Halton Premier Gateway 2B Wastewater Servicing

Natural Environment Assessment Report

August 28, 2024

Prepared for:

Halton REGION

RVA | ECOLOGICAL SERVICES
Innovative solutions for complex challenges

Halton Premier Gateway 2B Wastewater Servicing

Natural Environment Assessment Report

DRAFT

Halton Region

RVA 236814

August 28, 2024

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1.0 Project Overview

R.V. Anderson Associates Limited (RVA) was retained by the Regional Municipality of Halton (Halton Region) to complete a Schedule B Municipal Class Environmental Assessment (EA) for wastewater servicing for the Premier Gateway Employment Area (PGEA) and surrounding areas east of the Highway 413 Corridor Protection Zone (CPZ) along Steeles Avenue (the Project). When implemented, this will include the design and construction of a new wastewater pumping station and linear infrastructure to service the PGEA. This Natural Environment Assessment Report has been prepared to guide the Project in regard to relevant local natural environment considerations.

This report summarizes the results of the background review, field investigations, Species at Risk (SAR) screening, and highlights areas of sensitive or significant natural heritage value, as well as invasive species, that should be considered during the facility expansion and concludes with recommendations to eliminate or reduce the potential impacts of the Project on the identified natural environment components.

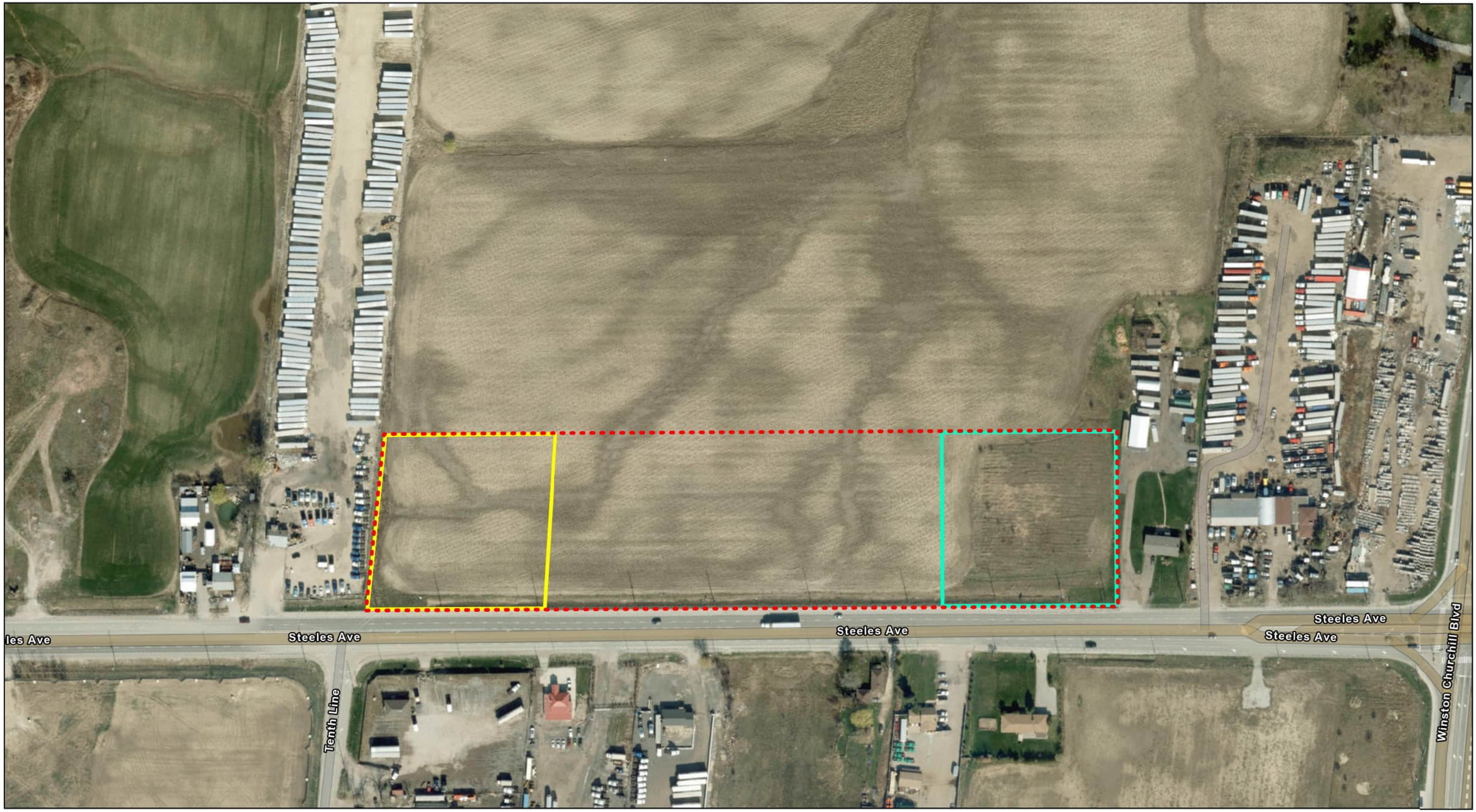
1.1 Study Area

The Study Area is north of Steeles Avenue near the intersections of Highway 407 and Highway 410, in the corridor planned for the future Highway 413, within the Town of Halton Hills (Map 1). The Study Area is approximately 4.6 ha in size/area and is comprised of privately owned lands that are primarily in agricultural land use at the present time. The broader Study Area is divided into two sections, Location 2 and Location 3, that are being considered in this report.

1.2 Project Scope

The objectives of this Natural Environment Assessment Report include:

- Identify natural heritage features and functions in the Study Area and perform a SAR screening;
- Identify and review applicable environmental legislation, municipal planning policies, and natural heritage considerations relevant to the Study Area; and
- Provide a preliminary assessment of the proposed Project impacts to the identified natural heritage features, determine operational constraints and outline applicable mitigation measures for consideration in detailed design.



Halton Premier Gateway Phase 2B Wastewater Servicing Strategy
Feasibility Study
The Regional Municipality of Halton

Environmental Management Plan

Map 1: Study Area Overview

0 30 60 90 120 m

Scale: 1:2,000

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Legend

Study Area | Location 2 | Location 3

Data Source: Esri Community Maps Contributors, Province of Ontario, Esri Canada, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, NRCan, Parks Canada, Peel Region, Town of Oakville, Maxar, RVA

2.0 Background Review

A desktop review was completed to identify natural environment components that are found within and adjacent to the Study Areas (Map 2).

2.1 Background Review Sources

The preliminary desktop review included an examination of publicly available information, related to geological and natural environment components within the Study Area, and included public databases, published reports, and agency consultation. The information reviewed is listed in Table 2.1. Additionally, we initiated correspondence with the Ministry of Natural Resources and Forestry (MNRF), the Natural Heritage Information Center (NHIC), and Credit Valley Conservation (CVC) to solicit additional natural heritage information from their records. As of the authoring of this report, only MNRF had responded to our requests and had no additional information to provide.

Table 2.1 – Summary of Information Sources

Source	Data Reviewed
Region of Halton	› Halton Region Official Plan (2006, 2022 consolidation)
Town of Halton Hills	› Town of Halton Hills Official Plan (2006; 2024 office consolidation)
Ministry of Natural Resources and Forestry (MNRF)	› Aurora-Midhurst-Owen Sound Office Information Request Letter › Natural Heritage Information Centre (NHIC) database Land Information Ontario (LIO) Mapping (Government of Ontario 2023)
Fisheries and Oceans Canada (DFO)	› DFO Aquatic SAR Mapping (2024)
Ministry of Agriculture, Food and Rural Affairs (OMAFRA)	› AgMaps Mapping (Government of Ontario 2023a)
Other Publicly Available Data	› Ontario Breeding Bird Atlas (Birds Canada 2018) › iNaturalist (screened to include Research Grade and Threatened species up to 2023) › Ontario Reptile and Amphibian Atlas (Ontario Nature, 2020) › Ontario Moth Atlas (Kaposi *et al.* 2023) › Ontario Butterfly Atlas (MacNaughton *et al.* 2023)

les Ave
Steeles Ave
Steeles Ave
Steeles Ave
Steeles Ave
Tenth Line
Winston Churchill Blvd

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Map 2: Natural Heritage Features Overview

0 30 60 90 120 m
Scale: 1:2,000

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Legend
- Study Area
- Location 2
- Location 3
- Watercourse
- CVC Regulation Limit

2.2 Select Legislative Review

Based on the location and nature of the Project, there are several applicable environmental acts and regulations in place to protect components of the biotic environment.

2.2.1 Federal Legislation

Fisheries Act

The *Fisheries Act* (Government of Canada 1985) is administered by Fisheries and Oceans Canada (DFO) and provides a framework for the proper management and control of fisheries as well as the conservation and protection of fish and fish habitat, including the prevention of pollution. Section 34.4 of the *Fisheries Act* prohibits any work, undertaking or activity (other than fishing) that results in the death of fish; Section 35.1 prohibits the harmful alteration, disruption, or destruction of fish habitat (HADD); and Section 36 prohibits the deposition of deleterious substances. The *Fisheries Act* requires that projects avoid causing death of fish or HADD of fish habitat unless authorized by DFO or a designated representative.

Migratory Birds Convention Act

The *Migratory Birds Convention Act* (MBCA, Government of Canada 1994) is enforced through the Migratory Birds Regulations administered by Environment and Climate Change Canada. Together the MBCA and Migratory Birds Regulations serve to protect most migratory birds, their nests, and eggs anywhere they are found in Canada.

2.2.2 Provincial Legislation

Provincial Policy Statement

The Provincial Policy Statement (PPS, Ministry of Municipal Affairs and Housing (MMAH) 2020) sets the policy direction for regulating development and land use planning in the province. Both provincial and local land-use planning decisions build on the PPS and its relevant policies. This report deals specifically with the policies contained in Part V, Section 2.1 (Natural Heritage) of the PPS which is directed at protection and management of natural heritage systems and features. A natural heritage system is defined by the Province of Ontario as:

A system made up of natural heritage features and areas, and linkages intended to provide connectivity (at the regional or site level) and support natural processes which are necessary to maintain biological and geological diversity, natural functions, viable

populations of indigenous species and ecosystems. These systems can include natural heritage features and areas, federal and provincial parks and conservation reserves, other natural heritage features, lands that have been restored or have the potential to be restored to a natural state, areas that support hydrologic functions and working landscapes that enable ecological functions to continue. (MMAH 2020).

Natural heritage features of significance are described in the Natural Heritage Reference Manual (OMNR, 2010) and include:

- significant wetlands;
- significant coastal wetlands;
- other coastal wetlands in Ecoregions 5E, 6E and 7E;
- fish habitat;
- significant woodlands;
- significant valleylands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Marys River);
- habitat of endangered and threatened species;
- significant wildlife habitat; and
- significant areas of natural and scientific interest (ANSIs).

Development and site alteration is not permitted in:

- significant wetlands in Ecoregions 5E, 6E and 7E and significant coastal wetlands;
- significant wetlands in the Canadian Shield north of Ecoregions 5E, 6E and 7E, significant woodlands and significant valleylands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Marys River), significant wildlife habitat, significant ANSIs, and coastal wetlands in Ecoregions 5E, 6E and 7E that are not subject to policy 2.1.4(b), unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions; and
- fish habitat or habitat of endangered and threatened species except in accordance with provincial and federal requirements.

Endangered Species Act

On provincially regulated lands in Ontario, SAR and their habitats are protected under the *Endangered Species Act* (ESA, Government of Ontario 2007) which is administered by the Ministry of Environment, Conservation and Parks (MECP). Section 9(1) of the ESA prohibits the impacts to individuals of protected species, while Section 10(1) prohibits damaging or destroying their habitat which varies across species. The ESA does include provisions for permits under Section 17(2)(c) that would otherwise contravene the Act. Projects that

propose impacts to SAR or their habitat require correspondence with MECP and may require a permit or other process (e.g., registration) to proceed without contravening the Act.

Fish and Wildlife Conservation Act

The *Fish and Wildlife Conservation Act* (Government of Ontario 1997) sets policies and regulations concerning the use of fish and wildlife resources in Ontario, including fishing and hunting, trapping, wildlife in captivity and the sale and purchase of wildlife and/or parts. This legislation also applies to persons handling wildlife for the purposes of salvage/relocation.

Invasive Species Act

Invasive species are an emerging concern, both due to their negative impacts to ecosystems as well as land use and infrastructure. In Ontario, the *Invasive Species Act* (ISA, Government of Ontario 2015) sets out rules to prevent and control the spread of invasive species. The ISA recognizes two classes of invasive species: prohibited and restricted. In the case of restricted invasive species, it is illegal to import, deposit, release, breed/grow, buy, sell, lease or trade restricted invasive species. Prohibited species have the same restrictions, but it is also illegal to possess or transport these species.

Conservation Authorities Act

The *Conservation Authorities Act* was significantly modified on April 1, 2024 with subsequent changes occurring on June 6, 2024. In the revised Act, Section 28(1) prohibits a number of activities from occurring within the jurisdiction of an authority. Generally, these are activities that interfere with watercourses, valleys, shorelines, hazardous lands, wetlands, and similar, and regulated under the new Ontario Regulation (O. Reg.) 41/24 Prohibited Activities, Exemptions and Permits. The Study Area is located within the Credit Valley Conservation Authority (CVC) watershed but does not contain sections that are regulated under O. Reg. 41/24.

2.2.3 Municipal Legislation

Regional Municipality of Halton Official Plan

Land use within the Study Area on a broad scale is guided by the Halton Region Official Plan (2006; 2024 office consolidation). The Study Area and surrounding lands are designated as an Urban Area and Employment Area (Map 1, Map 1C, and Map 1G, 2022)

Town of Halton Hills Official Plan

Land use within the Study Area is guided at a local level by the Town of Halton Hills Official Plan (2006; 2024 office consolidation) and is identified as Employment Areas and HPBATS/GTA West Corridor Area in Schedule A8 (Town of Halton Hills Official Plan 2006).

2.3 Summary of Background Information

Review of the information sources listed in Section 2.1 indicated that several SAR are found or are potentially found within the vicinity of the Study Area (Appendix A). The MNRF Make-a-Map: Natural Heritage Areas application did not identify any significant natural heritage features within the Study Area; however, Unevaluated Wetlands are identified adjacent to the Study Area, approximately 250 m to the northwest.

The Study Area is within the Credit Valley watershed but is not located within the regulation limit of the Credit Valley Conservation Authority (CVC) and is not subject to the policies under O. Reg. 41/24 Prohibited Activities, Exemptions and Permits (Government of Ontario 1990).

3.0 Field Review

Primary terrestrial field investigations were conducted within Location 2 during the 2023 field season including a single season floral inventory, Ecological Land Classification (ELC) community delineation, and incidental wildlife observations within the eastern third of the Study Area. Property owners were also consulted for additional anecdotal observations of wildlife and site history. Additional field observations, collected during field work for the concurrent Steeles Avenue sewer detailed design where the Study Areas overlapped (road right of way), has also been included in this report (Table 3.1).

Table 3.1 – Field Investigations Schedule

Survey Type	Date	Weather	RVA Staff
Single-season site review; ELC; Incidental Wildlife Observations	June 29, 2023	Sunny, clear, light breeze	Zachary Anderson and Paul Mikoda
Single-season site review; ELC; Incidental Wildlife Observations	May 30, 2024	Sunny, clear, light breeze	Henrique Pacheco and Paul Mikoda

4.0 Existing Conditions

4.1 Designated Natural Areas

Through background review, no provincially or locally designated reserves or Areas of Natural or Scientific Interest (ANSI) were identified in the Study Area. No key natural heritage system features are identified within the Study Area (Regional Municipality of Halton 2006, Map 1G, 2022; Town of Halton Hills, 2006, Appendix X1A, 2024).

4.2 Vegetation and Vegetation Communities

Floral inventory and ELC community surveys were completed for the Study Area over the two field visits. The field visits were timed to correspond with late spring/early summer inventory windows to identify as many plant species as possible and to be present during the breeding bird window. ELC was completed as per Lee *et al.* (1998).

Vegetation surveys were restricted to within the eastern third of the Study Area (2023), road right of way (2024), and adjacent areas where permission to enter (PTE) was provided. Areas exhibiting variation in floral or topographical composition, such as ditches or vegetation clumps, were reviewed in further detail. Species not readily identifiable in the field were sampled and identified later utilizing Michigan Flora Online (Reznicek *et al.* 2011). Vegetation communities identified within the Study Area are described in Table 4.1 and are shown on Map 3.

Table 4.1 – Halton Premier Gateway Vegetation Communities

ELC Code	ELC Vegetation Community	Description
CUM1	Mineral Cultural Meadow Ecosite	Meadow and grassland communities that have a history of anthropogenic influence. Non-native floral species are often the most dominant vegetation form.

The Study Area is in a landscape that is primarily rural agricultural land use transitioning to industrial, interspersed with residential properties. The dominant vegetation community within the Study Area is classified as Mineral Cultural Meadow (CUM1) associated with a section of fallowed former agricultural field in the eastern section of the Study Area (Location 2), as well as vegetation within the road right of way. This community is dominated by common pioneering native and non-native forb and grass species in the ground layer with occasional shrubs and small trees. Remaining land within the Study Area

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Map 3: Vegetation Communities Overview

0 30 60 90 120 m
Scale: 1:2,000

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Legend
Study Area | Location 2 | Location 3

Data Source: Esri Community Maps Contributors, Province of Ontario, Esri Canada, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA, NRCan, Parks Canada, Peel Region, Town of Oakville, Maxar, Microsoft, RVA

is predominantly actively cultivated agricultural field, maintained turf grass or built environment (i.e., buildings, driveways, etc.).

Floral inventory across the two field visits recorded a total of 65 species within the Study Area, presented in Appendix B. Floral species recorded included some that are considered invasive, including Common Reed (*Phragmites australis ssp. australis*), a restricted species listed on the *Invasive Species Act* (2015). No populations of any floral SAR were identified.

4.3 Wildlife and Wildlife Habitats

During field investigations in 2023 and 2024, all terrestrial wildlife observed, including calls and signs, were recorded. Due to the limited natural/successional habitats near the Study Area, it is anticipated that wildlife species expected in the area are limited to those that tolerate humans and cultural landscapes. Birds recorded have been assumed to be residents/breeding. Table 4.2 lists all wildlife species identified during field investigations.

Table 4.2 – Incidental Terrestrial Wildlife

Common Name	Scientific Name	Provincial Status (S Rank) *
Birds		
American Goldfinch	*Carduelis tristis*	S5B,SZN
Red-winged Blackbird	*Agelaius phoeniceus*	S5B,SZN
Song Sparrow	*Melospiza melodia*	S5B,SZN
Tree Swallow	*Tachycineta bicolor*	S5B,SZN

** S Rank: S5 – Secure, S4 – Apparently secure, S3 – Vulnerable, S2 – Imperiled, S1 – Critically imperiled, SNA – Non-native*

4.3.1 Significant Wildlife Habitat

Significant Wildlife Habitat (SWH) was assessed based on the collection of targeted and incidental field data and comparisons to thresholds set out in the Significant Wildlife Habitat Criteria Schedule for Ecoregion 7E (OMNR 2015), a significant component of which is the ELC communities described earlier. SWH are areas or features that are rare or provide important habitat functions and are subsequently protected through the Natural Heritage section (2.1) of the PPS; (OMMAH 2020). In many cases, to complete a full suite of evaluations for every potential SWH would be extremely arduous and time consuming, so in many cases professional opinion and experience is utilized to screen potential SWH. As this Project is infrastructure supported by the Municipal Class EA process, its implementation is not considered development as defined by the PPS and Section 2.1 does not apply. However, SWH is being discussed regardless given the importance of these features.

During site visits within the Study Area, incidental wildlife was recorded in conjunction with floral inventories and vegetation community classification as described above. Specific habitats for wildlife were also surveyed for and investigated, including medium to large mammal burrows (often on slopes), recently disturbed soils, potential cover objects, or other anomalous or unique features or habitat within the Study Area including large dead or decaying (wildlife) trees.

A single vegetation community, CUM1, with potential to support SWH was delineated within the Study Area. Based on the SWH Criteria Schedule for Ecoregion 7E, Candidate SWH that could occur within this vegetation community includes Waterfowl Stopover and Staging Areas, Raptor Wintering Area, Colonial Nesting Bird Breeding Habitat (Bank and Cliff), Colonial Nesting Bird Breeding Habitat (Ground), Migratory Butterfly Stopover Areas, Marsh Breeding Bird and Open Country Bird Breeding Habitat and Terrestrial Crayfish Habitat. Additional habitats that do not have an ELC community criteria are Special Concern and Rare Wildlife Species habitat as well as Reptile Hibernaculum.

The defining criteria for Waterfowl Stopover and Staging Areas includes use of the site by an aggregation of 100 or more waterfowl during the spring season, and may include agricultural fields with waste grain that experience shallow flooding. Though our visit was not conducted in the correct season, it is unlikely the small meadow habitat and the surrounding agricultural fields would support this habitat, and this habitat use did not appear in background review, which is expected as these types of habitats are often well-known amongst naturalists. The Mineral Cultural Meadow community habitat does not meet the area threshold, either in whole or as part of a habitat mosaic, for Raptor Wintering Area, Migratory Butterfly Stopover Area, or Open Country Bird Breeding Habitat. Though surveys

were completed during the breeding bird season, no bird species identified in the Marsh Breeding Bird or Colonial Nesting Bird breeding Habitat (Bank and Cliff or Ground) criteria were recorded. No candidate habitats for Reptile Hibernacula (earthen voids, rock cairns, burrows, etc) or reptiles were observed during site visits. During field work in 2023, larval and adult Monarch (*Danaus plexippus,* Special Concern) were observed within Location 2 in association with Common Milkweed (*Asclepias syriaca*), one of the obligate host plants for the species. As a result, Location 2 contains confirmed SWH in the form of habitat of Special Concern species.

Mineral Cultural Meadow is not a rare community, and no other natural or successional vegetation communities, nor any additional candidate or confirmed point-source areas of wildlife concentration/specialized habitats observed during site investigations. Targeted surveys for snag and cavity trees (i.e., in leaf-off conditions) were not included in the scope of the Project, as there are no healthy or dead/decaying trees of sufficient size within the Study Area that may provide SWH for bat maternity colonies or habitat for at-risk bats.

4.4 Fish and Fish Habitat

The Study Area falls within the Mullet Creek subwatershed of the Credit River watershed (Credit Valley Conservation 2024). The Study Area is effectively within the headwaters of this subwatershed that drains to the east, and then southeast approximately 13 km until it reaches its confluence with the Credit River just south of Burnhamthorpe Road West. The Study Area is drained to the north via drainage swales visible in aerial imagery. These features drain to a permanent watercourse outside of the Study Area that flows northeast, through agricultural lands before crossing under Winston Churchill Boulevard. One of these ephemeral drainage features initiates within and flows through Location 3. As the swales within the Study Area are regularly cultivated through with no permanent riparian vegetation unlike the permanent watercourse they connect to, it is assumed that these features are ephemeral, only flowing during following periods of precipitation or snow melt. As such, and for the purposes of the Project, no fish habitat is considered within the Study Area.

4.5 Species at Risk

Provincially protected SAR can be found throughout Ontario in both documented and undocumented populations and are protected through the ESA administered by the MECP. According to the sources reviewed in Table 2.1, a variety of floral and faunal species of provincial interest have been recorded within or in the vicinity of the Study Area. These species and their habitat are generally found in more natural landscapes; however, some listed species have adapted to anthropogenic habitats. Additionally, the province has not

been surveyed extensively and novel individuals and populations can be located during site-specific surveys.

A full list of SAR identified in the background sources with potential to be found in the Study Area is presented in Appendix A. The field studies described above were compared to the known habitat preferences and general locations of SAR to determine the potential that these species or their habitat could occur in the Study Area. No SAR individuals nor suitable habitat were identified during the completed field investigations within the Study Area. Property owners immediately adjacent to the eastern boundary of the Study Area (Location 2) noted regular presence of male Bobolink (*Dolichonyx oryzivorus,* Threatened) within the Mineral Cultural Meadow habitat in early spring, but not during the remainder of the season. The meadow habitat is much smaller than that typically utilized by the species for breeding and the species was not observed during field investigations. It is our opinion that Bobolink are likely using this habitat as a migratory stopover area or are attempting to establish breeding territories early in the season but move on when unsuccessful.

4.6 Natural Heritage and Significant Habitat Summary

4.6.1 Confirmed Habitat within the Study Area

Significant Wildlife Habitat (SWH) for Special Concern species was confirmed within the Study Area (Location 2) during field investigations in 2023.

4.6.2 Candidate Habitat within the Study Area

Based on desktop and field investigations, assessment criteria and land use history, there are no candidate significant wildlife habitats with potential to occur within the Study Area.

5.0 Summary of Proposed Project

The proposed Project involves the design and construction of a wastewater pumping station to service the Premier Gateway Employment Area (PGEA) and surrounding areas east of the Highway 413 Corridor Protection Zone (CPZ) along Steeles Avenue.

6.0 Impact Assessment and Environmental Protection

The following sections discuss the potential impacts associated with the Project on the identified natural heritage components with recommendations to avoid, and/or operational constraints and measures to mitigate these impacts.

6.1 Vegetation

Potential direct impacts to terrestrial vegetation as a component of the Project include complete or partial removal to support construction, laydown areas and equipment access, grading activities, and any required surveying. The only vegetation community within the Study Area, a Mineral Cultural Meadow, is predominately located within Location 2, but spans the frontage of Steeles Ave within the right of way through to Location 3 (Map 3). The presence of Monarch (Special Concern) larva on milkweed within Location 2 makes this the most ecologically sensitive of the two Locations, though Common Milkweed is a weedy, commonly encountered species, and the remainder of the Study Area contains either agricultural row crops or pioneering native and exotic plant species, including European Common Reed, noted earlier, which is present within the ditch/right of way within the Study Area. As a component of construction, efforts should be made to restrict the spread this species to avoid contravention of the ISA (2015). In general, the following measures are recommended to reduce impacts from vegetation removal required to support the Project:

- To prevent incidental impacts to nesting birds, (including at-risk and rare species) bat maternity colonies, and Monarch larva, clearing of vegetation should be restricted to outside of the migratory bird nesting, bat maternity, and Monarch rearing seasons, conservatively April 1 through September 30.
- Areas of restricted invasive species that are within or abut grading/construction limits should be controlled prior to construction using current methods, including herbicide application and/or cutting to control the plant prior to construction to reduce the potential for movement of viable plant parts. To accomplish wholesale removal, a pre-construction contract may be required to ensure sufficient management time ahead of construction. Any soils excavated in the vicinity of regulated invasive plants that require removal should be disposed of at an appropriate local facility (e.g. specialized landfill, specialized composter). Reference Ontario Invasive Plant Council Best Management Practices for full details (https://www.ontarioinvasiveplants.ca/resources/best-management-practices)
- Contractors should employ Clean Equipment Protocols to prevent movement of exotic invasive species to and throughout the Project area (Halloran *et al.* 2013).
- Should Location 2 be chosen as the preferred alternative, milkweed species suitable for manicured landscapes, such as Butterfly Milkweed (*Asclepias tuberosa*), or preferentially Swamp Milkweed (*Asclepias incarnata*), should be planted as a part of landscaping associated with the pump station to restore rearing habitat for

Monarch. Pairing these plants with late blooming nectar sources, such as asters and goldenrods would also provide further support to Monarchs and other pollinators.

6.2 Excavation, Grading, Filling, and Industrial Equipment

Implementation of the Project is expected to require excavation and stockpiling of soils, deposition of aggregate, pouring of concrete, grading and filling and related construction activities. These activities create exposed soils and other materials (granular, loose asphalt) and can alter slopes and grades, that can in turn affect drainage patterns. Consequently, there is potential for materials and/or sediment to be released into the environment and watercourses/waterbodies or as dust to both terrestrial and aquatic environments. Dust on vegetation can reduce plant productivity through reduction in metabolic processes and both dust and concrete can adversely affect aquatic environments. Additionally, the industrial equipment used to accomplish these activities has the potential to release deleterious substances such as oil, fuel or grease that could seep into groundwater or be conveyed into nearby aquatic environments. Equipment can also incidentally compact soils, negatively affecting existing and future vegetation, and kill or injure wildlife. The following measures are recommended to reduce impacts to natural features from excavation and grading:

- In general, grading, vegetation clearing, and other activities that expose loose soil should be, as practical, scheduled in such a way that limits the area and length of time soils are vulnerable to erosion.
- Topsoils from natural vegetation communities should be stockpiled separately and re-used in post-construction efforts.
- Excavation impacts will be mitigated by the erosion and sediment controls (ESCs) implemented during construction, such silt fence/fibre rolls surrounding areas of exposed soils and stockpiles to slow water velocities and allow settling of suspended sediments.
- All excess materials generated by excavation will be stockpiled, handled, and disposed of in a manner that prevents entry into adjacent natural features.
- All stockpiled material will be maintained at an angle of 70 degrees or less to deter use of the material by Bank Swallows, a protected bird species.
- Maintain all machinery on site in a clean condition and free of fluid leaks.
- Wash, refuel and service machinery and store fuel and other materials for the machinery in such a way as to prevent any deleterious substances from entering nearby drainage features.

- A Spill Response and Action Plan should be prepared by the contractor in advance of work that describes actions to be taken in the event of a spill, and a spill kit containing appropriate absorbent materials will be always kept on site to be used in the event deleterious materials are released into drainage features or roadside drains.
- Design and implement ESCs to contain/isolate the construction zone, manage site drainage and prevent erosion of exposed soils and migration of sediment to adjacent drainage features during all phases of the Project.
- Concrete washout areas, as required during construction, should be clearly marked and located/managed so residue does not enter proximal drainage features.
- Use biodegradable ESC materials, to be specified in the contract drawings, and remove any non-biodegradable ESC materials once site is stabilized.
- To avoid potential impacts to wildlife through entanglement, all ESC measures, including erosion control blankets, fibre rolls, and sediment fence should be 'netless', meaning they do not contain nylon or other fine, open-weave synthetic mesh/netting components.
- All ESC measures should be inspected regularly by a qualified professional and maintained to ensure they are functioning as intended throughout the construction period and until such time that disturbed areas have stabilized.

6.3 Wildlife and Wildlife Habitat

Wildlife and habitats identified during site visits were typical of rural and suburban areas of southern Ontario. Potential impacts to wildlife and their habitats during construction can occur through direct injury and habitat loss as well as indirect impacts such as avoidance of areas of active construction due to vibration and noise and light pollution, resulting in modification to established daily movement patterns. This disruption will be temporary, and it is anticipated that local wildlife is accustomed to a moderate amount of human disturbances.

Most of Canada's birds are protected under the MBCA. Vegetation clearing has the potential to impact breeding birds through disturbance of actively nesting individuals and destruction of nests, eggs and young. Additionally, dead/dying, or injured trees within the Study Area may provide habitat for at-risk bats and their active-season maternity colonies. There is limited candidate habitat for SAR bats is present within the Study Area, as there are only a few individual trees within the Study Area. Lastly, Monarch (Special Concern,) has

been recorded reproducing within the Study Area, associated with milkweed plants in the eastern part of the Study Area.

Construction activities required to implement the wastewater pumping station and related linear infrastructure will impact terrestrial wildlife habitats and have the potential to impact individuals. The following measures are recommended to reduce these impacts:

- To prevent incidental impacts to nesting birds, (including at-risk and rare species) bat maternity colonies and Monarch larva, clearing of vegetation should be restricted to outside of the migratory bird nesting, bat maternity and Monarch rearing seasons, conservatively April 1 through September 30. If vegetation clearing must occur within this window, a qualified ecological professional should be retained to confirm no birds or bats are incidentally harmed by vegetation removals.
- ESC (e.g., silt fencing) should be designed and installed to provide the added function of wildlife barrier fencing as needed.

7.0 Conclusions

This Natural Environment Assessment Report documents the existing conditions within the Halton Premier Gateway 2B Study Area, supported by desktop and field studies completed in 2023 and 2024. These studies included a single season review for rare and at-risk species, vegetation community classification as well as wildlife habitat assessment, and incidental wildlife observations. Following analysis of the data, it was determined that natural environment features within the Study Area are limited to suitable rearing habitat for Monarch (Common Milkweed), as well as habitat for wildlife species tolerant of human-modified landscapes and which utilize these habitats to carry out their life cycles.

The proposed Project will have minor impacts on the environment components within the Study Area; however, the overall function of the larger system is not expected to be significantly impacted as a result. Vegetation and habitats to be lost are anthropogenic and provide habitats for common species tolerant of human activities. These habitats are present throughout the surrounding landscape beyond the project area. Loss of SWH for Monarch (Special Concern) will also occur.

Appropriate mitigation measures will be incorporated into the construction contract including ESCs, contractor education, and appropriate timing of activities to avoid impacts to birds and bats should serve to further reduce impacts to the natural heritage system. Loss of Monarch habitat can be mitigated through landscaping with appropriate host plants

(*Asclepias sp*.) and other flowers which produce nectar throughout the year. No other impacts to the environment are anticipated as a result of the proposed Project.

8.0 References

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APPENDIX A

Species At Risk Background Review

Table 1: Rare and At-Risk Species Potentially Present in the Vicinity of the Study Area

Common Name	Scientific Name	S Rank	ESA/SARA Status	Source*	Last Observed (Year)
FLORA					
-	-	-	-	-	-
FUNGI AND LICHENS					
-	-	-	-	-	-
BIRDS					
Red-headed Woodpecker	*Melanerpes erythrocephalus*	S3/G5	END/END	OBBA	2005
Bobolink	*Dolichonyx oryzivorus*	S4B/G5	THR/THR	OBBA	2005
Eastern Meadowlark	*Sturnella magna*	S4B/G5	THR/THR	OBBA	2005
Chimney Swift	*Chaetura pelagica*	S3B/ G4G5	THR/THR	OBBA	2005
Barn Swallow	*Hirundo rustica*	S4B/G5	SC/SC	OBBA	2005
Eastern Wood-pewee	*Contopus virens*	S4B/G5	SC/SC	OBBA	2005
Wood Thrush	*Hylocichla mustelina*	S4B/G4	SC/THR	OBBA	2005
REPTILES AND AMPHIBIANS					
Snapping Turtle	*Chelydra serpentina*	S4/G5	SC/SC	ORAA	2019
INVERTEBRATES (excludes mussels)					
Monarch	*Danaus plexippus*	S2N,S4B/ G4	SC/SC	OBA	2022
FISH AND MUSSELS					
-	-	-	-	-	-

*Source Abbreviations:
INAT – iNaturalist.ca (filtered for Research Grade and Threatened)
NHIC – Natural Heritage Information Center
ORAA – Ontario Reptile and Amphibian Atlas (Ontario Nature)
OBA – Ontario Butterfly Atlas (Toronto Entomological Society)
OBBA – Ontario Breeding Bird Atlas (Birds Canada)

APPENDIX B

Floral Inventory

Halton Premier Gateway Study Area Floral Inventory			
Scientific Name	**Common Name**	**SARO**	**SRank**
Agrostis stolonifera	Creeping Bentgrass		SE5
Alliaria petiolata	Garlic Mustard		SE5
Ambrosia artemisiifolia	Common Ragweed		S5
Asclepias syriaca	Common Milkweed		S5
Brassica rapa	Field Mustard		SE5
Bromus inermis	Smooth Brome		SE5
Campanula rapunculoides	Creeping Bellflower		SE5
Carex cephalophora	Oval-headed Sedge		S5
Carex vulpinoidea	Fox Sedge		S5
Cerastium fontanum	Common Mouse-ear Chickweed		SE5
Chenopodium album	Common Lamb's-quarters		SE5
Cichorium intybus	Wild Chicory		SE5
Circaea canadensis	Broad-leaved Enchanter's Nightshade		S5
Cirsium vulgare	Bull Thistle		SE5
Clematis virginiana	Virginia Clematis		S5
Convolvulus arvensis	Field Bindweed		SE5
Cornus obliqua	Silky Dogwood		S5
Cornus sericea	Red-osier Dogwood		S5
Daucus carota	Wild Carrot		SE5
Dipsacus fullonum	Common Teasel		SE5
Elaeagnus angustifolia	Russian Olive		SE3
Elymus repens	Quackgrass		SE5
Equisetum arvense	Field Horsetail		S5
Erigeron annuus	Annual Fleabane		S5
Festuca rubra	Red Fescue		S5
Fraxinus pennsylvanica	Red Ash		S4
Glechoma hederacea	Ground-ivy		SE5
Hemerocallis fulva	Orange Daylily		SE5
Hypericum perforatum	Common St. John's-wort		SE5
Inula helenium	Elecampane		SE5
Juncus tenuis	Path Rush		S5
Leucanthemum vulgare	Oxeye Daisy		SE5
Lolium arundinaceum	Tall Ryegrass		SE5
Lotus corniculatus	Garden Bird's-foot Trefoil		SE5
Lycopus europaeus	European Water-horehound		SE5
Lythrum salicaria	Purple Loosestrife		SE5
Muhlenbergia mexicana	Mexican Muhly		S5
Oenothera biennis	Common Evening-primrose		S5
Phalaris arundinacea	Reed Canarygrass		S5
Phleum pratense	Common Timothy		SE5
Phragmites australis ssp. australis	European Reed		SE5
Poa pratensis	Kentucky Bluegrass		S5
Populus alba	White Poplar		SE5

Halton Premier Gateway Study Area Floral Inventory			
Scientific Name	**Common Name**	**SARO**	**SRank**
Populus deltoides	Eastern Cottonwood		S5
Potentilla recta	Sulphur Cinquefoil		SE5
Prunus virginiana	Chokecherry		S5
Quercus rubra	Northern Red Oak		S5
Ranunculus acris	Common Buttercup		SE5
Rhamnus cathartica	European Buckthorn		SE5
Rumex crispus	Curled Dock		SE5
Solanum dulcamara	Bittersweet Nightshade		SE5
Solidago altissima	Tall Goldenrod		S5
Sonchus arvensis	Field Sow-thistle		SE5
Sonchus asper	Prickly Sow-thistle		SE5
Symphyotrichum ericoides	White Heath Aster		S5
Symphyotrichum lanceolatum	Panicled Aster		S5
Symphyotrichum novae-angliae	New England Aster		S5
Symphyotrichum pilosum	Old Field Aster		S5
Taraxacum officinale	Common Dandelion		SE5
Trifolium pratense	Red Clover		SE5
Trifolium repens	White Clover		SE5
Tripleurospermum inodorum	Scentless Chamomile		SE
Typha angustifolia	Narrow-leaved Cattail		SE5
Vicia cracca	Tufted Vetch		SE5
Vitis riparia	Riverbank Grape		S5