



GUIDING SOLUTIONS IN THE  
NATURAL ENVIRONMENT

# Scoped Environmental Impact Study 51 – 75 Bradford St., 20 Checkley St. City of Barrie

---

*Prepared For:*

**Barrie Lakeshore Developments**

*Prepared By:*

**Beacon Environmental Limited**

*Date: Project:*

**December 2019 219403**

---

MARKHAM  
80 Main Street North  
Markham, ON L3P 1X5  
T) 905.201.7622 • F) 905.201.0639

BRACEBRIDGE  
126 Kimberley Avenue  
Bracebridge, ON P1L 1Z9  
T) 705.645.1050

GUELPH  
373 Woolwich Street  
Guelph, ON N1H 3W4  
T) 519.826.0419

PETERBOROUGH  
305 Reid Street  
Peterborough, ON K9J 3R2  
T) 705.243.7251

BARRIE  
6 Cumberland Street  
Barrie, ON L4N 2P4  
T) 705.999.4935

# Table of Contents

	page
<b>1. Introduction .....</b>	<b>1</b>
<b>2. Policy Context .....</b>	<b>1</b>
2.1 Provincial Policy Statement (2014) .....	1
2.2 <i>Endangered Species Act (2007)</i> .....	2
2.3 Lake Simcoe Protection Plan (2009).....	3
<b>3. Methods .....</b>	<b>7</b>
3.1 Field Investigations.....	8
3.1.1 Vegetation Community Mapping .....	8
3.1.2 Incidental Wildlife .....	8
3.1.3 Aquatic Habitat Assessment .....	9
3.1.4 Feature Staking with LSRCA .....	9
3.1.5 Species at Risk.....	9
<b>4. Existing Conditions.....</b>	<b>9</b>
4.1 General Conditions and Landscape Context.....	9
4.1.1 Soils.....	9
4.1.2 Watershed Context.....	9
4.1.3 Ecoregion and Eco District.....	10
4.2 Aquatic Resources .....	10
4.3 Terrestrial Resources .....	11
4.3.1 Vegetation Communities .....	11
4.3.2 Flora .....	14
4.3.3 Wildlife.....	15
4.3.4 Significant Wildlife Habitat.....	15
4.4 Species at Risk.....	15
4.5 Landscape Connectivity.....	15
4.6 Summary of Key Functions and Attributes.....	16
<b>5. Proposed Development .....</b>	<b>16</b>
5.1 Servicing .....	16
5.2 Grading .....	17
5.3 Stormwater.....	17
<b>6. Effects Assessment and Mitigation Measures .....</b>	<b>17</b>
6.1 Impacts Assessment .....	17
6.2 Mitigation and Compensation Measures.....	18
6.2.1 Buffers .....	18
6.2.2 Construction Timing and Impacts.....	19
6.2.3 Erosion and Sediment Control .....	19
6.2.4 Water Balance.....	20
6.2.5 Dewatering .....	20
6.2.6 Fisheries Protection.....	20

<b>7. Monitoring .....</b>	<b>21</b>
<b>8. Policy Conformity .....</b>	<b>21</b>
8.1 Provincial Policy Statement .....	21
8.2 <i>Endangered Species Act</i> .....	21
8.3 Lake Simcoe Protection Plan.....	21
8.4 Conservation Authority Regulations and Policies.....	22
8.5 City of Barrie Official Plan.....	22
<b>9. Summary.....</b>	<b>22</b>
<b>10. Literature Cited.....</b>	<b>24</b>

## Figures

Figure 1. Site Location.....	after page 2
Figure 2. Existing Conditions .....	after page 12
Figure 3. Proposed Development .....	after page 16

## Tables

Table 1. Summary of Field Investigations .....	8
Table 2. Summary of Key Functions and Attributes .....	16

## Appendices

- Appendix A. Agency Correspondence
- Appendix B. Botanical Inventory
- Appendix C. Site Plan with Grading

# 1. Introduction

Beacon Environmental Limited (Beacon) has been retained by Barrie Lakeshore Developments to prepare a Scoped Environmental Impact Study (EIS) in support of an application to redevelop the property at 51, 53, 55 & 75 Bradford Street & 20 Checkley Street (Part of Lot 24 and 25, Concession 5), in the City of Barrie (the subject property).

The subject property is approximately 3.5 hectares in size and located between Lakeshore Drive to the east, Bradford Street to the west, access to Checkley Street in the north and Bunker's Creek and an Environmental Protection area to the south (**Figure 1**). There are existing residential condominium buildings to the north and south and the Lake Simcoe waterfront to the east across Lakeshore Drive. An adjacent natural feature is the Bunker's Creek Eco-park (a constructed pond and wetland adjacent to Bunker's Creek). The property is within the jurisdiction of the Lake Simcoe Region Conservation Authority (LSRCA) and the City of Barrie.

The data presented in this EIS was collected through a review of background documents and field investigations undertaken in late 2019. The data collected for the subject property was used to characterize the natural heritage features, and was assessed in relation to the policies presented in the City of Barrie Official Plan, and the guidelines and policies provided by regulatory agencies including the LSRCA and the Ministry of Natural Resources and Forestry (MNRF). Finally, this Scoped EIS provides an outline of the proposed development plan, identifies potential negative impacts to natural features, and recommends appropriate mitigation measures.

## 2. Policy Context

### 2.1 Provincial Policy Statement (2014)

The Province released an updated Provincial Policy Statement (2014) under section 3 of the Planning Act, which came into effect on April 30, 2014. The Provincial Policy Statement (2014) is intended to provide policy direction on matters of provincial interest related to land use planning.

Policy 2.1 of the Provincial Policy Statement (2014) provides direction to the regional and local municipalities regarding planning policies for the protection and management of natural heritage features and resources. The 2014 PPS defines eight natural heritage features and provides planning policies for each. The Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement (MNR 2010) is a technical guidance document used to help assess the natural heritage features listed.

Section 2.1 of the 2014 PPS relates to Natural Heritage. The following subsections are provided.

*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;
- Significant wetlands in Ecoregions 5E, 6E and 7E; and
  - Significant coastal wetlands.

- 2.1.5 Development and site alteration shall not be permitted in:
- Significant wetlands north of the Canadian Shield north of Ecoregions 5E, 6E and 7E;
  - Significant woodlands in Ecoregions 6E and 7E;
  - Significant valleylands in Ecoregions 6E and 7E;
  - Significant wildlife habitat;
  - Significant Areas of Natural and Scientific Interest (ANSI's); and
  - Significant coastal wetlands in Ecoregions 5E, 6E and 7E not covered above;

unless it has been demonstrated (typically through an EIS or a comparable technical study) 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 alternation shall not be permitted in habitat of endangered species and threatened species, except in accordance with provincial and federal requirements.

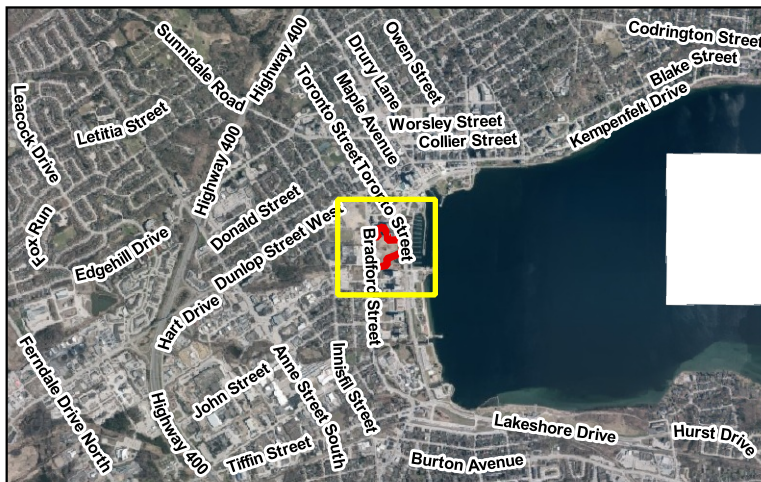
2.1.8 Development and site alternation shall not be permitted on adjacent lands to the natural heritage features and areas identified in policies 2.1.4, 2.1.5 and 2.1.6 unless the ecological function of the adjacent lands has been evaluated and it has been demonstrated that there are no negative impacts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



Each of these features is afforded varying levels of protection subject to guidelines, and in cases, regulations.

Some of these features (i.e., provincially significant wetlands and ANSIs) are identified by the MNRF, while others are to be identified by the local area municipalities or planning authorities (i.e., significant woodlands, significant valleylands and significant wildlife habitat). Threatened and endangered species are designated at the provincial level, but their habitat is typically identified or verified at the site-specific level. It is expected that even where features have been identified at the provincial, regional or local levels that verification and some level of refinement is required at the site-specific basis.

## **2.2 Endangered Species Act (2007)**

The Ministry of the Environment, Conservation and Parks (MECP) provides oversight of the *Endangered Species Act (ESA)* for the regulation of species at risk (SAR) in Ontario. Under the *ESA*, native species that are in danger of becoming extinct or extirpated from the province are identified as being extirpated, endangered, threatened or special concern. These designations are defined as follows:



Site Location		Figure 1
51-57 Bradford Street, Barrie EIS NHS		
		Project: 219403 Last Revised: December 2019
Client: SmartCentres		Prepared by: BD Checked by: GP
	1:3500	Inset Map: 1:50000
Contains information licensed under the Open Government License—Ontario Orthoimagery Baselayer: 2019 (FBS)		

- Extirpated - a species that no longer exists in the wild in Ontario but still occurs elsewhere;
- Endangered – a species facing imminent extinction or extirpation in Ontario which is a candidate for regulation under Ontario's *Endangered Species Act*;
- Threatened - a species that is at risk of becoming endangered in Ontario if limiting factors are not reversed; and
- Special Concern (formerly Vulnerable) - a species with characteristics that make it sensitive to human activities or natural events.

Under the *ESA*, protection is provided to threatened or endangered species and their habitat, as well as providing stewardship and recovery strategies for species. Permitting is required to conduct works within habitat regulated for threatened or endangered species. Species of special concern require management plans from the MNR, but individuals or their habitat are not directly protected under the *ESA*.

### **2.3 Lake Simcoe Protection Plan (2009)**

The *Lake Simcoe Protection Act*, which was passed in December 2008, provides a legislative framework for protecting the Lake Simcoe watershed. Among other items, the *Act* includes the requirement for a Protection Plan with legally binding policies.

The Lake Simcoe Protection Plan (2009) has separate requirements depending on whether the proposed development is located within an existing settlement area or outside an existing settlement area. For greater certainty, where lands are incorporated into a settlement area after the effective date of the Plan, an application for development or site alteration within those lands is subject to the policies in Chapter 6, excluding policies 6.32 to 6.34 which refer specifically to lands in existing settlement areas.

The subject property is located within an existing settlement area and is therefore subject to the following policies under the Act.

- 6.32-DP Policies 6.32 - 6.34 apply to existing settlement areas and areas of Lake Simcoe adjacent to these lands, including the littoral zone, and these areas are not subject to policies 6.1 – 6.3, 6.5, 6.11 and policies 6.20 - 6.29.*
- 6.33-DP An application for development or site alteration shall, where applicable:*
- a) Increase or improve fish habitat in streams, lakes and wetlands, and any adjacent riparian areas;*
  - b) Include landscaping and habitat restoration that increase the ability of native plants and animals to use valleylands or riparian areas as wildlife habitat and movement corridors; and*
  - c) Seek to avoid, minimize and/or mitigate impacts associated with the quality and quantity of urban run-off into receiving streams, lakes and wetlands.*
- 6.34-DP Where, through an application for development or site alteration, a buffer is required to be established as a result of the application of the PPS, the buffer shall be composed of and maintained as natural self-sustaining vegetation.*

## 2.4 Lake Simcoe Region Conservation Authority Watershed Policies and Regulation

The LSRCA regulates hazard lands including watercourses, valleylands, shorelines, and wetlands, including lands adjacent to these features.

The LSRCA regulates all depressional features associated with a river or stream, whether or not they contain a watercourse. With respect to wetlands, the regulated area extends to 120 m from a Provincially Significant Wetland (PSW) and 30 m from all other wetlands. With respect to flood plain and valleylands, the regulation extends 15 m from the greater level of constraint.

Subject to conformity with the applicable Official Plan, and completion of appropriate studies and completion of the Conservation Authority permit process, development may be permitted within a regulated area. Application for development and interference in regulated areas requires the issuance of a permit from the LSRCA. Obtaining a permit generally requires an EIS. Once the requested studies have been completed there may be a requirement for features to be maintained and/or for protective buffers to be placed on features or hazard lands within the study area.

## 2.5 City of Barrie Official Plan (2010, Office Consolidation 2018)

On April 23, 2010 The Ministry of Municipal Affairs and Housing (MMAH) approved a new Official Plan for the City of Barrie. The applicable natural heritage or environmental policies are detailed below.

### 3.5.2.3 WATER RESOURCE MANAGEMENT

- (a) *In reviewing development proposals, the City shall protect, maintain and enhance water and water related resources on an integrated watershed management basis.*

#### 3.5.2.3.1 FLOOD PLAIN MANAGEMENT, EROSION, HAZARDOUS SITES AND FILL CONTROL

- (a) *Flood plain management and control will occur in partnership with the applicable Conservation Authorities.*
- (f) *The placing or dumping of fill of any kind, the straightening, changing, diverting or interfering in any way with the existing channel of a river, creek, stream or watercourse, the construction of any building or structure in or on a pond or swamp or any area susceptible to flooding shall not be permitted in a regulated Conservation Authority area except with written approval of the Conservation Authority. Authorization may be required from Fisheries and Oceans Canada for any in-water works.*

#### 3.5.2.3.2 SURFACE WATER PROTECTION

- (a) *The City will work in partnership with adjacent municipalities and the Conservation Authorities, provincial ministries, the Health Unit and other partners to develop practices that maintain and improve the quality and quantity of lakes and watercourses, and to protect headwater areas from land uses that have the potential to contaminate downstream water systems.*

- (b) *The City will co-operate with the Conservation Authorities and adjacent municipalities in identifying and mapping surface water features, groundwater features, hydrologic functions and natural heritage features and areas which are necessary for the ecological and hydrological integrity of the watershed. These features will be incorporated into the Plan as Schedules by amendment.*
- (c) *The natural quality and hydrologic characteristics of watercourses and lakes, including aquatic habitat, base flow, water quality, temperature, storage levels or capacity are to be maintained, and no development shall be permitted that has the potential to create a negative impact on any of the watercourses and lakes.*
- (d) *Development and site alteration shall be restricted in or near lakes and watercourses such that these features and their related hydrologic functions will be protected, improved or restored. In general, development and site alteration shall be setback a minimum 30 metres from lakes and watercourses.*
- (e) *Mitigation measures or alternative development approaches may be required in order to protect, improve or restore sensitive surface water features such that these features and their related hydrologic functions will be protected, improved or restored.*

#### 3.5.2.4 NATURAL HERITAGE RESOURCES (OPA 14, By-law 2013-059)

- (a) *The Natural Heritage Resources in the City of Barrie are depicted on Schedule H. Schedule H is intended to be used as an overlay to Schedule A: Land Use. Through the implementation of the following policies, Schedule H can be used as a guide to promote the protection, enhancement, and restoration of the City's natural heritage features and functions.*
  - i. **Level 1** resources represent critical components of the Natural Heritage Resource network. No development shall be permitted within these areas.
    - *Environmental Protection Area policy 4.7.2.2 would apply to all properties identified as Level 1.*
    - *The City will strive to designate all properties identified as having a Level 1 Natural Heritage Resource as Environmental Protection.*
    - *An Environmental Impact Study (EIS) will be required for any development or site alteration within 120 metres of an area identified as Level 1 on Schedule H.*
  - ii. **Level 2** resources represent significant components of the Natural Heritage Resource network. The features and function of these areas should be retained, however, there is potential for development if no negative impact can be demonstrated or mitigated.
    - *An EIS will be required to be completed for any development or site alteration in or within 120 metres of an area identified as Level 2 on Schedule H.*

- iii. **Level 3** resources represent significant and supporting components of the Natural Heritage Resource network. There is opportunity for development if the proposal ensures the protection and buffering of the significant feature and/or retains the supporting function of the feature.
  - An EIS will be required to be completed for any development or site alteration in or within 30 metres of an area identified as Level 3 on Schedule H.
- (b) A standard Terms of Reference for an EIS will be established by the City in consultation with the appropriate conservation authority, and may be scoped through the development process to reflect a specific feature or function at the discretion of the City in consultation with the applicable conservation authority. Additional Natural Heritage Resources identified through a site specific EIS will be categorized by Level and will be subject to the policies of this section. An amendment to the Official Plan is not required for minor amendments to Schedule H.
- (c) To ensure the effective management and retention of the features and functions identified on Schedule H, a Natural Heritage Resource will not be reclassified to a lesser level of protection if the feature is intentionally damaged or destroyed. The restoration and rehabilitation of the Natural Heritage Resource to the satisfaction of the City and applicable conservation authority may be required.
- (d) Notwithstanding the land use limitations applicable to properties identified as Level 1 in Section 3.5.2.4 (a) i), where an existing designation permits other forms of development, such development may proceed subject to the policies of Level 2 in Section 3.5.2.4 (a) ii) and the appropriate planning application processes.

### 3.9.4 DEVELOPMENT AND SITE ALTERATION

3.9.4.2 An application for development or site alteration shall, where applicable:

- (a) Increase or improve fish habitat in streams, lakes and wetlands, and any adjacent riparian areas;
- (b) Include landscaping and habitat restoration that increase the ability of native plants and animals to use valley lands or riparian areas as wildlife habitat and movement corridors;
- (c) Seek to avoid, minimize and/or mitigate impacts associated with the quality and quantity of urban run-off into receiving streams, lakes and wetlands; and
- (d) Establish or increase the extent and width of a vegetation protection zone adjacent to Lake Simcoe to a minimum of 30 metres where feasible.

3.9.4.3 Where, through an application for development or site alteration, a buffer is required to be established by the implementation of an environmental impact study or natural heritage evaluation, the buffer shall be composed of and maintained as natural self-sustaining vegetation.

#### 4.7 ENVIRONMENTAL PROTECTION AREAS

##### 4.7.2.3 GENERAL POLICIES

- (e) *Development and site alteration shall not be permitted in fish habitat areas except in accordance with Provincial and Federal requirements.*

##### 4.7.2.5 SURFACE WATER FEATURES, WATERCOURSES AND VALLEY LANDS

- (a) *Development and site alteration shall be restricted in or near sensitive surface water features and their related hydrological functions will be protected, improved, or restored.*
- (b) *Mitigating measures and/or site alternative development approaches may be required in order to protect, improve, or restore sensitive surface water features, sensitive ground water features, and their hydrologic functions.*
- (c) *Valley and stream corridors shall be protected from development and integrated as part of the natural heritage system network accommodating wildlife and pedestrian movement and passive areas.*
- (d) *In reviewing any development proposal adjacent to a valley and stream corridor, the City will require the protection and/or enhancement of the feature and its functions to facilitate a natural, open space corridor. The feasibility of rehabilitating watercourses to a natural state will be considered at the time of such review.*
- (e) *Development limits shall be established by the limit of the valley or stream corridor which shall include the watercourse, and associated riparian vegetation, floodplain or erosion hazard lands, top of bank and any additional lands, such as buffers deemed necessary to protect ecological functions. All lands associated with the valley and stream corridor shall be zoned Environmental Protection and shall not form part of the development.*
- (f) *Where a watercourse supports warm or cold water fish habitat, an appropriate riparian vegetation zone shall be required. Land uses within the vegetation zone shall be restricted to those which maintain or enhance the natural features and ecological functions of the area.*
- (g) *Emphasis shall be placed on the potential development of Lover's, Bear, Hewitt's, Sophia, Kidd's, Bunker's, Dymont's, Hotchkiss and Whiskey Creeks, as linear open space corridors. As part of the municipal approvals process, the City shall seek to acquire these areas.*

##### 4.7.2.7 WILDLIFE HABITAT

- (a) *Development and site alteration shall not be permitted in significant wildlife habitat unless it has been demonstrated by the proponent, to the satisfaction of the City, that there will be no negative impacts on their natural features and ecological functions.*

## 3. Methods

Background information pertaining to the natural and physical setting of the subject property was gathered and reviewed at the outset of the project. These information sources included:

- City of Barrie Official Plan (2010, Office Consolidation 2018);
- LSRCA Regulations and Policies;
- MNR Natural Heritage Information Centre (NHIC);
- Environmental Impact Study Report – Revised, Blue Simcoe Developments, Proposed Condominiums (Azimuth Environmental Consulting Inc., 2008);
- Barrie Creeks, Lovers Creek, and Hewitt’s Creek Subwatershed Plan (LSRCA, 2012); and
- Master Drainage Plan, City of Barrie (Tatham Engineering Limited, 2019).

The 2008 Azimuth EIS report included terrestrial existing conditions, which have been updated in this report. Aquatic conditions were also documented, including fish community sampling, which has been updated with more recent data from the LSRCA.

Other sources of information, such as aerial photography and topographic maps, were also consulted prior to commencing field investigations. The LSRCA was contacted to confirm the scope of studies to be included in this EIS. Correspondence received from the MNR and LSRCA is presented in **Appendix A**.

### 3.1 Field Investigations

Field investigations on the subject property were undertaken by Beacon staff in 2019 including, vegetation community mapping, aquatic habitat assessment and watercourse delineation. A description of these investigations follows below, and a summary of the timing is provided in **Table 1**.

**Table 1. Summary of Field Investigations**

Survey Type	Date
Botanical, ELC, Habitat Assessment	October 25, 2019
Aquatic Habitat Assessment	October 23, 2019

#### 3.1.1 Vegetation Community Mapping

Vegetation surveys took place on October 25, 2019. Vegetation units on the subject property were described and mapped on current high-resolution colour ortho-photography of the lands using the Ecological Land Classification System for Southern Ontario (ELC) (Lee *et al.* 1998). This is the standard method used for describing vegetation communities in southern Ontario. At the same time as vegetation community mapping was undertaken, a floral inventory occurred which consisted of a compilation of a list of plants observed on the property. Searches were also conducted for Butternut (*Juglans cinerea*) during site surveys. This is a relatively common tree species in southern Ontario that is listed provincially and federally as endangered.

#### 3.1.2 Incidental Wildlife

Incidental observations of wildlife species, including mammals were made during field investigations that were primarily for other purposes.

### ***3.1.3 Aquatic Habitat Assessment***

An aquatic habitat assessment was undertaken on the subject property by a Beacon ecologist on October 23, 2019. The habitat characteristics of the watercourses within and adjacent to the subject property were surveyed.

### ***3.1.4 Feature Staking with LSRCA***

Consultations with the LSRCA are ongoing. A site inspection may be required with staff from the LSRCA to delineate the location and extent of the watercourse, top of bank and wetland within the subject property and stake the edge of these features in the field.

### ***3.1.5 Species at Risk***

A screening for potential SAR habitat was completed through identification of potential suitable habitat types for SAR species known to occur in Simcoe County. No formal, species-specific surveys were undertaken, apart from those for Butternut, as no SAR records exist for the site, and habitat was not thought to be present for the most frequently observed SAR.

## **4. Existing Conditions**

### **4.1 General Conditions and Landscape Context**

The subject property is approximately 3.5 ha (8.6 ac) in size and is bordered by existing residential condominium buildings to the north, existing commercial properties on both sides of Bradford Street to the west, and Lakeshore Drive on the west side with a marina and Lake Simcoe beyond that. Bunker's Creek flows from west to east along the southern boundary. The property was used for industrial purposes since approximately 1900 but has been mostly vacant with fill placed across the property in recent decades. There is one vacant commercial building (formally a car dealership) and some scattered patches of young regenerating trees and shrubs.

#### ***4.1.1 Soils***

Site investigations by GHD (2019) confirm that the soils consist of several metres of fill (up to 6 m) that generally consist of sandy silt, sand and silty sand deposits. In some areas there is a layer of peat at depths of 3 to 6 m. The groundwater is shallow, ranging from approximately 0.27 to 2.85 m below the surface.

#### ***4.1.2 Watershed Context***

The subject property is at the mouth of Bunker's Creek just before it outlets into Lake Simcoe. The Bunker's Creek subwatershed is entirely within the City of Barrie limits. The LSRCA considers Bunker's

Creek part of the 'Barrie Creeks' Subwatershed (LSRCA 2012). Bunker's Creek is surrounded by urban land use, with only small sections having natural cover.

#### 4.1.3 Ecoregion and Eco District

The subject property lies within Lake Simcoe-Rideau Ecoregion 6E. More specifically, the subject property lies within the Barrie Ecodistrict 6E-6, which covers some 560,878 ha, including portions of Simcoe County, York Region, and Durham Region. Ecodistrict 6E-6 extends from clay and limestone plains in the north (just south of the Canadian Shield) to the Simcoe County Lowlands and Schomberg Clay Plains in the south. Vegetation resources of the ecoregion are characterized primarily by deciduous forests and wetlands, the majority of which are swamp (Henson & Brodribb 2005).

## 4.2 Aquatic Resources

The subject property is adjacent to the lowest reach of Bunker's Creek. It enters the subject property from the west after passing through two culverts under Bradford Street. Although no fish community sampling was conducted on this watercourse as part of Beacon's site investigations, the following list of species is based on recent fish sampling in Bunker's Creek by the LSRCA, and historical data in the Subwatershed Plan (LSRCA 2012).

- Northern pike (*Esox lucius*);
- Common white sucker (*Catostomus commersoni*);
- Northern redbelly dace (*Phoxinus eos*);
- Finescale dace (*Phoxinus neogaeus*);
- Brassy minnow (*Hybognathus hankinsoni*);
- Emerald shiner (*Notropis atherinoides*);
- Spottail shiner (*Notropis hudsonius*);
- Blacknose dace (*Rhinichthys atratulus*);
- Creek chub (*Semotilus atromaculatus*);
- Brook stickleback (*Culaea inconstans*);
- Trout-perch (*Percopsis omiscomaycus*);
- Rock bass (*Ambloplites rupestris*);
- Pumpkinseed (*Lepomis gibbosus*);
- Yellow perch (*Perca flavescens*);
- Common shiner (*Luxilus comutus*);
- Largemouth bass (*Micropterus salmoides*);
- Rosyface shiner (*Notropis rubellus*);
- Round goby (*Neogobius melanostomus*); and
- Spottfin shiner (*Cyprinella spiloptera*).

Based on the species observed, the LSRCA consider this a "coolwater" community, however, timing restrictions for in-water works was recommended by the MNRF (Brent Shirley, email correspondence) to adhere to the "warmwater" timing window.

## 4.3 Terrestrial Resources

The entire subject property is a product of past disturbance having been industrial or commercial properties for over one hundred years within the City of Barrie. There are scattered patches and individual immature trees, mostly along the edges of the property. Existing conditions are illustrated on **Figure 2**.

### 4.3.1 Vegetation Communities

The vegetation communities within the entire subject property have been altered by human activities. As a result, the subject property is classified as one vegetation community illustrated in **Figure 2** and described in detail below.

#### **Dry – Moist Old Field Cultural Meadow (CUM1-1)**

The majority of the subject property is characterized as open, old-field meadow, that is periodically mowed (**Photograph 1**). The vegetation is mostly grasses such as Kentucky Bluegrass (*Poa pratensis*), Smooth Brome (*Bromus inermis*) and Orchard Grass (*Dactylis glomerata*) with common, weedy species such as Wild Carrot (*Daucus carota*), Creeping Thistle (*Cirsium arvense*), Cow Vetch (*Vicia cracca*), Bird's-foot Trefoil (*Lotus corniculatus*) and New England Aster (*Symphyotrichum novae-angliae*). There are scattered shrubs, such as Staghorn Sumac (*Rhus typhina*) and Tartarian Honeysuckle (*Lonicera tatarica*), and immature trees, the most common of which are Manitoba Maple (*Acer negundo*), Black Locust (*Robinia pseudoacacia*), Siberian Elm (*Ulmus pumila*) and Poplars (*Populus* spp.)

#### **Mineral Cultural Woodland (CUW1)**

This community occurs in two small, dense patches that consist of sapling sized poplars, Black Locust and Manitoba Maple with some Siberian Elm and shrubs such as Staghorn Sumac, Tartarian Honeysuckle and Common Buckthorn (*Rhamnus cathartica*) (**Photograph 2**). The understory ground cover is variable and consists of weedy species found in the surrounding old fields.

#### **Mineral Cultural Thicket (CUT1)**

Located in the central portion of the subject property, this small community is in a low-lying area caused by the placement of fill. The vegetation is dominated by immature poplar saplings, Staghorn Sumac, Red-osier Dogwood, Siberian Elm, with some Pussy Willow shrubs (*Salix discolor*) and European Highbush Cranberry (*Viburnum opulus*) (**Photograph 3**).

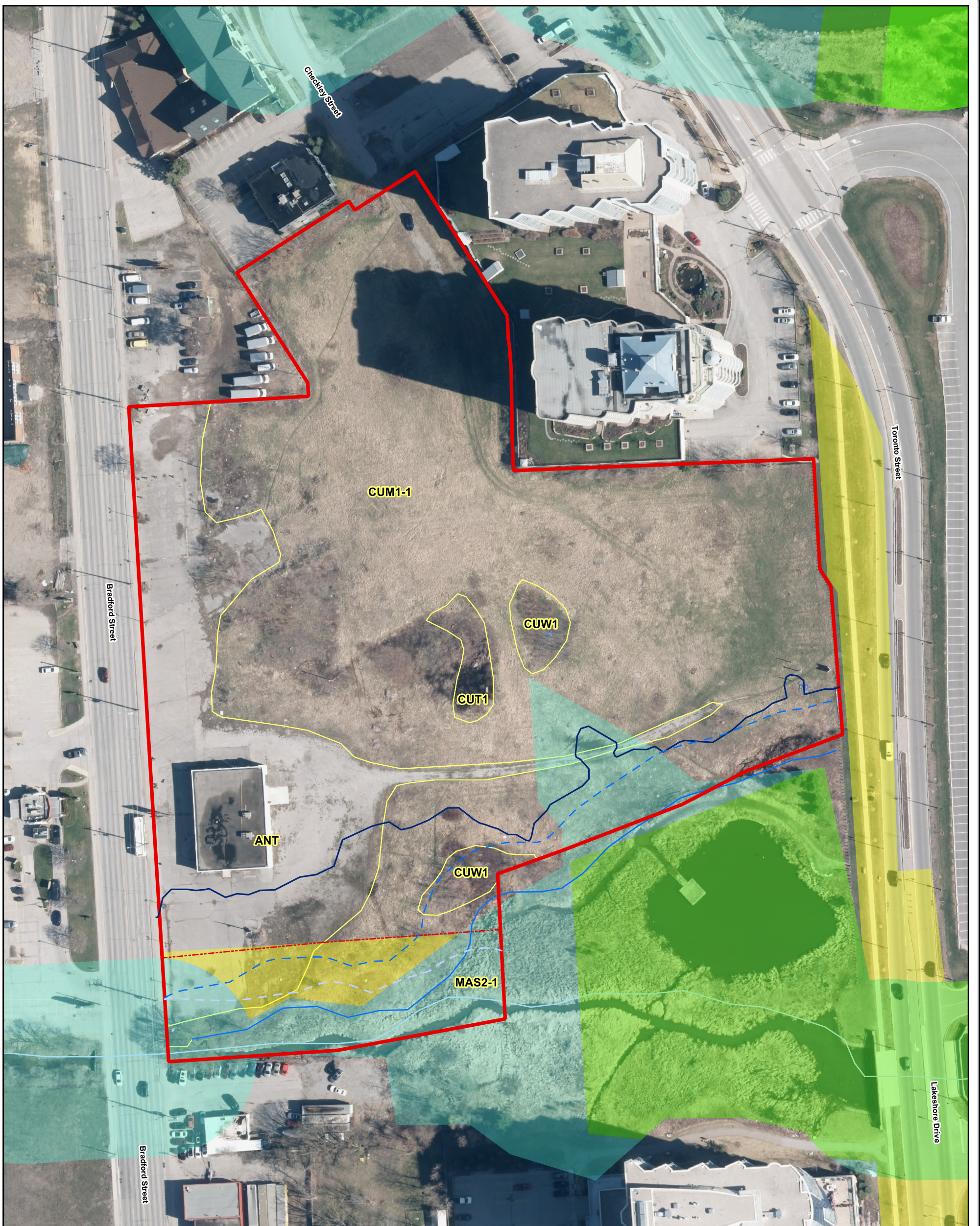
#### **Cattail Mineral Shallow Marsh (MAS2-1)**

Located adjacent to Bunker's Creek in the southern end of the subject property, this community has been previously disturbed (**Photograph 4**). The dominant species is Narrow-leaved Cattail (*Typha angustifolia*) with Reed Canary Grass (*Phalaris arundinacea*) and some Canada Goldenrod (*Solidago canadensis*), Purple Loosestrife (*Lythrum salicaria*), European Common Reed (*Phragmites australis*

*ssp. australis*), Red-osier Dogwood (*Cornus sericea*), and Spotted Joe-pye Weed (*Eutrochium maculatum*)



**Photograph 1. View of Old Field Meadow facing south (Oct. 23, 2019)**



**Legend**

- Subject Property
  - ELC Communities
  - Approximate Wetland Limit (to be confirmed with LSRCA)
  - Approximate Wetland Limit + 15 m Setback
  - Watercourse (MNR 2019)
  - Regulatory Floodline
  - Current EP Zoning Boundary
- Natural Heritage Resources (City of Barrie, 2019)**
- Level 1
  - Level 1 with Existing Development Designation Subject to 3.5.2.4 d
  - Level 3

Code	Community Description
ANT	Anthropogenic
CUM1-1	Dry - Moist Old Field Meadow
CUT1	Mineral Cultural Thicket
CUW1	Mineral Cultural Woodland
MAS2-1	Cattail Mineral Shallow Marsh

**Existing Conditions**

**Figure 2**

51-57 Bradford Street, Barrie EIS NHS



Project: 219403  
Last Revised: December 2019

Client: SmartCentres

Prepared by: BD  
Checked by: GP



1:1120

0 20 40 m

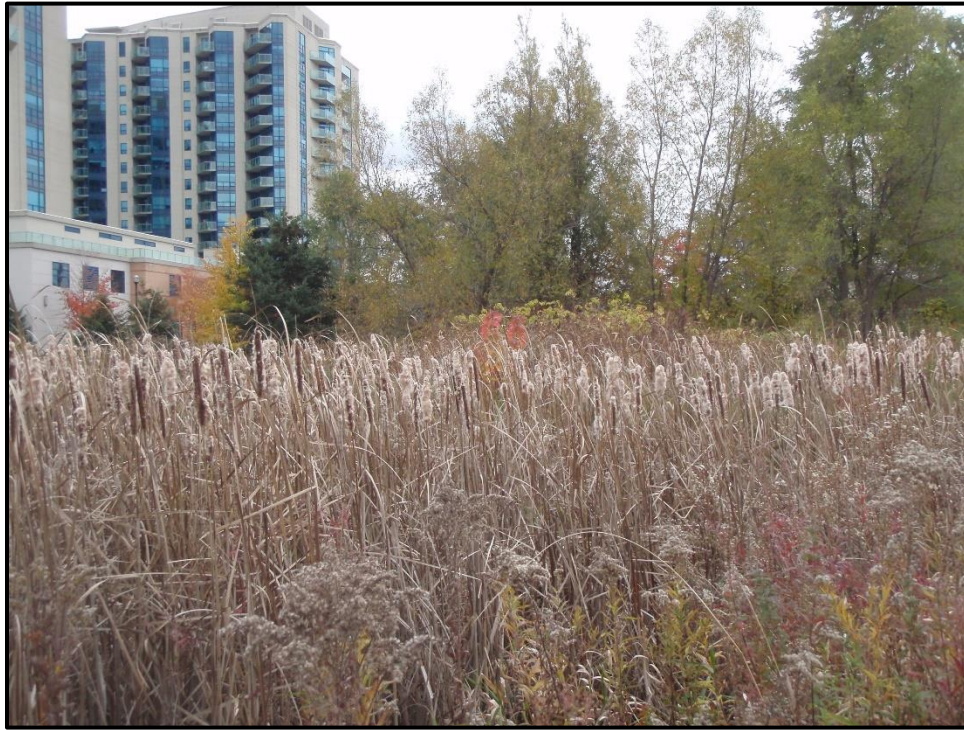
Contains information licensed under the Open Government License—Ontario  
Orthoimagery Baselayer: 2019 (FBS)



**Photograph 2. View of Cultural Woodland in central portion of Subject Property (Oct. 25, 2019)**



**Photograph 3. View of Cultural Thicket (Oct. 25, 2019)**



Photograph 4. View of Mineral Cattail Marsh (Oct. 25, 2019)

#### 4.3.2 Flora

A total of 53 plant species were observed on the subject property with 30 (57%) being non-native plant species (**Appendix B**). This high percentage of non-native plant species is common for properties with disturbed areas within an urbanized landscape. There were no floral species at risk observed on the subject property. All of the native plant species are ranked provincially as S5 (Secure). One of the plant species, Black Walnut, is listed as uncommon or rare in the Lake Simcoe Watershed by the Lake Simcoe Environmental Management Strategy (2003) and in Simcoe County (Riley 1989). However, this status is based on naturally occurring populations. This species is a very common planted and naturalized species.

It should be noted that site investigations occurred in the fall and that some plant species may not be apparent during this season. However, given the long history of extensive disturbance, it is highly unlikely that any plant species of conservation concern would be present.

A query of the MNRF's "Make A Map: Natural Heritage Areas" returned one record from 2003 for Fogg's Goosefoot (*Chenopodium foggii*) within 1 km of the subject property. This species is ranked S2 in Ontario, meaning "Imperiled because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation". This species' habitat is rocky woods and is only known to occur in "non-anthropogenic habitats" (Haines and Newcomer 2002). Given the long history of the highly disturbed nature of the subject property, it is highly unlikely that this species is present.

### 4.3.3 Wildlife

No formal wildlife surveys were conducted on the subject property. During site investigations several species were observed, including American Crow (*Corvus brachyrhynchos*), Black-capped Chickadee (*Parus atricapillus*), Mallard (*Anas platyrhynchos*), Eastern Grey Squirrel (*Sciurus carolinensis*) and Beaver (*Castor canadensis*). Other wildlife common to urban habitats are likely using the subject property, such as Raccoon (*Procyon lotor*), Eastern Chipmunk (*Tamias striatus*) and Blue Jay (*Cyanocitta cristata*).

Adjacent to the site is a constructed, open wetland that is likely supporting amphibian and reptile species such as Green Frog, American Toad, and Midland Painted Turtle.

### 4.3.4 Significant Wildlife Habitat

Based on field investigations and background review, no significant wildlife habitat, such as seasonal concentrations of animals, rare vegetation communities, specialized habitat for wildlife, habitat for species of conservation concern, or animal movement corridors exists within the subject property (OMNR 2000, MNRF 2015).

## 4.4 Species at Risk

Following the characterization of the habitat on the subject property, an assessment was completed to determine if suitable habitat was present for any of the potential endangered, threatened or special concern species known to occur in the vicinity of property. The habitat on the subject property is limited and of poor quality and does not represent ideal habitat for any of the SAR known to occur in Simcoe County. No individual SAR flora or fauna were observed on the subject property. There were no Barn Swallow (*Hirundo rustica*) nests on the abandoned building; this bird species is Threatened, and it frequently nests in buildings.

## 4.5 Landscape Connectivity

Landscape connectivity has become recognized as an important component of natural heritage planning. Although there is not universal agreement on the net benefits of corridors, a wide range of benefits can be attributed to maintaining connectivity within the natural landscape. In essence, corridors allow organisms to move between areas of high habitat importance. Conservation of distinct habitat types to protect species may be less effective unless the corridors between them are also protected or restored.

The subject property occurs in an area where the local landscape has been highly altered through past and present anthropogenic use. From a wildlife perspective, the property is situated between and directly adjacent to existing highly disturbed land uses (Lakeshore Drive, Bradford Street and existing residential and commercial) and is within a highly urbanized landscape. Within and adjacent to the southern property boundary is riparian wetland on either side of the lower reach of Bunker's Creek, which outlets to Lake Simcoe less than 100 m to the east into an existing marina. Upstream to the west,

there are natural wooded and wetland areas adjacent to Bunker’s Creek. The creek corridor represents a local wildlife movement area.

## 4.6 Summary of Key Functions and Attributes

**Table 2** provides a summary of the natural heritage features that were identified by this EIS. These features will be addressed with respect to potential development impacts. The limits of these features are depicted on **Figure 2**.

**Table 2. Summary of Key Functions and Attributes**

Features	Key Functions and Attributes
Watercourses	<ul style="list-style-type: none"> <li>• Bunker’s Creek located along the southern property boundary. Represents direct fish habitat and local wildlife corridor.</li> </ul>
Wetlands	<ul style="list-style-type: none"> <li>• Riparian marsh along the southern property boundary and a constructed open water marsh beyond the southeastern property boundary.</li> </ul>

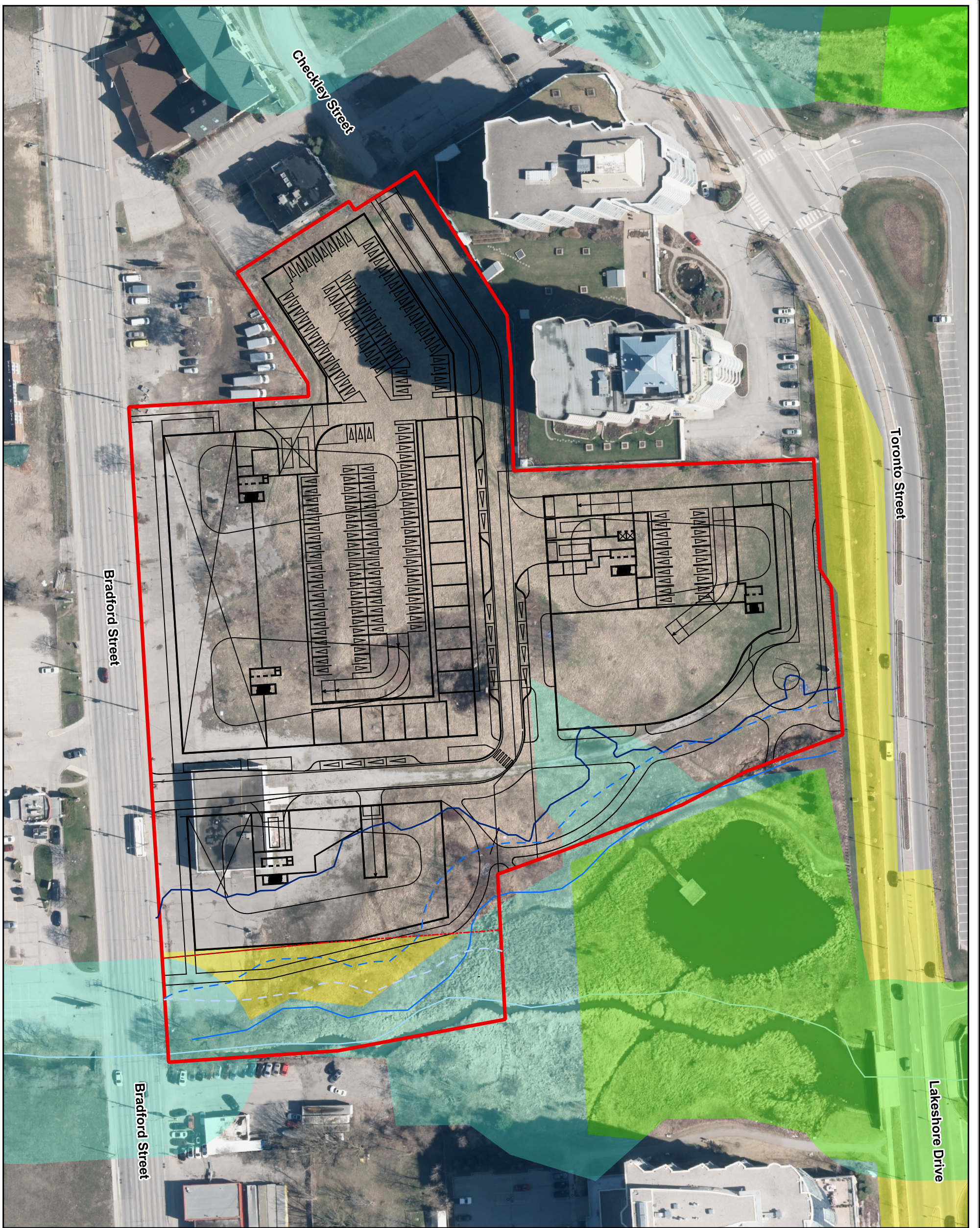
## 5. Proposed Development

The proposed development will involve the construction of four buildings with approximately 2000 residential units, commercial space, potential hotel space and public corridors that will provide linkages with the existing natural features such as the Bunker’s Creek Ecopark and Kempenfelt Bay. The proposed site plan is shown on **Figure 3**.

It is important to note that, as part of the City’s Master Drainage Plan, the reach of Bunker’s Creek from Lakeshore Drive to Bradford Street and further to the west to Innisfil Street is planned for improvements with watercourse realignment and widening of the low-flow channel as part of culvert replacements under Bradford Street and Innisfil Street. Therefore, the existing location and condition of the watercourse, wetland and floodplain limits along the subject property’s southern boundary, as shown in **Figure 3**, are subject to change.

### 5.1 Servicing

Servicing for the proposed residential development will include connection to municipal water and sewer at Bradford Street and Lakeshore Drive.



**Legend**

- Subject Property
  - Proposed Development
  - Approximate Wetland Limit (to be confirmed with LSRCA)
  - Approximate Wetland Limit + 15 m Setback
  - Watercourse (MNR 2019)
  - Regulatory Floodline
  - Edge of Creek + 15 m
  - Current EP Zoning Boundary
- Natural Heritage Resources (City of Barrie, 2019)**
- Level 1
  - Level 1 with Existing Development Designation Subject to 3.5.2.4 d
  - Level 3

**Proposed Development**

**Figure 3**

51-57 Bradford Street, Barrie EIS NHS



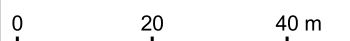
Project: 219403  
Last Revised: December 2019

Client: SmartCentres

Prepared by: BD  
Checked by: GP



1:1120



Contains information licensed under the Open Government License—Ontario  
Orthoimagery Baselayer: 2019 (FBS)

## 5.2 Grading

The proposed grading of the subject property does not contemplate significant changes in grades or elevation. Final grading is to be determined and will be addressed when Beacon receives a grading plan, which is being prepared by others.

## 5.3 Stormwater

A companion Functional Servicing and Stormwater Management Report for the proposed development is being prepared by SCS Consulting. A Draft Hydrogeological Assessment has been prepared by GHD (2019) that includes a preliminary water balance for pre- to post-development hydrologic inputs and recommendations.

# 6. Effects Assessment and Mitigation Measures

The following sections present key potential negative effects of the proposed mixed use development based on the existing condition of the natural heritage features on the subject property. This section also identifies mitigation measures and compensation opportunities that will be used to minimize the negative effects of the project.

## 6.1 Impacts Assessment

Background review and field investigations identified that the subject property is currently occupied by one vacant commercial building, paved parking areas, with fill on the remainder of the property and the following natural heritage features:

- a) Two small patches of immature trees;
- b) The main channel of Bunker's Creek flowing from west to east along the southern property boundary; and
- c) Cattail marsh community along the sides of Bunker's Creek.

The wetland limit and top of bank, if applicable, will be confirmed with the LSRCA in the spring of 2020.

*Potential* negative environmental impacts of the proposed development of the property will include:

- Direct loss of vegetated and treed areas on the subject property;
- Site grading;
- Changes to hydrology/water balance due to an increase in impermeable surfaces; and
- Run-off of lawn chemicals, contaminants from paved areas (oil, solvents, grit and salt) into the watercourse and fish habitat, and adjacent wetland.

### **Removal of Vegetation**

Three small patches (~30 m<sup>2</sup>) of immature, weedy trees and shrubs and mown, weedy old field areas will be removed, and will result in minor negative effects on flora and fauna. None of the trees are planted and are mostly non-native and invasive species that do not form part of any large contiguous block. All of the existing vegetation, including a number of scattered saplings and seedlings, are proposed for removal. The herbaceous vegetation is dominated by non-native invasive species with low native species presence and diversity. The area surrounding the subject property is highly urbanized. None of the wetland vegetation is proposed for removal.

### **Changes to Grading and Hydrology**

The existing elevations and grade are not proposed to be significantly altered, based on the preliminary Site Plan and Grading Plan. All the paved or impervious surfaces are proposed to be graded to capture stormwater internally and treated prior to release. The proposed Site Plan will result in an increase in stormwater runoff due to an increase in impervious surfaces compared to existing (GHD 2019). A forthcoming FSR and SWM Plan should incorporate infiltration and LID features to reduce the amount of runoff.

### **Contaminants**

Unmitigated, the run-off of yard chemicals and stormwater into natural systems can create unwanted negative effects. These include effects on water quality in Bunker's Creek and Lake Simcoe, including fish habitat. The potential negative effects should be reduced in this case by limiting the amount of lawn areas and limiting chemicals such as fertilizers and pesticides, especially in the vicinity of Bunker's Creek. A naturalized, vegetated buffer, which will not require chemical inputs, planted within any landscaping areas within the subject property, and especially along the setback from Bunker's Creek and associated wetland, will also assist in preventing contaminants from entering the watercourse and Lake Simcoe. Stormwater drains should include oil and grit separators and a salt management plan for the completed development should be implemented.

## **6.2 Mitigation and Compensation Measures**

The following sections identify mitigation and compensation measures to be utilized to minimize effects of the proposed development.

### **6.2.1 Buffers**

The buffers shown in **Figure 3** are based on the existing location and extent of the natural features. They include a 15 m setback from the edge of the watercourse and a 15 m setback from the edge of the wetland, as estimated in the fall of 2019. These 15 m setbacks are typically used as a standard distance to help protect these features from potential development impacts. The precise wetland limit and top of bank, where it exists, should be staked in the field with the LSRCA. Alternatively, considering that the watercourse and associated floodplain will be realigned, the creek cross-section of the Final Preferred Alternative Solution in the City's Drainage Master Plan should be used to determine the future

wetland and watercourse setbacks. In this scenario, all proposed buildings and roads would be outside a 15 m setback from the future watercourse alignment (see **Appendix C – Site Plan with Grading**).

In either case, to mitigate effects of the development on the watercourse, the entire buffer and any landscaped areas beyond the buffer areas should be enhanced with densely planted native trees and shrubs, with mulched area in between plantings. Any paths or hard surfaces within the buffer should be avoided, minimized or constructed using permeable materials. This will result in cleaner water going to Lake Simcoe and higher quality wildlife habitat composed of native species. A permit from the LSRCA will be required prior to any works within the vicinity of Bunker's Creek.

A natural channel design and landscaping plan will be provided under the separate City-led Bunker's Creek replacement and watercourse improvements project. It is recommended, where timing is conducive, that the City's natural channel design for Bunker's Creek and the landscaping plan for the proposed development be coordinated and developed in tandem.

### **6.2.2 Construction Timing and Impacts**

The timing of vegetation removal should be coordinated to avoid the removal of potential wildlife habitat during times when these habitats may be utilized, and to avoid contravention of federal or provincial legislation.

The federal *Migratory Bird Convention Act* (1994) protects the nests, eggs and young of most bird species from harm or destruction. Environment Canada considers the 'general nesting period' of breeding birds in southern Ontario to be between late March and the end of August. This includes times at the beginning and end of the season when only a few species might be nesting. In light of this we recommend that during the peak period of bird nesting, no vegetation clearing or disturbance to nesting bird habitat occur between May 1 and mid-July. In the 'shoulder' seasons of April 1 to 30, and July 16 to August 31, we suggest that vegetation clearing could occur, but only after an ecologist with appropriate avian knowledge has surveyed the area to confirm lack of nesting. If nesting is found, then vegetation clearing (in an area around the nest) must wait until nesting has concluded. Generally, the smaller and simpler the habitat is, the easier it is to confirm that no nesting is occurring. The likelihood of nesting birds being present in the 'shoulder' seasons also depends on the habitat type. From September 1 through to March 31, of any year, vegetation clearing can occur without nest surveys, but the law for nest protection still holds (i.e. if an active nest is known it should be protected).

### **6.2.3 Erosion and Sediment Control**

Construction works such as grading, grubbing and excavation can cause the movement of sediment into watercourses, both on and downstream of the property. An erosion and sediment control plan will be prepared prior to construction works. This plan will be designed and implemented as per the "Erosion and Sediment Control Guideline for Urban Construction" document (December 2006) and address phasing, inspection and monitoring aspects of erosion and sediment control.

Silt fencing should be installed to minimize sediment leaving the site and should be removed when development work is completed, and exposed soils stabilized.

Standard Best Management Practices should also be employed during the construction process.

#### **6.2.4 Water Balance**

A draft Hydrogeological Assessment has been prepared by GHD for the proposed development that includes a water balance for the site. The report concludes that there will be a net reduction in infiltration due to buildings and pavement and a net increase in runoff of 8,819 m<sup>3</sup>/yr. However, the report also makes a number of recommendations to mitigate this increase in stormwater runoff with the use of LIDs (Low Impact Developments) such as green roofs, bioswales and underground infiltration tanks.

#### **6.2.5 Dewatering**

According to GHD, there will be a need for short-term dewatering to control groundwater levels and maintain dry working conditions during construction of building foundations and servicing. Typical dewatering rate during construction is estimated at approximately 633,000 L/day up to a maximum of 1,900,000 L/day. A permit will be required from the MECP. A permit from LSRCA for dewatering activities, discharge locations, etc. may also be required. This should be evaluated during the detailed design stage, once the requirements of dewatering are fully understood.

#### **6.2.6 Fisheries Protection**

Construction works such as grading, grubbing and excavation have the potential to result in the movement of sediment into the onsite watercourse. A sediment control plan should be prepared for the construction phase of the development and approved by the LSRCA, prior to the start of construction works and to the standard of “Erosion and Sediment Control Guideline for Urban Construction (December 2006)”. General elements of the sediment and erosion control plan should focus on preventing erosion and include, but not be limited to the following:

- Equipment should not be operated in a watercourse;
- All erosion and sediment control measures should be integrated with a construction operation schedule as determined by the Contractor(s). Operations near any watercourse should not commence until temporary erosion and sediment control measures have been installed;
- Temporary erosion and sediment control measures should be maintained and kept in place until all work near a watercourse has been completed and stabilized;
- Temporary control measures should be removed at the completion of the work but not until permanent erosion control measures, as specified in the contract, have been established. This may necessitate removal by others;
- The Contractor should monitor the erosion and sediment control measures and if the measures are found to be ineffective, the Contractor should immediately make changes in order to control erosion and sediment; and
- Standard Best Management Practices should also be employed during the construction process.

In order to prevent further degradation (including thermal) to the onsite watercourses, storm water management systems should be designed to meet Level 1 MECP criteria.

MNRF’s In-water Work Timing Window Guidelines (2013) provides guidance on protecting fish from impacts of works or undertakings in and around water during spawning migrations and other critical life

stages. Based on the fish community data for this reach of Bunker's Creek, there should be no in-water work done from March 15 to July 15.

## **7. Monitoring**

During construction, regular monitoring of the ESC fencing and other temporary storm water management measures should be undertaken by a qualified inspector (i.e., CAN-CISEC), and especially prior to forecasted significant precipitation events, to ensure wetlands and watercourses are protected from sedimentation.

## **8. Policy Conformity**

Section 2 of this report provided an overview of the natural heritage policies and regulations of the Provincial Policy Statement, the City of Barrie, the LSRCA and the *Endangered Species Act*. This section examines conformity with those specific policies and regulations.

### **8.1 Provincial Policy Statement**

The subject property does not contain, nor is it adjacent to any significant woodland, provincially significant wetlands, significant wildlife habitat, significant valleylands or ANSI. No development is proposed within fish habitat and measures are recommended in Section 6.2.7 above, to ensure there will be no negative impacts to the watercourse.

### **8.2 Endangered Species Act**

Through consultations with the MNRF Midhurst District office, and a screening of the natural heritage features of the subject property, Beacon concluded that there is no occurrence or habitat of any endangered and threatened species, therefore, the project is in conformity with the *Endangered Species Act*.

### **8.3 Lake Simcoe Protection Plan**

The proposed development and the mitigation measures proposed will protect fish habitat and provide a naturalized, self-sustaining buffer composed of native species that will enhance and restore wildlife habitat in the watercourse and adjacent riparian wetland. Through a stormwater management plan, the proposed development will avoid, minimize and/or mitigate impacts associated with the quality and quantity of urban run-off into the adjacent watercourse and wetland.

## **8.4 Conservation Authority Regulations and Policies**

The LSRCA regulates hazard lands including creeks, valleylands, shorelines, and wetlands. This EIS was scoped with the LSRCA staff prior to commencing the field investigations. Requested elements of the work plan have been completed. Watercourse functions will be maintained and enhanced. The proposed development plan, with the associated recommendations, addresses the regulatory interest of the LSRCA.

## **8.5 City of Barrie Official Plan**

Through enhancement and mitigation measures, this report demonstrates adherence to the City's policies on Water Resource Management, Floodplain Management, and Surface Water Protection. Similarly, there are no significant woodlands, no contiguous woodlands 0.2 ha or larger, and no significant wildlife habitat on the subject property, thus adhering to the applicable policies.

The project as proposed will make no changes to the adjacent Bunker's Creek, which is identified in the City of Barrie's OP Schedule H – Natural Heritage Resources as Level 1 With Existing Development Designation Subject to Section 3.5.2.4 d). The City's planned culvert replacement under Bradford Street and realignment and improvements to Bunker's Creek would still maintain the Natural Heritage Resource area which generally follows the creek corridor.

The proposed development is adjacent to areas mapped as a Level 1 Natural Heritage Resource, Level 1 (with Existing Development Designation Subject to Section 3.5.2.4 d)), and Level 3, as shown on Schedule H of the Official Plan. However, the portion of the Level 1 (with Existing Development Designation) that is within the proposed development is based on an estimated floodplain limit that is in the process of being revised based on changes to downstream culvert and road reconstruction of Lakeshore Drive. The removal of this area from the Level 1 (with Existing Development Designation) designation represents a minor adjustment and would not require an Official Plan Amendment.

The area of Level 3 designation within the subject property appears to be based on a conceptual creek setback. Given that the creek is planned to be realigned, this Level 3 designated area is likely to change. In any case, the Level 3 area is outside of the building footprint and will be restored or enhanced with native species landscaping and thereby have a net beneficial effect.

Given the minor adjustments to the boundaries of the Natural Heritage Resource areas, the improvements planned for Bunker's Creek by the City and the mitigation measures recommended in this report, there will be no net negative impacts and there will be a net benefit to fish habitat. Therefore, the proposed development will be in conformity with the City's Official Plan policies.

## **9. Summary**

A background review, field investigations and consultation with the LSRCA and MNR were undertaken as part of this Environmental Impact Study. An analysis of features and functions was undertaken and summarized. This EIS has identified the extent of existing natural features on the subject property and

identified potential impacts as a result of the proposed development. Mitigation measures have been identified including enhanced, planted buffers, timing restrictions, ESC plans, and stormwater design criteria.

The results of the field investigations carried out for this EIS confirm the few natural features that were identified within the existing regulations and policies. Natural heritage features or functions within and adjacent to the subject property are associated with the watercourse to the south, and will be buffered and protected and where required, appropriate mitigation is recommended.

No plants of conservation significance were recorded on the subject property. A review of the NHIC database identified no records of species at risk in the vicinity of the subject property. None of the remaining vegetation communities on the subject property is considered provincially rare based on the NHIC status of vegetation communities for southern Ontario.

Given the foregoing, it is concluded that the proposed mixed use development, with the implementation of appropriate timing windows, infiltration measures, buffer enhancements (adjacent to the creek and wetland and in the intervening areas of naturalized landscaping), and stormwater quality and quantity controls can occur without adversely affecting the adjacent wetland and the associated fish community and habitats in Bunker's Creek and Lake Simcoe.

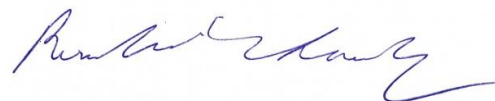
It is our opinion that the development plan as proposed, subject to approvals and permits as may be required as part of the operation, can proceed in a manner that is consistent with the relevant policies of the Provincial Policy Statement, City of Barrie Official Plan (2010, Office Consolidation 2018), Lake Simcoe Protection Plan (2009), and the Lake Simcoe Region Conservation Authority (LSRCA) Watershed Regulation and Policies.

Report prepared by:  
**Beacon Environmental**



Geri Poisson, B.A. (Hons.), Dipl. Eco. Restoration  
Terrestrial Ecologist,  
ISA Certified Arborist (ON-1288A)

Report reviewed by:  
**Beacon Environmental**



Rosalind Chaundy, B.Sc., M.Sc.F  
Senior Ecologist

## 10. Literature Cited

- Azimuth Environmental Consulting Inc. 2008.  
Environmental Impact Study Report – Revised, Blue Simcoe Developments, Proposed Condominiums (AEC 08-005).
- GHD. 2019.  
Draft Hydrogeological Assessment, Commercial Property (Former Tannery, Used Auto Sales & Auto Detailing) 51, 55, and 75 Bradford Street, Barrie, Ontario. 22 pp + figures & appendices.
- Greater Golden Horseshoe Area Conservation Authorities. 2006.  
Erosion and Sediment Control Guideline for Urban Construction – December 2006. 30 pp. + Appendices A to F.
- Haines, A., & B. Newcomer. 2002.  
New Records for *Chenopodium foggii* in New England. *Rhodora*, 104(920), 422-428. Retrieved from [www.jstor.org/stable/23313512](http://www.jstor.org/stable/23313512)
- Lake Simcoe Environmental Management Strategy. 2003.  
State of the Lake Simcoe Watershed, 121 pp. + appendices.
- Lake Simcoe Region Conservation Authority. 2012.  
Barrie Creeks, Lovers Creek, and Hewitt's Creek Subwatershed Plan 2012.
- Lee, H.T., W.D. Bakowsky, J. Riley, J. Bowles, M. Puddister, P. Uhlig and S. McMurray. 1998.  
Ecological Land Classification for Southern Ontario: First Approximation and Its Application. Ontario Ministry of Natural Resources. SCSS Field Guide FG-02. 225 pp.
- Ontario Ministry of Municipal Affairs and Housing (MMAH). 2014.  
Provincial Policy Statement. Toronto, Ontario.
- Ontario Ministry of Natural Resources. 2000.  
Significant Wildlife Habitat Technical Guide. 151 pp. + appendices.
- Ontario Ministry of Natural Resources and Forestry. 2015.  
Significant Wildlife Habitat Criteria Schedules For Ecoregion 6E, January, 2015. 38 pp.
- Ontario Ministry of Natural Resources. 2013.  
In-water Work Timing Window Guidelines, March 11, 2013. 2 pp.
- Ontario Ministry of Natural Resources. Natural Heritage Information Centre (NHIC). Available online: [http://www.gisapplication.lrc.gov.on.ca/mamnh/Index.html?site=MNR\\_NHLUPS\\_NaturalHeritage&viewer=NaturalHeritage&locale=en-US](http://www.gisapplication.lrc.gov.on.ca/mamnh/Index.html?site=MNR_NHLUPS_NaturalHeritage&viewer=NaturalHeritage&locale=en-US). Accessed November 2019.
- Province of Ontario. 2007.  
Endangered Species Act (S.O. 2007).

Riley, J.L. 1989.

Distribution and Status of the Vascular Plants of Central Region. Ontario Ministry of Natural Resources, Parks and Recreational Areas Section, Central Region, Richmond Hill. 110 pp.

# Appendix A

---

## Agency Correspondence

## Gerri Poisson

---

**From:** Shirley, Brent (MNRF) <brent.shirley@ontario.ca>  
**Sent:** December 12, 2019 2:09 PM  
**To:** Gerri Poisson  
**Cc:** Kate Lillie; Rob Wilson  
**Subject:** RE: Bunker's Creek fisheries/aquatic request for information  
**Attachments:** MNRF-In-water Work Timing Window Guidelines.pdf

Hi Gerri,

Based on the fish community data there should be no in-water work done from March 15- July 15. I have attached a copy of MNRF's In-water Work Timing Window Guidelines for your reference.

I think that the water temperature data is a much more accurate method for determining thermal regime than using the fish community assemblage.

If you have any further questions or concerns please don't hesitate reaching out to me.

Best Regards,

*Brent Shirley*

A/ Management Biologist | Midhurst District Ministry of Natural Resources & Forestry | 2284 Nursery Rd | Midhurst, ON | L9X 1N8 | Phone 705-725-7547 | Fax- 705-725-7584

Please Note: As of July 2, 2019, I will no longer have voicemail services with my office phonenumber. My phone line has been re-directed to Shannon Lawless for messaging; however should I miss your call you can email me directly or send your questions or request to [midhurstinfo@ontario.ca](mailto:midhurstinfo@ontario.ca) where your inquiry will be forwarded back to me or re-directed towards another staff member.

---

**From:** Rob Wilson <R.Wilson@lsrca.on.ca>  
**Sent:** December-12-19 12:01 PM  
**To:** gpoisson@beaconenviro.com  
**Cc:** Kate Lillie <K.Lillie@lsrca.on.ca>; Shirley, Brent (MNRF) <brent.shirley@ontario.ca>  
**Subject:** FW: Bunker's Creek fisheries/aquatic request for information

**CAUTION -- EXTERNAL E-MAIL - Do not click links or open attachments unless you recognize the sender.**

Hi Gerri,

Kate Lillie passed your request onto me.

We have a fisheries site on Bunkers Creek between Bradford Street and Lakeshore Drive that we sample on a regular basis. I have attached a map outlining the location of the fish and temperature monitoring site.

The water temperature suggest a cool water system and because this is very close to the lake we get some lake species using this area for spawning and rearing young.

Here is a list of species we have captured at this site going back as far as 2010 and as recent as 2018:

Common Name	Scientific Name
blacknose dace	<i>Rhinichthys atratulus</i>
brook stickleback	<i>Culaea inconstans</i>
common shiner	<i>Luxilus comutus</i>
creek chub	<i>Semotilus atromaculatus</i>
emerald shiner	<i>Notropis atherinoides</i>
largemouth bass	<i>Micropterus salmoides</i>
pumpkinseed	<i>Lepomis gibbosus</i>
rock bass	<i>Ambloplites rupestris</i>
rosyface shiner	<i>Notropis rubellus</i>
round goby	<i>Neogobius melanostomus</i>
spotfin shiner	<i>Cyprinella spiloptera</i>
white sucker	<i>Catostomus commersoni</i>
yellow perch	<i>Perca flavescens</i>

As you can see it's a mix of cool and warm species. I would suggest that a warmwater migratory timing window would be the best to protect the species that inhabit this system. I would suggest that **no works** be planned between April 1 and June 30. Again this is my suggestion as MNRF sets the timing windows and may have more data that suggests an alternate timing window. I have CC'd Brent Shirley who is the biologist at the Midhurst MNRF office so that you have his contact info.

Also be aware that there is active beaver activity in this stretch of bunkers creek. We have come across them while electrofishing in the last few years. Not fun for the beaver or us.

Let me know if you have more questions.

**Thank you,**

**Rob Wilson**

Aquatic Ecologist

**Lake Simcoe Region Conservation Authority**

120 Bayview Parkway,

Newmarket, Ontario L3Y 3W3

905-895-1281, ext. 235 | 1-800-465-0437

[r.wilson@LSRCA.on.ca](mailto:r.wilson@LSRCA.on.ca) | [www.LSRCA.on.ca](http://www.LSRCA.on.ca)

Twitter: @LSRCA

Facebook: LakeSimcoeConservation

The information in this message (including attachments) is directed in confidence solely to the person(s) named above and may not be otherwise distributed, copied or disclosed. The message may contain information that is privileged, confidential and exempt from disclosure under the Municipal Freedom of Information and Protection of Privacy Act and by the Personal Information Protection Electronic Documents Act. If you have received this message in error, please notify the sender immediately and delete the message without making a copy. Thank you.

---

**From:** Kate Lillie

**Sent:** December 5, 2019 12:39 PM

**To:** Rob Wilson  
**Subject:** FW: Bunker's Creek fisheries/aquatic request for information

Hi Rob,

Please see Geri's email below. He's inquiring about whether Bunker's Creek is a warm or cold water system. We have a monitoring station within the particular reach that Geri is asking about. The monitoring station is BCO-A. Could you compile that data for me and I'll provide it back to him?

My understanding is that MNRF is the authority on classifying a watercourse as warm, cool or cold. Right? Can Geri answer this question himself based on the species we've recorded, or should I suggest he contact MNRF for confirmation on this instead?

Thanks for your help!

Kate

**Kate Lillie, HBSc, EP, ISA**  
Natural Heritage Ecologist  
**Lake Simcoe Region Conservation Authority**  
120 Bayview Parkway,  
Newmarket, Ontario L3Y 3W3  
905-895-1281, ext. 286 | 1-800-465-0437  
[k.lillie@LSRCA.on.ca](mailto:k.lillie@LSRCA.on.ca) | [www.LSRCA.on.ca](http://www.LSRCA.on.ca)

Twitter: @LSRCA

Facebook: LakeSimcoeConservation

The information in this message (including attachments) is directed in confidence solely to the person(s) named above and may not be otherwise distributed, copied or disclosed. The message may contain information that is privileged, confidential and exempt from disclosure under the Municipal Freedom of Information and Protection of Privacy Act and by the Personal Information Protection Electronic Documents Act. If you have received this message in error, please notify the sender immediately and delete the message without making a copy. Thank you.

---

**From:** Geri Poisson [<mailto:gpoisson@beaconenviro.com>]  
**Sent:** December 3, 2019 2:51 PM  
**To:** Melinda Bessey; Kate Lillie  
**Subject:** Bunker's Creek fisheries/aquatic request for information

**CAUTION: This email originated outside of LSRCA. DO NOT** click links or open attachments unless you recognize the sender and trusted content. If in doubt, contact the IT Helpdesk at [ITHelpdesk@lsrca.on.ca](mailto:ITHelpdesk@lsrca.on.ca)

Hi,  
I'm not sure who at LSRCA would have the information I am looking for. Could you pass on my request to the appropriate staff?

We have a project that borders Bunker's creek in Barrie between Bradford and Lakeshore, and we have some old information saying that the LSRCA classifies Bunker's as a cold water system. The Subwatershed Plan (2012) indicates a warmwater system, based on the fish species present.

I know that the LSRCA has a monitoring station just upstream of Innisfil St.

I am looking for confirmation on whether this would be a cold or warm water system.

Thanks!

*Geris Poisson, B.A. (Hons) / Certified Arborist, Terrestrial Ecologist*

**BEACON ENVIRONMENTAL**

6 Cumberland St., Barrie, ON L4N 2P4

T) 705.999.4935 Ext. 249 C) 705.828.1196

[www.beaconenviro.com](http://www.beaconenviro.com)

# Appendix B

---

## Botanical Inventory

# Appendix B

## Plant List

Family Name	Scientific Name	Common Name	Origin	COSEWIC	COSSARO	S-RANK	Lake Simcoe (State of the Watershed, 2003)	Simcoe County (Riley 1989)
Anacardiaceae	<i>Rhus typhina</i>	Staghorn Sumac	N			S5		
Anacardiaceae	<i>Toxicodendron rydbergii</i>	Western Poison Ivy	N			S5		
Apiaceae	<i>Daucus carota</i>	Queen Anne's Lace	I			SNA		
Asteraceae	<i>Arctium minus</i>	Lesser Burdock	I			SNA		
Asteraceae	<i>Cichorium intybus</i>	Chicory	I			SNA		
Asteraceae	<i>Cirsium arvense</i>	Creeping Thistle	I			SNA		
Asteraceae	<i>Cirsium vulgare</i>	Bull Thistle	I			SNA		
Asteraceae	<i>Erigeron annuus</i>	White-top Fleabane	N			S5		
Asteraceae	<i>Euthamia graminifolia</i>	Grass-leaved Goldenrod	N			S5		
Asteraceae	<i>Eutrochium maculatum</i> var. <i>maculatum</i>	Spotted Joe-pye Weed	N			S5		
Asteraceae	<i>Solidago canadensis</i>	Canada Goldenrod	N			S5		
Asteraceae	<i>Symphotrichum lanceolatum</i> ssp. <i>lanceolatum</i>	Panicled Aster	N			S5		
Asteraceae	<i>Symphotrichum novae-angliae</i>	New England Aster	N			S5		
Asteraceae	<i>Taraxacum officinale</i>	Common Dandelion	I			SNA		
Asteraceae	<i>Tussilago farfara</i>	Colt's Foot	I			SNA		
Balsaminaceae	<i>Impatiens capensis</i>	Spotted Jewel-weed	N			S5		
Brassicaceae	<i>Alliaria petiolata</i>	Garlic Mustard	I			SNA		
Caprifoliaceae	<i>Lonicera tatarica</i>	Tartarian Honeysuckle	I			SNA		
Caprifoliaceae	<i>Viburnum opulus</i>	Guelder-rose Viburnum	I			SNA		

Family Name	Scientific Name	Common Name	Origin	COSEWIC	COSSARO	S-RANK	Lake Simcoe (State of the Watershed, 2003)	Simcoe County (Riley 1989)
Cornaceae	<i>Cornus sericea</i> ssp. <i>sericea</i>	Red-osier Dogwood	N			S5		
Equisetaceae	<i>Equisetum arvense</i>	Field Horsetail	N			S5		
Fabaceae	<i>Lotus corniculatus</i>	Bird's-foot Trefoil	I			SNA		
Fabaceae	<i>Medicago lupulina</i>	Black Medic	I			SNA		
Fabaceae	<i>Robinia pseudo-acacia</i>	Black Locust	I			SNA		
Fabaceae	<i>Vicia cracca</i>	Tufted Vetch	I			SNA		
Juglandaceae	<i>Juglans nigra</i>	Black Walnut	N			S4	R	R1 (Nat)
Lythraceae	<i>Lythrum salicaria</i>	Slender-spike Loosestrife	I			SNA		
Plantaginaceae	<i>Plantago lanceolata</i>	English Plantain	I			SNA		
Plantaginaceae	<i>Plantago major</i>	Nipple-seed Plantain	I			SNA		
Poaceae	<i>Bromus inermis</i> ssp. <i>inermis</i>	Smooth Brome	I			SNA		
Poaceae	<i>Phalaris arundinacea</i>	Reed Canary Grass	N			S5		
Poaceae	<i>Phleum pratense</i>	Timothy	I			SNA		
Poaceae	<i>Phragmites australis</i> ssp. <i>australis</i>	European Common Reed	I			SNA		
Polygonaceae	<i>Polygonum cuspidatum</i>	Japanese Knotweed	I			SNA		
Polygonaceae	<i>Rumex crispus</i>	Curly Dock	I			SNA		
Rosaceae	<i>Potentilla recta</i>	Sulphur Cinquefoil	I			SNA		
Rosaceae	<i>Rosa multiflora</i>	Rambler Rose	I			SNA		
Rosaceae	<i>Rubus idaeus</i> ssp. <i>strigosus</i>	Wild Red Raspberry	N			S5		
Rosaceae	<i>Spiraea alba</i>	Narrow-leaved Meadow-sweet	N			S5		
Salicaceae	<i>Populus alba</i>	White Poplar	I			SNA		
Salicaceae	<i>Populus balsamifera</i> ssp. <i>balsamifera</i>	Balsam Poplar	N			S5		
Salicaceae	<i>Populus tremuloides</i>	Quaking Aspen	N			S5		
Salicaceae	<i>Salix discolor</i>	Pussy Willow	N			S5		
Salicaceae	<i>Salix fragilis</i>	Crack Willow	I			SNA		

Family Name	Scientific Name	Common Name	Origin	COSEWIC	COSSARO	S-RANK	Lake Simcoe (State of the Watershed, 2003)	Simcoe County (Riley 1989)
Sapindaceae	<i>Acer negundo</i>	Manitoba Maple	N			S5		
Scrophulariaceae	<i>Linaria vulgaris</i>	Butter-and-eggs	I			SNA		
Scrophulariaceae	<i>Verbascum thapsus</i>	Common Mullein	I			SNA		
Solanaceae	<i>Solanum dulcamara</i>	Climbing Nightshade	I			SNA		
Typhaceae	<i>Typha angustifolia</i>	Narrow-leaved Cattail	N			S5		
Ulmaceae	<i>Ulmus americana</i>	American Elm	N			S5		
Ulmaceae	<i>Ulmus pumila</i>	Siberian Elm	I			SNA		
Verbenaceae	<i>Verbena hastata</i>	Blue Vervain	N			S5		
Vitaceae	<i>Vitis riparia</i>	Riverbank Grape	N			S5		

# Appendix C

---

## Site Plan with Grading

**19.1055D - BARRIE WATERFRONT**  
BARRIE, ONTARIO

**GROSS FLOOR AREA SUMMARY**

PARCEL	GFA		FSI	# OF UNITS	
	m <sup>2</sup>	ft <sup>2</sup>			
ALL BUILDINGS	RESIDENTIAL	149,853.9	1,613,023	4.28	1,900
	RETAIL	3,371.0	36,285	0.10	
	HOTEL	10,450.0	112,564	0.30	152
<b>TOTAL</b>	<b>163,674.9</b>	<b>1,761,892</b>	<b>4.67</b>	<b>2,052</b>	
<b>TOTAL SITE AREA</b>	<b>1,163.5</b>	<b>12,521</b>			
	<b>35,047.1</b>	<b>377,247</b>			

**GROSS FLOOR AREA DEFINITION**

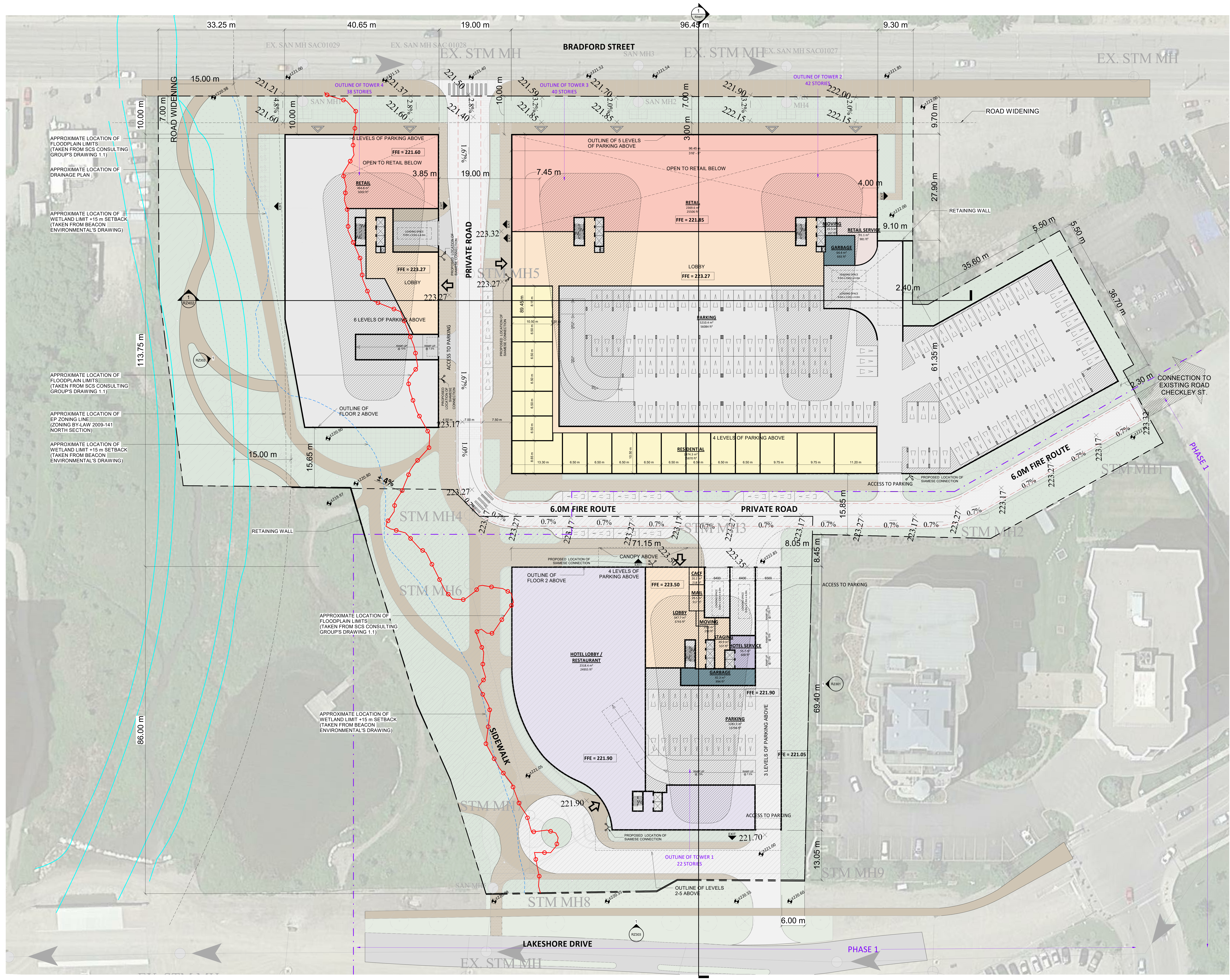
\* AS PER CITY OF BARRIE COMPREHENSIVE ZONING BY-LAW 2009-141

Shall mean the total area of all floors in a building, excepting a basement in a residential building, measured from the outside face of the exterior walls, but exclusive of any part of a building which is used for the storage or parking of motor vehicles other than that for the automotive purposes defined in Section 3.0 in this By-law, for storage, stairwells, or for mechanical or electrical equipment providing services for the entire building. In addition to the exceptions, in calculating the gross floor area for "dwelling, apartment", the part of the gross corridor areas which are in excess of the minimum corridor areas required under the provisions of the Ontario Building Code and the area occupied by a recreational amenity shall not be included.

- \*NOTES:  
1. LEASABLE AREAS WITHIN THE TOWER ARE CALCULATED ASSUMING A FLOOR PLATE EFFICIENCY OF 90%.  
2. UNIT COUNTS WITHIN THE PODIUM ARE CALCULATED USING AN AVERAGE OF 80m<sup>2</sup>/UNIT  
3. PROVIDED PARKING CALCULATION BASED ON A RATIO OF 37m<sup>2</sup> PER PARKING SPACE.

**GROSS FLOOR AREA (GFA) BREAKDOWN**

TOWER	FLOOR	# RES. UNITS	# HOTEL SUITES	# OF FLOORS	RETAIL		NON-RESIDENTIAL HOTEL			TOTAL NON-RESIDENTIAL		LEASABLE		RESIDENTIAL		TOTAL GROSS FLOOR AREA (GFA) (TFA - EXCLUSIONS)		INDOOR AMENITY		TOTAL FLOOR AREA (TFA) (NO EXCLUSIONS)		OUTDOOR AMENITY			
					m <sup>2</sup>	ft <sup>2</sup>	LEASABLE	NON-LEASABLE	NON-RESIDENTIAL	LEASABLE	RESIDENTIAL	m <sup>2</sup>	ft <sup>2</sup>	m <sup>2</sup>	ft <sup>2</sup>	m <sup>2</sup>	ft <sup>2</sup>	m <sup>2</sup>	ft <sup>2</sup>	m <sup>2</sup>	ft <sup>2</sup>	m <sup>2</sup>	ft <sup>2</sup>	m <sup>2</sup>	ft <sup>2</sup>
TOWER 1 (HOTEL)	1			1				2,437.0	26,239	2,437.0	26,239			460.8	5,014	460.8	5,014	2,903.5	31,253			4,546.0	48,933		
	2	38	34	1			1,548.7	16,670	456.6	4,915	2,005.3	21,585	0	35.5	383	35	383	2,040.9	21,968			4,805.9	51,790		
	3	38	38	1			1,548.7	16,670	456.6	4,915	2,005.3	21,585	0	35.5	383	35	383	2,040.9	21,968			4,805.9	51,790		
	4	38	38	1			1,548.7	16,670	456.6	4,915	2,005.3	21,585	0	35.5	383	35	383	2,040.9	21,968			4,805.9	51,790		
	5	38	38	1			1,548.7	16,670	456.6	4,915	2,005.3	21,585	0	35.5	383	35	383	2,040.9	21,968			4,805.9	51,790		
	6	0	0	1			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
TOWER 1 (22 STOREYS)	7-12	96	0	6			0	0	0	0	0	0	6,459.7	69,532	5,211.0	5,608	6,581	75,141	6,980.8	75,141	1,163.5	12,521	7,264.7	78,197	
	13-14	18	0	2			0	0	0	0	0	0	1,915.6	20,620	137.4	1,479	2,053	22,099	2,053.0	22,099			2,147.7	23,117	
	15-16	18	0	2			0	0	0	0	0	0	1,973.4	21,241	141.5	1,523	2,115	22,765	2,114.9	22,765			2,209.5	23,783	
	17-18	18	0	2			0	0	0	0	0	0	1,876.7	20,200	134.6	1,449	2,011	21,649	2,011.3	21,649			2,105.9	22,668	
	19-20	18	0	2			0	0	0	0	0	0	1,777.9	19,138	127.5	1,373	1,905	20,510	1,905.4	20,510			2,000.1	21,529	
	21-22	18	0	2			0	0	0	0	0	0	1,678.1	18,063	120.4	1,294	1,798	19,359	1,798.5	19,359			1,893.1	20,378	
<b>SUB-TOTAL</b>	<b>332</b>	<b>152</b>	<b>22</b>	<b>0</b>	<b>0</b>	<b>6,194.4</b>	<b>66,680</b>	<b>4,264.2</b>	<b>45,900</b>	<b>10,450.0</b>	<b>112,564</b>	<b>15,681.4</b>	<b>168,795</b>	<b>1,790.4</b>	<b>19,272</b>	<b>17,471.9</b>	<b>188,067</b>	<b>27,930.8</b>	<b>300,647</b>	<b>1,163.5</b>	<b>12,521</b>	<b>42,601.3</b>	<b>458,568</b>		
TOWER 2	1	18	0	1			2,369.0	25,506			2,369.0	25,506	1,474.3	15,870	1,841.4	19,821	3,316	35,690	5,685.3	61,196			11,902.4	121,661	
	2	21	0	1			0	0	0	0	0	0	1,757.4	18,917	385.5	4,150	2,143	23,064	2,142.9	23,064			11,294.3	121,572	
	3	21	0	1			0	0	0	0	0	0	1,757.4	18,917	385.5	4,150	2,143	23,064	2,142.9	23,064			11,294.3	121,572	
	4	21	0	1			0	0	0	0	0	0	1,757.4	18,917	385.5	4,150	2,143	23,064	2,142.9	23,064			11,294.3	121,572	
	5	21	0	1			0	0	0	0	0	0	1,757.4	18,917	385.5	4,150	2,143	23,064	2,142.9	23,064			11,294.3	121,572	
	6	21	0	1			0	0	0	0	0	0	1,757.4	18,917	385.5	4,150	2,143	23,064	2,142.9	23,064			11,294.3	121,572	
TOWER 2 AND TOWER 3	6-32	432	0	27			0	0	0	0	0	0	29,688.0	312,898	2,944.7	25,230	31,413	338,114	31,413.4	338,114			32,691.1	351,897	
	33-34	18	0	2			0	0	0	0	0	0	1,915.6	20,620	137.4	1,479	2,053	22,099	2,053.0	22,099			2,147.7	23,117	
	35-36	18	0	2			0	0	0	0	0	0	1,973.4	21,241	141.5	1,523	2,115	22,765	2,114.9	22,765			2,209.5	23,783	
	37-38	18	0	2			0	0	0	0	0	0	1,876.7	20,200	134.6	1,449	2,011	21,649	2,011.3	21,649			2,105.9	22,668	
	39-40	18	0	2			0	0	0	0	0	0	1,777.9	19,138	127.5	1,373	1,905	20,510	1,905.4	20,510			2,000.1	21,529	
	41-42	18	0	2			0	0	0	0	0	0	1,678.1	18,063	120.4	1,294	1,798	19,359	1,798.5	19,359			1,893.1	20,378	
TOWER 3 (40 STOREYS)	6-30	400	0	25			0	0	0	0	0	0	26,915.3	289,718	2,171.0	23,300	29,087	313,087	29,086.5	313,087			30,269.5	325,821	
	31-32	18	0	2			0	0	0	0	0	0	1,915.6	20,620	137.4	1,479	2,053	22,099	2,053.0	22,099			2,147.7	23,117	
	33-34	18	0	2			0	0	0	0	0	0	1,973.4	21,241	141.5	1,523	2,115	22,765	2,114.9	22,765			2,209.5	23,783	
	35-36	18	0	2			0	0	0	0	0	0	1,876.7	20,200	134.6	1,449	2,011	21,649	2,011.3	21,649			2,105.9	22,668	
	37-38	18	0	2			0	0	0	0	0	0	1,777.9	19,138	127.5	1,373	1,905	20,510	1,905.4	20,510			2,000.1	21,529	
	39-40	18	0	2			0	0	0	0	0	0	1,678.1	18,063	120.4	1,294	1,798	19,359	1,798.5	19,359			1,893.1	20,378	
<b>SUB-TOTAL</b>	<b>1,104</b>	<b>0</b>	<b>77</b>	<b>2,369.6</b>	<b>25,506</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>2,369.6</b>	<b>25,506</b>	<b>82,931.6</b>	<b>892,676</b>	<b>9,222.0</b>	<b>99,265</b>	<b>92,153.6</b>	<b>991,941</b>	<b>94,523.2</b>	<b>1,017,447</b>	<b>0.0</b>	<b>0</b>	<b>140,153.1</b>	<b>1,508,608</b>		
TOWER 4	1	9	0	1			1,001.4	10,779			1,001.4	10,779	689.0	7,417	1,624.2	17,483	2,313	24,899	3,314.6	35,679			3,350.3	36,062	
	2	6	0	1			0	0	0	0	0	0	503.6	5,421	96.3	1,037	600	6,458	599.9	6,458			3,350.2	36,062	
	3	6	0	1			0	0	0	0	0	0	503.6	5,421	96.3	1,037	600	6,458	599.9	6,458			3,350.2	36,062	
	4	6	0	1			0	0	0	0	0	0	503.6	5,421	96.3	1,037	600	6,458	599.9	6,458			3,350.2	36,062	
	5	6	0	1			0	0	0	0	0	0	503.6	5,421	96.3	1,037	600	6,458	599.9	6,458			3,350.2	36,062	
	6	6	0	1			0	0	0	0	0	0	503.6	5,421	96.3	1,037	600	6,458	599.9	6,458			3,350.2	36,062	
	7	6	0	1			0	0	0	0	0	0	503.6	5,421	96.3	1,037	600	6,458	599.9	6,458			3,350.2	36,062	
TOWER 4 (24 STOREYS)	8-28	330	0	21			0	0	0	0	0	0	22,609.0	243,363	1,823.0	19,630	24,413	262,913	24,412.7	262,913			25,426.4	273,698	
	29-30	17	0	2			0	0	0	0	0	0	1,915.6	20,620	137.4	1,479	2,053	22,099	2,053.0	22,099			2,147.7	23,117	
	31-32	18	0	2			0	0	0	0	0	0	1,973.4	21,241	141.5	1,523	2,115	22,765	2,114.9	22,765			2,209.5	23,783	
	33-34	18	0	2			0	0	0	0	0	0	1,876.7	20,200	134.6	1,449	2,011	21,649	2,011.3	21,649			2,105.9	22,668	
	35-36	18	0	2			0	0	0	0	0	0	1,777.9	19,138	127.5	1,373	1,905	20,510	1,905.4	20,510			2,000.1	21,529	
	37-38	18	0	2			0	0	0	0	0	0	1,678.1	18,063	120.4	1,294	1,798	19,359	1,798.5						



APPROXIMATE LOCATION OF FLOODPLAIN LIMITS (TAKEN FROM SCS CONSULTING GROUP'S DRAWING 1.1)

APPROXIMATE LOCATION OF WETLAND LIMIT +15 m SETBACK (TAKEN FROM BEACON ENVIRONMENTAL'S DRAWING)

APPROXIMATE LOCATION OF FLOODPLAIN LIMITS (TAKEN FROM SCS CONSULTING GROUP'S DRAWING 1.1)

APPROXIMATE LOCATION OF EP ZONING LINE (ZONING BY-LAW 2008-141 NORTH SECTION)

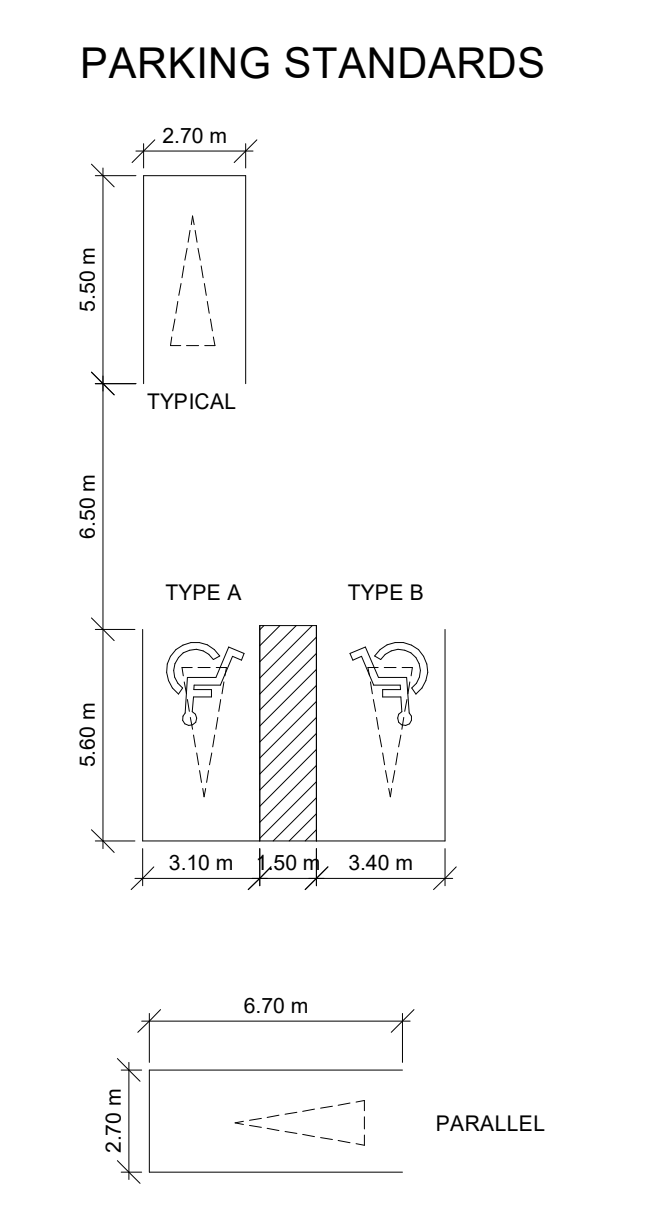
APPROXIMATE LOCATION OF WETLAND LIMIT +15 m SETBACK (TAKEN FROM BEACON ENVIRONMENTAL'S DRAWING)

APPROXIMATE LOCATION OF FLOODPLAIN LIMITS (TAKEN FROM SCS CONSULTING GROUP'S DRAWING 1.1)

APPROXIMATE LOCATION OF WETLAND LIMIT +15 m SETBACK (TAKEN FROM BEACON ENVIRONMENTAL'S DRAWING)

**LEGEND**

- PRIMARY RESIDENTIAL / HOTEL ENTRANCE
- SECONDARY RESIDENTIAL / HOTEL ENTRANCE
- RETAIL ENTRANCE
- EXIT
- FIRE HYDRANT
- SIAMESE CONNECTION
- CONVEX MIRROR
- TRANSFORMER WITH CLEARANCES
- FIRE ROUTE SIGN
- 000.00 SPOT ELEVATION
- GASHYDRO METER



NO.	DATE	ISSUED FOR REVISION	BY

PROJECT: **BARRIE WATERFRONT**  
 BARRIE, ON

DRAWING: **SITE PLAN WITH GRADING**

PROJECT NO:	19-1055D
PROJECT DATE:	2019-08-09
DRAWN BY:	OPV
CHECKED BY:	RMM
SCALE:	As Indicated