BEACON ENVIRONMENTAL

GUIDING SOLUTIONS IN THE NATURAL ENVIRONMENT

Scoped Environmental Impact Study (Revised)

2570-2590 Argyle Road

Prepared For:

Ranee Management

Prepared By:

Beacon Environmental Limited

Date: *Project:*

August 2023 **221188**

Table of Contents

page

Figures

Tables

Appendices

Report Versions Issued

Version	Date	Revisions
1.	February 2022	
2.	August 2023	Address agency comments

1. Introduction

Beacon Environmental Limited (Beacon) was retained by Ranee Management to prepare a Scoped Environmental Impact Study (EIS) in support of a Site Plan application to construct an apartment building at 2570-2590 Argyle Road in the City of Mississauga (the City), herein referred as the subject site (**Figure 1**).

The subject site is located just south of Dundas Street West and is bound by Argyle Road to the northeast, Mary Fix Creek to the southwest and existing high density residential to the southeast.

The subject site is approximately 4.0 ha in area and is occupied by two existing high rise apartment buildings and associated parking and landscaped areas. The study area includes the subject site and Mary Fix Creek corridor.

The Mary Fix Creek corridor is identified as a Linkage, forming part of the City's Natural Heritage System (NHS), and has been designated as Greenlands. Due to the proximity of the proposed redevelopment to the Mary Fix Creek corridor, both the City and Credit Valley Conservation (CVC) require that an EIS be prepared in support the Site Plan application. The purpose of the EIS is to demonstrate that the proposed redevelopment and site alteration will not adversely impact upon the Linkage functions associated with the Mary Fix Creek corridor.

Policy 19.4.5 of the City's Official Plan lists an EIS as one of the types of studies that may be required a part of a complete application submission for an official plan amendment, rezoning, draft plan of subdivision or condominium or consent application.

A site visit with City and CVC staff was completed on April 28th, 2021 to determine the scope of the EIS. While Terms of Reference have not been provided or prepared, it was agreed that the EIS would be limited to characterization of the vegetation resources in the valleylands and a screening of the site for potential habitats of Species at Risk (SAR). Additionally, it was agreed that the EIS would include a Ravine Stewardship Plan to manage and enhance the condition of vegetation along the Mary Fix Creek corridor on the subject site.

This EIS includes the following:

- A policy overview highlighting natural heritage protection policies and regulations that apply to the Site Plan application;
- A summary of methods and findings of the ecological investigation and assessment;
- A constraints and opportunities analysis;
- A description of the redevelopment proposal; and
- An impact assessment and recommended mitigation.

Beacon had previously prepared an EIS in February 2022 as part of the first submission. In response to comments received from the City and CVC for that submission, there have been revisions to the Site Plan and other aspects of the redevelopment proposal. This EIS has been updated to address City and CVC comments and to assess the revised Site Plan and related technical studies.

2. Regulatory Framework

This section includes an overview of key federal, provincial, and local environmental policies, legislation, and regulations that may be relevant to this to redevelopment proposal. Key legislation, policies and regulations that have been reviewed and considered in preparing the EIS include the following:

- Federal *Fisheries Act*;
- Federal *Migratory Birds Convention Act*;
- Ontario *Endangered Species Act*;
- Provincial Policy Statement;
- Region of Peel Official Plan;
- City of Mississauga Official Plan;
- *Conservation Authorities Act* – Ont. Reg. 160/06; and
- Credit Valley Conservation – Watershed Planning and Regulation Policies.

2.1 *Federal Fisheries Act*

Fish and fish habitat are protected under the federal *Fisheries Act* (1985), which was last amended on August 28, 2019 and is administered by Fisheries and Oceans Canada (also known as "DFO"). The protection provisions of the *Fisheries Act* apply to all fish and fish habitat throughout Canada and DFO are the authorities for the regulation of works, undertakings or activities that risk harming fish and fish habitat. Specifically, the protection provisions include two core prohibitions. One is against persons carrying on works, undertakings or activities that result in the "death of fish by means other than fishing" (subsection 34.4(1)), and the other is "harmful alteration, disruption or destruction of fish habitat" (subsection 35(1)). The protection provisions are applied in conjunction with other applicable federal laws and regulations related to aquatic ecosystems, including the *Species at Risk Act*.

Under subsection 35(1), a person may carry out such works, undertakings or activities without contravening this prohibition, provided that they are carried out under the authority of one of the exceptions listed in subsection 35(2), and in accordance with the requirements of the appropriate exception. In most cases, this exception would be Ministerial authorizations granted to proponents in accordance with the *Authorizations Concerning Fish and Fish Habitat Protection Regulations.*

Proponents are responsible for planning and implementing works, undertakings or activities in a manner that avoids harmful impacts, specifically the death of fish and the harmful alteration, disruption, or destruction of fish habitat. Where proponents believe that their work, undertaking or activity will result in harmful impacts to fish and fish habitat, DFO will work with proponents to assess the risk of their proposed work, undertaking or activity resulting in the death of fish or the harmful alteration, disruption or destruction of fish habitat and provide advice and guidance on how to comply with the *Fisheries Act*.

2.2 *Endangered Species Act* (2007)

The *Endangered Species Act* protects species listed as threatened or endangered, as recommended by the Committee on the Status of Species at Risk in Ontario (COSSARO). Under the *Act*, over 200 species in Ontario are identified as extirpated, endangered, threatened, or of special concern.

Site Location	Figure 1
2570-2590 Argyle Road, Mississauga EIS	
BEACON ENVIRONMENTAL	Project: 221188 Last Revised: July 2021
Client: Ranee Management	Prepared by: DU Checked by: DK
N 1:2,000	Inset Map:1:50,000

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The purposes of the *Endangered Species Act* are:

- To identify species at risk based on the best available scientific information, including information obtained from community knowledge and aboriginal traditional knowledge;
- To protect species that are at risk and their habitats, and to promote the recovery of species that are at risk; and
- To promote stewardship activities to assist in the protection and recovery of species that is at risk.

Section 9 of the *Endangered Species Act* generally prohibits the killing or harming of a Threatened or Endangered species, as well as the destruction of its habitat. Section 10 of the Act prohibits the damage or destruction of the habitat of all endangered and threatened species. A permit from the ministry that regulates the *Endangered Species Act* — the Ministry of the Environment, Conservation, and Parks (MECP) — may be issued under Section 17 for any works proposed within the regulated habitat of a threatened or endangered species, identified during appropriate field study.

2.3 *Provincial Policy Statement (2020)*

The Provincial Policy Statement (PPS) (MMAH 2020) provides policy direction to municipalities on matters of provincial interest as they relate to land use planning and development. The PPS provides for appropriate land use planning and development while protecting Ontario's natural heritage. Development governed by the *Planning Act* must be consistent with the policy statements issued under the PPS. These are outlined in Section 2.1 - Natural Heritage, Section 2.2 – Water, and Section 3.1 - Natural Hazards of the PPS, and relevant sections from each are provided in the following pages.

The PPS includes policies that speak to the identification and protection of natural heritage systems, as well as levels of protection for the various components that comprise such systems. Some of these features are present in the Study Area and must be assessed in the context of these policies.

The policies specific to natural heritage are found in Section 2.1 of the PPS and are provided in their entirety below:

2.1.1 Natural features and areas shall be protected for the long term.

2.1.2 The diversity and connectivity of natural features in an area, and the long-term ecological function and biodiversity of natural heritage systems, should be maintained, restored or, where possible, improved, recognizing linkages between and among natural heritage features and areas, surface water features and ground water features.

2.1.3 Natural heritage systems shall be identified in Ecoregions 6E & 7E, recognizing that natural heritage systems will vary in size and form in settlement areas, rural areas, and prime agricultural areas.

2.1.4. Development and site alteration shall not be permitted in:
- *a. Significant wetlands in Ecoregions 5E, 6E and 7E; and*
- *b. Significant coastal wetlands.*

2.1.5 Development and site alteration shall not be permitted in:

a. *Significant wetlands in the Canadian Shield north of Ecoregions 5E, 6E and 7E;*
b. *Significant woodlands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Marys River);*
c. *Significant valleylands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Marys River);*
d. *Significant wildlife habitat;*
e. *Significant areas of natural and scientific interest; and*
f. *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.

2.1.6 Development and site alteration shall not be permitted in fish habitat except in accordance with provincial and federal requirements.

2.1.7 Development and site alteration shall not be permitted in habitat of endangered species and threatened species, except in accordance with provincial and federal requirements.

2.1.8 Development and site alteration shall not be permitted on adjacent lands to the natural heritage features and areas identified in policies 2.1.4, 2.1.5 and 2.1.6 unless the ecological function of the adjacent lands has been evaluated and it has been demonstrated that there will be no negative impacts on the natural features or on their ecological functions.

2.1.9 Nothing in policy 2.1 is intended to limit the ability of agricultural uses to continue.

Identification of the various natural heritage features noted above is a responsibility shared by the MECP, Ministry of Natural Resources and Forestry (MNRF) and the municipal planning authority. The MECP can assist in the identification of habitat of endangered species and threatened species; however, such identification is the responsibility of the proponent. The MNRF is responsible for keeping record of Provincially Significant Wetlands (PSWs) and Areas of Natural and Scientific Interest (ANSIs). Local and regional planning authorities are responsible for the identification of Significant Woodlands, Significant Valleylands, and Significant Wildlife Habitat, with support from applicable guidance documents (i.e., Natural Heritage Reference Manual [OMNR 2010]; Significant Wildlife Habitat Technical Guidelines [OMNR 2000]; and Significant Wildlife Habitat Criteria for Ecoregion 6E or 7E [MNRF 2015]). As described in **Section 2.1** above, identification and verification of fish habitat is now self-regulated although enforcement of the related policies and regulations is still managed by MNRF and regulated by DFO.

In areas where significant natural heritage features have been identified by the appropriate agency or planning authority, the boundaries of such features can typically be refined through site-specific studies undertaken as part of the planning process, with input from the responsible agency and/or planning authority.

2.4 *Regional Municipality of Peel Official Plan (2022)*

The Region of Peel Official Plan (ROP) is intended to provide a strategic and holistic framework for regional planning through sustainable development and the integration of environmental, social, economic and cultural imperatives. The Peel Region Official Plan contains policies aimed at protecting, maintaining, and restoring a Greenlands System consisting of "Core Areas", "Natural Areas and Corridors (NACs)", "Natural Linkage Areas", and "Potential Natural Areas and Corridors (PNACs)". Key elements of the Region's Greenlands System include the following:

- Areas of Natural and Scientific Interest (ANSI);
- Environmentally Sensitive or Significant Areas (ESAs);
- Escarpment Natural Areas;
- Escarpment Protection Areas;
- Fish and wildlife habitat;
- Habitats of threatened or endangered species;
- Wetlands;
- Woodlands;
- Valley and stream corridors;
- Shorelines;
- Natural lakes;
- Groundwater recharge and discharge areas;
- Open space portions of the Parkway Belt West Plan; and
- Other natural features and functional areas.

The above key elements are to be interpreted, identified and protected in accordance with the policies of the ROP.

The following schedules and figures were reviewed to determine which sections of the ROP pertain to the subject site:

- Schedule E-1 – Regional Structure illustrates that the subject site is adjacent to the Urban Growth Centre at Confederation Parkway; and
- Schedule C-1 - Greenlands Systems demonstrates the subject site is outside of the Greenlands System overlay.

2.4.1 Core Areas

Core Areas represent those features and areas that are considered to be significant at the provincial and regional levels. They generally correspond with significant features and areas listed in the PPS.

Core Areas of the Greenlands System are mapped on Schedule C-2 of the ROP. No Core Areas are depicted on or in proximity to the subject site.

2.4.2 Natural Areas and Corridors (NAC) and Potential Natural Areas and Corridors (PNAC)

Natural Areas and Corridors (NAC) include:

- Evaluated non-provincially significant wetlands and coastal wetlands;
- Woodlands meeting one or more of the criteria in Table 1 of the ROP;
- Significant wildlife habitat;
- Fish habitat;
- Habitat of aquatic species at risk;
- Habitat of endangered or threatened species as defined by the *Endangered Species Act*;
- Regionally significant life science ANSI;
- Provincially significant earth science ANSI;
- Escarpment Protection Areas of the Niagara Escarpment Plan;
- The Lake Ontario shoreline and littoral zone and other natural lakes and their shorelines;
- Any other valley and stream corridors that have not been defined as part of the Core Areas;
- Sensitive headwater areas and sensitive groundwater discharge areas; and
- Any other natural features and functional areas interpreted as part of the Greenlands System Natural Areas and Corridors by the local municipalities, in consultation with the conservation authorities and the Ministry of Northern Development, Mines, Natural Resources and Forestry, including, as appropriate, elements of the Potential Natural Areas and Corridors.

Potential Natural Areas and Corridors (PNAC) include:

- Unevaluated wetlands;
- Cultural woodlands and cultural savannahs within the Urban System and Rural Service Centres meeting one or more of the criteria in Table 1 of the ROP;
- Any other woodlands greater than 0.5 hectares;
- Regionally significant earth science ANSI;
- Sensitive groundwater recharge areas;
- Portions of historic shorelines;
- Open space portions of the Parkway Belt West Plan Area;
- Enhancement areas, buffers, and linkages; and
- Any other natural features and functional areas interpreted as part of the Greenlands System Potential Natural Areas and Corridors, by the individual local municipalities in consultation with the conservation authorities.

NAC's and PNAC's represent natural features and areas that are considered locally important. Table 1 of the ROP lists criteria and thresholds for the identification of Core, Natural Areas and Corridors, and Potential Natural Areas and Corridors woodlands. Table 2 of the ROP lists criteria and thresholds for the identification of core valley and stream corridors.

Regional policies pertaining to NAC's and PNAC's defer their interpretation, protection, restoration, enhancement, proper management and stewardship to local municipalities. Section 2.14.20 is the Region's policy to direct the area municipalities, in consultation with the conservation authorities, to continue to include objectives and policies in their official plans for the interpretation, protection, enhancement, proper management, and stewardship of NACs and PNACs which conform to the intent of the ROP and other planning policies, where applicable.

2.5 *City of Mississauga Official Plan (2023, Office Consolidation)*

The City of Mississauga Official Plan (City OP) has undergone several consolidations to include amendments and Ontario Land Tribunal decisions. The current City OP in effect includes amendments as of March 3, 2023.

The following schedules and figures of the City OP were reviewed to determine the sections that pertain to the subject site including the following:

- Schedule 1 – Urban System depicts the subject site as within the Urban boundary and Downtown Intensification Corridor;
- Schedule 1a – Green System depicts the subject site as within and adjacent to the City's Green System;
- Schedule 2 – Intensification Areas presents the subject lands within the corridor and within 500 m of two major transit station areas;
- Schedule 3 – Natural System identifies the subject site as containing a Linkage; and
- Schedule 10 - Land Use Designations identifies the subject site as Residential High Density and Greenlands.

Section 6.3 of the City OP contains policies pertaining to the protection of the Green System. The Green System is composed of 1) the NHS, 2) the Urban Forest, 3) Natural Hazard Lands; and 4) Parks and Open Spaces.

Components of the Green System that overlap with the subject site are limited to the Mary Fix Creek corridor and include NHS (Linkage) and Natural Hazard Lands (Valleylands, defined by the Long-Term Stable Top of Slope [LTSTOS], and Floodplain).

As per policy 6.3.1, the City will give priority to actions that protect, enhance, restore and expand the Green System. Policy 6.3.7 states that buffers are intended to perform functions such as woodland interior enhancement via native species plantings, attenuate stormwater runoff and reduce the erosion of valley slopes.

As per Policy 6.3.8, buffers will be determined on a site-specific basis as part of an EIS to the satisfaction of the City and appropriate conservation authority. Per 6.3.10, the exact limit of components of the NHS will be determined through site specific studies/EIS. Minor refinements to the boundaries of the NHS may occur through an EIS or other appropriate studies accepted by the City without an official plan amendment (6.3.11).

2.5.1 Natural Heritage System

The City's NHS consists of:

- Significant Natural Areas;
- Natural Green Spaces;
- Special Management Areas;
- Residential Woodlands; and
- Linkages.

The City has identified the Mary Fix Creek corridor as a Linkage. While the Mary Fix Creek corridor has not been mapped as Residential Woodland, Natural Green Space, Special Management Area or Significant Natural Area, the creek corridor does support fish habitat and meets the criteria for significant valleyland; therefore, it could be considered a Significant Natural Area. While NHS components are mapped exclusive of each other, this EIS has provided consideration to the protection of fish habitat and valleylands.

> *The exact limit of components of the Natural Heritage System will be determined through site specific studies such as an Environmental Impact Study. Minor refinements to the boundaries of the Natural Heritage System may occur through Environmental Impact Studies or other appropriate studies accepted by the City without and official plan amendment.*

The limits of the NHS were reviewed in the field with City and CVC staff on April 28, 2021 and it was determined that the current extent of the NHS (Linkage) corresponds with the edge of the existing parking area and that staking of the dripline was not warranted as natural hazard constraints (i.e., LTSTOS and floodline) represented greater constraint to development.

2.5.2 Natural Hazard Lands

> *Natural Hazard Lands are generally associated with valley and watercourse corridors and the Lake Ontario shoreline. These areas are generally unsafe for development due to naturally occurring processes such as flooding and erosion.*
>
> Policy 6.3.47 states that: *development and site alteration will not be permitted within erosion hazards associated with valleyland and watercourse features. Where development or site alteration is proposed adjacent to erosion hazards, an appropriate buffer must be applied to the satisfaction of the City and conservation authority.*

Mary Fix Creek has natural hazards associated with it. There is a floodplain that extends onto the subject site and overlaps with the existing parking area. There is also a shallow confined valley slope along the creek. Regulatory flood elevation was provided by CVC on November 5, 2019 at an elevation of 111.91 metres above sea level. The top of slope was staked by CVC on October 7, 2019. It is our understanding that natural hazard matters have previously been addressed with CVC staff and that the proposed Site Plan will be located outside the requisite setbacks.

2.5.3 City of Mississauga Natural Areas Survey

The City's Natural Areas Survey (NAS) was a study undertaken to identify and inventory the natural areas within the City and included reviewing existing reports, site visits, public survey and database updates (North South Environmental Inc. and City of Mississauga 2013). The intention of this is to maintain the long-term ecological integrity of the remaining natural areas and that this shall have primacy over all other considerations to the extent that is feasible. Several recommendations of the NAS are incorporated into the City's OP.

The segment of Mary Fix Creek that traverses the western side of the subject site is identified as a "Linkage". There is no corresponding fact sheet for this area included in the NAS, however, the subject site is located between CV2, FV3, CV1 and CV10. According to CV2, household dumping is prevalent and numerous invasive plant species which aligns with field observations.

2.6 *Credit Valley Conservation Policies and Regulations*

Under *Ontario Regulation 160/06* of the *Conservation Authorities Act*, CVC regulates development in and adjacent to natural hazard lands including creeks, valleylands, shorelines, and wetlands. The subject site is regulated due to the presence of the Mary Fix Creek watercourse, its floodplain, and erosion hazard.

Development within the flood limit of a watercourse is not allowed. CVC will generally require that all watercourses remain in their natural state with respect to development proposals. Any development proposed within the "regulated" area adjacent to a watercourse or wetland would trigger the need for an EIS that must demonstrate that no interference to the feature will occur before a permit is issued.

As identified in Section 6.2.1 - Development Limits of the CVC *Watershed Planning and Regulation Policies* document (2010), the following applies.

> *a) CVC will not support the creation of new lots through plan of subdivision or consent that extend into, or fragment ownership of, the natural heritage system, including natural heritage features and areas, significant natural areas, hazardous land and erosion access allowances, in consideration of the long term management concerns related to risks to life and property and natural heritage protection.*
>
> *b) In addition to policy 6.2.1 a), CVC will recommend that lots created through plan of subdivision or consent are set back a minimum of whichever is the greatest of the following buffers:*
>
> *i. 10 metres from the limit of flood hazards;*
> *ii. 10 metres from the limit of erosion hazards;*
> *iii. 10 metres from the limit of dynamic beach hazard;*
> *iv. 10 metres from the drip line of significant woodlands;*
> *v. 10 metres from the limit of other wetlands;*
> *vi. 30 metres from the limit of provincially significant wetlands;*
> *vii. 30 metres from the bankfull flow location of watercourses; and/or*
> *viii. A distance to be determined through the completion of a comprehensive environmental study or technical report, to the satisfaction of CVC, from the limit of the following:*
>
> *a. significant wildlife habitat;*
> *b. significant habitat of threatened species and endangered species;*
> *c. regionally and provincially significant life science ANSIs;*
> *d. ESAs; and/or*
> *e. significant habitat of species of conservation concern.*
>
> *c) Notwithstanding policy 6.2.1 b), CVC may recommend lots be set back a distance other than those identified in 6.2.1 b) based on the results of a comprehensive environmental study or site specific technical report completed.*

CVC may recommend setbacks other than those specified by policy based on the results of a comprehensive environmental study or site-specific technical report completed to the satisfaction of CVC, and consistent with provincial and municipal policy.

3. Methodology

In addition to a review of the regulatory framework presented in the preceding sections, field investigations were conducted by Beacon ecologists in the spring of 2021 to characterize flora and fauna as well as opportunities for enhancement of the Mary Fix Creek corridor.

3.1 *Vegetation Community Mapping*

Ecological communities on the subject site were mapped and described following the protocols of the Ecological Land Classification (ELC) system for Southern Ontario (Lee *et al.* 1998). This is the standard method used for describing vegetation communities in southern Ontario, which involved delineating vegetation communities on aerial photos of the property and recording pertinent information on the community structure and composition. A checklist of all vascular plant species observed on the subject site as well as their status in the watershed was also compiled. As the condition of the ecological communities and species assemblages observed in the Mary Fix Creek corridor are highly degraded, floristic surveys were limited to a spring survey only on May 14, 2021.

3.2 *Breeding Bird Surveys*

To confirm the presence of significant bird species that may be utilizing the subject site and adjacent lands, two breeding bird surveys were conducted during the early mornings of June 11th and June 23rd, 2021, under ideal weather conditions (i.e., while the temperature was within 5° C of normal and it was not raining or excessively windy). The area was surveyed using a roving type survey, in which all parts of the subject site were walked and any birds heard or observed that exhibited evidence of breeding were documented as potentially breeding. The locations of species observations were documented on an aerial photograph.

3.3 *Assessment of Potential Habitat of Endangered & Threatened Species*

To confirm whether the subject site support potential habitat for endangered and threatened species, Natural Heritage Information Centre data for the 1 km^2 area (square 1017349) corresponding with the subject site was reviewed. Records for the following endangered and threatened species were noted:

- Henslow's Sparrow (endangered); and
- Eastern Meadowlark (threatened).

Both of these records are historical. Suitable habitat for this species corresponds with agricultural lands that have long since been urbanized.

During field surveys, consideration was also given to other listed species that are known to occur in urbanized environments, including the following:

- Butternut (endangered);
- Chimney Swift (threatened);

- Eastern Small-Footed *Myotis* (endangered);
- Little Brown *Myotis* (endangered);
- Northern *Myotis* (endangered); and
- Tri-colored Bat (endangered).

4. Existing Conditions

4.1 *Watercourses and Fish Habitat*

The subject site is located within the Credit River watershed. Mary Fix Creek (**Figure 2**) is a tributary of the Credit River. Mary Fix Creek formerly flowed into Lake Ontario but now drains into the Credit River just upstream of Lake Ontario (CVC 2014).

Mary Fix Creek is classified as having a warm thermal regime (Aquatic Resource Area [ARA] watercourse layer by MNRF, dated 2010). The MNRF ARA layer also includes the following fish species for Mary Fix Creek: Brown Bullhead (*Ameiurus nebulosus*) and Goldfish (*Carassius auratus*). Brown Bullhead is a native species in Ontario. Goldfish is an invasive species in Ontario. Both species thrive in slow warmer water. These species were most likely captured close to the confluence with the Credit River. During the site visit on May 14th, 2021, Beacon ecologists observed several schools of fishes, however, species could not be confirmed.

4.2 *Ecological Communities & Flora*

4.2.1 Ecological communities

Ecological communities associated with the subject site are summarized below and illustrated on **Figure 2**.

Anthropogenic (ANT)

The majority of the subject site contains buildings, paved surfaces, lawn and landscaped areas, and these areas were mapped as anthropogenic.

Cultural Plantation (CUP)

There are several clusters of planted trees at the front of the property adjacent to Argyle Road. These include mid-sized specimens of Norway Maple (*Acer platanoides*), Blue Spruce (*Picea pungens)*, Siberian Elm (*Ulmus pumila*), Honey Locust (*Gleditsia triacanthos*), and Douglas Fir (*Pseudotsuga menziesii*). Details regarding the specific trees are provided in the Arborist Report (Kuntz Forestry Consultants Inc. 2023).

Cultural Woodland (CUW)

This community corresponds with the Mary Fix Creek corridor. Species composition is variable and not reflective of any natural ecological community. Overstory is relatively open and comprised of scattered deciduous trees such as Northern Red Oak (*Quercus rubra*), Norway Maple, Manitoba Maple (*Acer negundo*), Siberian Elm, Apple (*Malus sp.),* Basswood (*Tilia americana*), Common Pear (*Pyrus communis)* and Sweet Cherry (*Prunus avium*) along with numerous dead ash (*Fraxinus spp.*). The understorey is dominated by Common Buckthorn (*Rhamnus cathartica*) with lesser associates of Hawthorn (*Crataegus*) species, Tartarian Honeysuckle (*Lonicera tatarica*), and Choke Cherry (*Prunus virginiana*). The ground layer is bare ground and dominated by Garlic Mustard (*Alliaria petiolata*) and other non-native species.

Hedgerow (HE)

There are linear strips of trees along the northern and southern property limits. These are generally comprised of the Siberian Elm, Blue Spruce, Douglas Fir, Austrian Pine (*Pinus nigra*), Manitoba Maple, American Elm (*Ulmus americana*), and Basswood. Details regarding the specific trees are provided in the Arborist Report (Kuntz Forestry Consultants Inc. 2023).

4.2.2 Floristics

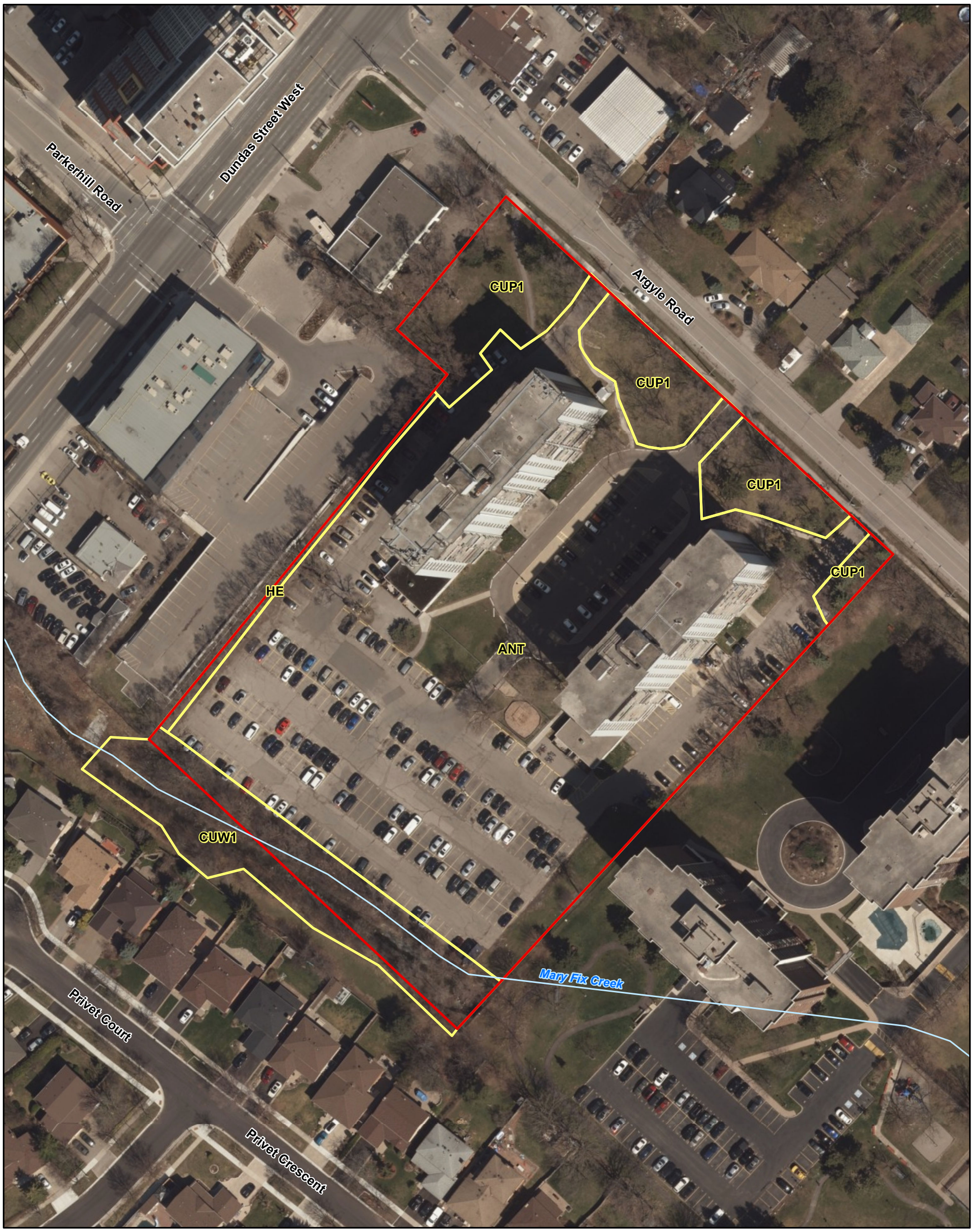
A total of 40 species of vascular plants were documented from the subject site. A checklist is provided in **Appendix A**. Of these, 15 species or 37.5% are native. The remaining 25 species or 62.5% are non-native. None of the species observed are provincially rare (i.e., S1-S3) or have been assigned a conservation status in the watershed.

4.3 *Birds*

A total of 10 species of birds were observed on or adjacent to the subject site during the 2021 breeding bird season (**Appendix B**). The avian community was composed of species that are tolerant of urban environments and are generalists.

The most abundant species was the House Sparrow (*Passer domesticus*), a non-native species. A number of other species common to urban landscapes were also observed, such as Rock Pigeon (*Columba livia*), European Starling (*Sturnus vulgaris*), House Finch (*Haemorhous mexicanus*) and Brown-headed Cowbird (*Molothrus ater*). Multiple individuals of these species were noted. Other avian observations included Northern Cardinal (*Cardinalis cardinalis*), Black-capped Chickadee (*Poecile atricapillus*) and American Robin (*Turdus migratorius*). Breeding bird observations were well distributed through the subject site including atop the existing buildings where many of these species will nest.

Area-sensitive birds are those that require larger tracts of suitable habitat in which to breed or are those that have a higher breeding success in larger areas of suitable habitat. One such species, Red-breasted Nuthatch (*Sitta canadensis*), was recorded that is considered to be forest-sensitive species requiring woodland habitat in which to breed successfully. One adult was observed and based on the nesting requirements of the species, this bird was likely breeding in one of the nearby woodlands offsite and only foraging within in study area.



Legend

- Subject Property
- Ecological Communities
- Watercourse (MNRF 2022)

Code	Ecological Communities
ANT	Anthropogenic
HR	Hedgerow
CUW1	Mineral Cultural Woodland
CUP1	Mineral Cultural Plantation

Existing Conditions | **Figure 2**

2570-2590 Argyle Road, Mississauga EIS

BEACON ENVIRONMENTAL

Project: 221188
Last Revised: July 2023

Client: Ranee Management

Prepared by: SZ
Checked by: JS

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No species ranked as S1 through S3 (Critically Imperiled through Vulnerable) by the province, or species protected under the *Endangered Species Act* were encountered.

4.4 *Endangered and Threatened Species*

Based on a review of background information as well as an assessment of habitat suitability, Beacon has determined that the subject site does not support habitat for endangered or threatened species. No butternut trees were observed and the existing apartment buildings (to be retained) do not support potential habitat for Chimney Swift. With respect to endangered bat species, MECP generally regulates habitat through guidance for protection of potential maternity roosts and these generally correspond with house attics and forests, neither of which are present or proposed to be removed.

5. Summary of Natural Heritage Features

The findings of the background review and field investigations have been relied upon to determine if the subject site supports any of the natural heritage components recognized under the PPS, as well as the Region's and City's Official Plans.

Habitat for Threatened or Endangered Species

As discussed in the **Section 4.4**, the subject site does not support habitat for endangered and threatened species.

Significant Wetlands

There are no wetlands on or adjacent to the subject site.

Significant Woodlands

There are no significant woodlands associated with the subject site. While the Mary Fix Creek corridor is mapped as a cultural woodland, the corridor is less than 40 m in width and therefore does not satisfy the definition of a woodland, as defined in the City OP.

Significant Wildlife Habitat

A review of the Significant Wildlife Habitat Criteria Schedules for Ecoregion 7E (MNRF 2014) suggests that Mary Fix Creek could potentially be considered significant wildlife habitat based on its linkage functions. No other candidate SWH has been identified.

Significant Valleyland

The City OP criteria for significant valleylands reads as follows:

6.3.12 g significant valleylands are associated with the main branches, major tributaries and other tributaries and watercourse corridors draining directly to Lake Ontario including the Credit River, Etobicoke Creek, Mimico Creek and Sixteen Mile Creek.

Mary Fix Creek is associated with a natural valley landform in this location and is tributary to the Credit River, therefore meets the City's definition of a Significant Valleyland.

Fish Habitat

Mary Fix Creek is confirmed warmwater Fish Habitat (either direct or indirect).

Summary

In summary, the riparian area associated with Mary Fix Creek adjacent to the property supports the following natural heritage features:

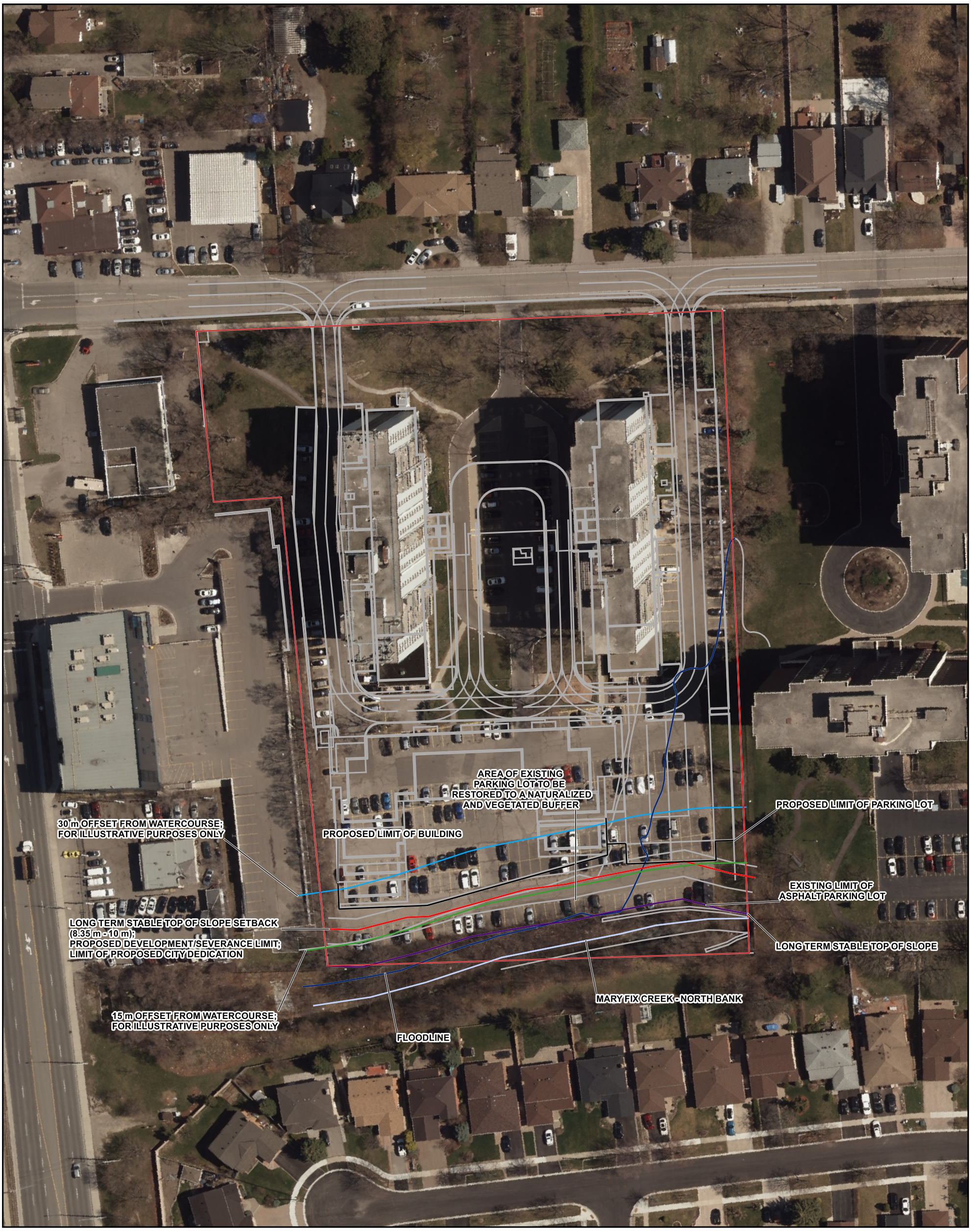
- Significant Valleyland; and
- Fish Habitat.

6. Constraints & Opportunities

The Mary Fix Creek corridor supports natural heritage features as described in the preceding sections. In addition, the creek corridor has natural hazards associated with it including a) the long-term stable top slope as determined by Terraprobe (2020), and b) the regulatory floodplain as determined by CVC.

The existing Mary Fix Creek floodplain overlaps part of the existing apartment parking lot grounds. The limits of development for the Site Plan were generally established by applying an approximately 10 m setback to the LTSTOS and a 10 m setback to the floodline. It should be noted that these setbacks have been used to guide the limits of development as it relates to the future building; i.e., some future parking will remain within the floodplain and some areas will have minor encroachment into the 10 m setback from the LTSTOS, but no closer to than 8.35 m to the LTSTOS. These encroachments do not have any effect on the protection of the NHS or its functions. Under CVC lot creation policies, a reduction to setbacks from natural hazards is permitted provided it can be demonstrated through studies, to the satisfaction of the CVC, that watershed protection objectives can be maintained. Such a variable LTSTOS setback approach was confirmed with CVC on January 27, 2023, provided the setback is no less than 6 m in any location. These setbacks are illustrated on **Figure 3** and the Site Plan (**Figure 4**).

With respect to the cultural woodland community associated with Mary Fix Creek, no separate buffers have been recommended as the ±10 m LTSTOS setback captures the adjacent lands, where impacts to ecological functions (i.e., fish habitat, wildlife movement) are most likely to occur. Furthermore, because the condition and quality of the cultural woodland is poor and has been severely impaired by the predominance of litter, debris and harmful invasive species, application of an ecological buffer would not provide for greater protection. It is however recognized that the 10 m setbacks that have been applied to natural hazards will be naturalized in part and will function as an ecological buffer as well.



Legend

- Proposed Development
- 15m Water Offset
- 30m Water Offset
- Building Limt
- Ex.Property Line
- Flood Line
- LTSTOS
- LTSTOS Setback
- North Creek Bank
- Paving Limit

Constraints & Opportunities | **Figure 3**

2570-2590 Argyle Road, Mississauga EIS

BEACON ENVIRONMENTAL

Project: 221188
Last Revised: July 2023

Client: Ranee Management

Prepared by: SZ
Checked by: JS

1:1,000

0 20 40 m

C:\ODB\OneDrive - Beacon Environmental\GeoSpatial\Geo Projects\2021\221188 2570-2590 Argyle Road, Mississauga EIS\Q Project Files\2023-07-13_2570-2590ArgyleRd_221188.qgz

DEVELOPMENT STATISTICS

m - Denotes Meters — *min - Denotes Minimum*
sm - Denotes Square Meters — *max - Denotes Maximum*

PROJECT DATA

Municipal Address of Subject Lands:	**2570 -2590 Argyle Road** Mississauga, Ontario
Legal Description:	**Part of Block A Registered Plan E-23**
Zoning By-law:	Zoning By-law 0225-2007, Enacting Bylaw BL-0225/07, BL-0131/18 Exception Zone Map # 15 By-law: 0174-2017 RA4-18

Zoning :	(Apartment)	**RA4-18**	
	(Greenlands)	**G1**	
Permitted F.S.I. :	By-law: 0225-207	**1.50**	
	Mississauga Official Plan, Cookville NHD (West) FSI ranges 0.5 - 1.2		
Permitted Lot Coverage:		**40%**	
Lot Frontage:		142.56 m	
Lot Depth:		174.02 m	
Established Grade:		**113.27** m	
Published Elevation		115.617 m	

Proposed Use :		**Apartment**
Lot Area:		
Lot Area excluding conveyance	**19,460.68**	sm
Argyle Conveyance - North corner	**9.05**	sm
Southeast Greenland Zone Conveyance	**2,064.10**	sm
Total Lot Area	**21,533.82**	sm
Proposed F.S.I.		
Total lot area FSI	**1.85**	
Exclucing conveyance FSI	**2.05**	
Proposed GFA COMBINED :	**39,945.04**	sm
Total NEW Building C	18,755.44	sm
Total EXISTING Building A & B	21,189.60	sm
Existing F.S.I.	1.09	
Proposed Lot Coverage:	**25%**	
No of Frontages:	1	
CDG (Canadian Geodetic Datum)		

BUILDING HEIGHT

STANDARD		*PROPOSED*	
Highest point of the roof surface of a flat roof:		Highest point of the roof surface of a flat roof:	
Height to Top of MPH Roof	N/A m	Height to Top of MPH Roof C:	47.30 m
No. of Storeys Permitted:	13 storeys	No. of Storeys Proposed C:	14 storeys

BUILDING SETBACKS

STANDARD	*m*	*PROPOSED*	*m*
Front Yard Setback E	7.50 min	Front Yard Setback E	111.00
Side Yard Setback S	4.50 min	Side Yard Setback S	32.00
Side Yard Setback N	4.50 min	Side Yard Setback N	4.50
Rear Yard Setback W *	4.50 min	Rear Yard Setback W *	3.00
*to Greenlands zone (easement)			

PROPOSED LANDSCAPED SOFT AREAS

	sm	%	
Lot Area:	21,533.82		
Ground Floor Area*	5,371.2	25%	* *Building Footprint New + Existing*
Landscaped Open Space**	9,622.7	45%	** *Soft Landscaping + Hard Landscaping areas*
Paved Surface Area***	6,540.0	30%	*** *Driveway, Parking lots and loading areas*

PROPOSED RESIDENTIAL UNITS

TOTAL Number of Residential Units Building A, B, + C: **508**

EXISTING:	*Unit Count*	NEW:	*Unit Count*
Rental Building A:	127	Rental Building C:	255
Rental Building B:	126		
Total Building A + B:	**253**	Total Rental Building C :	**255**

PROPOSED AMENITY

STANDARD	*sm*	*PROVIDED*	*sm*
the greater of 5.6 m2 per dwelling unit or 10% of the site area			
10% of Site Area:	2,153.38	TOTAL Indoor Amenity Provided:	466.88
5.6 SM / Building C units +		TOTAL Outdoor (other) Provided:	698.18
Playground Replacement:	1,583.00	TOTAL Outdoor (at grade) Provided:	2,406.84
5.6 SM / Existing Units	1,416.80		
Required amenity:	**2,999.80**	TOTAL Amenity:	**3,571.90**
50% in one contiguous area	*1,499.90*		

PROPOSED PARKING SPACE

STANDARD	Prk.Spaces	*PROVIDED*	Prk.Spaces
Total Parking Spaces Required A, B + C:	**568**	Total Parking Spaces Provided:	**570**
New Building C		Breakdown of parking space by location:	
Breakdown of parking space by ratio:	0.9	Open Surface Spaces	163
		Above Grade Parking	254
Residential TOTAL:	**230**	Below Grade Parking	153
		TOTAL	570
Visitor TOTAL (0.20/unit)	51		
TOTAL:	281		
Building A and B Existing :	287	***Building A + B Replacement***	**275**
		RATIO PROPOSED	1.09
TOTAL:	568		
		Building C	**295**
		RATIO PROPOSED	1.16

PROPOSED LOADING SPACE

STANDARD		*PROVIDED*	
	1 / Building		
Type of Loading Space Required:	3.5m x 9.0m	Type of Loading Space Provided:	3.5m x 9.0m
Building C	1	Building C	1
Building A Retain existing Loading Area			
Building B Retain existing Loading Area			

BREAKDOWN OF PROJECT DATA BY COMPONENTS - PROPOSED NEW BUILDING C

PROPOSED RESIDENTIAL UNIT MIX

PROVIDED TOTAL BUILDING C

Unit Type	*Unit Count*	Typical Unit Size	Percent
Studio	0	0.0sm	0%
1 Bedroom	128	0.0sm	50%
2 Bedroom	102	0.0sm	40%
3 Bedroom	25	0.0sm	10%
TOTAL C:	**255**		

PROPOSED AREAS

Zoning GFA	*sm*			
NEW C Residential GFA****	**18,755.44**	**** *GFA as defined by Zoning By-law*		
		Max GFA for each Storey above 12 Storeys	1,000.00	sm
		Proposed GFA (envelope) for 13th floor	1,418.58	sm
		Proposed GFA (envelope) for 14th floor	1,210.83	sm

BREAKDOWN OF PROJECT DATA BY COMPONENTS - EXISTING BUILDIGNS A & B

RESIDENTIAL UNIT MIX - EXISTING

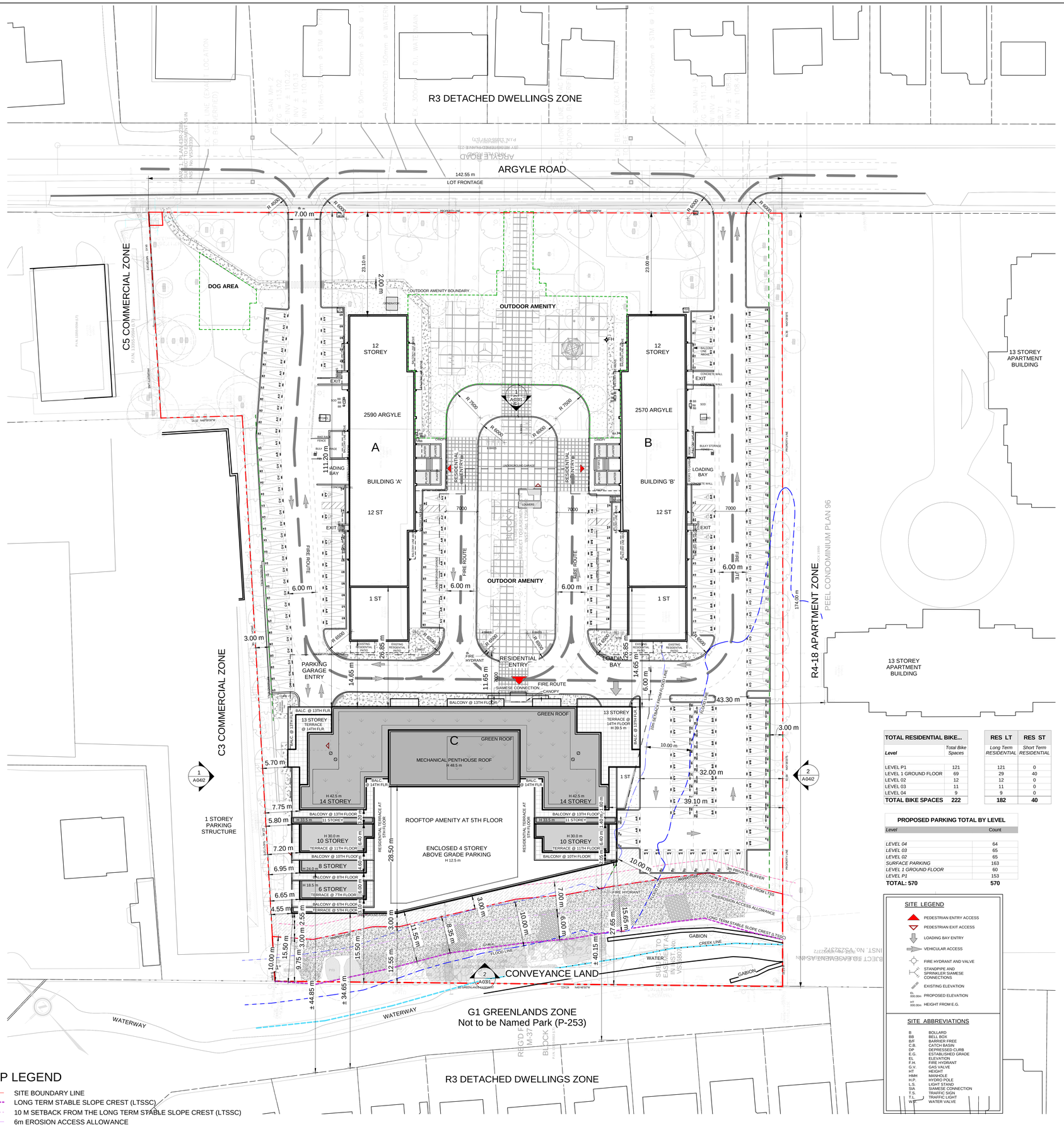
Existing BUILDING A - 2590 Argyle Unit Type	*Unit Count*	%
Studio	0	0%
1 Bedroom	60	47%
2 Bedroom	67	53%
3 Bedroom	0	0%
TOTAL:	127	

Existing BUILDING B - 2570 Argyle Unit Type	*Unit Count*	%
Studio	0	0%
1 Bedroom	59	47%
2 Bedroom	67	53%
3 Bedroom	0	0%
TOTAL:	126	

Existing TOTAL BUILDING A & B Unit Type	*Unit Count*	Percent
Studio	0	0%
1 Bedroom	119	47%
2 Bedroom	134	53%
3 Bedroom	0	0%
TOTAL A & B:	**253**	

AREAS - EXISTING

	sm	
Existing GFA		
1840 EXISTING A Residential GFA ¹	10,594.80	¹ *As per Mississauga Data WITH NO DEDUCTIONS*
1850 EXISTING B Residential GFA ¹	10,594.80	
TOTAL:	**21,189.60**	



TOTAL RESIDENTIAL BIKE... *Level*	Total Bike Spaces
LEVEL P1	121
LEVEL 1 GROUND FLOOR	69
LEVEL 02	12
LEVEL 03	11
LEVEL 04	9
TOTAL BIKE SPACES	**222**

RES LT *Long Term RESIDENTIAL*	RES ST *Short Term RESIDENTIAL*
121	0
29	40
12	0
11	0
9	0
182	**40**

PROPOSED PARKING TOTAL BY LEVEL *Level*	Count
LEVEL 04	64
LEVEL 03	65
LEVEL 02	65
SURFACE PARKING	163
LEVEL 1 GROUND FLOOR	60
LEVEL P1	153
TOTAL: 570	**570**

SITE LEGEND

- PEDESTRIAN ENTRY ACCESS
- PEDESTRIAN EXIT ACCESS
- LOADING BAY ENTRY
- VEHICULAR ACCESS
- FIRE HYDRANT AND VALVE
- STANDPIPE AND SPRINKLER SIAMESE CONNECTIONS
- EXISTING ELEVATION
- PROPOSED ELEVATION
- HEIGHT FROM E.G.

SITE ABBREVIATIONS

B	BOLLARD
BB	BELL BOX
B/F	BARRIER FREE
C.B.	CATCH BASIN
DP	DEPRESSED CURB
E.G.	ESTABLISHED GRADE
EL	ELEVATION
F.H.	FIRE HYDRANT
G.V.	GAS VALVE
HT	HEIGHT
MH	MANHOLE
H.P.	HYDRO POLE
L.S.	LIGHT STAND
SIA	SIAMESE CONNECTION
T.S.	TRAFFIC SIGN
T.L.	TRAFFIC LIGHT
W.V.	WATER VALVE

MAP LEGEND

- SITE BOUNDARY LINE
- LONG TERM STABLE SLOPE CREST (LTSSC)
- 10 M SETBACK FROM THE LONG TERM STABLE SLOPE CREST (LTSSC)
- 6m EROSION ACCESS ALLOWANCE
- 3m PRIVATE BUFFER
- FLOOD LINE
- 10 M SETBACK FROM THE FLOOD LINE
- CREEK LINE

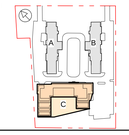
1 SITE PLAN
Scale: 1 : 300

True North — Project North

2023-08-11 9:23:29 AM

CLIENT
RANEE MANAGEMENT
4122 Bathurst St., Toronto, ON M3H 3P2
TEL: 416-756-3962

KEYPLAN



ISSUES

No.	DESCRIPTION	DATE
1	ISSUED FOR RE-ZONING/OPA	2020-08-31
2	ISSUED FOR RE-ZONING/OPA	2022-04-08
3	RE-ISSUE FOR ZONING/OPA	2023-08-11

SEAL

ARCADIS
ARCADIS ARCHITECTS (CANADA) INC.
55 St. Clair Avenue West, 7th Floor,
Toronto, ON M4V 2Y7, Canada
tel 416 596 1930 fax 416 596 0644
www.arcadis.com

PROJECT
ARGYLE
2570 - 2590 Argyle Rd.
CITY OF MISSISSAUGA, ON
PART OF BLOCK A
REGISTERED PLAN E - 23

PROJECT NO: 120325	
DRAWN BY: -	CHECKED BY: -
PROJECT MGR: -	APPROVED BY: -

SHEET TITLE
CONCEPT SITE PLAN & OVERALL PROJECT STATISTICS

SHEET NUMBER	ISSUE
A-003	3

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Through discussions with City and CVC staff at the April 28th, 2021 site visit, it was agreed that the condition of the Mary Fix Creek corridor is poor and that an opportunity exists to restore and enhance the corridor and its functions, and it was recommended that a Ravine Stewardship & Buffer Plan be prepared that aims to replace the non-native vegetation in the corridor with native vegetation. This approach compliments some of the City's planned rehabilitation works for a portion of the corridor on the southern part of the subject site where failing gabion baskets are to be replaced and the affected areas landscaped with native vegetation.

A Ravine Stewardship Plan and Buffer Planting Plan has been prepared by StudioTLA and Beacon to achieve a net gain in ecosystem functions within the creek corridor. This is further discussed in Section 10 below.

7. Description of Proposed Redevelopment

The proposed redevelopment of the subject site will see the retention of the two existing apartment buildings and the addition of a new 14-storey apartment building immediately to the west but set back from the creek corridor. The proposed development will consist of:

- 255 dwelling units;
- An enclosed 4 storey above grade parking lot directly attached on the west side of the new building;
- 164 open surface parking spaces, 254 above grade parking and 155 below grade parking: total of 573 total parking spaces provided;
- Building footprint of 3,181 m^2; and
- A 3-metre landscaped buffer between the comprehensive constraints limit and the proposed building as illustrated on the Site Plan (**Figure 4**).

Gross floor area is proposed to be 39,945 m^2 (4,299,64 ft^2). The new building (C) has a total proposed area of 18,755 m^2. The existing buildings (A&B) have and occupied area of 21,190 m^2. The current driveway to the building will remain the same with access from Argyle Road.

The key design principles behind the proposed development include:

- Creating additional dwelling units for residents;
- Enhancing and naturalizing lands associated with Mary Fix Creek, including a portion of the floodplain area and the entirety of the LTSTOS setback;
- Creating soft landscaping and hard landscaping areas;
- Approximately 4,500 m^2 outdoor amenity available to residents from Buildings A, B and C, including shade tree plantings, shrub plantings, benches, and play structures; and
- Stormwater quantity and quality control.

A copy of the Site Plan, prepared by IBI Group (August, 2023) is included as **Figure 4.**

As described in the Functional Servicing and Stormwater Management (FSSWM) Report prepared by C.F. Crozier & Associates Inc. (April 2023), the proposed development will be serviced by establishing connections to existing water and sanitary services along Argyle Road. None of these services are located within or adjacent to the NHS.

The catchment areas will be altered slightly to accommodate the proposed building and amenity space. As such, new stormwater quantity and quality controls for the catchments that discharge to Mary Fix Creek are proposed. Stormwater runoff from the proposed parking area is proposed to be treated to 80% total suspended solids (TSS) removal, prior to entering a storage tank and discharging to the watercourse via a 300 mm diameter storm sewer outlet. Stormwater from the proposed building roof will be stored in a tank and discharged to Mary Fix Creek via the same 300 mm diameter outlet. Stormwater infrastructure, including storage tanks, will be designed to manage peak flows in accordance with City requirements. A minimum storage volume of 275 m^3 will be provided by underground stormwater tanks. The proposed SWM strategy also provides storage for maintaining the site water balance and erosion control, as per City and CVC requirements, to be implemented by green roofs or rainwater harvesting. Additional details are provided in the FSSWM report (C.F. Crozier & Associates Inc. 2023).

The existing 300 mm stormwater outlet to Mary Fix Creek is presumed to be buried and proposed to be restored in the same location.

8. Potential Impacts and Mitigation

Background review and field investigations confirm that the subject site consists of predominantly anthropogenic features associated with the existing apartment buildings and parking areas that cover the entire the subject site except for the Mary Fix Creek valleylands. Natural heritage and hazard features associated with Mary Fix Creek include the watercourse, fish habitat, cultural woodland, erosion hazard and floodplain. The following section provides an assessment of potential direct and indirect impacts that the proposed redevelopment may have on the natural heritage features and ecological functions and recommendations for mitigation measures that can be implemented to avoid, minimize, or off-set potential impacts.

9. Impact Assessment

The proposed redevelopment has been designed to avoid the Mary Fix Creek corridor. The future development limits are based on application of setbacks to natural hazards (floodplain and LTSTOS) and will see the future development limits set back further from the creek corridor than the existing development. The proposed redevelopment will be confined to the existing parking lot which, by design, will avoid direct impacts to natural heritage features and ecological functions.

While the proposed redevelopment will introduce an additional apartment building and a greater number of occupants to the site, it is not anticipated that this will result in additional sources of stressors on the corridor as there are no trails or parklands associated with the corridor that would attract potential use or activities (i.e., dog walking, etc.). Furthermore, the creek corridor will be protected by implementing a variable, 8.35–10 m setback to the LTSTOS. This setback will be naturalized as a vegetated buffer, with dense tree and shrub plantings, fenced, and placed in public ownership which will effectively discourage human encroachment. Between the buffer and the building, the 3-m wide building setback will be naturalized with native seed mix consisting of wildflowers, grasses, and sedges, to provide additional habitat and occasional access for building maintenance.

In conjunction with the proposed redevelopment, it is proposed that the ecological condition of the creek corridor be restored and enhanced by managing invasive species and replacing them with native species to promote biodiversity.

Shading of the Mary Fix Creek corridor is not expected to be substantially greater than the existing shading, as the proposed building is situated north of Mary Fix Creek. The Shadow Study by IBI Group, dated May 2023, demonstrated that sun coverage of Mary Fix Creek corridor was 85% on the summer solstice, and greater on all other dates. Based on a review of the Shadow Study, the proposed building appears to add one additional hour of shade on the summer solstice (between 8:20 and 9:20 am), less than one additional hour of shade on the equinox (between 9:12 and 10:12 am), and no additional shade on the winter solstice. Although some additional shading is anticipated, such shading is typical of natural forest succession and its the effect will be mitigated by introducing shade-tolerant tree species that are characteristic of a mature woodland community.

The potential for impact of the development on bird mortality will be mitigated by implementing bird-friendly building design standards, such as CSA A460:19, through detailed design. Such design elements should include consideration for the affect of artificial lighting and glass on bird mortality and may be in accordance with City of Toronto *2017 Best Practices for Effective Lighting* and *2016 Bird Friendly Practices Glass*, the American Bird Conservancy *Bird-Friendly Building Design* (2019), and the City of Markham *Bird Friendly Guidelines* (2014). All lighting installed in relation to the redevelopment should be shielded and directed away from the Mary Fix Creek corridor to the extent feasible.

In terms of short-term impacts, the proposed redevelopment has the potential to indirectly impact fish habitat in Mary Fix Creek during construction if sediment is released to the watercourse. Such impacts can be avoided by implementing erosion and sediment control measures as outlined in the Functional Servicing Report (C.F. Crozier & Associated Inc. 2023). Any grading or site alteration related activities should be confined to the established limit of development. Fencing at the development limit should be regularly inspected and maintained in good working order throughout the construction period. Fencing should be removed upon completion of construction after exposed soils have been stabilized. Standard Best Management Practices, including the provision of sediment control measures, should also be employed during the construction process.

The potential impacts of stormwater will be mitigated through implementation of the recommendations in the FSR (Crozier 2023) and the design of the proposed outlet to Mary Fix Creek by a fluvial geomorphologist during the detailed design stage. Utilizing the FSR-recommended storage system will attenuate the total peak flow to less than the existing total peak flow. The potential impacts of adverse water quality from parking areas will be mitigated using a filtration system that achieves 80% TSS removal, such as a Jellyfish filter (model JF6-5-1).

Long-term impacts to fish habitat in Mary Fix Creek are not anticipated based on the preliminary stormwater management report (Crozier 2023). Short-term impacts to fish habitat will be mitigated by adhering to an appropriate timing window for construction below the high-water mark. Based on the downstream records of a spring-spawning species (Brown Bullhead) and no other native fish species, work should not occur between March 15 and July 15 (Fisheries and Oceans Canada 2013). A self-assessment pursuant to the *Fisheries Act* shall be conducted at detailed design, and, if required, a Request for Review will be submitted to Fisheries and Oceans Canada. Notes related to fish and fish habitat protection will be included in construction drawings during detailed design.

The removal of vegetation from the subject site as part of the redevelopment proposal has the potential to affect breeding birds if nests are harmed. Such impacts can be avoided by restricting vegetation removals to the fall and winter. The federal *Migratory Birds Convention Act* (1994) and provincial *Fish*

and Wildlife Conservation Act protect the nests, eggs and young of most bird species from harm or destruction. As the breeding bird season in southern Ontario is generally from April to August, the clearing of vegetation (including grasses and shrubs) should ideally occur outside of these periods. Where not possible, for any proposed clearing of vegetation within these dates, or where birds may be suspected of nesting outside of typical dates, an ecologist should undertake detailed nest searches immediately prior to site alteration to ensure that no active nests are present.

There are a number of trees identified for preservation adjacent to the Mary Fix Creek corridor. The potential exists for damage to occur to those trees identified for retention. Trees can be negatively impacted through grade changes, soil compaction, root cutting, and mechanical damage to trunks and branches resulting from the operation of construction equipment. Where trees have been identified for retention, tree protection zones (TPZs) should be established on the ground consistent with tree protection hoarding as outlined in the accompanying Arborist Report (Kuntz Forestry Consulting Inc. 2023) and in accordance with City standards. No grading, soil disturbance or surface treatments shall occur within the TPZ. No equipment or materials shall be stored inside the TPZ. If grading or site alteration is required within the TPZs, then an ISA certified arborist should be consulted.

10. Ravine Stewardship & Buffer Planting Plans

The purpose of this section is to provide guidance for the restoration and enhancement of the Mary Fix Creek corridor. As was noted in **Section 6**, the corridor is highly degraded and there are existing parking areas abutting the valleylands that will need to be removed to provide for the future natural hazard setbacks, and for these reasons, the proposed development provides an opportunity enhance the condition and quality of the corridor and its ecological functions.

Enhancements can be achieved through:

- Removal of remaining debris/garbage from the valleylands;
- Targeted removals of invasive species from the valleylands; and
- Restoration of native diversity to the valley land and the setback zone.

Beacon has developed strategies and actions that should be implemented to achieve the desired enhancements. Beacon has worked with Studio TLA to develop the Ravine Stewardship and Buffer Planting Plan, which is provided in **Appendix C**.

Outlined below are the key issues that are currently affecting the quality and function of the Mary Fix Creek corridor on the subject site, which were incorporated into the Ravine Stewardship Plan.

10.1 *Issue No. 1. Litter, Debris, Fill, and Existing Parking Lot*

While undertaking field investigations of the creek corridor, it was noted that there is considerable litter and waste within the corridor that has been either dumped or blown in. There is no fencing to prevent dumping of waste, so there has been considerable accumulation over the years. The waste is comprised of windblown litter, plastics, construction waste, and fill. The existing parking lot is located within the LTSTOS setback. Removal of the foreign debris and parking lot from the corridor will improve the

aesthetic appearance and provide for opportunities to encourage revegetation of the bare ground, as well as enhance the ecological quality of the ravine.

Objective:

- To improve the quality and condition of the ravine and increase opportunities for vegetation establishment.

Strategy:

- Remove all foreign surface and sub-surface foreign waste from the valley slopes.

Actions:

- Inventory all surface and buried foreign debris and waste.
- Extract all foreign debris and waste by hand.
- Remove asphalt parking lot with small- to medium-sized equipment.
- Remove waste from site and dispose of appropriately.
- Repair any excavated areas using soils comparable in texture to the native soil.
- Introduce topsoil to the area of existing parking lot, as per CVC guidelines.
- Revegetate with native species (also ref. Issue 2).
- Establish gate-less fencing at the limit of the proposed area to be dedicated to the City (i.e., the LTSTOS setback) and restrict future access.
- Inspect and monitor for five years.

10.2 *Issue No. 2. Invasive Species*

Vegetation within the creek corridor is dominated by non-native species, including highly invasive species that threaten populations of native vegetation in the valley corridor. Once established, these typically aggressive species can displace native species and reduce overall biodiversity. On the subject site, the most problematic invasive species includes Manitoba Maple, Common Buckthorn, Garlic Mustard and Tartarian Honeysuckle. These species are present throughout the creek corridor and adjacent lands. The presence of these species contributes to the degradation of the valley system by acting as a perpetual seed source.

Eradication of all non-native and invasive species from the site would require removal of the majority of vegetation cover from the valley slope and floodplain. Removal of vegetation from the valley slope would require an extensive program of phased management to successively replace the undesirable species while retaining slope stability. To fully restore native cover in both the valleyland as well as the future setback area, it is recommended that these invasive species be removed from the valley corridor on the subject site and replaced with site appropriate native species.

Objectives:

- To reduce the impact of non-native invasive species on the creek corridor ecosystem.
- To provide opportunities for establishment of native species.

Strategy:

- Remove all non-native vegetation from the valleyland portion of the subject site.
- Implement a long-term strategy (5 years) to control and suppress of invasive species:
    - Inspect annually for five years and provide monitoring report annually to the City; and
    - Provide final monitoring report at the close of the 5-year period.

Actions:

- Obtain required permit for tree removals.
- Cut down all non-native invasive trees and large shrubs from the valleyland.
- Cut larger tree stems (> 20 cm in diameter) into 1 m segments and retain on site for reuse in setback area following site preparation.
- Remove from the site and dispose of any shrubs, small branches or diseased woody material.
- Chip remaining woody debris and retain on site for future mulching following site preparation.
- Apply an effective and appropriate herbicide to any cut tree and shrub stumps and populations of garlic mustard.
- Inspect the area annually to determine effectiveness of the control treatments.
- Apply a 30 cm layer of woodchips to the treated areas to suppress invasives in the soil seed bank.
- Monitor annually for five years.

10.3 *Issue No. 3. Low Native Cover & Diversity*

The predominance of invasive trees, shrubs and groundcovers in the creek corridor has prevented the establishment of native vegetation on this site which has impaired the ecological health of the system. The health and diversity of the creek corridor can be restored by removing the detrimental invasive species and replacing them with native vegetation, both on the valley slope and in the future ±10 m setback zone. Native vegetation should include a mixture of trees, shrubs and ground covers that are compatible with the Mary Fix Creek / Credit River watershed

Objectives:

- To restore native vegetation to the valley slope and restore the tableland portions of the site. (±10 m setback).
- To reintroduce a seed source of quality native species that can expand naturally to the creek corridor.
- To enhance native species diversity in the valley corridor.
- Introduce shade tolerant tree species that are characteristic of a mature woodland community.
- To restore wildlife habitat by creating structure and food plant sources.

Strategy:

- Naturalize the future ±10 m setback on the tableland by converting the existing parking space to natural woodland flourishing with native vegetation.

- Naturalize the valleylands by planting native species following the removal of invasive species.

Actions:

- Implement plantings as per the Ravine Stewardship and Buffer Planting Plans prepared by Studio TLA.
- All tree whip/sapling stock to be protected from rodents using collar guards.
- Planting beds to be maintained (watered and weeded) for a period of two years following initial installation.
- Inspect & monitor annually for 5 years:
    - Inspect annually for five years and provide monitoring report annually to the City; and
    - Provide final monitoring report at the close of the 5-year period.

11. Conformity with Applicable Policies and Regulations

A summary of federal, provincial and municipal environmental protection and planning policies and regulations applicable to the subject site were discussed in **Section 2**. An evaluation of how the proposed redevelopment conforms with the applicable policies and legislation is summarized in **Table 1**.

Table 1. Policy Compliance Assessment

Applicable Policy / Legislation	Relevant EIS Findings and Recommendations	Policy Compliance
***Federal Fisheries Act* (1985)**	Mary Fix Creek supports fish habitat.	Yes. Fish habitat will be protected, maintained and enhanced.
***Endangered Species Act* (2007)**	No endangered or threatened species present.	Yes. No habitat for endangered or threatened species will be impacted.
Provincial Policy Statement (2020) Section 2.1 – Natural Heritage		
1. Habitat for Threatened and Endangered Species	No endangered or threatened species present.	Yes. No impacts to habitats of endangered or threatened species.
2. Significant Valleylands	Mary Fix Creek is a significant valleyland.	Yes. No development is being proposed within the valleyland. Functions will be protected, maintained, and enhanced.
3. Significant Wetlands	There are no wetlands in the study area.	Yes. No wetlands will be impacted
4. Significant Woodlands	There are no significant woodlands associated with the subject site.	Yes. No significant woodlands will be impacted.
5. Significant Wildlife Habitat	Mary Fix Creek corridor functions as a wildlife linkage.	Yes. Linkage functions will be protected, maintained, and enhanced.
6. Significant Areas of Natural and Scientific Interest	There are no Areas of Natural or Scientific Interest in the study area.	Yes. No ANSIs will be impacted.
7. Fish Habitat	Mary Fix Creek supports fish habitat.	Yes. Fish habitat will be protected, maintained and enhanced.
Region of Peel Official Plan (2022)	There are no Core Areas on or adjacent to the site. For NACs and	Yes. The Mary Fix Creek corridor may quality as an NAC or PNAC. The creek

Applicable Policy / Legislation	Relevant EIS Findings and Recommendations	Policy Compliance
	PNACs the Region defers to the City and CVC.	corridor is being protected, maintained and enhanced.
Mississauga Official Plan (2023)		
1. Natural Heritage System	The Mary Fix Creek is identified as a Linkage. As it supports fish habitat and valleyland, it also qualifies as a Significant Natural Area, although the City maps NHS components as exclusive of one another.	Yes. No development is proposed within the NHS. The Mary Fix Creek corridor will be protected and enhanced.
2. Natural Hazard Lands	Natural Hazards associated with the subject site include the floodplain and erosion (slope) hazards associated with Mary Fix Creek. No new development is proposed within these hazards.	Yes. All hazards are being avoided.
CVC Regulations and Policies	See above	See above.

12. Conclusion

Ranee Management is proposing to redevelop the existing parking lot space and grounds located at 2570-2590 Argyle Road in Mississauga. The proposed redevelopment proposal consists of a 14-storey apartment to accompany the existing two apartment buildings, an enclosed four-storey parking lot, and a shared outdoor amenity.

The subject site currently contains two residential apartment buildings, surface parking, and other associated facilities. The Mary Fix Creek corridor is identified as a Linkage and part of the City's NHS. The proximity of the NHS requires that an EIS be prepared to assess the redevelopment proposal.

This EIS describes the natural heritage features and ecological functions associated with the subject site, evaluates their significance, identifies constraints and opportunities to redevelopment, assesses the direct and indirect impacts on the NHS components, and recommends mitigation and enhancement measures to avoid or minimize impacts.

The EIS has confirmed that significant natural heritage features are limited to the Mary Fix Creek corridor which is being protected through application of natural hazard setbacks. Significant natural heritage features associated with the subject site include fish habitat, significant valleylands and linkage. Natural hazards include floodplain and slope/erosion hazards.

The ecological condition of the Mary Fix Creek corridor is poor and has been degraded due to flooding and erosion. Former erosion protection (i.e., gabions) has failed and is subject to repair by the City. Additionally, the riparian vegetation along the corridor is dominated by non-native, invasive species which are negatively impacting fish and wildlife habitat and preventing the recruitment and establishment of beneficial native vegetation. As the creek corridor has been ecologically compromised for a prolonged period, the risk of the proposed redevelopment impacting habitats or ecological functions is low.

The EIS recommends that the segment of creek corridor on the subject site be restored and enhanced and has developed a Ravine Stewardship and Buffer Planting Plan outlining a strategy for this. The Ravine Stewardship Plan includes recommendations for cleaning up the corridor by removing waste and debris and restoring native biodiversity by removing invasive species and planting appropriate native species of trees, shrubs and groundcovers. The Buffer Planting Plan includes recommendations for converting the former parking areas adjacent to the LTSTOS to a naturalized buffer strip that will be planted with native trees, shrubs and groundcovers. Implementation of both these plans as well as permanent fencing at the development limits will serve to enhance the ecological functions of the corridor and provide for long term protection.

In summary, this EIS has confirmed that proposed redevelopment will not result in a negative impact to NHS provided the mitigation and enhancement recommendations identified in this report and companion studies are implemented. Furthermore, implementation of the Ravine Stewardship Plan is anticipated to result in a positive impact to the NHS over the long term.

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Report reviewed by:
Beacon Environmental

Ken Ursic, B.Sc., M.Sc.
Principal, Senior Ecologist

13. References

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Appendix A

Plant List

Appendix A

Plant List

Scientific Name	Common Name	SRank[a]	PEEL[b]
Acer negundo	Manitoba Maple	S5	
Acer platanoides	Norway Maple	SE5	
Acer saccharum	Sugar Maple	S5	
Alliaria petiolata	Garlic Mustard	SE5	
Amelanchier laevis	Smooth Serviceberry	S5	U
Arctium minus	Common Burdock	SE5	
Artemisia vulgaris	Common Wormwood	SE5	
Avena sativa	Cultivated Oats	SE2	
Cornus racemosa	Grey Dogwood	S5	
Eurybia macrophylla	Large-leaved Aster	S5	
Fraxinus americana	White Ash	S4	
Fraxinus pennsylvanica	Red Ash	S4	
Galium aparine	Common Bedstraw	S5	R4
Geum aleppicum	Yellow Avens	S5	
Glechoma hederacea	Ground-ivy	SE5	
Juniperus virginiana	Eastern Red Cedar	S5	
Leonurus cardiaca	Common Motherwort	SE5	
Lonicera tatarica	Tatarian Honeysuckle	SE5	
Malus pumila	Common Apple	SE4	
Morus alba	White Mulberry	SE5	
Nepeta cataria	Catnip	SE5	
Picea abies	Norway Spruce	SE3	
Picea pungens	Blue Spruce	SE1	
Pinus nigra	Austrian Pine	SE3	
Plantago major	Common Plantain	SE5	
Potentilla recta	Sulphur Cinquefoil	SE5	
Prunus avium	Sweet Cherry	SE4	
Prunus virginiana	Chokecherry	S5	
Quercus macrocarpa	Bur Oak	S5	
Rhamnus cathartica	European Buckthorn	SE5	
Rosa multiflora	Multiflora Rose	SE5	
Solidago canadensis	Canada Goldenrod	S5	
Sorbus aucuparia	European Mountain-ash	SE4	
Thlaspi arvense	Field Pennycress	SE5	
Tilia americana	Basswood	S5	
Toxicodendron radicans	Poison Ivy	S5	

a - SRANK (from Natural Heritage Information Centre) for breeding status if: S4 (Apparently Secure), S5 (Secure) SNA (Not applicable…'because the species is not a suitable target for conservation activities'; includes non-native species)
b - Varga, 2005 (Distribution and Status of the Vascular Plants of the Greater Toronto Area): R^x, where x is the number of stations for a rare native specie

Appendix B

Bird List

Appendix B

Bird List

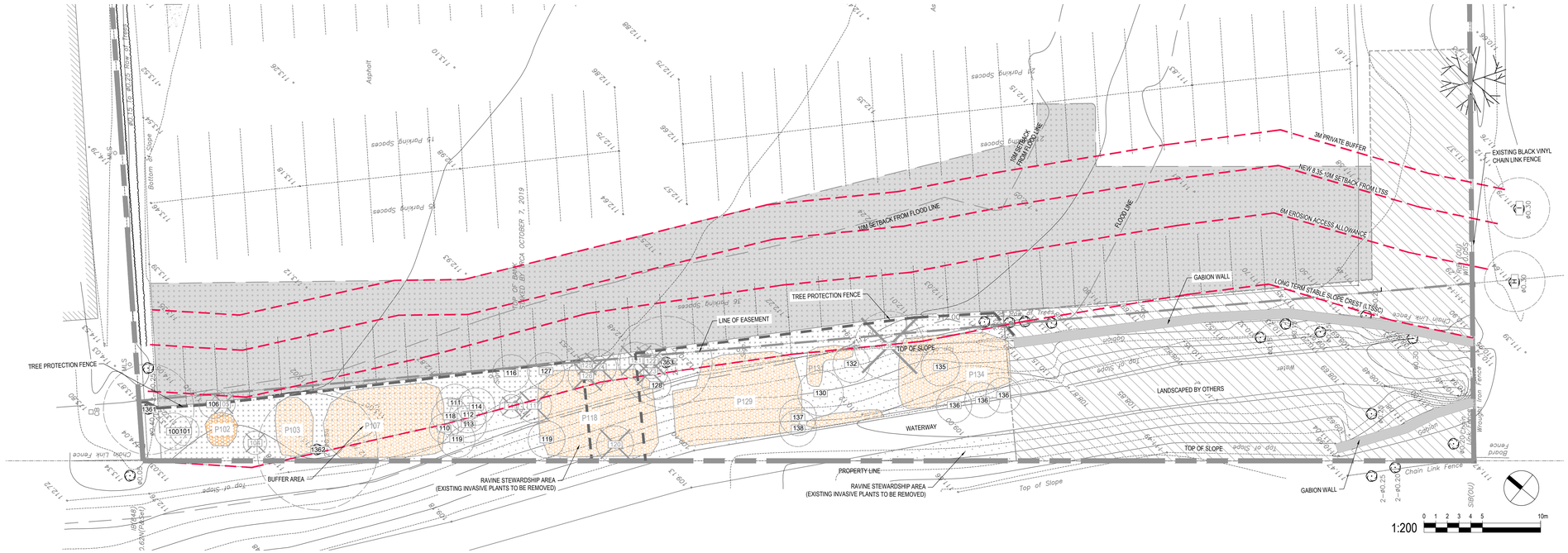
Common Name	Scientific Name	Status				# Breeding Pairs
		National Species at Risk COSEWICa	Species at Risk in Ontario Listing a	Provincial breeding season SRANK [b]	Area-sensitive (OMNR)c	
Rock Pigeon	*Columba livia*			SNA		2
Black-capped Chickadee	*Poecile atricapillus*			S5		2
Red-breasted Nuthatch	*Sitta canadensis*			S5	A	1
American Robin	*Turdus migratorius*			S5		6
Gray Catbird	*Dumetella carolinensis*			S4		1
European Starling	*Sturnus vulgaris*			SE		5
Northern Cardinal	*Cardinalis cardinalis*			S5		1
Brown-headed Cowbird	*Molothrus ater*			S4		1
House Finch	*Haemorhous mexicanus*			SNA		2
House Sparrow	*Passer domesticus*			SNA		12

Field Work Conducted On: *June 11 and 23, 2021*
Number of Species: 10
Number of (provincial and national) Species at Risk: 0
Number of S1 to S3 Species: 0
Number of TRCA L1, L2 and L3 Species (Species of Concern): 0
Number of Area-sensitive Species: 1

KEY
a COSEWIC = Committee on the Status of Endangered Wildlife in Canada
a Species at Risk in Ontario List (as applies to ESA) as designated by COSSARO (Committee on the Status of Species at Risk in Ontario)
END = Endangered, THR = Threatened, SC = Special Concern
[b] SRANK (from Natural Heritage Information Centre) for breeding status if:
S1 (Critically Imperiled), S2 (Imperiled),S3 (Vulnerable), S4 (Apparently Secure), S5 (Secure)
SNA (Not applicable…'because the species is not a suitable target for conservation activities'; includes non-native species)
c Ontario Ministry of Natural Resources (OMNR). 2000. Significant Wildlife Habitat Technical Guide (Appendix G). 151 p plus appendices.

Appendix C

Ravine Stewardship Plan



LEGEND

- EXISTING TREE TO REMOVE
- EXISTING INVASIVE VEGETATION TO BE REMOVED AND MANAGED
- EXISTING TREE TO REMAIN
- NATURALIZED BUFFER PLANTING AREA
- EXISTING ASPHALT TO BE REMOVED AND TOP SOILED
- RAVINE STEWARDSHIP AREA
- LANDSCAPED BY OTHERS

GENERAL

1. ALL RESTORATION ACTIVITIES INCLUDING INVASIVE SPECIES MANAGEMENT AND PLANTING SHOULD OCCUR BY HAND WITHIN THE RAVINE AREA TO AVOID IMPACTS TO TREES AND SHRUBS IDENTIFIED FOR PRESERVATION
2. ALL WOODCHIPS AND BRANCHES GENERATED DURING THE INVASIVE SPECIES REMOVAL PROCESS WILL BE REMOVED FROM SITE.

ENVIRONMENTAL RESTRICTIONS AND TIMING

1. NO DEBRIS MAY ENTER THE WATERCOURSE. PROTECT THE WATERCOURSE AT ALL TIMES.
2. NO VEGETATION CLEARING IS PERMITTED BETWEEN MARCH 31st AND AUGUST 31st, SO AS TO AVOID IMPACTING NESTING MIGRATORY BIRDS, AS PER ENVIRONMENTAL CANADA RECOMMENDATIONS FOR BREEDING ZONE C1. LIMITED CLEARING OUTSIDE THIS WINDOW MAY BE PERMITTED IF NEST CLEARANCES ARE PROVIDED BY A QUALIFIED AVIAN BIOLOGIST
3. NO MAINTENANCE OR FUELING OF EQUIPMENT IS PERMITTED WITHIN 50 METRES (M) OF WATERCOURSE OR WATER BODIES.

VEGETATION REMOVALS -- GENERAL

1. CONTRACTOR TO REVIEW THE LOCATIONS OF ALL REMOVALS INDICATED ON THIS PLAN WITH THE LANDSCAPE ARCHITECT.
2. PRIOR TO REMOVAL, THE CONTRACTOR IS TO ENSURE THAT APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURES ARE INSTALLED AROUND THE REMOVAL AREAS AND THE APPROPRIATE TIMING WINDOW IS BEING FOLLOWED (SEE NOTE 2).
3. REMOVALS ARE TO BE CONDUCTED WITH SMALL EQUIPMENT AND NO DISTURBANCE TO THE GROUND SURFACE SHOULD OCCUR. IF TREES ARE TO BE REMOVED FROM THE AREA WITH AN EXCAVATOR, THE EXCAVATOR SHOULD BE OPERATED FROM THE TOP OF SLOPE.
4. BARE SOIL UNDER THE EXISTING VEGETATION SHALL BE STABILIZED WITHIN 30 DAYS OF VEGETATION REMOVAL WITH THE APPROPRIATE NURSE CROP SEED MIX (SEE PLANTING PLAN).

TOPSOILING OF EXISTING ASPHALT AREA

1. PRIOR TO IMPORTING NEW TOPSOIL, TILL AND/OR SCARIFY THE EXISTING SUBSOIL TO ADDRESS COMPACTION TO A DEPTH OF 45 CM.
2. IMPORTED TOPSOIL SHALL MEET THE REQUIREMENTS OF THE CVC HEALTHY SOILS GUIDELINE, SECTION 2.3.

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no.	revision	date	by
03	ISSUED FOR REZONE	2023-07-04	RR
02	ISSUED FOR REZONE	2020-09-11	RR
01	ISSUED FOR REZONE	2020-07-03	RR

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CLIENT

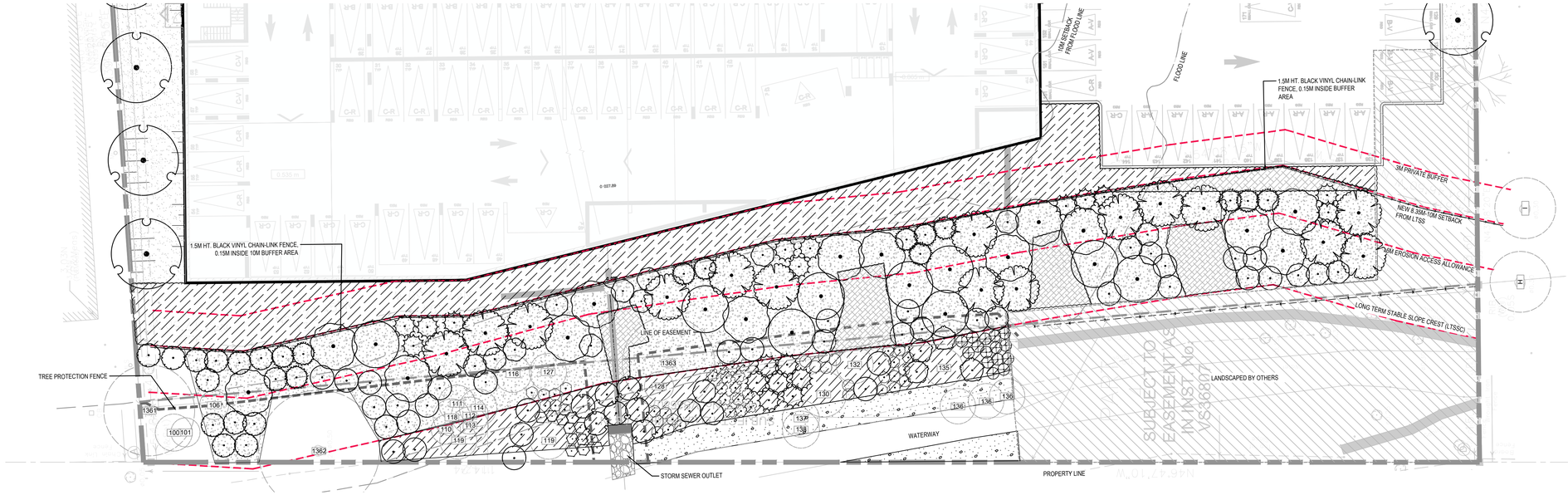
PROJECT
2570 ARGYLE ROAD
MISSISSAUGA, ONTARIO

DRAWING
REMOVELS AND SITE PREPARATION PLAN

DRAWN:	ZW
CHECKED:	RR
SCALE:	AS SHOWN
DATE:	2016-12-15
PROJECT NO.:	19-154

SHEET NO.: LS-100

ONTARIO ASSOCIATION OF LANDSCAPE ARCHITECTS MEMBER



LEGEND

- XXX — EXISTING TREE TO REMAIN
- UPLAND SEED MIX
- LOWLAND SEED MIX

1:200 (0 1 2 3 4 5 10m)

PLANT SCHEDULE RAVINE STEWARDSHIP PLANTING

TREES	CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT.	CAL.	HT.	REMARKS
	AR	8	ACER RUBRUM	RED MAPLE	POT		125 CM	NATIVE
	CC	3	CARYA CORDIFORMIS	BITTERNUT HICKORY	POT		125 CM	NATIVE
	PT	4	POPULUS TREMULOIDES	QUAKING ASPEN	POT		125 CM	NATIVE
	TA	7	TILIA AMERICANA	BASSWOOD	POT		125 CM	NATIVE
	TO	7	THUJA OCCIDENTALIS	EASTERN WHITE CEDAR	POT		125 CM	NATIVE

SHRUBS	CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT.	HT.	SPR.	REMARKS
	Ca	12	CORNUS ALTERNIFOLIA	PAGODA DOGWOOD	3 GAL.	60CM		NATIVE
	Lc	7	LONICERA CANADENSIS	CANADA HONEYSUCKLE	2 GAL.	60 CM		NATIVE
	OV	12	OSTRYA VIRGINIANA	AMERICAN HOPHORNBEAM	2 GAL.	60 CM		NATIVE
	SB	15	SALIX BEBBIANA	BEBB'S WILLOW	2 GAL.	60CM		NATIVE
	Sr	14	SAMBUCUS RACEMOSA	RED ELDERBERRY	2 GAL.	60CM		NATIVE
	Vl	10	VIBURNUM LENTAGO	NANNYBERRY	2 GAL.	60CM		NATIVE

LOWLAND SEED MIX:

Wet to moist sites and soils including riparian areas where restoration or enhancement of an existing natural community is required. Typically not required for SWM ponds.

Common Name	Scientific Name	% of Mix
Canada Anemone	*Anemone canadensis*	1%
Nodding Beggarticks	*Bidens cernua*	1%
Fox Sedge	*Carex vulpinoidea*	25%
Virginia Wildrye	*Elymus virginicus var. virginicus*	25%
Spotted Joe Pye Weed	*Eutrochium maculatum var. maculatum*	1%
Soft Rush	*Juncus effusus ssp. solutus*	5%
Path Rush	*Juncus tenuis*	5%
Fowl Bluegrass	*Poa palustris*	25%
Dark-green Bulrush	*Scirpus atrovirens*	5%
New England Aster	*Symphyotrichum novae-angliae*	1%
Swamp Aster	*Symphyotrichum puniceum*	1%
Blue Vervain	*Verbena hastata*	5%
		100%

*% of seed mix refers to % by weight

UPLAND SEED MIX:

Common Name	Scientific Name	% of Mix
Canada Anemone	*Anemone canadensis*	1%
Common Milkweed	*Asclepias syriaca*	2%
Limestone Meadow Sedge	*Carex granularis*	15%
Virginia Wildrye	*Elymus virginicus var. virginicus*	40%
Grass-leaved Goldenrod	*Euthamia graminifolia*	1%
Wild Bergamot	*Monarda fistulosa var. fistulosa*	1%
Common Evening Primrose	*Oenethera biennis*	25%
Black Eyed Susan	*Rudbeckia hirta*	10%
Canada Goldenrod	*Solidago canadensis var. canadensis*	1%
Early Goldenrod	*Solidago juncea*	1%
Gray-stemmed Goldenrod	*Solidago nemoralis ssp. nemoralis*	1%
New England Aster	*Symphyotrichum novae-angliae*	1%
White Vervain	*Verbena urticifolia*	1%

PLANT SCHEDULE BUFFER PLANTING

TREES	CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT.	CAL.	HT.	REMARKS
	AR	26	ACER RUBRUM	RED MAPLE	POT		125 CM	NATIVE
	AR2	9	ACER RUBRUM	RED MAPLE	WB	60MM		NATIVE
	CC	16	CARYA CORDIFORMIS	BITTERNUT HICKORY	POT		125 CM	NATIVE
	CC2	15	CARYA CORDIFORMIS	BITTERNUT HICKORY	WB	60MM		NATIVE
	PS	12	PINUS STROBUS	WHITE PINE	POT		125 CM	NATIVE
	PT	1	POPULUS TREMULOIDES	QUAKING ASPEN	POT		125 CM	NATIVE
	PW	13	PRUNUS SEROTINA	WILD BLACK CHERRY	POT		125 CM	NATIVE
	PW2	14	PRUNUS SEROTINA	WILD BLACK CHERRY	WB	60MM		NATIVE
	TO	12	THUJA OCCIDENTALIS	EASTERN WHITE CEDAR	POT		125 CM	NATIVE

SHRUBS	CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT.	HT.	SPR.	REMARKS
	Ca	4	CORNUS ALTERNIFOLIA	PAGODA DOGWOOD	3 GAL.	60CM		NATIVE

SHRUB AND GROUNDCOVER BUFFER PLANTINGS

PLANTING MIX — 126.2 m²
RED ELDERBERRY, 3 GAL 60CM HT
SPACING 1500MM

SMOOTH SERVICEBERRY, 3 GAL
60CM HT SPACING 1000MM
-

ADDITIONAL BUFFER PLANTING PLUGS — 793.3 m²
(X200 PLUGS @0.5 O.C. FROM
SPECIES SHOWN BELOW)
WILD COLUMBINE,
WILD GINGER,
LARGE LEAVED ASTER,
YELLOW TROUT-LILY,
FALSE SOLOMONS SEAL,
WHITE SNAKEROOT,
WILD GERANIUM,
WOODLAND SUNFLOWER,
BLUE-STEMMED GOLDENROD,
WOOD NETTLE,
VIRGINIA WATERLEAF,
ZIG ZAG GOLDENROD
-

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no.	revision	date	by
03	ISSUED FOR REZONE	2023-07-04	RR
02	ISSUED FOR REZONE	2020-09-11	RR
01	ISSUED FOR REZONE	2020-07-03	RR

CONTRACTOR MUST VERIFY ALL DIMENSIONS ON THE JOB AND REPORT ANY DISCREPANCY TO THE LANDSCAPE ARCHITECT BEFORE PROCEEDING WITH THE WORK.
ALL DRAWINGS AND SPECIFICATIONS ARE INSTRUMENTS OF SERVICE AND THE PROPERTY OF THE LANDSCAPE ARCHITECT WHICH MUST BE RETURNED AT THE COMPLETION OF THE WORK.
ALL DRAWINGS TO BE USED FOR CONSTRUCTION ONLY WHEN SIGNED BY THE LANDSCAPE ARCHITECT.

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CLIENT

2570 ARGYLE ROAD

MISSISSAUGA, ONTARIO

PROJECT

RAVINE STEWARDSHIP AND BUFFER PLANTING PLAN

DRAWING

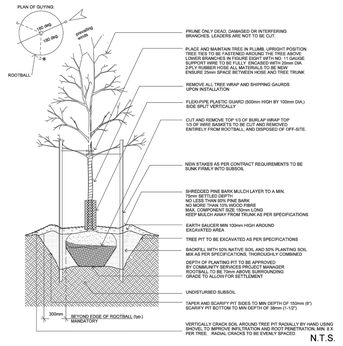
DRAWN: ZW
CHECKED: RR
SCALE: AS SHOWN
DATE: 2016-12-15
PROJECT NO.: 19-154

SHEET NO.: LP-100

ASSOCIATION OF LANDSCAPE ARCHITECTS ONTARIO MEMBER

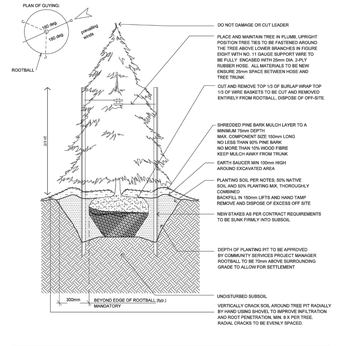
July 15, 2023 12:51 PM I:\01-PROJECTS\2019\19-154 2570 ARGYLE ROAD\01-CAD\01-CURRENT\PLOTS\0-SP-N\BUFFER PLANTING\19-154-LP-100-BUFFER PLANTING PLAN.DWG

02950-1
Planting
Tree Deciduous



1 CITY OF MISSISSAUGA - DECIDUOUS TREE PLANTING
N.T.S.

02950-2
Planting
Tree Coniferous



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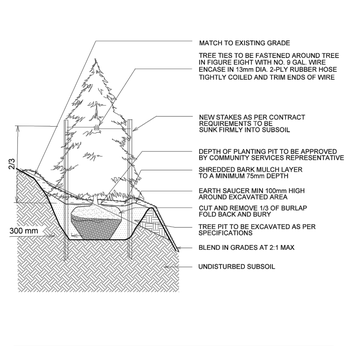
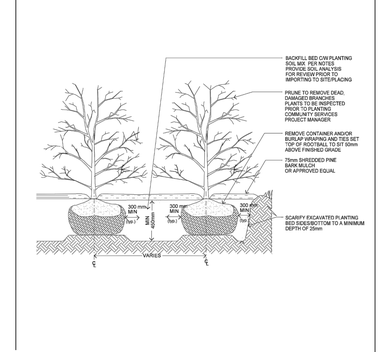
N.T.S.

02950-8
Planting
Tree On Slope



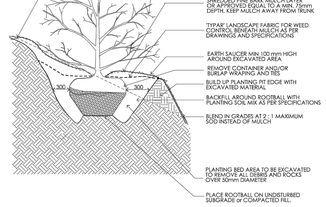
3 CITY OF MISSISSAUGA - TREE PLANTING ON SLOPE
N.T.S.

02950-6
Planting
Shrub

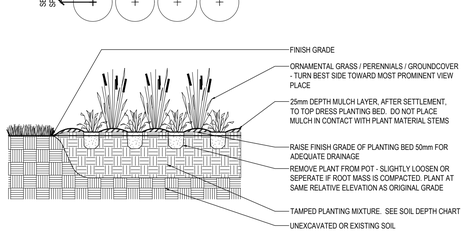


4 CITY OF MISSISSAUGA - SHRUB PLANTING
SCALE=1:1

02950-7
Planting
Shrub On Slope



5 CITY OF MISSISSAUGA - SHRUB PLANTING ON SLOPE
SCALE=1:1



6 GROUNDCOVER PLANTING DETAIL
NO SCALE

NOT FOR CONSTRUCTION

no.	revision	date	by
03	ISSUED FOR REZONE	2023-07-04	RR
02	ISSUED FOR REZONING	2022-03-02	RR
01	ISSUED FOR REZONING	2020-09-11	RR

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20 Champlain Blvd. Suite 102 - Toronto ON - M3H 2Z1 info@terraplan.ca www.terraplan.ca

CLIENT

2570 ARGYLE ROAD

MISSISSAUGA, ONTARIO

PROJECT
LANDSCAPE DETAILS

DRAWING

DRAWN: ZW
CHECKED: RR
SCALE: AS SHOWN
DATE: 2016-12-15
PROJECT NO.: 19-154
SHEET NO.: LD-100

ASSOCIATION OF LANDSCAPE ARCHITECTS ONTARIO MEMBER