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Appendix C

Natural Environment Report



NATURAL SCIENCES REPORT

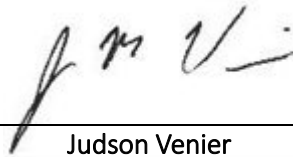


ReNew Golden Mile: Reconfigured & New Major Streets Environmental Assessment (EA)

Prepared for HDR Inc.

RENEW GOLDEN MILE: RECONFIGURED & NEW MAJOR STREETS ENVIRONMENTAL ASSESSMENT (EA) Natural Sciences Report

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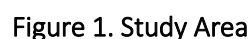
APPENDIX A: Photographic Record Of Watercourse Crossing

APPENDIX B: Vascular Plant List

APPENDIX C: Acronyms And Definitions Used In Species Lists

LGL Limited has been retained by HDR Inc. to carry out natural heritage investigations and environmental assessment for the Golden Mile Area Street Network Environmental Assessment (EA) study. This Natural Sciences Report presents the results of data collection, analysis, and field investigations by the project team. The purpose of this report is to identify existing environmental conditions within the project area for vegetation and vegetation communities (including designated natural areas), wildlife and wildlife habitat, and species at risk (SAR), including areas and/or features of environmental sensitivity and/or significance. This information is used as a baseline for the refinement of preliminary design, the prediction of condition changes/environmental effects and the identification of environmental protection and mitigation measures (including avoidance and compensation), and monitoring requirements. This report includes a description of the preliminary design components and outlines an impact assessment and mitigation.

The area subject to natural investigations for this Natural Sciences Report are located within the Golden Mile Secondary Plan Area as defined by HDR. The general study area is in Toronto, Ontario and is north and south of Eglinton Avenue East. The Secondary Plan Area is generally bounded by Victoria Park Avenue to the west, Ashtonbee Road/Hydro Corridor to the north, Birchmount Road to the east, and an irregular boundary to the south. The general study area is presented in **Figure 1**.



The specific study area includes five road corridors, including their rights-of-way and immediately adjacent lands. Transportation improvements include:

- O'Connor Drive to Birchmount Road alignment and reconfiguration;
- Golden Mile Boulevard (a new east-west public street) from Victoria Park Avenue to Birchmount Road;
- Craigton Drive preferred alignment, widening, and reconfiguration;
- Thermos Road and Sinnott Road intersection design; and,
- Jonesville Crescent/Craigton Drive/Ashtonabee Road from Eglinton Avenue to Birchmount Road functional coordination.

3 Existing Conditions

This section describes the existing conditions in the study area related to natural heritage, including physiography, bedrock and surficial geology and soils; fish and fish habitat: vegetation and vegetation communities; wildlife and wildlife habitat; and, designated natural areas.

3.1 Aquatic Habitats and Communities

3.1.1 Purpose

A secondary source investigation and field surveys were carried out to characterize fisheries and aquatic ecosystems within the study area.

3.1.2 Data Sources

LGL conducted a secondary source review to identify the fish community within each watercourse. The secondary source review included a species at risk screening through Fisheries and Oceans Canada (DFO) Aquatic Species at Risk Mapping, as well as the 'Make a Map' feature of the Natural Heritage Information Centre (NHIC) of the Ontario Ministry of Natural Resources (MNR) website. Additionally, LGL reviewed several reports related to fish habitat and communities including:

- Don River Watershed Plan Aquatic System - Report on Current Conditions (TRCA 2009); and,
- Don River Watershed Plan Fluvial Geomorphology - Report on Current Conditions (TRCA 2009).

A LGL fisheries biologist conducted a fish habitat assessment at Taylor Massey Creek on August 3, 2022, to observe and document existing aquatic habitat conditions. The small area of Wilson Brook, a tributary of the East Don River, that is regulated by the Toronto and Region Conservation Authority (TRCA) was investigated only at a reconnaissance level from the road right-of-way of Jonesville Crescent as no work in this area is proposed and the open channel (present on the upstream (north) side of Eglinton Avenue only) is approximately 200 m away. As such, it is not discussed in the section below. The fish habitat in Taylor Massey Creek was assessed approximately 50 m upstream to 100 m downstream of the crossing, where access was permitted. Physical habitat features were surveyed in sufficient detail to enable mapping and identification of key habitat types. The physical habitat attributes assessed included: (a) instream cover, (b) bank stability, (c) substrate characteristics, (d) stream dimensions, (e) barriers, (f) stream morphology, (g) terrain characteristics, (h) stream canopy cover, (i) stream gradient, (j) aquatic vegetation, (k) ground water seepage areas, and (l) general comments. **Figure 2** presents the location of the watercourses identified within this section of the study area. An aquatic habitat summary is presented below which describes

existing conditions at each of the watercourse crossings. Representative photographs of the crossings were also taken during investigations and are provided in **Appendix A**.

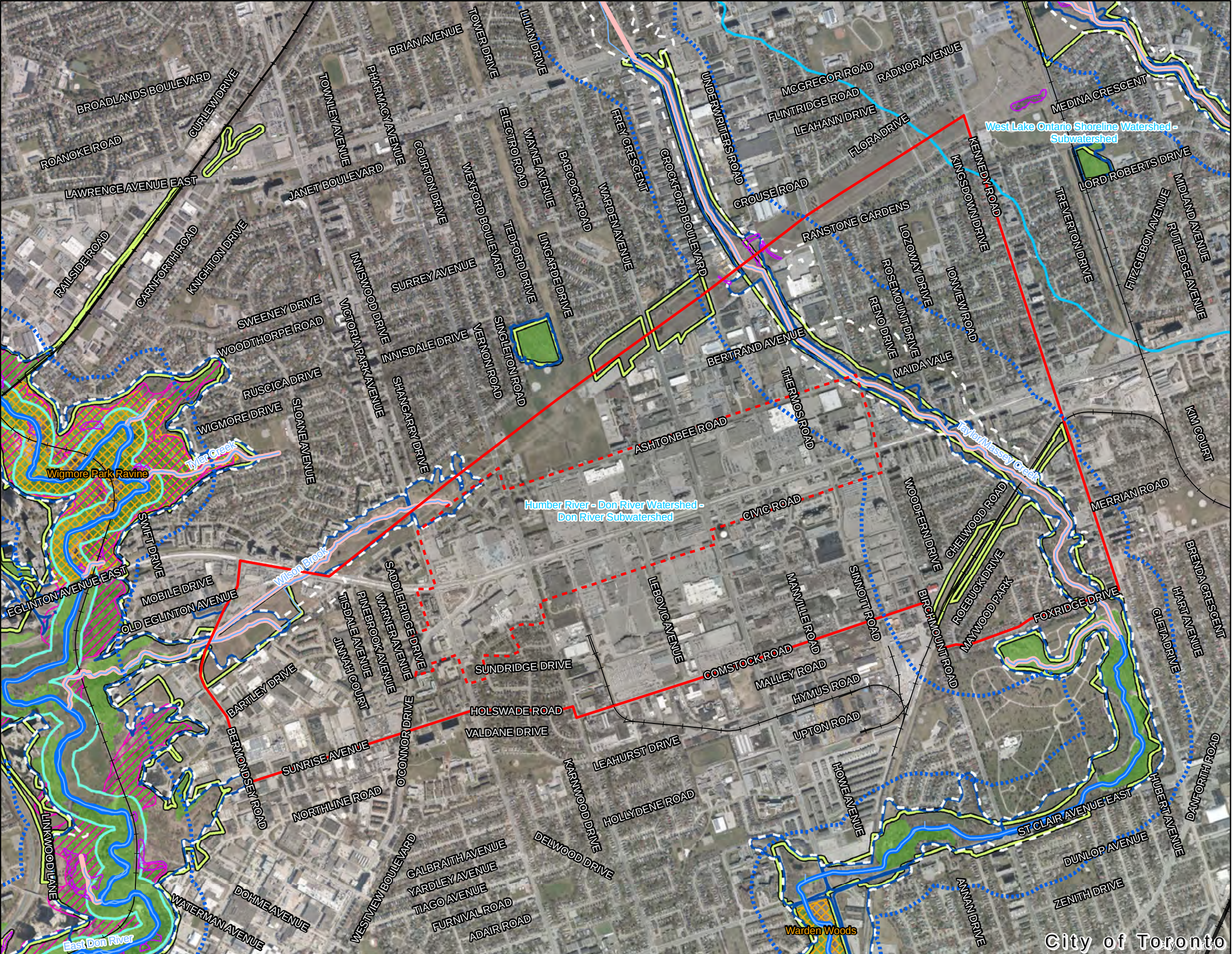
3.1.3 Findings

The study area is located within the Don River watershed and the Lower East Don (Wilson Brook) and the Taylor Massey Creek subwatersheds. As stated above, Wilson Brook was not investigated as it lies beyond the area of influence of the project. The following discussion relates to Taylor Massey Creek. The Don River watershed is under the jurisdiction of the TRCA and the MNR Aurora District.

Upstream of the crossing the watercourse is comprised of a flat, approximately 2.5 m wide channel completely lined with interlocking concrete blocks. These blocks are not solid, but have openings that form a porous surface. The channel is bordered by nearly vertical, 1 m high concrete walls. Above the walls, the steeply sloped valley walls are lined with rip rap 1.5 m to 2.0 m wide that has both woody and non-woody vegetation growing within. Above the rip rap, the ground is more natural and vegetation growth of woody and non-woody vegetation is denser. The channel is well shaded. The entire riparian corridor is straight and approximately 18 m to 20 m wide. Flow appears to be permanent and water depth was approximately 3 cm to 5 cm and approximately 2.5 m wide (from concrete wall to concrete wall) at the time of the survey. Bankfull depth is approximately 1.5 m and bankfull width approximately 9.0 m indicating extreme flashiness of flows. There is no substrate, but the spaces in the concrete blocks are filled with silt, the blocks themselves are covered with filamentous algae and there are a few piles of rip rap from the bank slopes further upstream from the crossing. The concrete block channel ends approximately 10 m upstream of the crossing and enters a pool that reaches approximately 9 m in width. The pool is comprised of high (4+ m) concrete wingwalls that funnel water into two large, corrugated steel pipe (CSP) culverts with a large concrete bullnose to deflect debris between them. Both large and small pipes outlet through the wingwalls into the pool. The depth is approximately 40 cm and substrates are comprised of sand and boulders, potentially overlaying concrete, but this could not be confirmed. Large piles of rip rap and sand/gravel have accumulated at the entrances to the culverts such that only narrow wetted channels along the wingwalls enter them. The culverts are 70 m long and contain sand, gravel, cobble substrates and a wetted width of 1.0 m to 1.25 m in each. Water depth through the culverts is approximately 3 cm to 5 cm.

Downstream of the crossing, the water from the culverts emerges into a wide (~10 m), shallow (5 cm to 10 cm) riffle area of sand, gravel, cobble, and boulders situated between vertical banks comprised of gabion baskets. The gabions narrow and then end approximately 20 m downstream at which point sloped (45°) concrete banks begin forming a trapezoidal channel. The channel is narrower here than upstream (wetted width approximately 4 m) and continues at the same width for at least 400 m downstream to Eglinton Avenue. Water depth is approximately 20 cm. Morphologically, it is a single continuous flat. Bankfull width increases to approximately 15 m and bankfull depth to 2 m. The steeply sloped riparian area is approximately 24 m wide and well-vegetated (and well shaded) with woody and non-woody, deciduous species. Substrates are comprised of silt, sand, gravel, and boulders.

The water throughout the channel was “grey” in colour, indicating small particulates associated with storm water run-off. It also emitted a slight, foul-smelling odour. The culverts form a partial barrier during low flow periods and the upstream channel, due to its shallow sheet flow, does as well. No fish were observed, and this area is likely indirect fish habitat only.



LEGEND

- Railway
- Watercourse - Cold Thermal Regime
- Watercourse - Warm Thermal Regime
- Golden Mile Secondary Plan Boundary
- Study Area
- Natural Heritage Area (City of Toronto)
- Environmentally Significant Area (City of Toronto)
- Ravine and Natural Features Protection Bylaw (City of Toronto)
- Growth Plan for the Greater Golden Horseshoe
- Urban River Valley Designation - Greenbelt Plan
- Floodplain (TRCA)
- Regulation Limit (TRCA)
- Subwatershed Boundary
- Wetland Not Evaluated per OWES
- Waterbody
- Wooded Area

Data Sources: City of Toronto, Toronto and Region Conservation Authority (TRCA) & Ministry of Natural Resources and Forestry (LIO). Produced by LGL Limited under Licence with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2021. Contains information licenced under the Open Government Licence - Ontario.

0 170 340 510 680 m

N

GOLDEN MILE EA
NATURAL HERITAGE



Project: TA9207	Figure: 2
Date: May, 2022	Prepared By: JJP
Scale: 1 : 16,500	Checked By: CJA

3.1.4 Species at Risk

A review of the MNR NHIC database and DFO Species at Risk mapping indicate that there are no aquatic species at risk within or in proximity to the study area.

3.2 Vegetation and Vegetation Communities

3.2.1 Purpose

The geographical extent, composition, structure and function of vegetation communities were identified through air photo interpretation and field investigations. Air photos were interpreted to determine the limits and characteristics of vegetation communities.

3.2.2 Data Sources

LGL conducted a secondary source review to identify vegetation and vegetation communities found within the study area. The information related to terrestrial habitat features was obtained from the following published and non-published sources:

- Ministry of Natural Resources. 2005. Natural Heritage Reference Manual. Ontario. Second Edition;
- Lee, H., W. Bakowsky, J. Riley, J. Bowles, M. Puddister, P. Uhlig, and S. McMurray. 1998. Ecological Land Classification for Southern Ontario: First Approximation and Its Application. Natural Heritage Information Centre;
- Ontario Ministry of Natural Resources. 2022a. Land Information Ontario Thematic Data;
- Ontario Ministry of Natural Resources. 2022b. Natural Heritage Information Centre. Make a Map: Natural Heritage Areas. Accessed May/June 2022, Ontario Ministry of Natural Resources. Peterborough, Ontario; and,
- Oldham, M.J. 2009. Natural Heritage Resources of Ontario: Rare Vascular Plants. Natural Heritage Information Centre, Ontario Ministry of Natural Resources, Peterborough, Ontario;

Field investigations of the vegetation communities within the study area were conducted on August 2 and 9, 2022. These investigations were carried out to ground truth the boundaries of the vegetation communities and to conduct botanical surveys. Field investigations were focused within and directly adjacent to the Golden Mile Secondary Plan Boundary, to the extent possible.

The vegetation communities were classified according to the *Ecological Land Classification for Southern Ontario: First Approximation and Its Application* (Lee *et al.* 1998), to the extent possible. Walking surveys were undertaken collecting species presence and species density information. A plant list and a description of the general structure of vegetation communities were obtained during the field investigation. Observations recorded included habitat inclusions where these were too small to delineate and noted habitat disturbances. Plant species status was reviewed for Ontario (Oldham 2009), and the Toronto and Region Conservation Authority. Vascular plant nomenclature follows Newmaster *et al.* (1998) with a few exceptions that have been updated to Newmaster *et al.* (2005).

3.2.3 Findings

Vegetation communities identified within the study area consist of cultural communities including cultural meadow and thicket (CUM1-1 and CUT1-1), areas where regular or past disturbances have occurred. Overall, the cultural vegetation communities delineated were observed to be in a generally disturbed state with a high proportion of invasive and/or non-native species. Within the eastern cultural meadow community (CUM1-1), there was evidence of restoration efforts, as many native meadow species such as Canada wild rye (*Elymus canadensis*), evening primrose (*Oenothera biennis*), and black-eyed susan (*Rudbeckia hirta*) were establishing among the expected non-native old field meadow species.

Maintained and/or retained areas including manicured areas (M) comprised a large portion of the study area. These include areas that are regularly mown with amenity trees planted or retained, and are associated with residential and commercial development, roadsides, and park land. Manicured areas consist of areas of grass dominated habitat and planted amenity trees, which includes a wide range of deciduous and coniferous trees and shrubs including European larch (*Larix decidua*), honey locust (*Gleditsia tricanthos* var. *inermis*), sugar maple (*Acer saccharum*), little leaf linden (*Tilia cordata*), Austrian pine (*Pinus nigra*), and blue spruce (*Picea pungens*).

One meadow marsh community (MAM2-2) was associated with water crossings where these are bisected by existing roads within the study area. This community is dominated common reed (*Phragmites australis*) and features emergent species such as Manitoba maple (*Acer negundo*), common buckthorn (*Rhamnus cathartica*), and staghorn sumac (*Rhus hirta*).

Forest communities (FOD) found within the study area are typically small, forested areas, surrounded by urban hardscape and/or cultural vegetation communities. Several of these communities are located within the TRCA Regulation Limit and include FOD7a, FOD7b, and FOD4b. These include vegetation communities associated with the Wilson Brook and Taylor Massey Creek. Many of these forest communities contain a high proportion of invasive and/or non-native species including Manitoba maple (*Acer negundo*), Norway maple (*Acer platanoides*), common buckthorn, and dog-strangling vine (*Cynanchum rossicum*). Some forest communities within the study area have evidence of cultural influence and maintenance through tree and shrub planting. These communities include FOD3-1/CUT1-1 and FOD4a and are generally smaller in area, with defined boundaries. These communities feature species such as silver maple (*Acer saccharinum*), common hackberry (*Celtis occidentalis*), trembling aspen (*Populus tremuloides*), Norway maple, and white birch (*Betula papyrifera*).

Overall, the vegetation communities identified within the study area are considered widespread and common in Ontario and are secure globally. The vegetation communities identified during LGL's botanical investigations are delineated in **Figure 3** and are described in **Table 1**. There are areas identified within the study area that are not defined by the ELC, Manicured (M), these areas include mown lawns, gardens and planted trees.

TABLE 1. SUMMARY OF ECOLOGICAL LAND CLASSIFICATION COMMUNITIES

ELC Code	Vegetation Type	Species Association	Comments
Terrestrial-Natural/Semi-Natural			
FOD	DECIDUOUS FOREST		
FOD3-1 / CUT1-1	Dry-Fresh Poplar Deciduous Forest / Sumac Cultural Thicket	Canopy: includes trembling aspen (<i>Populus tremuloides</i>), Eastern cottonwood (<i>Populus deltoides</i>), silver maple (<i>Acer saccharinum</i>), white elm (<i>Ulmus americana</i>) Understorey: includes staghorn sumac (<i>Rhus hirta</i>), white spruce (<i>Picea glauca</i>), grey dogwood (<i>Cornus racemosa</i>), Ground Cover: staghorn sumac, garlic mustard (<i>Alliaria petiolata</i>), dog-strangling vine (<i>Cynanchum rossicum</i>), smooth brome (<i>Bromus inermis</i>)	• Tree cover >60% (FO). • Deciduous trees >75% of canopy cover (D). • Upper or middle slope or tableland (3) • Trembling aspen, largetooth aspen dominant separately or in mixture (-1)
FOD4a	Dry-Fresh Deciduous Forest	Canopy: includes silver maple, common hackberry (<i>Celtis occidentalis</i>), Norway maple (<i>Acer platanoides</i>), white birch (<i>Betula papyrifera</i>) Understorey: includes white spruce, Norway maple, common buckthorn (<i>Rhamnus cathartica</i>) Ground Cover: includes dog-strangling vine	• Tree cover >60% (FO). • Deciduous trees >75% of canopy cover (D). • Upper or middle slope or tableland, tree species associations that are uncommon or as a result of disturbance or management (4)
FOD4b	Dry-Fresh Exotic Deciduous Forest	Canopy: includes Norway maple, dead green ash (<i>Fraxinus pennsylvanica</i>), Manitoba maple (<i>Acer negundo</i>), apple (<i>Malus</i> sp.) Understorey: includes green ash, apple, Manitoba maple, common buckthorn Ground Cover: Dog-strangling vine, garlic mustard, chokecherry (<i>Prunus virginiana</i>)	• Tree cover >60% (FO). • Deciduous trees >75% of canopy cover (D). • Upper or middle slope or tableland, tree species associations that are uncommon or as a result of disturbance or management (4)
FOD7a	Fresh-Moist Lowland Deciduous Forest	Canopy: includes Manitoba maple, willows (<i>Salix</i> spp.), white elm, white mulberry (<i>Morus alba</i>), Norway maple Understorey: includes green ash, common buckthorn Ground Cover: Dog-strangling vine, garlic mustard, lesser burdock (<i>Arctium minus</i>), Canada goldenrod (<i>Solidago canadensis</i>)	• Tree cover >60% (FO). • Deciduous trees >75% of canopy cover (D). • White elm, willows, black walnut, basswood and ashes dominate separately or in variable mixtures (7).
FOD7b	Fresh-Moist Lowland Deciduous Forest	Canopy: includes Manitoba maple, black walnut (<i>Juglans nigra</i>), willows (<i>Salix</i> spp.)	• Tree cover >60% (FO). • Deciduous trees >75% of canopy cover (D).

TABLE 1. SUMMARY OF ECOLOGICAL LAND CLASSIFICATION COMMUNITIES			
ELC Code	Vegetation Type	Species Association	Comments
		Understorey: Manitoba maple, riverbank grape (<i>Vitis riparia</i>), black walnut, common buckthorn Ground Cover: Canada goldenrod, lesser burdock, Canada thistle, reed canary grass (<i>Phalaris arundinacea</i>)	• White elm, willows, black walnut, basswood and ashes dominate separately or in variable mixtures (7).
Terrestrial-Cultural			
CUM	CULTURAL MEADOW		
CUM1-1	Dry – Moist Old Field Meadow	Emergent: includes white mulberry, Manitoba maple, Russian olive (<i>Elaeagnus angustifolia</i>), black walnut Ground Cover: includes wild carrot (<i>Daucus carota</i>), Canada wild rye (<i>Elymus canadensis</i>), smooth brome, field bindweed (<i>Convolvulus arvensis</i>), evening primrose (<i>Oenothera biennis</i>).	• Cultural community (CU). • Tree cover and shrub cover < 25% (M). • Mineral soil (1). • This community can occur on a wide range of soil moisture regimes (Dry-Moist) (-1).
CUT	CULTURAL THICKET		
CUT1-1	Sumac Cultural Thicket	Emergent: includes Manitoba maple, black walnut, willows, tree-of-heaven (<i>Ailanthus altissima</i>) Understorey: dominated by staghorn sumac, with honeysuckles (<i>Lonicera</i> spp.), common buckthorn, riverbank grape, red-osier dogwood (<i>Cornus sericea</i>) Ground Cover: includes dog-strangling vine, Canada goldenrod, Canada thistle, bird's foot trefoil (<i>Lotus corniculatus</i>)	• Cultural community (CU). • Tree cover <25%; shrub cover >25% (T). • Mineral soil (1). • Sumac is dominant (-1).
Wetland			
MAM	MEADOW MARSH		
MAM2	Phragmites Mineral Meadow Marsh	Emergent: includes staghorn sumac, silver maple, Manitoba maple, black elderberry (<i>Sambucus nigra</i>), common buckthorn Ground Cover: dominated by phragmites (<i>Phragmites australis</i>), with Canada goldenrod, reed-canary grass, cattails (<i>Typha</i> spp.).	• Tree or shrub cover <25% (MA). • Flooding seasonal, species less tolerant of prolonged flooding (M). • Mineral soil (2).
OTHER*	MANICURED AND HEDGEROW		
M	Manicured grasses and planted shrubs and/or trees	Canopy: includes Norway maple, silver maple, European larch (<i>Larix decidua</i>), honey locust (<i>Gleditsia tricanthos</i> var. <i>inermis</i>), sugar maple (<i>Acer saccharum</i>), little leaf linden (<i>Tilia cordata</i>), Austrian pine (<i>Pinus nigra</i>), blue spruce (<i>Picea pungens</i>)	• Areas where large expanses of grass/shrubs/trees are maintained/retained and/or planted

TABLE 1. SUMMARY OF ECOLOGICAL LAND CLASSIFICATION COMMUNITIES			
ELC Code	Vegetation Type	Species Association	Comments
		Ground Cover: includes bluegrasses (<i>Poa spp.</i>), broadleaf plantain (<i>Plantago major</i>), bird's foot trefoil, common dandelion (<i>Taraxicum officinale</i>), lamb's quarters (<i>Chenopodium album</i>)	

*Codes not defined by ELC.

Flora

A total of 80 plant species were recorded within the study area. Six of these plants could only be identified to genus and are not included in the following calculations. Of the 74 plants identified to species, 34 (46%) species identified are native to Ontario and 40 (54%) species are considered introduced and non-native to Ontario. A list of vascular plants is presented in **Appendix B**.

3.2.4 Species at Risk

The project area has been screened for potential plant SAR. Prior to field investigations in August 2022, secondary source data from the MNR Natural Heritage Information Centre (NHIC) was reviewed to screen for the presence or absence of plant SAR within the project area. One SAR identified within the vicinity of the project area includes Butternut (*Juglans cinerea*). Butternut is listed as 'Endangered' under the Ontario *Endangered Species Act* (ESA) and the federal *Species at Risk Act* (SARA).

Fieldwork effort included screening for the presence of butternut within the identified NHIC 1km x 1km grid locations up to 50m past the project limits of disturbance. **Table 2.** below outlines the historical occurrence of butternut within and surrounding the study area (Ontario Ministry of Natural Resources and Forestry, 2022b). Field investigations found no butternut trees existing within the bounds of the study area.

Table 2. NHIC Butternut Locations (NHIC 1km x 1km Grid)

Object ID	NHIC 1km grid	Scientific name	Common name
610335	1028885	<i>Juglans cinerea</i>	Butternut

(MNRF, 2022c)

Kentucky Coffeetree

Kentucky coffee tree (*Gymnocladus dioica*), a tree species regulated as Threatened under the Ontario Endangered Species Act (2007), was observed within the study area during Arborist investigations. Thirty-two instances of Kentucky coffee tree were observed as planted streetscape and amenity trees. Consultation with Ministry of Environment, Conservation and Parks (MECP) Management Biologists have advised that streetscape Kentucky coffee-trees within the city of Toronto are likely to be cultivars, and do not require Endangered Species Act authorizations. A summary of Kentucky coffee trees within the study area has been addressed within a separate report titled Golden Mile Area Street Network EA- Arborist Report.

Table 3 outlines plant species identified as Special Concern by the TRCA, and where these species were observed within the study area. White spruce (L3), ninebark (L3), sweet ox-eye (L2), and nodding wild rye

(L3) were observed as planted/seeded within their respective vegetation communities. All of these species are considered provincially secure (S4/S5). A description of provincial species rank is provided in **Appendix D**.

TABLE 2. SIGNIFICANT PLANT SPECIES IDENTIFIED WITHIN THE STUDY AREA					
Scientific Name	Common Name	Vegetation Community	Status		
			SRank	MNRF	TRCA
<i>Picea glauca</i>	white spruce	FOD3-1/CUT1-1, FOD4a	S5	-	L3
<i>Physocarpus opulifolius</i>	ninebark	FOD3-1/CUT1-1	S5	-	L3
<i>Heliopsis helianthoides</i>	sweet ox-eye (false sunflower)	CUM1-1	S5	-	L2
<i>Elymus canadensis</i>	nodding wild rye (Canada wild rye)	CUM1-1	S4S5	-	L3

3.2.4 Sensitivity/Significance

Due to the urban surroundings of the study area, it is anticipated that impacts to vegetation and vegetation communities, if any, will be minimal. As the study area has been subject to disturbance from existing road infrastructure and land use practices, and the extent of disturbance to areas of vegetation is limited in duration and extent, the impacts of the proposed road network improvements on the vegetation communities outlined in **Table 1** are not likely to be significant. However, efforts should be made to minimize the removal of vegetation, if any, within the identified Natural Heritage Areas, Ravine and Natural Features Protection areas, and TRCA Regulation limits displayed in **Figure 2**, to the extent possible.



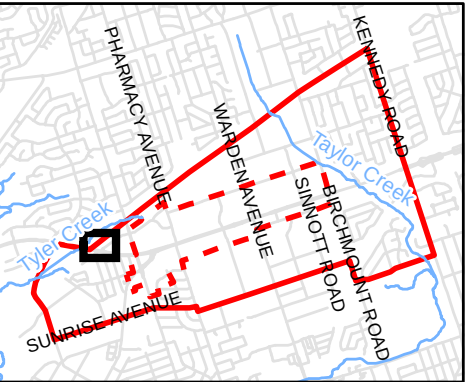
LEGEND

- Watercourse
- Golden Mile Secondary Plan Boundary
- Study Area

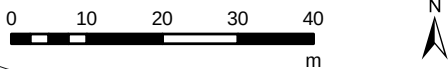
Vegetation Communities

- Vegetation Community Boundary (LGL)

- CUM1-1** Dry-Moist Old Field Meadow Type
- CUT1-1** Sumac Cultural Thicket Type
- FOD3-1** Dry Fresh Poplar Deciduous Forest Type
- FOD4a** Dry-Fresh Deciduous Forest Ecosite
- FOD4b** Dry-Fresh Exotic Deciduous Forest Ecosite
- FOD7(a,b)** Fresh-Moist Lowland Deciduous Forest Ecosite
- M** Manicured
- MAM2** Mineral Meadow Marsh Ecosite



Data Sources: LGL Limited field surveys, City of Toronto & Ministry of Natural Resources and Forestry (MNR). Contains information licenced under the Open Government Licence - Ontario.



GOLDEN MILE EA
EXISTING CONDITIONS

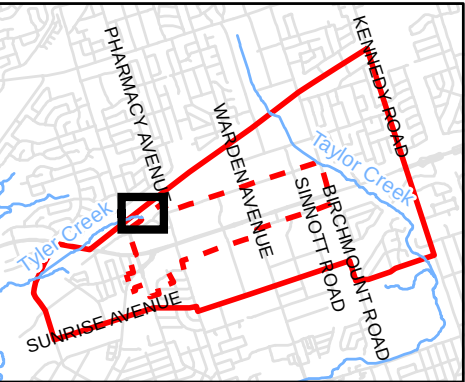


Project: TA9207	Figure: 3.1
Date: August, 2022	Prepared By: JJP
Scale: 1 : 1,000	Checked By: JPB



LEGEND

- Watercourse
- Golden Mile Secondary Plan Boundary
- Study Area
- Vegetation Communities**
- Vegetation Community Boundary (LGL)
- CUM1-1** Dry-Moist Old Field Meadow Type
- CUT1-1** Sumac Cultural Thicket Type
- FOD3-1** Dry Fresh Poplar Deciduous Forest Type
- FOD4a** Dry-Fresh Deciduous Forest Ecosite
- FOD4b** Dry-Fresh Exotic Deciduous Forest Ecosite
- FOD7(a,b)** Fresh-Moist Lowland Deciduous Forest Ecosite
- M** Manicured
- MAM2** Mineral Meadow Marsh Ecosite



Data Sources: LGL Limited field surveys, City of Toronto & Ministry of Natural Resources and Forestry (MNR). Contains information licenced under the Open Government Licence - Ontario.

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GOLDEN MILE EA
EXISTING CONDITIONS



Project: TA9207	Figure: 3.2
Date: August, 2022	Prepared By: JJP
Scale: 1 : 1,300	Checked By: JPB

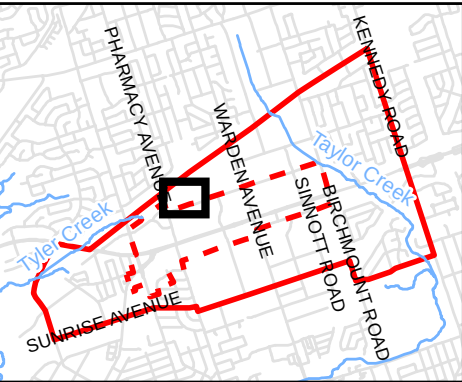


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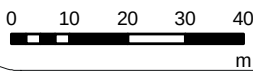
-  Watercourse
-  Golden Mile Secondary Plan Boundary
-  Study Area

- Vegetation Communities
-  Vegetation Community Boundary (LGL)

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GOLDEN MILE EA
EXISTING CONDITIONS



Project: TA9207	Figure: 3.3
Date: August, 2022	Prepared By: JJP
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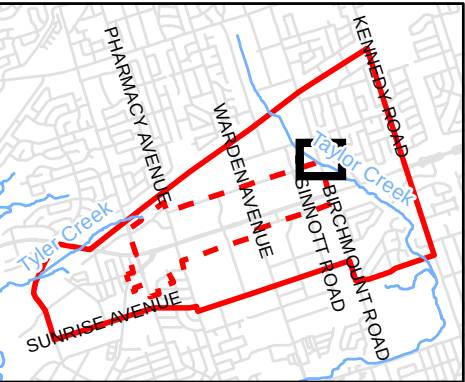


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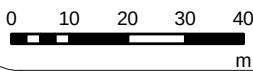
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GOLDEN MILE EA
EXISTING CONDITIONS



Project: TA9207	Figure: 3.4
Date: August, 2022	Prepared By: JJP
Scale: 1 : 1,300	Checked By: JPB

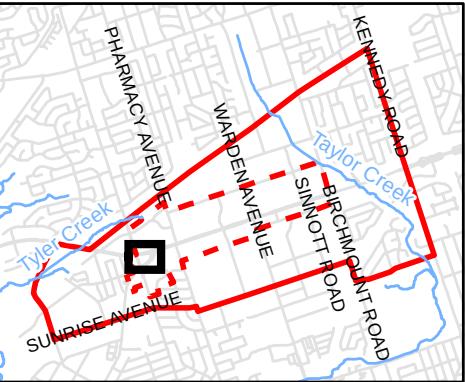


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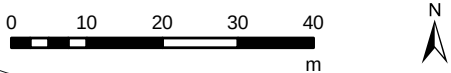
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GOLDEN MILE EA
EXISTING CONDITIONS



Project: TA9207	Figure: 3.5
Date: August, 2022	Prepared By: JJP
Scale: 1 : 1,000	Checked By: JPB

3.3 Wildlife and Wildlife Habitat

3.3.1 Purpose

A secondary source investigation and field surveys were carried out to characterize wildlife and wildlife habitat within the study area.

3.3.2 Data Sources

Information regarding wildlife and wildlife habitat within the study area was obtained through:

- The Natural Heritage Information Centre data available through *Make a Map* (MNRF 2022);
- Cadman, M.D., D.A. Sutherland, G.G. Beck, D. Lepage, and A.R. Couturier. Ontario Breeding Bird Atlas. 2001 – 2005. Bird Studies Canada, Environment Canada, Ontario Field Ornithologists, Ontario Ministry of Natural Resources, and Ontario Nature.
- Couturier, A. 1999. Conservation Priorities for the Birds of Southern Ontario. Bird Studies Canada;
- Ministry of Natural Resources and Forestry (MNRF). 2000. *Significant Wildlife Habitat Technical Guide*. Fish and Wildlife Branch – Wildlife Section; and,
- Dobbyn, J.S. 1994. *Atlas of the Mammals of Ontario*. Federation of Ontario Naturalists. Toronto.

Fieldwork was undertaken in August 2022 and consisted of pedestrian surveys for general wildlife only due to the highly urban nature of the study area.

3.3.3 Findings

Based on field observations, 15 wildlife species were identified as occurring in the study area. These observations came from identification through calls, songs, and visual sightings of individuals. A list of wildlife recorded within the study area during the LGL survey is presented in **Table 4**. This table also summarizes the status of each species according to federal (*Species At Risk Act*, *Migratory Birds Convention Act*) and provincial (*Endangered Species Act*, *Fish and Wildlife Conservation Act*) legislation.

3.3.1.1 Wildlife Habitat

Wildlife and wildlife habitat were found to be unevenly distributed within the study area. Much of the landscape within the study area is comprised of urban residential (buildings with manicured properties and planted trees) or commercial lands (parking lots, large buildings, etc.), which constitutes poor quality wildlife habitat. The hydro corridor along the north side of the study area and the narrow riparian corridor around Taylor Massey Creek comprise the only relatively large, contiguous stretches of habitat in the study area. There are no non-linear natural areas present and no wetlands or forests. The landscape within the study area provides habitats for species that utilize urban settings and are tolerant anthropogenic landscapes. In general, the natural heritage features located within the study area support a small, highly tolerant assemblage of wildlife species which are a mix of species tolerant of anthropogenic environments and human disturbance.

3.3.1.2 Fauna

As stated above, 15 species of wildlife were found to be occurring in the study area (Table 4). These wildlife species identified within the study area consist exclusively of species tolerant of human disturbance and anthropogenic influences.

3.3.1.3 Herpetofauna Species

No amphibians or reptiles were observed within the study area during LGL's field investigation. It is likely that none inhabit the study area as the quality of habitat to support these wildlife groups is very poor.

3.3.1.4 Bird Species

A total of 13 species of birds were observed in the study area during field investigations. Bird species were recorded across the study area; however, higher species diversity was noted along the northern boundary along the hydro corridor (north of Jonesville Crescent, Craigton Drive, and Ashtonbee Road). The study area contained a relatively modest number of bird species that are representative of urban habitat types. Breeding evidence was obtained for only one species, Cedar Waxwing (*Bombycilla cedrorum*), which were observed feeding fledged young on the downstream side of the Taylor Massey Creek crossing (there were many ripe mulberries at this location on which the birds were feeding). Most of the other species observed can be expected to breed within the scattered trees and on/in the buildings/structures present within the study area. Some species were only visiting the study area to forage as no breeding habitat is present. Several of the bird species identified within the study area are protected under the *Migratory Birds Convention Act* (MBCA; Table 4).

3.3.1.5 Mammal Species

Two mammal species were identified during field investigation in the study area. The mammal activity was found in all the residential area habitats located within the study area and in the Taylor Massey Creek riparian area. Eastern Gray Squirrel (*Sciurus carolinensis*), and Raccoon (*Procyon lotor*) are both species that commonly use human-influenced landscapes and could likely utilize much of the entire study area. Both mammal species identified within the study area are protected under *Fish and Wildlife Conservation Act* (FWCA; Table 4). Please note that no bats were observed during this study. However, bats can inhabit any treed area and precautionary mitigation measures for bats are included in **Section 6.1** below.

TABLE 4.
WILDLIFE SPECIES DOCUMENTED WITHIN THE STUDY AREA BY LGL

Wildlife	Scientific Name	Common Name	Species Status under Legislation			Source of Species Identification
			Canada SARA	Ontario ESA	Legal Status	LGL
Birds	<i>Branta canadensis</i>	Canada Goose	-	-	MBCA	*
	<i>Columba livia</i>	Rock Pigeon	-	-	-	*
	<i>Zenaida macroura</i>	Mourning Dove	-	-	MBCA	*
	<i>Chaetura pelagica</i>	Chimney Swift	THR	THR	MBCA	*
	<i>Larus delawarensis</i>	Ring-billed Gull	-	-	MBCA	*
	<i>Corvus brachyrhynchos</i>	American Crow			-	*
	<i>Turdus migratorius</i>	American Robin	-	-	MBCA	*
	<i>Sturnus vulgaris</i>	European Starling	-	-	-	*
	<i>Bombycilla cedrorum</i>	Cedar Waxwing	-	-	MBCA	*
	<i>Passer domesticus</i>	House Sparrow	-	-	-	*
	<i>Spinus tristis</i>	American Goldfinch	-	-	MBCA	*
	<i>Melospiza melodia</i>	Song Sparrow	-	-	MBCA	*
	<i>Cardinalis cardinalis</i>	Northern Cardinal	-	-	MBCA	*
Mammals	<i>Sciurus carolinensis</i>	Eastern Gray Squirrel	-	-	FWCA(G)	*
	<i>Procyon lotor</i>	Raccoon	-	-	FWCA(F)	*

Federal and Provincial Legislation:

SARA: *Species at Risk Act* (Federal) THR-threatened

ESA: *Endangered Species Act* (Ontario) THR-threatened

MBCA: *Migratory Birds Convention Act* (Federal)

FWCA: *Fish and Wildlife Conservation Act* (Ontario) G-Game; F-Furbearing

3.3.4 Species at Risk

Of the 15 species of wildlife recorded by LGL within the study area, one is regulated under the Ontario *Endangered Species Act, 2007* (ESA) and/or the Canada *Species at Risk Act* (SARA). Chimney Swift (*Chaetura pelagica*) is regulated as Threatened under the ESA and SARA and was observed flying over the neighbourhood north of Eglinton Avenue during the survey. This species historically nested on cliffs or tree cavities, but nests exclusively in urban areas within buildings, primarily in chimneys. Unless these birds are found nesting in natural areas, they are not protected. It is highly likely that the individuals observed during the survey had nested within buildings either within the study area or outside of it and use the skies above much of the city for foraging for insects.

3.4 Designated Natural Areas

There are no designated natural areas located within the study area. All designated natural areas within the vicinity of the study area are presented in **Figure 2**.

4 Project Description

The ReNew Golden Mile Environmental Assessment Study establishes the preferred alignments and designs of new and reconfigured streets to support the future development and growth as identified in the Golden Mile Transportation Master Plan and the Golden Mile Secondary Plan. The Study will complete Phases 3 and 4 of the EA process. The Study involved developing and evaluating alternative street alignments and designs for the following transportation infrastructure:

- A reconfiguration of O'Connor Drive, along with an extension to Birchmount Road
- A new east-west public street north of Eglinton Avenue East from Victoria Park Avenue to Birchmount Road ("Golden Mile Boulevard")
- A potential realignment, widening and reconfiguration of Craigton Drive to directly connect to Ashtonbee Road
- Reconfiguration of Thermos Road and Sinnott Road at the Eglinton Avenue East intersection

Additionally, other corridor improvements are recommended along Jonesville Crescent and Ashtonbee Road to Birchmount Road that do not require completion of Phases 3 and 4 of the Municipal Class Environmental Assessment.

5 Impact Assessment and Mitigation

A detailed assessment of the potential impacts on natural heritage and hydrological features within the study area was undertaken based on the proposed design. The sections below outline an assessment of the potential impacts to natural heritage features and provides the best management practices and approaches to minimize impacts to the natural heritage within the study area.

5.1 Erosion and Sediment Control

A site-specific Erosion and Sedimentation Control (ESC) Plan should be implemented prior to construction, maintained during construction, and removed after construction (once soils have stabilized). **Section 6** provides additional recommendations on erosion and sediment control within the study area.

5.2 Potential Impacts to Aquatic Habitats and Communities

The proposed works near the Taylor Massey Creek crossing will remain outside of the riparian area/valley (i.e., outside of the existing fence line) and, thus, direct effects to fish and fish habitat are unlikely to occur. The federal Fisheries Act protects fish and fish habitat through a determination of the potential for Harmful Alteration, Disruption or Destruction (HADD) to fish or fish habitat. A HADD is not expected to result from the project. However, changes to storm water drainage may have effects on water quality and quantity and, potentially, water temperature. These potential effects and their mitigation are discussed below.

The construction associated with the proposed project has the potential to alter water quality through on-site erosion of exposed materials and the subsequent impairment of the receiving watercourse water quality with sediments and other contaminants.

Changes to water quality will be mitigated through the isolation of the work areas behind deployed and maintained erosion and sediment controls, and the treatment of effluent from dewatering prior to its release. To improve storm water quality, runoff will be treated by OGS units installed prior to water outletting to watercourses/drainage features. Additional water quality treatment will be explored during detailed design. In addition, all exposed areas should be vegetated as quickly as possible once the work is completed.

In addition, increased road (and other impervious surfaces) areas can increase the quantity of storm water to the receiving watercourses/drainage features. Water directed into each catchment area should remain the same (or similar) to the current conditions. If water quantity to any catchment area is to increase, then quantity controls should be employed to slow releases to the receiving system(s) to ensure downstream erosion does not occur.

The implementation of these mitigation measures should eliminate potential changes to water quality and quantity to the receiving watercourses.

The thermal regime of a receiving waterbody/watercourse may be altered by storm water runoff or removal of riparian vegetation that shades the watercourse. In the summer, runoff can become superheated through contact with paved surfaces, which, when discharged to a receiving watercourse can result in thermal shock, thereby injuring or killing aquatic organisms. Coldwater or coolwater streams are usually considered more sensitive to changes in water temperature than warmwater streams.

It is expected that there will be no significant increase in temperature as a result of the proposed works as long as appropriate mitigation (see above) is implemented.

5.3 Potential Impacts to Vegetation and Vegetation Communities

Impacts to vegetation as a result of the proposed disturbance limits will result in the removal of manicured lands only. No naturalized vegetation will be removed as a result of the proposed works. The limits of disturbance are shown on **Figures 4.1-4.5** as the areas within the orange line depicting the proposed right-of-way, while the study area lines are shown in red (note no impacts outside of the orange line will occur). Overall, impacts resulting in the loss of vegetation within the manicured lands are considered to be minor.

5.4 Potential Impacts to Tree Resources

The potential impact to tree resources within the study area have been addressed in the Arborist Report available under separate cover (LGL Limited 2025). A total of 434 trees have been identified for removal, based on the disturbance limits of the proposed redevelopment of the area.

5.5 Potential Impacts to Wildlife and Wildlife Communities

Wildlife habitat may be affected through direct tree removals, as well as the temporary construction disturbance. Common effects of infrastructure projects often consist of displacement of wildlife and wildlife habitat; disturbance to wildlife from noise, light, and visual intrusion; displacement of rare, threatened, or endangered wildlife and significant wildlife habitat; and impacts to migratory birds. Due to the urban nature of the study area, lack of species at risk, and maintenance of urban features, impacts such as those above are expected to be minor or negligible in relation to the existing uses. However, there is the potential for migratory birds to nest within the study area on buildings or in trees scheduled for demolition and/or removal.

As identified above (Section 3.3.1.4; Table 4), numerous bird species listed under the *Migratory Birds Convention Act* (MBCA) were identified within the study area. The MBCA prohibits the killing, capturing, injuring, taking or disturbing of migratory birds (including eggs) or the damaging, destroying, removing or disturbing of nests. While migratory insectivorous and non-game birds are protected year-round, migratory game birds are only protected from March 10 to September 1. The study area lands fall within Environment Canada's Nesting Zone C2 (Nesting Period: end of March – end of August). Consequently, to comply with the requirements of the MBCA, it is recommended that disturbance, clearing, or disruption of vegetation where birds may be nesting should be completed outside the window of April 1 to August 31 to avoid the breeding bird season for most of the bird species protected under the act. If these activities must be undertaken from April 1 to August 31, a nest screening survey will be conducted by a qualified avian biologist. If an active nest is located, a mitigation plan shall be developed and provided to Environment Canada – Ontario Region for review prior to implementation.



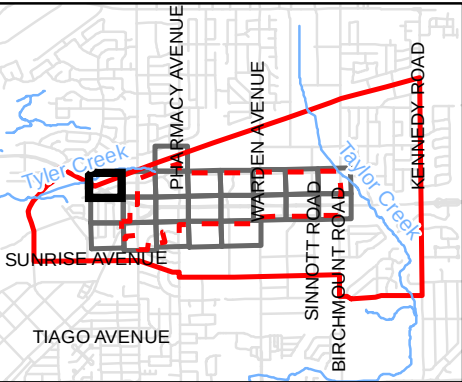
LEGEND

- Watercourse
- Golden Mile Secondary Plan Boundary
- Study Area
- Proposed Right-of-Way

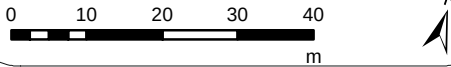
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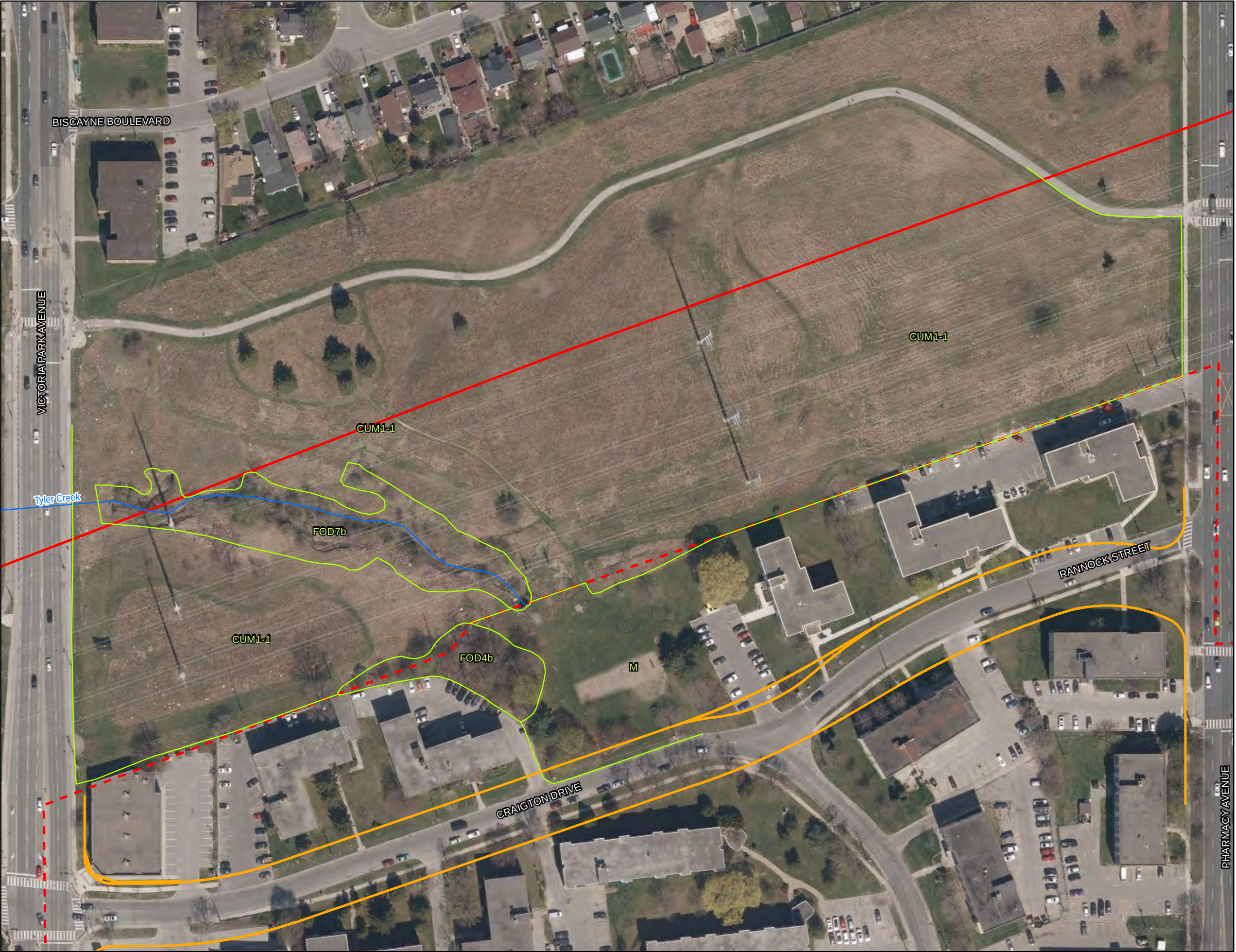
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GOLDEN MILE EA
IMPACT ASSESSMENT



Project: TA9207	Figure: 4.1
Date: January, 2025	Prepared By: VLG
Scale: 1 : 1,000	Checked By: JPB



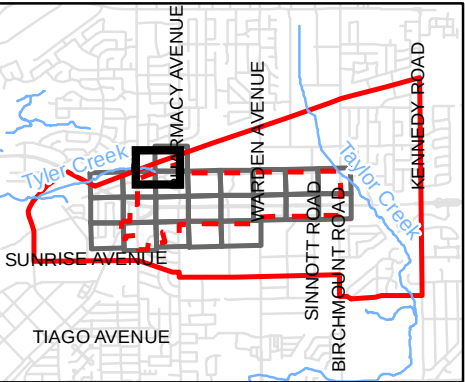
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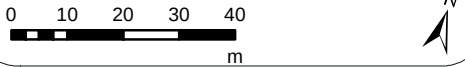
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Project: TA9207	Figure: 4.2
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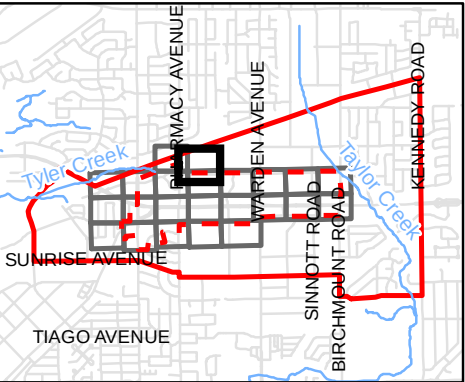


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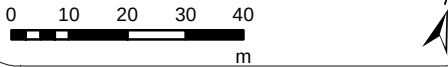
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GOLDEN MILE EA
IMPACT ASSESSMENT



Project: TA9207	Figure: 4.3
Date: January, 2025	Prepared By: VLG
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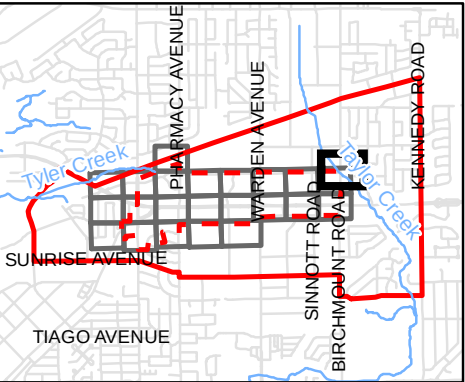
LEGEND

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-  Golden Mile Secondary Plan Boundary
-  Study Area
-  Proposed Right-of-Way

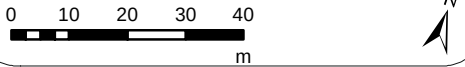
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Project: TA9207	Figure: 4.4
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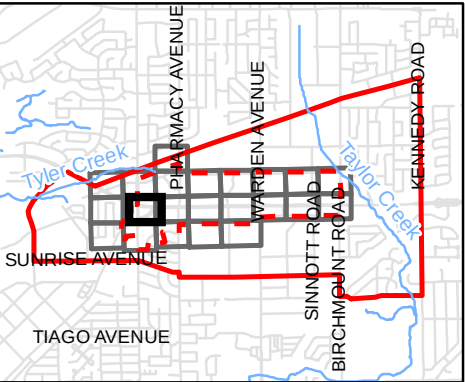
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Project: TA9207	Figure: 4.5
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6 Mitigation Measures

Where impacts cannot be avoided, mitigation measures have been designed to reduce or minimize impacts on the natural heritage system form and function. Impacts that cannot be mitigated may require a description of compensation or restoration measures.

6.1 Project Planning and General Mitigation

Construction related impacts can first be mitigated by minimizing the extent of disturbance wherever possible through coordination of all project related planning, including design, staging, and scheduling. Mitigation related to staging of construction includes prioritizing project components in such a way that disturbance within the same construction area would be minimized (i.e. coordination of all disturbance activities in a manner that reduces the impact at these locations). Consideration for mitigation and protection measures have included:

- Minimize vegetation and tree removals through design;
- Minimize construction area to the extent possible;
- Use appropriate tree protection measures for any work around tree resources within the project area to help protect trees identified to be retained;
- Use previously disturbed areas for construction laydown and staging to the extent possible;
- No vegetation removal should occur between April 1 and August 31 of any given year in order to protect birds afforded protection under the Migratory Birds and Convention Act;
- No tree removal or pruning within the bat maternal roosting period for bats (May 1 to November 15 of any given year). Note, this timing window is weather dependent and this approach should be confirmed by MECP should construction be required at either end of the window;
- Locate site maintenance, vehicle washing and refueling stations where contaminants are handled off-site, and outside of the source water protection area for the pipe intake; and,
- Ensure that a Spills Management Plan (including materials, instructions regarding their use, education of contract personnel, and emergency contact numbers) is on-site at all times for implementation in event of an accidental spill during construction. An emergency spill kit shall be kept on site. A response plan shall also be developed that is to be implemented immediately in the event of a sediment release.

6.2 Erosion and Sediment Control

The extent of construction related activity can be effectively isolated and secured from adjacent natural lands through the installation of erosion and sediment control measures to mitigate the potential for silt and sediment entry into surface water features and adjacent lands. To some extent, the isolation of the work area will also discourage the entry of wildlife into the work zone, thereby minimizing incidental encounter and the risk of incidental mortality during construction.

A standalone Erosion and Sediment Control (ESC) Plan should be developed and implemented for the site that minimizes risk of sediment transport into adjacent retained vegetation communities or to the aquatic habitat of Cooksville Creek during all phases of the project. The plan should reference the *Erosion and Sediment Control Guide for Urban Construction* (Toronto and Region Conservation Authority 2019).

6.3 Tree Protection

Impacts to tree resources due to construction are expected. When any future construction is proposed, at a minimum, the following tree protection measures are recommended:

- Construction materials, equipment, soil, construction waste or debris, parking of vehicles, etc., shall not be placed or stored within the staked dripline or immediately adjacent of trees identified for protection;
- Prune any exposed roots with a diameter of less than 5 cm to promote regeneration and prevent infection. All roots greater than 5 cm in diameter should not be removed;
- Any tree removals, pruning or root cutting required is to be conducted by a qualified Arborist;
- Apply a slow-release deep root low nitrogen fertilizer to promote increased vigour;
- No signs or objects shall be displayed or affixed to any trees protected;
- Disposal of any liquids shall not occur within 1 metre of the staked Dripline or immediately adjacent to protected trees; and,
- Should any additional, incidental or accidental tree injuries occur during construction, a qualified Arborist shall be consulted to determine whether additional mitigation measures should be employed.

These efforts will help to ensure that impacts to retained trees are minimal and that the condition and character of these trees will not change, either in the short-term or long-term period. A tree protection plan and arborist report has been prepared under separate cover to ensure the protection of retained vegetation.

The Arborist Report and Tree Preservation Plan prepared by LGL is available under separate cover.

6.4 Potential Impacts to Migratory Birds and Compliance with Migratory Birds Act

Background review and site investigations included documentation of numerous species listed under the *Migratory Birds Convention Act* (MBCA). The MBCA prohibits the killing, capturing, injuring, taking, or disturbing of migratory birds (including eggs) or the damaging, destroying, removing, or disturbing of nests. To protect birds in the breeding season, vegetation removals should be avoided between April 1 and August 31 of any given year. Nest sweeps can be conducted by a qualified avian biologist should clearing be required during this period, however, no clearing can be conducted if nesting birds are found in the area.

7 Conclusions and Recommendations

An impact assessment was performed for the proposed project disturbance area. **Table 5** provides a summary of the potential permitting and approvals that may be required for this project to date.

Table 5. Summary of Potential Permits or Approvals Required

Legislation	Plan/Regulation/ By-law	Permit/Approval/Authorization	Permit or Approval Required
Fisheries Act		Harmful, Alteration, Disruption, Destruction (HADD). DFO review	Not Required
Migratory Birds Convention Act	n/a	Not identified.	Not Required
Species at Risk Act	n/a	SARA permit.	Not Required.
Ontario Water Resources Act	Permit to Take Water (PTTW)	PTTW required for construction dewatering > 400,000L/day (see below).	Not Required.
Environmental Protection Act	Regulation 63/16 Registrations under Part II of the Act- Water Taking	Environmental Activity and Sector Registration EASR (Water taking for Construction Site Dewatering) required for groundwater taking between 50,000-400,000 Litres on a single day under normal operation.	Not Required.
Conservation Authorities Act	Ontario Regulation (TRCA): Prohibited Activities, Exemptions and Permits (O.Reg. 41/24).	For project works within a regulated area, a permit under O.Reg 41/24 will be required.	Consultation with TRCA required.
Endangered Species Act	Several Regulations exist.	Ministry of the Environment, Conservation and Parks (MECP) administers the Endangered Species Act, 2007 (ESA) in Ontario. Activities that require harm to a species at risk or its habitat may be permitted through Ontario Regulation 242/08	Not Required.

Through background information review and field investigations the following key natural heritage features and species were identified on and adjacent to the study area:

- Wilson Brook;
- Taylor Massey Creek;
- City of Toronto Natural Heritage Area;
- City of Toronto Ravine and Natural Feature Protection Area (RNFP); and,
- TRCA Regulated Areas.

Fish habitat conditions in Taylor Massey Creek are poor due to the urban nature of this creek, and the barriers to upstream movement of fish. Terrestrial vegetation within the Golden Mile Secondary Plan Boundary was also noted to be disturbed, and urban in nature.

With appropriate mitigation, the construction of the Golden Mile Area Street Network is not anticipated to have any negative impacts on the natural environment in the study area.

APPENDIX A
PHOTOGRAPHIC RECORD OF WATERCOURSE CROSSING

PHOTO APPENDIX

Taylor Massey Creek



Upstream facing upstream (northwest) from top of culvert crossing of Ashtonbee and Birchmount Roads



Upstream (north) end of twin CSP culvert under Ashtonbee and Birchmount Roads



Facing upstream at channel lined with concrete blocks and bordered by near-vertical concrete walls and steep rip rap slopes



Downstream facing upstream (northwest) at downstream ends of CSP culverts under Ashtonbee and Birchmount Roads



Facing downstream (southeast) at watercourse directly downstream of culverts. Banks in this area lined with gabion baskets (note loose stones from broken baskets)



Downstream channel facing downstream (southeast). Note that channel is more trapezoidal here compared with upstream but lined concrete banks and steep riparian slopes

APPENDIX B

VASCULAR PLANT LIST

[illegible][illegible]

[illegible]

	Scientific Name	Common Name	TRCA	GRank	SRank		MNR	CUMx-x	CUTx-x	FOD3-x/CUTx-x	FOD4a	FOD4b	FOD7a	FOD7b	MAM2	M
	<i>Polygonum sp.</i>	smartweed											x			
*	<i>Rumex crispus</i>	curly-leaf dock	L+	G?	SE5			x					x	x		
	RHAMNACEAE	BUCKTHORN FAMILY														
*	<i>Rhamnus cathartica</i>	common buckthorn	L+	G?	SE5				x		x	x		x	x	
	ROSACEAE	ROSE FAMILY														
	<i>Amelanchier arborea</i>	downy juneberry	L4	G5	S5				x							
*	<i>Geum urbanum</i>	wood avens	L+	G5	SE2								x			
	<i>Malus sp.</i>	apple										x	x	x		
	<i>Physocarpus opulifolius</i>	ninebark	L3	G5	S5					x						
	<i>Prunus virginiana</i> var. <i>virginiana</i>	choke cherry	L5	G5T?	S5							x	x			
	RUBIACEAE	MADDER FAMILY														
*	<i>Galium mollugo</i>	white bedstraw	L+	G?	SE5								x			
	SALICACEAE	WILLOW FAMILY														
	<i>Populus deltoides</i>	cottonwood								x						
	<i>Populus tremuloides</i>	trembling aspen	L5	G5	S5					x						
*	<i>Salix alba</i>	white willow	L+	G5	SE4								x			
*	<i>Salix fragilis</i>	crack willow	L+	G?	SE5				x				x			
	<i>Salix sp.</i>	willow			?				x				x	x		
	SCROPHULARIACEAE	FIGWORT FAMILY														
*	<i>Verbascum thapsus</i>	common mullein	L+	G?	SE5			x								
	SIMAROUBACEAE	AILANTHUS FAMILY														
*	<i>Ailanthus altissima</i>	tree-of-heaven	L+	G?	SE5				x							
	TILIACEAE	LINDEN FAMILY														
	<i>Tilia americana</i>	basswood	L5	G5	S5					x						
*	<i>Tilia cordata</i>	small leaf linden	L+	G?	SEx								x			x
	TYPHACEAE	CATTAIL FAMILY														
	<i>Typha sp.</i>	cattail							x						x	
	ULMACEAE	ELM FAMILY														
	<i>Celtis occidentalis</i>	common hackberry		G5	S4						x					
	<i>Ulmus americana</i>	white elm	L5	G5?	S5					x			x			
	VITACEAE	GRAPE FAMILY														
	<i>Parthenocissus quinquefolia</i>	five-leaved Virginia-creeper	L5	G5	S4?								x			
	<i>Vitis riparia</i>	riverbank grape	L5	G5	S5				x					x		

APPENDIX C

ACRONYMS AND DEFINITIONS USED IN SPECIES LISTS

ACRONYMS AND DEFINITIONS USED IN SPECIES LISTS

G-Rank Global Rank

Global ranks are assigned by a consensus of the network of Conservation Data Centres, scientific experts, and the Nature Conservancy to designate a rarity rank based on the range-wide status of a species, subspecies or variety.

The most important factors considered in assigning global ranks are the total number of known, extant sites world-wide, and the degree to which they are potentially or actively threatened with destruction. Other criteria the number of known populations considered to be securely protected, the size of the various populations, and the ability of the taxon to persist at its known sites. The taxonomic distinctness of each taxon has also been considered. Hybrids, introduced species, and taxonomically dubious species, subspecies and varieties have not been included.

G1=	Extremely rare; usually 5 or fewer occurrences in the overall range or very few remaining individuals; or because of some factor(s) making it especially vulnerable to extinction.
G2 =	Very rare; usually between 5 and 20 occurrences in the overall range or with many individuals in fewer occurrences; or because of some factor(s) making it vulnerable to extinction.
G3 =	Rare to uncommon; usually between 20 and 100 occurrences; may have fewer occurrences, but with a large number of individuals in some populations; may be susceptible to large-scale disturbances.
G4 =	Common; usually more than 100 occurrences; usually not susceptible to immediate threats.
G5 =	Very common; demonstrably secure under present conditions.
GH =	Historic, no records in the past 20 years.
GU =	Status uncertain, often because of low search effort or cryptic nature of the species; more data needed.
GX =	Globally extinct. No recent records despite specific searches.
? =	Denotes inexact numeric rank (i.e. G4?).
G" " =	A "G" (or "T") followed by a blank space means that the NHIC has not yet obtained the Global Rank from The Nature Conservancy.
G? =	Unranked, or, if following a ranking, rank tentatively assigned (e.g. G3?).
Q =	Denotes that the taxonomic status of the species, subspecies, or variety is questionable.
T =	Denotes that the rank applies to a subspecies or variety.

S-Rank	Provincial Rank
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Provincial (or Sub-national) ranks are used by the Ontario Ministry of Natural Resources Natural Heritage Information Centre (NHIC) to set protection priorities for rare species and natural communities. These ranks are not legal designations. Provincial ranks are assigned in a manner similar to that described for the global ranks, but consider only those factors within the political boundaries of Ontario. By comparing the global and provincial ranks, the status, rarity, and the urgency of conservation needs can be ascertained. The NHIC evaluates provincial ranks on a continual basis and produces updated list at least annually.

S1 =	Critically imperiled in Ontario because of extreme rarity (often 5 or fewer occurrences) or because of some factor (s) such as very steep declines making it especially vulnerable to extirpation.
S2 =	Imperiled in Ontario because of rarity due to very restricted range, very few populations (often 20 or fewer occurrences) steep declines or other factors making it very vulnerable to extirpation.
S3 =	Vulnerable in Ontario due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation.
S4 =	Apparently secure- uncommon but not rare; some cause for long-term concern due to declines or other factors.
S5 =	Secure- common, widespread, and abundant in Ontario.
SX =	Presumed Extirpated- specie or community is believed to be extirpated from Ontario.
SNR =	Unranked- conservation status in Ontario not yet assessed
SU =	Unrankable - currently unrankable due to lack of information or due to substantially conflicting information about status or trends.
SNA =	Not applicable- a conservation status rank is not applicable because the species is not a suitable target for conservation activities.
S#S# =	Range rank- a numeric range rank (e.g. S2S3) is used to indicate any range of uncertainty about the status of the species or community. Ranges cannot skip more than one rank (e.g. SU is used rather than S1S4).

COSEWIC	Committee On The Status Of Endangered Wildlife in Canada
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The Committee on the Status of Endangered Wildlife in Canada (COSEWIC) assesses the national status of wild species that are considered to be at risk in Canada.

Extinct (X)	A wildlife species that no longer exists.
Extirpated (XT)	A wildlife species no longer existing in the wild in Canada, but occurring elsewhere.
Endangered (E)	A wildlife species facing imminent extirpation or extinction.
Threatened (T)	A wildlife species likely to become endangered if limiting factors are not reversed.

Special Concern (SC)	A wildlife species that may become a threatened or an endangered species because of a combination of biological characteristics and identified threats.
Not at Risk (NAR)	A wildlife species that has been evaluated and found to be not at risk of extinction given the current circumstances.
Data Deficient (DD)	A category that applies when the available information is insufficient (a) to resolve a wildlife species' eligibility for assessment or (b) to permit an assessment of the wildlife species' risk of extinction.

COSSARO/OMNR Committee On The Status Of Species At Risk In Ontario/Ontario Ministry Of Natural Resources

The Committee on the Status of Species at Risk in Ontario (COSSARO)/Ontario Ministry of Natural Resources (OMNR) assess the provincial status of wild species that are considered to be at risk in Ontario.

Extinct (EXT)	A species that no longer exists anywhere.
Extirpated (EXP)	A species that no longer exist in the wild in Ontario but still occurs elsewhere.
Endangered (Regulated) (END-R)	A species facing imminent extinction or extirpation in Ontario which has been regulated under Ontario's <i>Endangered Species Act</i> .
Endangered (END)	A species facing imminent extinction or extirpation in Ontario which is a candidate for regulation under Ontario's Endangered Species Act.
Threatened (THR)	A species that is at risk of becoming endangered in Ontario if limiting factors are not reversed.
Special Concern (SC)	A species with characteristics that make it sensitive to human activities or natural events.
Not at Risk (NAR)	A species that has been evaluated and found to be not at risk.
Data Deficient (DD)	A species for which there is insufficient information for a provincial status recommendations.

Toronto and Region Conservation Authority (TRCA) Regional Ranking

L5=	Generally secure; may be a conservation concern in a few specific situations. Contributes to natural cover.
L4=	Generally secure in rural matrix; of conservation concern in the urban matrix.
L3=	Of regional concern; restricted in occurrence and/or requires specific site conditions; generally occurs in natural rather than cultural areas.
L2=	Of regional concern; typically occurs in high-quality natural areas and under highly specific site conditions; probably at risk in the Toronto area.
L1=	Of regional concern in TRCA jurisdiction due to rarity, stringent habitat needs, and/or threat to habitat.