim to create a strong, sustainable, and economically diverse rural communities, while preserving rural character, natural systems, and agricultural functions. The focus is on directing growth to appropriate locations, making efficient use of infrastructure, and supporting a diverse rural economy.
- Section 2.9 Energy Conservation, Air Quality and Climate Change: This section emphasizes that planning authorities are responsible for addressing climate change by both reducing greenhouse gas emissions and preparing communities for its impacts. It highlights the importance of compact, transit-oriented and complete communities, integrating climate change considerations into infrastructure and public facilities, supporting energy conservation and efficiency, promoting green infrastructure and active transportation, protecting the

environment, improving air quality, and adopting additional measures that strengthen community resilience to a changing climate.

- Section 3.2 Transportation Systems: This section emphasizes the importance of developing transportation systems that are safe, energy efficient, and capable of meeting current and future needs while supporting the use of zero- and low-emission vehicles. It highlights the efficient use of existing and planned infrastructure through transportation demand management, and stresses the value of a well-connected, multimodal transportation network that improves movement within and across jurisdictions.
- Section 4.1 Natural Heritage: This section requires the long-term protection of natural features and areas by maintaining, restoring, and enhancing the diversity, connectivity, ecological function, and biodiversity of natural heritage systems. It emphasizes identifying natural heritage systems by ecoregion and strictly limiting development or site alteration in significant wetlands, woodlands, valleylands, wildlife habitat, fish habitat, areas of natural and scientific interest, and habitats of endangered or threatened species, except where permitted under provincial and federal requirements and where no negative ecological impacts are demonstrated.
- Section 4.2 Water: This section emphasizes protecting, improving, and restoring water quality and quantity through watershed-based, long-term planning. It highlights minimizing development impacts, identifying and maintaining water resource systems, protecting drinking water supplies and vulnerable surface and groundwater, promoting water conservation and sustainable use, restricting development near sensitive water features, and encouraging collaborative watershed planning to guide water, wastewater, and stormwater management.
- Section 4.3 Agriculture: This section focuses on protecting agricultural lands using a system-based approach that emphasizes protecting farmland, limiting fragmentation, supporting agricultural operations, and strengthening the local agri-food system.
- Section 4.6 Cultural Heritage and Archaeology: This section highlights the importance of conserving property which may contain built heritage resources or cultural heritage landscapes.
- Section 5.2: This section establishes policies to reduce risks from flooding, erosion, and other natural hazards and highlights preparing for impacts of climate change.

These sections collectively promote transportation infrastructure that is sustainable and resilient, while safeguarding natural and cultural resources and ensuring they are used responsibly.

2.1.1.2 A Place to Grow: Growth Plan for the Greater Golden Horseshoe (2020)

While the PPS (2024) largely replaces the Provincial Policy Statement (2020) and A Place to Grow: Growth Plan for the Greater Golden Horseshoe (“Growth Plan”) (2020), the Growth Plan policies continue to apply where the Greenbelt Plan references them (See Section 2.1.1.3).

The Growth Plan was prepared and approved under the *Places to Grow Act* (2005) and serves as the Ontario government’s legal framework to implement the province’s vision for managing growth within the Greater Golden Horseshoe (GGH). The GGH is one of the most dynamic and fast-growing regions in North America. The Growth Plan plans for the anticipated growth and development across the Region to support the economic prosperity, protect the surrounding environment, and improve the quality of life through complete communities.

2.1.1.3 Connecting the GGH: A Transportation Plan for the Greater Golden Horseshoe (2022)

The Ontario Ministry of Transportation’s Connecting the GGH: A Transportation Plan for the Greater Golden Horseshoe was created to provide a 30-year vision for enhanced mobility across and beyond the Greater Golden Horseshoe Region. The Plans lays out a framework for a transportation system that provides safe, efficient, and convenient options for people and businesses and supports the well being and economic prosperity of the region. The Plan’s vision for 2051 includes infrastructure, service improvements, and policies organized by four related themes: fighting gridlock and improving road performance, getting people moving on a connected transit system, supporting a more sustainable and resilient region, and efficiently moving goods.

2.1.1.4 Greenbelt Plan (2017)

The Greenbelt Plan (2017) was prepared and approved under the *Greenbelt Act* (2005). The Greenbelt Plan (2017) identifies areas where urbanization should not occur and seeks to provide permanent protection to agricultural lands, water resources, and natural areas within Ontario’s Greater Golden Horseshoe (GGH) region, one of the most dynamic and fast-growing regions in North America. The Greenbelt represents one of

Canada's most ecologically and hydrologically significant natural environments and scenic landscapes, including the Oak Ridges Moraine and the Niagara Escarpment.

As shown in **Figure 2-1**, the Greenbelt Plan builds upon the ecological protections provided by the Niagara Escarpment Plan (NEP) and the Oak Ridges Moraine Conservation Plan (ORMCP). Together, these plans provide permanent protection to the agricultural land base and the ecological features in this area by identifying where urbanization should not occur. These plans support the PPS in establishing a land use planning framework for the GGH that supports a thriving economy, and a clean and healthy environment.

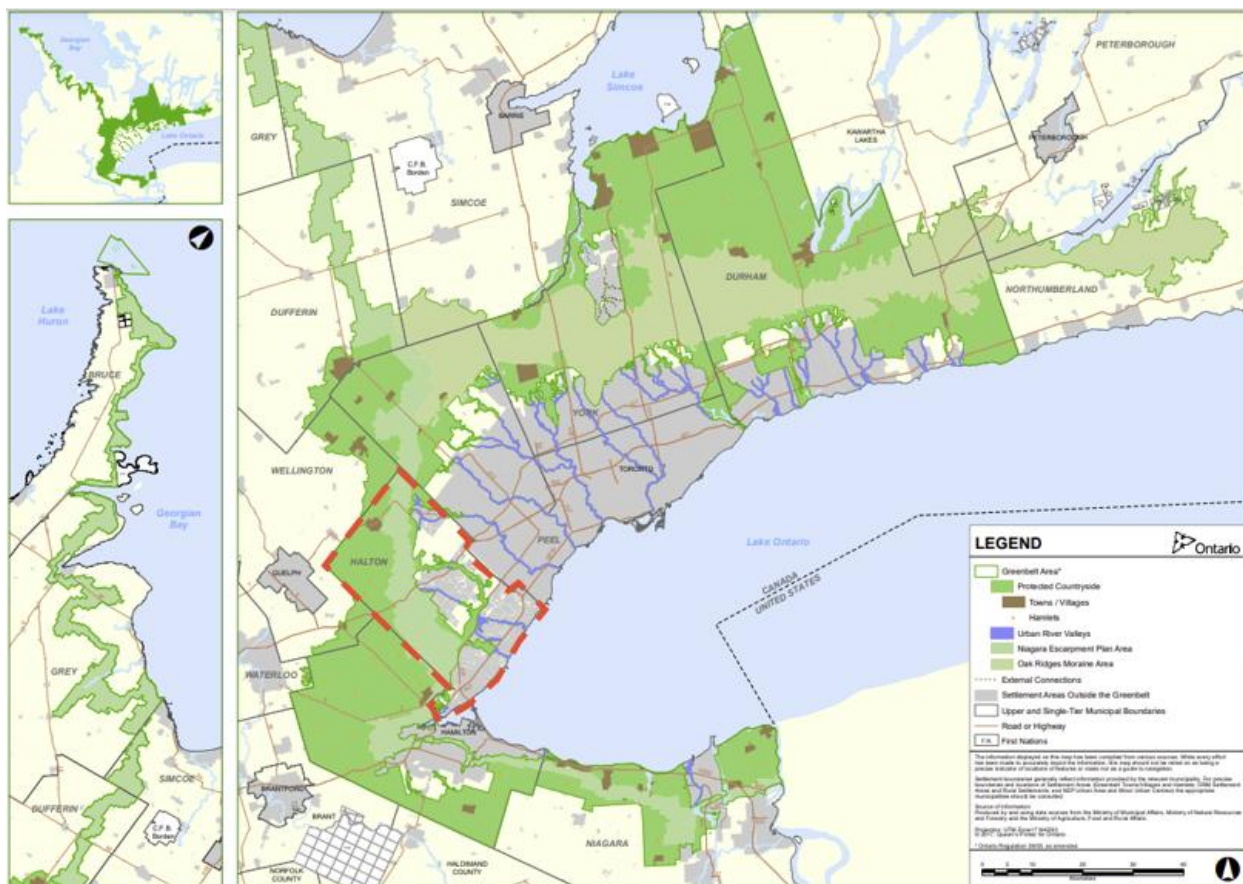


Figure 2-1: Modified Excerpt of Schedule 1 from the Greenbelt Plan (2017) representing the Greenbelt Area within Halton Region

The Greenbelt Plan identifies specific areas of agricultural or ecological significance. The Regional Road 25 study area traverses lands designated as “Protected Countryside” and “Urban River Valleys” by the Greenbelt Plan. The policies related to the “Protected Countryside” are relevant for roadway improvements for Regional Road 25 between the QEW and Upper Middle Road and from Highway 407 to Lower Base

Line. Policies contained under “Urban River Valley” are relevant for study lands between approximately Upper Middle Road West and Dundas Street, and Louis St. Laurent Avenue and Derry Road.

The “Protected Countryside”

In accordance with Section 1.2.2.5.a, the overarching goal for infrastructure within the “Protected Countryside” designation is to enhance urban and rural areas and overall quality of life by supporting *infrastructure* which achieves the social and economic aims of the Greenbelt Plan and the Growth Plan and improves integration with land use planning while seeking to minimize environmental impacts.

As denoted by policy 4.2.1.1, all existing, expanded, or new infrastructure subject to and approved under the *Environmental Assessment Act* or the *Planning Act* are permitted within the Protected Countryside provided it:

- a) *supports agriculture, recreation and tourism, Towns/Villages and Hamlets, resource use or the rural economic activity that exists and is permitted within the Greenbelt; or*
- b) *serves the significant growth and economic development expected in southern Ontario beyond the Greenbelt by providing for the appropriate infrastructure connections among urban centres and between these centres and Ontario’s borders.*

Under policy 4.2.1.2, improvements to Regional Road 25 within the “Protected Countryside” designation are subject to and will be consistent with the following:

- a) *Planning, design and construction practices shall minimize, wherever possible, the amount of the Greenbelt, and particularly the Natural Heritage System and Water Resource System, traversed and/or occupied by such infrastructure;*
- b) *Planning, design and construction practices shall minimize, wherever possible, the negative impacts on and disturbance of the existing landscape, including, but not limited to, impacts caused by light intrusion, noise and road salt;*
- c) *Where practicable, existing capacity and co-ordination with different infrastructure services shall be optimized so that the rural and existing character of the Protected Countryside and the overall hierarchy of areas where growth will be accommodated in the GGH established by the Greenbelt Plan and the Growth Plan are supported and reinforced;*
- d) *New or expanding infrastructure shall avoid key natural heritage features, key hydrologic features or key hydrologic areas unless need has been demonstrated and it has been established that there is no reasonable alternative;*

- e) New or expanding infrastructure shall avoid specialty crop areas and other prime agricultural areas in that order of priority, unless need has been demonstrated and it has been established that there is no reasonable alternative;*
- f) Where infrastructure crosses prime agricultural areas, including specialty crop areas, an agricultural impact assessment or equivalent analysis as part of an environmental assessment shall be undertaken;*

The “Urban River Valley”

Section 1.2.3, the overarching goal of the “Urban River Valley” designation is to *integrate the Greenbelt into urban areas that were not part of the Greenbelt’s initial boundaries by promoting the following matters within the Urban River Valley designation:*

- Protection of natural and open space lands along river valleys in urban areas which will assist in ecologically connecting the rest of the Greenbelt Area to the Great Lakes and other inland lakes;*
- Protection of natural heritage and hydrologic features and functions along urban river valleys, including coastal wetlands;*
- Conservation of cultural heritage resources;*
- Provision of a gateway to the rural landscape of the Greenbelt; and*
- Provision of a range of natural settings on publicly owned lands for recreational, cultural and tourism uses, including parkland, open space land and trails.*

Section 6.2 outlines policies for lands falling within Urban River Valleys. These policies include:

- 1. Only publicly owned lands are subject to the policies of the Urban River Valley designation. Any privately owned lands within the boundary of the Urban River Valley area are not subject to the policies of this designation. For the purposes of this section, publicly owned lands means lands in the ownership of the Province, a municipality or a local board, including a conservation authority.*
- 2. The lands are governed by the applicable official plan policies provided they have regard to the objectives of the Greenbelt Plan.*
- 3. All existing, expanded or new infrastructure which is subject to and approved under the Environmental Assessment Act, or which receives a similar approval, is permitted provided it supports the needs of adjacent settlement areas or serves the significant growth and economic development expected in southern Ontario and supports the goals and objectives of the Greenbelt Plan.*

2.1.1.5 Metrolinx 2041 Regional Transportation Plan (2018)

The Metrolinx 2041 Regional Transportation Plan (RTP) for the Greater Toronto and Hamilton Area (GTHA) was released published in 2018. The RTP updates and builds upon the provincial transit agency's previous plan, The Big Move. The RTP identifies a vision of "a sustainable transportation system" that is aligned with land use and to achieve strong connections and supports healthy and complete communities.

A key element of the plan is the development of a Frequent Rapid Transit Network including additional Bus Rapid Transit (BRT), Light Rail Transit (LRT), Priority Bus, subway, and rail projects to provide faster, more frequent and reliable transit. Priority Bus corridors are proposed in areas that do not currently have existing or proposed LRT, BRT, subway, or rail facilities. These corridors provide a cost-effective way of providing efficient, reliable transit service to more people. Priority Bus corridors provide protection from mixed-traffic, and include other transit priority measures, such as queue jump lanes and transit signal priority. These corridors are adaptable and can be modified in response to congestion or population and employment growth.

In conjunction with Priority Bus corridors, the RTP proposes the implementation of Frequent Regional Express Bus service that will provide bus service with 15-minute service or better.

Regional Road 25 has been identified as a Frequent Regional Express Bus service route between the Bronte GO Station and Steeles Avenue.

In addition, Regional Road 25 also crosses the following proposed rapid transit routes:

- Derry Priority Bus between Bronte Road and Humber College
- Dundas Bus Rapid Transit between Kipling Station and Bronte Road
- Dundas West Priority Bus between Brant Street and Bronte Road
- Highway 407 Transitway

2.1.2 Halton Region

2.1.2.1 Halton Region Official Plan (2022)

The Halton Region Official Plan (OP) was adopted in 2022 and was intended to be the Region's governing policy document to provide guidance on where and how land is intended to be used, infrastructure is to be implemented, and servicing is to be provided. On July 1, 2024, changes to the *Planning Act* designated Halton Region as an "upper-tier municipality without planning responsibilities" by the Province. As a result, the Regional Official Plan is no longer considered the Official Plan for the Regional

Municipality of Halton. Instead, it is now regarded as an additional official plan for each of the lower-tier municipalities in Halton (City of Burlington, Town of Halton Hills, Town of Milton and Town of Oakville) until it is either revoked or amended by the respective municipality.

Although the role of the Regional OP has changed, the document reflects considerable engagement and outreach with regional residents on future planning goals and objectives, and the means to achieve them. The overall planning framework across Halton, including both local and Regional plans and studies continues to provide direction on how overall growth and development is to be achieved, along with high level guidance.

The Official Plan lays out Halton Region's Planning Vision (Part II, 25-33) for development that supports sustainable development and accommodates population and employment growth while being sensitive to the natural environment.

The Official Plan identifies the following key features of Regional Road 25 within the MCEA study area:

- Map 1B identifies the Parkway Belt Transportation and Utility corridors that cross Regional Road 25 at Upper Middle Road and between Burnhamthorpe Road and Henderson Road.
- Map 1G identifies key features within the Greenbelt Plan Boundary and Regional Natural Heritage Systems. These features are largely concentrated between the QEW and Upper Middle Road (i.e. Bronte Creek Provincial Park), Highway 407 and Lower Base Line, and Britannia Road and Derry Road.
- Map 1H identifies Regional Road 25 as a Regional Intensification Corridor and shows the boundaries of Urban Area.
- Map 3 identifies the function of Regional Road 25 as a Major Arterial and a Higher Order Transit Corridor

2.1.2.2 Halton Region Transportation Master Plan – The Road to Change (2011)

The Halton Region Transportation Master Plan (TMP), The Road to Change (2011) is a long-range plan that integrates infrastructure requirements for existing and future land use with environmental assessment planning principles. The TMP provides strategies, policies, and tools for the development of a balanced and sustainable transportation system that support the objectives of Sustainable Halton and meet the Region's transportation needs to 2031.

Transportation services within the Region are provided primarily through a network of provincial, regional, and local roads, provincial and local transit services, and regional and local active transportation facilities. Within this network, Halton Region is responsible for planning, constructing, operating, maintaining, and improving a series of major arterial roads for the safe and efficient transportation of people and goods.

Within the study limits, Regional Road 25 is a primary north-south Regional arterial road connecting the Towns of Oakville and Milton. The roadway also provides connectivity to the provincial highway network at the QEW and Highway 407.

The 2011 TMP identifies the following improvements for Regional Road 25 between Speers Road and Derry Road:

- Increased right-of-way width to 47 metres
- Widening from 4 to 6 lanes (4 general purpose lanes + 2 lanes for transit/high-occupancy vehicles)

2.1.2.3 Halton Region Integrated Master Plan (2026)

During the Regional Road 25 MCEA, Halton Region developed an Integrated Master Plan to develop a long-term integrated servicing strategy for Regional infrastructure to accommodate future growth to 2051. Through Staff Report PW-35-25 on November 12, 2025, Regional Council adopted the recommended servicing strategies to support growth in Halton Region to 2051 as set out in the Integrated Master Plan for Water, Wastewater, and Transportation.

The Integrated Master Plan vision includes planning for a future multi-modal Regional transportation system that is safe, continuous, and connected across Halton Region to support all modes of travel, all users and all abilities. The development of the IMP provides for a robust multi-modal transportation network that supports Halton Region's long-term vision by accommodating increasing travel demand and enhancing connectivity. Together, these infrastructure strategies are being developed to align with local growth priorities and remain flexible to adapt to evolving needs.

The Integrated Master Plan identifies a Transit Priority Corridor Network to accommodate future travel demand to 2051, building on the recommendations of the Mobility Management Strategy for Halton (Section 2.1.2.4) and Defining Major Transit Requirements in Halton Region (Section 2.1.2.5). This network includes priority bus corridors, where buses operate in mixed traffic or high occupancy vehicle lanes with priority at intersections, as well as bus rapid transit corridors, where buses operate in dedicated lanes with priority at intersections.

On Regional Road 25, high occupancy vehicle lanes and transit signal priority are identified for implementation between 2037 and 2041 and Regional Road 25 is identified as a future bus rapid corridor in the 2051 Transit Priority Corridor network. It should be noted that the implementation of the Transit Priority Corridor network will be phased and evolve based on travel demand and local priorities. It is recognized that the timing and transition of the Transit Priority Corridors will require close coordination between the Region and Local Municipalities.

The IMP identifies proposed walking and cycling networks that builds on the Region's 2015 Active Transportation Master Plan. The following walking and cycling facilities are proposed along Regional Road 25:

- Speers Road to Wyecroft Road: multi-use paths on both sides of the road
- Wyecroft Road to North Service Road: multi-use path on the west side of the road
- North Service Road to Charles Cornwall Avenue: multi-use path on the west side and sidewalk on the east side
- Charles Cornwall Avenue to William Halton Parkway: cycle tracks on both sides of the road, plus a multi-use path on the west side and sidewalk on the east side
- William Halton Parkway to Louis St. Laurent Avenue: multi-use paths on both sides of the road
- Louis St. Laurent Avenue to Derry Road: multi-use path on the east side of the road

2.1.2.4 Mobility Management Strategy for Halton (2016)

The Mobility Management Strategy (MMS) for Halton was completed in 2016 to guide the Region's short term and long-term transportation needs, given that the Region is expecting significant population and employment growth by 2041. The Strategy was developed based on the principle of "Mobility-as-a-Service," which focuses on an interconnected and multi-modal transportation system.

The MMS provides Halton Region with a network and key inputs that can be further positioned to influence and shape the development of other ongoing multi-modal initiatives, such as the Ministry of Transportation Greater Golden Horseshoe Multi-Modal Transportation Plan, the update to the Metrolinx "Big Move" Regional Transportation Plan, the implementation of the Metrolinx's GO Station Access Plan, and Regional Express Rail.

The MMS builds on the strengths of Halton's existing transportation networks to focus on enhancing connectivity amongst local and intra-inter-regional transit networks. To support these connections, the MMS outlined a proposed Region-wide grid network of 156 km of Transit Priority Corridors and approximately 36 km of Mobility Links. This network is referred to as the Transit Priority Mobility Network to 2041.

Through the MMS, Regional Road 25 from Bronte GO Station to Steeles Avenue is identified as a Transit Priority Corridor.

2.1.2.5 Defining Major Transit Requirements in Halton Region (2019)

Defining Major Transit Requirements in Halton Region (DMTR) was completed in 2019 to build on the MMS to support the Region's vision of a multi-modal transportation network. The DMTR focuses on infrastructure improvements to support transit in the Region.

The DMTR defines the type, form, and function of the Transit Priority Corridors identified in the MMS to identify infrastructure investment opportunities for addressing future transit demand. The DMTR identifies Regional Road 25 as a Priority Bus Corridor with Transit Signal Priority operating within a shared high occupancy vehicle lane.

2.1.3 Town of Oakville

While Halton Region has jurisdiction over Regional Roads, local municipal plans and policies should be considered where they apply. The study area between Speers Road and Lower Base Line is within the Town of Oakville. Regional Road 25 is known as Bronte Road within the Town of Oakville.

2.1.3.1 Town of Oakville Official Plan (2024)

As of July 1, 2024, there are three Official Plans that apply to the Town of Oakville: The Halton Region Official Plan (See Section 2.1.2.1), the North Oakville Secondary Plans (See Section 2.1.3.2), and the Livable Oakville Plan (LOP). The Livable Oakville Plan establishes policies and land use designations for all lands within the Town except for the lands covered by the North Oakville Secondary Plans.

A town-wide Official Plan Review is ongoing. Its primary purpose is to update the Town's Official Plan documents to be consistent or in conformity with the latest Provincial legislation and policies.

Regional Road 25 between Speers Road and Lower Base Line is classified as a Major Arterial Road and a Regional Priority Transit Corridor. Under the LOP's functional

classification of roads (8.3), Major Arterials/ Transit Corridors have the following functions:

- accommodate high volumes of traffic moving between communities traveling to activity centres and traffic en-route to or from the Provincial Highway system;
- act as major transit corridors;
- accommodate rapid transit services and high occupancy vehicles;
- distribute traffic to or from all other classes of roads;
- have 4 or 6 lanes; and
- accommodate 40,000 to 60,000 vehicles per day (typical maximum volume).

Along these corridors, access should be generally limited to road intersections, with access from abutting properties minimized where possible. Transit-supportive uses are encouraged along the right-of-way.

Major Arterials have a right-of-way requirement of 35 to 50 metres, though the Official Plan states that roads already meeting the right-of-way width may require additional widening if identified through an environmental assessment study, the planning application process, or detailed design.

2.1.3.2 North Oakville Secondary Plans (2023) and Palermo Village Growth Area Review (2023)

The North Oakville Secondary Plans establish policies and land use designations for lands north of Dundas Street West and south of Highway 407 between Ninth Line and Tremaine Road. Together the North Oakville East and North Oakville West Secondary Plans allow for higher density urban development on lands outside of the defined natural heritage and open space system. The Plans prescribe efficient land use patterns and flexible transportation options to make this area more livable and sustainable.

The North Oakville West Secondary Plan applies to the section of Regional Road 25 between Dundas Street and Highway 407. Applicable policies contained in this plan include Community Linkages (8.5.11):

b) the intersection of Regional Road 25 and Dundas St. should be marked by the siting and design of prominent new buildings or where appropriate the preservation of heritage buildings, strategic building placement and other gateway features. Minor gateways should be established at other intersections with Dundas St;

c) Regional Road 25 provides a major physical north/south link through the Town from a transportation perspective. The design of this road should strengthen this link and

ensure a strong relationship to the Palermo Village Community Centre south of Dundas St.

The following policies related to Transit (8.7.2.2) are also applicable:

a) The Town will work with the Region of Halton and the Province of Ontario to develop a system of transit services for the Planning Area. The transit system will provide a range of options for transit service for the residents and employees. In particular:

i) The Town shall support a “transit first” policy to ensure that development will proceed in a manner which will be supportive of the early provision of transit services.

ii) Transit stops will be located so that all residents and employees are predominantly within 400 metre walking distance of a transit stop

iii) Transit terminals will be developed at the interchange of Highway 407 and Regional Road 25 and south of Dundas St. in the Palermo Village Centre Community. These terminals will provide for transfers from local transit routes and for connections from local to regional and inter-regional transit services. The terminal location shall be determined in the context of the detailed design of development for these general locations

The Town’s urban structure identifies Palermo Village as a strategic growth area at the intersection of Dundas Street and Bronte Road (Regional Road 25). The Palermo Village Growth Area Review established policies that guide development-related decision making in Palermo Village and have been updated through Official Plan Amendments 34 and 37.

Palermo Village is to be developed over a number of years with a mix of residential and commercial uses. While the predominant land uses will be residential, transit-supportive, high density, mixed use development is encouraged along Dundas Street, Old Bronte Road, and Khalsa Gate. It is anticipated that Palermo Village will contain a significant civic and public presence with various government, institutional, cultural, recreational and open space uses.

The following objectives for Palermo Village in the Liveable Oakville Plan are applicable to the Regional Road 25 MCEA:

(22.2.2) To ensure high quality urban design by:

d) creating a strong coherent urban image and a highly developed civic streetscape appearance at a human scale through the creation of:

iii) pedestrian and vehicular linkages between surrounding communities and Palermo Village

(22.2.3.) To efficiently provide for necessary infrastructure to support development by:

b) establishing and maintaining a road system that provides high levels of accessibility and mobility to all users.

c) protecting future major road and transit rights-of-way

2.1.3.3 Town of Oakville Transportation Master Plan (2025)

The Town of Oakville completed the Transportation Master Plan (TMP) in 2025. The TMP sets a long-range vision to 2051 that guides how people and goods will move throughout Oakville as the community grows. The TMP places emphasis on sustainability, accessibility and shifting away from primarily auto-oriented travel. It identifies the needs and opportunities to improve the transportation system and recommends a strategy that aligns with the Town's vision and the demands from future growth and climate change up to 2051. The 2025 TMP replaces the Transportation Master Plan (2018) and the Active Transportation Master Plan (2017).

Guided by the Sustainable Planning Guidelines Report developed by Transport Canada and the Transportation Association of Canada, the planned improvements outlined in the Town of Oakville's 2025 TMP that are relevant to the study area are as follows:

- Bronte Road (from Wyecroft Road to Lower Base Line) – widening from 4 to 6 lanes
- Speers Road (from Bronte Road to Third Line) – widening from 4 to 5 lanes
- Wyecroft Road (from Bronte Road to Third Line) – widening from 4 to 5 lanes
- Burnhamthorpe Road West (from Tremaine Road to Bronte Road) – widening from 2 to 4 lanes

2.1.4 Town of Milton

2.1.4.1 Town of Milton Official Plan (2025)

The Town of Milton released a consolidated Official Plan (OP) in February 2026. The OP provides policies regarding land use planning, and a framework for growth management. It is designed to respond to the anticipated challenges of managing growth in a phased manner, while reinforcing the community values that make Milton unique.

The OP sets out a vision for a transportation system that provides a safe, economic, and efficient rail and highway network with an emphasis on public transit (2.6.3.1). The OP states that projects with a transit component should be prioritized to reach a transit target of 20 percent of all trips by 2030.

Under the OP, Regional Road 25 is classified as a Major Arterial. As such, its function is to:

- Serve mainly inter-regional and regional travel demands
- Accommodate all truck traffic
- Accommodate higher order transit services and high occupancy vehicle lanes
- Connect Urban Areas in different municipalities
- Carry high volumes of traffic
- Distribute traffic to and from Provincial Freeways and Highways
- Accommodate active transportation

The design guidelines for Major Arterials state that:

- Major Arterials should be designed to have a high degree of access control
- Transit-supportive, mixed-use development is encouraged along these corridors
- Right-of-way requirements can be up to 50m; and
- In the construction, reconstruction or improvement of arterial roads, consideration be given for the provision of facilities for active transportation where appropriate

2.1.4.2 Town of Milton Transportation Master Plan Update (2025)

Milton's Updated Transportation Master Plan (TMP) outlines a long-term vision for the Town's transportation network, balancing walking, riding, and driving. The TMP expresses a vision of a multi-modal network that allows users of all ages and abilities to access all modes of transportation, contributing to a complete street community.

One of the recommendations identified with the TMP update is:

"Work alongside Metrolinx and Halton Region to support the development of transit priority infrastructure that would be desirable to implement the Priority Bus network identified in the 2041 Regional Transportation Plan.

These include:

- *Access to a new and expanded Milton GO Station bus loop.*

- *Main Street (west from Milton GO Station) and Ontario Street / Regional Road #25 (to southern Town limits) Priority Bus service (RTP Project #56).*

The TMP Update shows the following proposed improvements to Active Transportation facilities along Regional Road 25 (Figure 40):

- Between Burnhamthorpe Road and Henderson Road: On-Road Paved Shoulders
- Between Henderson Road and Britannia Road: On-Road Bike Lanes
- Between Britannia Road and Louis St. Laurent Avenue: Cycle Tracks
- Between Louis St. Laurent Avenue and Derry Road: Separated Bike Lanes

2.1.4.3 Sherwood Survey Secondary Plan (2023)

The Sherwood Survey Secondary Plan applies to an area north of Louis St. Laurent Avenue and south of Highway 401 east of Tremaine Road. Regional Road 25 between Derry Road and Louis St. Laurent Ave constitutes part of the eastern border. As part of the Sherwood Survey Secondary Plan, the Willmott Neighborhood is planned on the west side of Regional Road 25.

Direction within the plan that relates to Regional Road 25 includes:

- The intersection of Regional Road 25 and Louis St. Laurent Road is identified as a gateway intersection that requires special design treatment of both the road allowance and any development adjacent to the road allowance (C.8.2.2)
- To design Regional Road 25, Tremaine Road at Highway 401, Steeles Avenue, Derry Road (and Main Street to reflect their role as major “gateways” to the Milton Urban Area (C.8.3.2.18).
- In particular, in consultation with the Region, Regional Road 25 shall be designed as a gateway that reflects the unique natural open space character of the community through the provision of streetscape treatments and the siting and design of buildings and structures (C.8.4.6.3).

2.1.4.4 Boyne Survey Secondary Plan (2017)

The Boyne Survey Secondary Plan was developed to establish a more detailed planning framework for the Boyne Survey Planning District in support of the general policy framework provided by the Official Plan. The Boyne Survey Planning District is bounded by Louis St. Laurent Avenue in the north, James Snow Parkway in the east, Britannia Road in the south, and Tremaine Road in the west.

Regional Road 25 between Britannia Road and Louis St. Laurent Avenue falls within the Boyne Survey Secondary Plan area. The direction within the plan that relates to the Regional Road 25 include:

- Regional Road 25 represents a significant corridor in and through the Boyne Survey and the Milton Urban Area, and as such requires enhanced streetscape design (C.10.2.2)
- The intersection of Regional Road 25 and Britannia Road is identified as a gateway intersection and hence serves as a key point of entry to the Milton Urban Area of the Town which requires special design treatment of both the road allowance and any development adjacent to the road allowance (C.10.2.2)
- Separate bicycle lanes or paths should be incorporated where feasible into the right-of-way on collector and arterial roads to ensure a community which provides maximum opportunities for pedestrian, bicycle, and other similar movement (C.10.2.2)
- Regional Road 25 should be designed to reflect its role as a major “gateway” to the Milton Urban Area (C.10.3.2.15)
- Ensure that direct access to Regional roads is restricted and/or controlled and where access to a Regional Road is required; safe solutions shall be found to provide an alternative to direct access, particularly to Tremaine Road (Regional Road 22), Britannia Road (RR 6) and Regional Road 25 (C.10.4.1.5)

2.1.5 Conservation Authority

2.1.5.1 Conservation Authorities Act

The Ontario *Conservation Authorities Act* is the provincial legislation that establishes and governs Ontario’s conservation authorities. Its primary purpose is to ensure the conservation, restoration, development and management of natural resources on a watershed basis. The MCEA study area is within the Bronte Creek, Fourteen Mile Creek, and Sixteen Mile Creek watersheds under the jurisdiction of Conservation Halton.

2.1.5.2 Ontario Regulation 41/24 – Prohibited Activities, Exemptions and Permits

Ontario Regulation 41/24 – Prohibited Activities, Exemptions and Permits came into force on April 1, 2024, under the Conservation Authorities Act. Ontario Regulation 41/24 provides the legal framework governing development within regulated areas managed

by conservation authorities. It standardizes how permits are issued, how natural hazards are assessed, and how regulated lands are mapped across Ontario, while maintaining the primary objective of protecting people, property, and the environment from natural hazards.

2.1.5.3 Ontario Regulation 686/21 – Mandatory Programs and Services

Ontario Regulation 686/21 – Mandatory Programs and Services is a regulation under the *Conservation Authorities Act* that defines the core programs and services every conservation authority in Ontario must provide. The services are organized around five core functions including natural hazard management, planning and technical review, conservation and management of authority lands, watershed monitoring and resource management, and source water protection under the Clean Water Act, 2006.

2.2 Traffic Analysis

2.2.1 Approach

Detailed traffic analysis was conducted to evaluate existing and future traffic operations on Regional Road 25. The study used 2022 as the base year and 2031 as the future planning horizon.

Capacity analysis of the study area intersections was performed using the Synchro/SimTraffic V11 modeling software. This package applies Highway Capacity Manual (HCM) methodologies to evaluate the operational performance of both signalized and unsignalized intersections.

For signalized intersections, the following four key performance measures were assessed:

- Control delay;
- 95th percentile queue length (derived from SimTraffic);
- Volume-to-capacity (V/C) ratio; and
- Level of Service (LOS).

A V/C ratio greater than 1.0 theoretically indicates that an intersection or specific turning movement is oversaturated. The 95th percentile queue length represents the queue length that is only exceeded 5% of the time during the analysis period and is widely accepted in the industry for design and operational evaluations. Intersection LOS reflects the delay levels' acceptability to drivers.

Congested intersections and critical turning movements were identified in this study based on the following criteria:

- Overall intersection LOS of F
- Overall V/C ratio of 1.00 or greater
- Two or more critical movements with an LOS of F or V/C ratio greater than 1.0

2.2.2 Existing Traffic Network

Regional Road 25 is an existing four lane Major Arterial road that runs north-south linking the communities of Oakville, Milton, and Halton Hills in Halton Region. Within the study area, Regional Road 25 provides connections to the QEW and Highway 407 and major transit hubs including the Bronte and Milton GO Stations. Further details about the surrounding transportation network are included in Chapter 3.

The existing intersections within the study area are listed in **Table 2-1**.

Table 2-1: Existing Intersections

Intersection	Method of Traffic Control
Regional Road 25 @ Speers Road	Signalized
Regional Road 25 @ Wyecroft Road	Signalized
Regional Road 25 @ QEW Eastbound Off-Ramp	Signalized
Regional Road 25 @ QEW Westbound Off-Ramp	Signalized
Regional Road 25 @ North Service Road West	Signalized
Regional Road 25 @ Paramedic Services Access	Unsignalized – Minor Street Stop Sign
Regional Road 25 @ Charles Cornwall Avenue	Signalized
Regional Road 25 @ Saw Whet Boulevard	Signalized
Regional Road 25 @ Owlsnest Way	Signalized

Intersection	Method of Traffic Control
Regional Road 25 @ Upper Middle Road West (Regional Road 38)	Signalized
Regional Road 25 @ Westoak Trails Boulevard/Richview Boulevard	Signalized
Regional Road 25 @ Khalsa Gate	Unsignalized – Minor Approach Stop Sign
Regional Road 25 @ Pine Glen Road/Highvalley Road	Signalized
Regional Road 25 @ Dundas Street West (Regional Road 5)	Signalized
Regional Road 25 @ William Halton Parkway (Regional Road 40)	Signalized
Regional Road 25 @ Old Bronte Road	Unsignalized – Minor Approach Stop Sign
Regional Road 25 @ 407 South Terminal	Signalized
Regional Road 25 @ 407 North Terminal	Signalized
Regional Road 25 @ Burnhamthorpe Road West	Unsignalized
Regional Road 25 @ Henderson Road/Muslim Association of Milton Access	Signalized ¹
Regional Road 25 @ Johnson Way	Unsignalized – Minor Approach Stop Sign
Regional Road 25 @ Lower Base Line	Signalized
Regional Road 25 @ Milton Civic Operations Centre	Signalized

¹ The intersection of Regional Road 25 and Henderson Road was signalized in 2025. When the traffic operational analysis was conducted, Henderson Road was an unsignalized intersection with stops signs controlling traffic on the minor approach.

Intersection	Method of Traffic Control
Regional Road 25 @ Halton Waste Management Access	Signalized
Regional Road 25 @ Britannia Road (Regional Road 6)	Signalized
Regional Road 25 @ Etheridge Avenue	Signalized
Regional Road 25 @ Whitlock Avenue	Signalized
Regional Road 25 @ Izumi Gate	Unsignalized – Minor Street Right In/Out Channel
Regional Road 25 @ Louis St. Laurent Avenue	Signalized
Regional Road 25 @ Derry Road (Regional Road 7)	Signalized

2.2.3 Existing Traffic Operations

Traffic Movement Counts and Signal Timing Plans were used to establish the base year (2022) volumes and operational performance in the study area. Base year traffic volumes for AM and PM peak periods at signalized and unsignalized intersections in the study area are presented in **Figure 2-2**. Intersection operational analysis was conducted using Synchro/SimTraffic V11 modelling software following the Highway Capacity Manual (HCM) approach to evaluate the operational performance of signalized and unsignalized intersections. The corresponding intersection operational results are shown in **Table 2-2**. The analysis indicates that existing congestion along the corridor is primarily concentrated between Wyecroft Road and William Halton Parkway, and that the following intersections operate over capacity during AM and PM peak hours.

- Regional Road 25/QEW South Terminal
- Regional Road 25/North Service Road West
- Regional Road 25/Halton Regional Center
- Regional Road 25/Upper Middle Road West
- Regional Road 25/Dundas Street West
- Regional Road 25/Derry Road

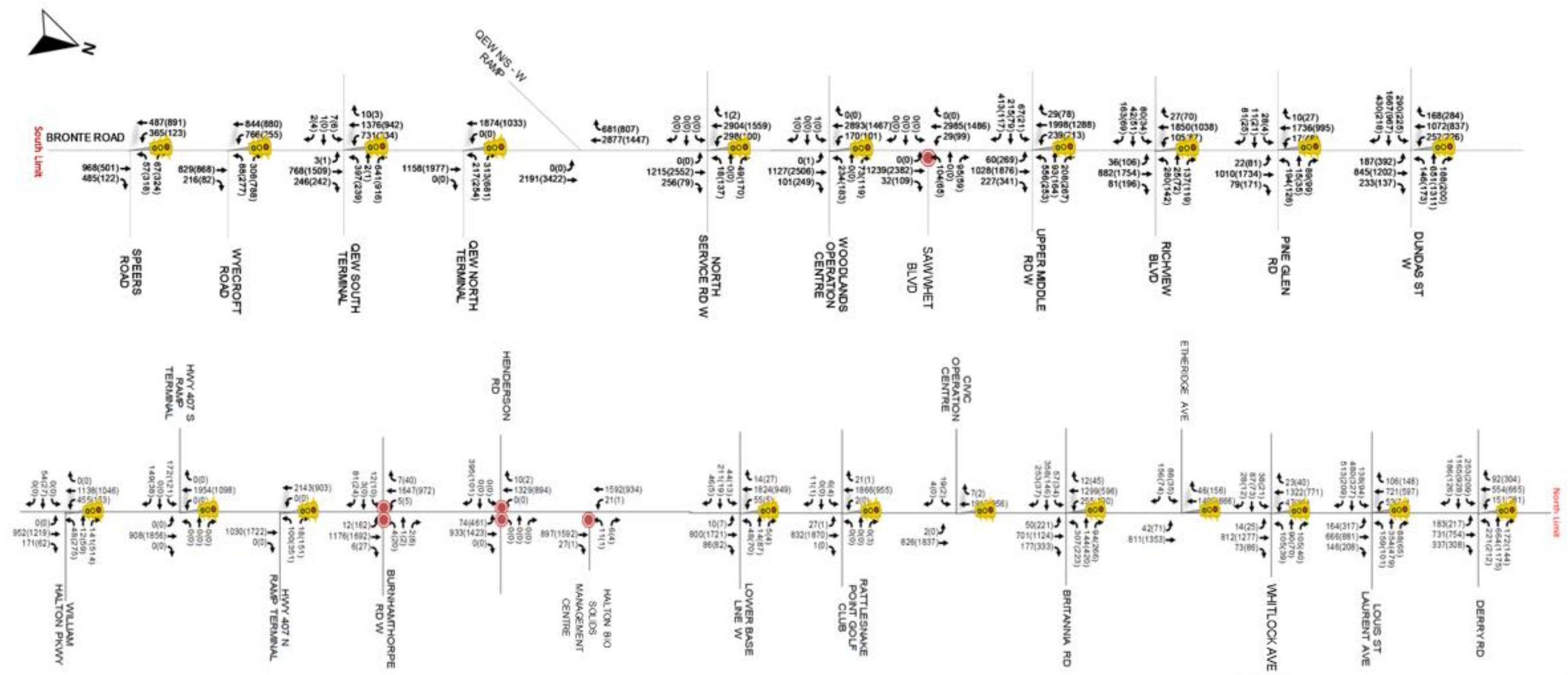


Figure 2-2: Base Year (2022) AM and PM Traffic Volumes

Table 2-2: 2022 Existing Conditions – Traffic Operational Results

Movement	Storage Length (m)	v/c (AM)	Delay (s) (AM)	LOS (AM)	Queue (m) (AM)	v/c (PM)	Delay (s) (PM)	LOS (PM)	Queue (m) (PM)
RR25/Speers Rd - Actuated-Coordinated Signal									
WBL	100	0.55	58.5	E	31	0.82	51.7	D	96
WBR	-	0.05	51.1	D	23	0.23	32.8	C	39
NBT	-	0.56	18.0	B	68	0.33	18.9	B	45
NBR	60	0.42	16.6	B	47	0.09	16.3	B	15
SBL	70	0.69	15.9	B	60	0.27	10.8	B	24
SBT	-	0.20	2.6	A	17	0.47	13.6	B	59
Overall		0.69	16.2	B	-	0.60	22.8	C	-
RR25 /Wyecroft Rd - Actuated-Uncoordinated Signal									
WBL	-	0.54	53.0	D	30	0.87	65.8	E	388
WBR	-	0.43	20.6	C	51	1.00	58.8	E	414
NBT/R	-	0.93	49.1	D	107	0.94	52.2	D	249
SBL	75	1.17	125.1	F	128	0.47	20.7	C	54
SBT	-	0.34	3.6	A	388	0.40	8.0	A	43
Overall		1.13	52.8	D	-	0.97	40.2	D	-
RR25 /QEW South Terminal - Actuated-Coordinated Signal									
EBL	10	0.15	67.7	E	9	0.12	67.5	E	8
EBT/R	-	0.07	66.8	E	6	0.09	67.2	E	8
WBL	160	0.91	73.1	E	131	0.71	59.7	E	128
WBT	-	0.48	45.0	D	135	0.57	53.6	D	156
WBR	135	0.25	41.6	D	125	0.53	52.0	D	151
NBL	135	0.03	25.7	C	3	0.00	20.2	C	2
NBT	-	0.62	35.3	D	98	1.02	65.6	E	364
NBR	125	0.17	27.2	C	37	0.21	23.0	C	219
SBL	265	1.90	443.0	F	302	1.20	162.2	F	232
SBT/R	-	0.76	20.0	C	438	0.47	17.8	B	161
Overall		1.58	105.6	F	-	1.07	56.9	E	-
RR25 /QEW North Terminal - Actuated-Coordinated Signal									
WBL	-	0.27	20.5	C	60	0.28	38.9	D	620
WBR	-	0.76	31.7	C	57	1.62	337.2	F	534
NBT	-	0.65	16.4	B	78	1.00	31.5	C	167
SBT	-	1.05	38.8	D	148	0.52	7.7	A	69
Overall		0.95	29.8	C	-	1.19	78.5	E	-

Movement	Storage Length (m)	v/c (AM)	Delay (s) (AM)	LOS (AM)	Queue (m) (AM)	v/c (PM)	Delay (s) (PM)	LOS (PM)	Queue (m) (PM)
RR25 /Private D NSR/North Service Rd W - Actuated-Coordinated Signal									
WBL	55	0.05	57.1	E	8	0.19	43.1	D	24
WBT	-	0.06	57.2	E	12	0.19	43.1	D	37
WBR	-	0.03	56.9	E	15	0.12	42.2	D	57
NBT	-	0.53	13.3	B	86	1.35	181.1	F	176
NBR	100	0.18	10.4	B	15	0.06	10.9	B	82
SBL	120	0.98	56.8	E	44	0.76	61.0	E	39
SBT/R	-	1.14	81.2	F	98	0.74	17.1	B	94
Overall		1.13	58.1	E		1.07	110.7	F	-
RR25 /Private D HRC/HRC Rd - Actuated-Coordinated Signal									
EBL/T/R	-	0.00	43.0	D	7	-	-	-	-
WBT	-	0.88	79.7	E	101	0.63	57.5	E	74
WBR	-	0.05	43.5	D	21	0.19	49.2	D	51
NBL	-	-	-	-	-	0.01	8.4	A	11
NBT	-	0.59	17.4	B	101	1.20	118.8	F	126
NBR	45	0.08	11.0	B	36	0.23	10.4	B	98
SBL	80	0.63	16.1	B	95	0.77	67.3	E	39
SBT	-	1.32	166.5	F	285	0.63	10.5	B	64
Overall		1.25	114.6	F	-	1.06	73.3	E	-
RR25 /Saw Whet Blvd - Actuated-Uncoordinated Signal									
WBL	-	0.61	61.2	E	40	0.49	57.7	E	28
WBR	-	0.07	52.1	D	21	0.04	53.1	D	24
NBT	-	0.49	3.4	A	49	1.03	39.9	D	112
NBR	70	0.02	2.0	A	7	0.08	3.7	A	43
SBL	100	0.11	2.3	A	14	0.77	65.1	E	38
SBT	-	1.16	86.7	F	112	0.56	3.1	A	55
Overall		1.10	61.2	E	-	0.96	27.0	C	-

Movement	Storage Length (m)	v/c (AM)	Delay (s) (AM)	LOS (AM)	Queue (m) (AM)	v/c (PM)	Delay (s) (PM)	LOS (PM)	Queue (m) (PM)
RR25 /Upper Middle Rd W - Actuated-Coordinated Signal									
EBL	90	0.34	51.5	D	40	0.13	53.9	D	16
EBT	-	0.98	114.9	F	694	0.46	61.2	E	43
EBR	100	1.55	333.1	F	134	0.08	57.2	E	32
WBL	165	1.66	370.3	F	207	0.80	73.6	E	64
WBT	-	0.28	47.9	D	1104	0.52	53.6	D	69
WBR	-	0.18	46.8	D	1186	0.51	53.7	D	99
NBL	145	0.54	36.7	D	30	1.24	160.3	F	155
NBT	-	0.64	26.0	C	103	1.02	53.9	D	222
NBR	85	0.17	18.1	B	47	0.30	15.9	B	122
SBL	200	0.83	31.2	C	136	1.48	276.9	F	264
SBT	-	1.14	84.0	F	322	0.70	36.9	D	387
SBR	60	0.02	13.2	B	45	0.05	123.7	F	69
Overall		1.26	115.9	F	-	1.29	64.4	E	-
RR25 /Richview Blvd/Westoak Trails Blvd - Actuated-Coordinated Signal									
EBL	75	0.60	67.8	E	46	0.28	58.4	E	21
EBT/R	-	0.54	61.9	E	76	0.44	60.3	E	47
WBL	35	1.59	342.6	F	74	0.73	64.3	E	55
WBT/R	-	0.17	43.4	D	113	0.47	51.5	D	72
NBL	265	0.35	25.1	C	22	0.36	7.2	A	23
NBT	-	0.49	15.7	B	96	0.92	14.1	B	132
NBR	80	0.06	21.0	C	21	0.18	5.7	A	59
SBL	140	0.33	4.1	A	158	0.61	40.4	D	31
SBT	-	1.01	36.0	D	301	0.54	22.1	C	103
SBR	95	0.02	11.4	B	88	0.05	51.9	D	24
Overall		1.16	56.6	E	-	0.87	22.7	C	-
RR25/Henderson Rd (Unsignalized)									
EBL/T/R	-	0.53	25.0	D	37	0.17	12.9	B	17
WBL/T/R	-	0.08	156.3	F	5	0.00	0.0	A	-
NBL	-	0.19	14.3	B	19	0.22	11.2	B	21
NBT/R	-	0.37	0.0	-	-	0.60	0.0	-	-
SBL/T/R	-	0.42	0.0	-	-	0.27	0.4	A	7
Overall		0.89	2.5	E	-	0.84	1.2	A	-

Movement	Storage Length (m)	v/c (AM)	Delay (s) (AM)	LOS (AM)	Queue (m) (AM)	v/c (PM)	Delay (s) (PM)	LOS (PM)	Queue (m) (PM)
RR25/Highvalley Rd/Pine Glen Rd - Actuated-Coordinated Signal									
EBL	30	0.11	43.7	D	19	0.03	49.6	D	4
EBT/R	-	0.10	43.4	D	33	0.10	50.4	D	23
WBL	45	0.77	65.4	E	66	0.67	65.9	E	52
WBT/R	-	0.11	43.6	D	52	0.21	51.8	D	53
NBL	100	0.23	16.2	B	15	0.24	2.3	A	19
NBT	-	0.51	16.9	B	45	0.80	5.4	A	68
NBR	70	0.06	9.9	A	7	0.15	0.3	A	21
SBL	90	0.08	13.6	B	34	0.37	52.7	D	20
SBT	-	0.92	32.5	C	169	0.49	19.5	B	95
SBR	40	0.01	9.7	A	24	0.02	8.0	A	33
Overall		0.86	29.6	C	-	0.76	14.7	B	-
RR25 /Dundas St W - Actuated-Coordinated Signal									
EBL	120	1.24	175.0	F	172	1.24	185.0	F	180
EBT	-	1.11	105.6	F	525	0.70	46.3	D	335
EBR	100	0.58	44.4	D	164	0.17	36.9	D	42
WBL	125	0.99	107.1	F	81	0.86	59.0	E	204
WBT/R	-	0.59	41.0	D	78	1.11	111.0	F	409
NBL	180	0.64	79.7	E	42	0.79	74.3	E	94
NBT	-	0.87	37.8	D	109	1.08	80.8	F	187
NBR	85	0.24	18.0	B	55	0.16	21.1	C	117
SBL	190	1.02	95.5	F	216	1.19	155.3	F	269
SBT	-	1.04	83.2	F	292	0.94	60.9	E	422
SBR	95	0.17	32.4	C	164	0.38	35.3	D	114
Overall		1.16	76.0	E	-	1.18	80.6	F	-
RR25 /Hwy 407 W-N/S Ramp - Actuated-Uncoordinated Signal									
EBL	-	0.26	18.7	B	25	0.25	17.7	B	19
EBR	95	0.43	20.8	C	31	0.03	16.7	B	15
NBT	-	0.32	4.7	A	39	0.60	4.7	A	49
SBT	-	0.97	22.7	C	165	0.51	4.3	A	32
Overall		0.83	17.3	B	-	0.53	5.2	A	-

Movement	Storage Length (m)	v/c (AM)	Delay (s) (AM)	LOS (AM)	Queue (m) (AM)	v/c (PM)	Delay (s) (PM)	LOS (PM)	Queue (m) (PM)
RR25 /William Halton Pkwy - Actuated-Coordinated Signal									
EBT	-	0.20	59.8	E	14	0.03	40.4	D	11
WBL	120	0.48	64.3	E	29	0.92	83.2	F	105
WBT	-	0.04	58.7	E	10	0.08	40.8	D	184
WBR	105	0.10	59.3	E	30	1.14	142.6	F	153
NBT	-	0.43	12.1	B	64	0.68	28.0	C	138
NBR	70	0.12	23.7	C	17	0.05	27.8	C	68
SBL	60	1.04	60.9	E	100	0.63	19.3	B	43
SBT	-	0.45	4.0	A	204	0.49	12.3	B	79
Overall		1.01	21.4	C	-	0.80	45.2	D	-
RR25/@Hwy 407 Park/Ride/Hwy 407 E-N/S Ramp - Actuated-Uncoordinated Signal									
EBL/T/R	-	0.05	46.2	D	23	0.08	49.5	D	28
WBL	-	0.52	48.6	D	30	0.69	46.7	D	49
WBT	-	0.56	51.0	D	24	0.72	49.3	D	47
WBR	115	0.01	40.5	D	12	0.10	33.7	C	38
NBL	115	0.27	12.7	B	18	0.11	12.1	B	11
NBT	-	0.48	8.3	A	47	0.97	38.9	D	108
SBT/R	-	0.80	17.4	B	125	0.41	18.3	B	51
Overall		0.72	16.1	B	-	0.88	33.8	C	-
RR25/Halton Waste Management/RattleSnake Point Golf Club - Actuated-Uncoordinated Signal									
EBL/T	-	0.08	40.9	D	5	0.12	42.1	D	4
EBR	-	0.01	40.4	D	-	0.00	40.4	D	-
WBL/T/R	-	-	-	-	-	0.00	40.4	D	4
NBL	185	0.31	5.5	A	20	0.00	1.7	A	2
NBT	-	0.34	2.9	A	17	0.74	5.3	A	64
NBR	25	0.00	2.0	A	-	0.00	-	-	-
SBL	210	0.00	2.1	A	2	0.00	-	-	2
SBT	-	0.75	6.4	A	44	0.38	2.6	A	29
SBR	200	0.02	2.1	A	2	0.00	1.7	A	-
Overall		0.72	5.5	A	-	0.72	4.5	A	-

Movement	Storage Length (m)	v/c (AM)	Delay (s) (AM)	LOS (AM)	Queue (m) (AM)	v/c (PM)	Delay (s) (PM)	LOS (PM)	Queue (m) (PM)
RR25/Halton Biosolids Management Centre (Unsignalized)									
WBL/R	-	0.03	40.7	E	7	0.06	42.8	E	4
NBT	-	0.26	0.0	-	-	0.40	0.0	-	-
NBR	-	0.00	0.0	-	-	0.00	0.0	-	-
SBT	-	0.40	0.0	-	-	0.25	0.0	-	-
Overall		0.47	0.1	A	-	0.48	0.1	A	-
RR25/Lower Base Line W - Actuated-Uncoordinated Signal									
EBL/T/R	-	0.78	49.5	D	82	0.12	35.7	D	20
WBL/T/R	-	0.32	35.9	D	30	0.63	45.3	D	49
NBL	210	0.19	13.2	B	7	0.02	4.9	A	5
NBT/R	-	0.46	10.7	B	63	0.83	14.4	B	86
SBL	135	0.19	9.1	A	32	0.06	6.1	A	6
SBT/R	-	0.92	25.8	C	140	0.45	7.4	A	47
Overall		0.88	23.7	C	-	0.79	14.0	B	-
RR25/Britannia Rd - Actuated-Coordinated Signal									
EBL	95	0.38	61.1	E	24	0.37	64.0	E	18
EBT	-	0.65	52.7	D	57	0.23	43.6	D	30
EBR	-	0.42	49.1	D	74	0.03	41.6	D	14
WBL	70	1.19	174.3	F	100	0.83	76.5	E	49
WBT/R	-	0.26	42.8	D	144	0.79	50.2	D	107
NBL	100	0.34	60.9	E	17	0.82	75.6	E	51
NBT	-	0.49	25.2	C	70	0.77	32.5	C	108
NBR	80	0.13	20.1	C	25	0.30	22.3	C	58
SBL	85	0.94	95.2	F	103	0.56	63.4	E	25
SBT	-	0.85	33.8	C	162	0.44	26.1	C	68
SBR	75	0.01	16.0	B	43	0.03	20.7	C	10
Overall		0.87	51.6	D	-	0.82	40.9	D	-
RR25/Civic Operation Centre - Actuated-Uncoordinated Signal									
EBL	-	0.32	39.4	D	15	0.06	39.4	D	5
EBR	-	0.00	35.8	D	7	-	-	-	-
NBL	110	0.02	2.0	A	3	-	-	-	-
NBT	-	0.34	2.7	A	29	0.71	4.3	A	21
SBT	-	0.78	6.4	A	57	0.37	2.1	A	12
SBR	50	0.01	1.9	A	3	0.00	1.4	A	-
Overall		0.75	5.5	A	-	0.69	3.6	A	-

Movement	Storage Length (m)	v/c (AM)	Delay (s) (AM)	LOS (AM)	Queue (m) (AM)	v/c (PM)	Delay (s) (PM)	LOS (PM)	Queue (m) (PM)
RR25/Etheridge Ave - Actuated-Uncoordinated Signal									
EBL	30	0.58	55.6	E	35	0.39	55.8	E	20
EBT/R	-	0.11	47.7	D	43	0.05	52.2	D	17
NBL	90	0.20	6.6	A	18	0.16	2.2	A	16
NBT/R	-	0.32	3.8	A	34	0.51	3.4	A	39
SBT/R	-	0.66	14.6	B	44	0.35	8.5	A	35
Overall		0.63	14.5	B	-	0.52	7.5	A	-
RR25/Whitlock Ave - Actuated-Coordinated Signal									
EBL	25	0.24	46.3	D	22	0.19	50.4	D	14
EBT/R	-	0.44	48.3	D	40	0.48	53.2	D	33
WBL	115	0.73	64.8	E	39	0.35	52.3	D	22
WBT	-	0.37	47.4	D	36	0.42	52.4	D	29
WBR	50	0.07	44.6	D	22	0.03	48.9	D	13
NBL	60	0.07	10.4	B	17	0.06	8.0	A	10
NBT	-	0.40	13.1	B	71	0.57	15.8	B	51
NBR	40	0.05	17.0	B	28	0.07	15.5	B	19
SBL	115	0.12	4.7	A	11	0.35	6.0	A	26
SBT	-	0.62	11.2	B	70	0.34	6.3	A	31
SBR	25	0.02	5.7	A	17	0.03	4.6	A	8
Overall		0.63	18.3	B	-	0.55	15.9	B	-
RR25/Louis St Laurent Ave - Actuated-Uncoordinated Signal									
EBL	125	0.39	27.2	C	40	0.40	30.1	C	34
EBT/R	-	0.95	63.8	E	168	0.76	46.5	D	68
WBL	40	0.69	45.3	D	49	0.40	28.7	C	34
WBT/R	-	0.40	34.6	C	61	0.75	44.4	D	67
NBL	85	0.73	41.0	D	61	0.75	25.5	C	71
NBT	-	0.63	40.2	D	85	0.67	27.6	C	90
NBR	75	0.12	32.1	C	31	0.17	20.6	C	45
SBL	75	0.25	33.4	C	34	0.32	27.1	C	21
SBT	-	0.83	54.3	D	105	0.71	39.4	D	75
SBR	105	0.08	37.2	D	17	0.10	30.8	C	20
Overall		0.84	48.1	D	-	0.74	34.7	C	-

Movement	Storage Length (m)	v/c (AM)	Delay (s) (AM)	LOS (AM)	Queue (m) (AM)	v/c (PM)	Delay (s) (PM)	LOS (PM)	Queue (m) (PM)
RR25/Ontario St S/Derry Rd - Actuated-Coordinated Signal									
EBL	70	0.82	36.7	D	126	1.07	116.0	F	118
EBT	-	0.95	50.9	D	356	0.84	43.5	D	167
EBR	80	0.18	25.3	C	142	0.10	27.3	C	47
WBL	80	1.19	158.9	F	134	1.02	96.8	F	140
WBT	-	0.55	30.7	C	216	1.06	82.7	F	589
WBR	65	0.12	24.5	C	37	0.16	28.1	C	130
NBL	140	1.00	102.2	F	119	1.57	319.6	F	218
NBT	-	0.81	45.0	D	93	0.72	38.0	D	482
NBR	105	0.44	35.8	D	79	0.34	31.1	C	57
SBL	150	0.96	94.3	F	76	1.53	295.6	F	225
SBT/R	-	0.75	42.5	D	90	0.93	52.7	D	625
Overall		1.11	50.6	D	-	1.30	81.0	F	-

2.2.4 Future Traffic Operations

Travel demand is expected to increase on Regional Road 25 as the surrounding Towns of Oakville and Milton continue to grow, and development occurs along the corridor. Future horizon year (2031) traffic volumes were projected by applying a two percent annual growth rate to the 2022 base year volumes. These projected volumes were used to evaluate traffic operational performance in the study area under four scenarios.

- 1) Four General Purpose Lanes (“Do Nothing”)
- 2) Six General Purpose Lanes

In consideration of the 2011 Transportation Master Plan and the 2026 Integrated Master Plan which was ongoing at the time of this Study, these additional scenarios were considered:

- 3) Four General Purpose Lanes Plus Two Combined High Occupancy Vehicle (HOV) and Transit Signal Priority (2037 to 2041 timing identified in the Integrated Master Plan)
- 4) Four General Purpose Lanes Plus Two Transit Only Lanes (2051 timing identified in the Integrated Master Plan)

It should be noted that the implementation of the Transit Priority Corridor network will be phased and will evolve based on travel demand and local priorities. It is recognized that the timing and transition of the Transit Priority Corridor will require close coordination between the Region and the Local Municipalities.

The analysis indicates that under the future Do Nothing scenario, most intersections are expected to operate at LOS E or F. Adding an additional lane in each direction on Regional Road 25 improves operations at most intersections by increasing capacity. Among the scenarios evaluated, the Four General Purpose Lane Plus Two Combined High Occupancy Vehicle and Transit Lanes scenario provides the best operational performance throughout the corridor.

Table 2-3 and present a comparison of overall intersection performance during the AM and PM peak hours for the 2031 future scenarios.

Further to the preliminary operational results presented in the following tables, additional analysis was undertaken for the Four General Purpose Lane Plus Two Combined HOV and Transit Lanes scenario. This analysis considering ongoing corridor development and focused on optimizing intersection operations. The results of this analysis are included in Traffic Operational Analysis Report on file with Halton Region.

Table 2-3: Overall AM Peak Hour Intersection Performance

Intersection	2031 Do Nothing			2031 Six General Purpose Lanes			2031 HOV & Transit Lanes			2031: Transit Only Lanes		
	v/c	Delay (s)	LOS	v/c	Delay (s)	LOS	v/c	Delay (s)	LOS	v/c	Delay (s)	LOS
RR25/Speers Rd - Actuated-Coordinated Signal	0.86	25.6	C	0.86	25.6	C	0.77	21.1	C	0.77	21.1	C
RR25/Wyecroft Rd - Actuated-Uncoordinated Signal	1.35	99.1	F	1.35	98.9	F	1.19	81.5	F	1.19	81.6	F
RR25/QEW South Terminal - Actuated-Coordinated Signal	1.60	123.6	F	1.45	88.8	F	1.39	84.5	F	1.41	90.5	F
RR25/QEW North Terminal - Actuated-Coordinated Signal	1.12	92.3	F	0.87	17.1	B	0.80	15.1	B	0.92	17.2	B
RR25/Private D NSR/North Service Rd W - Actuated-Coordinated Signal	1.41	120.8	F	0.94	19.0	B	0.85	12.5	B	1.07	37.3	D
RR25/Private D HRC/HRC Rd2 - Actuated-Coordinated Signal	1.45	188.1	F	1.07	49.0	D	1.00	30.5	C	1.20	92.3	F
RR25/Saw Whet Blvd - Actuated-Uncoordinated Signal	1.31	136.4	F	0.95	21.9	C	0.87	13.4	B	1.08	60.0	E

Intersection	2031 Do Nothing			2031 Six General Purpose Lanes			2031 HOV & Transit Lanes			2031: Transit Only Lanes		
	v/c	Delay (s)	LOS	v/c	Delay (s)	LOS	v/c	Delay (s)	LOS	v/c	Delay (s)	LOS
RR25/Upper Middle Rd W - Actuated-Coordinated Signal	1.55	196.4	F	1.25	115.0	F	1.17	94.9	F	1.36	158.7	F
RR25/Richview Blvd/Westoak Trails Blvd - Actuated-Coordinated Signal	1.46	117.1	F	1.12	41.6	D	1.06	43.6	D	1.26	69.2	E
RR25/Highvalley Rd/Pine Glen Rd - Actuated-Coordinated Signal	1.03	73.4	E	0.79	19.3	B	0.75	18.3	B	0.88	25.3	C
RR25/Dundas St W - Actuated-Coordinated Signal	1.73	181.8	F	1.73	140.1	F	1.78	112.6	F	1.34	168.5	F
RR25/William Halton Pkwy - Actuated-Coordinated Signal	0.96	39.0	D	0.94	28.5	C	0.87	23.0	C	0.89	33.3	C
RR25/Hwy 407 W-N/S Ramp - Actuated-Uncoordinated Signal	1.10	111.4	F	0.80	11.7	B	0.75	11.1	B	0.89	19.5	B
RR25 @Hwy 407 Park/Ride/Hwy 407 E-N/S Ramp - Actuated-Uncoordinated Signal	0.86	31.0	C	0.77	18.4	B	0.72	17.7	B	0.87	23.4	C
RR25/Henderson Rd (Unsignalized)	1.06	6.4	A	0.81	2.8	A	0.70	2.6	A	0.90	3.9	A
RR25 & Halton Biosolids Management Centre (Unsignalized)	0.55	0.1	A	0.32	0.1	A	0.35	0.0	A	0.46	0.1	A
RR25/Lower Base Line W - Actuated-Uncoordinated Signal	1.05	64.8	E	0.81	20.3	C	0.77	19.7	B	0.89	25.2	C
RR25/Halton Waste Management/RattleSnake Point Golf Club - Actuated-Uncoordinated Signal	0.86	9.2	A	0.61	4.1	A	0.58	4.3	A	0.71	5.4	A
RR25/Civic Operation Centre - Actuated-Uncoordinated Signal	0.90	11.1	B	0.64	4.2	A	0.60	4.1	A	0.73	5.4	A
RR25/Britannia Rd - Actuated-Coordinated Signal	1.04	80.9	F	0.86	56.0	E	0.78	57.6	E	0.90	55.7	E
RR25/Etheridge Ave - Actuated-Uncoordinated Signal	0.76	17.9	B	0.56	9.7	A	0.52	8.8	A	0.64	10.1	B

Intersection	2031 Do Nothing			2031 Six General Purpose Lanes			2031 HOV & Transit Lanes			2031: Transit Only Lanes		
	v/c	Delay (s)	LOS	v/c	Delay (s)	LOS	v/c	Delay (s)	LOS	v/c	Delay (s)	LOS
RR25/Whitlock Ave - Actuated-Coordinated Signal	0.83	27.5	C	0.63	26.0	C	0.57	20.7	C	0.68	23.1	C
RR25/Louis St Laurent Ave - Actuated-Uncoordinated Signal	1.05	87.7	F	1.05	48.0	D	1.02	44.9	D	1.05	51.1	D
RR25/Ontario St S/Derry Rd - Actuated-Coordinated Signal	1.35	93.8	F	1.39	85.0	F	1.61	82.5	F	1.21	93.0	F

Table 2-4: Overall PM Peak Hour Intersection Performance

Intersection	2031 Do Nothing			2031 Six General Purpose Lanes			2031 HOV & Transit Lanes			2031: Transit Only Lanes		
	v/c	Delay (s)	LOS	v/c	Delay (s)	LOS	v/c	Delay (s)	LOS	v/c	Delay (s)	LOS
RR25/Speers Rd - Actuated-Coordinated Signal	0.72	25.9	C	0.72	25.9	C	0.64	25.2	C	0.64	25.2	C
RR25/Wyecroft Rd - Actuated-Uncoordinated Signal	1.14	76.9	E	1.14	75.6	E	1.06	61.2	E	1.06	61.3	E
RR25/QEW South Terminal - Actuated-Coordinated Signal	1.20	110.5	F	1.12	54.3	D	1.04	50.6	D	1.04	66.7	E
RR25/QEW North Terminal - Actuated-Coordinated Signal	1.39	128.1	F	1.15	64.8	E	1.10	55.4	E	1.23	113.9	F
RR25/Private D NSR/North Service Rd W - Actuated-Coordinated Signal	1.25	172.7	F	0.90	29.5	C	0.83	71.4	E	1.02	149.7	F
RR25/Private D HRC/HRC Rd2 - Actuated-Coordinated Signal	1.23	130.1	F	0.94	25.7	C	0.86	21.7	C	1.01	54.3	D
RR25/Saw Whet Blvd - Actuated-Uncoordinated Signal	1.32	127.9	F	0.98	32.4	C	0.91	18.8	B	1.08	60.0	E
RR25/Upper Middle Rd W - Actuated-Coordinated Signal	1.64	123.3	F	0.93	123.3	F	0.91	41.5	D	1.02	68.9	E

Intersection	2031 Do Nothing			2031 Six General Purpose Lanes			2031 HOV & Transit Lanes			2031: Transit Only Lanes		
	v/c	Delay (s)	LOS	v/c	Delay (s)	LOS	v/c	Delay (s)	LOS	v/c	Delay (s)	LOS
RR25/Richview Blvd/Westoak Trails Blvd - Actuated-Coordinated Signal	1.06	51.3	D	1.06	51.3	D	0.77	24.4	C	0.92	47.0	D
RR25/Highvalley Rd/Pine Glen Rd - Actuated-Coordinated Signal	0.91	20.8	C	0.68	12.6	B	0.63	12.5	B	0.76	21.6	C
RR25/Dundas St W - Actuated-Coordinated Signal	1.72	206.0	F	1.68	143.9	F	1.58	119.1	F	1.43	172.8	F
RR25/William Halton Pkwy - Actuated-Coordinated Signal	1.07	58.4	E	0.87	37.7	D	0.78	32.4	C	0.85	39.5	D
RR25/Hwy 407 W-N/S Ramp - Actuated-Uncoordinated Signal	0.67	7.1	A	0.67	6.5	A	0.61	6.1	A	0.76	9.6	A
RR25/RR25/Bronte@Hwy 407 Park/Ride/Hwy 407 E-N/S Ramp - Actuated-Uncoordinated Signal	1.04	101.4	F	0.78	32.8	C	0.74	34.3	C	0.84	34.8	C
RR25 & Henderson Rd (Unsignalized)	1.00	2.7	A	0.75	2.0	A	0.64	1.9	A	0.84	2.3	A
RR25 & Halton Biosolids Management Centre (Unsignalized)	0.55	0.2	A	0.42	0.2	A	0.35	0.1	A	0.46	0.1	A
RR25/Lower Base Line W - Actuated-Uncoordinated Signal	0.94	30.1	C	0.69	12.4	B	0.65	12.4	B	0.78	15.1	B
RR25/Halton Waste Management/RattleSnake Point Golf Club - Actuated-Uncoordinated Signal	0.85	6.8	A	0.61	3.4	A	0.58	3.8	A	0.72	4.7	A
RR25/Civic Operation Centre - Actuated-Uncoordinated Signal	0.83	5.6	A	0.59	2.8	A	0.54	2.8	A	0.68	3.7	A
RR25/Britannia Rd - Actuated-Coordinated Signal	1.00	59.2	E	0.84	45.9	D	0.79	43.3	D	0.86	46.8	D
RR25/Etheridge Ave - Actuated-Uncoordinated Signal	0.62	7.9	A	0.44	8.6	A	0.41	7.1	A	0.51	8.6	A
RR25/Whitlock Ave - Actuated-Coordinated Signal	0.68	20.9	C	0.52	16.4	B	0.48	14.3	B	0.57	14.7	B

Intersection	2031 Do Nothing			2031 Six General Purpose Lanes			2031 HOV & Transit Lanes			2031: Transit Only Lanes		
	v/c	Delay (s)	LOS	v/c	Delay (s)	LOS	v/c	Delay (s)	LOS	v/c	Delay (s)	LOS
RR25/Louis St Laurent Ave - Actuated-Uncoordinated Signal	0.90	46.8	D	0.95	35.5	D	0.92	34.4	C	0.94	36.4	D
RR25/Ontario St S/Derry Rd - Actuated-Coordinated Signal	1.69	140.6	F	1.69	140.6	F	1.79	117.5	F	1.32	149.4	F

While the planning horizon for the Regional Road 25 MCEA Study is to 2031 and the traffic analysis completed within the context of the MCEA Study is based on this timeline, a high level review of traffic operating conditions in 2041 was carried out given that the Integrated Master Plan was ongoing during the Regional Road 25 MCEA Study. When reviewing the anticipated growth between 2031 and 2041, the results indicate a steady growth trend in terms of traffic volumes, with growth rates between less than 1 to 2% along the Regional Road 25 corridor. Overall, Regional Road 25 with the proposed improvements (i.e. widening from 4 to 6 lanes with opportunities for implementation for HOV/Transit Priority corridor) will operate at acceptable levels of service in both AM and PM peak periods. For additional information regarding the planning of Regional transportation strategy beyond 2041, please reference the Halton Region Integrated Master Plan.

It should be noted that the implementation of the Transit Priority Corridor network will be phased and will evolve based on travel demand and local priorities. It is recognized that the timing and transition of the Transit Priority Corridors will require close coordination between the Region and the Local Municipalities.

2.3 Problems Being Addressed

Based on the review of existing conditions on Regional Road 25 and the analysis of existing traffic volumes and projected future travel demands and the findings and recommendations of related studies, the problem being addressed by the study was defined as follows:

- Without improvements to Regional Road 25, traffic operations will continue to experience high demand during peak periods and intersections will be operating over capacity while travel demand continues to grow.
- To support future growth, multi-modal travel demand, and network connectivity, infrastructure improvements including widening of Regional Road 25 are required

to create a transportation system that is safe, continuous, connected, and coordinated for all users and all abilities.

- The right-of-way should accommodate cycling facilities, an improved pedestrian and streetscape environment, and allow for improvements to traffic operations at intersections and throughout the corridor. It should also protect for potential future Transit Priority Corridor infrastructure.

Therefore, Halton Region carried out this study to address the foregoing in accordance with the MCEA process. The Regional Road 25 MCEA Study supports the Region's vision to create a safe, connected, and sustainable multi-modal transportation network that supports users of all ages and abilities. The MCEA Study prioritized key elements of the planning and policy framework, including connected active transportation facilities for pedestrians and cyclists and a multi-modal Regional road network that moves both people and goods safely and efficiently.

3 Existing Conditions

3.1 Transportation

3.1.1 Roadway

Regional Road 25 is a north-south major arterial roadway that within the study limits, serves as a key connector between the Towns of Oakville and Milton, as well as the provincial highway network. Within the 16-kilometre study area, there are 30 intersections (as detailed in Section 2.2.2) that provide access to Provincial highways and other Regional and Local roads. Regional Road 25 also connects to carpool lots at the QEW and Highway 407 interchanges.

- Provincial Highways
 - QEW
 - Highway 407
- Regional Roads
 - Wyecroft Road Extension (Under Construction)
 - Upper Middle Road (Regional Road 38)
 - Dundas Street (Regional Road 5)
 - William Halton Parkway (Regional Road 40)
 - Britannia Road (Regional Road 6)
 - Derry Road (Regional Road 7)
- Local Roads
 - Town of Oakville
 - Speers Road
 - North Service Road
 - Charles Cornwall Avenue
 - Saw Whet Boulevard
 - Owlsnest Way
 - Westoak Trails Boulevard/Richview Boulevard
 - Khalsa Gate
 - Pine Glen Road/Highvalley Road

- Old Bronte Road
- Johnson Way
- Town of Milton
 - Burnhamthorpe Road
 - Henderson Road
 - Lower Base Line
 - Etheridge Avenue
 - Whitlock Avenue
 - Izumi Gate
 - Louis St. Laurent Avenue

The roadway exhibits varying characteristics along its length, reflecting transitions between urban and rural land uses. The existing typical cross-section of Regional Road 25 consists of 4-lanes (two lanes per direction). From Speers Road to Old Bronte Road, the roadway has curb and gutter with a raised median. Between Old Bronte Road and Britannia Road, the cross-section transitions to paved shoulders with a flush median. From Britannia Road to Derry Road, the roadway features a raised median with curb and gutter. The posted speed limit varies from 60 km/h to 80 km/h throughout the study area.

3.1.2 Road Safety

Collision data from 2017 to 2021 was assessed to identify collision trends and possible contributing factors. Field investigations were conducted in March and August 2023 to review accesses, traffic control and operations, illumination, roadside safety, signage and pavement markings, and walking and cycling facilities.

During the five-year period, 859 collisions were reported in the study area. Of the 859 collisions, 773 (90%) were property damage only (PDO) or Not Reportable (NR) collisions, 84 (28%) were non-fatal injury collisions, 1 (0.12%) was a fatal collision and 1(0.12%) was an unknown collision.

The following observations were made from the data:

- Fewer collisions occurred on weekends, while higher collision frequencies were observed during midweek, with Thursday recording the highest number of collisions (162).

- The majority of collisions in the study area occurred during the PM peak period (15:00–18:00), suggesting that peak-hour congestion may be a contributing factor.
- The 3:00–6:00 time period exhibited the highest severity ratio, when traffic volumes are relatively lower and operating speeds tend to be higher than during peak congestion.
- At intersections, rear-end, sideswipe, turning movement, and angle collisions were the predominant impact types:
 - Rear-end collisions accounted for 57% of all intersection collisions, with 5% resulting in injuries.
 - Sideswipe collisions accounted for 12%, with 5% resulting in injuries.
 - Turning movement collisions accounted for 12%, with 15% resulting in injuries.
 - Angle collisions accounted for 10%, with 17% resulting in injuries.
- At midblock locations, rear-end, slow-moving vehicle (SMV), and sideswipe collisions were the predominant impact types:
 - Rear-end collisions accounted for 51% of all midblock collisions, with 18% resulting in injuries.
 - SMV collisions accounted for 20% of all midblock collisions, with 10% resulting in injuries.
 - Sideswipe collisions accounted for 15%, with 3% resulting in injuries. 8% of all collisions occurred in rainy weather, and 7% occurred in snowy weather.
- Eight percent (8%) of all collisions occur during rainy conditions, while 7% occurring during snowy conditions.
- Approximately 28% of collisions occurred under low-light conditions (i.e., dark, dusk or dawn)

3.1.3 Active Transportation

The study area has a variety of active transportation facilities that support walking, cycling, and other non-motorized modes of travel. The network of active transportation facilities reflects a mix of urban and rural contexts, with more connectivity in urbanized areas compared to rural sections of the study area.

From Speers Road to Dundas Street, sidewalks are provided on both sides of the road. A multi-use path runs along the west side of Regional Road 25, including through the QEW interchange, where it follows the former Highway 25 alignment.

Between Dundas Street and Britannia Road, paved shoulders are provided on both sides of Regional Road 25, and there is no dedicated walking or cycling facilities.

From Britannia Road to Louis St. Laurent Avenue, a sidewalk is provided along the east side of the roadway.

Between Louis St. Laurent Avenue and Derry Road, a multi-use path is located on the east side of Regional Road 25. North of Louis St. Laurent Avenue, there is also a connection to a trail on the west side of the road through the Milton Community Sports Park.

The active transportation facilities on Regional Road 25 connect to facilities along roads that intersect the study area. The facilities on intersecting roads are summarized in **Table 3-1**.

Table 3-1: Walking and Cycling Facilities on Intersecting Roads

Road	Intersection Leg	Sidewalk	Multi-Use Path / In-Boulevard Trail	On-Road Bike Lane	Signed Bike Route
Speers Road	East	✓		✓	
Wyecroft Road	East	✓			✓
North Service Road West	East				✓
Upper Middle Road	East	✓	✓		
Upper Middle Road	West		✓	✓	

Westoak Trails Boulevard	East	✓		✓	
Richview Boulevard	West	✓		✓	
Khalsa Gate	East	✓			
Pine Glen Road	East	✓		✓	
Highvalley Road	West	✓		✓	
Dundas Street	East		✓		
Dundas Street	West		✓		
William Halton Parkway	East	✓		✓	
Britannia Road	East		✓		
Britannia Road	West		✓	✓	
Etheridge Avenue	West	✓		✓	
Whitlock Avenue	East	✓		✓	
Whitlock Avenue	West	✓		✓	

Louis St Laurent Avenue	East		✓	✓	
Louis St Laurent Avenue	West		✓	✓	
Derry Road	East		✓		

3.1.4 Transit Network

The study area is served by a combination of transit services that provide connections within the area and to the surrounding municipalities. GO Transit, operated by Metrolinx, supports longer distance regional travel to surrounding cities and the Greater Toronto Area, while local Oakville Transit and Milton Transit provide coverage within local neighbourhoods. The following bus routes currently operate in the study area.

Oakville Transit:

- Route 6 (Upper Middle) to Bronte GO operates on Regional Road 25 between Wyecroft Road and Upper Middle Road West. Monday to Sunday, including holidays.
- Route 10 (West Industrial) to Oakville GO operates on Regional Road 25 between Speers Road and Wyecroft Road. Monday to Friday during AM and PM peak periods. No weekend or holiday services.
- Route 13 (Westoak Trails) to Oakville GO operates on Regional Road 25 between Wyecroft Road and Westoak Trails. Monday to Sunday, including holidays.
- Route 34 (Pine Glen) to Bronte GO operates on regional Road 25 between Wyecroft Road and Upper Middle Road West, and again between Dundas Street West and Pine Glen Road. Monday to Friday during AM and PM peak periods. No weekend or holiday services.



Figure 3-1: Oakville Transit System Map (April 2026)

Milton Transit:

Route 9A/9B (Ontario South) to Milton GO operates on Regional Road 25 between Britannia Road West and Derry Road. Monday to Sunday, with no holiday service.

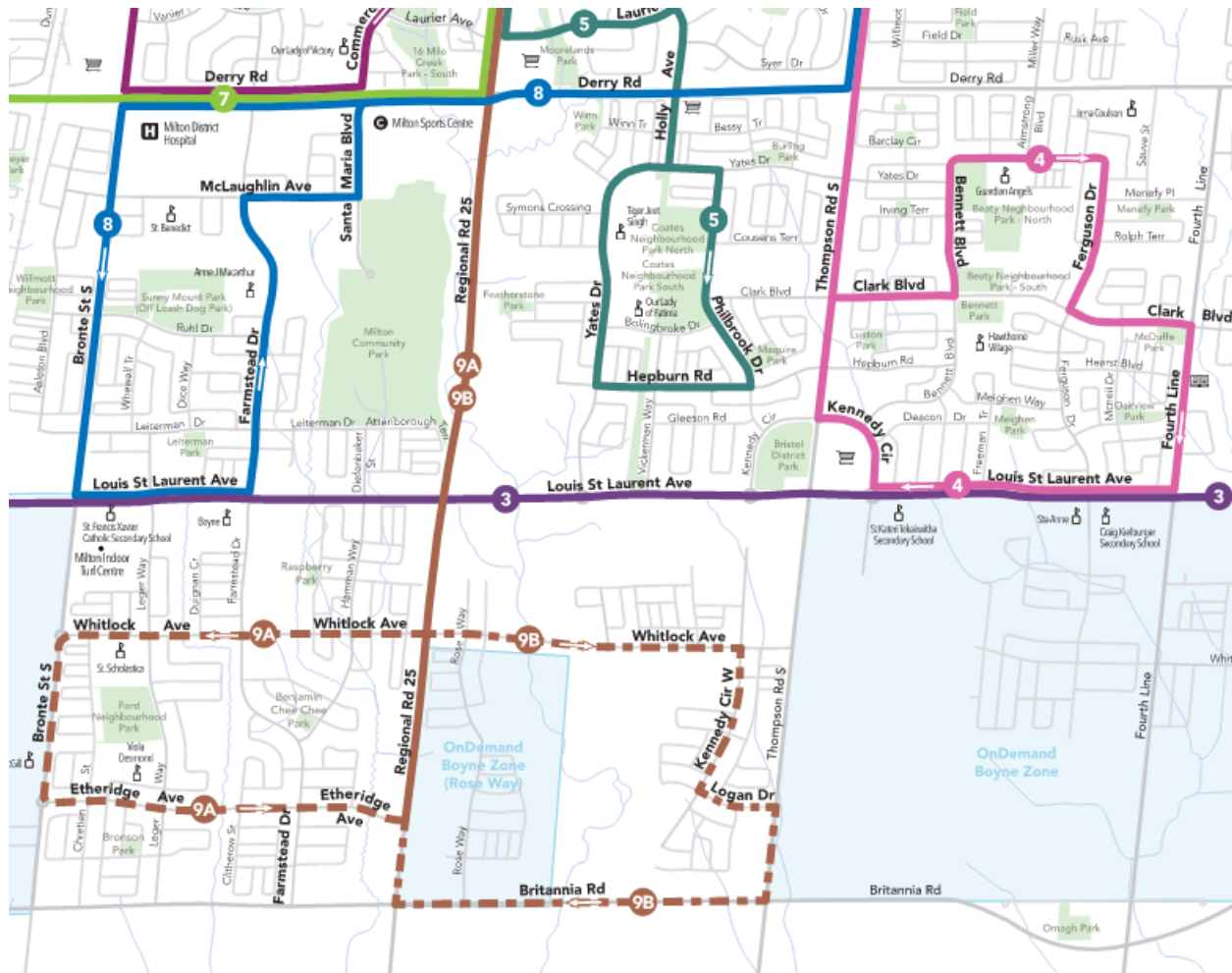


Figure 3-2: Milton Transit System Map Excerpt (April 2026)

GO Transit:

Routes 41-37-48 (Hamilton/ Pickering) stop at the Bronte Road / Highway 407 carpool lot. Monday to Sunday

3.2 Socio-Economic Environment

3.2.1 Land Use

As a key connecting corridor between the Town of Milton and the Town of Oakville, a diverse mix of land uses exists along Regional Road 25 between Speers Road and Derry Road. The Town of Milton and the Town of Oakville represent two urban areas where a concentration of existing and future development is proposed, including both

commercial and low-to-medium density residential. Further details about the planned land uses surrounding the study area are provided in Section 2.1.

The Regional Urban Structure is shown in **Figure 3-3**. Regional Road 25 is a Regional Intensification Corridor within and outside of the Regional Urban Boundary. The Palermo Village Area (see Section 2.1.3.2) at Dundas Street and Regional Road 25 is a Primary Regional Node, which is planned to accommodate growth and contain a concentration of transit-supportive high-density mixed uses.

There are several key community features, places of worship, and municipal facilities along Regional Road 25 including:

- Halton Regional Centre, Halton Region Paramedic Services Headquarters and Halton Public Works at 1151 Regional Road 25 in the Town of Oakville
- Bronte Seventh-day Adventist Church at 2031 Regional Road 25 in the Town of Oakville
- Oakville Fire Station 8 / Halton Region Paramedic Services at 3025 Pine Glen Road in the Town of Oakville
- Vaishno Devi Temple at 3529 Regional Road 25 in the Town of Oakville
- Muslim Association of Milton at 4269 Regional Road 25 in the Town of Oakville
- Biosolids Management Centre at 4449 Regional Road 25 in the Town of Oakville.
- Holy Family Catholic Cemetery at 2585 Lower Base Line in the Town of Milton
- Halton Waste Management Site at 5400 Regional Road 25 in the Town of Milton
- Milton Works Yard at 5600 Regional Road 25 in the Town of Milton
- Bowes Cemetery at 6321 Regional Road 25 in the Town of Milton

In addition to more developed areas, Regional Road 25 extends over Halton's Greenbelt and Regional Natural Heritage Areas and Open Space in addition to its agricultural area as shown in **Figure 3-3**. The study area also includes several key natural features. These include:

- Bronte Creek
- Fourteen Mile Creek
- Sixteen Mile Creek
- Several unnamed tributaries

Map 1 – Regional Structure

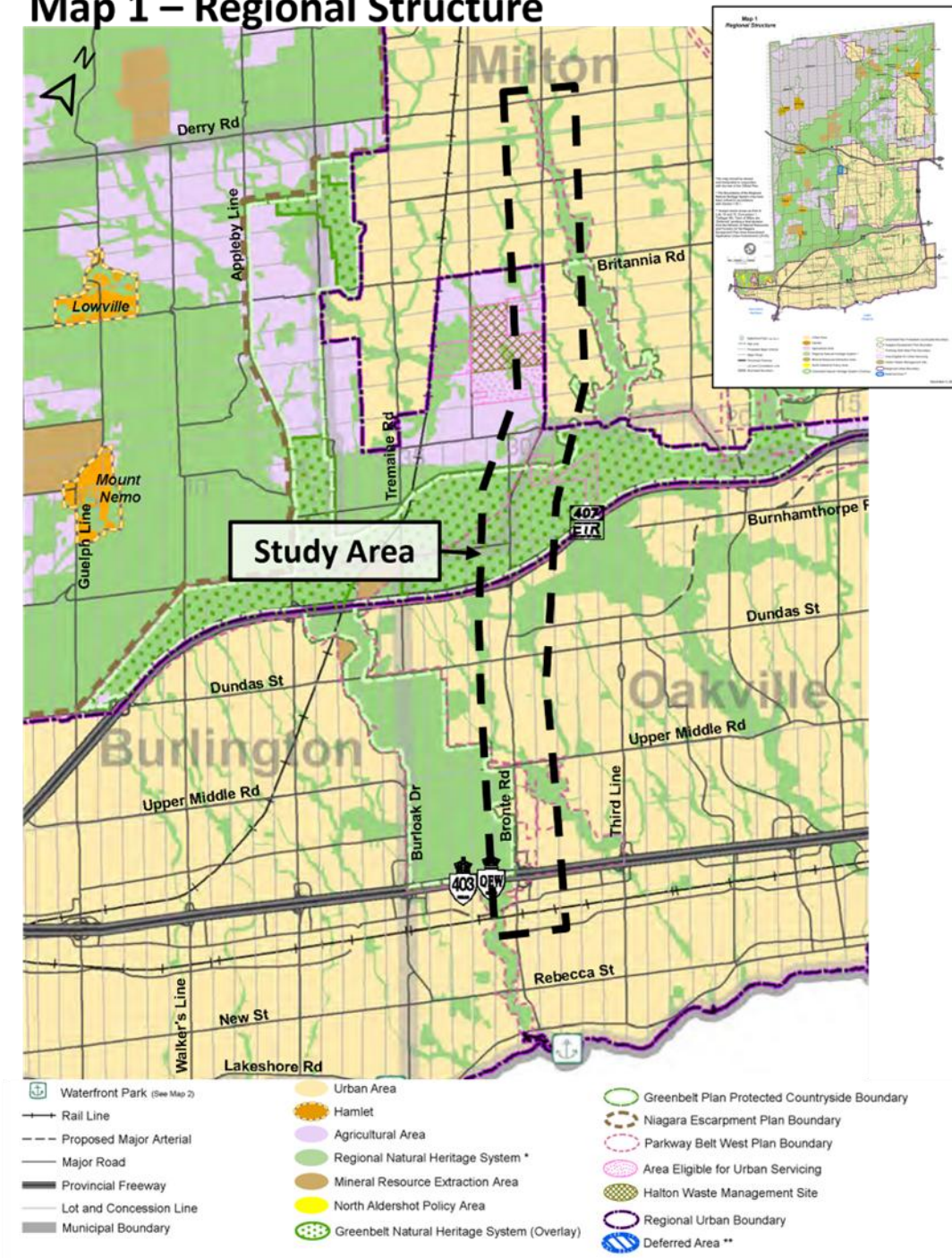


Figure 3-3: Halton Region Official Plan, Map 1 - Regional Structure (Consolidation 2024)

Map 1H – Regional Urban Structure

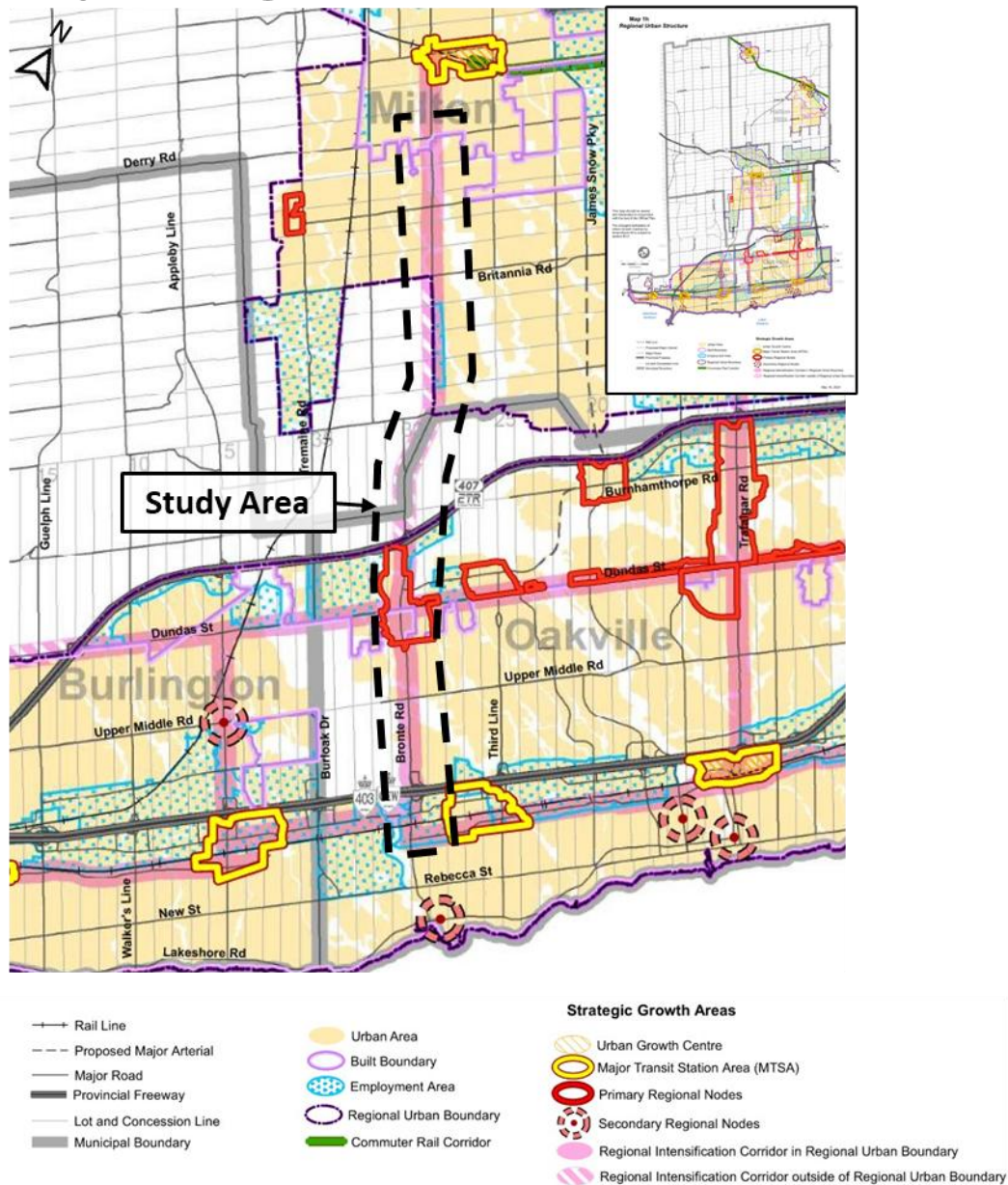


Figure 3-4: Halton Region Official Plan, Map 1H - Regional Urban Structure (Consolidation 2024)

3.3 Cultural Environment

3.3.1 Archaeological Resources

A Stage 1 archaeological assessment was completed for the Regional Road 25 MCEA study in accordance with the Ministry of Citizenship and Multiculturalism 2011 *Standards and Guidelines for Consultant Archaeologists*. The Stage 1 Archeological Assessment Report was prepared by Timmins Martelle Heritage Consultants Inc is provided in Appendix A. The report was submitted to the *Ontario Public Register of Archaeological Reports* on September 29, 2023.

The purpose of the Stage 1 assessment was to identify areas of archaeological potential within the study area based on historical research and visual site inspection. The site inspection was conducted on August 25, 2022.

The Stage 1 assessment determined that there are 146 registered sites within one kilometre of the study area. Registered sites are locations containing evidence of past human activity such as Indigenous hunting camps and villages, battlefields, pioneer homes, burial grounds and cemeteries, and shipwrecks. Of the 146 sites, 25 are situated within 50 metres of the Regional Road 25 right-of-way including six within the study area. Some of the sites near the study area have cultural heritage value or interest and require further archaeological assessment. Other sites have been documented and are no longer of archaeological concern.

Details about the registered sites and status are included in the Stage 1 Archaeological Assessment Report in Appendix A. Maps 57 to 77 in the Stage 1 Archaeological Assessment Report in Appendix A illustrate the Stage 1 assessment results including areas of archaeological potential where Stage 2 assessment is required and areas of low archaeological potential where no further assessment is required.

The conclusions of the Stage 1 archaeological assessment are the following:

- All previously assessed portions of the study area where no further archaeological concern was identified do not require further assessment (59.3 hectares; 41.8%).
- All portions of the study area identified as extensively disturbed (62.4 hectares; 44%), low and permanently wet (1 hectares; 0.7%), steeply sloped (1 ha; 0.7%), and otherwise of low archaeological potential do not require further assessment.
- The portions of the study area that retain archaeological potential require Stage 2 archaeological assessment prior to ground disturbing activities (18 hectares; 12.7%), if they will be impacted by the planned improvements. For cultivated

fields where impacts will be greater than 10 metres, the Stage 2 assessment should consist of pedestrian survey at 5 metres intervals. For all unploughable lands or narrow width impacts in cultivated fields (<10 metres), the Stage 2 assessment should consist of a test pit survey at 5 metres intervals.

- Additional efforts should be made during the Stage 2 assessment to retrieve documentation for the 1975 Bronte Creek Provincial Park survey to confirm the location of AiGw-47 (Office site). If no artifacts are identified during the Stage 2 assessment in the vicinity of the site, reduced survey intervals may be required to confirm whether the AiGw-47 site is present within the study area.
- AiGw-547 (homestead) was partially excavated and demonstrated to extend outside the excavated area, within the current study area limits (SD Map 13). Stage 2 assessment is required for the undisturbed portion of the property. If no artifacts are identified during the Stage 2 assessment in the vicinity of the site, reduced survey intervals may be required to confirm whether the AiGw-547 site is present outside of the previously excavated area. Based on the results of the Stage 2 assessment, Stage 3 archaeological assessment may be required to address the remainder of the site within the study area.
- The portion of the study area that is located within the Bowes Cemetery (0.06 hectares; 0.1) is an area of continued archaeological concern. If possible, impacts to cemetery lands should be avoided. If this is not possible, additional archaeological assessment and/or cemetery investigation may be required as determined through consultation with Ministry of Citizenship and Multiculturalism and the Bereavement Authority of Ontario.
- Should impacts be planned for outside of the study area reviewed by the Stage 1 archaeological assessment report, additional archaeological assessment may be required.

3.3.2 Built Heritage Resources and Cultural Heritage Landscapes

A cultural heritage assessment was completed for the Regional Road 25 MCEA in accordance with Ministry of Citizenship and Multiculturalism *Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscape* and criteria set out by the *Ontario Heritage Act* O.Reg. 9/06. The cultural heritage assessment was conducted by Timmins Martelle Heritage Consultants Inc. The Cultural Heritage Assessment Report dated (June 2026) is provided in Appendix B.

The purpose of the cultural heritage assessment was to identify and evaluate the heritage significance of properties, structures, or landscapes in the study area and recommend measures to mitigate potential negative impacts from the project.

The cultural heritage assessment determined that 98 properties within 50 metres of the Regional Road 25 right-of-way have existing heritage resources or the potential for heritage resources. Of the 98 resources, 28 were found to have potential or confirmed cultural heritage value or interest based on the preliminary application of *Ontario Heritage Act* O.Reg. 9/06 criteria. An inventory of evaluated properties is provided in the Cultural Heritage Report in Appendix B.

Under the *Ontario Heritage Act*, municipalities can pass bylaws to formally designate properties of cultural heritage value or interest. Within the study area there are 12 properties listed on the Town of Oakville and Town of Milton heritage registers. There are also two properties and one heritage tree that are designated under Part IV of the *Ontario Heritage Act*. There are no National Historic Sites, Ontario Heritage Trust-owned properties, conservation easements or Provincial Heritage Properties in the study area.

Federally Designated Properties

- None

Part IV *Ontario Heritage Act* Designated Properties

- 1179 Bronte Road (White Oak Tree)
- 2478 Old Bronte Road
- 5576 Regional Road 25

Part V *Ontario Heritage Act* Designated Properties

- None

***Ontario Heritage Act* Listed Properties**

- 1242 Bronte Road
- 1326 Bronte Road
- 8240 Britannia Road
- 5237 Regional Road 25
- 5507 Regional Road 25
- 5694 Regional Road 25
- 6035 Regional Road 25

- 6317 Regional Road 25
- 6321 Regional Road 25
- 6712 Regional Road 25
- 6529 Regional Road 25
- 6649 Regional Road 25

3.4 Natural Environment

An assessment of the natural environment was conducted to identify existing conditions, assess potential impacts to natural heritage features present within the study area. The Natural Environment Report is provided in Appendix C.

As further discussed in Section 8.1, near the completion of the Regional Road 25 MCEA, the Ontario's *Species Conservation Act* was introduced to replace the *Endangered Species Act*. As of March 30, 2026, the Province of Ontario has legislated the replacement of the *Endangered Species Act* with the *Species Conservation Act*. The *Species Conservation Act* and its regulations will be reviewed and confirmed during detailed design in relation to the proposed work on Regional Road 25 to confirm the requirements for permitting and registration of activities.

3.4.1 Data Collection

Available natural heritage data were reviewed and incorporated into the assessment. The following dataset includes existing background information, which was evaluated to understand the natural context of the study area and identify natural heritage features requiring further site-specific assessment.

- Aerial/Satellite Imagery (ESRI, 2021)
- Atlas of the Mammals of Ontario (Dobbyn, 1994)
- Conservation Halton (CH, 2023)
- eBird Status and Trends (Cornell Lab of Ornithology, Released 2023)
- Fisheries and Oceans (Department of Fisheries and Oceans) Aquatic Species at Risk Mapping (Department of Fisheries and Oceans, 2022)
- Geographic information from Land Information Ontario (LIO, 2021)
- Global Biodiversity Information Facility (GBIF) Occurrence Data
- Greenbelt Plan (2017)
- Important Bird and Biodiversity Areas (IBA) Birdlife International (No Date)

- iNaturalist (2022)
- Ministry of Natural Resources and Forestry's (MNR) Natural Heritage Information Center (NHIC) Make A Map (NHIC, 2023)
- North Oakville West Secondary Plan (2006)
- North Oakville Creeks Subwatershed Study (2006)
- Ontario Breeding Bird Atlas (Atlas 2- 2001 - 2005)
- Official Plan of the Regional Municipality of Halton (2022)
- Ontario Reptile and Amphibian Atlas (ORAA, 2023)
- Town of Milton Official Plan (2008)
- Town of Oakville Official Plan (2009)

Field investigations were conducted between June 2023 and May 2025. The field program included the following surveys:

- Vegetation Description
- Butternut Survey
- Aquatic Habitat Description
- Breeding Bird Survey
- Wetland Verification
- Woodland Assessment
- Eagle/Raptor Nest Search and Follow-up Check

3.4.2 Vegetation Surveys

The study area was visited several times during the growing season to document the natural environment features within the corridor. In total, 153 plant species were documented within the study area. A complete list of plant species observed is provided in the Natural Environment Report in Appendix C.

Most of the area investigated is developed, consisting of commercial and residential properties, as well as lands currently under active construction. With the exception of the valleylands associated with portions of Bronte Creek, Fourteen Mile Creek, and Sixteen Mile Creek, the study area is relatively flat. Remaining upland habitats include forested areas, cultural meadows, shrub thickets, and agricultural fields. Wetland communities within the area investigated consist primarily of marshes dominated by common reed, narrow-leaved cattail, and reed canary grass.

No butternut or other Species at Risk plants were observed within the area investigated.

The vegetation communities identified include:

- **Cultural Meadow** (dominated by herbaceous species, with no more than 25% cover provided by shrubs or trees)
- **Open Agriculture** (annual row crops, perennial cover crops, and pasture lands)
- **Deciduous Cultural Thickets** (>75% canopy cover by deciduous shrubs)
 - CUT1 – Mineral Thicket Ecosite
- **Deciduous Forests** (>75% canopy cover by deciduous trees)
 - FOD2-4 – Dry-Fresh Oak–Hardwood Deciduous Forest
 - FOD4 – Dry-Fresh Upland Deciduous Forest
 - FOD7-3 – Fresh-Moist Willow Lowland Deciduous Forest
 - FOD7-4 – Fresh-Moist Black Walnut Lowland Deciduous Forest
- **Coniferous Forests** (>75% canopy cover by coniferous trees)
 - FOC – Coniferous Forest
- **Mixed Forests** (>25% canopy cover by both deciduous and coniferous trees)
 - FOM1 – Dry Oak–Pine Mixed Forest
 - FOM2-1 – Dry-Fresh White Pine–Oak Mixed Forest
- **Marshes** (wetland plant species provide 50% or more cover; communities dominated by narrow-leaved emergents (ne), robust emergents (re), and/or groundcover herbaceous grasses and forbs (gc))
 - neM
 - reM
 - gcM

3.4.3 Fauna Surveys

Breeding bird surveys were conducted over two visits to all natural habitat areas and were completed on July 4 and July 19, 2023. Surveys were carried out in the early morning, in accordance with the Ontario Breeding Bird Atlas Guide for Participants (OBBA, 2001), and under suitable weather conditions.

The area investigated provides habitat for numerous common breeding bird species. A total of 55 bird species were observed within the study area and adjacent lands. Of these, 29 species were considered likely to be nesting in habitats adjacent to the road. Most observations consisted of calling males, although some foraging individuals and females were also recorded.

Three species of conservation concern were documented: bald eagle, barn swallow, and wood thrush. A single bald eagle was observed flying over the road; there was no evidence of breeding within 400 metres of the road. A possible bald eagle nest was found 429 m from the road in October 2024 but was inactive as of May 2025. Barn swallows were recorded at nearly half of the survey stations. The highest level of breeding evidence was observed between Burnhamthorpe Road and Lower Baseline, where several individuals were seen entering a barn west of the road. One wood thrush was heard more than 175 m west of the road.

Three Species at Risk (Species at Risk) birds were observed:

- A colony of bank swallows was identified in a large temporary sand pile within 50 m of the road.
- Male bobolinks were recorded during both visits (three individuals on the first visit and two on the second).
- A male eastern meadowlark was observed during both visits in an old field east of the road.
- An additional male eastern meadowlark was recorded during the second visit in an old field east of the road.
- Several bobolinks were also observed during vegetation surveys in an agricultural field east of the road.

3.4.4 Endangered and Threatened Species

Prior to the completion of any field studies, a background list of potential endangered and threatened species was compiled using various sources. The Natural Heritage Information Centre (NHIC) database provides information available to the public on Species at Risk documented within an area. It should be noted that not all information for all species is available to the public. Furthermore, the absence of a record does not necessarily indicate that the species is absent from the area. The purpose of the NHIC database is to help determine what species may occur within the project area.

The background review included reviewing the list of birds observed as part of the Ontario Breeding Bird Atlas (OBBA). Any Species at Risk species on these lists were considered as potentially occurring within the subject lands. Similarly, all Species at Risk reptiles and/or Species at Risk amphibians included in the Ontario Reptile and Amphibian Atlas (ORAA) within the vicinity of the area investigated was included in the assessment.

Thirty Endangered or Threatened species were identified as potentially occurring:

- 1 insect (rusty-patched bumblebee)
- 3 fish (American eel, redbreasted dace, silver shiner)
- 1 amphibian (Jefferson salamander)
- 1 reptile (Blanding's turtle)
- 13 birds (least bittern, eastern whip-poor-will, chimney swift, red-headed woodpecker, Acadian flycatcher, bank swallow, prothonotary warbler, Louisiana waterthrush, cerulean warbler, yellow-breasted chat, bobolink, eastern meadowlark, Henslow's sparrow)
- 4 mammals (little brown myotis, northern myotis, eastern small-footed myotis, tri-colored bat)
- 7 plants (dense blazing star, eastern flowering dogwood, American chestnut, butternut, black ash, fern-leaved yellow false foxglove, smooth yellow false foxglove)

The likelihood of the species or its habitat being present was evaluated based on the data collected from the site investigations as well as regulation specified suitable habitat conditions. The results of the evaluation of the species brought forward based on the site investigations are presented in the Natural Environment Report in Appendix C.

3.4.5 Provincially Significant Wetlands

The background review identified the presence of North Oakville-Milton West Provincially Significant Wetland Complex (LIO, 2019). During the site investigations several small wetland communities were found. Three of which form part of this Provincially Significant Wetland Complex. These were:

- One Robust Emergent Marsh community located north of the Highway 407 ramp and west of the area investigated. The portion of the wetland within the area investigated and its adjacent lands that was delineated was approximately 0.38 ha; its boundaries were similar to but slightly larger than the Provincially Significant Wetland polygon available on provincial mapping (approximately 0.30 ha). Nearly 0.06 hectares of the delineated Robust Emergent Marsh community falls within the area investigated. This community was dominated by common reed.
- One Robust Emergent Marsh community located north of the Highway 407 ramp and east of the area investigated. The wetland community delineated by CIMA+ was approximately 0.82 ha, and larger than the Provincially Significant Wetland polygon on provincial mapping (0.14 hectares). The delineated feature does not

fall within the 65m area investigated but falls completely within 120 metres of the area investigated.

- One Robust Emergent Marsh community of approximately 0.04 hectares located north of Henderson Road, on the east side of the area investigated and adjacent to the Freedom Center. The location and boundaries of this wetland closely match the Provincially Significant Wetland polygon on provincial mapping. This feature falls within the area investigated. This community was dominated by cattails.

Note that under the current Ontario Wetland Evaluation System (OWES) evaluation methods (OWES Southern Manual, 4th Edition, 2022), wetlands are no longer complexed. As such, each individual wetland could be re-evaluated and if not significant in and of itself, the appropriate Ministry of Natural Resources and Forestry process can be followed to remove the Provincially Significant Wetland designation. However, unless they are deemed not significant, the Provincially Significant Wetlands are to be protected in term of form and function with a typical buffer of 30 metres to apply. Also, regardless of the Provincially Significant Wetland designation, Conservation Halton regulates 30 metres from all wetlands under Ontario Regulation 41/24.

3.4.6 Unevaluated Wetlands

There are 24 unevaluated marsh communities along the Regional Road 25 corridor. These areas are generally narrow wetland pockets within the ditches of the alignment comprised mainly of common reed, narrow-leaved cattail, and/or reed canary grass, most of which had no standing water in July providing minimal function or ecological importance. Conservation Halton regulates the area within 30 metres of all wetlands under Ontario Regulation 41/24.

3.4.7 Significant Valleylands

Significant valleylands are identified as either major or minor valleys and depicted on the Town of Oakville and Town of Milton Official Plan schedules. The background review noted that there were three valleys present along this corridor:

- Bronte Creek (major)
- Sixteen Mile Creek (major)
- Fourteen Mile Creek (minor)

This was confirmed during the site investigations, and no other valleys were noted. As per the applicable Official Plan policies, all three are considered significant and their form and functions are to be protected. Section 16.1.9 in the Town of Oakville Official

Plan (2021) notes that the minimum buffer of 15 metres from the top of bank is required for the major valleys and 7.5 metres from the top of bank for the minor valleys. These buffers should be applied.

Table 3-2: Significant Valleyland Assessment

Valley	Steep Banks (i.e., 15% slope) for a length of 50m or more	Surface Water Present for estimated 2 months or longer	Groundwater Noted	Natural Vegetation on Both Banks (30 m or Greater)	Potentially Significant
Major Valleys					
Bronte Creek	Yes	Yes	unknown	Yes, >30 m	Yes
Sixteen Mile Creek	Yes	Yes	unknown	Yes, >30 m	Yes
Minor Valleys					
Fourteen Mile Creek	Yes	Yes	unknown	Yes, average 30 m	Yes

3.4.8 Significant Woodlands

The determination of significance was assessed as per Section 277 of the Halton Region Official Plan (2024). The Official Plan defines a significant woodland as being 0.5 hectare or larger meeting one or more of the four following criteria:

- Woodland contains forest patch over 99 years old.
- Woodland is two hectares or larger within the Urban Area or four hectares outside and below the Escarpment Brow, or 10 hectares within the Escarpment Brow.
- Woodland has four hectares or more of interior habitat (100 metre edge)
- Woodland or part of it is within 50 meters of a major creek or certain headwater creek, or within 150 metres of the Escarpment Brow.

There are 11 significant woodlands in the area investigated within the key features of the natural heritage system. A summary of the assessment for each of these stands is provided in the Natural Environment Report in Appendix C.

Stands 1 through 5 are located within the Town of Oakville and are shown in **Figure 3-5**. Stands 6 to 11 are situated in the Town of Milton and are shown in **Figure 3-6**.

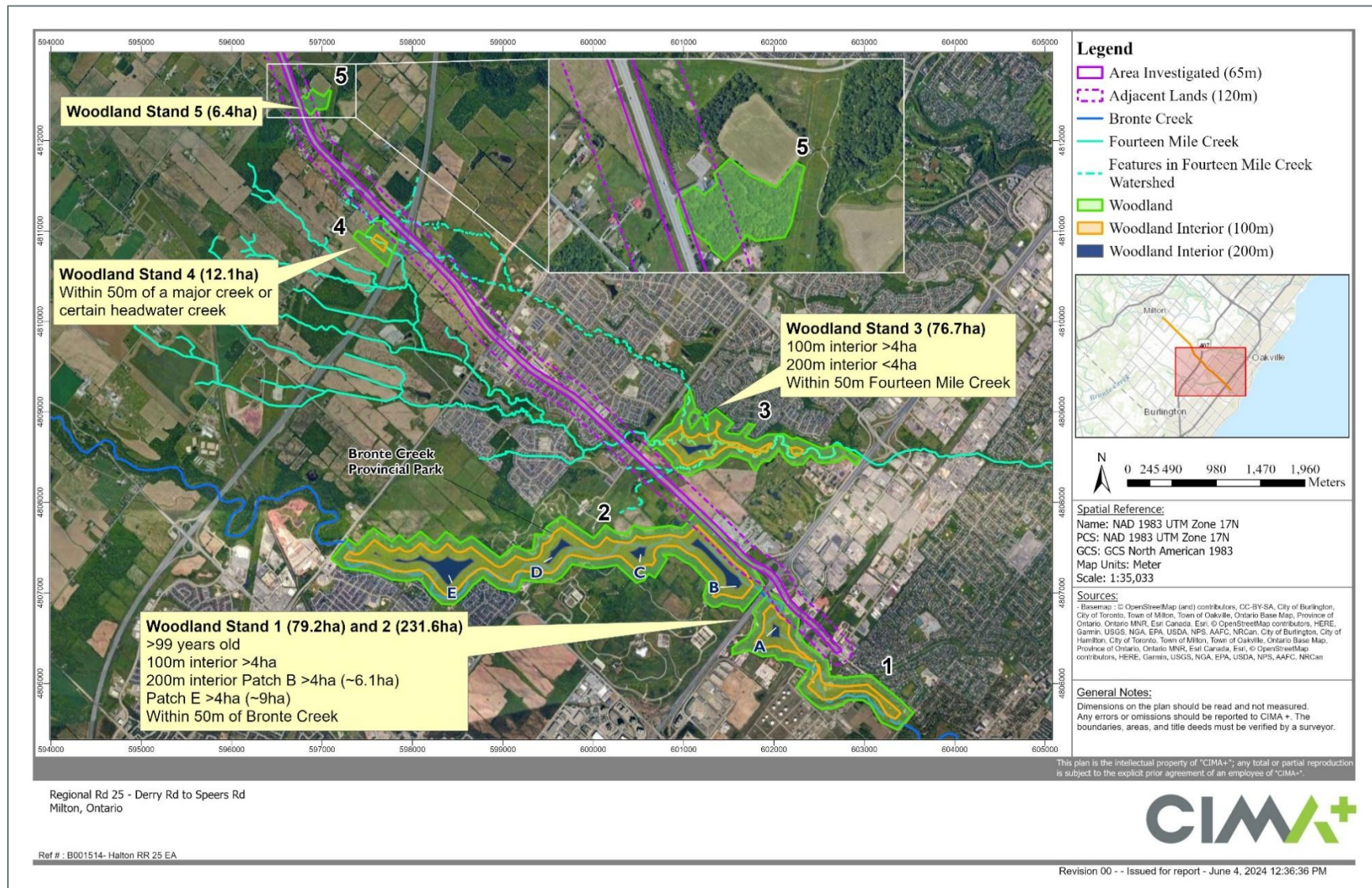


Figure 3-5: Significant Woodlands (Town of Oakville)

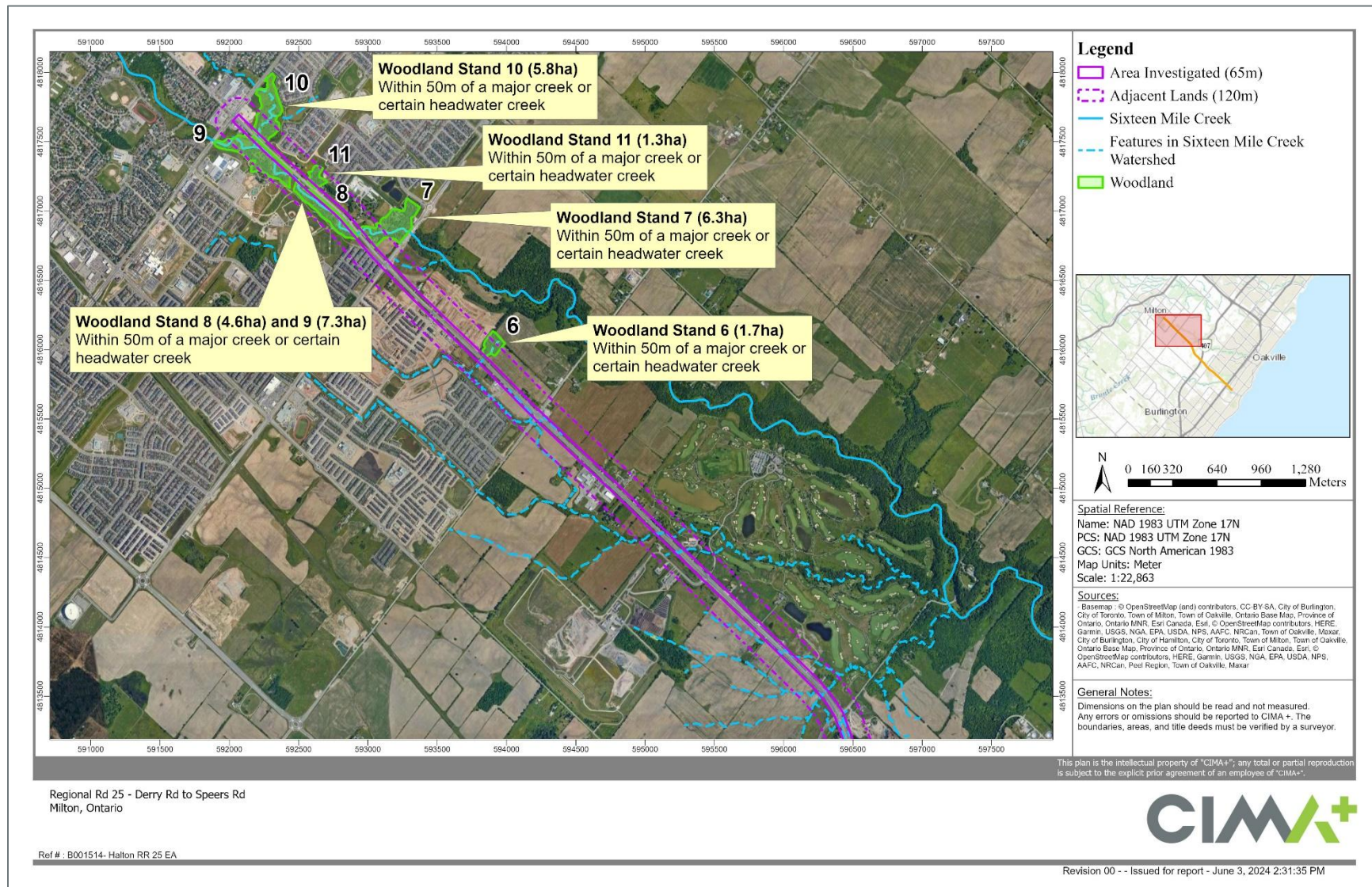


Figure 3-6: Significant Woodlands (Town of Milton)

3.4.9 Significant Wildlife Habitat

Significant Wildlife Habitat identified in the Town of Oakville's Official Plan, along with Key Features in the Natural Heritage System, are located within the study area. The evaluation of Significant Wildlife Habitat is presented below and was conducted through a desktop review and site investigations using the Significant Wildlife Habitat Criteria Schedules for Ecoregion 7E (2015). **Table 3-3** outlines the candidate Significant Wildlife Habitat that have potential to occur within the area investigated.

Table 3-3: Candidate Significant Wildlife Habitat

Candidate Significant Wildlife Habitat	Discussion of Findings
Waterfowl stopover and staging areas (terrestrial)	Numerous fields present which could flood in or within 120 metres of the corridor improvement area.
Raptor wintering area	Hawks and eagles present and suitable mix of forest and upland fields for hawk overwintering habitat. Woodlands and fields near Bronte Creek and Fourteen Mile Creek potentially meet requirements.
Bat maternity colonies	Suitable forest habitat and potential for snag trees in the area investigated.
Turtle wintering areas	Sections of Bronte Creek, Fourteen Mile Creek, and Sixteen Mile Creek could provide turtle overwintering habitat. Majority of wetland polygons within the area investigated do not have water depths suitable to provide overwintering habitat for turtles.
Migratory butterfly stopover area	There are areas 10 hectares in size within the Bronte Creek lands that provide a combination of field and forest, within 5 kilometres from Lake Ontario.
Landbird migratory stopover area	There are woodlands >5 hectares in size within the Bronte Creek lands that are within 5 kilometres from Lake Ontario.

Candidate Significant Wildlife Habitat	Discussion of Findings
Old Growth Forest	The woodland along Bronte Creek meets the size criteria and includes Bronte Creek Provincial Park which has old growth forest. No old growth forest indicators were present within the area investigated.
Woodland Raptor Nesting Habitat	Minimum habitat requirements present in the woodland along Bronte Creek (Stand 2). Stand 2 is estimated to have a total of 19.5 hectares of interior habitat (using an edge of 200 metres); however, this is divided into four isolated and narrow patches of which two meet the minimum of 4 hectares of interior habitat. Patch B is situated outside of the area investigated but within 200 metres; Patch E is much further west and as such, outside of the area of impact. Minimize removal of vegetation along the edge of Stand 2, especially any that reduces the interior habitat in Patch B (edge 200 metres) to less than 4 hectares. No active raptor nesting was noted; however, timing of observations was not in the appropriate season to confirm. A follow-up field visit in October 2024 confirmed the presence of a Bald Eagle nest that is thought to have been active in 2024 and may be used again in the future. It is located 429 metres southwest of Regional Road 25 at: 43.40940, -79.74787 Note that this is within the 100 metres interior portion of Woodland Stand 2. An inactive Osprey nest was also found on a communications tower, but a decoy Bald Eagle has been placed on it to prevent nesting activity.
Woodland Area-Sensitive Bird Breeding Habitat	Interior habitat present in the woodland along Bronte Creek (Stands 1 and 2) to be considered Candidate, but the breeding bird surveys in or near the area investigated did not contain a sufficient number of indicator species breeding near woodlands. Woodland area-sensitive bird breeding habitat is absent from the area investigated but could still be present in the woodland stand as a whole. Those would not be impacted by the proposed improvements.

Candidate Significant Wildlife Habitat	Discussion of Findings
Marsh Bird Breeding Habitat	Candidate habitat is present. No targeted marsh bird surveys conducted but no indicator species were present during general bird surveys.
Amphibian Breeding Habitat (Wetlands)	Candidate habitat is present; 15 of 27 wetland communities that were delineated meet the minimum size requirements and are over 120m from woodlands.
Amphibian Breeding Habitat (Woodlands)	No candidate swamp habitat was present within the area investigated. There is potential that some of the woodland areas may have contained vernal pools where access was not permitted.
Special Concern (SC) and Rare Wildlife Species	Occurrences of SC fish, turtles, and birds were noted in the general area during the background review. Several SC species were observed during field investigations: three birds (barn swallows, wood thrush, bald eagle) and one reptile (painted turtle).

3.4.10 Eagle Nest Survey

A separate Eagle Nest Survey was undertaken on October 24, 2024, which included a visual nest survey of the study area. The survey was conducted in accordance with the Significant Wildlife Habitat Technical Guide (Appendix O: Finding and Identifying Hawk Nests). The methodology consisted of scanning with binoculars for large stick nests.

Two raptor nests were observed during the survey on October 24, 2024. The first nest was an inactive stick nest, likely of an Osprey, atop a communications tower at the southeast corner of Highway 407 and Regional Road 25. The second nest was another large stick nest, placed in a White Pine on the western slope of the Bronte Creek Valley. No additional raptor nests were noted along the remainder of the corridor. Based on these findings, the project is not expected to impact Bald Eagle nesting activity in any perceivable manner given the distance from the study area.

The candidate eagle nest was monitored on May 27, 2025. No Bald Eagle activity was seen at the nest or within one kilometre of the nest on that date. The nest is considered inactive as of December 2025. Section 8.1 includes commitments for future Eagle Nest Survey as well as monitoring during detailed design to confirm the potential presence and potential use of Eagle nests in the study area.

3.4.11 Areas of Natural and Scientific Interest

Areas of Natural and Scientific Interest (ANSI) are provincially identified areas that contain significant natural features that are important for natural heritage, protection, appreciation, scientific study, or education. ANSIs are identified and evaluated by the Ontario Ministry of Natural Resources and Forestry as part of Ontario's natural heritage system. Some ANSIs are classified as sensitive (limited public access) or non-sensitive (access may be permitted).

There are two types of ANSIs:

1. Life Science ANSIs -protect significant ecosystems and biological features
2. Earth Science ANSIs – protect significant geological or geomorphological features

Provincial databases (LIO, 2019) were used to identify ANSIs within the study area. The Trafalgar Moraine Area of Natural and Scientific Interest (Earth Science Provincially Significant) is within the study area, between Highway 407 and Lower Base Line.

The Trafalgar Moraine was formed as an end moraine and currently contains the headwaters of multiple watercourses within the watershed (Eyles et al., 2010).

In addition, an area within Bronte Creek Provincial Park adjacent to Regional Road 25, between the QEW and Upper Middle Road is designated as a provincially significant Life Science ANSI and is classified as a natural reserve zone. The ANSI encompasses the creek and valley within the boundaries of the park.

3.4.12 Aquatic Habitat

Aquatic habitats within the study area were assessed based on the point observation technique used by Ontario Stream Assessment Protocol (Stanfield, 2013) and the Ministry of Transportation of Ontario (MTO)'s Environmental Guide for Fisheries (MTO, 2020). Channel morphology was documented along evenly spaced transects, with data collected at evenly spaced observations points on each transect. Recorded parameters included channel width, wetted width, bankfull depth, water depth, substrate size, morphological units, and in-stream cover.

Each area of aquatic habitat is referred to as a "feature", and feature characteristics were assessed and reported individually. A feature is considered to end where it either joins a larger watercourse or exits the study area. Features are typically defined as watercourses of consistent size and type (e.g., drain, tributary, stream) and may or may not be named, depending on their size, significant to the local community, and applicable regulations (e.g., the Drainage Act, R.S.O. 1990, c. D.17).

A total of 16 features either cross the study area or occur within adjacent lands inside a 120 metre buffer of Regional Road 25. Of these, three are named, permanent, fish bearing channels: Sixteen Mile Creek, Fourteen Mile Creek, and Bronte Creek. The remaining features are unnamed and are part of the Sixteen Mile Creek subwatershed (Features 1 to 9) or the Fourteen Mile Creek subwatershed (Features 11 to 13). Feature locations are shown in **Figure 3-7** to **Figure 3-9**. A summary of the feature characteristics is provided in the Natural Environment Report in Appendix C.

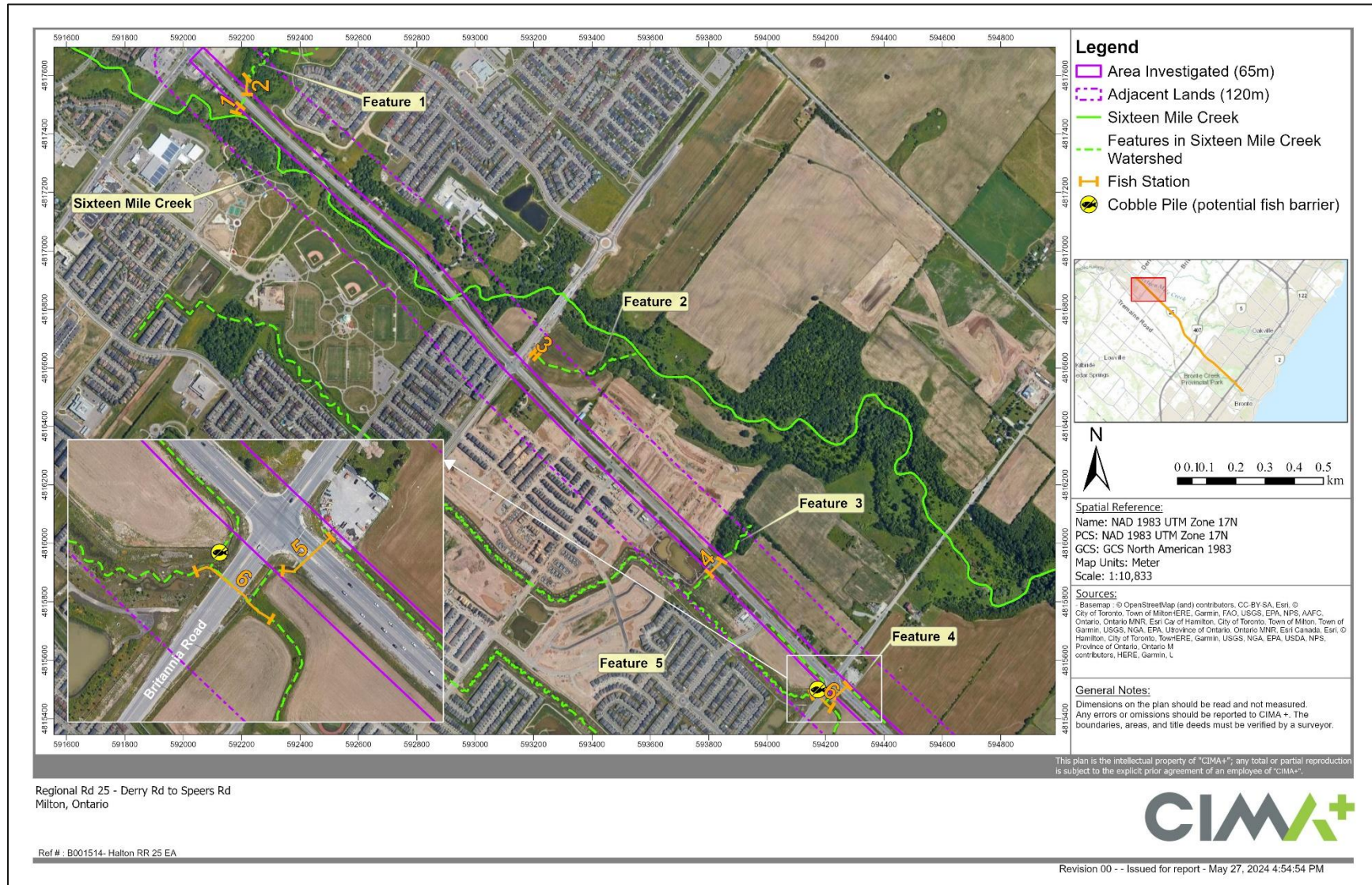


Figure 3-7: Fish Stations, Barriers, and Watercourses for the North Section of the Sixteen Mile Creek Watershed

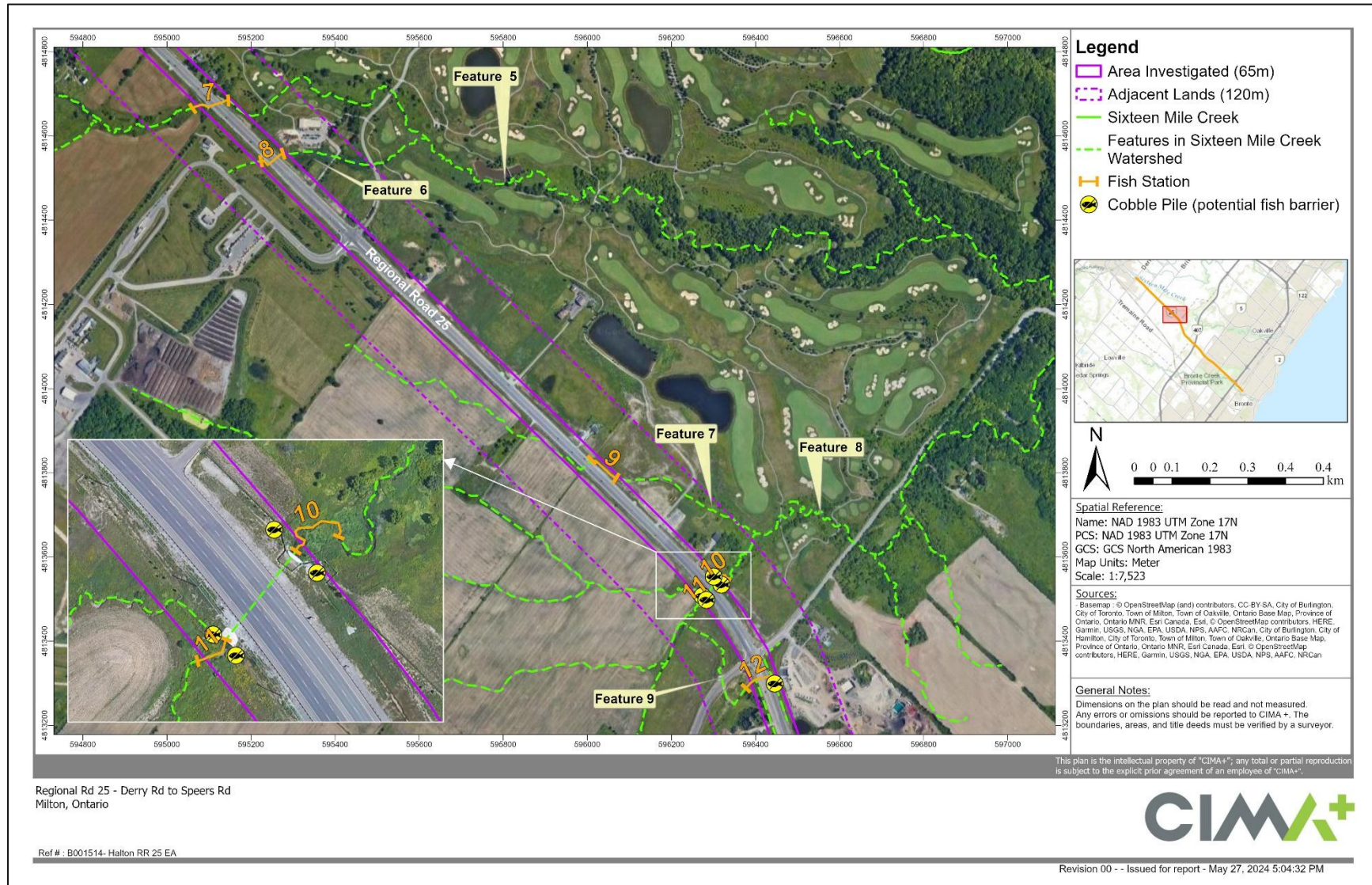


Figure 3-8: Fish Stations, Barriers, and Watercourses for the South Section of the Sixteen Mile Creek Watershed

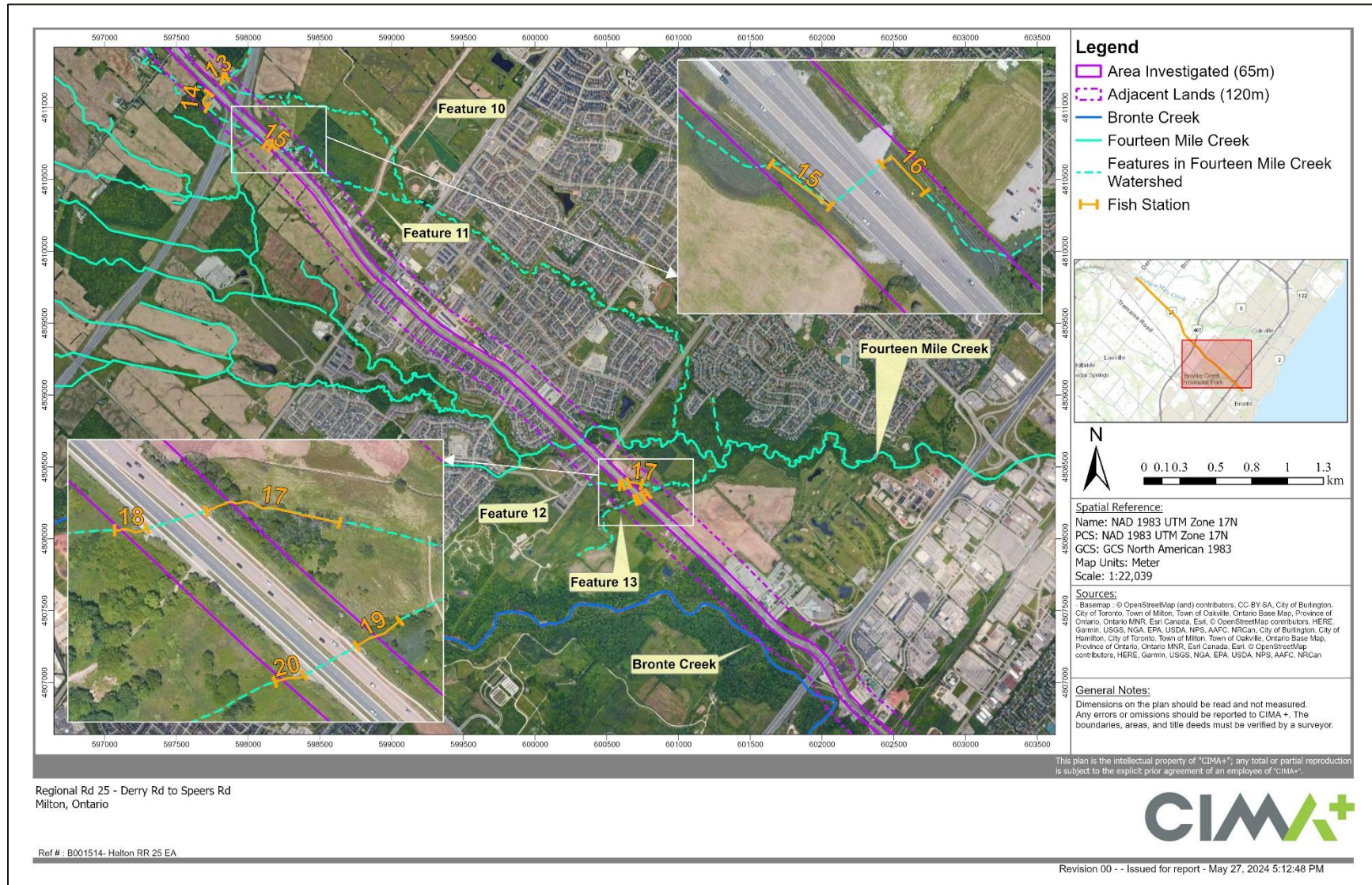


Figure 3-9: Fish Stations, Barriers, and Watercourses for the Fourteen Mile Creek and Bronte Creek Watersheds

3.5 Source Water Protection

The Regional Road 25 study area is in the Halton Region Source Protection Area. The Halton Region Source Protection Area includes an area of approximately 970 square kilometres. Ten upper and lower tier municipalities have lands within the Source Protection Area, however only Halton Region and the City of Hamilton operate municipal water systems within the Source Protection Area.

The Halton Region Source Protection Area consists of three large watersheds and 19 small watersheds. The headwater areas of the three large watersheds are Grindstone Creek, Bronte Creek and Sixteen Mile Creek. The 19 smaller watersheds are located along the north shores of Lake Ontario, Hamilton Harbour, and Cootes Paradise.

The Ministry of Environment, Conservation and Parks' Source Protection Information Atlas was queried to identify any potential sensitivities of the Regional Road 25 study area with respect to source water protection and potential for drinking water threats. The results are summarized in **Table 3-4**.

Two vulnerable areas were identified in the study area: Intake Protection Zone and Event Based Area.

Intake Protection Zone

An Intake Protection Zone (IPZ) is an area of land and water surrounding a municipal surface water intake pipe where human activities could contaminate or deplete drinking water. They are divided into three zones based on proximity, time of travel for pollutants and risk, with IPZ-1 being the most immediate and vulnerable, followed by IPZ-2 and IPZ-3 based on the wider watershed. Vulnerability scores are assigned to the IPZ-1 and IPZ-2 that reflect the susceptibility of the intakes to contaminants.

The area between Speers Road and Wyecroft Road is within IPZ-2 for the Burloak Intake in Lake Ontario. The IPZ-2 score is 4.8 which corresponds to low vulnerability. The Halton-Hamilton Source Protection Plan provides policies to address prescribed threats.

Event Based Area

An Event Based Area is a defined geographic area within a watershed that is considered at risk of contaminant transport to a drinking water source only during specific triggering events, such as heavy rainfall, snowmelt, flooding or spills. The area between Henderson Road and Britannia Road is within an Event Based Area for conveyance of oil in a pipeline. Policies within the Halton-Hamilton Source Protection Plan apply to this area.

Table 3-4: Source Water Protection Areas

Vulnerable Areas	Within Study Area?
Wellhead Protection Area	No
Wellhead Protection Area E	No
Intake Protection Zone	Yes, between Speers Road and Wyecroft Road / Zone Score 2/4.8
Issue Contributing Area	No
Significant Groundwater Recharge Area	No
Highly Vulnerable Aquifer	No
Event Based Area	Yes, between Henderson Road and Britannia Road / For Pipeline Fuel / Oil Spill
Wellhead Protection Area Q1	No
Wellhead Protection Area Q2	No
Intake Protection Zone Q	No

3.6 Physical Environment

The study area is located within three physiographic regions:

- The Iroquois Plain, from the south limit to approximately 1.1 kilometres north of Speers Road. The Iroquois Plain was formed in the late Pleistocene times by a body of water known as Lake Iroquois, which emptied eastward at Rome, New York. Lake Iroquois was characterized by higher water levels than the present-day Lake Ontario, caused by an ice sheet blocking the present day St. Lawrence River valley. When the St. Lawrence River valley became free of ice, the water level dropped to a level much lower than the present Lake Ontario Levels.
- The South Slope, from approximately 1.1 kilometres north of Speers Road to 600 metres north of Henderson Road. The South Slope is characterized by low-lying, fine-grained, undulating ground moraine and knolls.

- The Peel Plain, from approximately 600 metres north of Henderson Road to the north study limit. The Peel Plain is characterized by a level of undulating topography gradually sloping towards Lake Ontario with surficial soil comprising a thin lacustrine clay underlay by till.

The surficial deposits along the south part of the corridor generally comprise clay to silt textured till derived from glaciolacustrine deposits or shale. Along the north part, the surficial soils primarily consist of fine-textured glaciolacustrine deposits of silt and clay with minor sand and gravel. Shallow Paleozoic bedrock is indicated at the QEW interchange and a coarse-textured glaciolacustrine deposit comprising sand, gravel with minor silt and clay extends north of this area to Saw Whet Boulevard. Modern alluvial deposits consisting of clay, silt, sand, gravel with possible organic matter are identified along Sixteen Mile Creek between Louis St. Laurent Avenue and Derry Road.

The bedrock underlying the corridor consists of Queenston Formation shale with minor limestone, siltstone, or sandstone.

3.7 Drainage and Stormwater Management

Regional Road 25 is located within the jurisdiction of Conservation Halton, which regulates development and alternations associated with watercourse, floodplains, and other natural hazards. The Regional Road 25 MCEA study area lies within two primary watershed systems: the Sixteen Mile Creek watershed in Milton and northern Oakville, and the Fourteen Mile Creek watershed in southern Oakville. Both systems ultimately drain into Lake Ontario and play an important role in conveying regional stormwater flows through a mix of natural and urbanized areas. Existing drainage conditions along Regional Road 25 consist of a combination of roadside ditches, culverts, and stormsewers.

A drainage and stormwater management assessment, along with a fluvial geomorphological assessment, was completed to evaluate existing and future drainage and stormwater management conditions within the study area and to provide recommendations for the drainage system and watercourse crossings, as well as identify mitigation measures for potential impacts to regulated areas. The Drainage and Stormwater Management Report is provided in Appendix D. The Fluvial Geomorphological Report is included in Appendix E.

3.7.1 Existing Culverts

There are twenty-five (25) drainage crossings in the study area including twenty-four culverts and one bridge. The culverts and bridge were inventoried to confirm their

location and condition. A summary of the existing culverts is provided in **Table 3-5**. Culverts C01 to C11 drain west to east and ultimately discharge into Fourteen Mile Creek. Culverts C13 to C24 discharge into Sixteen Mile Creek.

Table 3-5: Summary of Existing Crossings

Drainage Culvert ID	Structure ID	Sta. No.	Location	Flow Direction	Invert U/S	Invert D/S	length (m)	Size	Material	Shape	Condition	Potential Action
C01	25-1157510 CU01	2+995	365 m South of Upper Middle Road	West to East	125.52	125.17	40.1	3660mm Span x 2440mm Rise	Concrete	Open footing with low flow channel	Not accessible	Retain / Extension
C02	25-1157510 CU03	3+132	227 m South of Upper Middle Road	West to East	126.27	125.93	47.5	1830mm Span x 1520mm Rise	Concrete	Box	Not accessible	Retain / Extension, if only meets hydraulic requirement
C03	25-1157560 CU01	3+565	205 m North of Upper Middle Road	West to East	125.09	124.86	47	Twin 4200mm Span x 2800mm Rise	Concrete	Twin Culvert, Box	Not accessible	Retain
C04	n/a	5+955	155 m North of William Halton Parkway	West to East	156.32	156.19	47.5	1050mm	HDPE	Circular, Smooth Inside	Good Heavy vegetation on both u/s and d/s ends	Extend if meets hydraulics
C05	n/a	6+565	347 m South of 407 ETR	West to East	162.79	162.54	44.1	2100mm Span x 1600mm Rise	CSP	Arch	Fair Heavy vegetation on downstream, require cleaning	May need to replace depending on hydraulics
C06	25-1157720 CU01	7+421	103 m South of Burnhamthorpe Road	West to East	169.95 170.08	169.19 169.20	34.0	Twin 800mm	CSP	Twin, Circular	Fair Requires vegetation cleaning on downstream end	May need to replace depending on hydraulics
C07	25-1157750 CU04	7+734	209 m North of Burnhamthorpe Road	West to East	171.70 171.68	171.36 171.57	37.1	Twin 1200mm Span x 900mm Rise	CSP	Arch	Fair Ends are in good condition but corrosion at bottom	Replace
C08	25-1157750 CU05	7+960	430 m North of Burnhamthorpe Road	West to East	172.66	172.46	38.7	2400mm Span x 900mm Rise	Concrete	Twin, Box	Good condition	Extend, if it works for road widening
C09	25-1157750 CU06	8+356	89 m South of Henderson Road	West to East	179.02	178.46	39.1	1200mm	CSP	Circular	U/s face distorted, sediment accumulation at the bottom, light corrosion at bottom	Replace
C10	25-1157810 CU03	8+570	128 m North of Henderson Road	West to East	185.11	184.01	38.9	900mm	CSP	Circular	U/s fair condition. Heavy invasive plant species on downstream, culvert not visible, requires cleanout	Depending on road widening, this may need to be eliminated
C11	25-1157810 CU01	8+812	370 m North of Henderson Road	West to East	189.45	189.02	34.9	1550mm Span x 1200mm Rise	CSP	Arch	Fair condition, bottoms are corroded	Replace
C12	25-1157810 CU05	9+149	707 m North of Henderson Road	East to West	187.15	187.03	35.1	800mm	CSP	Circular	Fair condition. Significant vegetation on the downstream channel, cleanout required.	Replace
C13	25-1157810 CU02	9+415	394 m South of Lower Base Line	East to West	183.33	182.92	35.9	1200mm	CSP	Circular	Fair condition. Significant vegetation and blockage on downstream end.	Replace
C14	25-1157820 CU01	9+754	55 m South of Lower Base Line	East to West	178.39	178.09	35.0	900mm	CSP	Circular	Poor condition. Downstream end damaged. Erosion observed on d/s end.	Replace
C15	25-1157850 CU05	10+000	190 m North of Lower Base Line	West to East	173.79	173.60	48.2	7315 m Span x 1830m Rise	Concrete	Conspan Arch	Good condition. U/s Opening 1.9m, d/s opening 1.6m	Retain. May need to increase retaining wall height
C16	25-1157850 CU07	10+418	610 m North of Lower Base Line	West to East	178.05	178.17	34.2	1550mm Span x 1000mm Rise	CSP	Arch	Fair condition. Observed sediment deposition and corrosion at the bottom of the culvert.	Replace
C17	25-1157860 CU01	11+247	50 m North of Halton Waste Management Access	West to East	178.57 178.60	178.17 178.18	38.1	Twin 800mm	CSP	Twin, Circular	Good condition, however, significant sediment accumulation on the upstream end. Opening available on upstream is about 0.50m only.	Replace
C18	25-1157860 CU03	11+455	260 m North of Halton Waste Management Access	West to East	177.01	176.55	36.4	1200mm	CSP	Circular	Good condition, however, only 0.60m opening available on downstream end. Upstream good.	Replace
C19	25-1157860 CU05	11+650	450 m North of Halton Waste Management Access	West to East	175.10	175.10	43.4	6100 m Span x 1900m Rise	Concrete	Arch	Good condition. U/s Opening 1.9m, d/s opening 1.6m due to siltation	Retain and extend
C20	n/a	12+840	40 m South of Britannia Road	East to West	182.14	181.80	38.4	1200mm	Concrete	Circular	Good condition but requires cleaning on the downstream end for the invasive plant species.	Extend
C21	25-1157910 CU02	12+946	78 m North of Britannia Road	East to West	183.42	183.28	39.1	1200mm	Concrete	Circular	Good condition. Headwall with grates on downstream, no grates on upstream. Vegetation cleanout is required on the downstream channel.	Extend
C22	25-1157910 CU03	13+440	258 m North of Etheridge Avenue	East to West	186.05	185.81	31.6	1830mm Span x 910mm Rise	Concrete	Box	Good condition Cleanout is required on the d/s channel.	Extend, if meets hydraulic requirements
B01	25-1157950 BR01	14+730	307 m North of Louis St. Laurent Avenue	West to East	Deck width 23.5m			30m span	Concrete	Bridge	Good condition	Widen bridge deck
C23	25-1157950 CU01	15+245	720 m South of Derry Road	East to West	183.82	183.59	31.6	1830mm Span x 910mm Rise	Concrete	Box	Good condition. significant sediment accumulation. Available opening on the downstream is only 0.40m.	Extend
C24	25-1157950 CU03	15+720	250 m South of Derry Road	East to West	183.43	182.995	46.9	3300mm Span x 3000mm Rise	Concrete	Box	Culvert on deep Valley. Structural condition is poor.	Replace

3.7.2 Existing Drainage Pattern

Between Speers Road and Derry Road, Regional Road 25 has a combination of rural (paved shoulders) and urban (curbs and gutters) cross-sections with distinct drainage characteristics.

- **Speers Road to 150 metres north of Wyecroft Road:** This southern stretch of the roadway is fully urbanized, with roadway runoff conveyed via existing storm sewers and directed in a southerly direction along Bronte Road.
- **150 metres north of Wyecroft Road to 200 metres north of Charles Cornwall Avenue:** This segment of the roadway is served by the QEW East Stormwater Management Pond (SWMP-1) for stormwater management.
- **200 metres north of Charles Cornwall Avenue to Upper Middle Road West:** In this section, runoff is conveyed by storm sewers to Fourteen Mile Creek via four distinct outlets.
- **Upper Middle Road West to 250 metres north of Upper Middle Road West:** Runoff of this stretch of Regional Road 25 is conveyed by storm sewers towards Upper Middle Road West discharged to Fourteen Mile Creek.
- **250 metres north of Upper Middle West to 150 metres north of Westoak Trails Boulevard Road:** This stretch of the roadway is fully urban; roadway runoff is conveyed by storm sewers and directed to the Bronte Creek SE Stormwater Management Pond (SWMP-2), which provides both quantity and quality control.
- **150 metres north of Westoak Trails Boulevard to William Halton Parkway:** The road segment has fully urban cross-section. Runoff is conveyed by storm sewers to the existing Mattamy Stormwater Management Pond (SWMP-3)
- **William Halton Parkway to approximately 200 metres south of Highway 407:** This stretch transitions into a half-urban cross-section. Runoff from the west half is conveyed by storm sewer; and runoff from the east side is directed into a roadside ditch, captured by a ditch inlet at Station 6+055, and conveyed through storm sewers along Bronte Road to the existing Mattamy Stormwater Management Pond.
- **Approximately 200 metres south of Highway 407 to Britannia Road:** This segment consists of a rural cross-section, where roadway runoff flows as sheet flow into roadside ditches on both the east and west sides. These ditches ultimately discharge to Sixteen Mile Creek and Fourteen Mile Creek through various outlets.

- **Britannia Road to Louis St. Laurent Avenue:** This section has a half-urban cross-section. Runoff is conveyed via roadside ditches on the west side and storm sewers on the east side toward three different outlets. A portion of the west ditch drainage discharges to West Country Milton Stormwater Management Pond (SWMP-4) which provides both quantity and quality control.
- **Louis St. Laurent Avenue to Derry Road:** This segment features an urban cross-section, where roadway runoff is conveyed by a storm sewer system and discharged into Sixteen Mile Creek.

The drainage pattern of the study area is separated into thirty-two (32) outlet areas. The existing drainage mosaics are shown in Exhibits 1 to 18 in Appendix D. The outlet areas are further described in Section 4 of the Drainage and Stormwater Management Report in Appendix D

3.7.3 Existing Stormwater Management

Within the study area there are four stormwater management ponds (QEW East SWM Pond (SWMP-1), Bronte Creek SE SWM Pond (SWMP-2), Mattamy SWM Pond (SWMP-3), and West Country Milton SWM Pond (SWMP-4), and eight oil grit separator units. The stormwater management ponds are located within the Town of Oakville and Town of Milton and provide water quality and quantity control for Regional Road 25. The oil grit separator units provide water quality control. Furthermore, grassed roadway embankments and ditches throughout the corridor also contribute to the quality treatment of roadway runoff.

3.7.4 Hydrologic Modelling

Hydrologic modelling was undertaken to simulate the hydrologic response of drainage areas contributing runoff within the study area under various return period rainfall events. Event based hydrologic simulations were completed using the Visual OTTHYMO hydrologic modelling software. Additional details regarding the modelling methodology are provided in the Drainage and Stormwater Management Report in Appendix D.

The hydrologic assessment was performed using 12-hour and 24-hour Chicago storm distributions in accordance with the Conservation Halton Guidelines for Stormwater Management Engineering Submissions (June 2024). Intensity-Duration-Frequency data provided in the Town of Milton and Town of Oakville design manuals were applied for hydrologic modelling of Sixteen Mile Creek and Fourteen Mile Creek.

Of the two design storm distributions evaluated, the storm yielding the highest pre-development peak flows was selected to ensure a conservative post-development design. The 24-hour Chicago storm distribution generated the higher peak flow and was therefore adopted as the governing pre-development conditions. The results of the hydrologic modelling are provided Section 4.1.3 of the Drainage and Stormwater Management Report in Appendix D.

3.7.5 Hydraulic Modelling

Hydraulic modelling was conducted to assess the hydraulic capacity of existing and proposed crossings in the study area. HEC-RAS and CulvertMaster hydraulic modelling tools were used for the analysis. The design standards for the hydraulic assessment of the culverts are based on the Town of Milton (2024), Town of Oakville (2024) design manuals and the Ministry of Transportation Ontario Highway Drainage Design Standards (HDDS) (2023). The results of the hydraulic modelling are discussed in Section 5 of the Drainage and Stormwater Management Report in Appendix D.

3.8 Geology

The study area is located within three physiographic regions:

- The Iroquois Plain, from the south limit to approximately 1.1 kilometres north of Speers Road. The Iroquois Plain was formed in the late Pleistocene times by a body of water known as Lake Iroquois, which emptied eastward at Rome, New York. Lake Iroquois was characterized by higher water levels than the present-day Lake Ontario, caused by an ice sheet blocking the present day St. Lawrence River valley. When the St. Lawrence River valley became free of ice, the water level dropped to a level much lower than the present Lake Ontario Levels.
- The South Slope, from approximately 1.1 kilometres north of Speers Road to 600 metres north of Henderson Road. The South Slope is characterized by low-lying, fine-grained, undulating ground moraine and knolls.
- The Peel Plain, from approximately 600 metres north of Henderson Road to the north study limit. The Peel Plain is characterized by a level of undulating topography gradually sloping towards Lake Ontario with surficial soil comprising a thin lacustrine clay underlay by till.

The surficial deposits along the south part of the corridor generally comprise clay to silt textured till derived from glaciolacustrine deposits or shale. Along the north part, the surficial soils primarily consist of fine-textured glaciolacustrine deposits of silt and clay with minor sand and gravel. Shallow Paleozoic bedrock is indicated at the QEW

interchange and a coarse-textured glaciolacustrine deposit comprising sand, gravel with minor silt and clay extends north of this area to Saw Whet Boulevard. Modern alluvial deposits consisting of clay, silt, sand, gravel with possible organic matter are identified along Sixteen Mile Creek between Louis St. Laurent Avenue and Derry Road.

The bedrock underlying the corridor consists of Queenston Formation shale with minor limestone, siltstone, or sandstone.

3.9 Structures

3.9.1 Bridges

3.9.1.1 Bronte Road Grade Separation (GO/Metrolinx)

The Bronte Road Grade Separation (GO/Metrolinx) is located approximately 0.23 kilometres south of Wyecroft Road in the Town of Oakville. The structure carries three rail tracks over Regional Road 25. Constructed in 1980, it consists of a four-span concrete slab bridge with an approximate skew of 10 degrees. The bridge has an overall length of 54 metres and a width of 18.3 metres, with each span measuring 13.3 metres.

3.9.1.2 QEW Overpass

The QEW Overpass was constructed in 2012 and consists of two single span pre-cast concrete girder bridges that carry eastbound and westbound traffic lanes on the QEW. The bridges carry the lanes on the QEW over Regional Road 25. The structures were design to accommodate an additional lane in each direction on Regional Road 25. The eastbound bridge has a span length of 39.3 metres and an overall width of 31.68 metres. The westbound bridge has a span length of 39.1 m and an overall width of 29.6 metres.

3.9.1.3 Highway 407 Underpass

Constructed in 2000, the existing Highway 407 Underpass is a two-span concrete slab on pre-cast concrete girder bridge with a skew of approximately 23.46 degrees. Highway 407 passes under Regional Road 25 at this location. The bridge has an overall length of 76.0 metres, with each span measuring 38.0 metres between centrelines of the bearings. The width of the existing structure is approximately 32.0 metres which accommodates two 3.75 metre lanes and one 3.5 metre lane in each direction, 2.0 metre shoulders and a 5.0 metre center median. The thickness of the deck is 225 millimeters. The concrete girders are CPCI 1900 pretensioned concrete girders. There

are two 6.0 metre long, 250 millimetre thick approach slabs at the north and south ends of the structure.

The existing structure is integral with the abutments. Both abutments consist of a reinforced concrete pile cap supported on one row of H-Piles. The pile at each end of both abutments is installed on a 1:10 batter. The existing pier bent is supported by spread footings bearing on bedrock.

The structure currently has 1025 millimetres high barrier walls without railings. The barrier walls extend 8.0 metres on the north end and 6.5 metres on the south end beyond the bridge span, ending flush with the bridge wingwalls.

3.9.1.4 Sixteen Mile Creek Bridge

Constructed in 2013, the existing structure is a single-span concrete slab on pre-cast concrete girder bridge with a skew of approximately 15 degrees. The span is 30.0 m. The width of the existing structure is 22.45 metres which accommodates two 3.5 metre lanes in each direction, 1.5 metre shoulders, a 1.2 metre center median and a single 3.0 metre multi-use path on the east side of the structure. The deck thickness of the structure is 225 millimetres. The concrete girders are CPCI 1600 concrete girders. There are two 6.0 metre long, 250 millimetre thick approach slabs at the north and south ends of the structure.

The existing structure is integral with the abutments. Both abutments consist of a reinforced concrete pile cap supported on one row of H-Piles. The west most pile in each abutment is installed on a 1:12 batter. To the east of the existing structure, there is a 900 millimetre diameter watermain which passes below the south abutment. Due to the proximity of the six east most piles to the watermain, the existing H-Piles were installed into augured holes socketed into bedrock and backfilled with concrete. The top 5.5 metres of the H-Piles were cased in a permanent steel liner filled with fine sand to allow for lateral movement of the piles.

To the west of the existing structure, there is an environmentally sensitive area which limits any proposed widenings to the east only.

On the west side of the structure, there is a 1075 millimetre high PL-2 barrier wall with metal railing. The barrier wall is based on the June 2010 version of MTO Standard Drawing SS110-54. On the east side of the structure there is the same PL-2 barrier wall between the traffic lanes and the multi-use path. The PL-2 barrier terminates with steel beam guide rail on either end of the structure. To the east of the multi-use path, there is a 1425 millimetre high PL-2 parapet wall with aluminum railing. The parapet wall is based on the April 2008 version of MTO Standard Drawing SS110-57. The barrier walls

and parapet wall extend 5.2 metres on the north end and 6.0 metres on the south end beyond the bridge span, ending flush with the bridge wingwalls.

3.9.2 Structural Culverts

There are seven existing structural culverts in the study area. A summary of the structural culverts is provided in **Table 3-6**.

Table 3-6: Existing Structural Culverts

Culvert ID	Approximate Location	Structure Type	Existing Size	Overall Condition (2024 OSIM Report)
25-1157510 CU01	0.35 km south of Upper Middle Road	Concrete Box Culvert	3.6 m Span x 2.5 m Rise x 42 m Length	Structure is generally in good condition
25-1157560 CU01	0.10 km north of Upper Middle Road	Concrete Box Culvert	Twin 4.2 m Span x 3.3 m Rise x 48.7 m Length	Structure is generally in good condition. Concrete repairs at barrel are recommended in the next one to five years.
25-1157750 CU05	0.40 km north of Burnhamthorpe Road	Concrete Box Culvert	2.40 m Span x 0.90 m Rise x 34 m Length	Structure is generally in good condition
25-1157850 CU05	0.20 km north of Lower Base Line	Concrete Arch Culvert	7.315 m Span x 1.83 m Rise x 48.3 m Length	Structure is generally in good condition

Culvert ID	Approximate Location	Structure Type	Existing Size	Overall Condition (2024 OSIM Report)
25-1157860 CU05	0.46 km north of Landfill Entrance	Concrete Arch Culvert	6.10 m Span x 1.52 m Rise x 43.01 m Length	Structure is generally in good condition
25-1157910 CU03	0.50 km north of Britannia Road	Concrete Box Culvert	1.83 m Span x 0.91 m Rise x 33 m Length	Structure is generally in good condition. Rout and seal of wearing surface is recommended in the next one to five years
25-1157950 CU03	0.30 km south of Derry Road	Concrete Box Culvert	3.3 m Span x 3.0 m Rise x 45 m Length	Structure is generally in good condition. Rout and seal wearing surface and concrete and foundation repairs at barrel are recommended in the next one to five years

3.9.3 Retaining Walls

There are four existing retaining walls in the study area. A summary of the retaining walls is provided in Table 3-7.

Table 3-7: Summary of Existing Retaining Walls

Information	Retaining Wall 282	Retaining Wall 286	Retaining Wall 1932	Structure Number Unknown
Approximate Location	1.40 km south of Upper Middle Road	1.17 km south of Upper Middle Road	1.34 km south of Upper Middle road	0.50 km south of Highway 407 South Ramp Terminal
Year Built	2011	2011	2011	Unknown
Retaining Wall Type	Concrete	Concrete Block	Masonry	Unknown
Total Wall Length (metres)	184.00	7.20	39.10	Approximately 112
Total Wall Area (square metres)	368.00	3.10	47.70	Unknown
Maximum Wall Height (metres)	2.50	0.52	1.45	Unknown
Average Wall Height (metres)	2.00	0.43	1.22	Unknown
Angle of Backfill (degree)	11.31	1.15	11.31	Unknown
Overall Condition	Structure is generally in good condition (2022 OSIM Report)	Structure is generally in good condition (2022 OSIM Report)	Structure is generally in good condition (2022 OSIM Report)	Unknown

3.10 Utilities

Utilities were identified within the study area based on the topographic survey and an Ontario OneCall request. Utility companies were contacted to request information on existing and planned utilities in the study area. Utility ownership, locations, and municipal services, along with any associated impacts, will be confirmed during detailed design.

3.10.1 Hydro

Hydro One Networks Inc.

There are two Hydro One Networks Inc. (HONI) transformer stations within the Regional Road 25 MCEA study area. The Bronte Transformer Station is located at 701 Bronte Road, Oakville, on the east side of Regional Road 25 south of Wyecroft Road. The Palermo Transformer Station is located on the east side of Regional Road 25 south of Henderson Road. HONI transmission corridors cross Regional Road 25 south of Wyecroft Road, at Upper Middle Road, and south of Henderson Road.

Oakville Hydro

Oakville Hydro distribution infrastructure (poles and aerial lines) is along Regional Road 25 from Speers Road to Lower Base Line.

Milton Hydro

Milton Hydro distribution infrastructure (poles and aerial lines) is along Regional Road 25 from Burnhamthorpe Road to Derry Road.

3.10.2 Energy Pipelines

Enbridge Pipelines Inc.

Enbridge Line 7 crosses Regional Road 25 just south of Upper Middle Road. Line 7 is a 20 inch diameter crude oil pipeline

Trans-Northern Pipelines Inc.

Trans-Northern Pipelines Inc. (TNPI) operates a pipeline that crosses Regional Road 25 approximately 185 metres south of Wyecroft Road.

3.10.3 Gas

Enbridge Gas Inc.

Enbridge Gas Inc. (Enbridge) has four high-pressure gas lines cross Regional Road 25 approximately 630 metres south of Derry Road.

TC Energy

TC Energy natural gas pipeline crosses Regional Road 25 at Khalsa Gate in Oakville.

3.10.4 Telecommunications

There are existing buried telecom conduits and aerial lines along Regional Road 25. Telecommunication providers include Bell Communications, Rogers Cable Communications Inc., Cogeco Cable, Telus, and Zayo.

4 Alternative Solutions

Phase 1 of the MCEA process involves identifying the transportation problems and opportunities to be addressed by the study. Phase 2 of the MCEA involves identifying and evaluating a range of alternative planning solutions that are a reasonable and feasible means of addressing the transportation problems and opportunities.

Section 2 of this Environmental Study Report sets out the transportation needs and opportunities by providing the planning / policy context and the analysis of existing and future traffic conditions. Section 2.3 provides a summary of these aspects. It is recognized that in addition to the planning / policy review and traffic analysis, problems and opportunities have been identified through direct consultation with stakeholders, First Nations and Indigenous Communities and interested members of the public. These are captured in Section 6 (Consultation) and have been incorporated into both the planning and design components of the study.

The following problem and opportunity statement was developed to guide the study:

Regional Road 25 is a key north-south link connecting communities in the Towns of Oakville and Milton and provides access to provincial highway facilities (Queen Elizabeth Way and Highway 407), as well as inter-regional transit facilities (Bronte and Milton GO Stations). Without improvements to Regional Road 25, traffic operations will continue to experience high demand during peak periods and intersections will be operating over capacity while travel demand continues to grow. To support future growth, multi-modal travel demand and network connectivity, infrastructure improvements to Regional Road 25 are required to create a transportation system that is safe, continuous, connected, and coordinated for all users and all abilities. The right-of-way should accommodate cycling facilities, an improved pedestrian and streetscape environment, and allow for improvements to traffic operations at intersections and throughout the corridor. It should also protect for potential future Transit Priority Corridor infrastructure.

4.1 Alternative Solutions

Alternative solutions were developed to explore fundamentally different ways of addressing the problems and opportunities identified for the Regional Road 25 corridor. Each alternative was evaluated based on how effectively it addressed the identified problems and opportunities.

Beyond transportation performance, the alternative solutions were also assessed for their socio-economic, environment, and community benefits, as well as their compatibility with existing and planned land uses.

The following alternative solutions were identified at the planning level to address the problems and opportunities identified for the Regional Road 25 corridor.

4.1.1 Alternative 1 – Do Nothing

“Do Nothing” is considered the status quo, maintaining the existing transportation network as is with no improvements. Only planned and approved infrastructure improvements would be implemented.

4.1.2 Alternative 2 – Transportation Demand Management (TDM)

Transportation Demand Management (TDM) is a term used to describe a wide variety of initiatives aimed at influencing travel patterns by reducing the amount of travel and shifting to non-peak periods or more efficient travel modes. TDM strategies include encouraging carpooling, flexible or staggered work hours, and telecommuting.

4.1.3 Alternative 3 – Intersection / Operational Improvements

Intersection improvements include the addition of traffic signals, auxiliary lanes (e.g., right turn and left turn lanes), additional lanes through the intersection, and consideration of roundabouts. Operational improvements include modifications to signal timing plans, traffic signal interconnect systems, and road user information systems.

4.1.4 Alternative 4 – Active Transportation Improvements

This alternative seeks to provide safe and well connected pedestrian and cycling facilities on Regional Road 25 to encourage a reduction in vehicle use. There are existing active transportation facilities in the study area that have the potential to be improved to support the Region’s plans to create a fully connected, accessible network that is safe for all users.

4.1.5 Alternative 5 – Improvements to Regional Road 25

This alternative involves widening Regional Road 25 to accommodate additional travel capacity and to protect for potential future Transit Priority Corridor infrastructure as identified in the Region's Integrated Master Plan. This solution requires corridor and intersection widening to accommodate the additional travel lanes.

4.1.6 Alternative 6 – Improvements to Other Routes Beyond Planned Programs

This alternative would undertake capital improvements to widen other north-south roadways in proximity to the study area beyond Halton Region’s planned capital improvements.

4.2 Analysis and Evaluation of Alternative Solutions

The alternative solutions were assessed against their ability to address the problems and opportunities identified for the Regional Road 25 study corridor. Evaluation factors were developed to guide the assessment process so that transportation planning, technical, and environmental (socio-economic, cultural environment, natural environment) conditions were factored into the assessment. Additionally, consultation with landowners, public, agencies, and First Nations and Indigenous Communities were undertaken to gather feedback and identify the preferred solution.

The comprehensive set of factors used to evaluate the alternative solutions is presented in **Table 4-1**. The comparison of the alternative solutions is provided in **Table 4-2**. A summary of the assessment that highlights decision-relevant factors can be found in **Table 4-3**.

Table 4-1: Factors Considered in Assessing and Evaluating Alternative Solutions

Factors	Considerations
Socio-Economic Environment	▶ Property and Access Impacts ▶ Compatibility with Existing and Future Land Use ▶ Existing Community Effects ▶ Consistency with Halton Region Planning Policies ▶ Impacts to Future Development ▶ Noise ▶ Community Feedback
Cultural Environment	▶ Archaeological Resources ▶ Built Heritage Resources / Cultural Heritage Landscapes

Factors	Considerations
Natural Environment	▶ Fisheries and Aquatic Habitat ▶ Surface Water Quality and Quantity ▶ Vegetation (Wetland and Upland) ▶ Wildlife ▶ Climate Change
Transportation	▶ Traffic Demand ▶ Active Transportation ▶ Transit
Cost	▶ Order of Magnitude Cost (Construction Costs Only)

Table 4-2: Assessment of Alternative Solutions

Factors / Considerations	Alternative Solution 1 - Do Nothing	Alternative Solution 2 - Transportation Demand Management	Alternative Solution 3 - Intersection / Operational Improvements	Alternative Solution 4 - Active Transportation Improvements	Alternative Solution 5 - Improvements to Regional Road 25	Alternative Solution 6 - Improvements to Other Routes Beyond Planned Program
Socio-Economic Environment						
Property & Access Impacts	No direct impacts to adjacent properties or accesses.	No direct impacts to adjacent properties or accesses.	- May have some direct impacts to properties near intersections as additional space may be required to accommodate auxiliary lanes at intersections. - Not likely to require access modifications (e.g., relocation, removal, or right-in/right-out).	- May have some direct impacts to properties along the corridor as additional area may be required to accommodate active transportation facility improvements (e.g., provision of a dedicated cycling facility, wider facilities and/or enhanced safety measures at intersections). - Not likely to require access modifications (e.g., relocation or right-in/right-out).	- Would likely have some direct impacts to properties along the corridor as additional area may be required to widen the corridor and intersections to accommodate additional lanes. - Widening would likely occur along the existing alignment. - May require modification of some accesses.	May have direct impacts to properties and accesses along other roadways beyond planned right-of-way. Impacts would be determined based on separate planning studies.
Compatibility with Land Use (accommodates a wide range of users to support evolving land uses and increasing density in the study area)	Does not provide opportunity to enhance transportation facilities to improve mobility for a wide range of users.	Limited opportunity to enhance transportation facilities to improve mobility for a wide range of users.	Limited opportunity to enhance transportation facilities to improve mobility for a wide range of users.	Opportunity to enhance active transportation facilities to improve mobility for a wide range of users.	Opportunity to provide additional travel capacity to improve mobility for vehicles and transit.	No opportunity to enhance transportation facilities to improve mobility for wide range of users on Regional Road 25.
Existing Community Effects	No direct impacts to cemeteries, schools, places of worship or other community facilities.	No direct impacts to cemeteries, schools, places of worship or other community facilities.	May have some direct impacts to cemeteries, schools, places of worship or other community facilities near intersections.	May have some direct impacts to cemeteries, schools, places of worship or other community facilities.	May have some direct impacts to cemeteries, schools, places of worship or other community facilities along the corridor.	May have some direct impacts to cemeteries, schools, places of worship or other community facilities in other corridors.

Factors / Considerations	Alternative Solution 1 - Do Nothing	Alternative Solution 2 - Transportation Demand Management	Alternative Solution 3 - Intersection / Operational Improvements	Alternative Solution 4 - Active Transportation Improvements	Alternative Solution 5 - Improvements to Regional Road 25	Alternative Solution 6 - Improvements to Other Routes Beyond Planned Program
Consistency with Halton Region Planning Policies	<i>Key Planning Policy Objectives and Recommendations:</i> <u>2011 Halton Region Transportation Master Plan (2031) – The Road to Change</u> - The preferred transportation strategy to 2031 for Halton Region includes policies and initiatives to support Transportation Demand Management and Active Transportation, enhanced transit service and additional capacity in the Regional roadway network (Section 7, pg. 41). - Right-of-way classification for Regional Road 25 is C(4) Urban Cross Section with 47 m ROW with 4 shared travel lanes & 2 priority lanes (HOV/RBL) (Appendix E, Section 3.3, pg. 6) <u>2015 Halton Region Active Transportation Master Plan</u> - Promote an integrated, sustainable, accessible, affordable, and efficient multi-modal transportation network where active transportation will be a viable alternative to strengthen linkages between communities and municipalities (Section 3.2, pg. 17) - Proposed network includes cycling and walking facilities (combination of multi-use trails, bike lanes, paved shoulders, sidewalks) on Regional Road 25 from Speers Road to Derry Road (Appendix H, Maps 3 & 4) <u>2016 Mobility Management Strategy for Halton</u> - Regional Road 25 identified as Proposed Transit Priority Corridor from Bronte GO Station to Steeles Avenue (Figure ES-2, pg. vi) - Proposed transit node at Regional Road 25 / Dundas Street (Figure ES-2, pg. vi) <u>2019 Defining Major Transit Requirements in Halton Region</u> - Transit Priority Corridor offers opportunity to implement transit supportive infrastructure such as Transit Signal Priority, queue jump lanes, bus shelters, and other transit stop improvement. (Executive Summary, pg. 3) - Road corridor widening offers opportunity for potential future HOV lanes or BRT lanes. (Executive Summary, pg. 3) - Regional Road 25 identified as a Priority Bus Corridor connecting Bronte GO to Milton GO (HOV lanes and Transit Signal Priority) (Executive Summary, pg. 18) <u>Halton Region Water, Wastewater and Transportation Integrated Master Plan (2026)</u> - During the Regional Road 25 MCEA, Halton Region was undertaking the Integrated Master Plan to complete the next region-wide Water, Wastewater and Transportation Master Plan (IMP). Through Staff Report PW-35-25 on November 12, 2025, Regional Council adopted the recommended servicing strategies to support growth in Halton Region to 2051 as set out in the Integrated Master Plan for Water, Wastewater, and Transportation. - The preliminary transportation strategies developed by the IMP focus on optimizing the existing and planned transportation network, localized corridor widening and improvements, flexibility and adaptability to support the evolution of Transit Priority Corridors, prioritizing walking and cycling facilities along corridors and at intersections, and identifying supporting strategies and technologies. - On Regional Road 25, high occupancy vehicle lanes and transit signal priority are identified for implementation between 2037 and 2041. - Regional Road 25 is identified as a future bus rapid corridor in the 2051 Transit Priority Corridor Network.					

Factors / Considerations	Alternative Solution 1 - Do Nothing	Alternative Solution 2 - Transportation Demand Management	Alternative Solution 3 - Intersection / Operational Improvements	Alternative Solution 4 - Active Transportation Improvements	Alternative Solution 5 - Improvements to Regional Road 25	Alternative Solution 6 - Improvements to Other Routes Beyond Planned Program
	- Not consistent with Regional policy objectives to support TDM, active transportation, enhance transit service and additional capacity in the Regional roadway network. - Does not provide opportunity to improve Regional Road 25 to accommodate potential Transit Priority Corridor infrastructure or active transportation facility improvements.	- Consistent with Regional policy objectives as mentioned in the aforementioned section to influence travel patterns and encourage active transportation and transit. - On its own; however, does not provide opportunity to improve Regional Road 25 to accommodate potential Transit Priority Corridor infrastructure or active transportation facility improvements.	- Consistent with Regional policy objectives as mentioned in the aforementioned section to support additional capacity in the Regional roadway network. - Provides opportunity to implement transit supportive measures at intersections. - On its own; however, does not fully address opportunity to improve Regional Road 25 to accommodate potential future Transit Priority Corridor infrastructure and active transportation throughout the corridor.	- Consistent with Regional policy objectives as mentioned in the aforementioned section to develop a balanced transportation system reduced dependency on automobile use and promotes active transportation. - On its own; however, does not fully address opportunity to improve Regional Road 25 to accommodate potential future High-Occupancy Vehicle/Bus Rapid Transit lanes and/or other transit supportive measures.	- Consistent with Regional policy objectives as mentioned in the aforementioned section to provide additional capacity in the Regional roadway network. - Provides opportunity to make improvements to Regional Road 25 for potential Transit Priority Corridor infrastructure throughout the corridor, as well as opportunities to integrate other improvements (e.g. active transportation and intersection enhancements) as part of the capital project.	Improvements on other roadways have already been identified as part of the Region and Towns Transportation Master Plans. Improvements beyond the planned program may not be complementary to the planned programs.

Factors / Considerations	Alternative Solution 1 - Do Nothing	Alternative Solution 2 - Transportation Demand Management	Alternative Solution 3 - Intersection / Operational Improvements	Alternative Solution 4 - Active Transportation Improvements	Alternative Solution 5 - Improvements to Regional Road 25	Alternative Solution 6 - Improvements to Other Routes Beyond Planned Program
Impacts to Future Development	- Does not provide transportation network improvements required to support future developments and population growth. - No direct physical impacts to future development.	- May not provide transportation network improvements required to support future developments and population growth on its own. - No direct physical impact to future development	- Provides enhanced operational efficiency at intersections to support future development and population growth. - May have some direct physical impacts to development sites near intersections.	- Provides enhanced active transportation facilities to support future development and population growth. - Would likely not have direct physical impacts to future development.	- Provides additional capacity throughout the corridor to support future development and population growth. - May have some direct physical impacts to development sites near intersections.	- May not provide transportation network improvements required (e.g., additional capacity, connectivity, etc.) to support future development and population growth; especially those along Regional Road 25. - Future developments would not have accounted for additional right-of-way requirements from road widening beyond planned program. Developers will have to coordinate with Region and Towns to integrate with proposed roadway improvements.
Noise	No impact to noise levels at receptor locations adjacent to Regional Road 25.	Not likely to increase noise levels at receptor locations adjacent to Regional Road 25.	Potential increase in noise levels at receptor locations adjacent to Regional Road 25 due to increased traffic volume at intersections.	No impact to noise levels at existing receptor locations adjacent to Regional Road 25.	Potential impact to receptor locations adjacent to Regional Road 25 due to roadway widening (additional volume & potentially less distance between roadway and receptors).	- Potential impact to receptor locations in other corridors. - Potentially result in increased noise level in other corridors due to additional traffic beyond planned capacity.

Factors / Considerations	Alternative Solution 1 - Do Nothing	Alternative Solution 2 - Transportation Demand Management	Alternative Solution 3 - Intersection / Operational Improvements	Alternative Solution 4 - Active Transportation Improvements	Alternative Solution 5 - Improvements to Regional Road 25	Alternative Solution 6 - Improvements to Other Routes Beyond Planned Program
Community Feedback	<i>Community Feedback During Phase 2 of the MCEA</i> - An online survey was conducted between March 27, 2023, and April 14, 2023, to gather community feedback about the Regional Road 25 corridor. The top three most important corridor improvements as ranked by the survey participants included: improved travel capacity for all road users, continuous cycling facilities, and improved intersection operations. Other common comments were related to improving transit connectivity between Milton and Oakville, provision of separated cycling facilities, improving pedestrian and cyclists' safety at intersections. - The first Public Information Centre was held between October 12, 2023, and November 9, 2023, to introduce the study and gather community feedback about the preferred solution. Common comments at the Public Information Centre were focused on transit connectivity, future travel demand, and active transportation. - Further details about the online survey and Public Information Centre are provided in Section 6 of this ESR.					
	Does not provide opportunity to address community feedback.	Limited opportunity to address community feedback.	Opportunity to consider community feedback related to improved travel capacity and safety at intersections and pedestrian and cyclist crossing locations.	Opportunity to consider community feedback related to continuous pedestrian and cycling facilities throughout the corridor including intersections and pedestrian and cyclist crossing locations.	Opportunity to consider community feedback related to improved travel capacity throughout the corridor including intersections and pedestrian and cyclist crossing locations.	Does not provide opportunity to address community feedback relate to Regional Road 25.
Cultural Environment						
Archaeological Resources	Stage 1 archaeological assessment was carried out in 2022. Most of the study area is identified as having no or low archaeological potential because the land adjacent to the Regional Road 25 corridor is extensively disturbed, low and permanently wet, steeply sloped, or has been subject to previous archaeological assessment (for example, as part of ongoing developments along the corridor). The remainder of the study area is comprised of fallow lands, agricultural fields, and manicured lawns which appear to retain archaeological potential and require further assessment. A portion of the study area is located within Bowes Cemetery. Impacts to cemetery lands should be avoided if possible. If not possible, additional archaeological assessment and/or cemetery investigation may be required as determined through consultation with Ministry of Citizenship and Multiculturalism (MCM) and the Bereavement Authority of Ontario (BAO).					
Built Heritage Resources / Cultural Heritage Landscapes	A cultural heritage screening was completed in 2022. Twenty-seven (27) properties and features were found to have potential or confirmed cultural heritage value or interest. Two properties and one feature are designated under Part IV of the <i>Ontario Heritage Act</i>. Twelve (12) properties are listed on the Towns of Oakville and Milton Heritage Registers.					

Factors / Considerations	Alternative Solution 1 - Do Nothing	Alternative Solution 2 - Transportation Demand Management	Alternative Solution 3 - Intersection / Operational Improvements	Alternative Solution 4 - Active Transportation Improvements	Alternative Solution5 - Improvements to Regional Road 25	Alternative Soltuion6 - Improvements to Other Routes Beyond Planned Program
Natural Environment						
Fisheries and Aquatic Habitat	No net loss of fish habitat.	No net loss of fish habitat.	- No net loss of fish habitat. - Incremental effects on fish habitat may be experienced to accommodate intersection and/or operational improvements. These effects will depend on nature of improvements relative to watercourse features.	- No net loss of fish habitat. - Incremental effects on fish habitat may be experienced to accommodate active transportation improvements. These effects will depend on nature of improvements relative to watercourse features.	- No net loss of fish habitat. - Potential fish habitat effects associated with culvert replacements / extensions for road widening. - Increased contaminated runoff volumes may be generated with widened pavement surface.	- Potential loss of fish habitat depending on location in other corridors. - Potential fish habitat effects associated with culvert replacements / extensions for roadway improvements. - Potential for increased contaminated runoff volumes if pavement surface is widened.
Surface Water Quality and Quantity	No direct impact to surface water quality and quantity.	No direct impact to surface water quality and quantity.	Potential surface water quality and quantity effects due to increased impervious area and traffic capacity and resulting increase in contaminant runoff.	Potential surface water quality and quantity effects due to increased impervious area and resulting increase in contaminant runoff.	Potential surface water quality and quantity effects due to increased impervious area and traffic capacity and resulting increase in contaminant runoff.	Potential surface water quality and quantity effects due to increased impervious area and traffic capacity and resulting increase in contaminant runoff on other roads.

Factors / Considerations	Alternative Solution 1 - Do Nothing	Alternative Solution 2 - Transportation Demand Management	Alternative Solution 3 - Intersection / Operational Improvements	Alternative Solution 4 - Active Transportation Improvements	Alternative Solution5 - Improvements to Regional Road 25	Alternative Soltuion6 - Improvements to Other Routes Beyond Planned Program
Vegetation (Wetland and Upland)	No physical impacts to vegetation	No physical impacts to vegetation	Potential for physical removal of vegetation in localized areas where improvements are made.	- Potential for physical removal of vegetation along the corridor where vegetation / wetlands border or extend into the right-of-way. - Expected to result in edge impacts rather than fragmentation.	- Potential for physical removal of vegetation along the corridor where vegetation / wetlands border or extend into the right-of-way. - Expected to result in edge impacts rather than fragmentation.	Potential for physical removal of vegetation / wetlands along other corridor to accommodate roadway improvements.
Wildlife	No physical impacts to wildlife and wildlife habitats	No physical impacts to wildlife and wildlife habitat	Potential for physical habitat impacts in localized areas where improvements are made.	- Potential for physical habitat impacts along the corridor where habitat borders or extends into the right-of-way. - Expected to result in edge impacts rather than fragmentation.	- Potential for physical habitat impacts along the corridor where habitat borders or extends into the right-of-way. - Expected to result in edge impacts rather than fragmentation.	Potential for physical habitat impacts along other corridors to accommodate roadway improvements.

Factors / Considerations	Alternative Solution 1 - Do Nothing	Alternative Solution 2 - Transportation Demand Management	Alternative Solution 3 - Intersection / Operational Improvements	Alternative Solution 4 - Active Transportation Improvements	Alternative Solution 5 - Improvements to Regional Road 25	Alternative Solution 6 - Improvements to Other Routes Beyond Planned Program
Climate Change	<i>Climate Change Goals:</i> • <u>Halton Official Plan Review (June 2022)</u> • Policy areas within the Regional Official Plan address climate change: - Agriculture – Protect the natural environment which acts as a carbon sink and responds to extreme weather impacts. - Natural Heritage & Environmental Quality – Protect the natural environment which acts as a carbon sink and responds to extreme weather impacts. - Energy & Utilities – Conserve energy use through compact development and promote renewable energy systems to reduce emissions. - Transportation – Support the use of transit and active modes of transportation to help reduce car-dependence. - Growth Management – Continue to achieve complete and compact communities and support a healthy housing mix to promote long-term resilience in Halton • <u>Oakville Climate Actions Direction Report (April 2022)</u> • Four focus areas: ▪ Mitigation: Mitigate the impacts of climate change by reducing greenhouse gas emissions in Oakville. ▪ Adaptation: Adapt to the impact of climate change by reducing the Town’s vulnerability. ▪ Natural Environment: Increase the town’s resiliency to climate change by supporting a healthy environment. ▪ Foundational Supports: Support implementation of climate action through tools such as financing, policies and training. • <u>Milton 2023 Climate Change Work Plan</u> ○ Three main areas of focus: ▪ Energy consumption/conservation ▪ Establishing transit-supportive development ▪ Creating walkable complete communities					
	• Does not provide opportunity to implement climate change mitigation and adaptation strategies.	• Supports Regional and Local climate change objectives by reducing transportation demand and encouraging a shift to modes of transportation other than single occupant vehicles.	• Supports Regional and Local climate change objectives and initiatives by improving intersection operations and reducing congestion and vehicle emissions.	• Supports Regional and Local objectives and initiatives climate change objectives by increasing the viability and desirability of active transportation to reduce vehicle dependence promote physical health.	• Supports Regional and Local climate change objectives and initiatives by providing additional capacity.	• May provide opportunity to implement climate change mitigation and adaptation strategies.

Factors / Considerations	Alternative Solution 1 - Do Nothing	Alternative Solution 2 - Transportation Demand Management	Alternative Solution 3 - Intersection / Operational Improvements	Alternative Solution 4 - Active Transportation Improvements	Alternative Solution 5 - Improvements to Regional Road 25	Alternative Solution 6 - Improvements to Other Routes Beyond Planned Program
Transportation						
Traffic Demand	No opportunity to provide additional capacity and infrastructure required for future traffic demand on Regional Road 25.	- Opportunity to reduce and optimize travel demand on a Regional level, including Regional Road 25. - Requires significant changes to travel behaviour to achieve proposed levels of services. - May not fully address future transportation needs in the corridor.	Opportunity to provide additional capacity and improve operations at intersections to accommodate future traffic demand on Regional Road 25.	- Encourages modal shift to reduce vehicle demand but may not fully address future transportation needs in the corridor. - May not fully address future transportation needs in the corridor.	Opportunity to provide additional capacity to support future transportation demand for population growth adjacent to the corridor and surrounding area.	Opportunity to support future transportation demand generated for planned development have been established and identified in the Halton Transportation Master Plan.
Transit	Does not provide opportunity for transit-supportive infrastructure	Does not provide opportunity for transit-support infrastructure	Opportunity to accommodate transit-supportive infrastructure at intersections	Opportunity to better integrate active transportation and transit throughout the corridor	Opportunity to protect for potential future Transit Priority Corridor infrastructure along Regional Road 25	Opportunity to provide transit-supportive infrastructure elsewhere in the network

Factors / Considerations	Alternative Solution 1 - Do Nothing	Alternative Solution 2 - Transportation Demand Management	Alternative Solution 3 - Intersection / Operational Improvements	Alternative Solution 4 - Active Transportation Improvements	Alternative Solution5 - Improvements to Regional Road 25	Alternative Soltuion6 - Improvements to Other Routes Beyond Planned Program
Active Transportation	Does not support provision of enhanced active transportation facilities to promote a modal shift in the corridor.	Opportunity to promote active transportation but does not provide new or improved facilities per the Region’s 2015 Active Transportation Master Plan and 2026 Integrated Master Plan.	Opportunity to implement active transportation features to enhance safety and accessibility at intersections geometric and operational modifications that reduce vehicle speeds, improve visibility, and separate users (e.g., curb radii reduction, crosswalks and crossrides, bicycle signals, etc.)	- Opportunity to improve active transportation facilities to comply with current best practices and create a continuous network in the study area. - Opportunity to enhance accessibility for users of all ages and abilities by providing dedicated space for different users that is separated from vehicles. - Opportunity to improve the safety for pedestrians and cyclists by providing designated active transportation facilities including multi-use paths, sidewalks, and cycle track that are physically separated from motor vehicles.	Proposed right-of-way on Regional Road 25 provides opportunity to improve active transportation facilities along the corridor.	Right-of-way beyond planned program may limit ability to enhance active transportation facilities in other corridors.

Factors / Considerations	Alternative Solution 1 - Do Nothing	Alternative Solution 2 - Transportation Demand Management	Alternative Solution 3 - Intersection / Operational Improvements	Alternative Solution 4 - Active Transportation Improvements	Alternative Solution5 - Improvements to Regional Road 25	Alternative Soltuion6 - Improvements to Other Routes Beyond Planned Program
Cost						
Order of Magnitude Cost Estimate (Construction Costs Only)	No cost	\$	\$\$	\$\$	\$\$\$	\$\$\$
Recommendation	Do not carry forward	Already Being Implemented through other Region Programs and Initiatives*	Carry forward as part of the overall improvement strategy	Carry forward as part of the overall improvement strategy	Carry forward as part of the overall improvement strategy	Do not carry forward

*The preferred transportation strategy to 2031 for Halton Region includes policies and initiatives for support Transportation Demand Management (TDM).

4.2.1 Summary of Evaluation of Alternative Planning Solutions

Table 4-3: Summary of Alternatives Solutions Assessment

Alternative Solutions	Key Considerations	Does it Address the Problems and Opportunities?
Alternative 1 - Do Nothing	- Does not address future multi-modal transportation network needs on Regional Road 25. - Not consistent with Region's plans and policies.	x
Alternative 2 - Transportation Demand Management	- Actively managing transportation demand is a core element of the Region's 2011 Transportation Master Plan and is being implemented through other Region policies and programs. - Other alternatives support implementation of Transportation Demand Management strategies.	x
Alternative 3 - Intersection/Operational Improvements	- Intersections are expected to operate with long delays and queues in the future. - Improves efficiency and safety of the transportation network for all users.	✓
Alternative 4 - Active Transportation Improvements	- Consistent with Region's planning policies and community feedback to support multi-modal transportation in the corridor. - Opportunity to improve existing facilities and address gaps in the network to create a comfortable, safe, and convenient pedestrian and cycling network	✓

Alternative 5 - Improvements to Regional Road 25	Addresses future needs by providing additional capacity on Regional Road 25 to accommodate increasing transportation demand due to future development and population growth as well as potential future Transit Priority Corridor infrastructure	✓
Alternative 6 - Improvements to Other Routes Beyond Planned Program	Does not address the multi-modal transportation needs on Regional Road 25.	x

4.3 Preferred Alternative Planning Solutions

Based on the assessment, the preliminary Preferred Solution carried forward for further review includes a combination of Alternative 3, 4, and 5 to fully address the problems and opportunities identified for this study:

- **Intersection/Operational Improvements:** Improve traffic operations at intersections through physical and operational modifications.
- **Active Transportation Improvements:** Improve facilities for pedestrians, cyclists, mobility device users, and other non-vehicular travel to create a safe and accessible network.
- **Improvements to Regional Road 25:** Widen Regional Road 25 to provide additional travel lanes and to protect for potential future Transit Priority Corridor infrastructure as identified in the Region's Integrated Master Plan.

Through the Halton Region Integrated Master Plan, Regional Road 25 is identified as a future Transit Priority Corridor. Implementation of the Transit Priority Corridor infrastructure identified in the Integrated Master Plan will be phased and will evolve based on demand and local priorities. It is recognized that the timing and transition of the Transit Priority Corridors will require close coordination between the Region and the Local municipalities.

5 Design Alternatives

Having established the need for improvements to Regional Road 25 between Speers Road and Derry Road and identified a Preferred Solution, the next step in MCEA process is to develop the design concept for the Preferred Solution. This constitutes Phase 3 of the MCEA.

As outlined in Section 2, improvements on the Regional Road 25 corridor are needed to support future growth, multi-modal travel demand, and network connectivity. The Preferred Planning Solution for Regional Road 25 includes:

- Improving facilities for pedestrians, cyclists, mobility device users and other non-vehicular travel to create a safe and accessible network
- Improving traffic operations at intersections through physical and operational modifications
- Widening Regional Road 25 to provide additional travel lanes and to protect for potential future Transit Priority Corridor infrastructure as identified in the Region's Integrated Master Plan.

The process for developing the preferred design concept for Regional Road 25 consisted of the following key steps as shown in **Figure 5-1**:

- Identifying design considerations and constraints
- Developing the road cross-section
- Considering road widening options based on the cross-section, associated right-of-way requirements, and constraints
- Invite agencies, interested parties, and the public to review and provide comments on the above-noted design activities (Section 6)
- Develop the preferred design concept based on the cross-section and associated right-of-way requirements (Chapter 7)

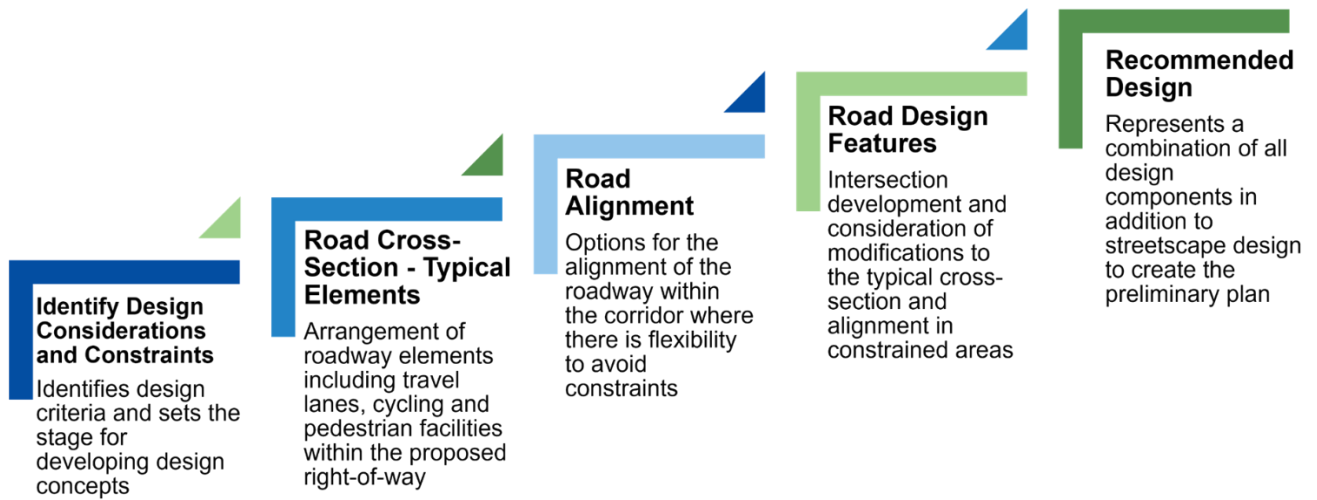


Figure 5-1: Design Process

5.1 Design Considerations and Constraints

As is typical of an MCEA study, the Project Team's understanding of the technical design constraints evolves throughout the study, informed by technical investigations and through consultation with agencies, interested parties, and the public.

The development of the preferred design concept for Regional Road 25 considered the following key elements and constraints:

- Protect the White Oak Tree (Natural Heritage Tree designated under Part IV - *Ontario Heritage Act*)
- Provide an inclusive and multi-modal transportation system available to all users of all abilities
- Provide a safe and efficient cycling and pedestrian environment, including at intersections and interchanges
- Protection at intersections for cyclists and pedestrians
- Select cycling facility type and integration with planned cycling facilities within the broader network
- Minimize impacts to properties (residential, business, institutional, recreational, etc.)
- Integration with future development
- Natural hazards
- Drainage, stormwater management, and flood hazards

- Protect space for transit stops and needs for future stops (shelter, power, utilities, etc.)
- Tie into QEW and Highway 407 interchanges
- Consideration for major utilities and pipeline crossings throughout the corridor.

5.2 Typical Cross Section

Development of the typical cross-section for Regional Road 25 was informed by the following documents:

- **Halton Region Transportation Master Plan – *The Road to Change* (2011):** The Transportation Master Plan provides long-term direction for the development of the Region's transportation system to support population growth, economic activity, and sustainable mobility to 2031. The Transportation Master Plan classifies Regional Road 25 as a Major Arterial with a planned right-of-way width of 47 metres and identifies the need to widen the corridor to six lanes.
- **Halton Region Water, Wastewater, and Transportation Integrated Master Plan (2026):** The Integrated Master Plan is a long-term strategy to manage and expand Regional infrastructure to support future population and employment growth to 2051. The preferred transportation strategy focuses on creating a resilient and adaptable transportation system that accommodates increasing travel demand through targeted corridor improvements while prioritizing active transportation and enhanced intersection design, including protected intersections where appropriate. Regional Road 25 is identified as a future bus rapid transit corridor in the 2051 Transit Priority Corridor Network.
- **Transportation Association of Canada (TAC) Geometric Design Guide for Canadian Roads (2017):** The TAC Geometric Design Guide provides guidance on the geometric design of roads such as alignment, cross-sections, intersections, and roadside design. The TAC Geometric Design Guide was used to guide the geometric design of Regional Road 25.
- **Ministry of Transportation Ontario (MTO) Design Supplement for TAC Geometric Design Guide for Canadian Roads (2023):** The MTO Design Supplement is a companion document to the TAC Geometric Design Guide and provide guidance for geometric design of provincial highways.
- **Ontario Traffic Manual (OTM) Book 18 – Cycling Facilities (2021):** OTM Book 18 provides a framework to determine suitable cycling facility types for a corridor. The three-step cycling facility selection process is as follows:

- Step 1: Pre-Select Facility Type Options – Identify appropriate level of separation and reasonable facility types based on vehicle speeds and volumes
- Step 2: Detailed and Contextual Evaluation – Confirm level of separation and facility type are suitable given the context of the roadway
- Step 3: Document and Justify Rationale – Document decision-making process and rationale behind the final facility selection
- **MTO Bikeway Design Manual (March 2014):** provides guidance for the design of on and off-road bicycle facilities located within provincial highway rights-of-way.

The following section describes the development of the typical cross-section for Regional Road 25.

5.2.1 Right-of-Way

Regional Road 25 is classified as Major Arterial and has a 47 metre right-of-way per Halton Region's 2011 Transportation Master Plan. The existing right-of-way varies between 35 metres and 42 metres throughout the corridor.

5.2.2 Number of Travel Lanes

Halton Region's 2011 Transportation Master Plan assessed travel demand to 2031 and identified the need to widen Regional Road 25 from Speers Road to Derry Road to six lanes. The transportation assessment completed as part of the Regional Road 25 MCEA confirmed that six lanes are required from Wyecroft Road to Derry Road to support future travel demand and accommodate future Transit Priority Corridor infrastructure within the corridor. The existing four lanes between Speers Road and Wyecroft Road are proposed to be maintained, as this segment did not demonstrate a need for widening. Maintaining four lanes along this segment also provides a transition between the existing two lane cross-section south of Speers Road and the proposed six lane cross-section north of Wyecroft Road. In November 2025, Regional Council through Report PW-35-25, adopted the recommended servicing strategies to support growth in Halton Region to 2051. On Regional Road 25, high occupancy vehicle lanes and transit signal priority are identified for implementation between 2037 to 2041. The corridor is also identified as a future bus rapid transit corridor in the 2051 Transit Priority Corridor Network. Implementation of the Transit Priority Corridor infrastructure identified in the Integrated Master Plan will be phased and will evolve based on demand and local

priorities. It is recognized that the timing and transition of the Transit Priority Corridors will require close coordination between the Region and the Local municipalities.

5.2.3 Posted Speed

Currently, the posted speed limit on Regional Road 25 between Speers Road and Derry Road ranges from 60 kilometres per hour to 80 kilometres per hour. A consistent posted speed limit of 60 kilometres per hour is proposed along the corridor.

5.2.4 Design Speed

Design speed is the speed used to determine key geometric elements of a roadway that influence vehicle operation, including features within the cross-section such as lane widths and the separation provided for cycling facilities. The design speed for Regional Road 25 is 80 kilometres per hour.

5.2.5 Lane Widths

Halton Region's 2011 Transportation Master Plan Right-of-way Guidelines (Appendix E) provide guidance on travel lane widths. The Guidelines identify 3.5 metres as the Region's standard width for travel lanes. This standard is consistent with the Transportation Association of Canada (TAC) Geometric Design Guide for Canadian Roads (2017) which recommends through-lane widths ranging from 3.3 metre to 3.7 metre for urban roadways with design speeds between 70 to 100 kilometres per hour. The proposed typical travel lane width for Regional Road 25 is 3.5 metres.

5.2.6 Median

There is an existing raised centre median on Regional Road 25 between Speers Road and Dundas Street. In certain areas the median is flush (painted) and allows for left turns. A raised centre median is proposed throughout the Regional Road 25 MCEA study area to enhance safety and manage access throughout the corridor.

5.2.7 Boulevard

Boulevards are defined as the area between the property line and back of curb. Along Regional Road 25, the boulevard provides space for cycling and walking facilities, transit stops, landscape features, illumination, and utilities. The proposed typical boulevard width for Regional Road 25 is 10 metres.

5.2.8 Active Transportation

Walking and cycling facilities are a key component of the design for Regional Road 25 to support the development of a multi-modal transportation network.

As part of this MCEA study, the 2026 Integrated Master Plan guidance was reviewed considering the 2021 provincial guidance in Ontario Traffic Manual (OTM) Book 18 – Cycling Facilities. OTM Book 18 reflects current design guidelines and best practices, including an “all ages and abilities” approach to cycling infrastructure. This aims to encourage cycling among people of all ages and skill levels while mitigating potential conflicts through appropriate facility design. The selection of cycling facilities was based on the process identified in OTM Book 18:

Step 1: Pre-select facility type based on OTM Book 18 – this step is to select the preferred level of separation and facility types for Regional Road 25, based on vehicle speeds, volumes, and the number of lanes.

Per Section 5.2.3 of OTM Book 18, physically separated bikeways are recommended for streets with two or more through-lanes in each direction. The reference nomograph from OTM Book 18 depicting this decision-making process is shown in **Figure 5-2**. The nomograph also supports physically separated bikeways based on the posted speed limit and vehicle volumes.

Physically separated bikeways include facility types such as separated bicycle lanes, cycle tracks, and multi-use paths. In general, physically separated bikeways include elements such as curbs, planters, bollards, or boulevards that provide physical separation between people riding bikes and vehicle traffic. **Figure 5-3** outlines the difference between the three types of physically separated bikeways.

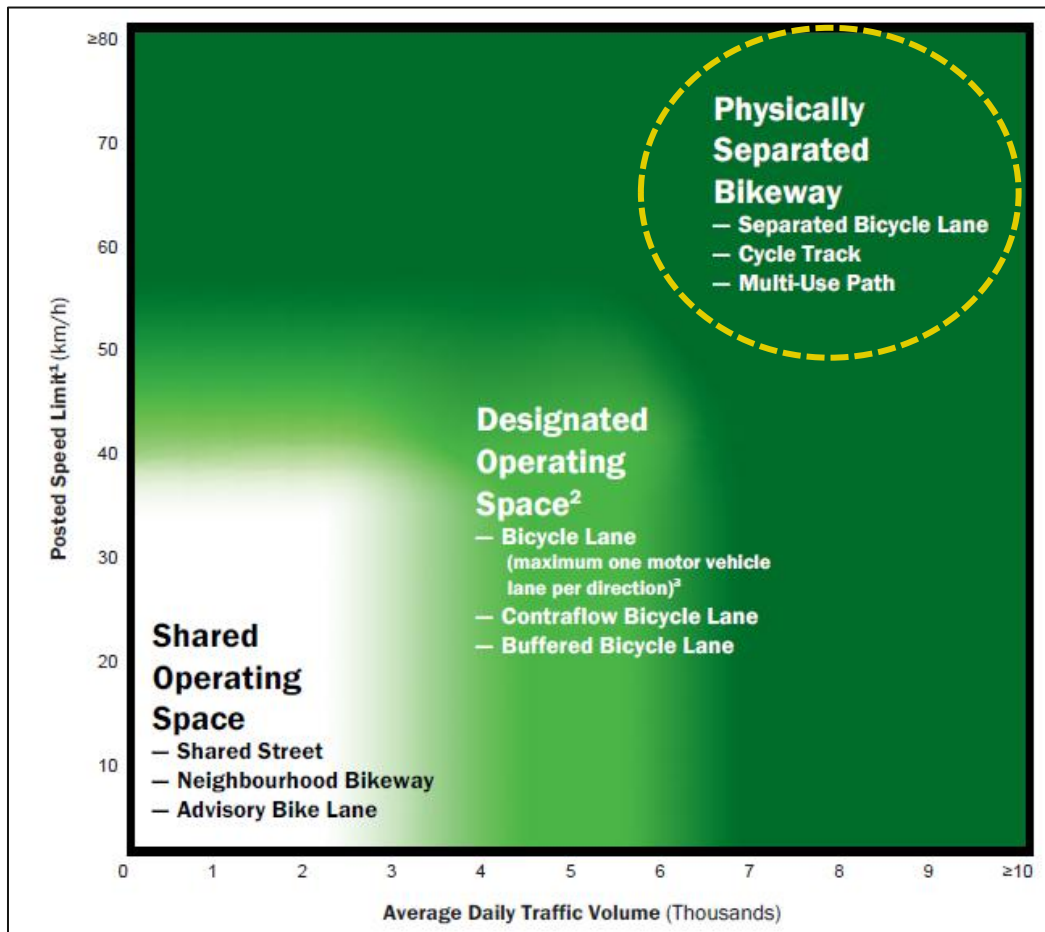


Figure 5-2: Desirable Cycling Facility Pre-selection Nomograph – Urban/Suburban Context

(Source: OTM Book 18, June 2021, Figure 5.5)

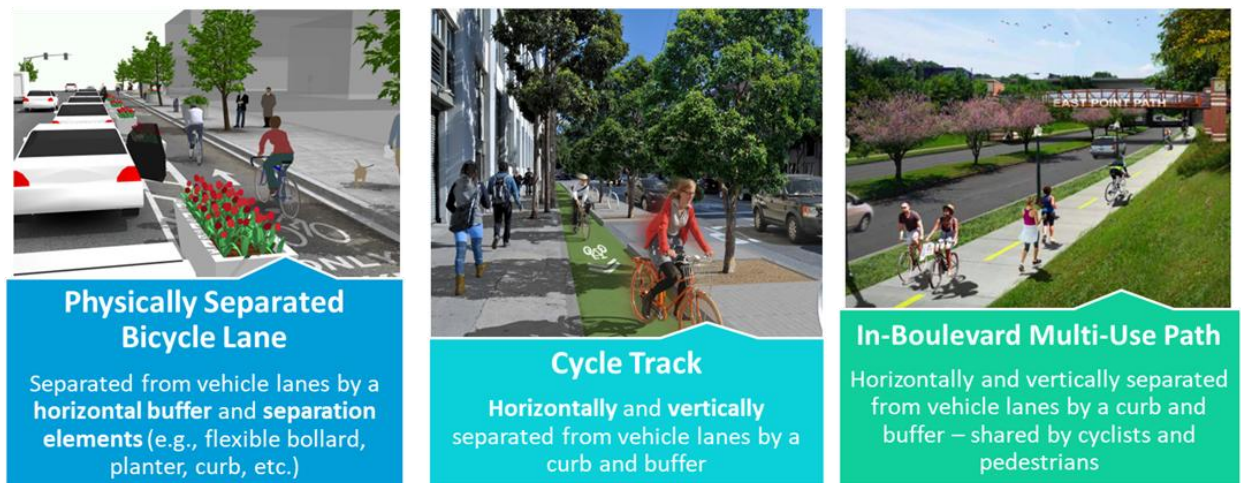


Figure 5-3: Physically Separated Bikeways

Step 2: Context-specific evaluation of the cycling route – this step is to complete a thorough review of the route to understand site-specific characteristics to inform the suitability of the facility type.

In accordance with the guidance in OTM Book 18, separated bicycle lanes, cycle tracks, and multi-use paths were evaluated based on roadway characteristics (including vehicle speeds, volumes, number of lanes, and vehicle mix), feasibility (available right-of-way and the type of roadway improvement project), and user comfort and attractiveness (user skill and the role of the corridor within the cycling network). Based on these considerations, separated bicycle lanes were screened out. Cycle tracks and multi-use paths were carried forward for the following reasons:

- **Greater physical separation from vehicles:** On roads with vehicle speeds of 60 kilometres per hour or greater and traffic volumes more than 10,000 vehicles per day, facilities that provide greater separation from vehicles are preferred to improve cyclist safety and comfort. On corridors with a high proportion of trucks or buses, additional lateral separation between cyclists and vehicles can also reduce concerns related to vehicle size, noise, and wind effects. Cycle tracks and multi-use paths provide a greater degree of separation (horizontal and vertical) from vehicles than on-road separated bicycle lanes.
- **Improved comfort for users of all ages and abilities:** Cycling facilities located in the boulevard are typically more comfortable for less experienced cyclists and children who may feel uncomfortable riding adjacent to vehicle traffic, even where physical barriers are present.

- **Feasibility:** There is space to accommodate cycling facilities in the boulevard of the proposed 47 metre right-of-way. Road widening and full reconstruction of the boulevard are planned for the project.
- **Accommodation of multiple users:** Multi-use paths can accommodate a variety of users, including cyclists, pedestrians, and mobility device users, which can improve overall accessibility in areas with moderate pedestrian activity. There are also existing multi-use paths along Regional Road 25 between Speers Road and Dundas Street that connect to adjacent paths in the surrounding neighbourhoods and through the QEW interchange.

In addition to the applicable guidance in OTM Book 18, corridor-specific objectives were developed to guide the selection of appropriate cycling facilities. These objectives include:

- Providing separated pedestrian and cycling facilities in areas where pedestrian volumes are expected to be high*
- Facilitating two-way cycling on both sides of Regional Road 25 where there are long distances (300 metres or more) between signalized intersections, where feasible
- Providing continuous facilities that connect to existing and planned cycling infrastructure
- Providing facilities that accommodate a range of users and abilities

*OTM Book 18 suggests when the volume of users exceeds any one of the following conditions, consider separating pedestrians and cyclists into a two-way cycle track plus an adjacent sidewalk: More than 20% of path users are pedestrians and total user volumes greater than 33 person per hour per metre or path width OR less than 20% of path users are pedestrians but total user volumes greater than 50 persons per hour of path width.

Based on the OTM Book 18 guidance, the corridor-specific objectives, and planned land uses in the study area, the following active transportation facilities were selected for Regional Road 25:

- **Speers Road to North Service Road:** multi-use paths (on one or both sides)
- **North Service Road to Charles Cornwall Avenue:** multi-use path and a sidewalk
- **Charles Cornwall Avenue to William Halton Parkway:** one-way cycle tracks, a sidewalk, and a multi-use path

- **William Halton Parkway to Derry Road:** multi-use paths

This approach provides separation from traffic, accommodates a range of users, and supports connections to the broader active transportation network.

5.2.9 Typical Cross-Section Summary

In summary, the typical cross-section is planned to have the following components:

- Six lanes (three lanes in each direction)
- Raised centre median
- Curb and gutter
- In-boulevard cycling facilities on both sides of the road
- Walking facilities on both sides of the road
- Boulevard space for transit stops, landscaping, and utilities

As noted in Section 5.2.2, the Regional Road 25 corridor is identified as a potential future Transit Priority Corridor. Implementation of the Transit Priority Corridor infrastructure identified in the Integrated Master Plan will be phased and will evolve based on demand and local priorities. It is recognized that the timing and transition of the Transit Priority Corridor will require close coordination between the Region and the Local municipalities.

While the “typical” cross-section is applied in creating the design concept plan, there may be a need to consider additional right-of-way at intersections to accommodate transit stops and turn lanes. Similarly, there may be a need to consider narrower road cross-section elements in constrained areas.

5.3 Road Widening

Given the presence of natural features along the corridor and existing development adjacent to the right-of-way, widening the roadway entirely to either the east or west side was not considered a reasonable alternative. Widening along the existing road centreline was identified as the preferred approach, as it helps minimize impacts to features outside the current right-of-way.

In constrained locations, opportunities to adjust the roadway alignment were considered to avoid impacts to sensitive features. This is discussed further in Section 5.4.

5.4 Localized Constraints

There are four locations along the corridor where highly sensitive natural or cultural features, or existing physical infrastructure, create significant constraints. At these locations, widening equally along the roadway centreline would result in substantial impacts to these features and was avoided.

5.4.1 White Oak Tree

The White Oak Tree (Natural Heritage Tree designated under Part IV - *Ontario Heritage Act*) located at 1179 Bonte Road is estimated to be nearly 300 years old and is situated within a landscaped median separating the northbound and southbound lanes of Regional Road 25 in the Town of Oakville. The tree is designated under *Part IV of the Ontario Heritage Act* and is recognized as an important natural heritage landmark within the Town of Oakville (see **Figure 5-4**). Further information about the tree is provided in the Cultural Heritage Assessment Report in Appendix B.

The preferred design for the widening of Regional Road 25 has been developed to avoid encroachment toward the tree and disturbance within the existing median where it is located. To achieve this, the proposed widening will occur towards the outside of the existing northbound and southbound road alignments thereby maintaining the current separation between the roadway and the tree.

An existing concrete retaining wall (Structure ID 1157470 - 282) is located along the west side of Regional Road 25 in the vicinity of the tree. The wall was constructed in 2011 and is approximately 184 metres long and 2 metres high. This wall will need to be widened or relocated to accommodate the proposed roadway widening and active transportation facilities. In this section, the typical cross-section has been modified to reduce the overall right-of-way requirements. Instead, a multi-use path is proposed on the west side of Regional Road 25 and a sidewalk on the east side between North Service Road and Charles Cornwall Avenue.

The proposed multi-use path on the west side maintains continuity with the existing multi-use path located along the former Highway 25 road allowance west of the QEW interchange. This configuration requires less overall space than providing both a cycle track and multi-use path, thereby minimizing the extent of retaining wall relocation and reducing potential encroachment into adjacent properties, including Bronte Creek Provincial Park lands while still accommodating active transportation users.



Figure 5-4: Regional Road 25 at the White Oak Tree ((Natural Heritage Tree designated under Part IV - *Ontario Heritage Act*)) (Looking North)

5.4.2 Hydro One Transmission Corridor

There is an existing Hydro One transmission corridor that crosses Regional Road 25 approximately 280 metres south of Henderson Road. Widening Regional Road 25 along the existing centreline at this location would require relocation of the hydro tower on the east side of the road (see **Figure 5-5**). To avoid relocating the hydro tower, Regional Road 25 is proposed to be realigned to the west between north of Burnhamthorpe Road and Henderson Road.

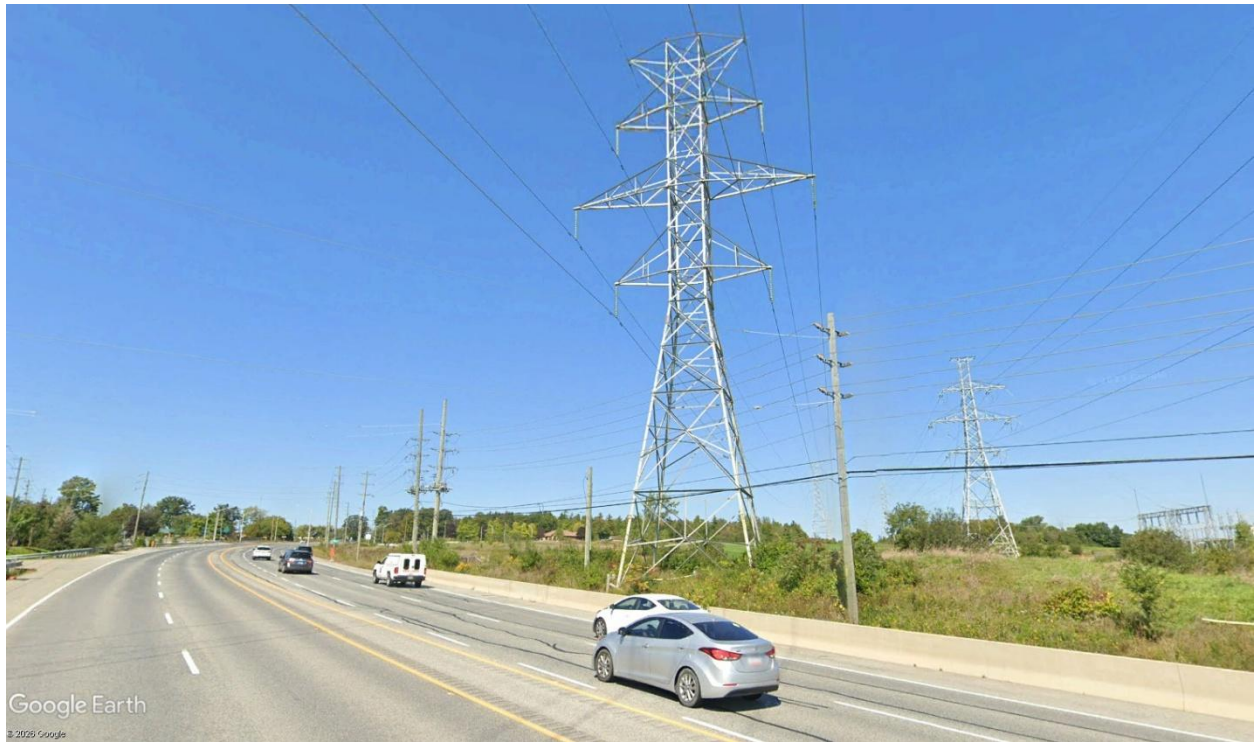


Figure 5-5: Regional Road 25 Near Hydro Corridor Between Burnhamthorpe Road and Henderson Road (Looking North)

5.4.3 Bowes Cemetery

Bowes Cemetery is located at 6317 Regional Road 25 on the east side of Regional Road 25, approximately 315 metres south of Louis St. Laurent Avenue. The cemetery is adjacent to the former Bowes United Church now the Saint Clair Masonic Lodge. The cemetery is listed on the Town of Milton's Heritage Register. Further information about the cemetery is provided in the Cultural Heritage Assessment Report in Appendix B. Widening Regional Road 25 along the existing centreline at this location would result in direct impacts to the cemetery. To avoid direct impacts to the cemetery, Regional Road 25 is proposed to be realigned to the west between north of Whitlock Avenue and Louis St. Laurent Avenue.

To minimize the resulting impacts on properties on the west side of the corridor, the typical cross-section is modified in this segment. A sidewalk, rather than the multi-use path as described in the typical cross-section, is proposed on the east side of the roadway to reduce the overall right-of-way requirements.

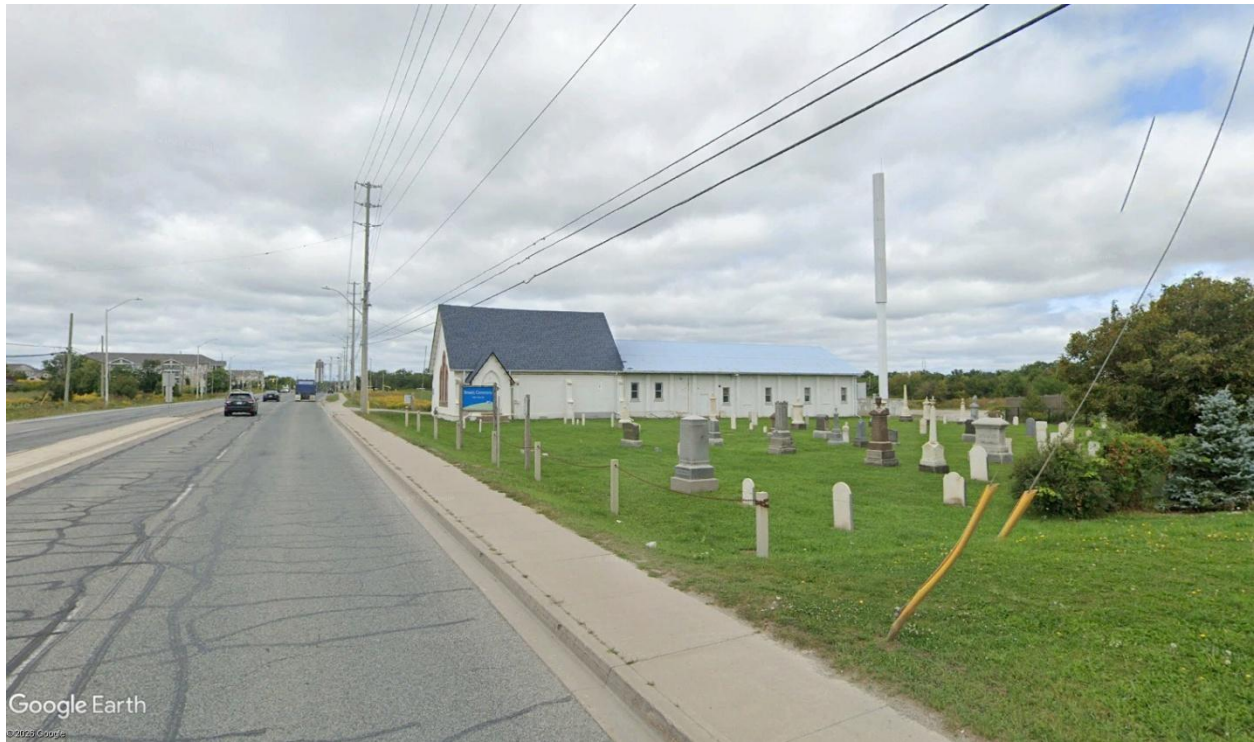


Figure 5-6: Regional Road 25 Near Bowes Cemetery (Looking North)

5.4.4 Sixteen Mile Creek

Sixteen Mile Creek runs parallel to Regional Road 25 along the west side of the road from Derry Road south the bridge located approximately 300 metres north of Louis St. Laurent Avenue (see **Figure 5-7**). Due to the proximity and environmental sensitivity of the creek, widening of Regional Road 25 between Louis St. Laurent Avenue and Derry Road is proposed on the east side of the road.

To minimize impacts associated with widening Regional Road 25 to the east, including potential impacts to properties along east side of Regional Road 25, the typical cross-section has been modified. In this segment, a multi-use path is proposed on the east side of the corridor only, and a narrower median is proposed to reduce the right-of-way requirements. An existing trail network located west of Sixteen Mile Creek can be accessed from the west side of Regional Road 25 north of Louis St. Laurent Avenue, which provides active transportation connectivity in this area.



Figure 5-7: Regional Road 25 Near Sixteen Mile Creek (Looking North)

5.5 Consideration of Roundabouts

An evaluation of the feasibility of roundabouts compared to signalized intersections was undertaken for intersections along Regional Road 25 between Speers Road and Derry Road. The assessment was completed in two stages. The first stage involved a high-level screening following the Region's Roundabout Screening Guide to determine the overall feasibility of implementing roundabouts at each intersection. The second stage consisted of a detailed Intersection Control Study for locations where roundabouts were identified as potentially feasible.

Roundabouts were identified for further consideration at the Speers Road and Wyecroft Road intersections. However, the evaluation indicated that signalized intersections provide advantages over roundabouts with respect to accessibility, cyclist safety and comfort, transit priority, accommodation of large trucks, and driver expectancy. In contrast, roundabouts were found to offer benefits related to off-peak traffic operations, environmental considerations (including vehicle noise, fuel consumption, and emissions), speed control, access management, and streetscaping opportunities.

Considering the study's objectives to support active transportation and future potential transit operations, roundabouts are not proposed at the Speers Road and Wyecroft Road intersections.

5.6 QEW Interchange Design Considerations

The intent of the preliminary preferred plan is to minimize physical and operational impacts to the Queen Elizabeth Way (QEW) interchange. The Bronte Road Overpass was originally constructed to accommodate future widening of Regional Road 25 to six lanes. Therefore, no structural modifications to the Bronte Road overpass are planned as part of the MCEA Study given the MTO accounted for this future widening as part of the ultimate cross-section of the Bronte Road Overpass. The preferred design therefore maintains the existing bridge structure while accommodating the roadway improvements within the available space.

Active Transportation

Active transportation through the interchange was a key consideration in the development of the preferred plan. An existing multi-use path located within the former Highway 25 road allowance west of the interchange provides a multi-modal connection through the interchange area. The multi-use path passes beneath the QEW and runs parallel to Regional Road 25. The existing multi-use path west of Regional Road 25 will be maintained and enhanced to provide an active transportation connection through the interchange.

Opportunities to accommodate additional facilities, such as a sidewalk or cycle tracks adjacent to Regional Road 25 through the interchange were considered and discussed with the Ministry of Transportation (MTO). These discussions are summarized in Chapter 6 and documented in the Consultation Record in Appendix G. Based on these discussions and the physical constraints of the interchange area, the preferred design maintains the existing multi-use path and does not introduce new active transportation facilities directly adjacent to Regional Road 25 through the interchange as the enhanced multi-use path west of the road provides the active transportation connection through the interchange accommodating both pedestrians and cycling.

Lane Configuration and Operations

Based on consultation with MTO, lane widths through the QEW interchange, between the south ramp terminal and the north ramp terminal, have been increased from 3.5 metres, as shown in the typical cross-sections, to 3.75 metres. The existing 2.0 metre median through the interchange is proposed to be maintained.

5.7 Highway 407 Interchange Design Considerations

Structural Modifications

The Highway 407 Underpass, where Highway 407 passes under Regional Road 25, will require widening to accommodate the proposed widening of Regional Road 25 to six lanes. The structure is referred to as an underpass in this report. The widening of the structure also provides an opportunity to incorporate active transportation facilities through the interchange, where such facilities are currently not provided. Barrier-separated multi-use paths are proposed on both sides of the structure to provide a continuous active transportation connection through the interchange. This configuration is consistent with the active transportation cross-section proposed along this segment of the Regional Road 25 corridor, which includes multi-use paths on both sides between William Halton Parkway and Louis St. Laurent Avenue.

Two ramp lane configuration options were considered for the interchange: (1) Direct Taper (**Figure 5-8**) and (2) Parallel Speed Change Lane (**Figure 5-9**). The Direct Taper configuration requires less structural widening (38.8 metre structure) as the tapers to the ramps are beyond the limits of the structure. The Parallel Speed Change Lane configuration requires a wider structure (45.5 metres) to accommodate the speed changes lanes on the structure.

In consultation with MTO and Highway 407 staff, the Parallel Speed Change Lane configuration was identified as the preferred alternative, as it provides improved operational performance by allowing vehicles additional distance to accelerate, decelerate, and merge when accessing the North-East and South-West interchange ramps compared to the Direct Taper configuration.

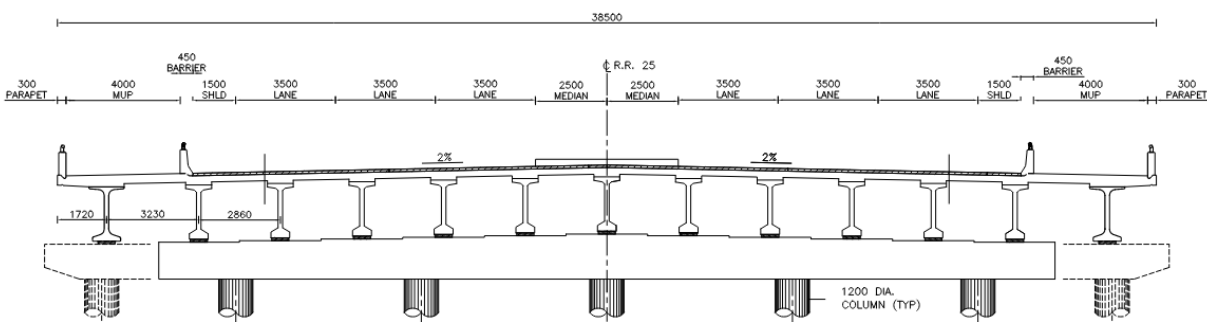


Figure 5-8: Highway 407 Underpass Structural Widening Option 1 (Direct Taper)

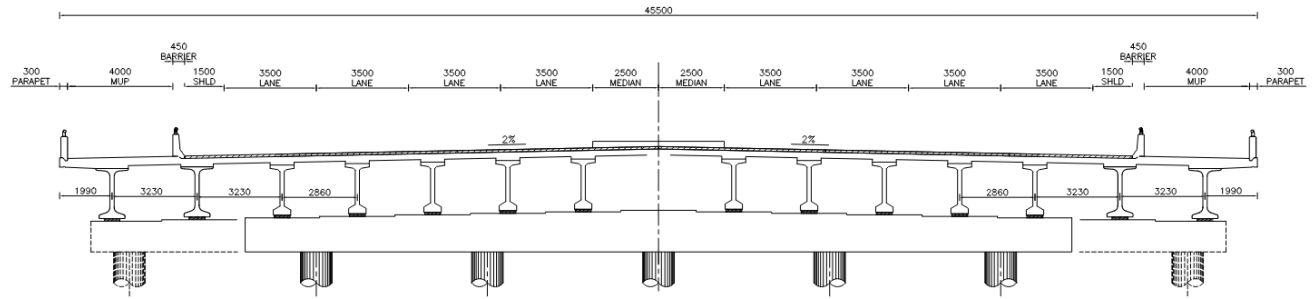


Figure 5-9: Highway 407 Underpass Structural Widening Option 2 (Parallel Speed Change Lane)

Coordination with Adjacent Projects

The Ministry has identified future plans to widen Highway 407 from six to eight lanes in the vicinity of the Regional Road 25 underpass. The proposed widening of the Highway 407 underpass to accommodate improvements to Regional Road 25 will not preclude the future widening of Highway 407.

5.8 Preliminary Preferred Design

Based on the process outlined above to minimize impacts to key features, the Preliminary Preferred Design for Regional Road 25 is as follows:

- Maintain four general purpose lanes on Regional Road 25 from Speers Road to Wyecroft Road
- Provide a multi-use path on both sides of Regional Road 25 from Speers Road to Wyecroft Road. Provide a multi-use path on the west side of Regional Road 25 from Wyecroft Road to Charles Cornwall Avenue.
- Widen Regional Road 25 to six lanes with a raised centre median from Wyecroft Road to Derry Road
- Maintain the existing Bronte Road Overpass at the QEW
- Maintain and enhance the existing multi-use path west of Regional Road 25 through the interchange.
- Provide a multi-use path on the west side and sidewalk on the east side of Regional Road 25 from the North Service Road to Charles Cornwall Avenue.
- Provide a multi-use path and cycle track on the west side and a cycle track and sidewalk on the east side of Regional Road 25 from Charles Cornwall Avenue to William Halton Parkway.
- Signalize the intersection of Regional Road 25 and Owlsnest Way

- Provide multi-use paths on both sides of Regional Road 25 from William Halton Parkway to Louis St. Laurent Avenue.
- Realign Regional Road 25 to the west from north of Burnhamthorpe Road to Henderson Road
- Signalize the intersection of Regional Road 25 and Henderson Road
- Signalize the access to the Biosolids Facility
- Multi-use path on the east side of Regional Road 25 transitions to a sidewalk along the frontage of Bowes Cemetery
- Widen the Highway 407 Underpass to accommodate barrier separated multi-use paths, speed change lanes, and six lanes on Regional Road 25
- Provide a multi-use path on the east side of Regional Road 25 from Louis St. Laurent Avenue to Derry Road.
- Widen the Sixteen Mile Creek bridge structure
- Intersection improvements throughout the Regional Road 25 corridor including cross-rides, bicycle signals, modifications to corner radius, extending turn lanes, bus laybys and transit stops.
- Intersection design compliant with *Accessibility for Ontarians with Disabilities Act*.

6 Consultation

6.1 Consultation Overview

Consultation is a key component of the Municipal Class Environmental Assessment (MCEA) process. Interested parties including but not limited to technical agencies, members of the public, property owners, and First Nations and Indigenous Communities were provided with opportunities to provide input throughout the study.

The following sections outline the consultation activities conducted throughout the study, including their timing, purpose, and methods of notification. Supporting documentation is provided in the Consultation Record in Appendix G.

6.2 Public Consultation

The following sections describe the public consultation efforts undertaken during the study, including key comment themes received from the public at major milestones and how they were addressed by the Project Team. All public notices, materials and comments received, as well as the Project Team response are provided in the Consultation Record in Appendix G.

6.2.1 Project Webpage

A project webpage was hosted on halton.ca to provide a centralized, accessible platform where interested parties and the public could learn about the study and stay informed throughout the study process. The website provided details about the study purpose, scope, study area, status, consultant, Regional contact, upcoming consultation events and links to project documents.

Project Webpage: <https://www.halton.ca/for-residents/roads-construction/municipal-class-environmental-assessment-studies/regional-road-25-corridor-study-%E2%80%93-speers-road-to-d>

6.2.2 Notice of Study Commencement

The Notice of Study Commencement was issued to introduce and invite study participation. The Notice of Study Commencement was posted on Halton Region's website and published in two local newspapers (the Oakville Beaver and the Milton Champion) on July 21, 2022.

The Notice of Study Commencement was mailed directly to property owners and occupants within the study catchment area. The catchment area was defined as

properties directly adjacent (fronting/backing) on Regional Road 25 from Speers Road to Derry Road. The Notice was also mailed to agencies, stakeholders and First Nations and Indigenous Communities.

Feedback received in response to the Notice of Study Commencement included:

- Correspondence from agencies noting general interest and providing input into existing conditions and considerations.
- Correspondence from members of the public inquiring about project timelines and expressing concerns about noise, safety, and impacts to property.

6.2.3 Online Survey

An online survey was conducted to gather feedback from interested parties and members of the public regarding their interest in the study, travel patterns (mode, frequency, and destinations), and desired improvements for the corridor. The survey provided an opportunity for participants to share their feedback, helping the Project Team better understand community priorities and inform the study decision-making process.

The survey was made available on the project webpage from March 27, 2023 to April 14, 2023. It was promoted through Halton Region social media messages, Google Ads, and mobile signs.

A total of 182 responses were received, providing valuable input on community priorities and feedback related to the project. Key themes identified through the responses are summarized **Figure 6-1 to Figure 6-3**.

What We Heard

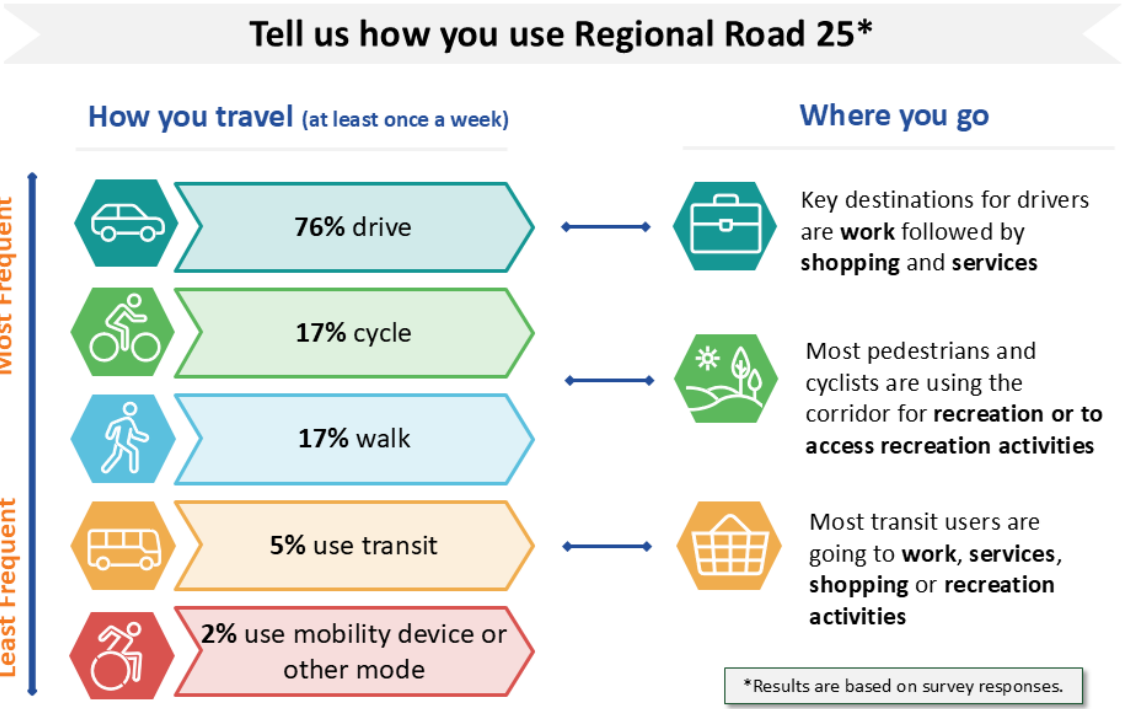


Figure 6-1: Travel Pattern Feedback From Online Survey

What We Heard

Tell us how we can improve Regional Road 25*

**Safety remains Halton's top priority for all transportation improvements.
What other corridor improvements are important to you?**

- 1 **Travel capacity:** improve for all road users
- 2 **Cycling facilities:** continuous & separated
- 3 **Intersections:** improve operations
- 4 **Pedestrian facilities:** continuous multi-use path
- 5 **Landscaping:** enhance landscaping features to create an attractive streetscape
- 6 **Other**
- 7 **Transit:** improve transit stops

'Other' suggested improvements:

- Transit connectivity between Oakville and Milton
- Pedestrian and cyclist friendly intersections
- Noise mitigation measures
- Roundabouts at select intersections



*Results are based on survey responses.

Figure 6-2: Key Priorities from Online Survey

What We Heard

Additional Feedback

Key themes that emerged from questions and comments from survey respondents include:

- Prioritize **pedestrian and cyclists safety** at intersections.
- Add **physically separated cycling** facilities.
- Consider **roundabouts** at select intersections.
- Improve **transit connectivity** between Oakville and Milton.



Figure 6-3: Key Themes from Online Survey

6.2.4 Public Information Centre #1

Public Information Centres (PICs) are a key component of the consultation process to invite the public and interested parties to provide their feedback throughout the study process. Two PICs were held during the study.

The first Public Information Centre (PIC #1) was held online on Halton.ca from October 12, 2023 to November 9, 2023. The PIC consisted of a series of five pre-recorded videos about the study. The videos, transcripts and a static presentation of the contents of the videos were posted on the project webpage. An online survey was posted on the project webpage to gather comments about the PIC content.

The purpose of the PIC was to introduce the study and gather community feedback about the study area existing conditions, needs and opportunities, preferred solution and early design considerations.

The Notice of Public Information Centre #1 was mailed to property owners within the study catchment area on October 11, 2023. The Notice of PIC #1 was advertised on

insidehalton.com and was further promoted through Halton Region social media messages, Google Ads, and mobile signs. The Notice was also mailed or emailed to agencies, stakeholders, and First Nations and Indigenous Communities.

Between October 12, 2023, and November 9, 2023, the project webpage on halton.ca received 1,375 views by 838 users and 45 surveys were received.

The feedback received at PIC #1 is shown in **Table 6-1**. In response to the feedback received, the Project Team prepared “Frequently Asked Questions” to address the common themes of the questions and comments which were posted on the project webpage.

Table 6-1: Feedback Received at PIC #1

PIC #1 Frequency Asked Questions
How was the need and justification for the study established? The need for additional capacity along Regional Road 25 was identified through Halton Region’s Transportation Master Plan to 2031 – The Road to Change (2011). As part of this Municipal Class Environmental Assessment (MCEA) Study, it was reconfirmed that without improvements to Regional Road 25, traffic operations will continue to experience high demand during peak periods and intersections will be operating over capacity as travel demand increases.
What improvements are you considering to address travel demand? To support future travel demand and a transportation system that is safe, continuous, connected, and coordinated for everyone, the recommended solutions for Regional Road 25 are: • Improve facilities for pedestrians, cyclists, mobility device users, and other non-vehicular travel to create a safe and accessible network. • Improve traffic operations at intersections through physical and operational modifications. • Widen Regional Road 25 to provide additional travel lanes and opportunities for high-occupancy vehicle and transit priority corridor infrastructure.

PIC #1 Frequency Asked Questions

What are the plans for active transportation in the corridor?

Cycling and walking is a priority for Regional Road 25 to support a safe and efficient multi-modal transportation network. Separated facilities for pedestrians and cyclists are being proposed for Regional Road 25 from Speers Road to Derry Road. The type of facility (e.g. sidewalks, cycle tracks, multi-use paths) will be confirmed as the study progresses.

How are property impacts being considered?

Reducing impacts to properties (including residential, business, institutional and recreational) is a key design consideration. As the study progresses to Phase 3 of the study process, alternative design concepts will be developed to minimize property impacts where possible.

How will noise and air quality impacts be mitigated?

Noise and air quality assessments will be completed as part of the study to assess existing and future conditions within the study area and the impacts of the proposed improvements on Regional Road 25. If warranted, the noise and air quality assessments will include recommendations for mitigation measures. These assessments will begin in the next stage of study.

How is safety being considered as part of this study?

Safety remains Halton Region's top priority for all transportation improvements. The recommended solution for Regional Road 25 is intended to improve safety and accessibility for all modes of travel.

How is property access being considered as part of this study?

Access to and from Regional Road 25 will follow Halton Region's Access Management Guideline (2015) to maintain a high level of service for travel along the corridor while providing access to adjacent properties.

How is access to Emergency Services being considered?

Emergency service providers from Halton Region and the Towns of Oakville and Milton will continue to be engaged throughout the study to ensure the future design of Regional Road 25 accommodates all emergency services.

PIC #1 Frequency Asked Questions

Is Regional Road 25 being widened to accommodate trucks?

The Regional road system connects the Region's rural and urban centres and provides connectivity to the provincial highway system as well as the local road network. Regional roads support all modes of travel including truck traffic.

Will the Bronte White Oak Tree be impacted by the study?

The Bronte White Oak Tree ((Natural Heritage Tree designated under Part IV - *Ontario Heritage Act*)) is a key consideration in the planning and design of improvements to Regional Road 25 and potential impacts to the tree will be avoided.

How is transit being considered as part of the study?

In 2019, the Defining Major Transit Requirements in Halton Region Study was completed and identified Regional Road 25 from Speers Road to Derry Road as a priority bus corridor with high-occupancy vehicle (HOV) lanes and transit signal priority. These infrastructure features will be considered in the development of improvement alternatives for Regional Road 25.

6.2.5 Public Information Centre #2

The second Public Information Centre (PIC # 2) was held online from June 19, 2025 to July 17, 2025. PIC #2 included four pre-recorded videos that presented an overview of study progress, development of the preliminary preferred design, and next steps. The videos, transcripts and a static presentation of the contents of the videos were posted on the project webpage. An online survey was posted on the project webpage to gather comments about the PIC content.

The purpose of PIC 2 was to provide interested parties and the public with an opportunity to review and comment on the development of the preliminary preferred design for the corridor.

The Notice of Public Information Centre #2 was mailed to property owners within the study catchment area on June 20, 2025. The Notice of PIC #2 was advertised on insidehalton.com and was further promoted through Halton Region social media

channels. The Notice was also mailed or emailed to agencies, stakeholders and First Nations and Indigenous Communities.

The project webpage on halton.ca received 955 views between June 19, 2025 and July 17, 2025 and 141 responses to the online survey were received.

The feedback received at PIC #2 is shown in **Table 6-2**. In response to the feedback received, the Project Team prepared “Frequently Asked Questions” to address the common themes of the questions and comments which were posted on the project webpage.

Table 6-2: Feedback Received at PIC 2

PIC #2 Frequency Asked Questions
What is being done to address speeding in the corridor? Currently, the posted speed limit ranges from 60 km/h to 80 km/h throughout study area. The posted speed limit is proposed to be lowered to 60 km/h throughout the corridor. The roadway will also be urbanized, including the addition of a raised centre median to help reinforce slower driving behaviour. Regional road intersections have been designed with smaller turner radius compared with existing conditions, further encouraging reduced vehicle speeds.
Has the Region considered restricting trucks in corridor? The Regional Road system connects Halton’s rural and urban centres to the provincial highway system and local road network. All Regional Roads are designed to support all modes of travel, including trucks. Restricting trucks from using the corridor is not being considered as part of the study.
How are noise and air quality impacts being considered? Noise and air quality assessments are currently being completed to evaluate and predict how the proposed road changes will affect environmental noise levels and air quality, particularly for surrounding communities and sensitive land uses (like schools and parks). Mitigation measures will be recommended based on the findings of the assessment. The findings of the assessment will be included in the Environmental Study Report, which will be published for public review at the end of the study.

PIC #2 Frequency Asked Questions

What type of active transportation facilities are proposed along the corridor?

A combination of multi-use paths, cycle tracks, and sidewalks are proposed along Regional Road 25, from Speers Road in Oakville to Derry Road in Milton. All proposed active transportation facilities will be physically separated from vehicle lanes and located “in-boulevard” (i.e., between the curb and property line) to provide a safe and comfortable environment for walking and cycling. For more information about the specific facilities in each section of the corridor, please refer to Video 3 in the PIC #2 materials or contact the project team for further information.

How are HOV lanes and transit being considered as part of this study?

Regional Road 25 is identified as a priority bus corridor in Defining Major Transit Requirements in Halton Region (2019). The preliminary preferred design includes the provision of transit supportive infrastructure, including transit stops and a future High Occupancy Vehicle (HOV) / Bus Only lane. The implementation plan of the future HOV/Bus Only lane will be determined by the Region’s ongoing Integrated Master Plan.

Has the Region considered replacing signalized intersections with roundabouts?

Yes, as part of the MCEA study, a detailed transportation assessment was conducted to evaluate existing and future transportation conditions and needs throughout the corridor. The assessment examined all signalized intersections in the study area, considering both signalized intersections and roundabouts as potential control types. Signalized intersections were identified as the preferred option at each location. While each intersection was assessed individually, common reasons for not selecting roundabouts include the space required to accommodate three lane roundabout designs and pedestrian and cyclist comfort.

PIC #2 Frequency Asked Questions

How are property impacts being considered?

Generally, Regional Road 25 is proposed to be widened equally on both sides of the centreline of the existing road, except in certain circumstances where the road is realigned to east or west to mitigate impacts to sensitive features including Bowes Cemetery and Sixteen Mile Creek. The future right-of-way for Regional Road 25 is generally 47 metres; additional properties may be required at approaches to intersections due to the need to accommodate turning lanes. Property requirements are represented by the proposed right-of-way (red dashed line) in the preliminary preferred plan in Video 3. In some areas, property is required to accommodate the proposed right-of-way. For details about specific properties, please reach out to the project team.

What are the next steps for implementation?

Following the completion of the MCEA Study, the project will continue to the detailed design and then construction, subject to Council approval and funding. The project will be constructed in phases, which will be confirmed in detailed design.

6.3 Interested Parties

A list of agencies including local municipalities, emergency services, and utilities was assembled to form the Regional Road 25 MCEA contact list. Representatives on the contact list were based on the Ministry of the Environment, Conservation and Parks (MECP) Government Review Team list and the experience of the Project Team. The study contact list included representatives from:

- **Federal Agencies**
 - Canadian National Rail
- **Provincial Agencies**
 - Ministry of the Environment, Conservation and Parks
 - Ontario Parks
 - Ministry of Citizenship and Multiculturalism
 - Ministry of Agriculture, Food and Rural Affairs
 - Ministry of Economic Development, Job Creation and Trade

- Ministry of Municipal Affairs and Housing
- Ministry of Natural Resources and Forestry
- Infrastructure Ontario
- Ministry of Transportation
- 407ETR
- Metrolinx
- Conservation Halton
- **Local Municipalities**
 - Town of Oakville
 - Town of Milton
- **Emergency Services**
 - Ontario Provincial Police
 - Halton Region Police Service
 - Oakville Fire Administration
 - Milton Fire Department
- **School Boards and Student Transportation Services**
 - Halton District School Board
 - Halton Catholic District School Board
 - Conseil scolaire catholique MonAvenir
 - Halton Student Transportation Services
- **Utilities**
 - Hydro One
 - Enbridge
 - Trans-Northern Pipelines
 - TC Energy Pipelines
 - Inter Pipeline
 - Bell Communications
 - Milton Hydro
 - Oakville Hydro
 - Rogers Cable Communications
 - Cogeco Cable

All interested parties were notified of key study milestones by email on the dates summarized in Section 6.2. All correspondence is provided in the Consultation Record in Appendix G.

Meetings were held with agencies and utilities to gather input and discuss technical details at various decision-making points throughout the study. These meetings are summarized in the subsequent sections of this Chapter. Meeting minutes and presentation materials are provided in the Consultation Record in Appendix G.

6.3.1 Technical Advisory Committees

Internal and External Technical Advisory Committees were established at the beginning of the study. Meetings were held with the Internal and External Technical Advisory Committees in advance of PIC #1 and PIC #2. Presentation materials and meeting minutes are provided in the Consultation Record in Appendix G.

Internal Technical Advisory Committee Meeting #1 (September 28, 2023)

The purpose of the first meeting with the Internal Technical Advisory Committee was to provide an overview of the project, the study process, and progress to date, and to obtain initial feedback from Halton Region staff regarding study needs and opportunities.

External Technical Advisory Committee Meeting #1 (October 2, 2023)

The purpose of first meeting with the External Technical Advisory Committee was to introduce the study and invite feedback on the existing conditions, the need and justification, alternative solutions, and the early development of design alternatives.

Representatives from all interested parties identified in Section 6.3 were invited to attend the meeting. The following agencies were in attendance. Meeting minutes were circulated to all interested parties following the meeting.

- Conservation Halton
- Town of Milton
- Milton Fire Department
- Halton District School Board
- Halton Catholic District School Board
- Halton Student Transportation Services
- Oakville Hydro
- Milton Hydro

- Trans-Northern Pipelines
- TC Energy

Internal Technical Agency Committee Meeting #2 (May 5, 2025)

The purpose of the second meeting with the Internal Technical Advisory Committee was to review the design considerations and development of the preliminary preferred plan for Regional Road 25 and to present the materials prepared for Public Information Centre #2.

External Technical Agency Committee Meeting #2 (May 23, 2025)

The purpose of External TAC Meeting #2 was to review the design considerations and development of the preliminary preferred plan for Regional Road 25 and to present the materials prepared for Public Information Centre #2 with agencies.

Representatives from the following interested parties attended the meeting:

- Canadian National Railway
- Conservation Halton
- Halton District School Board
- Halton Student Transportation Services
- Metrolinx
- MHBC Planning (Representing TC Energy)
- Milton Hydro
- Ministry of Transportation Ontario
- 407 ETR
- Ontario Parks
- TC Energy
- Town of Milton
- Town of Oakville
- Trans-Northern Pipelines

6.3.2 Town of Oakville

Two meetings with the Town of Oakville were held throughout the study to review the project progress and invite feedback on the design for Regional Road 25.

Town of Oakville Meeting #1 (September 13, 2023)

The first meeting introduced the project and provided an overview of the study, including the process, schedule, existing conditions, preliminary preferred solution, and key considerations for developing design alternatives.

Town of Oakville Meeting #2 (April 28, 2025)

The second meeting focused on the design development and preliminary preferred plan for Regional Road 25 within Oakville. Key feedback, which was incorporated into the design, addressed the location of transit stops along the corridor.

Town of Oakville Meeting #3 (May 15, 2026)

This meeting focused on the Town of Oakville's comments on the Draft Environmental Study Report with respect to natural heritage.

6.3.3 Town of Milton

Three meetings with the Town of Milton were held throughout the study to review project progress and invite feedback on the design for Regional Road 25.

Town of Milton Meeting #1 (September 18, 2023)

The first meeting introduced the project and provided an overview of the study, including the process, schedule, existing conditions, preliminary preferred solution, and key considerations for developing design alternatives.

Town of Milton Meeting #2 (April 1, 2025)

The second meeting focused on the design development and preliminary preferred plan for Regional Road 25 within Milton. Key feedback, which was incorporated into the design, addressed the location of the multi-use path within the boulevard and increasing its separation from the back of curb where feasible.

Town of Milton Meeting #3 (June 26, 2025)

The third meeting discussed the Town's ongoing study for the potential future Milton Transit Maintenance and Storage Facility, proposed adjacent to the Milton Civic Operations Centre at 5670 Regional Road 25.

6.3.4 Conservation Halton

Meetings with Conservation Halton were held throughout the study to review project progress and address environmental considerations. In addition to these meetings, Conservation Halton participated in the Technical Advisory Committee meetings

(Section 6.3.1) and provided written comments to the Project Team throughout the study.

Conservation Halton Meeting #1 (September 26, 2023)

The first meeting introduced the project and provided an overview of the study, including the process, schedule, existing conditions, preliminary preferred solution, and key considerations for developing design alternatives. The discussion focused on the findings of the background review and field investigations, including the natural heritage features identified within the study area.

Conservation Halton Meeting #2 (April 7, 2026)

The second meeting presented the findings of the drainage and stormwater management analysis and the proposed modifications to culverts within the study area. The Project Team presented the preliminary drainage and stormwater management recommendations for the corridor and discussed next steps and commitments to future work with respect to potential impacts at Sixteen Mile Creek and geotechnical requirements and slope stability within valleylands.

Conservation Halton Meeting #3 (June 26, 2026)

The third meeting discussed Conservation Halton's comments on the drainage and stormwater management analysis, Draft Drainage and Stormwater Management Report, and Draft Environmental Study Report.

Conservation Halton Meeting #4 (June 30, 2026)

The purpose of this meeting was to discuss hydraulic modelling for Culvert 3.

6.3.5 Ministry of Transportation and 407 ETR

Four meetings with the Ministry of Transportation (MTO) and 407 ETR were held throughout the study. The purpose and key discussion points of each meeting are summarized as follows.

MTO and 407 ETR Meeting #1 (September 27, 2023)

The first meeting provided an overview of the Regional Road 25 MCEA, including the study process, schedule, existing conditions, preliminary preferred solution, and considerations for developing design alternatives.

MTO and 407 ETR Meeting #2 (May 28, 2024)

The second meeting focused on design alternatives at the QEW and Highway 407 interchanges, including cross-section options, active transportation considerations, and preferred lane configurations.

MTO and 407 ETR Meeting #3 (April 23, 2025)

The third meeting reviewed the development of the preferred design at the QEW and Highway 407 interchanges and discussed traffic staging strategies to accommodate widening of the Highway 407 underpass.

MTO and 407 ETR Meeting #4 (March 2, 2026)

The fourth meeting reviewed the proposed preliminary design for Regional Road 25 at the QEW and Highway 407 interchanges with new MTO staff. Discussions included a summary of feedback received from MTO and 407 ETR to date and how that input has been incorporated into the project.

6.3.6 Milton Hydro

A meeting with Milton Hydro was held on August 28, 2025, to review the preliminary preferred plan for Regional Road 25 and its potential impacts to Milton Hydro infrastructure within the corridor. At the time of the meeting, Milton Hydro was conducting a feasibility study for system expansion along the corridor. Following the discussion, the preliminary plan for the section of Regional Road 25 between Henderson Road and Britannia Road was provided to Milton Hydro for review. Additional coordination will be required during detailed design to confirm utility impact and plan any necessary relocations.

6.3.7 Oakville Hydro

A meeting with Oakville Hydro was held on September 10, 2025, to review the preliminary preferred plan for Regional Road 25 and its potential impacts on Oakville Hydro infrastructure within the corridor. During the meeting, Oakville Hydro did not identify any critical issues based on the materials presented. Further coordination with Oakville Hydro will be required during detailed design to confirm impacts and plan any necessary relocations.

6.3.8 Hydro One

A meeting with Hydro One was held on September 18, 2025, to discuss the preliminary preferred plan for Regional Road 25 near Hydro One infrastructure. The discussion focused on three key locations along the corridor: Bronte Transformer Station at

Wycroft Road, the hydro tower at Upper Middle Road, and the hydro tower corridor south of Henderson Road. Following the meeting, a design package was provided to Hydro One for review and feedback.

6.4 First Nations and Indigenous Community Engagement

First Nations and Indigenous Communities were consulted at all key study milestones. The key points of contact and communication with First Nations and Indigenous Communities are listed in **Table 6-3**. Responses from each community are summarized in **Table 6-4 - Table 6-8**. All correspondence was exchanged by email and is included in the Consultation Record Appendix G.

The following First Nations and Indigenous Communities were engaged throughout the Study:

- Mississaugas of the Credit First Nation
- Six Nations of the Grand River
 - Six Nations of the Grand River Elected Council
 - Haudenosaunee Confederacy Chiefs Council
 - Haudenosaunee Development Institute
- Métis Nation of Ontario
- Wendat Nation (added to the contact list on June 19, 2025)

Table 6-3: Key Points of Contact with First Nations and Indigenous Communities

Milestone	Date	Purpose
Notice of Study Commencement	July 21, 2022	To introduce the study, ascertain whether the First Nations and Indigenous Communities had an interest in the study, and request any preliminary comments or pertinent information.
Stage 1 Archaeological Assessment	July 17, 2023	To provide an opportunity to review and provide input to on the Draft Stage 1 Archaeological Assessment Report.
Notice of Public Information Centre # 1	October 11, 2023	To notify and invite interested parties to review the Public Information Centre #1 materials and provide input on the study area needs and opportunities, background information, selection of the preferred solution, and next steps in the study.

Milestone	Date	Purpose
Notice of Public Information Centre # 2	June 19, 2025	To notify and invite interested parties to review the Public Information Centre #2 materials and provide input on the preliminary preferred plan for Regional Road 25.
Natural Heritage Report and Arborist Report	June 3, 2026	To provide draft report for review and comment to Six Nations of the Grand River Elected Council and Mississauga of the Credit First Nation, as requested.
Notice of Study Completion	September 14, 2026	To notify of the 30-day review period for the Environmental Study Report commencing on September 14 and ending on October 14, 2026.

Table 6-4: Correspondence Received from First Nations and Indigenous Communities - Mississaugas of the Credit First Nation (MCFN)

Date	Correspondence	Response / Course of Action
July 21, 2022	MCFN was circulated the Notice of Study Commencement. MCFN acknowledged receipt of the Notice and expressed interest in the study and receiving future project updates.	Continue to engage MCFN at key points of contact.
July 17, 2023	MCFN was circulated the Draft Stage 1 Archaeological Assessment Report. MCFN confirmed they have reviewed the Draft Stage 1 Archaeological Assessment Report and have no questions, comments, or concerns on the report or recommendations. They requested to be kept informed of any planned archaeological field work related to the project.	Continue to engage MCFN at key points of contact.

Date	Correspondence	Response / Course of Action
October 11, 2023	MCFN was circulated the Notice of PIC #1.	No response received from MCFN. Continue to provide study updates at key points of contact.
June 19, 2025	MCFN was circulated the Notice of PIC #2. MCFN acknowledged receipt of Notice of PIC#2 and advised that they have no questions or comments at this time. The Department of Consultation and Accommodation (DOCA) is designated by the MCFN to handle consultation matters on its behalf and should be provided the opportunity to review any environment and archaeological assessments.	Continue to provide updates to MCFN and DOCA and provide Natural Environment Report for review when available.
June 3, 2026	Provided MCFN with the draft Natural Environment and Arborist reports for review. MCFN confirmed that MCFN DOCA will not be reviewing and providing comments on the draft Natural Environment and Arborist Reports at this time.	Continue to provide updates to MCFN and DOCA.

Table 6-5: Correspondence Received from First Nations and Indigenous Communities – Six Nations of the Grand River Elected Council (SNGREC)

Date	Correspondence	Response / Course of Action
July 21, 2022	SNGREC was sent the Notice of Study Commencement	No response received from SNGREC. Continue to provide study updates at key points of contact.

Date	Correspondence	Response / Course of Action
July 17, 2023	SNGREC was circulated the Draft Stage 1 Archaeological Assessment Report. SNGREC advised that they do not have any concerns or questions on the Draft Stage 1 Archaeological Assessment Report.	Continue to provide study updates at key points of contact.
October 11, 2023	SNGREC was circulated the Notice of PIC #1. SNGREC acknowledged receipt of the Notice of PIC#1 and requested to review the Natural Environment Report, when available.	Continue to provide study updates at key points of contact and provide Natural Environment Report for review when available
June 19, 2025	SNGREC was circulated the Notice of PIC #2. SNGREC acknowledged receipt of the Notice of PIC #2 and requested to review the Natural Environment Report, when available.	Continue to provide updates to SNGREC and provide Natural Environment Report for review when available.
June 3, 2026	Provided SNGREC with the draft Natural Environment and Arborist reports for review. SNGREC noted a three-month queue for review of reports.	No comments provided by SNGREC during the 3 month review period.

Table 6-6: Correspondence Received from First Nations and Indigenous Communities – Métis Nation of Ontario

Date	Correspondence	Response / Course of Action
July 21, 2022	Métis Nation of Ontario was sent the Notice of Study Commencement and acknowledged receipt and provided updated contact information for the study contact list.	Continue to engage Métis Nation of Ontario at key points of contact. Send future correspondence to consultations@metisnation.org .

Date	Correspondence	Response / Course of Action
July 17, 2023	Métis Nation of Ontario was circulated the Draft Stage 1 Archaeological Assessment Report.	No response received. Continue to provide study updates at key points of contact.
October 11, 2023	Métis Nation of Ontario was circulated the Notice of PIC #1.	No response received from Métis Nation of Ontario. Continue to provide study updates at key points of contact.
June 19, 2025	Métis Nation of Ontario was circulated the Notice of PIC #2 and acknowledged receipt of the Notice.	Continue to engage Métis Nation of Ontario at key points of contact.

Table 6-7: Correspondence Received from First Nations and Indigenous Communities – Haudenosaunee Confederacy Chiefs Council

Date	Correspondence	Response / Course of Action
July 21, 2022	Haudenosaunee Confederacy Chiefs Council was sent the Notice of Study Commencement.	No response received. Continue to provide study updates at key points of contact.
July 17, 2023	Haudenosaunee Confederacy Chiefs Council was circulated the Draft Stage 1 Archaeological Assessment Report.	No response received. Continue to provide study updates at key points of contact.
October 11, 2023	Haudenosaunee Confederacy Chiefs Council was circulated the Notice of PIC #1.	No response received from Haudenosaunee Confederacy Chiefs Council. Continue to provide study updates at key points of contact.
June 19, 2025	Haudenosaunee Confederacy Chiefs Council was circulated the Notice of PIC #2.	Continue to engage Haudenosaunee Confederacy Chiefs Council at key points of contact.

Table 6-8: Correspondence Received from First Nations and Indigenous Communities – Wendat Nation

Date	Correspondence	Response / Course of Action
June 19, 2025	Wendat Nation was sent a copy of Notice of PIC #2	No response received. Continue to engage Wendat Nation at key points of contact.

7 Project Description

The major features for the proposed roadway and active transportation improvements on Regional Road 25 between Speers Road and Derry Road are described in Section 7.1. The Preferred Plan is shown on Plates 1 to 44 in the Preliminary Design Plates in Appendix H.

During detailed design, the Preferred Plan will be further refined. There will be further consultation with technical agencies during detailed design, including but not limited to Conservation Halton, Ministry of Transportation Ontario, 407 ETR, Ministry of the Environment, Conservation, and Parks, Ontario Parks, the Town of Oakville, the Town of Milton, Oakville Transit, Milton Transit, Hydro One Networks Inc. Oakville Hydro, Milton Hydro, other utility providers, and affected property owners.

The recommendations for Regional Road 25 between Speers Road in Oakville and Derry Road in Milton include the following:

- Widening of Regional Road 25 from four to six lanes
- Consistent posted speed of 60 kilometres per hour throughout the corridor
- Transforming sections of rural roadway (i.e., shoulder and ditch) to urban roadway (i.e., curb and gutter)
- Active transportation facilities, including:
 - from Speers Road to Wyecroft Road, multi-use path on both sides of the road
 - from Wyecroft Road to QEW South Ramp Terminal, multi-use path on the west side only
 - from South Ramp Terminal to North Service Road, multi-use path along former Highway 25 road allowance
 - from North Service Road to Charles Cornwall Avenue, multi-use path on west side and sidewalk on east side
 - from Charles Cornwall Avenue to William Halton Parkway, multi-use path and one-way cycle track on west side and one-way cycle track and sidewalk on east side
 - from William Halton Parkway to Louis St. Laurent Avenue, multi-use paths on both sides (barrier separated on Highway 407 Underpass)
 - from Louis St. Laurent to Derry Road, multi-use path on the east side only (barrier separated on Sixteen Mile Creek bridge)

- Crosswalks, crossrides, and bicycle signals at signalized intersections
- Protection for transit stop infrastructure at signalized intersections
- Structural widening of the Highway 407 Underpass and Sixteen Mile Creek Bridge

7.1 Road Design

7.1.1 Design Criteria

Currently the posted speed on Regional Road 25 ranges from 60 kilometres per hour to 80 kilometres per hour. Once the proposed improvements have been implemented on Regional Road 25 the posted speed limit is proposed to be reduced to 60 kilometres per hour throughout the corridor, which is consistent with the transformation to an urban Regional arterial road. The geometric details are listed in **Table 7-1**.

Table 7-1: Regional Road 25 Design Criteria

Design Criteria	Design Standard	Proposed Standard	Standard Reference
Road Classification	UAD80	UAD80	TAC Table 2.6.2
Design Speed (km/h)	80 km/h	80 km/h	TAC Section 2.3.6
Posted Speed (km/h)	60 km/h	60 km/h	--
Maximum Superelevation (m/m)	0.06	0.04	TAC Section 3.2.2.4
Minimum Radius (m)	250 (for superelevated section) 2313 (for normal crown)	450	TAC Table 3.2.4
Crest: Minimum “K” Value	26	26	TAC Table 3.3.2 (Stopping Sight Distance)

Design Criteria	Design Standard	Proposed Standard	Standard Reference
Sag: Minimum “K” Value	12 to 16	16	TAC Table 3.3.5 (Comfort Control)
Minimum Stopping Sight Distance (m)	130	130	TAC Table 3.3.2 / Table 3.3.4
Maximum Grade	5%	4.6	TAC Table 3.3.1
Minimum Grade	0.5%	0.5%	TAC Section 3.3.5.1
Through Lane Width (m)	3.3 to 3.7	3.5	Table 4.2.3
Left Turn Lane Width (m)	3.0	3.25	TAC Section 4.3.2.3
Right Turn Lane Width (m)	3.0	3.5	TAC Section 4.3.2.2
Median Width (m)	1.5 (face to face of curbs)	2.0 (minimum) 5.0 (typical)	OSPD 504.010
Multi-Use Path Width (m)	3.0	3.0 – 4.0 ¹	OTM Book 18 Table 4.5
One-Way Cycle Track Width (m)	1.5	2.0	OTM Book 18 Table 4.4
Sidewalk Width (m)	1.5	2.0	TAC Table .3.1
Buffer Between Cycle Track and Multi-Use Path or Sidewalk (m)	0.6	0.6	OTM Book 18 Figure 4.39
ROW Width – Nominal (m)	47	47	Halton Region Transportation Master Plan (2011) ¹

1. A 3.0 multi-use path is proposed in sections of the corridor where a cycle track is located adjacent to the multi-use path. In sections of the corridor where multi-use paths are the only active transportation facility provided a 4.0 metre multi-use path is proposed. In some constrained areas, the multi-use path is reduced to 2.4 metres.

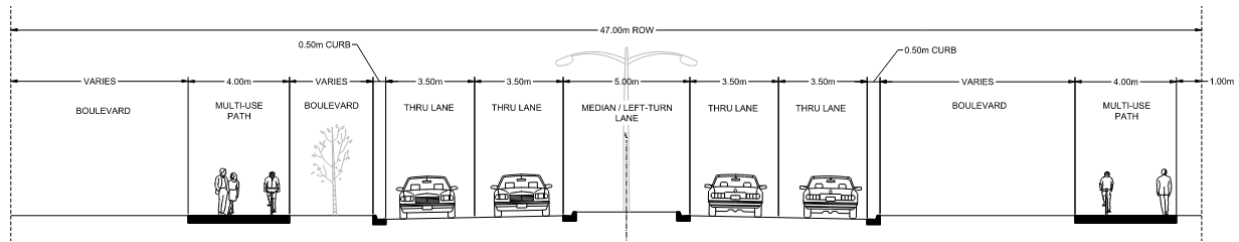
Standard References:

- TAC – Transportation Association of Canada Geometric Design Guide for Canadian Roads (2017)
- OTM Book 18 – Ontario Traffic Manual Book 18 – Cycling Facilities (2021)
- OPSD – Ontario Provincial Standard Drawing

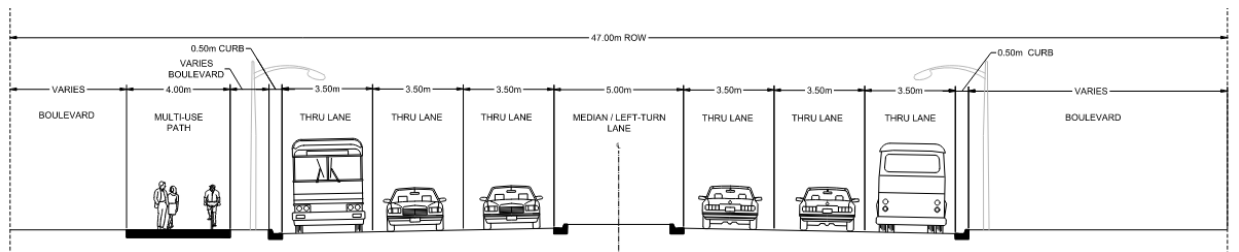
7.1.2 Typical Cross-Section

The proposed right-of-way for Regional Road 25 is 47 metres. The design supports six lanes of vehicle traffic (three lanes in the north and southbound directions), with three 3.5 metre general purpose lanes. A raised median separates opposing traffic. The median width varies and narrows at intersections to provide left-turn lanes. Curb and gutter are proposed along the full length of the corridor. Additional right-of-way is required at intersections to accommodate turn lanes and protection for transit stop infrastructure at signalized intersections, where required. Temporary easements will be required for grading and construction

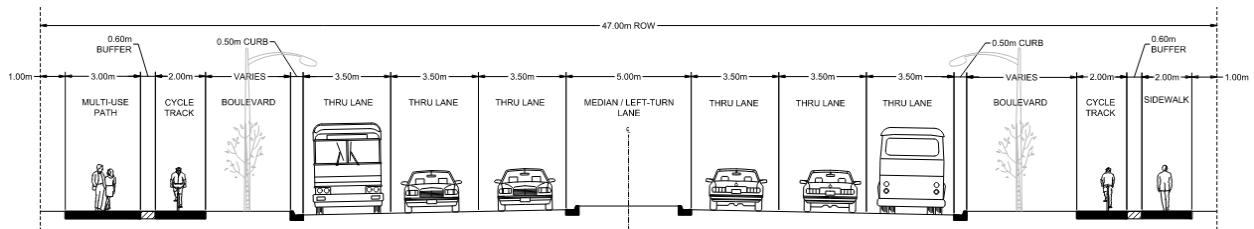
The cross-sections integrate multi-modal facilities, including sidewalks, cycle tracks, and multi-use paths on both sides of the road. Transit stops are generally located between the active transportation facilities and the curb. In areas with sensitive constraints, such as the White Oak Tree (Plate 6 in Appendix H) and Bowes Cemetery on the east side of Regional Road 25 between Whitlock Avenue and Britannia Road (Plate 40 in Appendix H), the typical cross-section as been adapted to minimize impacts. **Figure 7-1** and **Figure 7-5** illustrate the typical proposed cross-sections on Regional Road 25 from Speers Road to Derry Road.



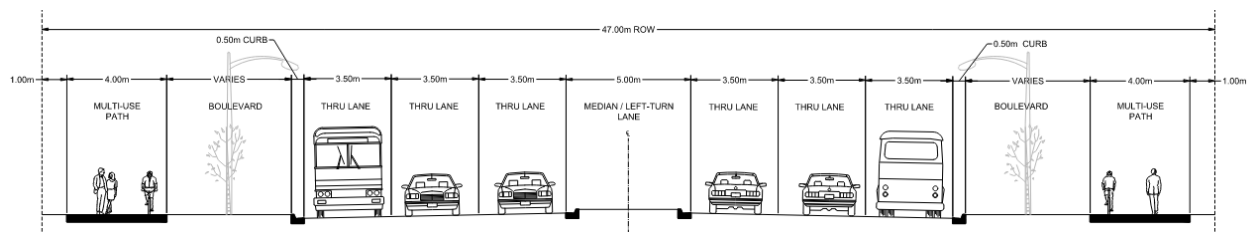
**Figure 7-1: Regional Road 25 Typical Cross Section
Between Speers Road and Wyecroft Road**



**Figure 7-2: Regional Road 25 Typical Cross Section Between Wyecroft Road and
North Service Road**



**Figure 7-3: Regional Road 25 Typical Cross Section Between North Service Road
and William Halton Parkway**



**Figure 7-4: Regional Road 25 Typical Cross Section Between William Halton
Parkway and Louis St. Laurent Avenue**

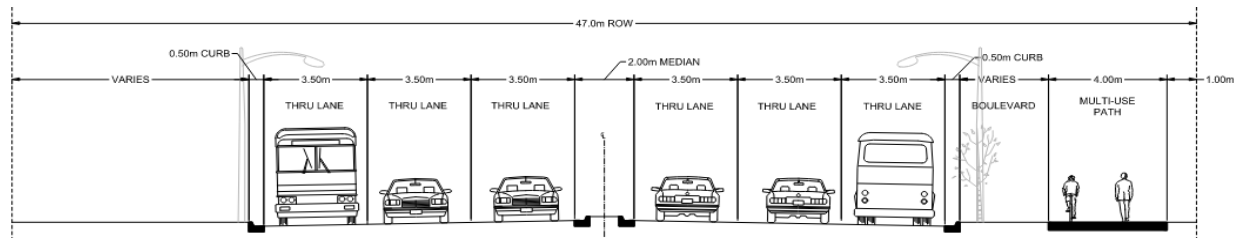


Figure 7-5: Regional Road 25 Typical Cross Section Between Louis St. Laurent Avenue and Derry Road

7.1.3 Horizontal Alignment

The preliminary preferred horizontal alignment for Regional Road 25 was developed for a posted speed of 60 kilometres per hour (design speed of 80 kilometres per hour). The curve geometry of the recommended Regional Road 25 alignment is summarized in **Table 7-2**. The stationing is oriented from south to north with Station 0+000 at Speers Road.

Table 7-2: Summary of Proposed Horizontal Curves on Regional Road 25

Curve Number	Start Station	End Station	Radius (m)
1	0+015	0+133	950
2	0+144	0+272	1290
3	0+476	0+635	950
4	0+683	0+797	3500
5	0+852	0+950	990
6	0+951	1+027	350
7	1+229	1+484	420
8	1+557	1+721	450
9	1+965	2+116	3200
10	2+201	2+232	5000

Curve Number	Start Station	End Station	Radius (m)
11	2+620	2+744	5000
12	3+182	3+269	5000
13	4+133	4+390	1290
14	4+742	4+926	950
15	5+394	5+608	950
16	6+025	6+206	950
17	6+606	6+703	5000
18	6+887	6+937	8000
19	7+243	7+358	5000
20	7+729	7+948	2200
21	8+028	8+511	920
22	8+927	9+004	5000
23	9+683	10+121	950
24	12+140	12+220	5000
25	12+973	13+066	2800
26	13+205	13+292	5000
27	13+337	13+428	5000
28	13+465	13+632	5000
29	13+900	13+983	1290

Curve Number	Start Station	End Station	Radius (m)
30	14+003	14+207	1100
31	14+232	14+331	1290
32	14+385	14+608	2160
33	14+732	14+988	1400
35	15+352	15+485	5000
37	15+580	15+625	1290
39	15+646	15+796	2200

The recommended alignment has been developed to match the existing alignment where possible and to minimize impacts to existing infrastructure, cultural and natural features. The recommended alignment deviates from the existing horizontal alignment at the following locations:

- Hydro Tower – between Burnhamthorpe Road and Henderson Road – Station 7+800 to 8+300
- Bowes Cemetery – between Whitlock Road and Louis St. Laurent Avenue – Station 13+900 to 14+400
- Sixteen Mile Creek – between Louis St. Laurent Avenue and Derry Road – Station 14+440 to 15+940.

7.1.4 Vertical Alignment and Grade

The vertical alignment, also known as the “profile”, was set to match the existing profile throughout the Regional Road 25 MCEA corridor. The proposed profile has grades ranging from 0.5% to 4.6%. The grades throughout the proposed road profile meet the minimum and maximum allowable grades of 0.5% and 5% respectively (Transportation Association of Canada Geometric Design Guide for Canadian Roads, Section 3.3).

Table 7-3: Summary of Proposed Vertical Curves on Regional Road 25

Curve Number	PVI Station	Crest / Sag	Proposed K Value
1	0+140	Sag	60
2	0+350	Crest	26
3	0+415	Crest	30
4	0+505	Sag	20
5	0+595	Sag	12
6	0+825	Crest	55
7	1+085	Sag	250
8	1+285	Sag	50
9	1+485	Sag	80
10	1+685	Crest	40
11	1+803	Crest	40
12	1+865	Sag	30
13	2+045	Sag	30
14	2+325	Crest	40
15	2+785	Sag	120
16	3+865	Sag	100
17	5+165	Crest	150
18	5+515	Sag	20
19	6+535	Sag	100

Curve Number	PVI Station	Crest / Sag	Proposed K Value
20	6+935	Crest	65
21	7+315	Sag	50
22	7+675	Crest	100
23	8+075	Sag	50
24	8+828	Crest	100
25	9+938	Sag	20
26	10+978	Crest	132
27	11+558	Sag	100
28	11+858	Crest	120
29	12+508	Crest	120
30	12+798	Sag	120
31	13+198	Crest	100
32	13+363	Crest	30
33	13+473	Sag	70
34	13+663	Crest	30
35	13+823	Sag	100
36	14+115	Crest	50
37	14+245	Sag	100
38	14+415	Crest	100

Curve Number	PVI Station	Crest / Sag	Proposed K Value
39	14+805	Sag	60
40	15+115	Sag	200
41	15+655	Sag	70
42	15+907	Crest	70

Additional consideration has been given to pedestrians and cyclists. The maximum grades as specified in Ontario Traffic Manual (OTM) Book 18 (2021) is 7.5% for cyclists to be able to ascend a grade over a short distance. The maximum grade for pedestrians in an accessible environment is 5% (slope of 1:20 as outlined on Ontario Regulation 191/11: Integrated Accessibility Standards).

7.2 Intersections and Access

There are 30 intersections on Regional Road 25 within the MCEA study area, most of which are signalized with dedicated left and right turn lanes. **Table 7-4** lists the intersections from south to north along the corridor. Intersections provide full moves unless noted otherwise in the table.

As part of the proposed widening from four to six lanes, a raised concrete median will be introduced to separate north and southbound traffic. While existing accesses will be maintained, access to and from Regional Road 25 will become right-in/right-out only, except at intersections, where full access will continue to be provided.

Table 7-4: Existing and Signalized Intersections

Crossing Road	Existing Intersection Control	Proposed Intersection Control
Speers Road	Signalized	Signalized
Wyecroft Road	Signalized	Signalized
QEW South Ramp Terminal / Carpool Lot	Signalized	Signalized
QEW North Ramp Terminal	Signalized	Signalized

Crossing Road	Existing Intersection Control	Proposed Intersection Control
North Service Road	Signalized	Signalized
Halton Paramedic Access	Stop Control at Access	Stop Control (restricted for EMS only)
Charles Cornwall Avenue	Signalized	Signalized
Saw Whet Boulevard	Signalized	Signalized
Owlsnest Way	Stop Control on Owlsnest Way (right-in/right-out)	Signalized
Upper Middle Road (Regional Road 38)	Signalized	Signalized
Richview Boulevard / Westoak Trails Boulevard	Signalized	Signalized
Khalsa Gate	Stop Control on Khalsa Gate (right-in/right-out)	Stop Control on Khalsa Gate (right-in/right-out)
Highvalley Road / Pine Glen Road	Signalized	Signalized
Dundas Street (Regional Road 5)	Signalized	Signalized
William Halton Parkway (Regional Road 40)	Signalized	Signalized
Old Bronte Road	Stop Control on Old Bronte Road (full moves)	Stop Control on Old Bronte Road (full moves)
Highway 407 South Ramp Terminal	Signalized	Signalized

Crossing Road	Existing Intersection Control	Proposed Intersection Control
Highway 407 North Ramp Terminal / Carpool Lot	Signalized	Signalized
Burnhamthorpe Road	Stop Control on Burnhamthorpe Road (full moves)	Signalized
Henderson Road	Stop Control on Henderson Road (full moves)	Signalized
Johnson Way	Stop Control on Johnson Way (full moves)	Signalized
Lower Base Line	Signalized	Signalized
Halton Waste Management Site / Rattle Snake Point Golf Club	Signalized	Signalized
Milton Civic Operations Centre	Signalized	Signalized
Britannia Road	Signalized	Signalized
Etheridge Avenue	Signalized	Signalized
Whitlock Avenue	Signalized	Signalized
Izumi Gate	Stop Control on Izumi Gate (right-in/right-out)	Stop Control on Izumi Gate (right-in/right-out)
Louis St. Laurent Avenue	Signalized	Signalized
Derry Road	Signalized	Signalized

7.3 Walking and Cycling Facilities

Active transportation facilities recommended along Regional Road 25 include a combination of multi-use paths, cycle tracks, and sidewalks. The proposed active transportation facilities accommodate a wide range of users, which contributes to a safe and multi-modal corridor. **Table 7-5** summarizes the proposed pedestrian and cycling facilities along Regional Road 25 from Speers Road to Derry Road. Sidewalks implemented as part of the recommended design will comply with *Accessibility for Ontarians with Disability Act* requirements.

Table 7-5: Summary of Proposed Walking and Cycling Facilities

Road Section			Proposed Walking and Cycling Facilities	
From	To	Length	East Side	West Side
0+200	0+750	550 m	Multi-Use Path	Multi-Use Path
0+790	1+060	290 m	--	Multi-Use Path
1+060	1+750	640 m	--	Multi-Use Path
1+750	2+170	420 m	Sidewalk	Multi-Use Path
2+170	4+240	2070 m	Cycle Track & Sidewalk	Cycle Track & Multi-Use path
4+240	4+580	340 m	Cycle Track & Sidewalk	Sidewalk
4+580	5+330	750 m	Cycle Track & Sidewalk	Cycle Track & Multi-Use path
5+330	5+780	450 m	Cycle Track & Sidewalk	Cycle Track & Sidewalk

Road Section			Proposed Walking and Cycling Facilities	
From	To	Length	East Side	West Side
5+800	14+490	8690 m	Multi-Use Path	Multi-Use Path
14+490	15+950	1460 m	Multi-Use Path	--

Crosswalks and crossrides are proposed at all intersections along the Regional Road 25 MCEA corridor to provide continuous, accessible, and predictable crossing opportunities for pedestrians and cyclists. A crossride is a designated crossing for cyclists at intersections, instead of dismounting and walking their bike, cyclists can ride across the road within the crossride area. Bicycle signals are recommended for all crossrides at signalized intersections to improve clarity of right-of-way and reduce conflicts between modes.

At select Regional Road intersections (Upper Middle Road, Dundas Street, Britannia Road and Derry Road), additional geometric design measures were introduced to further enhance safety by reducing vehicle speeds and improving visibility among pedestrians, cyclists, and drivers. These intersections were selected due to their high traffic volumes and vehicle speeds. The measures include reduced corner radii to slow turning movements and setback stop bars to increase sightlines and minimize conflicts. Crosswalks, crossrides, and bicycle signals are also recommended at these intersections.

Protected Intersections

Protected intersections are a leading design approach for improving the safety and comfort of vulnerable road users at intersections. Their primary objective is to reduce the frequency and severity of conflicts between vehicles and people walking or cycling by lower turning speeds, increasing visibility, and physically separating travel paths.

These outcomes are achieved through a combination of geometric design and operational strategies that provide clear, consistent cues and separation between users. Key design strategies include corner islands that define protected turning radii and create refuge space, setback crossings that position pedestrians and cyclists in more visible locations, and designated crosswalks and crossrides that separate pedestrians and cyclist movement through intersections. Smaller corner radii help slow vehicle

turning speeds, while reduced crossing distances minimize exposure time for pedestrians and cyclists. At signalized intersections, operational measures such as dedicated signal phasing, leading pedestrian and bicycle intervals, and turn restrictions may be used to further separate conflicting movements. Together these elements help to create a self-enforcing environment that reduces ambiguity for all users.

The application of these design and operational strategies is context-sensitive and requires consideration of the road function, surrounding land use, the needs of different users, existing active transportation facilities, traffic volumes, and physical constraints.

Crosswalks and crossrides are proposed at all intersections along the Regional Road 25 MCEA corridor to provide continuous, accessible, and predictable crossing opportunities for pedestrians and cyclists. A crossride is a designated crossing for cyclists at intersections, instead of dismounting and walking their bike, cyclists can ride across the road within the crossride area. Bicycle signals are recommended for all crossrides at signalized intersections to improve clarity of right-of-way and reduce conflicts between modes. Crossing treatments at driveways will be considered during detailed design once access configurations are confirmed.

At select Regional Road to Regional Road intersections (Upper Middle Road, Dundas Street, Britannia Road and Derry Road), additional geometric design measures were introduced to further enhance safety by reducing vehicle speeds and improving visibility among pedestrians, cyclists, and drivers. These intersections were selected due to their high traffic volumes and vehicle speeds. The measures include reduced corner radii to slow turning movements and setback stop bars to increase sightlines and minimize conflicts. Crosswalks, crossrides, and bicycle signals are also recommended at these intersections.

During detailed design current protected intersection guidelines and design best practices will be reviewed and considered with respect to the geometric design of the proposed intersections on Regional Road 25. Traffic signal phasing such as fully protected left and right turn phasing and leading pedestrian and bicycle intervals should be considered to further separate the movement of vehicles and active transportation users.

The design active transportation facilities throughout the corridor will be further reviewed and refined during detailed design, including facility selection in constrained areas, pavement markings, consideration of green surface treatment, signage, and bicycle signals.

7.4 Protection for Future Transit Infrastructure

As identified in the Integrated Master Plan, Regional Road 25 is identified as a future Transit Priority Corridor connecting with a broader future Transit Priority Corridor network that includes for example, Dundas Street, Britannia Road, and Derry Road.

As noted previously, implementation of the Transit Priority Corridor network, as identified through the Integrated Master Plan, will be phased and will evolve based on travel demand and local priorities. It is recognized that the timing and transition of the Transit Priority Corridors will require close coordination between the Region and the Local Municipalities.

To protect for future Transit Priority Corridor infrastructure, transit stop infrastructure is identified at signalized intersections throughout the Regional Road 25 MCEA corridor. Bus bays will be provided to allow the curb lane to remain clear. The bus bays will incorporate a 60 metre taper and 45 metre bay. These are similar to what has been implemented on Dundas Street and Trafalgar Road through Oakville.

The passenger platform will be 25 metres long by 3.5 metres wide to provide space for a passenger shelter, seating, lighting, garbage and recycling bins, signage, and passenger information systems. Active transportation facilities (sidewalk, cycle tracks, and multi-use paths) continue through the transit stops, behind the passenger waiting area to limit conflicts between through traffic on the pathway and circulating traffic within the transit stop area.

Plates 1 to 44 in Appendix H show the future transit stops in the study area. As noted previously, transit stop locations will require close coordination between the Region Local Municipalities, and the Ontario Ministry of Transportation. During detailed design the transit stop locations will be confirmed with input from the Local Municipalities.

7.5 Structures

Along the Regional Road 25 MCEA corridor there are four existing bridges, six existing structural culverts, one proposed structural culvert, four existing retaining walls, and one proposed retaining wall. The following sections describe the proposed changes to structures throughout the corridor. The complete Preliminary Structural Design Report is provided in Appendix F.

7.5.1 Bronte Road Grade Separation (GO/Metrolinx)

The Bronte Road Grade Separation (GO/Metrolinx) is located approximately 0.23 kilometres south of Wyecroft Road (Station 0+550 on Plate 2 in Appendix H) in the

Town of Oakville. The structure carries three rail tracks over Regional Road 25. Constructed in 1980, it consists of a four-span concrete slab bridge with an approximate skew of 10 degrees. The bridge has an overall length of 54 metre and a width of 18.3 m, with each span measuring 13.3 m.

No modifications to this structure are proposed as part of the Regional Road 25 MCEA. A new multi-use path is proposed under the structure on the east side of Regional Road 25 (Station 0+530 on Plate 2 in Appendix H). Further consultation with Metrolinx should be undertaken during detailed design.

7.5.2 QEW Overpass

The QEW Overpass (Station 1+250 on Plate 4 in Appendix H) is located over Regional Road 25 at the QEW in the Town of Oakville. The QEW Overpass was constructed in 2011 and the ultimate cross-section accounted for the future widening to six lanes on Regional Road 25. Therefore, the existing opening accommodates the proposed cross-section. The distance between the proposed back of the curbs and the existing abutment walls with the proposed widening ranges from approximately 4.3 metres to 5.7 metres on the west side of the structure and 3.3 metres to 5 metres on the east side of the structure.

No modifications to this structure proposed as part of the Regional Road 25 MCEA.

The desirable clear zone will not be achieved at the overpass due to the widening of Regional Road 25. Roadside mitigation strategies such as barrier systems to shield the bridge abutments will be developed during detailed design in consultation with the Ontario Ministry of Transportation.

7.5.3 Highway 407 Underpass

The Highway 407 Underpass is located on Regional Road 25 at Highway 407 in the Town of Oakville (Station 6+900 on Plate 20 in Appendix H). The existing structure is a two-span concrete slab bridge on precast concrete girders constructed in 2000. The bridge has an overall length of 76.0 metres, consisting of two 38.0 metre spans, and an approximate deck width of 32.0 metres. The current cross-section accommodates three lanes in each direction (two 3.75 metre lanes and one 3.5 metre lane), 2.0 metre shoulders, and a 5.0 metre median.

To accommodate the recommended improvements along Regional Road 25, including road widening and new active transportation facilities at the interchange, the Highway 407 Underpass is proposed to be widened to the east and west. The widened structure will have a total width of 45.5 metres and will accommodate four 3.5 metre lanes in each

direction, 1.5 metre shoulders, a 5.0 metre median, and 4.0 metre multi-use paths. A multi-use path separation barrier TL-5 is proposed between the vehicle lanes and the multi-use paths. The exterior edges of the structure will have bicycle height parapet walls with protective railings.

No modifications to the existing horizontal or vertical alignment of Regional Road 25 are proposed as part of this work. The roadway centreline will remain unchanged.

The proposed widening configuration is shown in the General Arrangement drawing in the Preliminary Structural Design Report included in Appendix F.

A comprehensive condition assessment of the existing structure is recommended during detailed design to confirm its current state and to identify any required rehabilitation of elements that will remain in service following widening.

7.5.4 Sixteen Mile Creek Bridge

The Sixteen Mile Creek Bridge is located on Regional Road 25 approximately 1.3 kilometres south of Derry Road (Station 14+720 on Plate 42 in Appendix H). The existing structure has a single 30 metre span on concrete girders constructed in 2013. The bridge has an overall width of 22.45 metres, which accommodates two lanes in each direction (3.5 metres) 1.5 metre shoulders, a 1.2 metre median, and a 3.0 multi-use path on the east side of the structure.

To accommodate the recommended improvements along Regional Road 25, the Sixteen Mile Creek Bridge is proposed to be widened to the east only to avoid the environmentally sensitive area west of the bridge. The widened structure will have a total width of 31.4 metres and will accommodate three 3.5 metre lanes in each direction, 1.5 metre shoulders, a 2.0 metre median, and a single 4.0 metre multi-use path on the east side. A multi-use path separation barrier TL-5 is recommended to provide separation between vehicles and the multi-use path. A multi-use path bicycle barrier is proposed along the exterior edge of the structure.

As Regional Road 25 is proposed to be widened to the east in this section of the corridor, the horizontal alignment of the Sixteen Mile Creek Bridge will be changed. The profile control of Regional Road 25 will shift approximately 3.9 metres to the east.

The vertical alignment of Regional Road 25 over Sixteen Mile Creek will remain consistent with existing. The widened superstructure will have a crossfall of 2.0%. At this time, it is assumed that no modifications will be made to the west side of the superstructure. As such, a non-traditional crossfall is proposed with the highpoint offset 3.9 metres to the west of the proposed new centreline of Regional Road 25. During

detailed design the location of the crown of the road will be reviewed and relocation of the crown to align with the profile control will be undertaken.

The proposed widening configuration is shown in the General Arrangement drawing in the Preliminary Structural Design Report in Appendix F.

7.5.5 Structural Culverts

There are six existing and one proposed structural culvert within the MCEA study area. A summary of the existing and proposed culverts is provided as follows in **Table 7-6**. Further details about the culverts are provided in the Preliminary Structural Design Report in Appendix F.

Table 7-6: Summary of Structural Culverts

Culvert Number	Culvert ID	Station Number	Structure Type	Existing Size	Proposed Action	Recommended Size
C01	25-1157510 CU01	2+995	Concrete Box Culvert	3.6 m Span x 2.5 m Rise x 42 m Length	Extend existing culvert	Extend 1.0 m on U/S and 7.0 m on D/S with 3.6 m Span x 3.0 m Rise Concrete Box Culvert
C03	25-1157560 CU01	3+565	Concrete Box Culvert	Twin 4.2 m Span x 3.3 m Rise x 48.7 m Length	Maintain existing culvert	Same as existing
C08A	25-1157750 CU05	8+070	--	--	Install new culvert north of existing C08	3.0 m Span x 1.2 m Rise x 65.5 m Length Concrete Box Culvert
C15	25-1157850 CU05	10+000	Concrete Arch Culvert	7.315 m Span x 1.83 m Rise x 48.3 m Length	Extend existing culvert and add relief culvert	Extend 7.5 m on U/S with 7.315 m Span x 1.83 m Rise Concrete Arch Culvert 750 mm Diameter HDPE Relief Culvert

Culvert Number	Culvert ID	Station Number	Structure Type	Existing Size	Proposed Action	Recommended Size
C19	25-1157860 CU05	11+648	Concrete Arch Culvert	6.10 m Span x 1.52 m Rise x 43.01 m Length	Extend existing culvert	Extend 8.8 m on U/S and 10.3 m on D/S with 6.1 m Span x 1.52 m Rise Concrete Arch Culvert
C22	25-1157910 CU03	13+440	Concrete Box Culvert	1.83 m Span x 0.91 m Rise x 33 m Length	Remove and replace with new culvert	3.9 m Span x 1.8 m Rise x 52.6 m Length Concrete Box Culvert
C24	25-1157950 CU03	15+720	Concrete Box Culvert	3.3 m Span x 3.0 m Rise x 45 m Length	Remove and replace with new culvert / bridge	12.8 m Span x 3.51 m Rise x 57.2 m Length Concrete Arch Culvert

It is recommended that an enhanced OSIM inspection, including hammer sounding of the concrete elements, be carried out to identify and delineate specific areas of concrete defects (e.g., delamination) along the full length of the existing culverts. If standing water prevents visual access to the footings or culvert ends, an underwater inspection should be considered to assess these areas.

7.5.6 Retaining Walls

There are four existing and one proposed retaining wall in the Regional Road 25 MCEA study area. Details about the existing conditions of the retaining walls are provided in Section 0.

Retaining wall 282 is located on the west side of Regional Road 25 approximately 150 metres north of the North Service Road (Plate 6 in Appendix H). The retaining wall runs in the north-south direction parallel to the roadway. The structure is approximately 184 metres long cast-in-place concrete cantilever retaining wall. The maximum height of material being retained is approximately 3.2 metres. The ground beyond the limits of the retaining wall appeared to be flat for approximately 2 metres and then sloped at a 2H:1V. The top of the retaining wall has an 890 millimetre tall barrier wall complete with a 620 millimetre tall metal railing. There is a multi-use path between the retaining wall and the roadway.

To accommodate the proposed widening of Regional Road 25, the existing retaining wall will need to be moved approximately 3 metres to the west of its existing location. In doing so, the overall height of the retaining wall is estimated to increase by approximately 0.5 metres.

While geotechnical information has not been provided, the project team has assumed that conditions will be suitable for the construction of a new concrete cantilever retaining wall similar to what is believed to be existing. A barrier wall and railing is recommended to top the retaining wall adjacent to the new multi-use path.

During detailed design, a survey of the existing wall and a complete geotechnical investigation should be undertaken to confirm preliminary design assumptions and provide the required input for detailed design. The detailed geotechnical and structural analyses shall demonstrate that the proposed retaining wall within the regulated area will have no unacceptable impact on the stability of the valley slope. The most current Conservation Halton Guidelines for Slope Stability Assessments for Valleys should be referred to during detailed design. Any required mitigation measures shall be identified and incorporated during the detailed design stage.

Retaining Wall 286 is proposed to be removed.

Impacts to Retaining Wall 1932 are to be confirmed during detailed design.

The retaining wall (unknown structure name / ID) in the southwest quadrant of the Highway 407 interchange will be impacted by the proposed design. The need for a retaining wall is to be confirmed during detailed design in consultation with the Ministry

of Transportation Ontario. 407 ETR. Potential impacts and mitigation measures to the adjacent creek should be considered.

A new retaining wall is proposed on the west side of Regional Road 25 approximately 280 metres south of Wyecroft Road (shown on Plate 2 in Appendix H from Station 0+400 to 0+520 and 0+550 to 0+650). The height of the wall varies between two to four metres and has a surface area of approximately 754 square metres. Details of the retaining wall are to be confirmed during detailed design.

7.6 Drainage and Stormwater Management

The Preferred Plan for Regional Road 25 will increase the area of hard surfaces (such as asphalt and concrete), resulting in greater impervious area compared to current conditions. As these surfaces do not absorb water, more rainwater will run off into the drainage system. As a result, peak stormwater flows during major storms (including the “100-year” storm event) could increase by up to 52%, along with higher levels of sediment carried to drainage outlets.

To address these impacts, 27 underground storage pipe facilities are proposed in the Regional Road 25 MCEA corridor. These pipes are proposed for peak flow control, as they temporarily hold stormwater and release it more slowly, helping to reduce flowing risks and protect downstream area.

To improve water quality, runoff from the roadway will be treated using Oil Grit Separators, along with the existing stormwater management ponds. Thirty four Oil Grit Separators are proposed along the corridor. Eight of these separators are already in place. Additional features, such as catch basin silt traps, may also be considered during detailed design to further improve water quality. Due to limited available information on the stormwater management ponds, further assessment is required during detailed design to confirm that the proposed stormwater management facilities will adequately protect surface water features.

The stormwater management plan also incorporates 28 infiltration galleries within the right-of-way. These allow stormwater to soak into the ground, reducing runoff. Together, these stems can store and infiltrate approximately 202 cubic metres of water. They are designed based on expected soil conditions and a target drainage time of 48 hours. The final design will be confirmed through on-site testing during the detailed design phase.

Within the MCEA study area, water currently crosses the roadway through 24 culverts and one bridge. Some of these structures are recommended for replacement or

extension to accommodate the roadway improvements and updated drainage requirements.

- The Sixteen Mile Creek Bridge (B01) deck will be widened on the east side by approximately 8.91 metre.
- Culverts C01, C04, C19, C20 and C23 will be extended on the upstream and/or downstream sides.
- Culvert C03 will be maintained with an adjustment to the height of the retaining wall.
- Culvert C02 will be replaced with a 2700 millimetre span x 2100 millimetre rise concrete box with 0.30 metre embedment.
- Culvert C05 will be replaced with a 2100 millimetre span x 1800 millimetre rise concrete box culvert, with 0.30 metre embedment.
- Culvert C06 will be replaced with a 900 millimetre diameter concrete pipe culvert.
- Culvert C07 will be replaced with a 2400 millimetre span x 1200 millimetre rise concrete box culvert, with 0.30 metre embedment.
- Existing Culvert C08 will remain as a storm outlet and a new Culvert C08A (3000 millimetre span x 1800 millimetre rise concrete box with 0.30 metre embedment) will be installed.
- Existing Culvert C09 will be eliminated and a new Culvert C09A (975 millimetre diameter concrete pipe) will be installed north of existing culvert.
- Existing Culvert C10 will be removed.
- Culvert C11 will be replaced with a 1500 millimetre span x 1200 millimetre rise concrete box culvert, with 0.30 metre embedment.
- Culvert C12 will be replaced with an 825 millimetre diameter concrete pipe culvert.
- Culvert C13 will be replaced with an 825 millimetre diameter concrete pipe culvert.
- Culvert C14 will be replaced with a 1050 millimetre diameter concrete pipe culvert.
- Culvert C15 will be extended by 7.5 metres on the west (upstream) and a 750 millimetre diameter High-Density Polyethylene relief culvert will be added.
- Culvert C16 will be replaced with a 1200 millimetre diameter concrete pipe culvert.

- Culvert C17 will be replaced with a 1200 millimetre span x 1200 millimetre rise concrete box culvert with 0.30 metre embedment.
- Culvert C18 will be replaced with a 2100 millimetre span x 1200 millimetre rise concrete box culvert with 0.30 metre embedment.
- Culvert C21 will be extended on the upstream and downstream sides. Additionally, a new 900 millimetre diameter, 60.5m long concrete pipe will be added as a relief culvert.
- Culvert C22 will be replaced with a 3.90 metre span x 1.80 metre rise concrete box with 0.30 metre embedment,
- Culvert C24 will be replaced by a 12.8 metre span x 3.51 metre rise span concrete open footing structure.

As per the fluvial geomorphological assessment that was undertaken for the study, inlet and outlet pools will be required at all culverts where extension and/or replacement is required. Necessary outlet pool design will be completed during detailed design.

Additional information on the proposed drainage conditions, hydraulic modelling approach, and the location and sizing of culverts is provided in the Drainage and Stormwater Management Report (Appendix D).

7.7 Landscape and Streetscape

Currently, Regional Road 25 is a four-lane roadway with both urban and rural sections. As the rural section between Highway 407 and Britannia Road transforms to become a more built-up area and the roadway evolves to an urban cross-section with facilities for pedestrians and cyclists, future landscaping and streetscape elements should be provided to complement these changes.

A corridor wide landscape plan will be developed during detailed design and should consider the following elements, along with the Region's Landscaping Guidelines and Specifications (2018):

- Protection and preservation of the White Oak Tree (Natural Heritage Tree designated under Part IV - *Ontario Heritage Act*)
- Protection of existing vegetation
- Opportunities for enhancement of corridor vegetation and street trees

Streetscape elements to encourage active transportation and transit use throughout the corridor will include the following:

- Pedestrian-scaled lighting

- Street furniture
- Wayfinding signage
- Connection to off-road multi-use paths and trails
- Accessible transit stops

Landscaping and streetscape elements will be further refined during detailed design in consultation with the Towns of Oakville and Milton.

7.8 Geotechnical Investigation

A preliminary geotechnical investigation was completed by Thurber Engineering Limited to review the existing subsurface data along the corridor. The full report is provided in Appendix I.

The geotechnical investigation included drilling of 36 boreholes to depths of 3.1 and 8.2 metres. Monitoring wells were installed in nine boreholes to permit monitoring of the groundwater levels at the site.

The subsurface stratigraphy encountered in the boreholes generally consisted of a pavement structure (asphalt over granular) overlying roadway fill materials, underlain locally by possible alluvial or topsoil layers, overlying native silty clay till. In the deeper boreholes, the till graded to silt and sand with depth, locally overlying shale bedrock. Deposits of clayey silt and sand were encountered at isolated locations.

Based on the results of the investigation, the following preliminary pavement design are recommended for the reconstruction and widening of the roadway as shown in **Table 7-7**.

Table 7-7: Preliminary Pavement Design Recommendations

Component	Thickness (mm)		
	Speers to QEW	QEW to Highway 407	Highway 407 to Derry Road
HL1	50	50	50
HDBC (2 lifts)	130	140	130
OPSS Granular A Base	150	150	150

Component	Thickness (mm)		
	Speers to QEW	QEW to Highway 407	Highway 407 to Derry Road
OPSS Granular B Type II Subbase	450	450	450

Pavement design analysis indicates that the existing pavement structure generally meets the structural requirements to carry the estimated 20-year equivalent single axle loads. Rehabilitation of the existing pavement structure may include milling 50 millimetres of the existing asphalt surface followed by replacement of a new 50-millimetre-thick layer of HL1 surface course. The need for an increased overlay thickness and or crack repair in selected sections should be further assessed during detailed design. The need for full depth reconstruction or rehabilitation to be confirmed during detailed design.

Preliminary recommendations for the widening of structures are as follows:

Highway 407 Underpass

The Highway 407 Underpass is proposed to be widened to accommodate widening and active transportation on Regional Road 25. Further details are provided in Section 7.5.3.

To provide similar foundation performance as the existing structure, the preferred foundation system for structure widening will consist of steel H-piles at the abutments and extension of the spread footing at the pier. Based on existing information, the abutment piles will be driven to refusal in shale bedrock and the abutment footing extension will be founded on weathered shale bedrock.

Sixteen Mile Creek Bridge

The Sixteen Mile Creek Bridge is proposed to be widened to accommodate widening and active transportation on Regional Road 25. Further details are provided in Section 7.5.4.

To provide similar foundation performance as the existing structure, the preferred foundation system for the widening will consist of steel H-piles. The bridge is proposed to be widened to the east, in close proximity to an existing watermain. To mitigate potential disturbance of the watermain, the piles should be socketed into shale in accordance with the previous design.

Structural Culverts

In general, the subsurface stratigraphy at the culvert locations consists of a pavement structure and roadway embankment fill underlain by probably alluvial deposits, underlain by stiff to hard silty clay till. For extension or replacement of box and pipe culverts, preparation of the culvert subgrade prior to placement of the bedding material should include sub excavation of the fill and organic/alluvial deposits. Footings for extension or replacement of open-footing or arch culverts should be founded on native undisturbed soil below the level of the fill and organic/alluvial materials, generally at the same level as the existing culvert footings.

7.9 Illumination and Traffic Signals

7.9.1 Illumination

Regional Road 25 is currently fully illuminated between Speers Road and Highway 407 and between Britannia Road and Derry Road. Partial illumination is provided between Highway 407 and Britannia Road.

The existing lighting system consists of poles in the median between Speers Road and Wyecroft Road and a combination of shared (with hydro) and independent poles on the east and west sides of the road between Wyecroft Road and Derry Road. The existing independent lighting and hydro pole locations between Wyecroft Road and Derry Road will be affected by the proposed road widening and reconstruction. A new lighting system will be required to replace the existing lighting in the corridor. Full illumination should be considered for the section between Highway 407 and Britannia Road.

Oakville and Milton Hydro were consulted throughout the MCEA study process and should be engaged as early as possible during detailed design to allow sufficient time for the preparation of hydro pole relocation layouts and coordination. The lighting strategy will be evaluated during detailed design, including consideration of lighting located in the median or boulevard and/or mounted on hydro poles.

7.9.2 Traffic Signals

Most intersections throughout the Regional Road 25 MCEA corridor will be signalized (refer to Section 7.2). Existing traffic signals will be affected by the proposed road widening and reconstruction.

There are two newly signalized intersections proposed along Regional Road 25 at Burnhamthorpe Road and Johnson Way. The traffic signals, layout and provision for underground duct/handhole systems at these locations will be reviewed in detailed

design. The traffic signal design shall be compliant with Halton Region requirements and support future transit signal priority opportunities.

7.10 Utilities

Existing utilities are present along Regional Road 25 between Speers Road and Derry Road as outlined in Section 3.10. These include watermains, sanitary sewers, hydro infrastructure (Oakville Hydro and Milton Hydro), transmission corridors and transformer stations (Hydro One Networks Inc.), energy and gas pipelines (Enbridge, Trans-Northern Pipelines Inc., Enbridge Gas Inc., and TC Energy), and telecommunications infrastructure (Bell, Rogers, Cogeco, Telus, and Zayo).

Hydro One transformer stations, transmission towers near Upper Middle Road and approximately 300 metres south of Henderson Road, as well as identified energy and gas pipelines, are not expected to be affected by the proposed reconstruction of Regional Road 25. Other utilities owned by Oakville Hydro, Milton Hydro, and telecommunications providers are anticipated to be impacted by the roadworks. Specific impacts and any required relocations will be confirmed during detailed design. It is assumed that hydro will remain above ground throughout the corridor.

The Project Team met with Hydro One, Oakville Hydro and Milton Hydro throughout the study and received written input from Trans-Northern Pipelines Inc. and TC Energy. A design package was provided to Hydro One for review including the preliminary plan, cross-sections, and the Hydro One Compatibility Review Checklist. Commitments to future work are summarized in Chapter 8. Meeting minutes and correspondence are provided in the Consultation Record in Appendix G.

7.11 Property Requirements

The proposed right-of-way for Regional Road 25 is 47 metres. Additional property is required at intersections to accommodate turning lanes and transit stops. There are selected locations where the proposed right-of-way has been reduced to avoid direct impacts to existing buildings. The proposed right-of-way (property line) is shown on Plates 1 to 44 in the Preliminary Design Plates in Appendix H.

Property requirements are preliminary only and subject to further review and confirmation during detailed design. The approximate property requirements for privately owned or publicly owned (provincial or municipal) properties is 5.3 hectares.

Property requirements and access modifications will be confirmed during detailed design.

7.12 Preliminary Cost Estimate

A preliminary construction cost estimate was prepared as part of the MCEA. The estimated roadway construction cost (excluding property cost) was estimated at approximately **\$250.4 million**.

The preliminary cost estimate was divided into three segments to align with the planned construction phasing. A summary of the estimate is provided in **Table 7-8** to **Table 7-10**.

Table 7-8: Preliminary Cost Estimate – Regional Road 25 between Speers Road and Highway 407 (Station 0+000 to 6+600)

Capital Cost	Estimate (in 2026 \$)
Construction Cost	\$67,950,000
Contingency (15%)	\$10,200,000
Engineering (15%)	\$10,200,000
Contract Administration and Inspection (6%)	\$4,080,000
Total Preliminary Construction Cost	\$92,410,000

Table 7-9: Preliminary Cost Estimate – Regional Road 25 between Highway 407 and Britannia Road (Station 6+600 to 13+100)

Capital Cost	Estimate (in 2026 \$)
Construction Cost	\$81,540,000
Contingency (15%)	\$12,230,000
Engineering (15%)	\$12,230,000
Contract Administration and Inspection (6%)	\$4,900,000
Total Preliminary Construction Cost	\$110,900,000

Table 7-10: Preliminary Cost Estimate – Regional Road 25 between Britannia Road and Derry Road (Station 13+100 to 16+000)

Capital Cost	Estimate (in 2026 \$)
Construction Cost	\$34,580,000
Contingency (15%)	\$5,190,000
Engineering (15%)	\$5,190,000
Contract Administration and Inspection (6%)	\$2,080,000
Total Preliminary Construction Cost	\$47,040,000

7.13 Construction Staging

A preliminary construction staging strategy has been developed for the improvements to Regional Road 25 in order to identify opportunities to minimize construction impacts on the community in the delivery of the Regional Road 25 corridor improvements. The preliminary high-level construction staging review has considered key constraints in the study area, for example, existing structures, utilities, Sixteen Mile Creek, and cultural heritage features. The delivery of upgrades for the corridor will be complex and multijurisdictional. Given the length of the corridor (approximately 16.5 kilometres), the improvements will be delivered in stages. Construction phasing has been identified to align with the anticipated timing of future development along the corridor. Construction of the proposed improvements for Regional Road 25 is planned to begin at the south end of the study area. The first stage to be constructed will be Speers Road to Highway 407 followed by Britannia Road to Derry Road and then Highway 407 to Britannia Road (including the Highway 407 interchange and Britannia Road intersection). It is anticipated that the construction phasing may be refined through detailed design as development proceeds along the corridor.

Construction staging and traffic management plans will be developed during detailed design to facilitate the safe and efficient implementation of the proposed works on Regional Road 25, while maintaining operations for all road users. The Traffic Management Plan will seek to maintain pedestrian, cyclist, and vehicle operations at levels comparable to existing conditions where practical and identify how access to properties and businesses adjacent to the road will be maintained during construction.

Two lanes in each direction in the urban areas will be achieved by temporarily reducing the travel lanes and shifting the lanes towards the median. This will allow a concrete barrier to be placed between the travel lanes and the work zone. For the urban areas, only one side of the road will be constructed at a time and will require the closure of the sidewalk and /or multiuse path in the work zone. The other side of the road will accommodate pedestrians and cyclists. If additional width of the lanes is required, then there is an opportunity to widen (on a temporary basis) into the median, however this would require removal (and subsequent reconstruction) of the median curb and gutter, and potential impacts to median trees.

In the rural areas, construction will begin with widening the shoulder and paving temporary lanes on one side of the road. All four lanes of traffic will be shifted towards that side and this will provide a work area for widening on the other side of the right-of-way. Once the new lanes are completed, all four lanes of traffic will be shifted to the location of the earlier temporary widening in order to construct the new outside lanes. Next, the northbound and southbound lanes will be shifted to the two outside lanes (new construction) and the centre median and inside lanes will be constructed. The final stage will be to open the six-lane roadway.

Throughout the study area, there will be locations where temporary lane restrictions (one lane per direction) will be required in constrained areas, such as the White Oak Tree, and at major culvert replacements during certain stages of construction. Further construction and traffic staging considerations for the structures throughout the corridor are described in the Environmental Study Report, Appendix F: Structural Design Report.

During detailed design, opportunities to coordinate construction with adjacent development will be further reviewed in consultation with the Town of Oakville and Town of Milton to identify works that can be accelerated to be delivered in conjunction with the road widening to minimize future disruption to the community. These works could include development-required site works such as grading, structures, intersection improvements, and active transportation facilities, subject to development timing.

7.14 Early Advancement of Active Transportation Facilities

Through *PW-09-26: Integrated Master Plan – Update to Report No. PW-35-25* (March 25, 2026), the need to consider opportunities to advance active transportation infrastructure on Regional Road 25 from Speers Road to Derry Road was identified. The full study area was reviewed in consideration of the sections of the corridor where active transportation improvements can be implemented prior to widening of the corridor. Key locations were selected in order to minimize construction impacts on the

community and in consideration of the availability of land and network connectivity. These improvements have been identified in areas where widening is not proposed or where the active transportation facilities would not be directly affected by future works required to widen Regional Road 25.

The proposed multi-use paths on both sides of Regional Road 25 between Speers Road and Wyecroft Road are proposed to be constructed in advance of the road widening. These facilities include a new multi-use path on the east side of Regional Road 25 and widening of the existing multi-use path on the west side. The proposed multi-use paths will provide connectivity to the Town's active transportation facilities on Speers Road, to the south on Bronte Road as well as a connection to the improvements at Wyecroft Road and the new Wyecroft Road bridge over Sixteen Mile Creek currently being constructed.

Improvements to the existing multi-use path along the former Highway 25 road allowance through the QEW interchange can also be advanced. The multi-use path is located west of the Regional Road 25 corridor between the south ramp terminal and the North Service Road and will provide active transportation connectivity through the QEW interchange. The multi-use path improvements will include lighting, signage, landscaping and asphalt reconstruction of the path.

In addition, for the remainder of the corridor, as development proceeds adjacent to the Regional Road 25, opportunities to implement interim active transportation facilities in advance of construction of corridor improvements can be pursued, in consultation with the development community.

As the detailed design stage proceeds, additional opportunities to advance active transportation infrastructure will continue to be reviewed.

7.15 Active Transportation Crossing Opportunities

The framework developed through the Active Transportation Grade-Separated Crossing Framework Study (Report PW-08-26) was applied to Regional Road 25, from Speers Road to Derry Road, to investigate the potential for active transportation crossings. Consistent with the methodology developed for the Active Transportation Grade-Separated Crossing Framework Study, the focus of this review is to identify the targeted

locations for further consideration based on a desire line approach. Desire lines were identified based on key characteristics such as:

- Major destinations or attractors such as parks, transit stops, schools, etc. on the opposite side from residential development and/or active transportation connections.
- Access to existing or planned trails or active transportation facilities on opposite sides of the road.
- Regional road intersections with major active transportation trip-generating destinations, such as transit hubs.

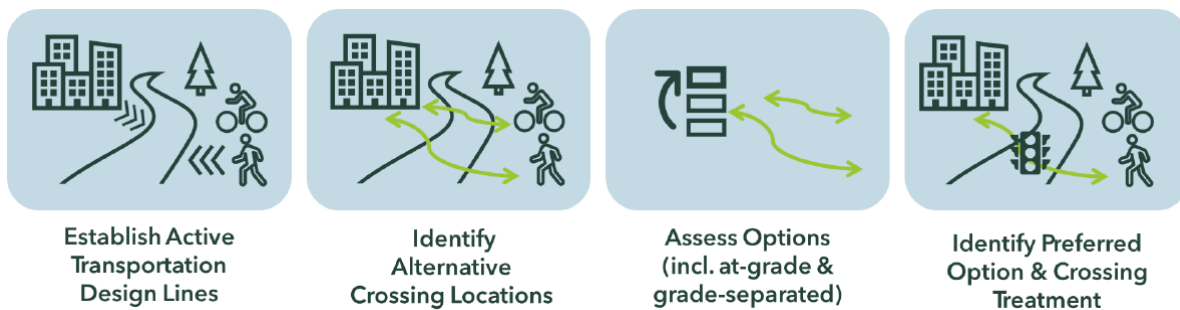


Figure 7-6: Crossing Assessment Methodology Overview

The crossing assessment methodology illustrated above was applied for the full study area to identify potential candidate locations for both at-grade and grade-separated crossing improvements. Based on the results of the assessment, no locations within the study limits were identified as a candidate location for a grade separated crossing and one location was identified as a candidate location for an at-grade pedestrian crossing. The candidate would be an Intersection Pedestrian Signal at Regional Road 25 and Khalsa Gate / Crosstown Heritage Trail.

A sightline review was conducted for the candidate location at Regional Road 25 and Khalsa Gate / Crosstown Heritage Trail. Based on the sightline review, this location has adequate sight distance for both motorists and pedestrians. Ontario Traffic Manual Book 15: Pedestrian Crossing Treatments, includes guidance and considerations for pedestrian crossings. As noted in OTM Book 15, if the minimum pedestrian and vehicular volume requirements are not met, practitioners can assess whether the site provides system connectivity or is on a desired pedestrian line based on engineering judgement. Through detailed design, the formal warrant analysis as per OTM Book 15 will be completed to support the overall signal progression plan for the corridor improvements. It is recommended that the pedestrian counts be undertaken for periods

with the highest potential for pedestrian usage, for example September, to coincide with start of the school year.

As shown below, this connection will provide connectivity with the existing Town of Oakville trail network on the west side of Regional Road 25 as well as the Oakville Crosstown Trail currently being upgraded from Khalsa Gate to Sixteen Mile Creek with a pedestrian signal at Third Line. The pedestrian signal at Khalsa Gate will be approximately 360m from the traffic signal at Pine Glen Road and is 450m from Richview Boulevard/Westoak Trails Boulevard.

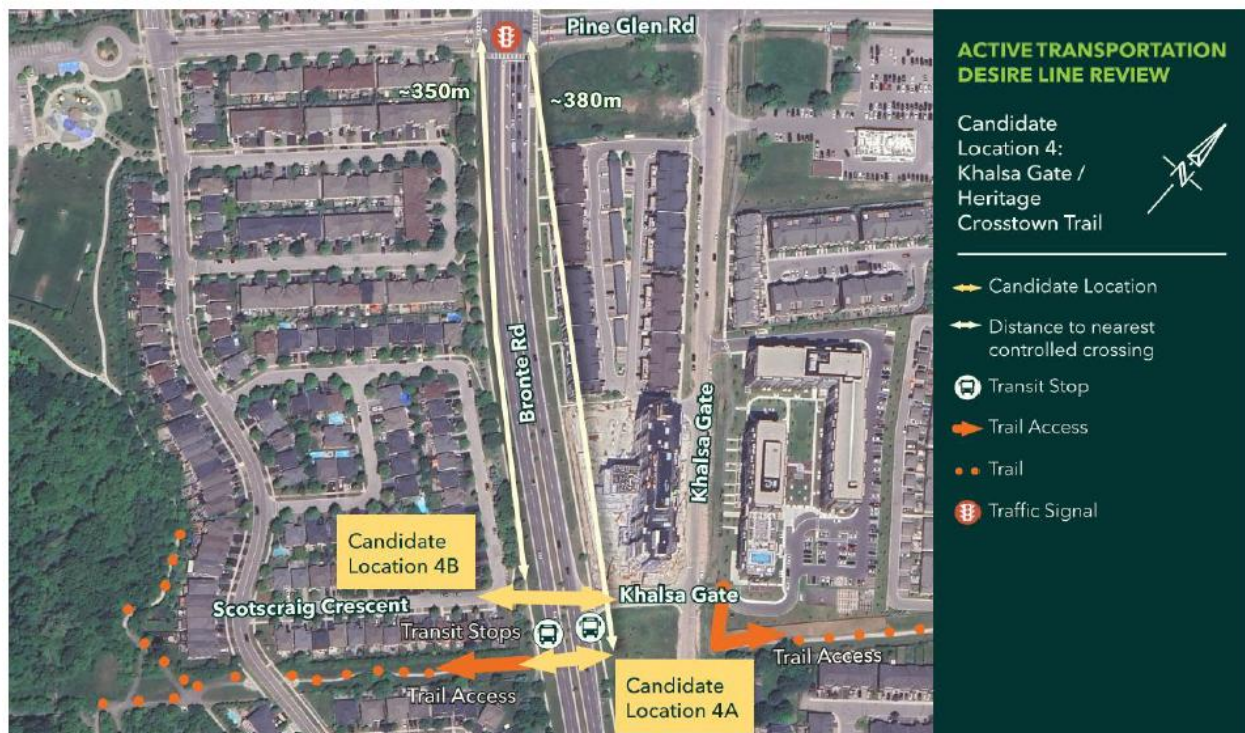


Figure 7-7: Khalsa Gate / Crosstown Heritage Trail

8 Potential Environmental Impacts, Mitigation Measures, and Commitments to Future Work

The Preferred Plan is designed to minimize impacts on adjacent lands and features, such as sensitive natural areas, vegetation, culturally significant resources, buildings, and properties. Additionally, mitigation measures are identified to minimize the potential effects of the Preferred Plan across key areas, including the socio-economic, cultural, natural, and transportation environments.

As implementation will occur in phases over the long term, all mitigation measures, commitments to future work, and required permits and approvals will be confirmed and refined during detailed design and construction. These will be reviewed to ensure alignment with applicable regulations, guidelines, and agency requirements in effect at the time of implementation.

8.1 Natural Environment

Impacts and Mitigation Measures

An assessment of the natural environment was completed for the Regional Road 25 MCEA. An overview of the natural heritage resources in the study area is provided in Section 3.4. The report is provided in Appendix C.

For the assessment of the natural environment, a 120 metre buffer zone within adjacent lands was established around the study corridor. The proposed works in the project area have the potential to cause direct impacts to endangered or threatened species and their habitats, provincially significant wetlands, unevaluated wetlands, candidate significant valleylands, significant and other woodlands, significant wildlife habitats, areas of natural and scientific interest (ANSI), known or assumed fish habitats, and wildlife corridors.

The risk of impacts on most natural heritage features is low considering that the project is on previously heavily impacted lands where sensitive natural features are unlikely to be present. However, the potential range of impacts may be heightened in considering that the proposed activities will take place along 16 kilometres of roadway. The following mitigation measures are recommended for each natural heritage feature to maintain the risk of impacts at acceptable levels.

During the Regional Road 25 MCEA, Ontario's *Species Conservation Act* was introduced in 2024 to replace the *Endangered Species Act*. As of March 30, 2026, the Province of Ontario has legislated the replacement of the *Endangered Species Act* with

the *Species Conservation Act* and the following regulations under the *Species Conservation Act* are in effect:

- the Protected Species in Ontario List
- Registrable Activities Regulation
- Permit Activities Regulation
- Expected Activities – No Permit or Registration Regulation
- Transitional Matters Regulation

The legislation represents a shift in how Species at Risk are regulated in the Province, particularly for permitting and approvals. Key changes include narrowing the definition of protected habitat to focus on core features, expanding the use of registrations and exemptions in place of permits, and moving away from requirements such as the “overall benefit” test that previously governed approvals. The *Species at Risk Act* also introduces greater ministerial discretion and the potential for conservation offset payments, aligning species protection more closely with broader land-use and infrastructure priorities. Overall, the new framework fundamentally changes how impacts to Species at Risk are assessed and authorized. The *Species Conservation Act* and its regulations will be reviewed during detailed design in relation to the proposed work on Regional Road 25 to confirm the requirements for permitting and registration of activities. The following mitigation measures in this section were developed prior to the legislative changes.

8.1.1 Species at Risk

General

- The potential to impact Species at Risk (SAR), and the list of SAR present on Site, should be re-evaluated at the detailed design phase to ensure that the information provided below remains the most recent advice. Engagement with regulators should be conducted early to confirm permitting and approval obligations.
- Endangered and Threatened species are protected and cannot be harmed, harassed, or killed and in some cases their habitats are also protected. These individuals will only be handled by qualified personnel and only if the individual is in imminent threat of harm. An authorization under the *Species at Risk Act* (SARA) or *Species Conservation Act* (SCA) (as applicable) would be required to handle individuals that are not in imminent threat of harm.

- If a SAR enters the work area during the construction period, any work that may harm the individual is to stop immediately and the supervisor will be contacted. No work will continue until the individual has left the area.
- Should an individual be harmed or killed then work will stop, and the MECP will be contacted immediately.
 - Staff and contractors must be educated on the potential for SAR to be present, with a particular emphasis on the species discussed in Section 6.1.1 of the Natural Heritage Assessment (Appendix C).
- Education on potential SAR, their habitat, potential locations, and how to properly report an observation can be done through, for example, Site specific training, posters, brochures, etc.
- Avoid unnecessary or unauthorized disturbance to vegetation, including clearing, trampling, unauthorized use of chemicals, burning, or removal of dead woody debris.
- If a SAR is encountered, this information will be provided to the NHIC (Report rare species (animals and plants) | Ontario.ca).
- Note that species-specific surveys may have a shelf-life, and this should be reviewed at the various stages of development.
- Mitigation measures listed elsewhere in this report are also applicable to this section.

Species at Risk Fish

- In-water work is to be conducted during the construction timing window of July 1 to September 15 for Redside Dace and Silver Shiner. Note this is a slightly narrower window than the one typically used for work in fish habitat but is stipulated by the provincial guidance on Redside Dace and Silver Shiner. It is also noted that the seasonal window from July 1 to September 15 applies to work within all Redside Dace habitat (including the entire riparian zone within 30 metres of the meander belt) and is not limited to in-water work.
- All work is to occur during periods when the channel is dry or with minimal flow.
- A contingency plan must be established to address potential flows resulting from unanticipated storm events.
- If temporary dewatering is required, watercourses should not be blocked or flows impeded sufficiently to limit fish movement (i.e., pumping or diversion of flows around the work site can be used to avoid blocking flow during construction).

- Sediment levels should be monitored and are not to exceed 25 mg/L above background level during construction.
- Exposed soil should be graded to a stable angle and revegetated in a manner that prevents erosion.
- No stockpiling of materials within 30 metres of a watercourse or where they can adversely affect drainage patterns.
- Minimize erosion by limiting the size of disturbed areas through such measures as:
 - Complete grading and infrastructure installation in phases
 - Minimize nonessential clearing and grading
 - Retaining existing vegetation.
- Minimize erosion by minimizing the time that any area is exposed to erosion
- Exposed soils are to be stabilized using erosion control blankets, lockdown netting, seeding, spraying, or utilization of methods to roughen the surface
- Minimize the slope length and gradient of disturbed areas
- Store/stockpile soil outside of direct Redside Dace/Silver Shiner habitat and at least 30 metres away from indirect habitat.
- Sediment from the construction site should be captured through measures including:
 - A multi-barrier approach to prevent sediment entering the stream
 - Sediment and erosion ponds of appropriate structure, size and type for the Site
 - The use of filter berms, sediment traps, or vegetation
- Monitor and maintain sediment and erosion controls at all times to ensure they are working effectively.
- Monitor downstream areas to ensure erosion and sediment controls are working effectively.
- Conduct regular site meetings between contractors and the site inspector to ensure sediment and erosion controls are being emphasized and minor improvements are being completed, as needed.

Species at Risk Birds

The most likely SAR birds to be present on the Site are Bobolink and Eastern Meadowlark. Several other SAR birds also have potential to be present. Each spring between now and construction, it should be reconfirmed that no SAR birds are nesting within the Site before any activities can occur within the breeding period of April 1-August 31. In addition, the following measures apply:

- Clearing of vegetation (including grass, weeds and shrubs) must occur between September 1 and March 30, unless appropriate measures to prevent contravention to any Acts are followed.
- No impacts to provincial SAR bird nests or their eggs are permitted under the new SCA. If a provincially listed bird is encountered, then work must stop and MECP contacted (sarontario@ontario.ca).
- No impacts to federal SAR bird nests or their eggs is permitted under the SARA. If a federally listed bird SAR nest is encountered, then work must stop until the young have fledged. If the nest/young have been harmed, then Environment Canada must be notified immediately for guidance.
- Inform work crew that if a bird flushes at close range (<five m) it is likely flushed off a nest and the nest should be located and the species identified.
- Should a nest be discovered, stop all work that may disturb the birds (i.e., that cause the adults to fly off the nest) and contact a biologist or MECP or Environment Canada, as appropriate for the species. Nests can be photographed and marked with GPS coordinates but do not flag the nest or linger near it as it can attract predators and cause birds stress.
- Avoid any unnecessary removal of vegetation. In general, dead trees or branches should not be treated differently than live vegetation and should only be removed when specifically included in a work plan.
- Note that timing windows for bird species in general are included further below as are those for bats (both are more restrictive).
- On parts of the Site where SAR birds are known to breed (especially grasslands), avoid unnecessary foot traffic (e.g. maintenance and inspection visits) during the breeding bird window of May 1 to August 31.
- Familiarize staff with the songs, calls and visual identification of grassland birds, especially Eastern Meadowlark and Bobolink.

Species at Risk Bats

The potential to impact SAR bats mainly involves day-roost and migratory stopover roosts in isolated trees and/or shrubs on the Site but may also include disturbance to maternity habitat along the edges of woodlands. Based on the habitat observed on the Site (mainly disturbed edge vegetation in a suburban area) the most likely species to be affected would be Little Brown Myotis, however little is known about habitat selection of the other bat species, especially during migration. Recent discussions with MECP on indicate that they do not need to be approached if the timing window below can be adhered to.

- Educate contractors by informing them that most bats in Ontario are protected.
- Any removal of structures, and trees < 10 cm DBH or larger, is to occur between October 1 and March 31 (Bat active season is currently assumed to be April 1 to September 30 in Southern Ontario). If this is not possible, conduct exit surveys prior to cutting them down. If the exit survey identifies bats, contact Ministry of Environment, Conservation and Parks or a biologist for additional guidance.
- Minimize harm to retained trees by protecting their critical root zone. This is often associated with the area below the drip line.
 - Ensure that the areas where trees are to be removed is clearly shown on construction plans and delineated in the field. The plans should clearly identify where stumps can or cannot be removed.
 - Monitor the removal to ensure that boundaries are respected.
 - Do not damage the root system, trunk, or branches of any tree to the extent practical; if any roots are encountered during excavation while working outside the critical root zone, they should be cut off cleanly with sharp pruning tools rather than damaged or torn by large equipment. Clean cuts help to minimize decay and entry points for disease.
 - All exposed roots of trees to be retained should be covered in a minimum of 5cm of firm soil within 24 hours of exposure.
 - Note that once clearing is completed, all subsequent movement on Site is to be on the access roads and/or work pads.
- Minimize sensory impacts to bats by ensuring that all equipment and vehicles have the appropriate mufflers and implement an anti-idling policy. Further, local noise by-laws will be followed. If working at night, ensure that only the lighting needed to perform the work safely is installed and that this lighting is focused on the work area (minimize lighting of sky or of natural features).

8.1.2 Woodlands

The preliminary plan has been developed to minimize impacts to existing trees. Woodlands (some of them Significant) occur on both sides of the road and will be minimally affected by the widening. Through detailed design, grading will be reviewed and further refined to minimize impacts. Halton Region recognizes the intrinsic value of trees and woodlands in both urban and rural environments, including their role in supporting biodiversity, enhancing community well-being, and helping to offset greenhouse gas emissions. To maintain or increase woodland and tree cover, the Region's Tree-Canopy Replacement Policy on Regionally Owned Lands (LPS31-08) outlines requirements for the removal and replacement of these resources on Regionally owned lands. This policy applies to all Region-led capital projects, including water, wastewater, and transportation infrastructure.

Where infrastructure projects may result in the removal or disturbance of existing trees, Halton Region is committed to minimizing impacts and implementing appropriate mitigation measures during the detail design and implementation phases. In accordance with the Tree-Canopy Replacement Policy, the following measures will be implemented for all Region-led infrastructure projects where tree removal or disturbance may occur:

- A Tree Protection and Preservation Plan will be prepared by a certified arborist or qualified professional during the detail design and implementation phases. The plan will:
 - Include a comprehensive tree inventory documenting the location, species, size, and condition of trees within the study area.
Provide an impact assessment identifying which trees are to be removed, retained with injury, or retained with no injury.
 - Outline mitigation measures to minimize impacts to existing trees during construction.
 - Include an analysis of compensation requirements for trees affected by the project, based on the policy.
 - Be tailored to site-specific conditions and identify appropriate strategies for tree protection, preservation, and replacement.
- Tree replacement will be based on the canopy cover lost, rather than the number of trees removed, and will follow the Canopy Replacement Schedule outlined in the policy.
- Replacement species will be native and ecologically appropriate, excluding invasive species. Planting may occur on-site or off-site, depending on feasibility.

Halton Region is committed to implementing the mitigation measures identified in the Tree Protection and Preservation Plan and will engage with relevant and interested parties, including First Nations and Indigenous Communities, as projects advance through design and construction.

Additional guidelines to protect the ecological function of woodlands:

- Clearly delineate on the construction drawings and in the field the area to be cleared to prevent the loss of woody vegetation that is not intended for removal.
- Utilize small machinery for the removal of woody vegetation and do not work under the drip line of trees that are not intended for removal.
- No stockpiling or infilling should occur within the drip line of the remaining woodland.
- Ensure that exhaust fumes from all equipment are not directed towards any tree's canopy.
- If the construction will have to encroach into the drip line of a tree to be retained, then installing a temporary layer of 150 mm deep partially composed wood chip mulch over the root zone can help to protect roots from compaction damage, and conserve soil moisture levels.
- Do not attach any signs, notices, or posters to trees.
- Install Tree Protection Fencing prior to commencement of construction activities and retain fencing until construction activities have been completed to prevent accidental harm to trees to be retained. This fencing should be placed at a distance to protect the critical root zone (minimum distance from tree is the drip line from the tree's canopy).
- Tree protection fencing shall be at least 1.2 metres in height and installed in such a way that the fence cannot be altered.
- Do not place any material or equipment within the critical root zone of a tree.
- Do not raise or lower the existing grade within the critical root zone of a tree.
- Equipment and materials should not be stored near trees.
- Do not damage the root system, trunk, or branches of any tree; if any roots are encountered during excavation while working outside the critical root zone, they should be cut off cleanly with sharp pruning tools rather than allow them to be torn by large equipment. clean cuts will help to minimize decay and entry points for disease.

- All exposed roots of trees to be retained should be covered in a minimum of 5 cm of firm soil within 24 hours of exposure.
- If root pruning is implemented, the crown of the tree should be reduced proportionately under the direction of a Certified Arborist or Registered Forester, to decrease wind sail. Pruning should be kept to thinning cuts (no major limb removal), and crowns should be monitored, and maintenance carried out for two (2) years after root pruning to remove any dieback under the direction of a Certified Arborist or Registered Forester.
- If branches are likely to hang in the way of passing equipment, the branches should be pruned by a Certified Arborist or Registered Forester to avoid tearing and undue injury to the tree.
- All pruning work must be performed under the supervision and guidance of a qualified tree professional in accordance with the latest ANSI A300 Pruning Standards and best management practices identified by the International Society of Arboriculture.

8.1.3 Significant Wildlife Habitat

Some portions of the Site and Adjacent Lands were found to constitute SWH based on one or more criteria. Many of the mitigation measures listed under SAR also apply to impacts on SWH. Additionally, the following avoidance and mitigation measures must be adhered to:

- Work during the daytime hours to prevent light disturbances.
- Ensure that all equipment have the appropriate mufflers to reduce noise disturbances.
- Reduce speed on Site to 15 km/hr at all times.
- Avoid approaching groups of shorebirds, waterfowl, deer, frogs or any other concentration of wildlife, especially during the spring and fall.
- If a turtle nest is suspected, then flag a 10 m buffer to protect the nest. Contact Ministry of Environment, Conservation and Parks (for Species at Risk) and Ministry of Natural Resources and Forestry (all other species).
- Should a bird nest be discovered, stop all work that may disturb the birds (i.e., that cause the adults to fly off the nest) and contact a biologist or Ministry of Environment, Conservation and Parks or Environment Canada, as appropriate for the species. Nests can be briefly photographed (for documentation purposes

only) and marked with GPS coordinates, but do not flag the nest or linger near it as it can attract predators and cause birds stress.

- In areas known to contain breeding raptors, breeding waterfowl, breeding amphibians or SC birds (such as Wood Thrush and Barn Swallow), avoid unnecessarily scheduling Site visits (e.g. for maintenance or inspection purposes) during the breeding bird window of May 1 to August 31.
- As discussed in Section 0, an Eagle Nest Survey (including a follow-up survey) was undertaken during the study. However, an Eagle Nest Survey will be undertaken during detailed design to confirm the potential presence and potential use of Eagle Nests in the study area. Any nests found will be monitored during detailed design in the months of March and April to determine if the nests are in use and identify additional mitigation measures, as required.
- Do not poison mice, rats or other pest animals as poison can bioaccumulate and cause predators to die (especially raptors).
- Educate staff on the significance of Barn Swallows (these are likely to be common on the construction Site and are often mistaken as pest animals).
- An ecopassage under Regional Road 25 between William Halton Parkway and Highway 407 is being planned by others as part of the adjacent Palermo Village development.

8.1.4 Fish and Fish Habitat

Direct, minor impacts to Fish Habitat will likely occur during culvert replacements and bridge works, and indirect impacts can result from improper operation or allowing contaminants to enter watercourses. Activities can be carried out with minimal impacts provided that the following measures are carefully adhered to.

Planning

- DFO permits must be obtained wherever work is taking place below the high-water mark due to the presence of SAR.
- Avoid in-water works during turtle overwintering period.
- No work will take place when the Project area is flooded. Further, measures for erosion and sediment control and to prevent accidents and/or malfunctions are to be diligently maintained and adhered to.
- Site instruction will be provided to the contractors to highlight that the rivers on Site provide direct Fish Habitat and are critical habitat for two SAR.

- As much as possible, existing trails, roads and access points will be utilized.
- Minimize clearing of woody vegetation to maintain soil stability. Where possible, cut trees leaving behind 60 to 100 cm of trunk instead of grubbing.
- Minimize the amount of vegetation removed within riparian areas or floodplains, in particular favoring the protection of vegetation that overhangs watercourses.
- A contingency plan must be developed by the proponent for the possible event of a future structural failure during the lifetime of the Project.
- Watercourse-specific planning, as follows:
 - For all Features, design should ensure that the same water quality and quantity continues to flow to each feature.
 - For the 13 features that cross the alignment, ensure that alterations to culvert allow for fish passage during the spring and baseflow conditions (as needed)
 - Sixteen Mile Creek subwatershed – Sixteen Mile Creek, Features 1 & 3-9
 - Fourteen Mile Creek subwatershed – Fourteen Mile Creek, Features 2-4
 - Additional sampling or habitat descriptions may be required depending on the potential impact. At this time, a conservative approach was followed. For instance, Feature 2, within the study area, may be indirect Fish habitat rather than direct due to its poorly defined banks.
 - Features with possible or confirmed SAR habitat may require consultations and/or permitting with MECP, and DFO.
 - All work that is within regulated habitats for SAR fish must be reviewed by DFO.

Erosion and Sediment Control

- An erosion and sediment control plan will be developed during detailed design and implemented prior to any work within 30 metre of a watercourse:
 - Provide regular maintenance to the erosion and sediment control measures during construction. Contractor shall be responsible for ensuring that the erosion and sediment control measures are maintained and will monitor the water clarity downstream of the work site throughout the day and during rain events. Water quality is to meet the *Canadian*

Water Quality Guidelines for the Protection of Aquatic Life. Monitoring for visible plumes outside of the work area is to be undertaken.

- At a minimum, the erosion and sediment control plan will include the installation of sediment fencing along the top of banks where vegetation clearing and/or soil disturbance will occur within 30 metre of any channel prior to the removal of vegetation. And the installation of a turbidity curtain downstream.
- Additional materials (i.e., rip rap, filter cloth and silt fencing) will be readily available in case they are needed promptly for erosion and/or sediment control.
- Note that if meter bags are used, they can often split when being removed. As such it is preferred that gravel (washed and free of fines) be used for the metre bags.
- Any stockpiles of soil or fill material will be stored as far as possible from the channel and protected by silt fencing (minimum 30 metre).
- The sediment fencing will not be removed until the bank is stabilized (meaning <20% bare soil).

Fish and Habitat Protection

The following will apply where in-water work is required (in this case, DFO would also need to be contacted):

- Where the channel is to remain, any disturbed banks will be returned to pre-construction conditions and contours or better.
- The work within the channels will be completed in the dry.
- Water from dewatering will be treated prior to returning it to the system (i.e., straw bale settling ponds covered by geotextiles or sediment sock on the end of hose and situated on top of well vegetated slopes).
- Water from bypass will be released in such a way as to prevent erosion or the transportation of suspended sediments downstream.
- Where banks/riparian area (area within 30 metre of channel) have been stabilized by seeding and/or planting, monitor the revegetation to ensure that the vegetation becomes fully established.
- Any riprap will consist of clean rock free of fines.
- Where possible, limit clearing of vegetation to trimming and leave the stump and lower 60 cm of the tree trunk in place (for shoreline stabilization).

- Fish (and other aquatic fauna) will be salvaged from the isolated channel or any area that is flooded at the time of construction, by a qualified aquatic biologist/technician. The salvage will need to be repeated if the work area becomes flooded.
- Dewatering of water in areas that may contain fish will be completed from hoses placed in fish baskets or covered with clean wash rock or other such method to prevent fish impingement and entrainment. Note that the screens that come on the hoses are not enough to prevent fish from harm. Contractor should refer to Department of Fisheries and Oceans' Standard Code of Practice for End-of-Pipe.
- Monitor the end of pump frequently to ensure that all fish protection measures are functioning.
- Minimize the size of temporary in-water work areas.
- Bypass flow is required. The amount of flow bypass must be sufficient to maintain the habitats downstream of the Site (i.e., similar to what would be present, at that time of year, if work was not occurring. A new drain from the end of the bypass pipe to the existing channel is being considered. Details pending but will be assessed by a fisheries biologist to ensure that this does not result in fish kills (or erosion concerns).
- Any disturbed bank, along the section to remain, will be returned to pre-construction conditions, including revegetation, as necessary, with native vegetation appropriate for Site conditions.
- Placement of any erosion control blankets is to avoid the area that will be wet (i.e., will be placed above the high-water level) as the mesh of the blankets can trap fish.
- All material introduced for the temporary measures will be fully removed from the water at the completion of the work.

Contamination and Spill Management

- Contractors will be informed that Fish Habitat is present on Site and in the receiving waterbodies.
- All machinery and equipment will be free of mud and plant material when arriving on-site to minimize the transport of invasive species.
- All equipment working in or near the water (wetlands, indirect fish habitat or direct fish habitat) should be well maintained, clean and free of leaks. Maintenance on construction equipment such as refueling, oil changes or

lubrication would only be permitted in designated area located at a minimum of 30 m from the shoreline in an area where sediment erosion control measures and all precautions have been made to prevent oil, grease, antifreeze, or other materials from inadvertently entering the ground or the surface water flow.

- Emergency spill kits will be located on site. The crew will be fully trained on the use of clean-up materials to minimize impacts of any accidental spills. The area would be monitored for leakage and in the unlikely event of a minor spillage the Project manager would halt the activity and corrective measures would be implemented.
- If a spill occurs:
 - Stop all work
 - Spills are to be immediately reported to the Ministry of Environment, Conservation and Parks Spills Action Centre (1800 268-6060). Note that under the *Fisheries Act* deleterious substance includes sediments.
 - Clean-up measures are to be appropriate and are not to result in further harm to fish/fish habitat.
 - Sediment-laden water will be removed and disposed of appropriately.
- No construction debris will be allowed to enter the watercourse.
- Following the completion of construction, all construction materials will be removed from site.

8.1.5 Timing Windows

- Vegetation (including grass/weeds) can only be cleared from September 1 to April 15 (inclusive).
- Trees over 10 cm DBH can only be removed from October 1 to March 31 (inclusive).
- In-water structures, such as culverts, must only be removed during the applicable in-water work window and only after a biologist has confirmed that they are not occupied by nesting or roosting Species at Risk. Buildings, if required to be removed, may only be removed from October 1 to March 31 (inclusive), unless they are first cleared by a biologist to confirm that no Species at Risk are currently using them as nesting or roosting habitat.
- Work within stream meander belts can only be done from July 1 to September 15 (inclusive). Note, this is a reduced timing window from the typical in-water work window of June 16 to September 30

8.1.6 Reptiles and Amphibians

No Endangered or Threatened reptiles or amphibians were confirmed during Site investigations, but various common turtles, snakes and frogs are likely to occur. In order to protect all reptiles and amphibians that may use the habitats on Site, the following mitigation measures must be followed:

- Conduct work outside the standard turtle active season of May 1-October 31 (note that some turtles and many amphibians are active earlier than this window).
- Implement a strict speed limit of 15 km/h within the Site.
- Be vigilant in looking for the presence of snakes, turtles, frogs and salamanders. If found, allow to leave on their own. If a suspected Species at Risk is noted (i.e., Blanding's Turtle), then contact Ministry of Environment, Conservation and Parks or a biologist for assistance immediately.
- The sediment fencing used in standard construction projects can also serve to provide a temporary turtle exclusion function. The sediment fence used for turtle exclusion should be installed as per the guidelines from Reptile and amphibian exclusion fencing (MECP, 2021). The two ends of the fence are to have a turn-around to encourage turtles to remain within the retained habitats.
- Turtle exclusion fencing should be installed and maintained each year prior to the beginning of May to minimize the potential for turtles to nest on Site.
- If a turtle nest is suspected, then create a 30 m buffer to protect the nest and contact a professional for guidance. For suspected SAR contact the MECP. For all other species, contact the MNR.

8.1.7 Birds and Bird Habitat

To maintain compliance with MBCA, FWCA, SCA, SARA and other legislation, the following apply:

- Clearing of vegetation (including grass, weeds and shrubs) must occur between September 1 and April 15, unless appropriate measures to prevent contravention of federal or provincial legislation are followed.
- The only bird species not protected under one or more Acts are: American Crow, Brown-headed Cowbird, Common Grackle, House Sparrow, Red-winged Blackbird, and European Starling. It is prohibited to destroy or disturb an active nest of any other bird species, or to take or handle nests, eggs, or nestlings. In this part of Ontario, the current standard nesting period is from April 5 to August 28, however the current MECP Guidelines for breeding birds is April 1 to August

31. Outside of this timing window, it is considered unlikely that most birds would be nesting, with a few exceptions. It should be noted that if an active nest is present before or after the above dates that it is still protected.

- There is a high potential for ground nesting birds (i.e., Killdeer) to be present. These prefer to nest on bare soil or gravel areas. Perform regular walks of the cleared areas looking for ground nesters. If any are present, then contact a biologist for guidance.
- Inform work crew that if a bird flushes at close range (<five m) it is likely flushed off a nest and the nest should be located and the species identified by a trained biologist.
- Should a nest be discovered, stop all work that may disturb the birds (i.e., that cause the adults to fly off the nest) and contact a biologist or MECP or Environment Canada, as appropriate for the species. Nests can be photographed (briefly, for documentation purposes only) and marked with GPS coordinates, but do not flag the nest or linger near it as it can attract predators and cause birds stress.
- A few species have nests which are protected year-round under the MBCA, even when not active. In Southern Ontario, these include Pileated Woodpecker and colonial waders (herons and egrets). It is an offence to tamper with such nests or the trees/platforms containing them, regardless of the time of year or whether they appear to be used by the birds. Work crews should be educated on this and instructed to report any large stick nests or exceptionally large, round cavities to a trained biologist for inspection.
- Avoid any unnecessary removal of vegetation. In general, dead trees or branches should not be treated differently than live vegetation and should only be removed when specifically included in a work plan.
- Educate staff on the significance of Barn Swallows (these are likely to be common on the construction Site and are often mistaken as pest animals).

8.1.8 Invasive Flora

Throughout project construction, invasive plant species should be managed in accordance with all relevant federal and provincial regulations and the latest research. Relevant regulations that apply to the spread of invasive species include the federal *Plant Protection Act* and *Seeds Act* as well as the provincial *Invasive Species Act* and *Weed Control Act*. The presence and abundance of invasive plants will be used to

inform management actions. Action decisions should include the following considerations:

- The consequence of not treating.
- The invasiveness of the species. The potential safety, economic, and ecological impacts likely to be caused by its spreading.
- Site characteristics – including adjacent land uses and proximity to environmental sensitive areas.
- Species composition on the Site and percentage cover.

Due to the broad range of invasive species, few generalizations can be provided for management guidelines. Instead, appropriate management for invasive species will be species- and location-specific. A combination of various management possibilities is likely to be most effective whether targeting a single species or multiple species. The following measures are being recommended to minimize tree disease and the spread of invasive species:

- Machinery arriving on-site will adhere to the Clean Equipment Protocol for Industry and be clean and free of outside plant material or mud to minimize the transfer of invasive plants.
- Clean sludge, dirt, and plant material from equipment and tools before leaving a site infested with invasive species. High pressure air hoses, mobile cleaning stations which retain water runoff, and brushes or brooms are acceptable cleaning methods.
- Disturbed surface areas will be rehabilitated as soon as possible to reduce the duration of soil exposure.
- Vegetate any disturbed areas by planting and seeding native trees, shrubs, or grasses, and cover such areas with mulch to prevent erosion and help seeds germinate. If there is insufficient time remaining in the growing season, the Site should be stabilized (e.g., cover exposed areas with erosion control blankets to keep the soil in place and prevent erosion) and vegetated the following spring.
- Do not include any invasive tree/plant species in the Landscape Plan to compensate for trees that will need to be removed because of project activities. Include only native tree / plant species, compatible with the landscape, in the Landscape Plan
- Fully inspect all trees being planted for invasive pests or diseases prior to planting.

- It is recommended that the removal of all Honeysuckle, Buckthorn, Dog-strangling vine, Phragmites, Purple Loosestrife or other invasive exotic plants be undertaken in accordance with the Best Management Practices (BMP) established by the Ontario Invasive Plant Council (OIPC).
 - Refer to OIPC Series for Honeysuckle here:
https://www.ontarioinvasiveplants.ca/wp-content/uploads/2016/06/OIPC_BMP_Honeysuckle.pdf
 - Refer to OIPC BMP Series for Common Buckthorn here:
https://www.ontarioinvasiveplants.ca/wp-content/uploads/2018/05/OIPC_BMP_Buckthorn_May282012_D61.pdf.
 - Refer to OIPC BMP Series for Dog-strangling Vine here:
https://www.ontarioinvasiveplants.ca/wp-content/uploads/2016/06/OIPC_BMP_DogStranglingVine.pdf
- When removing invasive plant species, ensure that plant material is appropriately disposed of to minimize spread.
- For material with a heavy presence of invasive species (i.e., Phragmites, Purple Loosestrife), it is recommended that these be removed to a facility or buried in a pit that is 0.5 m deep will be dug and the invasive species buried.

8.1.9 Site Plan Recommendations

During Construction

- Clearly delineate the area to be cleared on both the Site plans and in the field to prevent the loss of woody vegetation that is not intended for removal.
 - Maintain a 10 m construction buffer around amphibian breeding ponds
 - Maintain a 30 m construction buffer along all woodlands except those exempted due to their proximity to the roadway
 - Avoid any impacts (including walking through or storing materials) in woodlands that are not approved for being cleared
- The removal of trees and shrubs should occur outside of the breeding bird window and active bat season. The appropriate timing for removal is between October 1 and March 31. Outside that window, contact a biologist for advice but note that the completion of bird nest surveys is not recommended due to the potential for a false-negative.
- Utilize small machinery for the removal of woody vegetation and do not work under the drip line of trees that are not intended for removal.

- No stockpiling or infilling should occur within the drip line of the remaining woodland.
- Sediment fencing will be installed along the perimeter of the Site which will also be designed to exclude turtles from the construction zone and to prevent sediment from entering wetlands and watercourses.
- No maintenance or fueling of machinery will occur within 30 m of wetlands or watercourses.
- Machinery should be cleaned prior to arriving on-site to prevent the potential spread of invasive species (see Ontario Invasive Plants Website for guidance <https://www.ontarioinvasiveplants.ca>).

Restoration Plan

Restoration is an important component of the Project in order to minimize long-term impacts to any natural features within the study area. When restoring the Site post-construction, the following standard procedures should be followed:

- Seed bare dirt areas with a mixture of native seed suited to the Site conditions that is approved by CH.
- Plant any disturbed streambanks with wetland shrub species such as Red-Osier Dogwood and native willows.
- Establish and enhance a 30 m buffer along the south side of Woodland Stand 1 consisting of native species resembling those in the woodlot.
- Follow soil stabilization guidelines in the SAR fish subsection above.
- Monitor the spread of invasive species post-construction and treat as necessary.

8.1.10 Habitat Offsetting

In order to minimize net loss on the amount and ecological function of lands within the NHS, habitat offsetting is the recommended course of action. There is no policy for offsetting currently defined by Conservation Halton. Rather, offsetting requirements are determined by the authority on a case-by-case basis. To aid in planning, the framework developed by the nearby Toronto and Region Conservation Authority (TRCA, 2023) should be followed as a guiding template but should not be considered an exclusive mandate as Conservation Halton may determine additional (or fewer) criteria to be applicable. The TRCA framework is as follows:

- Section 3.2 of the TRCA policy states that offset site selection must consider proximity to loss, continuity with the natural system, land ownership and

designation (with a preference for publicly owned land with environmental protection zoning), land availability and ecosystem connectivity and configuration.

- Compensation habitat should correspond to the type of habitat lost (i.e., replacing a wetland with a wetland)
- Appendix A of the TRCA policy is to be referred to for detailed habitat-specific restoration specifications
- Compensation habitat should be strategically placed using the following hierarchy:
 - On-site compensation should be considered first as this has the greatest ecological relevance
 - Where on-site compensation is not feasible, lands outside the current NHS should be prioritized so that no net loss of NHS lands occurs
 - If compensation is to occur on NHS lands, it should be done at a site identified by Conservation Halton as needing restoration
 - Off-site compensation should be located further upstream in the same watershed or (preferably) subwatershed as where the loss occurred.
- Compensation area ratios are to be based on basal areas (habitats with no trees receive an area replacement ration of 1:1). Calculation of basal areas is defined in Appendix B of the TRCA policy
- If basal area calculations are not possible, individual trees are to be replaced at a ratio following Appendix C of the TRCA policy and the Region's Tree Canopy Replacement Policy.
- Project-specific requirements apply (in the case of the Project, Redside Dace habitat compensation is a necessary deliverable)
 - Redside Dace habitat compensation is to occur within the same subwatershed as the impacts
 - The extent of Redside Dace habitat compensation necessary will be an ongoing discussion with the appropriate Provincial or Federal agencies and may depend on the effectiveness of other mitigation measures listed in the report (i.e. erosion and sediment control)
- The status of compensation projects should be monitored, documented and reported to Conservation Halton and/or the municipality in a timely and transparent manner

In addition, the following are important considerations for habitat offsetting that have been identified by Ontario Nature (n.d.) and may be adopted by Conservation Halton at their discretion:

- Social and cultural ecosystem values
- Meaningful and respectful engagement with Indigenous communities
- Public infrastructure (i.e., the Project) should not be exempted from adhering to the strictest requirements of the TRCA offsetting policy
- The status of offsetting projects should be made publicly available

Commitments to Future Work

The following work is recommended during detailed design and construction:

- The potential to impact Species at Risk, and the list of Species at Risk present on site, should be re-evaluated at the detailed design phase to ensure that the information provided below remains the most recent advice.
- Any work below the ordinary high water mark requires either a permit under the *Fisheries Act*, or a registration under one of the Codes of Practice for exempt projects. In-water works associated with the current design will include culvert replacement, bridge modifications, bank/shoreline alterations within the Site and localized stream realignments. These types of activities are not always exempted under the Codes of Practice, especially when Species at Risk critical habitat is present.
- Any work below the ordinary high-water mark of any wetted feature deemed Fish Habitat will require the submission of a Request for Review (RFR) to the Department of Fisheries and Oceans, which will describe the proposed works, potential impacts and actions planned to reduce harm to acceptable levels. The Department of Fisheries and Oceans will then determine whether the Project is eligible for a permit and would be expected to issue a permit within 3-6 weeks.
- Activities with more substantial impacts may require a permit under the new *Species Conservation Act* at the Ministry of the Environment, Conservation and Parks's discretion, and this process can take several months. A permit under the *Species at Risk Act* is not expected to be required unless federal-level concerns remain that cannot be addressed by the Department of Fisheries and Oceans or the Ministry of the Environment, Conservation and Parks.
- A large amount of work will be occurring within floodplains as there are 25 stream crossings being upgraded and a portion of the roadway runs adjacent to Sixteen

Mile Creek. In many cases, no work is being proposed within water, but a permit will still be required from Conservation Halton for any work within their regulated floodplain zone.

- Some unevaluated wetlands will be affected which will also require a permit from Conservation Halton. These permits are standard practice for road works projects and are typically issued in a reasonable amount of time. Conservation Halton should be consulted regarding wetland and habitat compensation and offsetting.
- Trees will need to be removed to accommodate the widening. The field surveys did not identify any Species at Risk trees; thus no permits will be required under the *Species Conservation Act*. However, under Policy 147.5 (a) of the Halton Region Official Plan, tree removals will be regulated by the local tree by-laws of the Town of Oakville and Town of Milton, and under Policy 147.5 (f) a Tree Saving and Planning Plan is required as a part of any development that affects trees.

The following additional surveys are advised to be completed during detailed design and prior to construction including:

- Aquatic Habitat Assessment using detailed footprints.
- Anuran surveys (April – July)
- Woodland amphibian habitat assessment (single visit, ideally in early spring)
- Bat habitat assessment (leaf-off period of December – March)
- SAR Flora survey (2-year validity period only)
- Red-headed and Pileated Woodpecker cavity assessment
- Tree inventory

8.2 Socio-Economic Environment

8.2.1 Property Requirements

Impacts and Mitigation Measures

The Preferred Plan for Regional Road 25 was developed based on a “best fit” alignment along the existing corridor to minimize impacts to property where feasible. Impacts to individual properties are discussed in Section 7.11 and shown in the preliminary design in Appendix H. Retaining walls have been proposed at selected locations to minimize property impact.

Commitments to Future Work

- Property requirements and temporary impacts will be confirmed during detailed design.
- Halton Region will consult with affected property owners on an individual basis during detailed design.

8.2.2 Access

Impacts and Mitigation Measures

The Preferred Plan will result in changes to existing accesses for properties along Regional Road 25 within the MCEA study limits. A raised centre median is proposed in the future road cross-section. Existing full move accesses will become right-in/right-out only. Full move access to emergency facilities will be maintained. All accesses will need to be reconstructed to tie into the widened roadway.

Commitments to Future Work

- Details regarding the reconstruction of existing accesses will be subject to further review during detailed design.
- Halton Region will consult with affected property owners on an individual basis during detailed design.

8.2.3 Streetscape and Landscape

Impacts and Mitigation Measures

Regional Road 25 will be a six lane urban roadway serving as a major arterial road that supports both the movement of people and goods. The roadway is characterized by majority residential land uses with some institutional and commercial uses.

Streetscaping and landscaping opportunities consistent with the Halton Region Regional Road Landscaping Guidelines and Specifications, North Oakville West Secondary Plan Area, Town of Oakville Livable by Design Manual, Sherwood Survey Secondary Plan, and Boyne Survey Secondary Plan will be considered during detailed design.

A Tree Inventory was conducted during the MCEA to document the existing trees in the corridor (Appendix C).

Commitments to Future Work

- A Landscape Plan will be prepared during detailed design in consultation with the Town of Oakville and Town of Milton.
- A Streetscape Plan will be prepared during detailed design in consultation with the Town of Oakville and Town of Milton.
- Tree Protection and Preservation Plans will be prepared by a certified arborist or qualified professional during detailed design, in consultation with Halton's Regional Foresters as outlined in Section 8.1.2.
- The most current Conservation Halton Guidelines for Landscaping and Rehabilitation Plans, Halton Seed Mixes, and Halton Native Species list should be referred to during detailed design.

8.2.4 Noise

A Noise Assessment was completed by RWDI in accordance with the Halton Region Noise Abatement Guideline and the Ontario Ministry of Transportation and Ministry of the Environment, Conservation and Parks Noise Protocol. The objective of the assessment was to evaluate the potential noise impacts associated with the proposed improvements to Regional Road 25 and to determine whether noise mitigation is warranted. The Noise Assessment Report is provided in Appendix J.

Impacts and Mitigation Measures

For projects involving the modification or widening of an existing roadway adjacent to noise sensitive areas, the applicable guidelines require a comparison between predicted future noise levels under two scenarios:

- Future noise levels without improvements
- Future noise levels with improvement

Noise mitigation must be considered where:

- The predicted future noise level with the proposed improvements exceed the future without improvements by more than 5 decibels; or
- The predicted absolute future noise level is equal to or greater than 65 decibels

Where mitigation is required, measures are to be evaluated and implemented to achieve noise levels at or below the objective, where technically, economically, and administratively feasible.

Noise sensitive areas within the Regional Road 25 MCEA study area were identified in accordance with the Ministry of Transportation and Ministry of the Environment,

Conservation and Parks Noise Protocol. For this project, noise sensitive areas including the following land uses, provided they have ground level outdoor living area

- Private homes (single family units and townhouses)
- Multiple unit buildings
- Hospitals and nursing homes
- Schools, educational facilities, and daycare centres
- Campgrounds that provide overnight accommodation
- Hotels and motels
- Community centres with outdoor living areas
- Municipal parks (excluding golf courses and trails)
- Places of worship with outdoor living areas

The investigation area extends 600 metres perpendicularly from the edge of pavement along Regional Road 25 between Speers Road and Derry Road. Within this area, a total of 173 noise sensitive receptors (noise sensitive areas or locations) were identified. The location of these receptors is shown in the Noise Assessment Report (Appendix J).

Findings from the noise assessment indicated that the potential change in noise levels are predicted to be less than 5 decibels for all receptor locations because of the proposed improvements to Regional Road 25 when compared to the future without improvement scenario. Absolute future noise levels are predicted to be less than 65 decibels at all the noise sensitive receptors. Therefore, consideration of noise mitigation is not warranted based on the Ministry of Transportation and Ministry of the Environment, Conservation and Parks criteria.

Construction related noise will be temporary and will vary depending on the type and duration of the construction activities. There are no receptor-specific limits for roadway construction noise; however, general best practices and applicable municipal by-laws apply.

To minimize potential noise impacts during construction, the following mitigation measures are recommended:

- Contractors shall comply with all applicable contract requirements and municipal noise by-laws. Enforcement is the responsibility of the municipality.
- All construction equipment shall be properly maintained and equipped with effective mufflers in good working order.

- Equipment shall be regularly inspected and maintained under a documented maintenance program.
- Haul routes shall be maintained to minimize travel over rough surfaces and potholes.
- On-site vehicle speed limits shall be enforced.
- Vehicle idling shall be minimized.
- In response to persistent noise complaints, equipment compliance with Ministry of Environment, Conservation and Parks NPC-115 guidelines shall be verified.

Commitments to Future Work

- Potential for construction noise and vibration impacts will be further reviewed during detailed design when the construction methodology and schedule is developed. Construction activities will conform to Halton Region, Town of Oakville, and Town of Milton Noise Control By-Laws.

8.2.5 Air Quality

An Air Quality Assessment was completed by RWDI to assess the air quality impacts of the proposed improvements to Regional Road 25. The assessment followed the methodology described in the Ontario Ministry of Transportation Environmental Guide for Assessing and Mitigating the Air Quality Impacts and Greenhouse Gas Emissions of Provincial Transportation Projects (May 2020). The Air Quality Assessment Report is provided in Appendix K.

Impacts and Mitigation Measures

Based on the analysis, the proposed improvements are expected to have low impacts on local air contaminant levels at the most impacted receptors, with the maximum predictive cumulative concentrations for all contaminants and averaging periods less than current Ontario Ambient Air Quality Criteria and Canadian Ambient Air Quality Standards thresholds except benzo(a)pyrene, PM₁₀, and 1-hour NO₂ for the “Do Nothing” and Future scenarios. PM_{2.5} exceeded its threshold for the Build Scenario only. Most of these exceedances occur at modelled receptors that are closest in proximity to the modelled roadways. No additional mitigation measures are recommended, beyond those which are already in place through phased-in federal regulations for on-road vehicle and engine emissions, which are expected to reduce NO₂ and other tailpipe emissions beyond the 2031 horizon year used for emission factors in this assessment.

The incremental emissions from the project compared to the regional provincial emissions of greenhouse gas CO₂e are low (less than 0.0005%) for the 2031 horizon year, and therefore the project is not expected to have a significant impact on regional air quality.

Construction activities involve heavy equipment that generates air pollutants and dust, which impacts are temporary in nature. The emissions are highly variable, difficult, to predict, and depend on the specific activities that are taking place. An Air Quality Management Plan should be developed during the construction tendering process to set out best management practices for dust and other emissions. Best practices may include:

- Use of reformulated fuels, emulsified fuels, exhaust catalysts 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-related debris and dust.
- Dust suppression on unpaved haul roads and other traffic areas susceptible to dust, subject to the area being free of sensitive plant, water or other ecosystems that may be affected by dust suppression chemicals.
- Covered loads when hauling fine-grained materials.
- Prompt cleaning of paved streets where tracking of soil, mud or dust has occurred.
- Tire washes and other methods to prevent trucks and other vehicles from tracking soil, mud, or dust onto paved streets.
- Covered stockpiles of soil, sand, and aggregate, as necessary.
- Compliance with posted speed limits, and as appropriate, further reductions in speeds when travelling to sites on unpaved surfaces.

Commitments to Future Work

- An Air Quality Management Plan will be prepared during detailed design.
- Where feasible, evergreen vegetation should be prioritized over deciduous species to provide year round particulate control and minimize off-site dust impacts near sensitive receptors.

8.2.6 Climate Change

Impacts and Mitigation Measures

The Ministry of the Environment, Conservation and Parks' guide, *Consideration of Climate Change in the Environmental Assessment Process*, identifies two key approaches for integrating climate change into project planning:

- Mitigation – Reducing the project's contribution to climate change
- Adaptation – Improving the resiliency of infrastructure and surrounding environments and eco-systems to climate change impacts

Halton Region's *Corporate Climate Action Plan* similarly recognizes the importance of both mitigation and adaptation in minimizing climate-related risks and improving long-term resilience. The plan establishes a framework for developing infrastructure and services that respond effectively to changing climate conditions.

The objectives outlined in these guiding documents have been incorporated into the development and evaluation of alternative solutions, the preferred design, and mitigation measures for this project.

The potential climate change impact of the project was assessed by estimating total annual greenhouse gas emissions for the Do Nothing scenario and the Future scenario for the 2031 horizon year. As part of the Air Quality Assessment, emissions of carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O), were quantified and expressed as carbon dioxide equivalents (CO₂e) determined by using the amount of a GHG multiplied by its global warming potential (GWP) from the IPCC's *Fifth Assessment Report* (IPCC, 2014).

The assessment focused on emissions generated by roadway traffic within the study area, using projected volumes and associated emission factors. Results indicate that total annual greenhouse gas emissions are projected to be higher for the widened road scenario compared to the Do-Nothing scenario. This increase is primarily attributable to the added lane capacity in each direction, which accommodates higher traffic volumes.

The magnitude of change is small in relation to the provincial totals. The increase in regional emissions between the two scenarios is 0.0005%. A range of mitigation measures were evaluated based on their ability to reduce the source of GHG emissions throughout the construction and operational phases of the project. The proposed mitigation measures that have been incorporated into the design are as follows:

- Improve walking and cycling conditions to promote modal shift away from private vehicles and improved mobility.

- Implement green infrastructure to mitigate urban heat islands effects including tree planting and light surfaces.

Commitments to Future Work

The Ministry of Environment, Conservation and Parks' guide will continue to inform subsequent stages of the MCEA process including during detailed design and construction. This will ensure that climate change considerations remain integrated throughout project implementation phases.

The proposed mitigation measures that shall be considered for further consideration during the detailed design, construction and operational phases are as follows:

- Increase the proportion of reclaimed asphalt pavement (RAP) and recycled asphalt shingles in asphalt mixes subject to contractor specifications and performance standards.
- Adaptation of warm-mix or cold-mix asphalt technologies to reduce production energy subject to the construction approach and material availability.
- Use concrete with supplementary cementitious materials to reduce cement-related emissions subject to supplier availability and structural requirement.
- Use alternative or permeable paving solutions to reduce material use and promote water infiltration.
- Optimize pavement layer thickness while ensuring performance and durability to reduce total material volume and embodied emissions.
- Source materials locally when possible, to reduce transport-related fuel consumption.
- Reuse existing pavement materials, such as recycled asphalt as base layer, if feasible.
- Consider using prefabricated components for specific structures to reduce on-site energy and material waste.
- Encourage the use of electric or hybrid equipment where available and provide workers with information on how to reach the job site via public transit and carpooling.
- Enforce anti-idling policies for on-site vehicles and machinery through the site management protocols.
- Minimize excavation to help reduce GHG emissions.

- Design for durability using higher quality materials in high traffic zones to reduce repair frequency subject to traffic forecasts and pavement life-cycle cost analysis.
- Install LED street lighting systems for improved energy efficiency.
- Facilitate electric vehicle adoption by integrating public EV charging infrastructure, if possible.
- Consider grass species for the boulevard which is low maintenance and drought tolerant such as Fine Fescue (Chewing's, Creeping Red) and consider adding White Clover in the surface mix to support pollinators and drought tolerance.
- Prioritize replanting of native, small canopy or columnar species in constrained urban spaces to restore some carbon sequestration capacity if possible.

8.3 Cultural Environment

8.3.1 Archaeological Resources

Impacts and Mitigation Measures

A Stage 1 Archaeological Assessment was completed for the Regional Road 25 MCEA Study. The report is provided in Appendix A.

Most of the lands along the Regional Road 25 MCEA study area do not retain archaeological potential based on previous disturbance for construction of the roadway, adjacent development, and buried infrastructure. A large portion of the study area has been subject to previous archaeological assessment, where no further archaeological assessment was required. Areas of archaeological potential generally include fallow lands, agricultural fields, and manicured lawns, along with Bowes Cemetery. Areas of archaeological potential require further archaeological assessment. These areas are shown in the report in Appendix A.

All previously assessed portions of the study area where no further archaeological concern was identified do not require further assessment. All portions of the study area identified as extensively disturbed, low, and permanently wet, steeply sloped, and otherwise of low archaeological potential do not require further assessment.

Commitments to Future Work

The following will be reviewed during detailed design and construction:

- Portions of the study area that retain archaeological potential will require Stage 2 archaeological assessment prior to any ground-disturbing activities. Any additional stage of archaeological assessment identified as necessary based on

the results of the Stage 2 assessment must also be completed before any ground disturbance occurs. Archaeological assessment should be undertaken as early as practical during detailed design.

- The Stage 2 Archaeological Assessment will be completed in accordance with the Ontario Heritage Act. First Nations and Indigenous Communities will be advised and afforded the opportunity to have field liaison representative participation.
- Additional efforts should be made during the Stage 2 assessment to retrieve documentations for 1975 Bronte Creek Provincial Park survey to confirm the location of AiGw-47. If no artifacts are identified during the Stage 2 assessment in the vicinity of the site, reduced survey intervals may be required to confirm whether the AiGw-47 site is present within the study area.
- AiGw-547 was partially excavated as part of the previous road improvement works and was demonstrated to extend outside the excavated area, within the current project limits. Stage 2 assessment is required for the undisturbed portion of the property. If no artifacts are identified during the Stage 2 assessment in the vicinity of the site, reduce survey intervals may be required to confirm whether the AiGw-547 site is present outside of the previously excavated area. Based on the results of the Stage 2 assessment, Stage 3 archaeological assessment may be required to address the remainder of the site within the study area.
- The portion of the study area that is located within Bowes Cemetery is an area of continued archaeological concern. The Preferred Plan for Regional Road 25 has been developed to avoid impacts to the cemetery lands. If this is not possible, additional archaeological assessment and/or cemetery investigation may be required as determined in consultation with the Ministry of Citizenship and Multiculturalism and the Bereavement Authority of Ontario.
- Should impacts be planned outside of the study area reviewed in the Stage 1 Archaeological Assessment Report, additional archaeological assessment may be required.
- Should previously undocumented archaeological resources be discovered, the proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licenced archaeologist to carry out archaeological fieldwork, in compliance with Section 48(1) of the *Ontario Heritage Act*. Any person discovering human remained must notify the police or coroner and the Registrar of Cemeteries at the Ministry of Public and Business Service Delivery and Procurement.

8.3.2 Built Heritage Resources and Cultural Heritage Landscapes

Impacts and Mitigation Measures

A Cultural Heritage Impact Assessment was completed for the Regional Road 25 MCEA. An overview of the cultural heritage landscapes and built heritage resources in the study area is provided in Section 3.3. The report is provided in Appendix B.

For the purpose of the Cultural Heritage Impact Assessment, a 50 metre buffer zone was established around the study corridor. The proposed works in the project area have the potential to cause direct impacts to the heritage value of 14 identified heritage resources and indirect impacts to the heritage value of five identified heritage resources. It is recommended that the watercourses of Bronte Creek and Sixteen Mile Creek remained as uninhibited as possible and avoid impacts to free-flowing natural portions of these creeks. Any necessary artificial channeling should be sympathetic with the rural character of the area (i.e., naturalized or vegetated embankments) when possible.

Commitments to Future Work

The following work is recommended during detailed design and construction:

- Pre-construction vibration monitoring assessed by a qualified professional is recommended for 15 properties and subjects of heritage interest in order to determine if vibration monitoring or site plan controls are required. Site plan controls are recommended for the Bronte Creek Provincial Park.
- If direct impacts to identified cultural heritage resources are identified during detailed design, more comprehensive, site specific Heritage Impact Assessments should be initiated.

8.3.2.1 Great White Oak Tree

As discussed in Section 5.4.1, The White Oak Tree (Natural Heritage Tree designated under Part IV - *Ontario Heritage Act*) located at 1179 Bonte Road is estimated to be nearly 300 years old and is situated within a landscaped median separating the northbound and southbound lanes of Regional Road 25 in the Town of Oakville. The tree is designated under Part IV of the *Ontario Heritage Act* and is recognized as an important natural heritage landmark within the Town of Oakville. The preferred design for the widening of Regional Road 25 has been developed to avoid encroachment toward the tree and disturbance within the existing median where it is located. Additional mitigation measures for protection of the White Oak Tree (Natural Heritage Tree designated under Part IV - *Ontario Heritage Act*) will be developed during detailed design.

As part of the previous widening of Regional Road 25 from 2 to 4 lanes, in January 2012 Staff Report No. PW-04-12 - White Oak Tree Nursery Program and Future Planting of Seedlings, was received by Council. The purpose of this report was to inform Council of the White Oak Tree Nursery Program being undertaken by Halton Region and the use of the seedlings for new trees. It was recommended that the production of acorns be monitored and that a tree nursery grower be contracted to grow seedlings.

Consistent with the program developed as part of the previous widening of Regional Road 25, a Sapling Program will be developed during detailed design for the collection and propagation of acorns from the Great White Oak Tree.

8.4 Drainage and Stormwater Management

A drainage and stormwater management assessment was conducted as part of the Regional Road 25 MCEA to provide the key features and characteristics of the existing and proposed drainage systems. It documents the hydrologic assessments conducted to support the design of existing and new stormwater management infrastructures to accommodate the proposed roadway improvements. The drainage and stormwater management assessment was conducted in accordance with Conservation Halton guidelines, along with Halton Region, and the Towns of Oakville and Milton.

Impacts and Mitigation Measures

- Increased surface runoff resulting in higher peak flow rates and greater erosion potential within receiving watercourses.
- Elevated pollutant and sediment loading in stormwater and melted runoff.
- Alterations to watercourse morphology, affecting base flows, flood levels, and overall water quality.
- Modifications to existing drainage boundaries.
- Disruption or modification of hydrologically significant features such as natural ponding areas, infiltration zones, and existing dams.
- Stormwater management measures for quality and quantity control (i.e., superpipes and oil-grit separators) are implemented at various outlets to mitigate increased sediment loading and peak flows to the receiving watercourses.

Commitments to Future Work

- Closed Circuit Television (CCTV) inspections should be carried out for all non structural culverts to confirm their condition.

- Collaboration with Conservation Halton and adjacent development proponents shall continue to be undertaken to facilitate a coordinated drainage and stormwater management plan for the area, including the development adjacent Regional Road 25 south of Highway 407 (Palermo Village).
- The pipe slopes and inverts between Station 0+212 and Station 1+1042 will be confirmed through further investigation during detailed design.
- The new retaining walls required downstream of Culverts C01, C03, and C15 will be verified and reviewed by a structural engineer during detailed design.
- The final design of the Sixteen Mile Creek Bridge will include:
 - A review of the location of the crown of the road to determine if it should be relocated to improve drainage
 - A geotechnical and structural assessment of foundation design
 - Mitigation measures for revetment works in the regulated area.
- Watercourse realignments upstream and downstream of Culvert C05, downstream of C07, upstream of C19, upstream and downstream of C08A, downstream of C09A, downstream of C16 and upstream of C19.
- Mitigation measures and design of erosion protection measures at each culvert inlet and outlet locations and increased flow velocity.
- SWMP-1 will be further reviewed to confirm whether the pond has adequate capacity to provide quality and quantity control for the additional runoff from Regional Road 25. If no information is available from MTO, it is recommended to conduct a bathymetric survey.
- A bathymetric survey of SWMP-2 should be undertaken to determine the available storage volume of the pond, to confirm existing control features and their elevations, and to confirm the potential retrofit to increase the permanent pool volume for the enhanced level of protection.
- A bathymetric survey of SWMP-3 should be undertaken to determine the available storage volume of the pond, to confirm existing control features and their elevations, and to confirm the potential retrofit to increase the permanent pool volume for the enhanced level of protection.
- SWMP-4 will be further reviewed and a bathymetric survey should be undertaken to determine the available storage volume, the exact stage-storage-discharge information of the pond, confirm the existing control features, their elevations, assess the possibility of adjustments to match flow to pre-development level, and confirm the potential of eliminating pipe-storage facility on Regional Road 25.

- The preliminary sizing of peak flow control measures including the storage pipe system, orifice sizing, and drawdown characteristics will be further evaluated during detailed design.
- The orifice sizing for Pipe Storage 1 shall be confirmed through further evaluation and review during detailed design.
- The need for Catch Basin Shields at the various catch basins will be reviewed during detailed design.
- A geotechnical investigation and infiltration test for Low Impact Development (LID) measures are recommended during detailed design to confirm the soil infiltration rate and suitability of infiltration galleries.
- Any constraints associated with proposed utility relocations and proposed linear infrastructure with respect to the proposed installation of infiltration galleries on landscaping areas either on the east side or west side of Regional Road 25 will be further evaluated and confirmed detailed design.
- The required inlet and outlet pool at all culverts where extension and/or replacement is required will be designed during detailed design in accordance with the recommendations from the Fluvial Geomorphological Assessment (Appendix E).
- Facilities shall be constructed to ensure that drainage is directed away from the TransCanada Pipeline Right-of-Way (between Westoak Trails Boulevard and Pine Glen Road).
- Catch basins, drainage swales or berms should not be implemented within the TransCanada Pipeline Right-of-Way.
- All infrastructure associated with site servicing, grading, and stormwater management shall be setback a minimum of 7 metres from the edge of the TransCanada Pipeline Right-of-Way.
- The most current version of Conservation Halton Guidelines for Stormwater Management Engineering Submissions (currently June 2024) should be referenced during detailed design

8.5 Hydrogeology

A hydrogeological assessment was conducted as part of the Regional Road 25 MCEA to provide preliminary characterization of baseline hydrogeological site conditions and to evaluate the potential for adverse or unacceptable groundwater quantity and quality impacts that may be attributable to the proposed works. The hydrogeological

assessment was completed in accordance with Conservation Halton guidance entitled “Requirements for completion of hydrogeological studies to facilitate Conservation Halton’s reviews” (November 2014). The Hydrogeology Report is provided in Appendix L.

Impacts and Mitigation Measures

The following considerations were noted with regards to the proposed works and their potential impacts:

- Review of the available regional mapping of karst features presented by the OGS (2010) identifies one karst cave, the MacKenzie Cave, in Bronte Creek Provincial Park near the southern portion of the study area.
- The study area is located partially within a mapped Intake Protection Zone (IPZ-2 towards the south and IPZ-3 in the south and central portions of the Project Site).
- The average groundwater depth was measured as 4.55 metre below ground surface across the study area following installation of nine (9) groundwater monitoring wells as part of the geotechnical investigation (Thurber, 2025).
- A preliminary desktop review of land usage in the immediate vicinity of the study area was completed for evaluation of potential sources of interception of contaminated groundwater. Based upon the information gathered from the desktop review, several potential sources of contamination and/or environmental concerns were identified in proximity to the study area, including dry cleaning services and gas stations.

Recommended mitigation measures include the following:

- Care should be taken during the planned improvements to minimize potential impact to groundwater and surface water drainage features in consideration of the designated IPZ-2 and IPZ-3 areas.
- The potential for the presence of karst features in proximity to the study area should be considered during detailed design of the project.
- Water Taking and Water Discharge Plan, in accordance with Ontario Regulation 63/16 as required in support of registration on the Environmental Activity and Sector Registry (EASR) for construction site dewatering, if required. Plans should consider the presence of private water supply wells within the study area and implement monitoring as needed.

- Erosion and Sediment Control (ESC) measures and temporary construction site stormwater management planning (efforts to direct surface water flow away from the excavation, silt fences, etc.).
- Hydraulic isolation of watercourses, including the implementation of groundwater shoring in the vicinity of creeks intersecting the study area to minimize impacts to surface water quality and quantity
- Soil management plan, in addition to excess soil management plan in consideration of the application of Ontario Regulation 406/19 On-Site and Excess Soil Management, if applicable. Soil management planning should consider of potential sources of contamination in proximity to the study area.

Commitments to Future Work

- A detailed intrusive hydrogeological investigation should be completed during detailed design to inform potential construction dewatering requirements, evaluate potential environmental impacts anticipated to result from the construction dewatering, and inform the design of proposed infiltration galleries. Groundwater levels should be monitored over multiple seasons to obtain sufficient data to inform detailed design.
- A geotechnical assessment should be undertaken to evaluate the potential risk of basal heave in areas where groundwater is present under artesian conditions, based on available field data. If subsurface peat layers are identified during detailed subsurface, hydrogeological, or geotechnical investigations, the geotechnical engineer should account for potential settlement of these peat layers during dewatering activities.
- A comprehensive well survey should be completed during detailed design to confirm the presence of private water supply wells and septic systems. The well survey should be considered as part of the updated impact assessment to be completed as part of the intrusive hydrogeological investigation, in order to minimize potential impacts on private well and septic systems during construction. Monitoring and mitigation plans should be developed based on the updated impact assessment.
- Ongoing monitoring of wells identified through the Region's well survey program will be conducted during construction.
- Continuous subsurface investigations such as geophysical surveying should be considered in advance of installation of monitoring wells in karst susceptible areas.

- Potential sources of contamination within the study area should be considered and evaluated as part of the development of a groundwater management plan and a soil management plan in support of the project. Further, the completion of a Phase One Environmental Site Assessment may be applicable to the project in order to further evaluate the presence of actual contamination or potentially contaminating activities in proximity to the study area, or the completion of an Assessment of Past Uses Report may be recommended in support of the management of excess soil if required.
- The following management plans should be developed in advance of project construction.
 - Erosion and Sediment Control (ESC) Measures
 - Spill Containment and Response Plan
 - Monitoring and Mitigation Plans (Groundwater and Surface Water)
 - Temporary construction site stormwater management planning (efforts to direct surface water flow away from the excavation, silt fences, etc.)
- The Halton-Hamilton Source Protection Committee should be consulted to obtain guidance in the development of management plans in consideration of the project location within IPZ-2 and IPZ-3.

8.6 Erosion and Sediment Control

Impacts and Mitigation Measures

Uncontrolled erosion and sedimentation occurring during construction can result in a loss of topsoil, a disruption of nearby watercourses and a degradation of downstream water quality. During construction, erosion and sedimentation control measures should be implemented to prevent the mitigation of soils from the site.

Detailed Erosion and Sediment Control Drawings should consider the following recommendations:

General

- Daily inspections are to be carried out particularly after rain events and repairs.
- Any in-water work that is necessary must be conducted in dry conditions within the appropriate fisheries timing window indicated by the conservation authority.

Vegetative

- All areas not subject to active construction 30 days after area grading should be top soiled and seeded as per OPSS 802 immediately after completion of such grading.
- Immediately following seed application, a straw erosion control blanket should be installed on any exposed slopes adjacent to sensitive features, as per OPSS 802.
- The erosion control matting / blankets shall be fully biodegradable.
- Finished slopes will be graded to an acceptable slope and planted according to applicable Guidelines. Large cuts should be terraced to minimize surface erosion.

Structural

- As construction proceeds, diversion swales should be graded where needed along the right-of-way boundaries to intercept drainage from external areas and direct it away from exposed surfaces.
- The locations of sediment / dewatering traps should be confirmed in the field by the on-site inspector and environmental inspector.
- Temporary sedimentation traps should be sized based on 125 metres cubed per hectare of drainage area.
- The integrity of all sediment trapping devices will be monitored regularly (at least weekly and immediately following rain events) and properly maintained; such structures will be removed only after the soils of the construction areas have been stabilized and then only after the trapped sediments have been removed.
- The contractor will identify a contingency plan for accidental sediment release.
- All culvert work should be conducted “in the dry” and inside Ministry of Natural Resources and Forestry timing window for fisheries where applicable.
- All dewatering for culvert installation should be directed to a sediment / dewatering trap.
- Straw bale flow and/or rock checks should be provided in roadside ditches, especially in all ditches immediately upstream of their discharge into a watercourse.
- Additional erosion control works may be required during the course of construction. These may consist of silt fences, swales, and/or diversion berms. The location and need for these works will need to be established in the field.

Low Impact Development (LID) Protection

- Where possible plan for the LID construction late in the construction project.
- Clear signage is critical to protecting LID areas, and signage indicating 'no heavy equipment' is particularly important for intended infiltration areas to avoid compaction of native soil in LID areas.
- Perimeter controls should be installed early and kept in place until the site is stabilized and vehicles are no longer tracking mud onto the pavement surfaces that drain into the LID measure.
- LIDs that are kept offline during construction require the installation and maintenance of an impermeable physical barrier at the inlet. For example, curb cuts that serve as inlets for bioretention areas can be blocked off from receiving flows with sandbags or wood.
- For LIDs that are receiving runoff, permeable barriers can be installed at the inlet to help settle and/or filter out suspended sediment before the water enters the infiltration area.
- ESC site inspections should be carried out weekly and before and after rain or snowmelt events to determine whether ESC measures installed are in good working order and functioning as intended.
- Stockpiles of construction materials should be stored down gradient of LIDs to the extent possible (≥ 30 m recommended), since they can be a significant source of sediment that may be washed into the LID area. Sediment controls (e.g. sediment fence, filter socks) should be installed around all stockpiles, particularly those that are located up gradient of LIDs.
- The underground infiltration facility should be kept offline until drainage area construction and stabilization are complete and vehicle mud tracking has ended.

Temporary silt fencing should be installed:

- Around sensitive vegetative features.
- Approximately 2 metres from the final toe-of-slope for the roadway embankment widening areas.
- Runoff from excavated areas or unvegetated soil will not be permitted to discharge off site or directly into active or temporary watercourses or any natural areas.
- Heavy duty silt fence should be used at crossings locations where rare species are present.

- The contractor should abide by the requirements set out in the Erosion and Sediment Guideline for Urban Construction, Sustainable Technologies Evaluation Program, (2019).

The integration of these measures will minimize the impacts of erosion and sedimentation during the construction of Regional Road 25 within project limits.

Commitments to Future Work

- Erosion and Sediment Control Drawings will be prepared during detailed design.

8.7 Highway Interchanges

Impacts and Mitigation Measures

The Regional Road 25 MCEA study area includes interchanges with the QEW and Highway 407. As part of the Preferred Plan, roadway modifications will be made within the highway rights-of-way to accommodate the six lane configuration on Regional Road 25. Consultation with the Ministry of Transportation and 407 ETR was conducted throughout the study to inform the development of the Preferred Plan. This consultation is documented in Chapter 6.

Commitments to Future Work

- All proposed modifications within the highway rights-of-way are subject to review and approval by the Ministry of Transportation and 407 ETR. Further consultation to be conducted during detailed design.
- All signage within the highway rights-of-way including the carpool lot will be reviewed and confirmed during detailed design.
- Encroachment Permits are required for all proposed infrastructure improvements within the highway rights-of-way at the QEW and Highway 407 interchanges.
- 407 ETR has requested an Agreement for all improvements to the Highway 407 interchange.
- During detailed design, MTO will be consulted regarding the development of the construction staging and traffic management plan for work within MTO jurisdiction.
- Implementation of a potential future Transit Priority Corridor within the ministry's rights-of-way require coordination, review and approval from the Ministry.

8.8 Utilities

Impacts and Mitigation Measures

Existing utilities in the Regional Road 25 MCEA study area will be impacted by the Preferred Plan. Consultation with utility providers was conducted throughout the study to inform the development of the Preferred Plan. This consultation is documented in Chapter 6. Project specific input for consideration during detailed design and construction was provided by TransCanada PipeLines Limited and TransNorthern Pipelines and is included in the Consultation Record in Appendix G.

Commitments to Future Work

- Confirm location and resulting impacts to existing utilities and future services during detailed design.
- Consult with individual utility companies and finalize relocation requirements during detailed design.

8.9 Permits and Approvals

The following approval requirements will be reviewed and addressed during detailed design:

- *Ontario Heritage Act* requirements for archeological clearance
- Permits and Approvals from the Ministry of Transportation as they relate to the limits of the Ministry's Controlled Access Highway area (further discussed in Section 8.7)
- An Environmental Activity Sector Registration (EASR) from the Ministry of the Environment and Parks will be required for water takings exceeding 50,000L/day for the purposes of construction site dewatering.
- A permit from Conservation Halton will be required for any work within the regulated areas. The natural hazards that are regulated across the proposed alignment and are subject to Permit requirements include both flood plain, meander belt and slope erosion hazards and wetlands.
- Completing the Department of Fisheries and Oceans Self Assessment process to determine if Departments of Fisheries and Ocean's review under the *Fisheries Act* is required to obtain *Fisheries Act* Authorization, as applicable.
- A permit under the *Species at Risk Act* is not expected to be required unless federal level concerns remain that cannot be addressed by the Department of Fisheries and Oceans or the Ministry of the Environment, Conservation and

Parks. The need for a permit under the *Species at Risk Act* will be reviewed during detailed design.

- As of March 30, 2026, the Province of Ontario replaced the *Endangered Species Act* with the *Species Conservation Act*. The *Species Conservation Act* and its regulations will be reviewed during detailed design in relation to the proposed work on Regional Road 25 to confirm the requirements for permitting and registration of activities.
- If property is required from Infrastructure Ontario/Ontario Parks, a Public Works application to acquire the provincial land would be required, in consultation with Infrastructure Ontario and Ontario Parks. The need for a Public Works application will be reviewed and confirmed in detailed design.
- If property is required from Infrastructure Ontario/Ontario Parks, a provincial park boundary amendment process would occur in advance of disposition to remove the subject area from park. In the event that the boundary amendment is not completed prior to disposition, any work on/occupation of the subject lands would need to be authorized by Ontario Parks under the *Provincial Parks and Conservation Reserves Act, 2006*.



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