TECHNICAL MEMORANDUM

DATE 18 November 2024 **Project No.** CA0013279.4699

TO Mike Cross and Ryan Randall
1000067364 Ontario Inc.

FROM Matt Dil, Senior Ecologist; Heather Drost, Project Manager

EMAIL matt.dil@wsp.com; heather.drost@wsp.com

ENVIRONMENTAL IMPACT STUDY AMENDMENT MEMO PART OF LOT 14, CONCESSION 3 & BLOCK 'D', REGISTERED PLAN 1423 BARRIE, ONTARIO (CITY OF BARRIE FILE NO. D30-036-2023)

Note: this is a revised version of the Amendment Memo dated July 11, 2024, which has been updated to reflect the current proposed grading limits.

1.0 INTRODUCTION

The property located at 211 Dock Road in the City of Barrie (the Site) was purchased by 1000067364 Ontario Inc. after a previous development application was reviewed by WSP Canada Inc. (WSP) in the Scoped Environmental Impact Study Part of Lot 14, Concession 3, And Block "D", Registered Plan 1423, Dock Road, City of Barrie (WSP 2018). In 2022, WSP completed field surveys and an Amendment Memo (WSP 2022) to update the Environmental Impact Study (EIS) for a proposed single lot development at the Site. In 2023, a second Amendment Memo (WSP 2023) was completed to address a revised development application (five lots with single family dwellings). The objectives of the current (third) Amendment Memo are:

- To address comments from agencies including the City of Barrie (the City) and Lake Simcoe Region Conservation Authority (LSRCA) on the 2023 submission (letter from City of Barrie Development Services Department, dated February 28, 2024).
- To provide updated details regarding the proposed development plan, the agency-verified wetland boundary (June 2024), as well as the associated natural heritage impact assessment and mitigation measures.

For reference purposes the previous Amendment Memo (WSP 2023) and the Scoped EIS (WSP 2018) are provided in **Attachment B**. Responses to the City and LSRCA comments that are relevant to the EIS or natural heritage features are provided in **Attachment C**.

While the previous ecological field surveys were limited to the 211 Dock Road property, the EIS and Amendment Memos also considered the adjacent lands within 120 m of the Site (herein referred to as the Study Area), through review of background information sources and air photo interpretation.

2.0 ENVIRONMENTAL POLICY CONTEXT UPDATE

Environmental policies as described in the second Amendment Memo (WSP 2023) remain unchanged, with the exception of the following updates described in this section.

2.1 City of Barrie Official Plan

Environmental policies with respect to the City's Official Plan (2023) as described in the second Amendment Memo (WSP 2023) remain unchanged; however, the following project-specific updates are provided.

Per Map 3 of the Official Plan, the Site is currently mapped as *Environmental Protection Area (EPA) – Level 2*; however, based on further review the City has recommended that:

- The contiguous forest (non-wetland portion) associated with the Site is viewed as a *Significant Woodland / EPA Level 1*. The criteria for evaluating the significance of the woodland will be based on the Natural Heritage Reference Manual (OMNR 2010), which is described further in **Section 4.0**.
- The City comments noted that the wetland on Site may also be considered for *EPA Level 1* if the size is greater than 0.5 ha. Based on the recent agency-verified wetland boundary (June 2024), the wetland is less than 0.5 ha (i.e., it is currently calculated as 0.46 ha); therefore, it is considered *EPA Level 2*.

Section 5.4.2.1 of the Official Plan stipulates conditions for EPA Level 1. It specifies:

> *d) Notwithstanding the land use limitations applicable to properties identified as Level 1, where a land use designation, as found on Map 2, permits other forms of development, such development may proceed subject to the policies of Level 2 and the appropriate planning application processes.*

On Map 2 of the Official Plan, the Site is designated as *Neighbourhood Area*, which has permitted use for *Residential* (per Section 2.6.1.1); therefore, the development may proceed subject to the policies of *EPA Level 2* (Section 5.4.2.2), which are:

> *b) Development shall not be permitted with the features in Level 2 unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions.*
>
> *c) An environmental impact study will be required to be completed by a qualified professional for any proposed development or site alteration in or within 120.0 metres of an area identified as Level 2 on Map 3*.

An assessment of potential impacts on the natural heritage features and their ecological functions is provided in Section 6.0 of this Memo.

2.2 Conservation Authorities Act

Conservation Authorities Act policies as described in the second Amendment Memo (WSP 2023) remain unchanged; however, the following project-specific updates are provided.

Although the Site is not within LSRCA Regulated Area (based on current online LSRCA Mapviewer), the comments received from LSRCA indicate that the wetland feature on site may meet the criteria for wetlands in Ontario Regulation 179/06, which would result in LSRCA permitting requirements. As described in the LSRCA comments, in Ontario Regulation 41/24, a *wetland* is defined as land that:

a) *is seasonally or permanently covered by shallow water or has a water table close to or at its surface,*
b) *directly contributes to the hydrological function of a watershed through connection with a surface watercourse,*
c) *has hydric soils, the formation of which have been caused by the presence of abundant water, and*
d) *has vegetation dominated by hydrophytic plants or water tolerant plants, the dominance of which have been favoured by the presence of abundant water.*

Based on the LSRCA review of the original EIS (WSP 2018), the wetland meets criteria a), c) and d); however, the EIS and subsequent Amendment Memos (WSP 2022 and 2023) found no evidence of a surface watercourse that would connect the wetland with the surrounding watershed. In Ontario Regulation 41/24, a *watercourse* is defined as:

> "*a defined channel, having a bed and banks or sides, in which a flow of water regularly or continuously occurs"*.

A seasonal drainage feature is present in the northern limits of the Site connecting to the roadside drain along Tynhead Road; however, this would not meet the definition for "watercourse" per Ontario Regulation 41/24, as it lacks a defined channel with bed and banks. Further, this feature is not mapped as a watercourse according to the LSRCA online mapping. As a result, the wetland does not meet criteria b). It is therefore anticipated that a permit from LSRCA related to wetland impacts will not be required for the proposed works.

2.3 Endangered Species Act

Endangered Species Act policies as described in the second Amendment Memo (WSP 2023) remain unchanged; however, a project-specific update related to the review of SAR is provided in Section 3.3 of this Memo based on recent agency consultation for SAR bats and Landscape Architect site assessments for Black Ash.

3.0 EXISTING CONDITIONS

3.1 Site Description

The Site description as provided in the second Amendment Memo (WSP 2023) remains unchanged; however, in agreement with agency comments, the lot fabric has been changed to include a separated "Block A" in the northern portion of the Site, which will have ownership conveyed to the City, and Lot 3 has been reconfigured to have a northern boundary that is aligned with Lots 1, 2, 4 and 5. The updated site plan is shown in **Attachment A - Figure 2**.

3.2 Vegetation

Vegetation communities as described in the second Amendment Memo (WSP 2023) remain unchanged; however, updates related to the review of SAR (i.e., Black Ash) are provided in Section 3.3 of this Memo and as noted previously, the boundary of the wetland has been updated based on the June 2024 delineation with the City and LSRCA (refer to **Attachment A - Figure 2**).

3.3 Species at Risk

The assessment of confirmed and potential SAR habitats as described in the second Amendment Memo (WSP 2023) remains unchanged; however, the following updates related to the review of SAR are provided:

SAR Bats

Based on the background review and agency communication with Midhurst District OMNRF as noted in the Scoped EIS (WSP 2018), Northern Myotis (*Myotis septentrionalis*) (END – ESA and SARA), Little Brown Myotis (*Myotis lucifugus*) (END – ESA and SARA), and Tri-colored Bat (*Perimyotis subflavus*) (END – ESA and SARA) may find potential habitat in the vicinity of the Site. The range of Eastern Small-footed Bat (*Myotis leibii*) (END – ESA; Not at Risk under SARA) also overlaps the Study Area.

An assessment of the potential SAR bat habitat in the Site was completed based on 2021 EIS update fieldwork and desktop review in the second Amendment Memo (WSP 2023). The impacts of the proposed development were evaluated in accordance MECP (2022) guidance documents, which state:

> *"If a proposed activity will avoid impairing or eliminating the function of habitat for supporting bat life processes (e.g. remove, stub, etc. a proportionally small number of potential maternity or day roost trees in treed habitats which would not result in fragmentation or barriers) and the timing of tree removal will avoid the bat active season (April 1 – September 30 in Southern Ontario / May 1 to August 31 in Northern Ontario), then there is no need to conduct SAR bat surveys of treed habitats."*

On December 19, 2023, WSP submitted a Technical Memorandum to the Ministry of Environment Conservation and Parks (MECP); this Memo reviewed the potential for impacts on SAR bat habitat associated with the proposed development and concluded that with implementation of the recommended mitigation measures (as described in **Section 6.0**), no impacts on SAR bats are anticipated. To date the MECP has only provided an automated response (refer to **Attachment C**), which has been interpreted as an indication the proponent must "self-assess" potential SAR impacts and MECP has expressed no further concerns regarding ESA compliance.

The current proposed grading / tree removal limits are marginally different (0.12 ha greater) than those submitted to MECP in 2023; however, it is our opinion that the level of potential SAR bat habitat impacts can still be considered "proportionally small" relative to the surrounding forest habitat availability (1.9% increase to proportional impacts) and no further consultation with MECP is recommended on this matter.

Black Ash

Black Ash (*Fraxinus nigra*; END) was added to the Species at Risk Ontario (SARO) List in January 2022 and is present in the treed swamp areas (SWD5-1 / SWM1-1 / SWM4-1) of the Site. At the time of the second Amendment Memo (WSP 2023), there was a temporary pause on ESA protections for this species; however, ESA protections for Black Ash came into force as of January 26, 2024 through the passing of Ontario Regulations (O. Reg.) 6/24 and 7/24.

The "species protection" prohibitions in subsection 9 (1) (a) of the ESA only apply to impacts on healthy Black Ash trees with a stem diameter at breast height (DBH) of at least eight (8) cm located on lands within the boundaries of the municipalities listed in O. Reg. 6/24, which includes the City of Barrie.

As required by O. Reg. 6/24, the health of Black Ash trees in the Site were assessed by qualified professional Arborists (Landmark Environmental Group Ltd. [LEGroup]) in September 2023 and March 2024. Based on the findings of these assessments, no healthy Black Ash trees greater than eight (8) cm were identified in the Site (for additional details refer to Tree Inventory, Analysis, Preservation Plan & Canopy Survey Addendum [LEGroup March 2024]; therefore, no ESA authorizations for Black Ash removals are required for this Site.

4.0 NATURAL HERITAGE FEATURE ASSESSMENT

The assessment of natural heritage features as defined by the PPS (OMMAH 2020) remain unchanged from the second Amendment Memo (WSP 2023), with the exception of updates for two categories: Habitats of Endangered or Threatened Species; and Significant Woodlands.

Updates related to these features are summarized in Table 1.

Table 1: Natural Heritage Features Assessment Summary for the Study Area (within 120 m of the Site)

Feature	Present	Comments
Habitats of Endangered or Threatened Species	Yes	Two Butternut trees were identified in the northern portion of the Site. They are not anticipated to be impacted by the proposed works because the grading / tree removal limits will not encroach within the 30 m protection buffers. Black Ash (END) was added to the SARO List in January 2022 and ESA protections came into force as of January 26, 2024. Black Ash is present in the treed swamp areas of the Site; however, no healthy Black Ash trees greater than 8 cm were identified in the Site (refer to Section 3.3); therefore, per O. Reg. 6/24, no ESA authorizations for Black Ash removals are required for this Site. Potential SAR Bat (END) treed roosting habitat may be present in the Site; however, following consultation with MECP and self-assessment completed by the proponent, it has been determined that with implementation of recommended mitigation measures, no impacts on SAR bats from the proposed development are anticipated.
Significant Woodlands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Mary's River)	Yes	While the wooded portions of the Study Area are not identified as *Significant Woodland* in the City of Barrie Official Plan (2023), comments received from the City have recommended that the woodlands would qualify as *Significant Woodland* based on criteria from the Natural Heritage Reference Manual (OMNR, 2010; Section 7.3.1). Characteristics that contribute to significance of a woodland include woodland size, ecological functions, the presence of uncommon characteristics, and economical and social values. Ecological functions further include the presence of woodland interior, the proximity to other woodlands or significant natural features, habitat linkages provided by the woodland, the presence of a sensitive headwater area, and species diversity. In the second Amendment Memo (WSP 2023), the contiguous woodland associated with the Site was assessed as covering approximately 5.95 ha; however, based on the City's review comments: "it is closer to 4.71 ha (exclusive of "backyard" forest)". The woodland is smaller than the threshold for significance recommended in the Natural Heritage Reference Manual, which would be 20 ha for the City of Barrie where woodland cover is about 19.6% of the land cover (City of Barrie, 2013). However, based on the City's review comments, at least one of the other criteria for *Significant Woodlands* (ecological functions, uncommon characteristics, economic and social values) has been met, which would result in designation as *Significant Woodland.* For further commentary on the criteria used to evaluate significance of the woodland, please refer to the agency comment responses (**Attachment C**).

5.0 PROPOSED DEVELOPMENT

The Client is proposing to develop the land within the Site to create five single-family residential homes within the existing lots of record; Lot 1 is currently under construction through previous City approvals. The proposed development remains unchanged from the second Amendment Memo (WSP 2023); however, in agreement with agency comments, the lot fabric has been changed to include a separated “Block A” in the northern portion of the Site, which will have ownership be conveyed to the City, and Lot 3 has been reconfigured to have a northern boundary that is equal to Lots 1, 2, 4 and 5. The updated site plan is shown on the attached **Attachment A - Figure 2**.

In the second Amendment Memo (WSP 2023), the limit of tree removals in the rear of lots was restricted to 18 m from the rear of buildings; however, based on updates to the site grading plan and consultation with the City, the current proposed limit of tree removal has been extended to be equal to the rear lot line. Trees will be saved, where possible, in the rear lots depending on site-specific grading and other construction-related requirements. Updated information regarding the site grading has been included in **Attachment A - Figure 2**. The Tree Inventory, Analysis, Preservation Plan & Canopy Survey Addendum (LEGroup May 2024) will be updated to reflect the current proposed tree removal limit and will include details regarding:

- Temporary tree preservation fencing, which will be installed along the dripline of retained forest during construction.
- Permanent paige wire fencing (1.2 m high), which will be installed along the northern boundary of Lots 1 5 and along the eastern / Tynhead Road border of the property.

6.0 IMPACT ASSESSMENT AND MITIGATION

The assessment of impacts and recommended mitigation measures remain unchanged from the second Amendment Memo (WSP 2023), with the exception of updates based on agency comments, as described below.

6.1 Habitat of Endangered or Threatened Species

Black Ash trees will be impacted by the proposed works; however, based on the recent health assessments completed by LEGroup (March 2024), no healthy trees greater than 8 cm DBH were identified in the Site therefore no ESA authorizations will be required for their removal.

Potential treed roosting habitat for SAR bats was identified in the Site based on findings from the 2021 field investigations. As described in **Section 3.3**, the MECP was consulted in December 2023 regarding potential impacts to SAR bat habitat. Based on the automated response from MECP, the proponent can self-assess impacts on SAR bats following the MECP guidance documents (2022). As described in the second Amendment Memo (WSP 2023), with implementation of mitigation measures (refer to Section 6.4), no impacts on SAR bat individuals or the overall habitat function of the woodland are anticipated.

6.2 Woodlands and Wetlands

Previously in the second Amendment Memo (WSP 2023) neither the wetlands nor the woodlands were identified as significant based on review of Site conditions and the City of Barrie Official Plan (2023). However, based on the recent agency comments, the City has determined that the woodlands in the Site meet the criteria required for designation as *Significant Woodland*, which are also classified as *EPA - Level 1.*

Despite the *EPA – Level 1* classification, the site is designated as *Neighbourhood Area* on Map 2 of the Official Plan; therefore, the development may proceed subject to the policies of *EPA Level 2*. Development is permitted in lands with this designation if it can be determined that there will be no negative impacts on the natural features or their ecological functions.

The proposed development within the design plan illustrated on the **Attachment A – Figure 2** will impact trees and other vegetation in the southern portion of the Site. The proposed area of direct impacts (including building footprints, tree removal and grading areas) remains the same as described in second Amendment Memo (WSP 2023); however, the following updates are provided:

- **Wetland** (SWD5-1 / SWM1-1 / SWM4-1) impacts are estimated to be 0.16 ha (previously 0.09 ha) or approximately 35% of the total wetland area (0.46 ha) present within the Site. These values are based on the recent wetland delineation completed with LSRCA and the City on June 14, 2024.
    - As requested in the agency comments, the proponent will follow the Ecological Offsetting Policy (LSRCA 2021) and associated mitigation hierarchy to address impacts to the wetland feature. Impacts have been avoided, minimized, and mitigated to extent possible and it was anticipated that residual impacts would be offset through a cash-in-lieu approach; however, as described on the LSRCA website, with the passing of Bill 23, *More Homes Built Faster Act*, the applicability of the Ecological Offsetting Policy will be reviewed by the LSRCA on a site-specific basis. Offsetting measures will be confirmed with the LSRCA following review of this Amendment Memo.
- **Woodland** (FOM7-1 and FOD5-11), following the recent wetland delineation, the updated woodland removal area is 0.49 ha (previously 0.45 ha). It should be noted that in the Tree Inventory, Analysis, Preservation Plan & Canopy Survey Addendum (LEGroup May 2024) the woodland removal area was calculated to be 0.4366 ha; however, this will be updated to reflect the current proposed tree removal limits.
    - Assuming the total area of the woodland feature is 4.71 ha excluding “backyard forest” (based on City’s review comments), the post-development area of the feature would be 4.1 ha; this size would still meet the City’s criteria for *EPA Level 1* (*Significant Woodlands* greater than 4.0 ha in size).
    - As requested in the agency comments, removal of woodland area and individual trees will be addressed in accordance with the City’s Ecological Offsetting Policy (2023); the applicable cash-in lieu payment has been calculated by LEGroup (May 2024).

6.3 Water Balance and Grading

A Hydrogeological Assessment Update (Azimuth Environmental Consulting Inc. November 2024) has been prepared for the Site. The revised water balance summary predicts an approximately 2% decrease (-52 m^3) in groundwater infiltration for the Site between the "pre-development" and "post-development" conditions, which is a smaller deficit than previously estimated in 2023. The water balance impacts will be minimized to the extent feasible by discharging 75% of rooftop downspout water to pervious surfaces, including side yard swales and front grassed areas; however, additional infiltration will be limited by the shallow water table conditions (noted to be seasonally within 0.5 m of the ground surface across the Site).

Pearson Engineering has prepared an updated Functional Servicing Report (November 2024), which includes a preliminary grading plan. The anticipated rear lot slopes and grading limits have been overlaid on the **Attachment A - Figure 2.** Due to the shallow water table conditions, the minimum separation for the undersides

of floor slabs will be created through the importation of fill across the development area and the use of a raised bungalow design. All grading and fill will be outside of the proposed tree removal limits.

6.4 Recommended Mitigation Measures

Agency comments indicated that additional mitigation measures should be developed to address potential impacts on natural features, particularly in the rear of lots. The following is a list of all recommended mitigation measures (including those from the second Amendment Memo) to minimize impacts to the remaining woodland and wetland located on and adjacent to the Site.

- Tree protection fencing will be installed between the proposed development envelope and adjacent trees, to reduce the potential for physical damage to trees and their root systems. Supports and bracing used to secure the barriers should be installed along the tree driplines, or further away where possible, and in a way that minimizes root damage. Refer to Tree Inventory, Analysis, Preservation Plan & Canopy Survey Addendum (LEGroup 2024) for additional details on tree protection fencing.
- Although tree removals may be permitted up to the edge of the rear lot lines, efforts will be made to retain trees where possible. Trees recommended for retention include native species that are healthy and mature (>25 cm DBH), which will provide ecological value (e.g., seed bank, wildlife foraging and shelter opportunities).
- Tree protection fencing will be installed before work at the Site begins and will be inspected regularly to ensure it is performing its intended function. If any section is found to be damaged or non-functional it will be replaced immediately.
- The following activities are prohibited beyond the tree protection fencing:
  - storage or stockpiling of materials including fill, topsoil, construction equipment and debris
  - disposal of liquids
  - operation of heavy machinery
- Tree removal will conform to local, municipal, or regional by-laws, and will be performed by properly trained and accredited individuals.
- To prevent impacts on SAR bat individuals and nests of Migratory Birds:
  - Removal of any trees / vegetation must be completed during the bat inactive period (i.e., October 1 to March 31).
  - If SAR bats or potential SAR bats are encountered during construction, all works will cease immediately and the MECP will be contacted for further direction.
- Standard mitigation measures during construction are required and will be implemented following the City of Barrie Development Manual (2017). Prior to undertaking works relate to fill and grading, appropriate Erosion and Sediment Control (ESC) measures will be installed in accordance with applicable environmental standards. The ESC measures will be finalized at the detail design stage.

- Hydrological balance of the wetland will be maintained via redirection surface run-off and roof top drainage to rear lot swales.
- Prior to occupancy, a Stewardship Brochure will be prepared by a qualified ecologist. The brochure is intended to inform residents and/or property managers about adjacent natural areas and how they can be responsible stewards of these natural resources. Topics to address will include: proper handling of yard waste and composting; potential impacts and control / disposal of fertilizers and herbicides / pesticides, de-icing salts, driveway and automotive cleaning residues; protection of soil and vegetation in the natural areas; explanation of the importance of saplings and native ground flora; pet implications and control; and invasive plant spread from yards. It is recommended that the brochure be provided to all landowners / property managers. The brochure should be part of the property sale documentation, to ensure that next generation purchasers are informed about environmental stewardship responsibilities.

7.0 CONCLUSION

WSP has completed an updated review of the ecological impacts for the proposed development at 211 Dock Road, Barrie. The proposed development is to build five single-family residential homes within the existing or amended lots of record, with Lot 1 currently under construction following previous City approvals. To summarize the key amendments from the second Amendment Memo (WSP 2023):

- Based on agency review comments, a revised lot fabric has been proposed which includes a separated “Block A” in the north and the north boundary of Lot 3 aligning with Lots 1, 2, 4 and 5. The “Block A” will be designated for Environmental Protection and become City owned property.
- It is acknowledged that the woodland feature on site meets the NHRM criteria for *Significant Woodland* and *EPA Level 1*; however, because the Site is designated for *Neighbourhood Area,* the environmental protection policies applicable to *EPA Level 2* will apply.
- Potential impacts to SAR, including bats and Black Ash, have been addressed through assessment of habitat, mitigation measures and agency consultation.
- With implementation of the recommended mitigation measures described in Section 6.4, impacts to the overall ecological function of the *Significant Woodland* and wetland will not be adversely impacted. Residual impacts on the woodland and wetland areas will be addressed through application of the City and LSRCA Offsetting Policies, respectively.
- Cash-in-lieu offsetting payment amounts for the woodland portion will be finalized following approval of LEGroup reporting (2024); however, to determine if a cash-in-lieu approach will be applied to address wetland impacts, LSRCA must advise on the applicability of their offsetting policy for this Site.

Please contact the below undersign if you have further questions or concerns regarding this EIS amendment memo.

Sincerely,

WSP Canada Inc.

Matt Dil, MES, BSc
Senior Ecologist

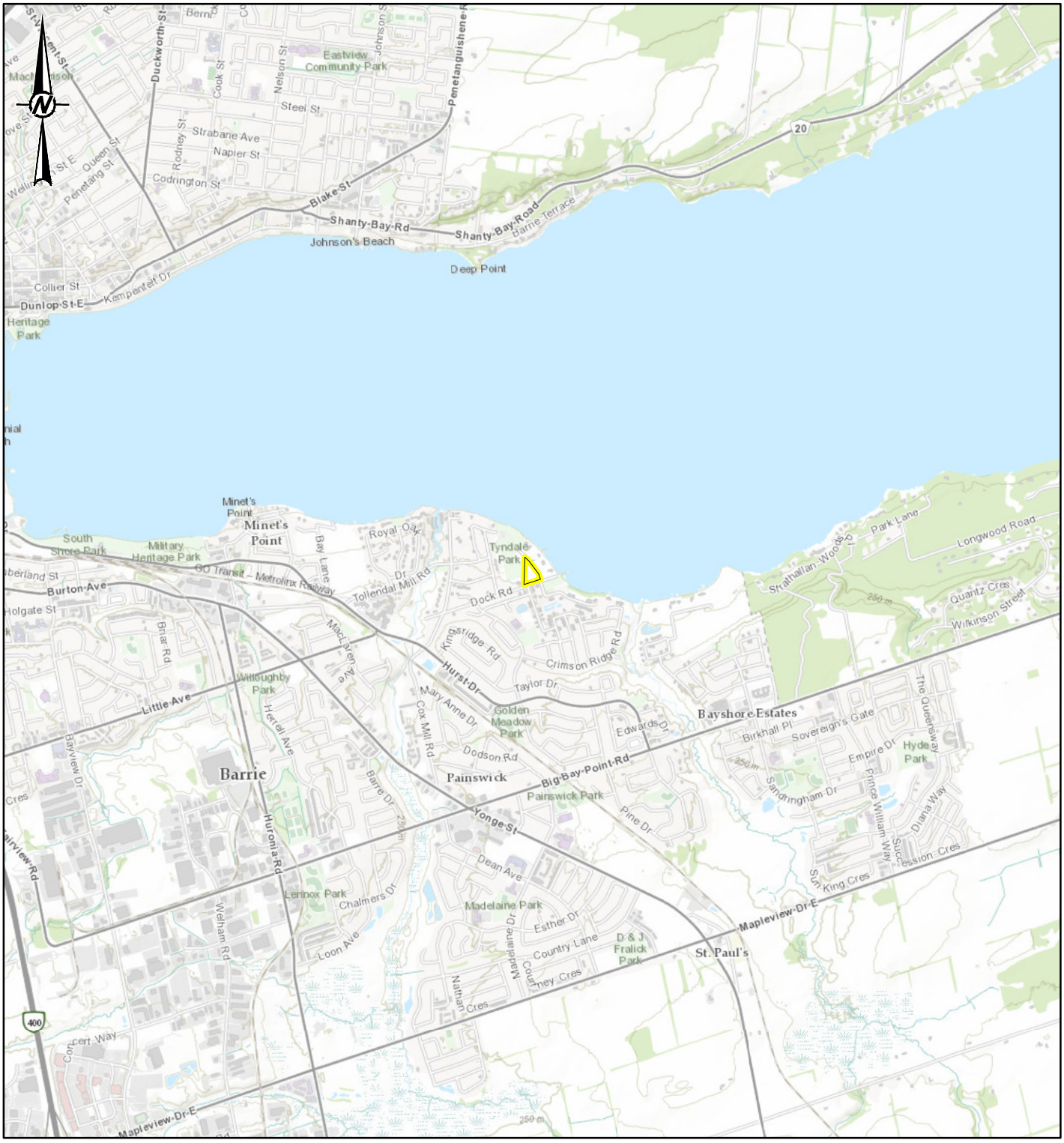
Heather Drost, BSc
Senior Ecologist / Project Manager

Attachments: Attachment A – Figures
Attachment B – EIS Amendment Memo (WSP 2023) and Scoped EIS (WSP 2018)
Attachment C – Agency review comments response table

https://wsponline.sharepoint.com/sites/ca-211-12243-00/14tech_profservices/ecology/2024 amendment memo/revc - nov 2024/ca0013279.4699_211 dock road_eis amendment memo_11nov2024.docx

APPENDIX A

Figures



LEGEND

SITE BOUNDARY

0 250 500 1,000

1:40,000 METRES

NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)

1. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE - ONTARIO
2. COORDINATE SYSTEM: NAD 1983 UTM ZONE 17N

CLIENT

1000067364 ONTARIO INC.

PROJECT

ENVIRONMENTAL IMPACT STUDY UPDATE PART OF LOT 14, CONCESSION 3 & BLOCK 'D', REGISTERED PLAN 1423 BARRIE, ONTARIO

TITLE

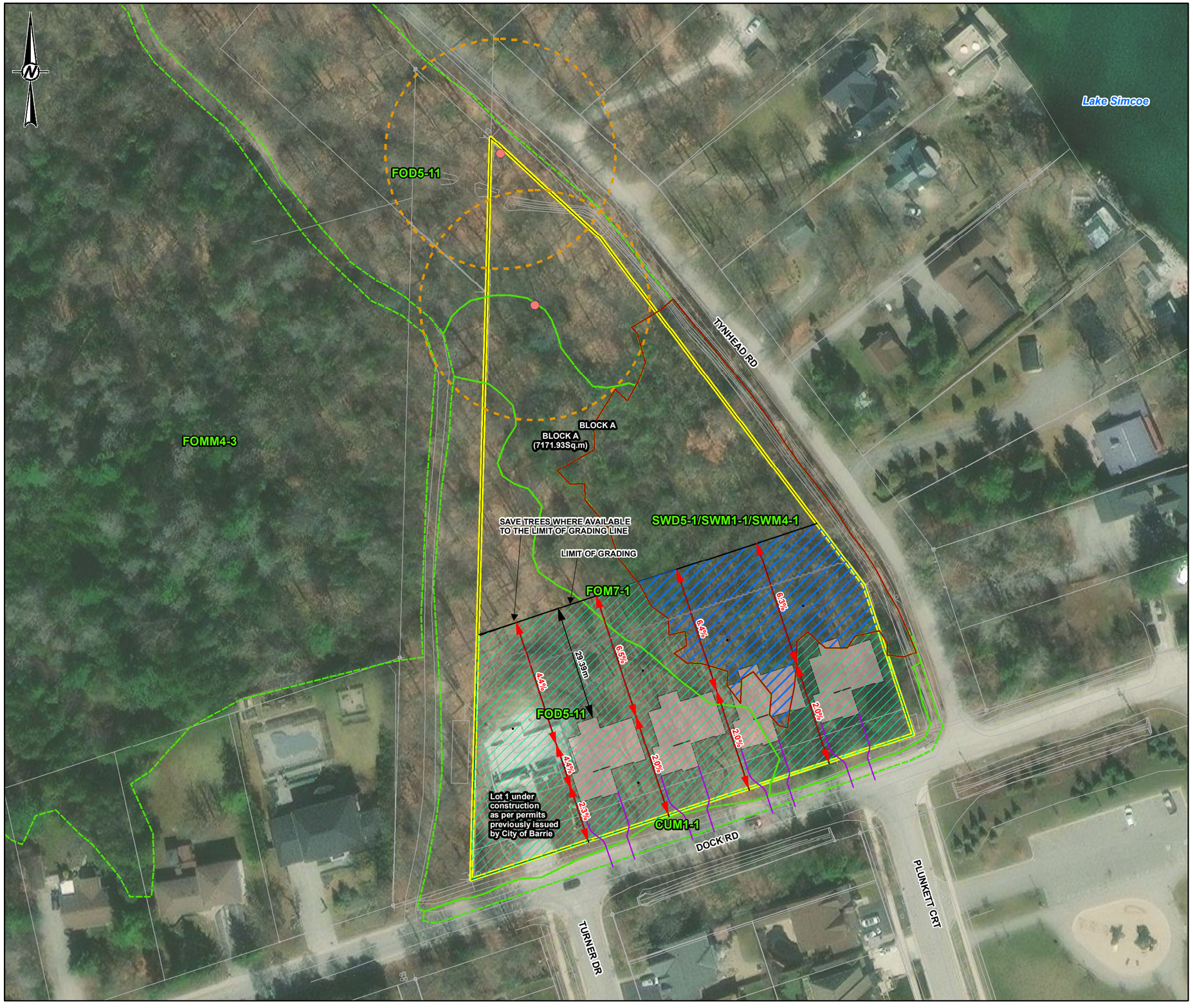
SITE LOCATION PLAN

CONSULTANT

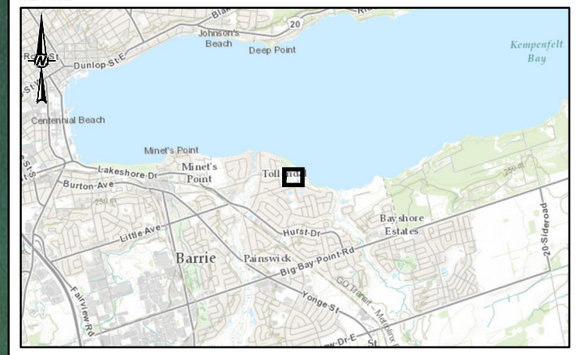
wsp

YYYY-MM-DD	2023-11-13
DESIGNED	----
PREPARED	AR
REVIEWED	----
APPROVED	----

PROJECT NO.	CONTROL	REV.	FIGURE
CA0013279.4699	0001	A	1



KEY MAP



SCALE 1:100,000

LEGEND

- BUTTERNUT
- DRIVEWAY
- PROPOSED DESIGN PLAN
- AGENCY CONFIRMED WETLAND LIMIT (JUNE 2024)
- PROPOSED BUILDING FOOTPRINT(CONCEPTUAL)
- WETLAND IMPACTS
- WOODLAND IMPACTS
- BUTTERNUT 30 M SETBACK
- ECOLOGICAL LAND CLASSIFICATION
- LOT
- SITE BOUNDARY

LOT 1 UNDER CONSTRUCTION AS PER PERMITS PREVIOUSLY ISSUED BY CITY OF BARRIE

TOTAL AREA OF WOODLAND IMPACTS = 0.49 HA

TOTAL AREA OF WETLAND IMPACTS = 0.16 HA

ELC COMMUNITIES

CUM1-1 :	DRY-MOIST OLD FIELD CULTURAL MEADOW
FOD5-11 :	DRY-FRESH SUGAR MAPLE-HARDWOOD DECIDUOUS FOREST TYPE
FOM7-1 :	FRESH-MOIST WHITE CEDAR-SUGAR MAPLE MIXED FOREST
FOMM4-3 :	DRY-FRESH SUGAR CEDAR-HARDWOOD MIXED FOREST TYPE
SWD5-1 :	BLACK ASH ORGANIC DECIDUOUS SWAMP
SWM1-1 :	WHITE CEDAR MINERAL MIXED SWAMP
SWM4-1 :	WHITE CEDAR ORGANIC MIXED SWAMP

0 10 20 40

1:1,000 METRES

NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)

1. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE - ONTARIO
2. IMAGERY CREDITS: SOURCES: ESRI, HERE, GARMIN, INTERMAP, INCREMENT P CORP., GEBCO, USGS, FAO, NPS, NRCAN, GEOBASE, IGN, KADASTER NL, ORDNANCE SURVEY, ESRI JAPAN, METI, ESRI CHINA (HONG KONG), (C) OPENSTREETMAP CONTRIBUTORS, AND THE GIS USER COMMUNITY
SOURCE: ESRI, MAXAR, EARTHSTAR GEOGRAPHICS, AND THE GIS USER COMMUNITY

CLIENT
1000067364 ONTARIO INC.

PROJECT
ENVIRONMENTAL IMPACT STUDY UPDATE PART OF LOT 14, CONCESSION 3 & BLOCK 'D', REGISTERED PLAN 1423 BARRIE, ONTARIO

TITLE
ENVIRONMENTAL FEATURES , PROPOSED DEVELOPMENT & IMPACTS

CONSULTANT

wsp

YYYY-MM-DD	2024-11-04
DESIGNED	----
PREPARED	AR/GU
REVIEWED	----
APPROVED	----

PROJECT NO.	CONTROL	REV.	FIGURE
CA0013279.4699	0001	A	2

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

0 25mm

PATH: S:\Clients\1000\067364_Ontario\Barrie\99_PROJ\CA00\13279_4699-A0_PROD\0001_EIS\CA0013279-4699-0001-RB-0002.mxd PRINTED ON: 2024-11-04 AT: 9:12:20 PM

APPENDIX B

EIS Amendment Memo (WSP, 2023) and Scoped EIS (WSP, 2018)

TECHNICAL MEMORANDUM

DATE 13 November 2023 **Project No.** CA0013279.4699

TO Mike Cross and Ryan Randall
1000067364 Ontario Inc.

FROM Matt Dil, Senior Ecologist; Alex Stettler, Senior Project Manager **EMAIL matt.dil@wsp.com; Alexander.Stettler@wsp.com**

ENVIRONMENTAL IMPACT STUDY AMENDMENT MEMO PART OF LOT 14, CONCESSION 3 & BLOCK 'D', REGISTERED PLAN 1423 BARRIE, ONTARIO

1.0 INTRODUCTION

1000067364 Ontario Inc. purchased a property located at 211 Dock Road in the City of Barrie (the Site) for which had a previous development application reviewed in Scoped Environmental Impact Study Part of Lot 14, Concession 3, And Block "D", Registered Plan 1423, Dock Road, City of Barrie (WSP, 2018). In 2022, WSP Canada Inc. (WSP) completed field surveys and an Amendment Memo (WSP, 2022) to update the Environmental Impact Study (EIS) for a proposed single lot development at the Site; however, the current Memo has been produced to address a revised development application (five lots with single family dwellings). This Memo will review the existing conditions previously documented in the EIS (WSP 2018) and Amendment Memo (WSP 2022), update applicable natural heritage policies to their current version, assess potential impacts of the current proposed development on the identified natural features, and provide recommended mitigation measures.

WSP's Terrestrial Ecologist visited the Site on November 19, 2021 to confirm the existing conditions as described in the previous Scoped EIS (WSP, 2018; refer to **Attachment B**). The 2021 assessment included a high-level vegetation species survey, preliminary wetland delineation, Species at Risk (SAR) habitat assessment focused on identifying potential SAR bat treed roosting habitat, and the documentation of incidental wildlife. While the previous site visits were limited to the 211 Dock Road property, this EIS update also considers the adjacent lands within 120 of the Site (herein referred to as the Study Area), through review of background information sources and air photo interpretation.

2.0 ENVIRONMENTAL POLICY CONTEXT UPDATE

Policies as described in the Scoped EIS (WSP, 2018) are updated to conform to current publications.

2.1 Provincial Policy Statement

The Provincial Policy Statement (PPS) (Ontario Ministry of Municipal Affairs and Housing [OMMAH], 2020) is a planning document that provides a framework for, and governs development within, the Province of Ontario. In order to preserve various ecological resources deemed significant in the province, development lands must be assessed for the presence of natural heritage features prior to construction. These natural heritage features (listed

below) are both defined and afforded protections under the PPS (OMMAH, 2020). Linkages between natural heritage features, surface water and groundwater features are also recognized and afforded similar protections under the policy. Section 2.1.2 of the PPS (OMMAH, 2020) also requires that the diversity and connectivity of all natural heritage features and the long-term ecological function of natural heritage systems be maintained, restored, or improved where possible. Further to this, natural heritage systems within Ecoregions 6E and 7E are to be identified as per Section 2.1.3.

Under the PPS (OMMAH, 2020), development or site alteration is prohibited within significant wetlands in Ecoregions 5E, 6E and 7E and in significant coastal wetlands, but may be allowed adjacent to these features provided the adjacent lands have been evaluated and it has been demonstrated that there will be no negative impacts to these features or their ecological functions. Development may be permitted in or adjacent to significant wetlands north of Ecoregions 5E, 6E and 7E, significant woodlands and significant valleylands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Mary's River), significant wildlife habitat, and significant areas of natural and scientific interest (ANSI), provided there will be no negative impacts to these features or their ecological function due to the proposed undertaking. In addition, development and site alteration is not permitted in fish habitat unless in accordance with provincial and federal legislation.

Natural heritage features as defined by the PPS (OMMAH, 2020) include:

a) *Fish Habitat;*

b) *Habitats of Endangered and Threatened Species;*

c) *Significant Areas of Natural and Scientific Interest (ANSI);*

d) *Significant Wetlands;*

e) *Significant Coastal Wetlands;*

f) *Other Coastal Wetlands in Ecoregions 5E, 6E and 7E;*

g) *Significant Wildlife Habitat;*

h) *Significant Woodlands in Ecoregions 6E and 7E (*excluding islands in Lake Huron and the St. Mary's River); and,

i) *Significant Valleylands in Ecoregions 6E and 7E (*excluding islands in Lake Huron and the St. Mary's River).

2.2 The Growth Plan for the Greater Golden Horseshoe

The Growth Plan For The Greater Golden Horseshoe (Office Consolidation, August 2020), herein referred to as the Growth Plan, is issued under the authority of Section 7 of the Places to Grow Act (MMAH, 2020). The Site is located within an existing *Settlement Area*, outside of the Provincial *Natural Heritage System for the Growth Plan*. Section 4.2.2.6 of the Growth Plan states: beyond the *Natural Heritage System for the Growth Plan*, including within *Settlement Areas*, the municipality:

a) will continue to protect any other natural heritage features and areas in a manner that is consistent with the PPS (OMMAH, 2020); and

j) may continue to protect any other natural heritage system or identify new systems in a manner that is consistent with the PPS (OMMAH, 2020).

2.3 Lake Simcoe Protection Plan

The Lake Simcoe Protection Plan (LSPP), approved under the Lake Simcoe Protection Act (2008), provides a framework for development within the Lake Simcoe watershed that fall outside of existing settlement areas and outside of the Greenbelt area and Oak Ridges Moraine area (Government of Ontario, 2009). The LSPP is designed to be read in conjunction with the PPS (OMMAH, 2020) and other policy documents that provide for ecological health and environmental sustainability of the Lake Simcoe watershed. The objectives of the LSPP include policies to protect, improve or restore the elements that contribute to the ecological health of the Lake Simcoe watershed including water quality, hydrology, key natural heritage features and their functions, and key hydrologic features and their functions.

Key natural heritage features and key hydrologic features as defined by the LSPP include:

a) Wetlands;

k) Significant Woodlands;

l) Significant Valleylands;

m) Natural Areas Abutting Lake Simcoe;

n) Permanent and Intermittent Streams, and

o) Lakes other than Lake Simcoe.

Under the LSPP Section 6.23, development or site alteration is not permitted within a *key natural heritage feature*, a *key hydrologic feature*, or the related *vegetation protection zone* for those features, within areas that are not identified as *Settlement Area* or under the jurisdiction of the Greenbelt Plan and Oak Ridges Moraine Conservation.

While the Site is found within the LSPP Plan Area, it is located in an identified *Settlement Area* for the City of Barrie. Policy 6.32-DP of the LSPP states that *Settlement Areas* are not subject to policies 6.1 - 6.3, 6.5, 6.11, and 6.20 - 6.29 of the LSPP, which include the above policies in regard to key natural heritage and hydrological features.

2.4 City of Barrie Official Plan

The City of Barrie Official Plan 2051 (City of Barrie, 2023) hence referred to as the Official Plan, is a public statement of land use and development goals, objectives, and policies for the guidance of public and private development decisions within the City of Barrie. The Official Plan provides guidance for consideration of land use changes, the provision of public works, actions of local boards, municipal initiatives, and the actions of private enterprise. It gives direction for implementing by-laws, guidelines for more detailed planning and the means for controlling growth so that the City's capacity to provide a healthy community environment is not exceeded (City of Barrie, 2023).

Section 5.3 of the Official Plan details the general policies as they relate to the City's *Natural Heritage System*. Map 2 of the Official Plan shows the Land Use Designations mapping for the City; all lands within the Site are

mapped as *Neighbourhood Area*, adjacent lands northeast and south of the Site are also mapped as *Neighbourhood Area*, and the adjacent lands to the northwest are designated *Greenspace*; lands within the Study Area are not mapped as *Natural Heritage System*.

Section 5.3.1 of the Official Plan applies to the Site because it contains natural heritage features but is not designated *Natural Heritage System* or *Greenspace*:

> "Where, through a development application or site alteration, a natural heritage feature is identified on lands designated other than *Natural Heritage System* and *Greenspace*, the Natural Heritage System policies of this Plan shall apply to those lands until:
>
> i) An environmental impact study has been approved by the City that evaluates the natural heritage features of the lands; and,
>
> ii) The lands are designated and zoned appropriately, in accordance with the recommendations of the City."

Section 5.3.1 also prohibits development or site alteration in:

- *fish habitat*, *habitat of endangered or threatened species*, except in accordance of provincial and federal requirements; or
- *Significant Wildlife Habitat* or *Areas of Natural and Scientific Interest* (ANSI's), unless it has been demonstrated that there will be no negative impacts on natural features or their ecological functions.

Further assessment of these natural features and potential impacts is provided in the proceeding sections.

Map 3 of the Official Plan identifies the Natural Heritage Protection Overlays within the City; the Site is mapped as *Environmental Protection Area (EPA) - Level 2*. Per Section 5.4.2.2 of the Official Plan, the Site qualifies for *EPA – Level 2* because it is part of a woodland 4-10 ha in size; the woodland on Site is part of a larger woodland measuring 6.28 ha as mapped by Land Information Ontario. Further, Section 5.4.2.2 of the Official Plan stipulates conditions for *EPA – Level 2*:

- "Development shall not be permitted with the features in Level 2 unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions."
- "An environmental impact study will be required to be completed by a qualified professional for any proposed development or site alteration in or within 120.0 metres of an area identified as Level 2 on Map 3."

Assessment of potential impacts on the natural heritage features and their ecological functions is provided in Section 6.0 of this Memo.

2.5 Conservation Authorities Act

The Conservation Authorities Act (Government of Ontario, 1990) gives individual conservation authorities the power to regulate development and activities in or adjacent to river or stream valleys, Great Lakes and large inland lakes and shorelines, watercourses, hazardous lands, and wetlands. Regulations made under the Conservation Authorities Act specify the Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Regulations managed by individual Conservation Authorities. These regulations apply to lands within river or stream valleys, flood plains, wetlands, watercourses, lakes, hazardous lands, or lands within 120 m

of a Provincially Significant Wetland or wetlands greater than 2 hectares, or lands within 30 m of non-provincially significant wetlands. Development or site alteration within these regulated areas may be permitted provided development is conducted in accordance with existing policies.

The Site is located within the Lake Simcoe watershed, which is under the jurisdiction of the Lake Simcoe Region Conservation Authority (LSRCA). Regulation 179/06 made under the Conservation Authorities Act specifies the Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Regulations managed by the LSRCA. Development or site alteration within these regulated areas may be permitted by the LSRCA if, in its opinion, the control of flooding, erosion, dynamic beaches, pollution, or the conservation of land will not be affected by the development.

Although the Site is not within LSRCA Regulated Area (based on current online LSRCA Mapviewer), it is within 120 m of Lake Simcoe, and so the LSRCA retains the authority to review this Natural Heritage study to ensure conformity with the Lake Simcoe Protection Plan.

2.6 Fisheries Act

The Federal Fisheries Act (Government of Canada, 1985) provides guidance for the management, protection, and use of fish, as well as the protection of fish habitat and waters used by fish. *Fish habitat* is defined in the Federal Fisheries Act as the “spawning grounds and nursery, rearing, food supply and migration areas on which fish depend directly or indirectly in order to carry out their life processes.” Section 35 of the Act prohibits the harmful alteration, disruption, or destruction (HADD) of fish habitat whereby the physical attributes of the system become less suitable for fish production. Although Lake Simcoe is within 120 m of the Site, there is no fish habitat anticipated to be impacted with the proposed development plan.

2.7 Migratory Birds Convention Act

Most birds in Canada are protected by the federal Migratory Birds Convention Act (MBCA; Canada, 1994), which prohibits the disturbance or destruction of migratory birds, their eggs and nests on all lands in Canada, even incidentally. Upon the enforcement of the Migratory Birds Regulations, 2022 (MBR, 2022; Canada, 2022) in July 2022, nest protection has been limited to active nests for most migratory bird species. Schedule 1 of the MBR (2022) identifies 18 migratory bird species whose nests are protected year-round and must be confirmed inactive for a defined period (ranging between 12 and 36 months depending on the species) before they can be disturbed or destroyed. The nests must also be registered at the start of the defined period.

Although Environment and Climate Change Canada (ECCC) can issue permits allowing the destruction of nests for scientific purposes or to prevent damage being caused by birds, there are currently no permits available to exempt development, including maintenance and rehabilitation activities. ECCC advises that proponents schedule activities outside of the migratory bird nesting season to avoid incidental take. Proponents can apply for a damage or danger permit to remove or actively deter migratory birds from structures if it can be clearly demonstrated that the bird activity is causing damage to the structure or poses a health and safety concern for people (e.g., large nesting gull colonies generating waste in public places).

2.8 Species At Risk Act

At a federal level, SAR designations for species occurring in Canada are initially determined by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC). If approved by the federal Minister of the Environment

and Climate Change Canada, species are added to the federal List of Wildlife Species at Risk (Canada 2002), species are added to the federal List of Wildlife Species at Risk (Canada 2002).

It is prohibited to kill, harm, harass, capture, possess, collect, buy, sell, or trade individuals, as well as damage or destroy the residence of a species listed as extirpated, endangered, or threatened on Schedule 1 of the Species at Risk Act (SARA, 2002). Furthermore, species that are included on Schedule 1 as extirpated, endangered or threatened are afforded protection of species-specific critical habitat on federal lands once critical habitat is defined in a recovery strategy. Any alterations to critical habitat on federal lands require a permit under Section 73(3) of SARA. A permit may only be issued if the following conditions are met:

- All reasonable alternatives to the activity that would reduce the impact on the species have been considered and the best solution has been adopted;
- All feasible measures will be taken to minimize the impact of the activity on the species or its critical habitat or the residences of its individuals; and
- The activity will not jeopardize the survival or recovery of the species.

On private or provincially-owned lands, only individuals and residences of aquatic species and migratory birds (as defined by the MBCA) that are listed as endangered, threatened or extirpated are protected under SARA, and critical habitat protection on non-federal lands is afforded only to aquatic species, unless ordered by the Governor in Council.

Although species listed as special concern are not afforded the same degree of legal protection, Section 65 of SARA requires that a management plan be developed that includes measures for the conservation of the species and their habitats, and it is expected that federal landowners will implement these measures on their lands.

2.9 Endangered Species Act

SAR designations for species in Ontario are initially determined by the Committee on the Status of Species at Risk in Ontario (COSSARO), and if approved by the provincial Minister of Environment, Conservation and Parks, species are added to the provincial Endangered Species Act (ESA) which came into effect June 30, 2008 (Ontario, 2007). Subsection 9(1) of the ESA prohibits the killing or harming of species identified as endangered or threatened in the various schedules to the Act. The ESA also provides habitat protection to all species listed as threatened or endangered. Subsection 10(1)(a) of the ESA states that *"No person shall damage or destroy the habitat of a species that is listed on the Species at Risk in Ontario (SARO) list as an endangered or threatened species"*. The Species at Risk in Ontario (SARO) list is contained in O. Reg. 230/08.

General habitat protection is provided by the ESA to all *threatened* and *endangered* species listed in O. Reg. 230/08. Species-specific habitat protection is only afforded to those species for which a habitat regulation has been prepared and passed into law as a regulation of the ESA. The ESA has permitting, registration and other processes (e.g., Species at Risk Conservation Fund) to allow some activities that would otherwise not be permitted under the ESA.

There is no protection under the ESA for species listed as *Special Concern*; however, their protection is encouraged to preserve Ontario's biodiversity. Habitat and species protection for *Special Concern* species may be provided under the PPS as *Significant Wildlife Habitat* (OMMAH, 2020), the Migratory Birds Convention Act

(Government of Canada, 1994), and the Ontario Fish and Wildlife Conservation Act (Government of Ontario, 1997).

A review of SAR and potential SAR habitats for the Site is provided in Section 3.0 of this Memo.

3.0 EXISTING CONDITIONS

3.1 Site Description

The Site has been identified as Part of Lot 14, Concession 3, and Block "D", Registered Plan 1423, Dock Road, City of Barrie. Refer to the **Attachment A - Figure 1** for location details. The Site is roughly triangular-shaped, 1.26 ha parcel of land, surrounded by Tynhead Road to the east, Dock Road to the south, and vacant lots containing forested lands to the northwest. According to Schedule A of the City of Barrie Official Plan (2022), the Site is designated as Neighbourhood Area, and according to the City of Barrie Zoning By-law 2009-141 South Section mapping (Office Consolidation, January 2023), the Site is currently zoned as Residential Single Detached Dwelling First Density (R1). Under the existing zoning, a single-family dwelling and associated driveway and accessory structures are permitted. The Client is proposing to develop the land within the Site to create five (5) single-family residential homes within the existing lots of record. The proposed site plan is shown on the attached **Attachment A - Figure 2**.

3.2 Vegetation

The Site visit completed on November 19, 2021, confirmed that the vegetation communities as identified in the Scoped EIS (WSP, 2018) have not changed significantly since the 2017 surveys. The majority of the Site is forested, with a treed swamp located primarily in the eastern portion of the Site. The following is a description of the 2017 existing conditions with updates from the 2021 survey. For methods and additional details refer to the Scoped EIS (WSP, 2018).

Dry – Fresh Sugar Maple – Hardwood Deciduous Forest Type (FOD5-11)

Throughout the southwest corner, along the western boundary and in the north corner of the Site, the forest community had been identified as Dry-Fresh Sugar Maple-Beech Deciduous Forest (FOD5-2); however, on review in 2021, this was updated to Dry – Fresh Sugar Maple – Hardwood Deciduous Forest Type (FOD5-11) based on the diverse mix of associate species and possible decline in American Beech (*Fagus grandifolia*) due to Beech Bark Disease. This forest ecotype composes approximately half of the total area of the Site. Sugar Maple (*Acer saccharum*) was an abundant species in the canopy; Sugar Maple cavity trees were likewise abundant specifically in the southwest corner of the Site. The canopy was also composed of a mix of moderate numbers of American Beech, White Ash (*Fraxinus americana*) and Basswood (*Tilia americana*), and occasional White Birch (*Betula papyrifera*), Black Ash (*Fraxinus nigra*), Green Ash (*Fraxinus pennsylvanica*), Black Walnut (*Juglans nigra*) and Eastern White Cedar (*Thuja occidentalis*). Choke Cherry (*Prunus virginianus*), Alternate-leaved Dogwood (*Cornus alternifolia*), and Eastern White Cedar were occasional constituents of the understorey, while the ground layer was composed of a variety of herbaceous species, including False Solomon's Seal (*Maianthemum racemosum*), Lily-of-the-Valley (*Convallaria majalis*), Jack-in-the-pulpit (*Arisaema triphyllum*), Herb Robert (*Geranium robertianum*), White Trillium (*Trillium grandiflorum*) and Common Wood Sedge (*Carex blanda*). The 2021 survey noted abundant Sugar Maple cavity trees in this vegetation community.

Fresh - Moist White Cedar - Sugar Maple Mixed Forest (FOM7-1)

In the southeast corner of the Site, a relatively small area has been identified as Fresh - Moist White Cedar - Sugar Maple Mixed Forest (FOM7-1); likewise, this ecotype was noted in the northern half of the Site, flanking the White Cedar Mineral / Organic Mixed Swamp. Based on the 2021 preliminary wetland delineation, it is likely that these two sections connect via a narrow band of upland vegetation. For additional arborist data on the southeast corner roadside edges of this vegetation unit, refer to the Barrie Tree Preservation Plan for Tree Removal Permit (Landmark Environmental Group Ltd, 2021). Sugar Maple was abundant in the canopy, while moderate numbers of Eastern White Cedar could be found in the canopy, subcanopy and understorey. Other species of trees noted within this ecotype included Red Maple (*Acer rubrum*), Green Ash, Red Oak (*Quercus rubra*), White Birch, Black Ash (found abundantly in the southeast corner) and Basswood. Canada Yew (*Taxus canadensis*) was frequently noted in the understorey, while the ground layer consisted of Canada Enchanter's Nightshade (*Circaea canadensis*), Jack-in-the-Pulpit, Canada Anemone (*Anemonastrum canadense*), and a variety of other herbaceous species.

Dry - Moist Old Field Cultural Meadow (CUM1-1)

A small strip of land identified as Dry - Moist Old Field Cultural Meadow (CUM1-1) borders the Site along the roadsides. Typical weedy species often found in disturbed environments were well-represented in this area, shrub species included Staghorn Sumac (*Rhus typhina*) and Common Buckthorn (*Rhamnus cathartica*), while the groundcover species included New England Aster (*Aster novae-angliae*), Coltsfoot (*Tussilago farfara*), Wild Red Raspberry (*Rubus idaeus* subsp. *idaeus*), Wild Mint (*Mentha arvensis*), Common St. John's-wort (*Hypericum perforatum*), Wild Carrot (*Daucus carota*), Common Dandelion (*Taraxacum officinale*), and Tall Buttercup (*Ranunculus acris*).

Treed Swamp

The remainder of the Site has been identified as a treed swamp, composed of several different ecotypes. The interior of the treed swamp, located roughly halfway up the eastern property boundary and extending towards the middle of the Site, has been identified as Black Ash Organic Deciduous Swamp (SWD5-1). Black Ash was the dominant tree species; however, many of the Ash were in decline due to Emerald Ash Borer (*Agrilus planipennis*). Other tree species included smaller numbers of Yellow Birch (*Betula alleghaniensis*), Basswood and Green Ash in the canopy, while young Black Ash, Yellow Birch, and American Elm (*Ulmus americana*) were noted in the subcanopy. A variety of species composed the understorey and ground layer, including Spotted Jewelweed (*Impatiens capensis*), Sensitive Fern (*Onoclea sensibilis*), Swamp Red Currant (*Ribes triste*), Panicled Aster (*Aster lanceolatus*), Giant Goldenrod (*Solidago gigantea*) and Bittersweet Nightshade (*Solanum dulcamara*) along with several sedge and rush species.

Surrounding the SWD5-1 ecotype in a narrow band is an area that has been identified as a White Cedar Mineral / Organic Mixed Swamp (SWM1-1 / SMW4-1). Eastern White Cedar was abundant throughout this area, while a variety of deciduous tree species similar to those found in the Black Ash Organic Deciduous Swamp (SWD5-1) were present, including Black Ash, Yellow Birch, White Birch, Sugar Maple, and American Elm. Young Eastern White Cedars dominated the understorey, while some of the other noted species included Canada Yew, Bladder Sedge (*Carex intumescens*), Fowl Glyceria (*Glyceria striata*) and Canada Enchanter's Nightshade. Due to the changes in the topography caused by hummocks in the terrain, the soil composition alternated between mineral and organic soil types.

The area to the west of the Site was surveyed at a reconnaissance level and identified as Dry - Fresh White Cedar - Hardwood Mixed Forest Type (FOMM4-3) with Eastern White Cedar, Eastern White Pine (*Pinus strobus*) and other hardwoods.

3.3 Wildlife

The following is a description of the 2017 existing conditions. No additional wildlife observations were made in November 2021. For methods and additional details refer to the Scoped EIS (WSP, 2018).

Amphibians

A single Spring Peeper (*Pseudacris crucifer*) was heard calling near the center of the Site during the survey on May 31, 2017. No other amphibians were observed during the surveys.

Birds

A total of 25 bird species were recorded in the Site during the two survey rounds. Breeding evidence was *confirmed* for two (2) species, considered *probable* for eight (8) species, and considered *possible* for 13 species. Breeding evidence was not identified for the remaining two (2) species.

One SAR bird, Eastern Wood-Pewee (Special Concern, ESA and SARA), was identified during the bird surveys. On both the June 1 and July 2, 2017 site visits, presumably the same male Eastern Wood-Pewee was seen in the southern portion of the Site (refer to **Attachment A - Figure 2**). Eastern Wood-Pewee was assigned a breeding code of *probable* due to the observation of a male occupying territory for at least 7 days. No other provincially or federally listed SAR birds were identified during the surveys. Bird species identified in the Site, including breeding evidence, are listed in Appendix C of the Scoped EIS (WSP, 2018).

Mammals

Assessment of SAR Bat habitat is discussed below under the Species at Risk section. Non-SAR mammal incidental observations are listed in Appendix C of the Scoped EIS (WSP, 2018).

3.4 Species at Risk

Note: SAR designation are abbreviated as follows: Endangered = END, Threatened = THR, Special Concern = SC

As an update to the 2017 desktop review, a search of the NHIC Make-A-Map database (MNRF, 2023) was conducted to update the existence and approximate location of recorded occurrences of Endangered or Threatened species in the general area. The NHIC search included the one square kilometer (1 km^2) quadrat directly overlapping the Site (17PK0814), as well as five adjacent quadrats (17PK0714, 17PK0713, 17PK0813, 17PK0913, 17PK0914) located south, east and west of the Site, which were checked to ensure potential SAR in the vicinity of the Study Area were captured. In total, three SAR records were identified through the NHIC search:

- **Blanding's Turtle** (*Emydoidea blandingii*; THR - ESA and END - SARA). Suitable habitat for this species is not present within the Study Area, due to the lack of open aquatic wetlands, ponds or connections to other large wetland systems. No turtle species were observed during the Site visits.
- **Butternut** (*Juglans cinerea*; END - ESA and SARA). This species has been confirmed in the northern portion of the Site, as detailed below.

- **Red-headed Woodpecker** (*Melanerpes erythrocephalus*; END - ESA and SARA). Although this species is known to occur in a variety of wooded habitats, it prefers open deciduous woodlands or swamp woodlands with abundant snag trees. The woodlands on the Site are dense, the species has not been recorded in the study area during the 2017 breeding bird surveys or in citizen science websites (eBird.org, iNaturalist.org); therefore, there is a low potential for occurrences.

Five additional Special Concern species were identified through the NHIC search:

- **Eastern Wood-pewee**. This species was confirmed in suitable woodland habitat on Site, as detailed below.
- **Grasshopper Sparrow** (*Ammodramus savannarum*) and **Short-eared Owl** (*Asio flammeus*). Suitable habitat for these species is not present within the Study Area, due to the lack of open meadow / grassland vegetation communities (with the exception of the narrow cultural meadow unit bordering Dock Road).
- **Midland Painted Turtle** (*Chrysemys picta marginata*) and **Snapping Turtle** (*Chelydra serpentina)*. Suitable habitat for these species is not present within the Study Area, due to the lack of open aquatic wetlands, ponds or connections to other large wetland systems. No turtle species were observed during the Site visits.

In the 2023 update, other SAR records were identified through review of background information sources (i.e., Ontario Breeding Bird Atlas, and Ontario Reptile and Amphibian Atlas); however, the assessment of potential for occurrences remains unchanged from the Scoped EIS (WSP 2018). SAR identified to have habitat potential or are likely to occur on the Study Area, were assessed in the Scoped EIS (WSP, 2018) using a conservative ranking (None, Low, Moderate or High). The SAR screening was based on 2017 / 2021 field observations, 2023 background review and review of adjacent habitat types identified using satellite imagery. SAR with high likelihood of habitat use in the Study Area are discussed below.

SAR Bats

Based on the background review and agency communication with Midhurst District OMNRF as noted in the Scoped EIS (WSP, 2018), Northern Myotis (*Myotis septentrionalis*) (END), Little Brown Myotis (*Myotis lucifugus*) (END), and Tri-colored Bat (*Perimyotis subflavus*) (END) may find potential habitat in the vicinity of the Site. The range of Eastern Small-footed Bat (*Myotis leibii*) (END) also overlaps the Study Area.

SAR bats are often associated with cavities of large diameter trees (25 to 44 cm diameter at breast height [DBH]) of Maple (*Acer* spp.) and Oak (*Quercus* spp.). During the summer months, these species form maternity colonies in sheltered areas, such as tree cavities, under loose or peeling bark of old or dead trees, and in old buildings. More recent communications from MECP suggests that trees less than 25 cm DBH provide potential roosting habitat as well.

In 2017, a total of one (1) cavity tree was identified across the 11 cavity tree survey plots. Each plot was approximately 0.05 ha in size; therefore, approximately 0.55 ha in total were surveyed for the presence of cavity trees. This corresponds to a total density of approximately 1.8 cavity trees / ha. The Scoped EIS (WSP, 2018) concluded that the Site exhibited a snag density lower than 10 cavity trees per ha and does not qualify as candidate bat maternity roost Significant Wildlife Habitat (SWH per MNRF 2015).

However, the November 2021 site visit identified abundant cavity trees, mostly Sugar Maple, in the FOD5-11 unit. The FOD5-11 area incidentally surveyed for cavity trees is approximately 0.5 ha in which approximately 12 cavity trees were observed. This exceeds the threshold to qualify as candidate bat maternity roost habitat SWH. Further,

the Barrie Tree Preservation Plan for Tree Removal Permit (Landmark Environmental Group Ltd, 2021) comments that 'Section 1', which includes the SWD5-1 / SWM1-1 / SWM4-1 unit and the southeast corner of the FOM7-1 unit, is composed of approximately 30% Sugar Maple averaging DBH 20-30 cm, with cobra canker and natural decline due to hydric soils. These tree health conditions are suitable to cavity formation and therefore, it could be anticipated that candidate bat maternity roost habitat is present in the southeast corner as well. There is also potential that a portion of the dead / dying Black Ash trees in the treed swamp area will become suitable bat treed roosting habitat (as they decay and produce peeling bark).

Based on MECP (2022) guidance in regard to avoidance considerations, there is no need to conduct bat surveys of treed habitats if the activity will avoid impairing / eliminating the function of the habitat to support bat life processes and timing windows for tree removals are followed. See the Mitigation section below for additional details.

The determination of potential impacts on bat habitat function can vary geographically; therefore, further communication with MECP is recommended prior to any tree removals. Regardless of the presence or absence of SAR bat roosting habitat, it is recommended that mitigation measures should include the removal of trees outside the bat active period as there is some potential for bats to use the mature deciduous trees as intermittent roosting sites.

Butternut

A single Butternut was observed by WSP during the Site investigations, near the northern corner of the Site. Based on the November 2021 observations, the Butternut is still present. It is approximately 45 cm DBH, has signs of disease and decay including cankers, shelf fungi, patches of missing bark and a cavity that would suggest this tree is likely a Category 1 class tree, non-retainable and therefore, protections under the ESA (Government of Ontario, 2007) would not apply.

A second Butternut was observed as part of the Barrie Tree Preservation Plan for Tree Removal Permit (Landmark Environmental Group Ltd, 2021). The tree is noted as non-retainable, which would suggest the tree is also Category 1 and the ESA (Government of Ontario, 2007) would not apply.

These individuals and a 30 m radius buffer are shown on **Attachment A - Figure 2**. To prevent impacts to these Butternuts, a 30 m radius no disturbance buffer will be maintained from the trees (ESA O. Reg. 830/21). No other Butternuts were identified during the Site investigations.

The trees are located in excess of 30 m from the grading / tree removal limits and therefore, will not be impacted by the proposed development and as such, will not be discussed further.

Eastern Wood-Pewee

Based on the assessment in the Scoped EIS (WSP, 2018), there is high potential for Eastern Wood-Pewee to be present in the Site. A single individual was observed during several site visits (refer to Section 6.9.2 of the Scoped EIS). As a species of Special Concern on the SARO list, Eastern Wood-Pewee does not receive habitat protection under the ESA (Government of Ontario, 2007); however, it is provided protection under the Migratory Birds Convention Act (Government of Canada, 1994).

4.0 NATURAL HERITAGE FEATURE ASSESSMENT

Natural heritage features as defined by the PPS (OMMAH, 2020) include:

a) Fish Habitat;

b) Habitats of Endangered and Threatened Species;

c) Significant Areas of Natural and Scientific Interest (ANSI);

d) Significant Wetlands;

e) Significant Coastal Wetlands;

f) Other Coastal Wetlands in Ecoregions 5E, 6E and 7E;

g) Significant Wildlife Habitat;

h) Significant Woodlands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Mary's River); and,

i) Significant Valleylands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Mary's River).

These features were assessed in the Scoped EIS (WSP, 2018) and are summarized below in Table 1 with relevant updates for 2021 to 2023.

Table 1: Natural Heritage Features Assessment Summary for the Study Area (within 120 m of the Site)

Feature	Present	Comments
Fish Habitat	Yes	The western shore of Lake Simcoe exists approximately 105 m to the east of the Site. With implementation of general mitigation measures outlined below, no impacts to fish habitat are anticipated.
Areas of Natural and Scientific Interest (ANSI)	No	ANSIs were not identified within the Study Area.
Habitats of Endangered or Threatened Species	Yes	Two Butternut trees were identified in the northern portion of the Site. They are not anticipated to be impacted by the proposed works because the grading / tree removal limits will not encroach within the 30 m protection buffers. The 2018 EIS concluded: no other Endangered or Threatened species had moderate or high habitat potential within the Study Area. However, based on the 2021 observations and 2022 to 2023 review: - Black Ash (END) was added to the SARO List in January 2022 and is present in the treed swamp areas of the Site; however, there is a temporary pause on ESA protections for this species for two years, until January 26, 2024. - Potential SAR Bat (END) treed roosting habitat may be present in the Site and further consultation with MECP is recommended.
Significant Wetlands	No	Significant Wetlands were not identified within the Study Area, based on a review of the NHIC Make-A-Map database (MNRF, 2023). During the Site investigations, a treed swamp was identified within the Site. Based on the wetland features, the

Feature	Present	Comments
		wetland would not likely be identified as significant (refer to Section 6.4 of WSP, 2018). Black Ash (END) was recorded in the treed swamp and prior to 2023, under the Ontario Wetland Evaluation System (OWES 2014) wetlands that supported SAR species were scored as Provincially Significant Wetlands (PSW); however, guidance from MNRF (pers. comm. 2022) suggested not scoring the wetland as PSW based on Black Ash presence because the previous version of the OWES manual (2014) was produced prior to the recent temporary suspension provisions, and thus the OWES manual (2014) did not provide any guidance on suspended species. It would be appropriate to continue to score Black Ash as non-SAR until January 26, 2024. In January 2023 a new version of OWES was released; this updated version scores based on the number of provincially significant or NHIC-tracked species, but unlike the previous version, it does not have a separate scoring category for SAR. Under OWES 2023, to qualify as a significant wetland, the wetland must achieve a total score of at least 600 points or at least 200 points in either the Biological component or the Special Features component of the evaluation. Black Ash would score 50 points in the Special Features component, but the overall assessment of significance would be unchanged from the Scoped EIS (WSP 2018).
Significant Coastal Wetlands	No	Significant Coastal Wetlands were not identified within the Study Area.
Significant Wildlife Habitat	Yes	Eastern Wood-Pewee (SC) was identified in the Site with an assigned breeding code of *Probable*.
Significant Woodlands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Mary's River)	No	While the wooded portions of the Study Area are not identified as *Significant Woodland* in the City of Barrie Official Plan (2023), an assessment was completed during the Site investigations to determine the significance of the woodland. The Official Plan definition of *significant woodland* defers from the Natural Heritage Reference Manual (OMNR, 2010). Characteristics that indicate significance of a woodland include woodland size, ecological functions, the presence of uncommon characteristics, and economical and social values. Ecological functions further include the presence of woodland interior, the proximity to other woodlands or significant natural features, habitat linkages provided by the woodland, the presence of a sensitive headwater area, and species diversity. The woodland is approximately 5.95 ha including woodland that extends beyond but is contiguous with the Site. The woodland is smaller than the 20 ha threshold for significance for the City of Barrie where woodland cover is about 19.6% of the land cover (City of Barrie, 2013). Interior habitat is not present either within the Site or elsewhere in the woodland feature due to the moderate size and shape. Other significant natural features or fish habitat were not located in close proximity to the woodland. Within the Site, the woodland is not located within a linkage area and animal movement corridors were not identified. Sensitive headwaters, watercourses or fish habitat were not identified in the Site in the City of Barrie Official Plan (2023), limiting the woodland's potential in providing significant water protection; however, evidence of groundwater upwelling was observed in the wetland. The woodland is under private ownership, it has no apparent economically viable products, and it has no potential for recreational activities, limiting its significance regarding economical and social components. Biodiversity is limited in the woodland for several reasons including: the uniformity and lack of diversity of habitats, the limited number of vegetation communities

Feature	Present	Comments
		present, and the presence of urbanization to the north, east and south of the property; however, Black Ash is a species that is experiencing moderate to severe mortality south and east of the Canadian shield (COSEWIC, 2018). Additionally, one 'uncommon characteristic' (which includes vegetation communities identified as S1, S2 or S3, habitat of rare, uncommon, or restricted woodland vascular plant species, or mature woodlands) was identified within the woodland: Hobblebush (*Viburnum lantanoides*, CC: 8). The Natural Heritage Reference Manual (OMNR 2010) suggests that both the presence of Black Ash and Hobblebush could be rationale for significance if minimum size thresholds are also met. The City of Barrie Official Plan (2023) does not explicitly define *Significant Woodlands*; however, the criteria for meeting a higher level of protection, *Environmental Protection Area - Level 1*, includes *woodlands* greater than 10 ha. Based on the Official Plan criteria, the minimum size threshold for significance is not met. Based on the above criteria, the woodland has not been identified as significant.
Significant Valleylands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Mary's River)	No	Significant valleylands were not identified the Study Area.

5.0 PROPOSED DEVELOPMENT

The Site is a roughly triangular-shaped, 1.26 ha parcel of land, surrounded by Tynhead Road to the east, Dock Road to the south. The proponent is proposing to develop the lands within the Site to create five (5) single-family residential homes within the existing lots of record; however, the building on Lot 1 is currently in-progress through a previous approval from the City of Barrie. The proposed Site Plan is shown on **Attachment A - Figure 2**.

Vegetation removals and grading are proposed to occur within the forest and swamp wetland communities; however, the limit of tree removals in the rear of lots has been restricted to the extent possible (18 m from the rear of buildings to allow for sufficient slope grading). For additional details and description of vegetation removals see Barrie Tree Preservation Plan for Tree Removal Permit (Landmark Environmental Group Ltd, 2021).

6.0 IMPACT ASSESSMENT AND MITIGATION

Fish habitat, habitat of Endangered or Threatened species and Significant Wildlife Habitat were identified within the Study Area. Additionally, while significant woodlands or significant wetlands were not identified in the Study Area, the woodlands and wetlands present in the Site will be impacted. The proposed development configuration is presented on the attached Figure 2. The potential for negative impacts associated with this proposed development is examined below, and mitigation measures to minimize these impacts are proposed.

Fish Habitat

The western shore of Lake Simcoe exists approximately 105 m to the east of the Site with no fish habitat occurring on site. With implementation of general mitigation measures outlined below, no impacts to fish habitat are anticipated.

Habitat of Endangered or Threatened Species

Potential treed roosting habitat for SAR bats was identified in the Site based on updated findings in 2021.

Recent direction from MECP (2022) states the following for “avoidance considerations”:

> “If a proposed activity will avoid impairing or eliminating the function of habitat for supporting bat life processes (e.g. remove, stub, etc. a proportionally small number of potential maternity or day roost trees in treed habitats which would not result in fragmentation or barriers) and the timing of tree removal will avoid the bat active season (April 1 – September 30 in Southern Ontario), then there is no need to conduct SAR bat surveys of treed habitats.”

The total proposed removal area, including woodland and wooded swamp vegetation communities, is 0.54 ha, which is a relatively small portion (9.1%) of the surrounding contiguous woodland (total of 5.95 ha). Additionally, the proposed development area is concentrated along the southern border of the woodland, which will prevent fragmentation or barriers to bat movement across the interior and northern portions of the Site. Based on these factors, no impacts on the overall habitat function of the woodland are anticipated. To prevent impacts on SAR bat individuals, the following mitigation measures are recommended:

- Removal of trees must be completed during the bat inactive period (October 1 to March 31); and
- The MECP should be consulted prior to any tree removals; however, recent feedback from MECP encourages a proponent-driven, self-assessment process, and in cases where impacts on SAR habitat function and individuals can be avoided, the self-assessment completed by qualified biologists will need to be relied upon.

Significant Wildlife Habitat

Significant Wildlife Habitat (SWH) confirmed within the Study Area was limited to habitat for Species of Conservation Concern. A single Eastern Wood-Pewee was identified in the Site (Figure 2), and the species was assigned a breeding code of Probable - S7 due to the observation of a singing male on territory for 7+ days (refer to Section 6.9.2 of the Scoped EIS WSP, 2018).

Suitable habitat for Eastern Wood-Pewee can be found throughout the forested ecotypes found within and surrounding the Study Area. Eastern Wood-Pewee is currently listed as a species of Special Concern on the SARO List (ESA O.Reg 230/08, 2022). As a Special Concern species on the SARO List it does not receive habitat protection under the ESA (Government of Ontario, 2007), but is protected under the federal Migratory Birds Convention Act (Government of Canada, 1994). Vegetation removal and disturbance to nests pose the greatest risk to these species. To mitigate potential impacts to Eastern Wood-pewee, the following mitigation measure is recommended:

- Tree / Vegetation removals should be completed outside the breeding bird season (April 1 to August 31).

Based on the 2021 field observations, candidate SWH for bat maternity colonies was also identified in the FOD5-11 and there is also potential for bat roosting habitat in the treed swamp; however, the proposed tree removal area is relatively small (9.1%) in comparison to the surrounding woodland feature, and no impacts on the overall function of potential bat maternity colony habitat are anticipated. The timing windows prescribed for protection of SAR bats will also mitigate potential impacts on bat maternity SWH.

No other candidate SWH was identified within the Study Area.

Migratory Birds

As described above for Eastern Wood-pewee, removal of trees and other vegetation has the potential to impact nesting migratory birds, which are protected under the MBCA (1994). Potential impacts on nesting migratory birds will be mitigated by completing all tree / vegetation removals between September 1 and March 31; however, it should be noted that with recent changes to the MBR (2022), nests of certain species are protected year-round. Schedule 1 of the MBR (2022) lists nests of 18 species whose nests are known to be reused by migratory birds over multiple years; these nests are protected year-round, unless they have been determined to be abandoned – the required survey period to assess if a nest is active or abandoned can be up to 36 months, depending on the species.

- No MBR (2022) Schedule 1 species or evidence of Schedule 1 species nesting was recorded in the Site during the 2017 or in the 2021 field surveys; however, there is potentially suitable breeding habitat for at least one the listed species: Pileated Woodpecker (*Dryocopus pileatus).* If any Schedule 1 species are encountered within the Site prior to or during construction, further guidance from a Qualified Biologist will be required.

Woodlands And Wetlands

Woodlands within the Study Area include the forested areas identified as Dry – Fresh Sugar Maple – Hardwood Deciduous Forest Type (FOD5-11), Fresh - Moist White Cedar - Sugar Maple Mixed Forest (FOM7-1), Dry - Fresh White Cedar - Hardwood Mixed Forest Type (FOMM4-3) and a wetland with three ecotypes: Black Ash Organic Deciduous Swamp (SWD5-1), White Cedar Mineral Swamp (SWM1-1), and Organic Mixed Swamp (SMW4-1). Ecotypes SWD5-1, SWM1-1 and SWM4-1 are not mapped as significant wetlands (MNRF, 2023). The 2021 site investigations and 2023 review confirmed that neither the wetlands nor the woodlands were identified as significant in the City of Barrie Official Plan (2023).

According to Map 3 of the City's Official Plan (2023), these woodlands have been mapped as *Environmental Protection Area (EPA) - Level 2*; development is permitted in lands with this designation if it can be determined that no negative impacts on the natural features or their ecological functions.

The proposed development within the conceptual plan illustrated on the **Attachment A - Figure 2** will impact trees and other vegetation in the southern portion of the Site. The total area of proposed direct impacts (including building footprints, tree removal and grading areas) will be approximately 0.54 ha, comprising of:

- **0.09 ha of wetland** (SWD5-1 / SWM1-1 / SWM4-1), or approximately 24% of the total wetland area (0.37 ha) present within the Site. Due to the already small (<0.5ha) size of the wetland and adjacency to Tynhead Road, removal on the south edge is not anticipated to impact the ecological function of the wetland.
- **0.45 ha of woodland** (FOM7-1 and FOD5-11), or approximately 50% of the total woodland area (0.89 ha) present within the Site. As described previously for SAR bat habitat review, the woodland within the Site is contiguous with a larger woodland extending beyond the property; the proposed removals are a relatively minor portion of the surrounding woodland and impacts to its overall ecological function are not anticipated.

A hydrological evaluation report was prepared for the previous proposed development at the Site in 2018 (Azimuth Environmental Consulting, 2018) and a preliminary assessment Technical Memorandum was prepared in 2023 for the current proposed development (Azimuth Environmental Consulting, 2023). The 2023 hydrogeological Technical Memorandum concluded that:

- Further assessment of water balance, phosphorus budget and dewatering plans should be completed at the detail design stage based on updated Site Plans, including foundation and servicing depths.
- However, the general development concept from 2023 is consistent with the 2018 version, and the conclusions and recommendations will likely remain relevant.

The groundwater flow across the Site was inferred to be northeast towards Lake Simcoe. The ground water level in 2018 was found to be within 0.5 m of the ground surface; therefore, based on the 2018 Hydrogeological Report, temporary dewatering during construction will be required, which will be further evaluated at detail design and meet conditions required by a MECP Permit to Take Water (PTTW). During detail design, once dewatering volumes are confirmed, mitigation measures will be provided to address potential impacts to the wetland. The homes will be constructed with water-proof basements to address the shallow water table conditions in the long-term.

Pearson Engineering has prepared a Functional Servicing Report (2023) and grading plan, which show the re-direction of run-off to Dock Road will be compensated for by directing roof drainage to the rear portion of the lots and into the wetland via swales between the houses. The water balance summary predicts an approximately 20% decrease in groundwater infiltration for the Site between the "pre-development" and "post-development" conditions; however, the run-off coefficient for the northern portion of the site will increase by approximately 100% from the pre- to post-development conditions. Based on the Geotechnical Investigation Report (Peto MaCallum Ltd., 2018), the Site consists of a layer of sandy silt followed by sand and gravels; therefore, it is assumed that the soils have adequate infiltration rates. Given the topography of the Site, in post-development conditions, it is likely that any excess capacity run-off will flow into the existing drain along Tynhead Road and significant hydrological changes to the wetland feature are not anticipated.

Mitigation under the LSRCA Ecological Off-Setting Plan (2021) is not applicable under Section 3.2.1 Exceptions, which indicates that a single-family dwelling on an existing lot of record is not subject to the ecological offsetting policy.

The following mitigation measures are recommended to minimize impacts to the remaining woodland and wetland located on and adjacent to the Site.

- The grading transition area in the perimeter of the rear yard and adjacent to the tree removal limit (as shown in Grading Plans, Pearson Engineering, 2023) is proposed to be graded at a maximum of 3:1 slope. This area should be reviewed for opportunities for select tree retention.
- Tree protection fencing should be installed between the proposed development envelope and adjacent trees, to reduce the potential for physical damage to trees and their root systems. Supports and bracing used to secure the barriers should be installed along the tree driplines, or further away where possible, and in a way that minimizes root damage. See Arborist Report (Landmark Environmental Group Ltd, 2021) for additional details on tree protection fencing.
- Tree protection fencing should be installed before work at the Site begins and inspected regularly to ensure it is performing its intended function. If any section is found to be damaged or non-functional it should be replaced immediately.

- The following activities are prohibited beyond the tree protection fencing: storage or stockpiling of materials including fill, topsoil, construction equipment and debris; disposal of liquids; and operation of heavy machinery.
- Changes to existing land contours and drainage patterns due to grading should be minimized to ensure that significant changes to the existing woodland moisture regime do not occur.
- Tree removal should conform to local, municipal, or regional by-laws, and should be performed by properly trained and accredited individuals.

7.0 SUMMARY OF RECOMMENDATIONS

A summary of key recommended mitigation measures are provided below.

- Hydrological balance of the wetland will be maintained via redirection of roof top drainage and surface run-off.
- Tree removals in the rear of lots should be limited to the extent possible. In the area of maximum 3:1 slope grading in the rear yard should be reviewed for select tree retention opportunities.
- Any tree / vegetation removals should be completed outside of April 1 to September 30 to avoid impacts to migratory birds and SAR Bats.

8.0 CONCLUSION

The Site is surrounded by urbanization to the east and south and is designated as Residential. The proposed development is to build five single-family residential homes within the existing lots of record. Vegetation removals will occur in area identified as *Environmental Protection Area - Level 2*, including forest and swamp wetland. The impact to the overall woodland feature is relatively minor, with the proposed tree removal area equating to approximately 9.1% of the contiguous woodland. The hydrology of the wetland will be maintained and will continue to function as wetland post-construction.

SAR Butternuts will not be impacted. It is recommended to notify MECP prior to any tree removals due to the potential for SAR bat habitat on the Site; however, based on recent MECP direction, a proponent-driven, self-assessment process may need to be relied upon. Standard mitigation measures during construction are required and will be implemented, as well as following the City of Barrie Development Manual (2017).

Please contact the below undersign if you have further questions or concerns regarding this EIS memo update.

Sincerely,

WSP Canada Inc.

Matt Dil, MES, BSc
Senior Ecologist

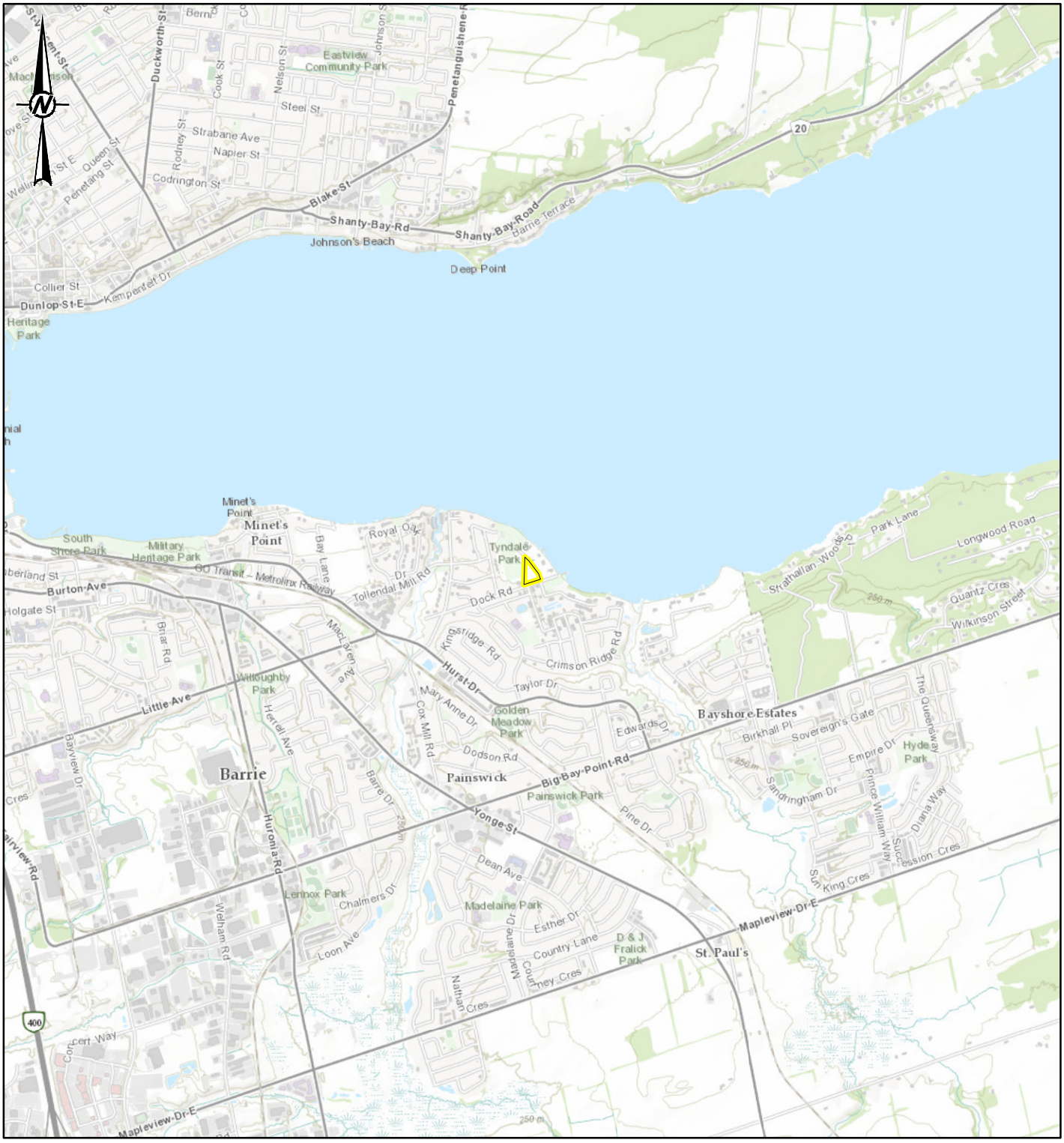
Alex Stettler, HBSc, PMP, CAN-CISEC
Senior Project Manager / Senior Ecologist - Fisheries

MD/AS/ld

Attachments: Attachment A – Figures
Attachment B – Scoped EIS (WSP, 2018)

ATTACHMENT A

Figures



LEGEND

SITE BOUNDARY

0 250 500 1,000

1:40,000 METRES

NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)

1. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE - ONTARIO
2. COORDINATE SYSTEM: NAD 1983 UTM ZONE 17N

CLIENT

1000067364 ONTARIO INC.

PROJECT

ENVIRONMENTAL IMPACT STUDY UPDATE PART OF LOT 14, CONCESSION 3 & BLOCK 'D', REGISTERED PLAN 1423 BARRIE, ONTARIO

TITLE

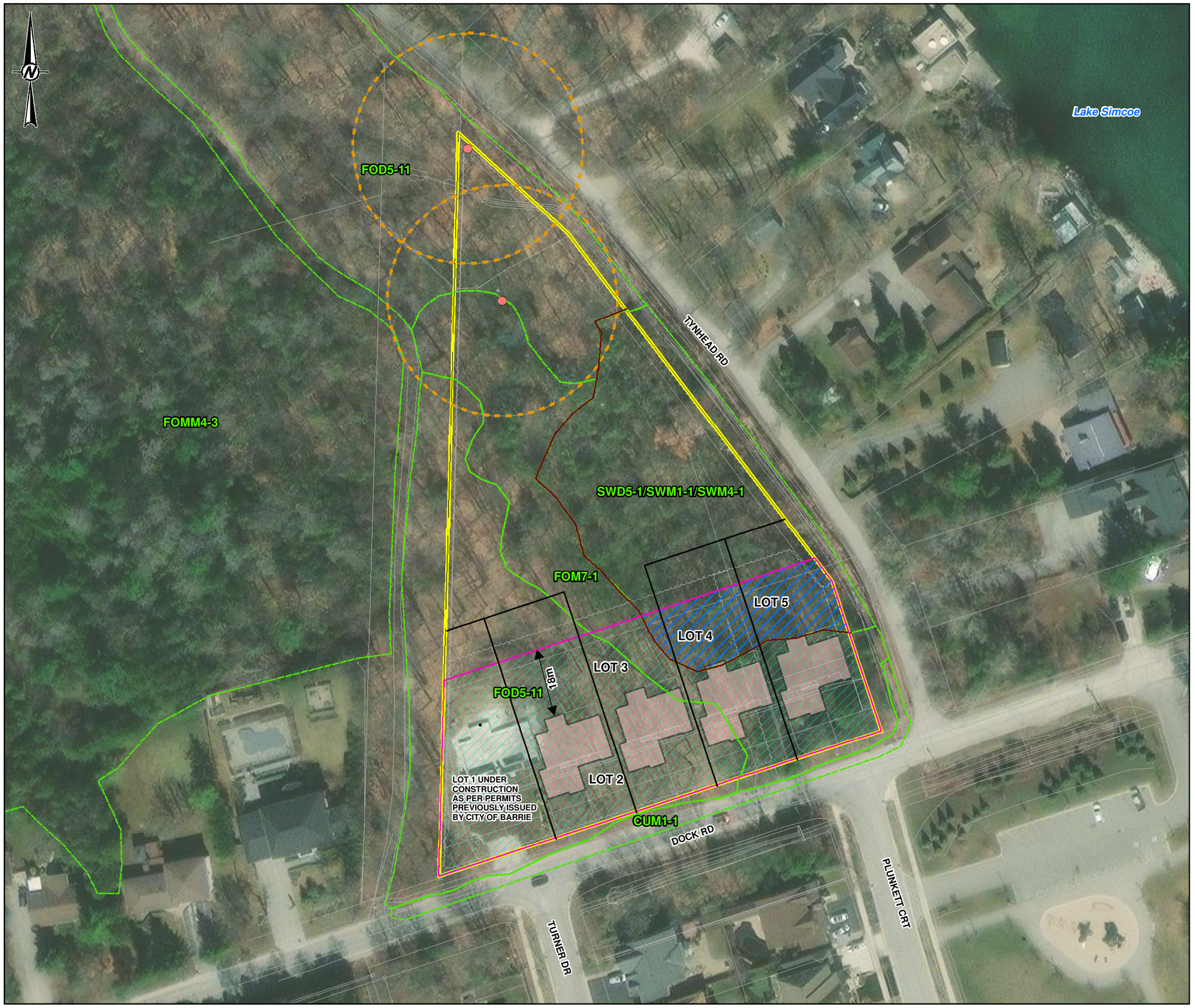
SITE LOCATION PLAN

CONSULTANT

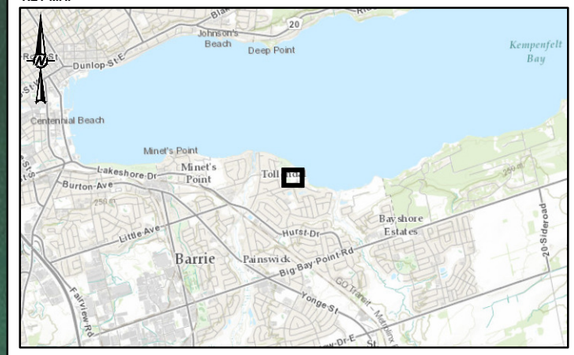
wsp

YYYY-MM-DD	2023-11-13
DESIGNED	----
PREPARED	AR
REVIEWED	----
APPROVED	----

PROJECT NO.	CONTROL	REV.	FIGURE
CA0013279.4699	0001	A	1



KEY MAP



SCALE 1:100,000

LEGEND

- BUTTERNUT
- PROPOSED DESIGN PLAN
- PROPOSED AREA FOR TREE REMOVAL
- APPROXIMATE WETLAND LIMIT
- BUTTERNUT 30 M SETBACK
- ECOLOGICAL LAND CLASSIFICATION
- WETLAND IMPACTS
- WOODLAND IMPACTS
- PROPOSED BUILDING FOOTPRINT (CONCEPTUAL)
- SITE BOUNDARY

LOT 1 UNDER CONSTRUCTION AS PER PERMITS PREVIOUSLY ISSUED BY CITY OF BARRIE

TOTAL AREA OF WOODLAND IMPACTS = 0.45 HA

TOTAL AREA OF WETLAND IMPACTS = 0.09 HA

ELC COMMUNITIES

CUM1-1 :	DRY-MOIST OLD FIELD CULTURAL MEADOW
FOD5-11 :	DRY-FRESH SUGAR MAPLE-HARDWOOD DECIDUOUS FOREST TYPE
FOM7-1 :	FRESH-MOIST WHITE CEDAR-SUGAR MAPLE MIXED FOREST
FOMM4-3 :	DRY-FRESH SUGAR CEDAR-HARDWOOD MIXED FOREST TYPE
SWD5-1 :	BLACK ASH ORGANIC DECIDUOUS SWAMP
SWM1-1 :	WHITE CEDAR MINERAL MIXED SWAMP
SWM4-1 :	WHITE CEDAR ORGANIC MIXED SWAMP

0 10 20 40

1:1,000 METRES

NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)

1. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE - ONTARIO
2. IMAGERY CREDITS: SOURCES: ESRI, HERE, GARMIN, INTERMAP, INCREMENT P CORP., GEBCO, USGS, FAO, NPS, NRCAN, GEOBASE, IGN, KADASTER NL, ORDNANCE SURVEY, ESRI JAPAN, METI, ESRI CHINA (HONG KONG), (C) OPENSTREETMAP CONTRIBUTORS, AND THE GIS USER COMMUNITY

SOURCE: ESRI, MAXAR, EARTHSTAR GEOGRAPHICS, AND THE GIS USER COMMUNITY

CLIENT

1000067364 ONTARIO INC.

PROJECT

ENVIRONMENTAL IMPACT STUDY UPDATE PART OF LOT 14, CONCESSION 3 & BLOCK 'D', REGISTERED PLAN 1423 BARRIE, ONTARIO

TITLE

ENVIRONMENTAL FEATURES , PROPOSED DEVELOPMENT & IMPACTS

CONSULTANT

wsp

YYYY-MM-DD	2023-11-13
DESIGNED	----
PREPARED	AR
REVIEWED	----
APPROVED	----

PROJECT NO.	CONTROL	REV.	FIGURE
CA0013279.4699	0001	A	2

PATH: S:\Clients\1000067364_OntarioBarrie99_PROJ\CA0013279.4699-40_PROD\0001_EIS\CA0013279-4699-0001-RB-0002.mxd PRINTED ON: 2023-11-13 AT: 12:50:13 PM

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

0 25mm

ATTACHMENT B

Scoped EIS (WSP, 2018)

AZURE HOMES INC.

SCOPED ENVIRONMENTAL IMPACT STUDY

PART OF LOT 14, CONCESSION 3, AND BLOCK "D", REGISTERED PLAN 1423, DOCK ROAD, CITY OF BARRIE

JUNE 15, 2018

SCOPED ENVIRONMENTAL IMPACT STUDY

PART OF LOT 14, CONCESSION 3, AND BLOCK "D", REGISTERED PLAN 1423, DOCK ROAD, CITY OF BARRIE

AZURE HOMES INC.

PROJECT NO.: 171-07646-00

DATE: JUNE 15, 2018

WSP
UNIT 2
126 DON HILLOCK DRIVE
AURORA, ON, CANADA L4G 0G9

T: +1 905 750-3080
F: +1 905 727-0463
WSP.COM

June 15, 2018

Azure Homes Inc.
82 Boothbay Crescent
Newmarket, Ontario
L3Y 1Y5

Attention: Mr. Ryan Scott

Dear Mr. Scott:

Subject: Scoped Environment Impact Study
Part of Lot 14, Concession 3, and Block "D", Registered Plan 1423, Dock Road
City of Barrie, Simcoe County, Ontario

WSP Canada Inc. is pleased to provide you with our scoped Environmental Impact Study for the site identified as Part of Lot 14, Concession 3, and Block "D", Registered Plan 1423, Dock Road, City of Barrie, Simcoe County, Ontario.

This report outlines the existing conditions in the project area at the time of the site investigations, and provides an assessment of the potential impacts associated with the proposed development. We have also provided recommendations to mitigate potential impacts. Please find the document attached for your records.

Thank you for the opportunity to complete this assignment. Please contact the undersigned with questions or comments.

Yours truly,

Dan Reeves, M.Sc.
Project Ecologist, Environment

DJR/nah

WSP ref.: 171-07646-00
H:\Proj\17\07646-00\100 EIS\Wp\Dock Rd Scoped EIS Update_June 13_CAS.docx

Unit 2
126 Don Hillock Drive
Aurora, ON, Canada L4G 0G9

T: +1 905 750-3080
F: +1 905 727-0463
wsp.com

SIGNATURES

PREPARED BY

Josh Vandermeulen, B.Sc.
Ecologist, Environment

June 15, 2018
Date

APPROVED[1] BY

Dan Reeves, M.Sc.
Project Ecologist, Environment

June 15, 2018
Date

WSP Canada Inc. prepared this report solely for the use of the intended recipient, Azure Homes Inc., in accordance with the professional services agreement. The intended recipient is solely responsible for the disclosure of any information contained in this report. The content and opinions contained in the present report are based on the observations and/or information available to WSP Canada Inc. at the time of preparation. If a third party makes use of, relies on, or makes decisions in accordance with this report, said third party is solely responsible for such use, reliance or decisions. WSP Canada Inc. does not accept responsibility for damages, if any, suffered by any third party as a result of decisions made or actions taken by said third party based on this report. This limitations statement is considered an integral part of this report.

The original of this digital file will be conserved by WSP Canada Inc. for a period of not less than 10 years. As the digital file transmitted to the intended recipient is no longer under the control of WSP Canada Inc., its integrity cannot be assured. As such, WSP Canada Inc. does not guarantee any modifications made to this digital file subsequent to its transmission to the intended recipient.

[1] Approval of this document is an administrative function indicating readiness for release and does not impart legal liability on to the Approver for any technical content contained herein. Technical accuracy and fit-for-purpose of this content is obtained through the review process. The Approver shall ensure the applicable review process has occurred prior to signing the document.

TABLE OF CONTENTS

TABLES

FIGURES

APPENDICES

1 INTRODUCTION

WSP Canada Inc. (WSP) has been retained to complete a Scoped Environmental Impact Study (EIS) for the site identified as Part of Lot 14, Concession 3, and Block "D", Registered Plan 1423, Dock Road, City of Barrie, Simcoe County, and herein referred to as the “Study Area”. Refer to Figure 1 for Study Area location details.

This study was conducted to determine the presence and extent of Natural Heritage Features and associated constraints in the vicinity of the Study Area. Surveys of the natural environment focused on lands within the 120 m area of influence surrounding the Study Area.

An EIS report and an EIS addendum report for the Study Area were completed by Azimuth Environmental Consulting in 2008 (Azimuth, 2008) in support of a Planning Act application (City Reference D14-1460). The Lake Simcoe Region Conservation Authority LSRCA) responded with a letter on July 21, 2010 indicating that they were satisfied with the EIS prepared by Azimuth. While the submitted EIS demonstrated conformity with the policies at the time, they may not be in conformity with the policies of today, prompting the need for a new EIS to demonstrate conformity under the current policies.

This report provides a description of the existing conditions in the Study Area as determined through consultation with relevant authorities, reviews of secondary source information, and direct observation during the Study Area investigations, an impact analysis, and a discussion of mitigation measures to minimize or eliminate the identified impacts.

2 ENVIRONMENTAL POLICY CONTEXT

2.1 PROVINCIAL POLICY STATEMENT

The Provincial Policy Statement (PPS) (Ontario Ministry of Municipal Affairs and Housing (OMMAH), 2014) is a planning document that provides a framework for, and governs development within, the Province of Ontario. In order to preserve various ecological resources deemed significant in the Province, development lands must be assessed for the presence of natural heritage features prior to construction. These natural heritage features (listed below) are both defined and afforded protections under the PPS. Linkages between natural heritage features, surface water and groundwater features are also recognized and afforded similar protections under the policy. Section 2.1.2 of the PPS also requires that the diversity and connectivity of all natural heritage features and the long-term ecological function of natural heritage systems be maintained, restored or improved where possible. Further to this, natural heritage systems within Ecoregions 6E and 7E are to be identified as per Section 2.1.3.

Under the PPS (OMMAH, 2014), development or site alteration is prohibited within significant wetlands in Ecoregions 5E, 6E and 7E and in significant coastal wetlands, but may be allowed adjacent to these features provided the adjacent lands have been evaluated and it has been demonstrated that there will be no negative impacts to these features or their ecological functions. Development may be permitted in or adjacent to significant wetlands north of Ecoregions 5E, 6E and 7E, significant woodlands and significant valleylands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Mary’s River), significant wildlife habitat, and significant areas of natural and scientific interest (ANSI), provided there will be no negative impacts to these features or their ecological function due to the proposed undertaking. In addition, development and site alteration is not permitted in fish habitat unless in accordance with provincial and federal legislation.

Natural heritage features as defined by the PPS (OMMAH, 2014) include:

A) *Fish Habitat;*
B) *Habitats of Endangered and Threatened Species;*
C) *Significant Areas of Natural and Scientific Interest (ANSI);*
D) *Significant Wetlands;*

E) *Significant Coastal Wetlands;*
F) Other *Coastal Wetlands* in Ecoregions 5E, 6E and 7E;
G) *Significant Wildlife Habitat;*
H) *Significant Woodlands* in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Mary's River); and,
I) *Significant Valleylands* in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Mary's River).

2.2 CONSERVATION AUTHORITIES ACT

The Conservation Authorities Act gives individual conservation authorities the power to regulate development and activities in or adjacent to river or stream valleys, Great Lakes and large inland lakes and shorelines, watercourses, hazardous lands and wetlands. Regulations made under the Conservation Authorities Act specify the Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Regulations managed by individual Conservation Authorities. These regulations apply to lands within river or stream valleys, flood plains, wetlands, watercourses, lakes, hazardous lands or lands within 120 m of a Provincially Significant Wetland or wetlands greater than 2 hectares, or lands within 30 m of non-provincially significant wetlands. Development or site alteration within these regulated areas may be permitted provided development is conducted in accordance with existing policies.

The Study Area is located within the Lake Simcoe Region Conservation Authority (LSRCA) jurisdiction. Regulation 179/06 made under the Conservation Authorities Act specifies the Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Regulations managed by the LSRCA. Development or site alteration within these regulated areas may be permitted by the LSRCA if, in its opinion, the control of flooding, erosion, dynamic beaches, pollution, or the conservation of land will not be affected by the development.

2.3 LAKE SIMCOE PROTECTION PLAN

The Lake Simcoe Protection Plan (LSPP) provides a framework for development within the Lake Simcoe watershed that fall outside of existing settlement areas and outside of the Greenbelt area and Oak Ridges Moraine area (Government of Ontario, 2009). The LSPP is designed to be read in conjunction with the PPS (OMMAH, 2014) and other policy documents that provide for ecological health and environmental sustainability of the Lake Simcoe watershed. The objectives of the LSPP include policies to protect, improve or restore the elements that contribute to the ecological health of the Lake Simcoe watershed including water quality, hydrology, key natural heritage features and their functions, and key hydrologic features and their functions.

Key natural heritage features and key hydrologic features as defined by the LSPP (Government of Ontario, 2009) include:

- Wetlands;
- Significant Woodlands;
- Significant Valleylands;
- Natural Areas Abutting Lake Simcoe;
- Permanent and Intermittent Streams, and
- Lakes other than Lake Simcoe.

Under the LSPP Section 6.23, development or site alteration is not permitted within a key natural heritage feature, a key hydrologic feature or the related vegetation protection zone for those features, within areas that are not identified as Settlement Area or under the jurisdiction of the Greenbelt Plan and Oak Ridges Moraine Conservation. While the Study Area is found within the LSPP Plan Area, it is located in an identified Settlement Area, the City of Barrie. Policy 6.32-DP of the LSPP states that Settlement Areas are not subject to policies 6.1 - 6.3, 6.5, 6.11, and 6.20 - 6.29 of the LSPP, which include the above policies in regards to key natural heritage and hydrological features.

2.4 CITY OF BARRIE OFFICIAL PLAN

The City of Barrie Official Plan (2010) is a public statement of land use and development goals, objectives and policies for the guidance of public and private development decisions within the City of Barrie. The Official Plan provides guidance for consideration of land use changes, the provision of public works, actions of local boards, municipal initiatives, and the actions of private enterprise. It gives direction for implementing by-laws, guidelines for more detailed planning and the means for controlling growth so that the City's capacity to provide a healthy community environment is not exceeded (City of Barrie, 2010).

Section 3.5 of the City of Barrie Official Plan (2010) details the general policies as they relate to Natural Heritage Features and Areas and their connecting linkages. Schedule A of the City of Barrie Official Plan (2010) shows the Land Use mapping for the City, while Schedule H identifies the Natural Heritage Features within the City.

2.5 FISHERIES ACT

The Federal Fisheries Act (Government of Canada, 1985) provides guidance for the management, protection, and use of fish, as well as the protection of fish habitat and waters used by fish. Fish habitat is defined in the Federal Fisheries Act as the “spawning grounds and nursery, rearing, food supply and migration areas on which fish depend directly or indirectly in order to carry out their life processes.” Section 35 of the Act prohibits the harmful alteration, disruption, or destruction (HADD) of fish habitat whereby the physical attributes of the system become less suitable for fish production.

In the event that a project cannot be feasibly relocated or redesigned to eliminate the harmful alteration, disruption, or destruction of fish habitat, mitigation measures and or habitat compensation may be required. Common mitigation measures include, but are not limited to, working within fisheries timing windows to minimize interference with fish migration and spawning, ensuring fish passage around obstructions during and after construction, implementing measures to control siltation at construction sites, and choosing the least harmful equipment and methods necessary for the proposed project. Habitat compensation involves replacing lost or damaged fish habitat with new fish habitat or improving the productive capacity of existing habitat at or near the development site. Habitat compensation may target the fish species initially impacted by the development, or less preferably, another species of fish found on or off the Study Area.

As of November 25, 2013, DFO has implemented a proponent-driven self-assessment process. The self-assessment process applies to on-going projects currently under review by the Conservation Authority; applications where permits have not yet been issued, and any future permit applications that would normally have involved Conservation Authority review under the Fisheries Act. Projects related to fisheries outside the scope of the Fisheries Act review and requirements will continue to be reviewed by the Conservation Authority, as previously.

3 INFORMATION RESOURCES

Relevant information resources were consulted over the course of the report preparation. Full references are provided in the References section of this report.

- Aerial photographs;
- Addendum Environmental Impact Study: Manors of Dock Road, Part of Lot 14, Concession 3 and Block “D”, Registered Plan 1243, City of Barrie (Azimuth Environmental Consulting, Inc. 2008);
- Atlas of the Breeding Birds of Ontario online (Bird Studies Canada et al., 2006);
- City of Barrie Official Plan (2010);
- Conservation Authorities Act, Ontario Regulation 179/06: Lake Simcoe Region Conservation Authority;
- Ecological Land Classification for Southern Ontario: 1st approximation (Lee et al. 1998);
- Ecological Land Classification for Southern Ontario: 2nd approximation (OMNR, 2008);
- Ecoregion 6E Significant Wildlife Habitat Criterion Schedule (OMNRF, 2015b);
- Endangered Species Act, 2007 (Government of Ontario, 2007);
- Natural Heritage Information Centre (NHIC) Mapping and Databases (OMNRF, 2015a);
- Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement, 2005 (OMNR, 2010);
- Ontario Ministry of Natural Resources and Forestry (OMNRF), Midhurst District Office;
- Ontario Reptile and Amphibian Atlas (Ontario Nature, 2017);
- Provincial Policy Statement (OMMAH, 2014);
- Significant Wildlife Habitat: Technical Guide (OMNR, 2000);
- Species at Risk in Canada (SARA) list (Government of Canada, 2016); and,
- Species at Risk in Ontario (SARO) list (OMNRF, 2016).

4 AGENCY CONSULTATION

Consultation with staff from the City of Barrie and the LSRCA assisted with scoping the requirements for the EIS. A Terms of Reference was submitted to the LSRCA and approved. A copy of email correspondence from the regulatory agencies is provided in Appendix A. A copy of the Terms of Reference, with tracked changes added by LSRCA staff, is provided in Appendix B.

5 SITE INFORMATION

5.1 SITE DESCRIPTION

The Study Area has been identified as Part of Lot 14, Concession 3, and Block "D", Registered Plan 1423, Dock Road, City of Barrie. Refer to Figure 1 for location details. The Study Area is a roughly triangular-shaped, 1.65 ha parcel of land, surrounded by Tynhead Road to the east, Dock Road to the south, a lot containing a single-family dwelling to the southwest, and empty lots containing forested lands to the northwest. According to Schedule A of the City of Barrie Official Plan (2010), the Study Area is designated as Residential, and according to the City of Barrie Zoning By-law (2009), the Study Area is currently zoned as Single Detached Residential First Density (R1). Under the existing zoning, a single-family dwelling and associated driveway and accessory structures, including associated tree and vegetation removal, are permitted. The Client is proposing to develop the lands within the Study Area to create six (6) single-family residential lots, with two (2) empty lots toward the rear of the property. The proposed configuration is shown on Figure 3.

Vegetation communities within the Study Area have been mapped (Figure 2) using the standardized Ecological Land Classification (ELC) for southern Ontario – first approximation (Lee et al., 1998). For vegetation communities where the first approximation ELC does not provide an adequate description, the pending 2008 second approximation description has been used. Mapping for the Study Area has been completed at a larger scale than the criteria for ELC (1:10,000) and polygons are sometimes smaller than the 0.5 hectare minimum size criteria; however, this scale is appropriate for the management and development of the existing conditions in the Study Area.

The majority of the Study Area is forested, with a treed swamp composed of several ecotypes located primarily in the eastern portion of the Study Area. Throughout the southwest corner, along the western boundary and in the north corner of the Site, the forest community has been identified as Dry – Fresh Sugar Maple – Hardwood Calcareous Shallow Deciduous Forest (FOD5-2). This forest ecotype composes approximately half of the total area of the Study Area. Sugar Maple (*Acer saccharum*) was an abundant species in the canopy, along with moderate numbers of American Beech (*Fagus grandifolia*), White Ash (*Fraxinus americana*) and Basswood (*Tilia americana*), and occasional White Birch (*Betula papyrifera*), Black Ash (*Fraxinus nigra*), Green Ash (*Fraxinus pennsylvanica* var. *lanceolata*), Black Walnut (*Juglans nigra*) and Eastern White Cedar (*Thuja occidentalis*). Choke Cherry (*Prunus virginianus*), Alternate-leaved Dogwood (*Cornus alternifolia*), and Eastern White Cedar were occasional constituents of the understorey, while the ground layer was composed of a variety of herbaceous species, including False Solomon's Seal (*Maianthemum racemosum*), Lily-of-the-Valley (*Convallaria majalis*), Jack-in-the-pulpit (*Arisaema triphyllum*), Herb Robert (*Geranium robertianum*), White Trillium (*Trillium grandiflorum*) and Common Wood Sedge (*Carex blanda*).

In the southeast corner of the Study Area a relatively small area has been identified as Fresh - Moist White Cedar - Sugar Maple Mixed Forest (FOM7-1), while this ecotype was also noted in the northern half of the Study Area, flanking the White Cedar Mineral/Organic Mixed Swamp. Sugar Maple was abundant in the canopy, while moderate numbers of Eastern White Cedar could be found in the canopy, subcanopy and understorey. Other species of trees noted within this ecotype included Red Maple (*Acer rubrum*), Green Ash, Red Oak (*Quercus rubra*), White Birch, Black Ash and Basswood. Canada Yew (*Taxus canadensis*) was frequently noted in the understorey, while the ground layer consisted of Canada Enchanter's Nightshade (*Circaea lutetiana*), Jack-in-the-Pulpit, Canada Anemone (*Anemone canadensis*), and a variety of other herbaceous species.

A small strip of land identified as Dry - Moist Old Field Cultural Meadow (CUM1-1) borders the Study Area along the roadsides. Typical weedy species often found in disturbed environments were well-represented in this area, Shrubby species included Staghorn Sumac (*Rhus typhina*) and Common Buckthorn (*Rhamnus cathartica*), while the groundcover species included New England Aster (*Aster novae-angliae*), Coltsfoot (*Tussilago farfara*), Wild Red Raspberry (*Rubus ideaus*), Wild Mint (*Mentha arvensis*), Common St. John's-wort (*Hypericum perforatum*), Wild Carrot (*Daucus carota*), Common Dandelion (*Taraxacum officinale*), and Tall Buttercup (*Ranunculus acris*).

The remainder of the Study Area has been identified as a treed swamp, composed of several different ecotypes. The interior of the treed swamp, located roughly halfway up the eastern Study Area boundary and extending towards the middle of the Study Area, has been identified as Black Ash Organic Deciduous Swamp (SWD5-1). Black Ash was the dominant tree species along with smaller numbers of Yellow Birch (*Betula alleghaniensis*), Basswood and Green Ash in the canopy, while young Black Ash, Yellow Birch and American Elm (*Ulmus americana*) were noted in the subcanopy. A variety of species composed the understorey and ground layer, including Spotted Jewel-weed (*Impatiens capensis*), Sensitive Fern (*Onoclea sensibilis*), Swamp Red Currant (*Ribes triste*), Panicled Aster (*Aster lanceolatus*), Giant Goldenrod (*Solidago gigantea*) and Bittersweet Nightshade (*Solanum dulcamara*) along with several sedge and rush species. Surrounding the SWD5-1 ecotype in a narrow band is an area that has been identified as a White Cedar Mineral/Organic Mixed Swamp (SWM1-1/SMW4-1). Eastern White Cedar was abundant throughout this area, while a variety of deciduous tree species similar to those found in the Black Ash Organic Deciduous Swamp (SWD5-1) were present, including Black Ash, Yellow Birch, White Birch, Sugar Maple and American Elm. Young Eastern White Cedars dominated the understorey, while some of the other noted species included Canada Yew, Bladder Sedge (*Carex intumescens*), Fowl Glyceria (*Glyceria striata*) and Canada Enchanter's Nightshade. Because of changes in the topography caused by hummocks in the terrain, the soil composition alternated between mineral and organic soil types.

5.2 SITE VISITS

Site visits were conducted between May and October, 2017. The purpose of the site visits were to confirm the presence of Natural Heritage Features, complete a three-season vegetation assessment including Ecological Land Classification and a targeted Butternut (*Juglans cinerea*) search, document breeding birds and amphibians, complete bat maternity roost habitat surveys (snag density surveys), and determine the general characteristics of the Study Area. While conducting these site visits WSP biologists identified existing landforms and landscapes, land uses, vegetation composition and structure, wildlife usage, and the presence and extent of natural heritage features in or within 120 m of the Study Area. Amphibian surveys were completed on May 31 and June 30, snag density surveys were completed on October 6, breeding bird surveys were completed on June 1 and July 2, 2017, and vegetation surveys were completed on June 1, July 14 and October 6, 2017. Site visit details are provided in Table 1, below. Azimuth also undertook site visits over numerous dates, as detailed in their EIS report and EIS addendum report (Azimuth, 2008).

Table 1 Site Visit Details

DATE	WEATHER CONDITIONS
May 31, 2017	Mostly cloudy skies, ±12°C, light breeze, no trace of precipitation
June 1, 2017	Clear skies, ±12°C, moderate breeze, no trace of precipitation
June 30, 2017	Mostly cloudy skies, ±23°C, light air, no trace of precipitation
July 2, 2017	Mostly clear skies, ±19°C, light breeze, no trace of precipitation
July 14, 2017	Mostly clear skies, ±22°C, light breeze, no trace of precipitation
October 6, 2017	Mostly overcast skies, +18°C, light air, no trace of precipitation

Prior to commencing the Study Area investigations, a review of background information, satellite images, and topographical maps was conducted to identify the presence of natural heritage features, within the vicinity of the Study Area. During the Study Area investigations, photographs of the Study Area were taken and observations of wildlife, vegetation and natural features were recorded. A record of species observed during the Study Area investigations is provided in Appendix C.

6 NATURAL HERITAGE FEATURE ASSESSMENT

The following sections outline the Natural Heritage Features (NHFs) identified within 120 m of the Study Area.

6.1 FISH HABITAT

The conservation, management, and protection of fish and fish habitat are the responsibility of Fisheries and Oceans Canada (DFO). DFO is given authority to achieve this under the federal Fisheries Act**.** Fish habitat is defined in the *Fisheries Act*, c. F-14 as “spawning grounds and nursery, rearing, food supply and migration areas on which fish depend directly or indirectly in order to carry out their life processes”. The Act also includes a broader definition of fish as shellfish, crustaceans, and marine mammals at all stages of their life cycles.

Fish habitat was not identified during pre-consultation with the LSRCA, via the mapping sources consulted for the Project, or by direct observation during the Study Area investigations. Open water was not identified within the vicinity of the Study Area, and the identified wetlands, such as the Black Ash Organic Deciduous Swamp (SWD5-1) and the White Cedar Mineral/Organic Mixed Swamp (SWM1-1/SMW4-1) did not appear to provide fish habitat. The western shore of Lake Simcoe exists approximately 105-110 m to the east of the Site.

6.2 AREAS OF NATURAL AND SCIENTIFIC INTEREST

Areas of Natural and Scientific Interest (ANSI) are defined as areas of land and water containing natural landscapes or features that have been identified as having life science or earth science values related to protection, scientific study or education (OMMAH, 2014). ANSIs can be ranked as Provincially or Regionally significant.

The OMNRF Natural Heritage Areas Mapping (OMNRF, 2015a) was searched for the presence of ANSIs within 120 m of the Study Area. ANSIs were not identified within 120 m of the Study Area.

6.3 SIGNIFICANT HABITAT OF ENDANGERED OR THREATENED SPECIES

The PPS (OMMAH, 2014) defines the habitat of Endangered or Threatened species as the habitat, as approved by the OMNRF, that is necessary for the maintenance, survival and/or the recovery of a naturally occurring or reintroduced population of Endangered or Threatened species as listed in the *Endangered Species Act*, 2007, and where those areas of occurrences are occupied or habitually occupied by the species during all or any part(s) of their life cycle. The OMNRF is mandated to ensure accurate database information for the identification, listing and conduct of ongoing assessments for significant Endangered or Threatened species and their related habitats.

As part of a desktop review, a search of the OMNRF Natural Heritage Information Centre (NHIC) database (OMNRF, 2015a) was conducted to determine the existence and approximate location of recorded occurrences of Endangered or Threatened species in the general area. Two (2) one square kilometer (1 km^2) quadrats (17PK0814, 17PK0714) surrounding the Study Area were checked to ensure potential species at risk were accounted for in the search. Endangered or Threatened species were not identified during this search.

In addition to a search of the NHIC database, the Ontario Breeding Bird Atlas (OBBA) (Bird Studies Canada et al., 2006) and Ontario Reptile and Amphibian Atlas (ORAA) (Ontario Nature, 2017) were consulted to determine if there were Endangered or Threatened species known to be present within the vicinity of the Study Area. The OBBA uses 100 km by 100 km blocks, further subdivided into 10 km by 10 km squares to compartmentalize geographical areas. The Study Area lies in the square identified as 17PK01. Peregrine Falcon (*Falco peregrinus*) (SC), Eastern Whip-poor-will (*Caprimulgus vociferus*) (THR), Chimney Swift (*Chaetura pelagica*) (THR), Red-headed Woodpecker (*Melanerpes erythrocephalus*) (SC), Eastern Wood-Pewee (*Contopus virens*) (SC), Bank Swallow (*Riparia riparia*) (THR), Barn Swallow (*Hirundo rustica*) (THR), Wood Thrush (*Hylocichla mustelina*) (SC), Bobolink (*Dolichonyx oryzivorus*) (THR), and Eastern Meadowlark (*Sturnella magna*) (THR) had breeding evidence values within these squares. The ORAA also uses 10 km by 10 km squares. Blanding's Turtle (*Emydoidea blandingii*) (THR), Northern Map Turtle (*Graptemys geographica*) (SC) and Snapping Turtle (*Chelydra serpentina*) (SC) had records from the square surrounding the Study Area. As species of Special Concern (SC), Peregrine Falcon, Red-headed Woodpecker, Eastern Wood-Pewee, Wood Thrush, Northern Map Turtle and Snapping Turtle will be treated in Section 6.6.4 of the report.

A review of aerial photographs of was carried out to determine if there is suitable habitat for additional Endangered or Threatened species. Based on this review, Northern Myotis (*Myotis septentrionalis*) (END) and Little Brown Myotis (*Myotis lucifuga*) (END) may find potential habitat in the vicinity of the Study Area.

Midhurst District OMNRF was contacted for information pertaining to SAR in the general area (Appendix A). The OMNRF indicated that in addition to the above-mentioned species, Butternut (*Juglans cinerea*) (END) and Tricolored Bat (*Perimyotis subflavus*) (END) may also find potential habitat within the vicinity of the Study Area.

Refer to Table 2 below for details of the habitat potential of the Study Area for the above mentioned Endangered or Threatened species. Species of Special Concern (SC) are treated in Section 6.6.4 of this report.

Table 2 Endangered and Threatened species with potential to be within 120 m of the Study Area

SPECIES NAME	SARO[1]	COSEWIC[2]	HABITAT DESCRIPTION[3]	HABITAT POTENTIAL	FIELD ASSESSMENT AND OBSERVATIONS
Bank Swallow	THR	THR	Bank Swallows nest in burrows in natural and man-made settings, wherever there are silt or sand deposits. Nests are often along riverbanks and in aggregate pits.	Low	This species was not observed and suitable nesting habitat, such as sandy or muddy riverbanks was not identified within 120 m of the Study Area. Bank Swallows are found in the general area and may occasionally forage over the Study Area.
Barn Swallow	THR	THR	Barn Swallows often live in close association with humans, building their cup-shaped mud nests almost exclusively on human-made structures such as open barns, under bridges and in culverts. This species forages over a wide area.	Low-Moderate	This species was not observed during the Study Area investigations, and suitable nesting structures were not identified within the Study Area. Barn Swallows are found in the general area and likely forage over the Study Area.
Bobolink	THR	THR	This species builds its nests on the ground in dense grasses, such as those found in hay fields, tallgrass prairies and open meadows.	Low	This species was not observed and suitable habitat was not identified within the vicinity of the Study Area.
Butternut	END	END	The species is found in deciduous forests in areas with rich, moist, well-drained soils and is often found along streams. Due to its low tolerance for shade, this species is typically found in sunny openings or along forest edges.	High	A single Butternut was observed during the Study Area investigations, near the northern corner of the Study Area. This individual and a 25 m radius buffer are shown on Figure 2.

SPECIES NAME	SARO[1]	COSEWIC[2]	HABITAT DESCRIPTION[3]	HABITAT POTENTIAL	FIELD ASSESSMENT AND OBSERVATIONS
Chimney Swift	THR	THR	The species feeds in flocks around waterbodies due to the large amount of insects present. Nesting occurs in large, hollow trees or in the chimneys of houses in urban and rural areas.	Low	This species was not observed and suitable habitat was not identified within the vicinity of the Study Area. Chimney Swifts nest in Barrie and likely occasionally forage over the Study Area.
Eastern Meadowlark	THR	THR	This species prefers native grasslands, pastures and savannahs though will use a variety of other grassland habitats such as hayfields, weedy meadows, etc.	Low	This species was not observed and suitable habitat was not identified within the vicinity of the Study Area.
Eastern Whip-poor-will	THR	THR	This species avoids exposed, open areas or closed-canopy forests, and prefers rock or sand barrens with scattered trees, savannahs, and open conifer plantations.	Low	This species was not observed and suitable habitat was not identified within 120 m of the Study Area.
Little Brown Myotis	END	END	During the summer, this species roosts in trees, abandoned buildings, attics, and barns close to water. This species overwinters in large groups in warm, moist caves or abandoned mines.	Low	This species was not observed. The forested portions of the Study Area did not appear to be of suitable age and composition to provide high-quality habitat for Little Brown Myotis. Numbers of candidate snag trees were below the threshold of 10 trees / ha (refer to Section 6.9.3).

SPECIES NAME	SARO[1]	COSEWIC[2]	HABITAT DESCRIPTION[3]	HABITAT POTENTIAL	FIELD ASSESSMENT AND OBSERVATIONS
Northern Myotis	END	END	This mainly solitary species is most commonly associated with the boreal forest where they roost in tree cavities or under loose bark. Over-wintering occurs in caves or abandoned mines that remain above freezing.	Low	This species was not observed. The forested portions of the Study Area did not appear to be of suitable age and composition to provide high-quality habitat for Northern Myotis. Numbers of candidate snag trees were below the threshold of 10 trees / ha (refer to Section 6.9.3).
Tri-colored Bat	END	END	Tri-colored Bats are found in a variety of mature forested habitats. Maternal colonies are usually in large trees and occasionally in man-made structures such as barns.	Low	This species was not observed. The forested portions of the Study Area did not appear to be of suitable age and composition to provide high-quality habitat for Tricolored Bat. Numbers of candidate snag trees were below the threshold of 10 trees / ha (refer to Section 6.9.3).

Protection status: [1] SARO - Species at Risk in Ontario and [2] COSEWIC - Committee on the Status of Endangered Wildlife in Canada: END – Endangered, THR – Threatened, SC – Special concern, "-"– Not listed. [3] Habitat Description Source: COSEWIC reports and/or Species at Risk in Ontario (SARO) List.

6.4 SIGNIFICANT WETLANDS

Wetlands are defined in the PPS (OMMAH, 2014) as lands that are seasonally or permanently covered by shallow water, as well as lands where the water table is close to or at the surface. There are four major wetland types; which are classified as swamps, marshes, bogs, and fens. A significant wetland is defined as an area identified as provincially significant by the Ministry of Natural Resources and Forestry using evaluation procedures established by the Province, as amended from time to time (OMMAH, 2014). Accordingly, it is the responsibility of the OMNRF to both identify and classify wetlands as significant in Ontario.

A review of the Natural Heritage Areas mapping (OMNRF, 2015a) did not identify wetlands, whether unevaluated or provincially significant throughout the Study Area; however, a treed swamp was discovered and its extent was ground-truthed during the Study Area investigations. The interior of the treed swamp, located roughly halfway up the eastern Study Area boundary and extending towards the middle of the Study Area, has been identified as Black Ash Organic Deciduous Swamp (SWD5-1). Black Ash was the dominant tree species along with smaller numbers of Yellow Birch, Basswood and Green Ash in the canopy, while young Black Ash, Yellow Birch and American Elm were noted in the subcanopy. A variety of species composed the understorey and ground layer, including Spotted

Jewel-weed, Sensitive Fern, Swamp Red Currant, Panicled Aster, Giant Goldenrod and Bittersweet Nightshade along with several sedge and rush species. Surrounding the SWD5-1 ecotype in a narrow band is an area that has been identified as a White Cedar Mineral/Organic Mixed Swamp (SWM1-1/SMW4-1). Eastern White Cedar was abundant throughout this area, while a variety of deciduous tree species, similar to those found in the Black Ash Organic Deciduous Swamp (SWD5-1) were present, including Black Ash, Yellow Birch, White Birch, Sugar Maple and American Elm. Young Eastern White Cedars dominated the understorey, while some of the other noted species included Canada Yew, Bladder Sedge, Fowl Glyceria, and Canada Enchanter's Nightshade. Because of changes in the topography caused by hummocks in the terrain, the soil composition alternated between mineral and organic soil types.

Characteristics that indicate significance of a wetland under the Ontario Wetland Evaluation System (OWES) include a number of biological and social components. Biological components include productivity, biodiversity, overall size, hydrological function and presence of special features, while social components include the presence of economically valuable products, potential for recreational activities, ownership, and size among other components. The wetland does not exhibit characteristics of a significant wetland. It is overall relatively small (approximately 0.5 ha), contains no open water and appears to have a relatively low net primary productivity due to its classification as swamp forest. The wetland site type has been identified as isolated (the least significant) as the wetland has no surface outflow. Biodiversity is limited in the wetland for a number of reasons including the uniformity of the wetland (one wetland type present), the limited number of vegetation communities and vegetation forms present, and the presence of development to the north, east and south of the property. The wetland is under private ownership, it has no apparent economically viable products, and has no potential for recreational activities, limiting its significance regarding the social components. Based on the above limitations, the wetland has not been identified as significant.

6.5 SIGNIFICANT COASTAL WETLANDS

Wetlands are defined in the PPS (OMMAH, 2014) as lands that are seasonally or permanently covered by shallow water, as well as lands where the water table is close to or at the surface. There are four major wetland types; which are classified as swamps, marshes, bogs, and fens. Coastal wetlands are wetlands located on one of the Great Lakes or their connecting channels, or any other wetland that lies on a tributary to any of the above specified waterbodies and lies, either wholly or in part, downstream of a line located 2 km upstream of the 1:100 year floodline of the detention pond in which the tributary is connected.

A review of the Natural Heritage Areas mapping (OMNRF, 2015a) did not identify significant coastal wetlands within 120 m of the Study Area.

6.6 SIGNIFICANT WILDLIFE HABITAT

Wildlife habitat is defined as areas where plants, animals, and other organisms live and find adequate amounts of food, water, shelter, and space needed to sustain their populations. Specific wildlife habitats of concern may include areas where species concentrate at a vulnerable point in their annual life cycle; and areas which are important to migratory or non-migratory species (OMMAH, 2014).

Wildlife habitat is referred to as significant if it is ecologically important in terms of features, functions, representation or amount, and contributing to the quality and diversity of an identifiable geographic area or Natural Heritage System (OMMAH, 2014).

Guidelines and criteria for the identification of significant wildlife habitat (SWH) are detailed in the Significant Wildlife Habitat: Technical Guide (OMNR, 2000), and the Significant Wildlife Habitat Criterion Schedule for Ecoregion 6E (OMNRF, 2015b). SWH is described under four main categories:

- Seasonal concentrations of animals;
- Rare vegetation communities or specialized habitats for wildlife;

— Wildlife movement corridors; and,
— Habitats of species of conservation concern.

6.6.1 SEASONAL CONCENTRATIONS OF ANIMALS

Areas of seasonal concentrations of animals are defined as "areas where animals occur in relatively high densities at specific periods in their life cycle and/or particular seasons." At these times, species are vulnerable to ecological interferences or weather impacts. Areas of seasonal concentration are typically small in comparison to the larger habitat areas used by species at other times of the year. Examples include migrant stopover areas for birds, winter deer yards, bird breeding colonies, amphibian concentration areas, and hibernacula for snakes or bats. The identification of habitats associated with seasonal concentrations of species is typically based on known occurrences (OMNR, 2000).

An assessment was carried out to determine the potential for wildlife concentration areas in the Study Area. Resources and protocols outlined in the Significant Wildlife Habitat Technical Guide (OMNR, 2000) and the Significant Wildlife Criterion Schedule for Ecoregion 6E (OMNRF, 2015b) were utilized to evaluate the potential for species concentration area occurrence. Seasonal concentration areas with the potential to be on or within 120 m of the Study Area are examined in Table 3, below.

Table 3 Seasonal Concentration Areas within 120 m of the Study Area

HABITAT TYPE	CANDIDATE SWH CRITERIA AND STUDY AREA INVESTIGATION RESULTS
Waterfowl Stopover and Staging Areas (Terrestrial)	Habitat is not present. Open meadows or fields were not identified within 120 m of the Study Area.
Waterfowl Stopover and Staging Areas (Aquatic)	Waterbodies of a suitable size to qualify as candidate habitat were not identified within 120 m of the Study Area.
Shorebird Migratory Stopover Area	Habitat was not identified and shorebirds were not observed. Un-vegetated shoreline habitats, mudflats, and sandbars were not present within 120 m of the Study Area.
Raptor Wintering Area	Habitat is not present. Raptor wintering sites consist of a combination of fields and woodlands > 20 ha in size. Candidate species were not identified, and suitable fields adjacent to woodlands were not identified within 120 m of the Study Area.
Bat Hibernacula	Habitat is not present. No caves, mine shafts, underground foundations or karsts were found within 120m of the Study Area.
Bat Maternity Colonies	Candidate habitat is not present. Suitable woodlands containing snag trees above the threshold of 10 snag trees / ha were not identified within 120 m of the Study Area (refer to Section 6.9.3).
Turtle Wintering Areas	Candidate habitat is not present. Wetlands of a suitable depth and substrate were not identified within 120 m of the Study Area.
Reptile Hibernacula	Habitat is not present. Areas of bedrock and rock fissures most commonly associated with large snake hibernacula were not identified within 120 m of the Study Area.
Colonially-nesting Bird Breeding Habitat (Bank/Cliff)	Habitat is not present.

HABITAT TYPE	CANDIDATE SWH CRITERIA AND STUDY AREA INVESTIGATION RESULTS
Colonially-nesting Bird Breeding Habitat (Tree/Shrub)	Habitat is not present. Nests within live or dead trees, shrubs or emergent vegetation that would signify the area is used by colonial tree/shrub-nesting birds were not observed within wetland areas in the Study Area.
Colonially-nesting Bird Breeding Habitat (Ground)	Habitat is not present. The Study Area does not contain areas with rocky islands or peninsulas that are suitable for colonial ground-nesting birds such as gulls and terns. In addition, preferred nesting habitat for Brewer's Blackbird (*Euphagus cyanocephalus*), which includes agricultural fields close to clear, flowing water was not present.
Migratory Butterfly Stopover Areas	Habitat not present. The Study Area is not within 5 km of Lake Ontario or Lake Erie.
Landbird Migratory Stopover Areas	Habitat not present. The Study Area is not within 5 km of Lake Ontario or Lake Erie.
Deer Yarding Areas	OMNRF determines this habitat. No records of Deer Yarding Areas within 120m of the Study Area were identified by the OMNRF during the information request.
Deer Winter Congregation Areas	OMNRF determines this habitat. No records of Deer Winter Congregation Areas were identified by the OMNRF during the information request.

No seasonal concentration areas were identified within 120 m of the Study Area.

6.6.2 RARE VEGETATION COMMUNITIES/ SPECIALIZED HABITATS FOR WILDLIFE

Rare or specialized habitats include rare vegetation communities or concentrations of rare plant species. In Ecoregion 6E rare vegetation communities include cliff and talus slopes, alvars, sand barrens, savannahs, tallgrass prairies and old growth forests. These specialized habitats may also support rare animal species (OMNR, 2000). None of the vegetation communities identified in the Study Area are designated as rare or threatened in this region. An assessment of the presence/absence of rare vegetation communities and specialized wildlife habitat for the Study Area is provided in
Tables 4 and 5, below.

Table 4 Rare Vegetation Communities within 120 m of the Study Area

HABITAT TYPE	CANDIDATE SWH CRITERIA AND STUDY AREA INVESTIGATION RESULTS
Cliffs and Talus Slopes	Habitat is not present.
Sand Barren	Habitat is not present.
Alvar	Habitat is not present. Calcareous bedrock is not present in this area. Furthermore, characteristic alvar plant species were not observed within 120 m of the Study Area.
Old Growth Forest	Habitat is not present. Forested portions of the Study Area were representative of second growth.

HABITAT TYPE	CANDIDATE SWH CRITERIA AND STUDY AREA INVESTIGATION RESULTS
Tallgrass Prairie	Habitat is not present. Tallgrass Prairie and associated plant species were not identified within 120 m of the Study Area.
Savannah	Habitat is not present. Savannah vegetation communities were not observed within 120 m of the Study Area.
Other Rare Vegetation Communities	Habitat is not present. The Study Area was not identified as a Rare Vegetation Community within OMNRF searches or through the Study Area investigations.

None of the above-noted rare vegetation communities were observed within 120 m of the Study Area.

Table 5 Specialized Wildlife Habitats within 120 m of the Study Area

HABITAT TYPE	CANDIDATE SWH CRITERIA AND STUDY AREA INVESTIGATION RESULTS
Waterfowl Nesting Area	Habitat is not present. Suitable shrubby fields adjacent to wetland pockets were not identified within 120 m of the Study Area.
Bald Eagle and Osprey Nesting, Foraging and Perching Habitat	Habitat is not present. Nests were not observed within 120 m of the Study Area.
Woodland Raptor Nesting Habitat	Habitat not present. No stick nests were observed within 120 m of the Study Area. Based on the small size of the forested habitats on and adjacent to the Study Area, it is unlikely that the Study Area supports raptors in large numbers.
Turtle Nesting Areas	Habitat is not present. Suitable nesting substrate was not observed within 120 m of the Study Area. Suitable wetlands which may provide habitat for turtles were not identified, and turtles were not found in the vicinity of the Study Area.
Seep / Spring	Candidate habitat was not identified.
Amphibian Breeding Habitat (Woodland)	Candidate habitat is not present. Suitable wetlands located within woodlands were not identified within 120 m of the Study Area. Only a single Spring Peeper was observed during targeted amphibian surveys (refer to Section 6.9.4)
Amphibian Breeding Habitat (Wetlands)	Candidate habitat is not present. Suitable wetlands were not identified within the Study Area. Only a single Spring Peeper was observed during targeted amphibian surveys (refer to Section 6.9.4).
Woodland Area-Sensitive Bird Breeding Habitat	Candidate habitat is not present. None of the listed species were observed within 120 m of the Study Area.

None of the above-noted specialized wildlife habitats were observed within 120 m of the Study Area.

6.6.3 ANIMAL MOVEMENT CORRIDORS

Animal Movement Corridors are defined as elongated, naturally vegetated parts of the landscape used by animals to move from one habitat to another. They exist at different scales and frequently link or border natural areas. Animal Movement Corridors encompass a wide variety of landscape features including riparian zones and shorelines, wetland buffers, stream and river valleys, woodlands, and anthropogenic features such as hydro and pipeline corridors, abandoned road and rail allowances, and fencerows and windbreaks. The Natural Heritage Component of the Provincial Policy Statement states that the diversity and connectivity of natural features should be maintained, restored or improved, where possible (OMMAH, 2014). In southern Ontario, Animal Movement Corridors often consist of vegetated areas that run through more developed areas. Other examples include undeveloped lake shorelines, forested river valleys, and riparian vegetation. Within Ecoregion 6E, candidate animal movement corridors include Amphibian Movement Corridors. Amphibian movement corridors are only determined if amphibian breeding habitat (wetlands) is confirmed as SWH. As no candidate areas of amphibian breeding habitat (wetlands) were identified within 120 m of the Study Area, amphibian movement corridors do not apply.

6.6.4 HABITATS OF SPECIES OF CONSERVATION CONCERN

Species of Conservation Concern generally include the groups listed below:

- Species defined as Special Concern in Ontario;
- Species that are listed as rare or historical in Ontario based on records kept by the NHIC;
- Species whose populations are known to be experiencing significant declines in Ontario; and
- Species that have a high percentage of their global population in Ontario and are rare or uncommon in the subject area.

A search of the OMNRF Natural Heritage Information Centre (NHIC) database (OMNRF, 2015a) was conducted to determine the existence and approximate location of recorded occurrences of species of Conservation Concern within the general area. Two (2) one square kilometer (1 km^2) quadrats (17PK0814, 17PK0714) surrounding the Study Area were checked to ensure potential species of Conservation Concern were accounted for in the search. Fogg's Goosefoot (*Chenopodium foggi)* (S2?) was the only element occurrence identified from the squares surrounding the Study Area. Fogg's Goosefoot is a species of Conservation Concern that is tracked by the NHIC, but does not appear on the SARO or COSEWIC lists and as such is not afforded habitat protection. This species was not observed during the Study Area investigations, and suitable habitat was not identified within 120 m of the Study Area. This species will not be discussed further within this report.

In addition to a search of the NHIC database, the Ontario Breeding Bird Atlas (OBBA) (Bird Studies Canada et al., 2006) and Ontario Reptile and Amphibian Atlas (ORAA) (Ontario Nature, 2017) were consulted to determine if there were species of Special Concern known to be present within the vicinity of the Study Area. The OBBA uses 100 km by 100 km blocks, further subdivided into 10 km by 10 km squares to compartmentalize geographical areas. The Study Area lies in the square identified as 17PK01. Peregrine Falcon (SC), Eastern Whip-poor-will (THR), Chimney Swift (THR), Red-headed Woodpecker (SC), Eastern Wood-Pewee (SC), Bank Swallow (THR), Barn Swallow (THR), Wood Thrush (SC), Bobolink (THR), and Eastern Meadowlark (THR) had breeding evidence values within this square. The ORAA also uses 10 km by 10 km squares. Blanding's Turtle (THR), Northern Map Turtle (SC) and Snapping Turtle (SC) had records from the square surrounding the Study Area. As Endangered or Threatened species, Eastern Whip-poor-will, Chimney Swift, Bank Swallow, Barn Swallow, Bobolink, Eastern Meadowlark and Blanding's Turtle are treated in Section 6.3 of the report.

Midhurst District OMNRF was contacted for information pertaining to species at risk within the general area (Appendix A). The OMNRF did not identify any addition species of Conservation Concern that have potential to be present within 120 m of the Study Area.

An assessment of the habitat types found within 120 m of the Study Area indicated that Monarch (*Danaus plexippus*) (SC) also may have habitat potential.

An assessment of the habitat potential for the above-mentioned species within 120 m of the Study Area is provided in Table 6, below. These species were given special consideration during the Study Area investigations.

Table 6 Species of Conservation Concern with the Potential to be within 120 m of the Study Area

SPECIES NAME	SARO[1]	COSEWIC[2]	HABITAT DESCRIPTION[3]	HABITAT POTENTIAL	FIELD ASSESSMENT AND OBSERVATIONS
Eastern Wood-Pewee	SC	SC	Eastern Wood-Pewees prefer deciduous and mixedwood forests. They are often observed sallying to capture flying insects from an exposed perch high in the canopy.	High	A single Eastern Wood-Pewee was identified in the Study Area (Figure 2), and the species was assigned a breeding code of Probable - S7 due to the observation of a singing male on territory for 7+ days (refer to Section 6.9.2).
Monarch	SC	SC	The species is commonly found in abandoned fields, along roadsides and in other habitats where Milkweed, Goldenrod, Asters and Purple Loosestrife exist.	Low	Common Milkweed was not identified during the Study Area investigations, and suitable habitat was not identified.
Northern Map Turtle	SC	SC	Northern Map Turtle inhabit large rivers and lakeshores where they can commonly be seen basking on protruding rocks and logs in the spring and the summer. The water quality in their habitat must be high to support the mollusc prey of the females.	Low	This species was not identified, and suitable water features such as large rivers or lakeshores were not identified within 120 m of the Study Area.
Peregrine Falcon	SC	SC	The species usually nests on steep cliff ledges adjacent to large waterbodies, but it has been known to nest on ledge of tall buildings.	Low	This species was not observed during the breeding bird surveys (Section 6.9.2) or at any other point during the Study Area investigations, and suitable habitat was not identified within 120 m of the Study Area. Peregrine Falcons likely nest in the City of Barrie and occasionally fly over the Study Area.

SPECIES NAME	SARO[1]	COSEWIC[2]	HABITAT DESCRIPTION[3]	HABITAT POTENTIAL	FIELD ASSESSMENT AND OBSERVATIONS
Red-headed Woodpecker	SC	THR	Red-headed Woodpeckers are found in open deciduous or mixed woodlands, preferring areas with many dead trees including golf courses, cemeteries and parks.	Low	This species was not observed during the breeding bird surveys (Section 6.9.2) or at any other point during the Study Area investigations. Suitable habitat, such as open woodland with standing dead trees, was not identified within 120 m of the Study Area.
Snapping Turtle	SC	SC	The species is generally associated with shallow ponds, shallow lakes and streams with abundant vegetation. Suitable nesting habitat includes gravely or sandy areas along streams, gravel shoulders along roadsides, dams and aggregate pits.	Low	This species was not observed during the Study Area investigations. Suitable wetlands where this species may find habitat were not found within 120 m of the Study Area. Extensive development surrounding the vicinity of the Study Area likely limit the potential of Snapping Turtle within the Study Area.
Wood Thrush	SC	THR	This species is strongly associated with woodlands containing tall trees, usually deciduous forests but occasionally mixed wood forests as well. The presence of a thick understorey is usually a prerequisite for site occupancy.	Low	This species was not observed during the breeding bird surveys (Section 6.9.2) or at any other point during the Study Area investigations. The forested habitats within the Study Area are not of a suitable size to provide habitat for Wood Thrush.

Protection status: [1] SARO - Species at Risk in Ontario and [2] COSEWIC - Committee on the Status of Endangered Wildlife in Canada: END – Endangered, THR – Threatened, SC – Special concern, "-"– Not listed. [3] Habitat Description Source: COSEWIC reports and/or Species at Risk in Ontario (SARO) List.

Based on the assessment there is high potential for Eastern Wood-Pewee, and a single individual was observed during several Study Area visits (refer to Section 6.9.2). As a species of Special Concern (formerly Vulnerable) on the SARO list, Eastern Wood-Pewee does not receive habitat protection under the Endangered Species Act (Government of Ontario, 2007), however it is provided protection under the Migratory Birds Convention Act (Government of Canada, 1994).

6.7 SIGNIFICANT WOODLANDS

Significant woodlands are defined as treed areas that provide environmental and economic benefits such as erosion prevention, water retention, and provision of habitat, recreation, and the sustainable harvest of woodland products (OMMAH, 2014). Woodlands include treed areas, woodlots or forested areas and vary in their level of significance. The identification and assessment of significant woodlands is the responsibility of the local planning bodies, in this case the City of Barrie, and should be identified using criteria established by the OMNRF. Woodland significance is typically determined by evaluating key criteria which relate to woodland size, ecological function, uncommon woodland species, and economic and social value.

Significant woodlands are not depicted in the City of Barrie schedules. Within the Study Area, the areas identified as Dry - Fresh Sugar Maple - Hardwood Calcareous Shallow Deciduous Forest (FOD5-2), Fresh - Moist White Cedar - Sugar Maple Mixed Forest (FOM7-1), Black Ash Organic Deciduous Swamp (SWD5-1), and White Cedar Mineral/Organic Mixed Swamp (SWM1-1/SMW4-1) (Lee et al., 1998) have been mapped as Level 2 Natural Heritage Resources, according to Schedule H of the City of Barrie Official Plan (2010) (Figure 2).

Level 2 Natural Heritage Resources represent significant components of the Natural Heritage Resource network. Development is permitted in these areas, if it can be determined that no negative impact will be demonstrated or mitigated (City of Barrie, 2010). Within the City of Barrie, Significant Woodlands have been identified as Level 1 Natural Heritage Resources, while other wooded areas fall under the Level 2 Natural Heritage Resources Category.

According to Schedule A: Land Use of the City of Barrie Official Plan (2010), and the City of Barrie Zoning Bylaw (2009) the Study Area is mapped as Residential. As the Study Area is not mapped as Environmental Protection Area, development may proceed subject to these Level 2 Natural Heritage Resource policies.

While the wooded portions of the Study Area are not identified as significant in the City of Barrie Official Plan (2010), an assessment was completed during the Study Area investigations to determine the significance of the woodland. Characteristics that indicate significance of a woodland according to the Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement, 2005 (OMNR, 2010) include woodland size, ecological functions, the presence of uncommon characteristics, and economical and social values. Ecological functions further include the presence of woodland interior, the proximity to other woodlands or significant natural features, habitat linkages provided by the woodland, the presence of a sensitive headwater area, and species diversity.

The woodland within the Study Area does not exhibit characteristics that would identify it as significant. The woodland is overall relatively small, interior habitat is not present either within the Study Area or elsewhere in the woodland feature, and other significant natural features or fish habitat were not located in close proximity to the woodland. Within the Study Area the woodland is not located within a linkage area and animal movement corridors were not identified. Sensitive headwaters, watercourses or fish habitat were not identified in the Study Area, limiting its potential in providing significant water protection. Biodiversity is limited in the woodland for several reasons including the uniformity and lack of diversity of habitats, the limited number of vegetation communities present, and the presence of development to the north, east and south of the property. Uncommon characteristics such as vegetation communities identified as S1, S2 or S3, habitat of rare, uncommon or restricted woodland species, or mature woodlands were not identified within the woodland. The woodland is under private ownership, it has no apparent economically viable products, and it has no potential for recreational activities, limiting its significance regarding economical and social components. Based on the above criteria, the woodland has not been identified as significant.

The proposed development within the conceptual plan illustrated on Figure 3 will impact trees within the mapped woodlands throughout the Study Area. Measures to mitigate for potential tree removal, as well as to reduce the potential for harm to the remaining trees within the woodland are provided in Section 7.3.

6.8 SIGNIFICANT VALLEYLANDS

The PPS (OMMAH, 2014) refers to a significant valleyland as a natural area that occurs in a valley or other landform depression that has water flowing through or standing for some period of the year and is ecologically important in terms of features, functions, representation or amount, and contributes to the quality or diversity of an identifiable geographic region or natural heritage system. The local planning authority is responsible for identifying and evaluating significant valleylands.

Significant valleylands were not identified in the City of Barrie (2010) Official Plan.

6.9 FIELD OBSERVATIONS

6.9.1 VEGETATION

As a part of the field surveys, the following work was completed:

- A search for Butternut (*Juglans cinerea*) trees in potentially impacted areas (refer to Section 6.3); and,
- a three-season vegetation survey that included Ecological Land Classification for the vegetation communities found in the Study Area (refer to Section 5.1).

6.9.2 BIRD POPULATIONS

SURVEY METHODOLOGY

Breeding bird survey protocols were designed and completed based on recommendations given by the Forest Bird Monitoring Protocol (FBMP) and Ontario Breeding Bird Atlas (OBBA). The FBMP recommends completing standardized point counts to survey an area for breeding birds. These point counts are required to be at least 250 m apart and at least 100 m from the edge of a habitat type. Two point counts were completed in the Study Area (Figure 2). Due to the small size of the Study Area, in addition to the point counts an active search was completed, which involved looking and listening for birds while moving between the different habitats in the Study Area.

Breeding bird surveys were conducted on June 1 and July 2, 2017. In accordance with accepted protocols, at least six days separated each site visit, and the surveys were completed within 5 hours after sunrise.

Breeding evidence was noted for each species observed in the Study Area. Breeding evidence is divided into four categories: confirmed (CONF), probable (PROB), possible (POSS), and none (NONE). Confirmed breeding evidence includes observations involving young or eggs; observations of adult birds carrying food, nesting material, or a fecal sac; observations of adult birds involved in a distraction display; or observations of adult birds exhibiting physiological evidence of a brood patch. Probable breeding evidence includes observations of a bird occupying territory for at least 7 days, visiting a nest site, or exhibiting territorial behaviour; observations of a pair in appropriate habitat; or observations of a pair copulating. Possible breeding evidence includes observations of a singing male or observations of a bird in suitable breeding habitat. Migrant or vagrant birds are considered to have no breeding evidence.

RESULTS

A cumulative total of 25 bird species were observed in the Study Area over the two survey periods. Breeding was confirmed for 2 species, considered probable for 8 species, and considered possible for 13 species. Breeding evidence was not identified for 2 species.

A single species at risk, Eastern Wood-Pewee (SC), was identified during the bird surveys. On both the June 1 and July 2, 2017 site visits, presumably the same male Eastern Wood-Pewee was seen in the northern portion of the Study Area (refer to Figure 2). Eastern Wood-Pewee was assigned a breeding code of Probable - S7 due to the observation of a male on territory for 7+ days. No other provincially or federally listed species at risk birds were identified during the surveys. A list of bird species identified in the Study Area, including breeding evidence, can be found in Appendix C.

6.9.3 BAT HABITAT SURVEYS

Of the eight bat species found in Ontario, several have ranges that overlap with the Site. Of these species, Eastern Small-footed Bat (*Myotis leibii*), Little Brown Bat (*Myotis lucifugus*), and Northern Long-eared Bat (*Myotis septentrionalis*) are currently listed as Endangered in Ontario, and as a result, these species and their habitats are protected under
Subsection 9 (1) (species protection) and 10(1) (habitat protection) of the ESA (2007). Until species-specific habitat regulations are developed, habitat for Endangered and Threatened species is protected according to the general definition of habitat in the ESA. Specifically, according to section 2 (1), the ESA protects “an area on which the species depends, directly or indirectly, to carry on its life processes, including processes such as preproduction, rearing, hibernation, migration or feeding”.

During the summer months, these species form maternity colonies in sheltered areas, such as tree cavities, under loose or peeling bark of old or dead trees, and in old buildings. Maternity colonies range in size from small groups to congregations of hundreds of females, though smaller groups are more common (Eder, 2002). Young are typically born in June or early July and remain in the nursery colony for 3 to 4 weeks until they are able to fly. Mature mixed and deciduous forests close to water with relatively high densities of mature snag trees (> 25 cm in diameter at breast height) are favoured by most species.

A survey to determine the potential for bat maternity roost habitat was designed and completed following the Bat and Bat Habitat: Guidelines for Wind Power Projects (OMNR, 2011). The following is a recommended approach of surveying woodlands to determine the potential for maternity roost habitat.

In Ontario, two roosting strategies are used by bats during the day. Some bats roost in small groups high up in the tree canopy, taking shelter within the foliage (OMNR, 2011). These roosts can be very difficult to find. A second strategy involves bats roosting in cavities found in dead or dying trees, under loose or peeling bark, or in cracks and crevices on rock faces. The best candidate cavity trees show early signs of decay, exhibit a large amount of peeling bark, have numerous cavities most often originating as knot holes, woodpecker cavities, cracks or scars, are a large diameter at breast height, and are located within the highest density areas of suitable cavity trees (OMNR, 2011). Dead trees with a decay class of 1-3 (refer to Stabb, 1996) often provide ideal roosting habitat for bats.

6.9.3.1 SURVEY METHODOLOGY

To calculate the cavity tree density on the Site, the following procedure was followed:

1. One plot per hectare is required for ELC polygons over 10 ha, up to a maximum of 35 plots, while a minimum of 10 plots is recommended for ELC polygons under 10 ha. Due to the small size of the Study Area (1.65 ha), it would be impractical to survey each ELC polygon independently for bat maternity roost habitat. Given this limitation, a total of 11 plots were completed throughout the forested ecotypes found throughout the Study Area.
2. Circular plots with a radius of 12.6 m (approximately 0.05 ha) were randomly distributed throughout the Study Area;

3. Total number of trees greater than 25 cm diameter at breast height that contained at least one suitable cavity were counted within each plot;
4. The total number of cavity trees per hectare was calculated. To be considered candidate maternity roost habitat ELC polygons must achieve a threshold density of 10 cavity trees per hectare.

The survey was conducted on October 6, 2017. In accordance with the protocol, the survey was completed during the leaf-off period to facilitate views of tree cavities and crevices, which would otherwise be obscured by foliage. Timing and weather conditions during the bat maternity roost habitat survey are provided in Table 1, above.

6.9.3.2 *RESULTS*

A total of 1 cavity tree was identified across the 11 plots. Each plot is approximately 0.05 ha in size; therefore, approximately 0.55 ha in total were surveyed for the presence of cavity trees. This corresponds to a total density of approximately 1.8 cavity trees / ha.

As the Study Area exhibited a snag density lower than 10 cavity trees / ha, it does not qualify as candidate bat maternity roost habitat.

6.9.4 AMPHIBIAN SURVEYS

Amphibian survey methodology was based on the Marsh Monitoring Program Amphibian Survey outlined by Bird Studies Canada (BSC), and is further described as follows:

- Three surveys are recommended to be conducted, with one survey between April 15-30, one survey between May 15-31, and one survey between June 15-30. Due to the late award date of this Project the first window had already passed. Surveys were completed on May 31 and June 30, 2017. Site visit details are provided in Table 1;
- Surveys were three minutes in duration and commenced no earlier than one half-hour after sunset and ended before midnight;
- Surveys took place during evenings with little wind and minimum night air temperatures of 10 °C and 15 °C for each of the two respective survey periods;
- Surveys were conducted using a semi-circular sampling area at two specific locations within woodland and wetland habitats (Figure 2). Subsequent surveys were conducted at the same survey locations;
- For each call heard the approximate distance to each call was recorded as being greater than or less than 100 m from the survey location and call level codes were assigned as follows:
  - Code 1: individual calls do not overlap and calling individuals can be discretely counted;
  - Code 2: calls of individuals sometimes overlap, but numbers of individuals can still be estimated;
  - Code 3: overlap among calls seems continuous (full chorus), and a count estimate is impossible.

A single Spring Peeper (*Pseudacris crucifer*) was observed calling near the center of the Study Area during the survey on May 31, 2017. No other amphibians were identified during the surveys.

6.9.5 OTHER WILDLIFE OBSERVATIONS

Visual observations of area wildlife (including mammals and insects) were recorded during the Study Area investigations. Wildlife observations were based on incidental contact, scat evidence, and tracks, and were consistent with species known to occupy this area.

General reptile surveys were completed by visual observation during each site visit, including an assessment of the potential for reptile hibernacula. Field surveys were conducted along woodland edges, throughout the forests, and along the roadsides. Debris, logs, and other suitable cover objects were randomly lifted and inspected.

There were no species at risk wildlife observed within the Study Area during the Study Area investigations. Incidental wildlife observations for the Study Area are provided in Appendix C.

6.10 SIGNIFICANT FEATURE SUMMARY

A summary of the significant Natural Heritage Features identified within 120 m of the Study Area is provided in Table 7, below. This summary is based on a review of available documentation pertaining to the Study Area and adjacent lands, consultation with regulating agencies, and the completion of the Study Area investigations. To minimize the effects of the development on these natural features, mitigation measures will be considered for work conducted in the area.

Table 7 Significant Feature Summary

FEATURE	PRESENT	COMMENT
Fish Habitat	Yes	The western shore of Lake Simcoe exists approximately 105-110 m to the east of the Site. With implementation of general mitigation measures outlined below, no impacts to fish habitat are anticipated.
Areas of Natural and Scientific Interest (ANSI)	No	ANSIs were not identified within 120 m of the Study Area.
Habitats of Endangered or Threatened Species	Yes	A single Butternut was identified during the Study Area investigations, and the location of this tree as well as its 25 m radius buffer is shown on Figure 2. No other Endangered or Threatened species had moderate or high habitat potential within the vicinity of the Study Area.
Significant Wetlands	No	Significant wetlands were not identified within the Study Area, based on a review of the Natural Heritage Areas mapping (OMNRF, 2015a). During the Study Area investigations, a treed swamp was identified within the Study Area. The interior of the treed swamp, located roughly halfway up the eastern Study Area boundary and extending towards the middle of the Study Area, has been identified as Black Ash Organic Deciduous Swamp (SWD5-1). Surrounding the SWD5-1 ecotype in a narrow band is an area that has been identified as a White Cedar Mineral/Organic Mixed Swamp (SWM1-1/SMW4-1). The wetland does not exhibit characteristics of a significant wetland under the OWES system. It is overall relatively small (approximately 0.5 ha), contains no open water and appears to have a relatively low net primary productivity due to its classification as swamp forest. The wetland site type has been identified as isolated (the least significant) as the wetland has no surface outflow. Biodiversity is limited in the wetland for a number of reasons including the uniformity of the wetland (one wetland type present), the limited number of vegetation communities and vegetation forms present, and the presence of development to the north, east and south of the property. The wetland is under private ownership, it has no apparent economically viable products, and has no potential for recreational activities, limiting its significance regarding the social components. Based on the above limitations, the wetland has not been identified as significant.
Significant Coastal Wetlands	No	Significant Coastal Wetlands were not identified within 120 m of the Study Area.

FEATURE	PRESENT	COMMENT
Significant Wildlife Habitat	Yes	Based on the assessment there is high potential for Eastern Wood-Pewee within 120 m of the Study Area. A single Eastern Wood-Pewee was identified in the Study Area (Figure 2), and the species was assigned a breeding code of Probable - S7 due to the observation of a singing male on territory for 7+ days (refer to Section 6.9.2). No other candidate significant wildlife habitat was identified within 120 m of the Study Area.
Significant Woodlands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Mary's River)	No	Significant woodlands were not identified within 120 m of the Study Area. Within the vicinity of the Study Area, the areas identified as Dry - Fresh Sugar Maple - Hardwood Calcareous Shallow Deciduous Forest (FOD5-2), Fresh - Moist White Cedar - Sugar Maple Mixed Forest (FOM7-1), Black Ash Organic Deciduous Swamp (SWD5-1), and White Cedar Mineral/Organic Mixed Swamp (SWM1-1/SMW4-1) have been identified as Level 2 Natural Heritage Resources, according to Schedule H of the City of Barrie Official Plan (2010). The Study Area investigations and assessment concluded that the woodland does not contain characteristics that would identify it as significant. The woodland is overall relatively small, interior habitat is not present either within the Study Area or elsewhere in the woodland feature, and other significant natural features or fish habitat were not located in close proximity to the woodland. Within the Study Area the woodland is not located within a linkage area and animal movement corridors were not identified. Sensitive headwaters, watercourses or fish habitat were not identified in the Study Area, limiting its potential in providing significant water protection. Biodiversity is limited in the woodland for several reasons including the uniformity and lack of diversity of habitats, the limited number of vegetation communities present, and the presence of development to the north, east and south of the property. Uncommon characteristics such as vegetation communities identified as S1, S2 or S3, habitat of rare, uncommon or restricted woodland species, or mature woodlands were not identified within the woodland. The woodland is under private ownership, it has no apparent economically viable products, and it has no potential for recreational activities, limiting its significance regarding economical and social components.
Significant Valleylands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Mary's River)	No	Significant valleylands were not identified within 120 m of the Study Area.

7 IMPACT AND MITIGATION MEASURE DISCUSSION

Fish habitat, habitat of Endangered or Threatened species and significant wildlife habitat was identified within 120 m of the Study Area. The western shore of Lake Simcoe exists approximately 105-110 m to the east of the Site. With implementation of general mitigation measures outlined below, no impacts to fish habitat are anticipated. Additionally, while significant woodlands or significant wetlands were not identified in the Study Area, the woodlands and wetlands present in the Study Area will be impacted. The proposed development configuration is presented on Figure 3. The potential for negative impacts associated with this design plan is examined below, and mitigation measures to minimize these impacts are proposed.

7.1 HABITAT OF ENDANGERED OR THREATENED SPECIES

A single Butternut was observed during the Study Area investigations, near the northern corner of the Study Area. This individual and a 25 m radius buffer are shown on Figure 2. No other Butternuts were identified either during the 2017 WSP investigations or during the field work completed by John D. Bell Associates Limited in support of their Tree Preservation Plan for the Study Area. To prevent impacts to this individual Butternut, a 25 m radius buffer will be maintained from the tree. No other Endangered or Threatened species had moderate or high habitat potential within the vicinity of the Study Area.

7.2 SIGNIFICANT WILDLIFE HABITAT

Significant Wildlife Habitat (SWH) identified within 120 m of the Study Area was limited to habitat for species of Conservation Concern. A single Eastern Wood-Pewee was identified in the Study Area (Figure 2), and the species was assigned a breeding code of Probable - S7 due to the observation of a singing male on territory for 7+ days (refer to
Section 6.9.2).

Suitable habitat for Eastern Wood-Pewee can be found throughout the forested ecotypes found within and surrounding the Study Area. Eastern Wood-Pewee is currently listed as a species of Special Concern on the SARO List (OMNRF, 2016). As a Special Concern species on the SARO List it does not receive habitat protection under the Endangered Species Act (Government of Ontario, 2007), but is protected under the federal Migratory Birds Convention Act (Government of Canada, 1994). Vegetation removal and disturbance to nests pose the greatest risk to these species. To minimize impacts to this species, the following mitigation measure is recommended:

- To limit disturbance to Eastern Wood-Pewee and other bird species, vegetation removal should be restricted during their most vulnerable period, i.e. the breeding bird season (April 1st to August 31st), unless a survey by a qualified individual, with knowledge of bird biology and habitat, confirms that there are no active nests within the tree(s) to be removed.

No other candidate SWH was identified within 120 m of the Study Area.

7.3 WOODLANDS/WETLANDS

Woodlands within 120 m of the Study Area include the forested areas identified as Dry - Fresh Sugar Maple - Hardwood Calcareous Shallow Deciduous Forest (FOD5-2), Fresh - Moist White Cedar - Sugar Maple Mixed Forest (FOM7-1), Black Ash Organic Deciduous Swamp (SWD5-1), and White Cedar Mineral/Organic Mixed Swamp (SWM1-1/SMW4-1). Additionally, the ecotypes SWD5-1 and SWM1-1/SWM4-1 have been identified as wetlands; however, they are not mapped as significant wetlands (OMNRF, 2015a). The Study Area investigations and assessment confirmed that neither the wetlands nor the woodlands were identified as significant (refer to Sections 6.4 and 6.7). These woodlands/wetland ecotypes are identified on Figure 2.

According to Schedule H of the City of Barrie Official Plan (2010), these woodlands have been mapped as Level 2 Natural Heritage Resources. Level 2 Natural Heritage Resources represent significant components of the Natural Heritage Resource network. Development is permitted in these areas, if it can be determined that no negative impact will be demonstrated, or mitigated (City of Barrie, 2010). Within the City of Barrie, Significant Woodlands have been identified as Level 1 Natural Heritage Resources, while other wooded areas fall under the Level 2 Natural Heritage Resources Category. According to Schedule A: Land Use of the City of Barrie Official Plan (2010), and the City of Barrie Zoning Bylaw (2009), the Study Area is mapped as Residential. As the Study Area is not mapped as Environmental Protection Area, development may proceed, subject to these Level 2 Natural Heritage Resource policies.

The proposed development within the conceptual plan illustrated on Figure 3 will impact trees throughout a portion of the Study Area. Approximately 0.59 ha (5932.2 m^2) of the 1.25 ha (12,570.6 m^2) Site contains identified woodland/wetland that will likely be removed to permit housing on the lots, including approximately 0.18 ha (1,815.8 m^2) of wetland, and approximately 0.41 ha (4,119.8 m^2) of woodland.

The LSRCA prefers to see that projects avoid, minimize or mitigate for impacts to natural features; however, in situations where those three options are not available, then compensation is available as a final option. Given the scope of this Project, the above options are not possible due to the relative small size of the Study Area, with no areas available for compensatory plantings. As a result, we are proposing ecological offsetting for the loss of the wetlands and woodlands found within the Study Area. Guidelines in a document titled Ecological Offsetting Plan (LSRCA, 2017) were utilized. Should the Client pursue this option, an Ecological Offsetting Strategy must be completed, through an agreed upon Terms of Reference with the LSRCA (LSRCA, 2017). The EOS may contain the following components:

- Location: comparable ecosystem values
- Equivalency: quality and quantity of ecological functions
- Additional benefits: opportunities for further enhancements
- Timing: restoration/replacement to start in sequence with approvals process
- Duration: provide for longer term monitoring maintenance and contingency
- Accountability: a formal written agreement between the relevant parties

In certain situations where it may not be feasible for the proponent to independently compensate for the loss of a natural heritage feature, cash-in-lieu or land purchase/securement may be considered as part of the EOS (LSRCA, 2017). The calculation of the cash-in-lieu amount is based on the required area of feature replacement and the cost to recreate that feature /its function, as well as the ecosystem value for the area of the feature that is lost (LSRCA, 2017).

As indicated above, approximately 0.59 ha (5932.2 m^2) of natural features is proposed to be removed, and will be compensated for via cash-in-lieu. This includes approximately 0.18 ha (1,815.8 m2) of wetland and 0.41 ha (4,119.8 m^2) of woodland. The total cost for the removal of natural features includes the feature creation cost + the ecosystem services value + land acquisition fund + administration fee. The cash-in-lieu cost will be determined at the detailed design stage based on the exact amount of woodland and wetland proposed to be removed.

The following mitigation measures are recommended to minimize impacts to the remaining woodlands located on and adjacent to the Study Area.

- Tree protection fencing should be installed between the proposed development envelope and adjacent trees, to reduce the potential for physical damage to trees and their root systems. Supports and bracing used to secure the barriers should be installed along the tree driplines, or further away where possible, and in a way that minimizes root damage.
- Tree protection fencing should be installed before work in the Study Area begins and inspected regularly to ensure it is performing its intended function. If any section is found to be damaged or non-functional it should be replaced immediately.
- The following activities are prohibited beyond the tree protection fencing: storage or stockpiling of materials including fill, top soil, construction equipment and debris; disposal of liquids; and operation of heavy machinery.
- Changes to existing land contours and drainage patterns due to grading should be minimized to ensure that significant changes to the existing woodland moisture regime do not occur.
- Tree removal should conform to local, municipal, or regional by-laws, and should be performed by properly trained and accredited individuals.

7.4 GENERAL MITIGATION MEASURES

In addition to the measures outlined above, general mitigation measures for works in the Study Area should include the following:

- To avoid contravention of the Migratory Birds Convention Act (1994), vegetation removal (including limbing) should not occur during breeding bird season (April 1st to August 31st), unless a survey by a qualified avian specialist (biologist) confirms that there are no active nests within the vegetation to be removed.
- During construction, the Study Area should be monitored for species at risk as described in this report. If species at risk are identified, OMNRF and the qualified project biologist should be contacted immediately.
- Erosion control fencing should be placed at the limit of grading as well as, and adjacent to, temporary storage locations for supplies, excavated materials and imported fill. Fencing should be properly installed to the engineer's specifications and inspected daily and after significant rain events to confirm it is functioning properly. Fencing should be regularly cleared of silt accumulation to ensure the integrity of erosion prevention/sediment containment measures.
- Areas of exposed soil, especially newly graded areas that cannot be immediately stabilized with the final surface treatments should be appropriately treated to minimize erosion (e.g., straw mulch, erosion blanket, sod, or hydroseed).
- Changes to existing land contours and drainage patterns due to grading should be minimized to ensure that significant changes to the existing woodland moisture regime and site hydrology do not occur.
- Impacts to vegetation, particularly trees, should be minimized where possible to maintain the function of the woodland in the Study Area as habitat for birds and other wildlife.
- Ensure a Spills Management Plan (including materials, instructions regarding their use, education of contract personnel, emergency contact numbers) is onsite at all times for implementation in event of accidental spill during construction. Adequate measures to prevent or capture and contain any debris and spills resulting from construction activities should be kept onsite in sufficient quantities. Staff should be orientated as to the location of materials and their proper use and disposal. Measures and procedures should conform to pertinent provincial requirements.
- Operating, refuelling and maintenance of construction equipment and the handling and storage of toxic materials (e.g. fuel, lubricants, and other chemicals) must be carried out in such a way as to avoid contamination of soils, groundwater and surface waters.
- All parts of equipment shall be free of fluid leaks and externally cleaned/degreased offsite, in a contained environment.

8 CONCLUSIONS AND RECOMMENDATIONS

Following the background review and Study Area investigation, the following conclusions can be made:

- The Study Area is identified as Part of Lot 14, Concession 3, and Block "D", Registered Plan 1423, Dock Road, City of Barrie, Simcoe County. The Study Area is currently zoned as Single Detached Residential First Density (R1). The Client is proposing to sever the lands within the Study Area to create six (6) single-family residential lots, and two (2) empty lots toward the rear of the property for a total of eight (8) lots
- A single Butternut (END) was observed during the Study Area investigations, near the northern corner of the Study Area. This tree will be afforded a 25 m radius buffer. The location of the tree and the 25 m radius buffer surrounding the tree are shown on Figure 2. No other Butternuts were identified either during the 2017 WSP investigations, or during the field work completed by John D. Bell Associates Limited in support of their Tree Preservation Plan for the Study Area.
- Significant wildlife habitat throughout the Study Area included high habitat potential for Eastern Wood-Pewee. A single Eastern Wood-Pewee (SC) was identified in the Study Area (Figure 2), and the species was assigned a breeding code of Probable - S7 due to the observation of a singing male on territory for 7+ days. Suitable habitat for Eastern Wood-Pewee can be found throughout the forested ecotypes found within and surrounding the Study Area.
- During the Study Area investigations, a treed swamp was identified within the Study Area. The interior of the treed swamp, located roughly halfway up the eastern Study Area boundary and extending towards the middle of the Study Area, has been identified as Black Ash Organic Deciduous Swamp (SWD5-1). Surrounding the SWD5-1 ecotype in a narrow band is an area that has been identified as a White Cedar Mineral/Organic Mixed Swamp (SWM1-1/SMW4-1) (Figure 2). This wetland was assessed during the Study Area investigations and it was not identified as a significant wetland (Refer to Section 6.4). Mitigation measures as identified in Section 7.3 should be followed.
- Significant woodlands were not identified during the Study Area investigations. Within the Study Area, the areas identified as Dry - Fresh Sugar Maple - Hardwood Calcareous Shallow Deciduous Forest (FOD5-2), Fresh - Moist White Cedar - Sugar Maple Mixed Forest (FOM7-1), Black Ash Organic Deciduous Swamp (SWD5-1), and White Cedar Mineral/Organic Mixed Swamp (SWM1-1/SMW4-1) (Lee et al., 1998) have been mapped as Level 2 Natural Heritage Resources, according to Schedule H of the City of Barrie Official Plan (2010) (Figure 2). Level 2 Natural Heritage Resources represent significant components of the Natural Heritage Resource network. Development is permitted within these areas, if it can be determined that no negative impact will be demonstrated or mitigated (City of Barrie, 2010). Within the City of Barrie, significant woodlands have been identified as Level 1 Natural Heritage Resources, while other wooded areas fall under the Level 2 Natural Heritage Resources Category. This woodland feature was assessed during the Study Area investigations and it was not identified as a significant woodland (Refer to Section 6.7). Mitigation measures as identified in Section 7.3 should be followed.
- It is anticipated given the current design configuration (Figure 3) that approximately 0.59 ha (5932.2 m^2)of the 1.25 ha (12,570.6 m^2) identified as wetland/woodland will need to be removed. The exact area that will be removed will be determined at the detailed design stage. Ecological offsetting has been proposed in Section 7.3 to mitigate for the loss of wetland/woodland in the Study Area. Additional mitigation measures in Section 7.3 are provided to minimize impacts to the remaining trees.
- Additional proposed mitigation measures outlined within Section 7 of this report should be appropriately implemented.

9 CLOSURE

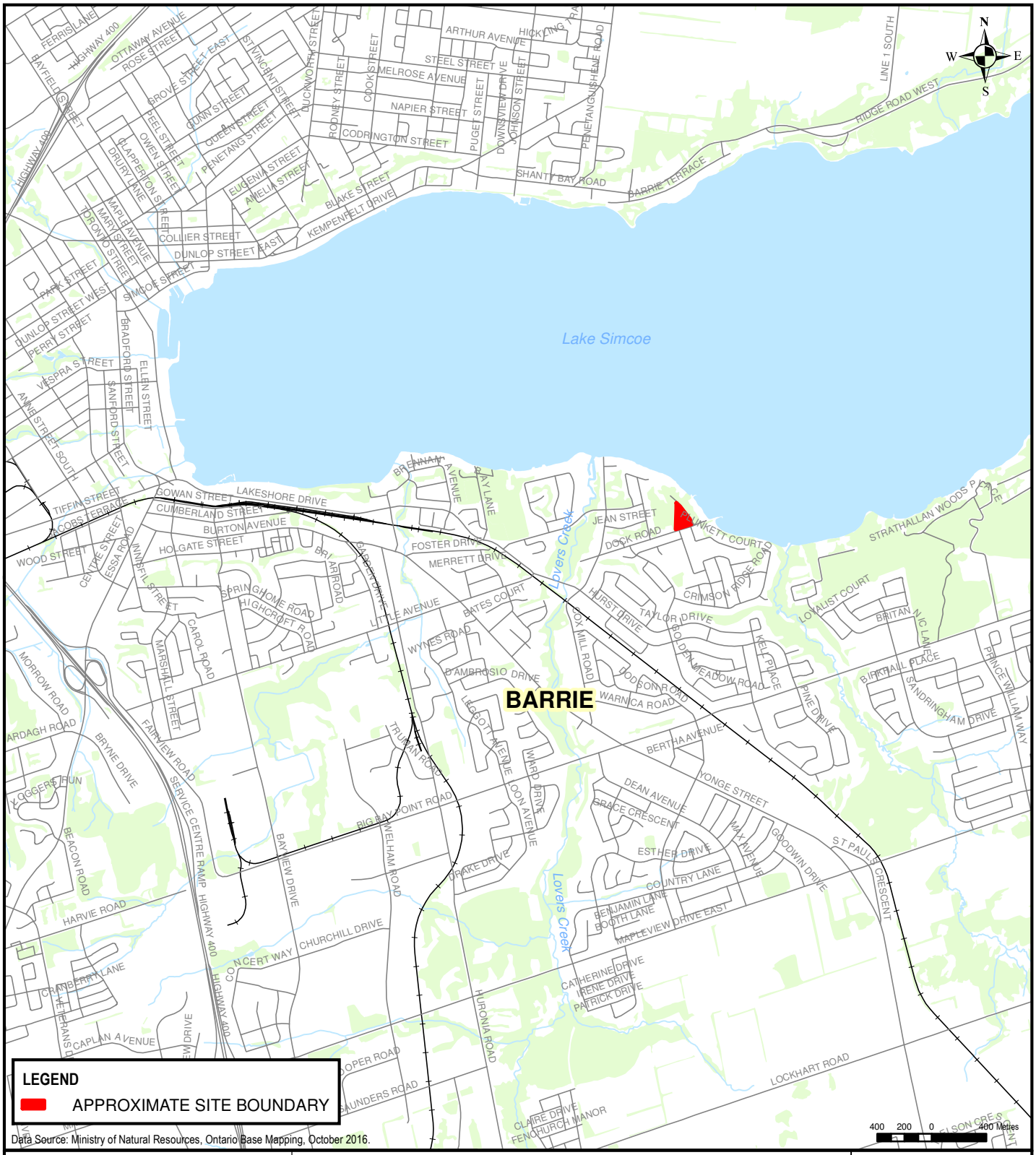
This report was produced by WSP Canada Inc. The assessment represents the conditions at the subject property only at the time of the assessment, and is based on the information referenced and contained in the report. The conclusions presented herein respecting current conditions represent the best judgment of the assessors based on current environmental standards. WSP Canada Inc. attests that to the best of our knowledge, the information presented in this report is accurate. The information in this report should be evaluated, interpreted, and implemented only in the context of the assignment. The use of this report or any of its parts for other projects without written permission of the Client and WSP Canada Inc. is solely at the user's own risk. This report must be reviewed and approved by the relevant regulating agencies prior to being relied on for planning and/or construction purposes.

Thank you for the opportunity to complete this report. We trust that this information is satisfactory for your current requirements. Please contact us if we can be of further assistance.

10 REFERENCES

- Azimuth Environmental Consulting, Inc. 2008. Addendum Environmental Impact Study: Manors of Dock Road, Part of Lot 14, Concession 3 and Block "D", Registered Plan 1243, City of Barrie.
- Bird Studies Canada, Ontario Field Ornithologists, Environment Canada, Ontario Nature, and Ontario Ministry of Natural Resources. 2006. Ontario Breeding Bird Atlas Internet Site. www.birdsontario.org/atlas/atlasmain.html
- City of Barrie. 2009. City of Barrie Comprehensive Zoning By-law: Office Consolidation February 2015.
- City of Barrie. 2010. City of Barrie Official Plan . 153 pp.
- Eder, T. 2002. Mammals of Ontario. Lone Pine Publishing. Edmonton, AB.
- Government of Canada. 1994. Migratory Birds Convention Act. Published by the Minister of Justice at the following address: http://laws-lois.justice.gc.ca. 57 pp.
- Government of Canada. 2016. Species at Risk (SARA) Public Registry. http://www.sararegistry.gc.ca/species/schedules_e.cfm?id=1
- Government of Ontario. 2007. Endangered Species Act (ESA). http://www.e-laws.gov.on.ca/html/statutes/english/elaws_statutes_07e06_e.htm
- Government of Ontario. 2009. Lake Simcoe Protection Plan. Available at: http://www.ontario.ca/environment-and-energy/lake-simcoe-protection-plan
- Lake Simcoe Region Conservation Authority. 2017. Ecological Offsetting Plan. 16 pp.
- H.T., Bakowsky, W.D., Riley, J., Bowles, J., Puddister, M., Uhlig, P., and S. McMurray. 1998. Ecological Land Classification for Southern Ontario: First Approximation and Its Application. Ontario Ministry of Natural Resources, Southcentral Science Section, Science Development and Transfer Branch. SCSS Field Guide FG-02.
- Ontario Ministry of Municipal Affairs and Housing. 2014. Provincial Policy Statement. Queen's Printer for Ontario.
- Ontario Ministry of Natural Resources. 2000. Significant Wildlife Habitat: Technical Guide. 151 pp.
- Ontario Ministry of Natural Resources. 2008. Ecological Land Classification for Southern Ontario: 2nd approximation.
- Ontario Ministry of Natural Resources. 2010. Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement. Second Edition. Queen's Printer for Ontario.
- Ontario Ministry of Natural Resources (OMNR). 2011. Bats and Bat Habitats: Guidelines for Wind Power Projects. Queen's Printer for Ontario. 24 pp.
- Ontario Ministry of Natural Resources and Forestry. 2015a. Natural Heritage Areas Make-a-Map. Queen's Printer for Ontario. http://www.mnr.gov.on.ca/en/Business/LUEPS/index.html.
- Ontario Ministry of Natural Resources and Forestry. 2015b. Ecoregion 6E Significant Wildlife Habitat Criterion Schedule, dated January 2015. 38 pp.
- Ontario Ministry of Natural Resources and Forestry. 2016. Species at Risk in Ontario (SARO) list. Queen's Printer for Ontario. http://www.mnr.gov.on.ca/en/Business/Species/2ColumnSubPage/MNR_SAR_CSSR_SARO_LST_EN.html.
- Ontario Nature. 2017. Ontario Reptile and Amphibian Atlas. http://www.ontarionature.org/protect/species/herpetofaunal_atlas.php
- Stabb, M. 1996. Ontario's Old Growth: A Learner's Handbook. Canadian Nature Federation and Ancient Forest Exploration and Research, Ottawa. 47 pp.

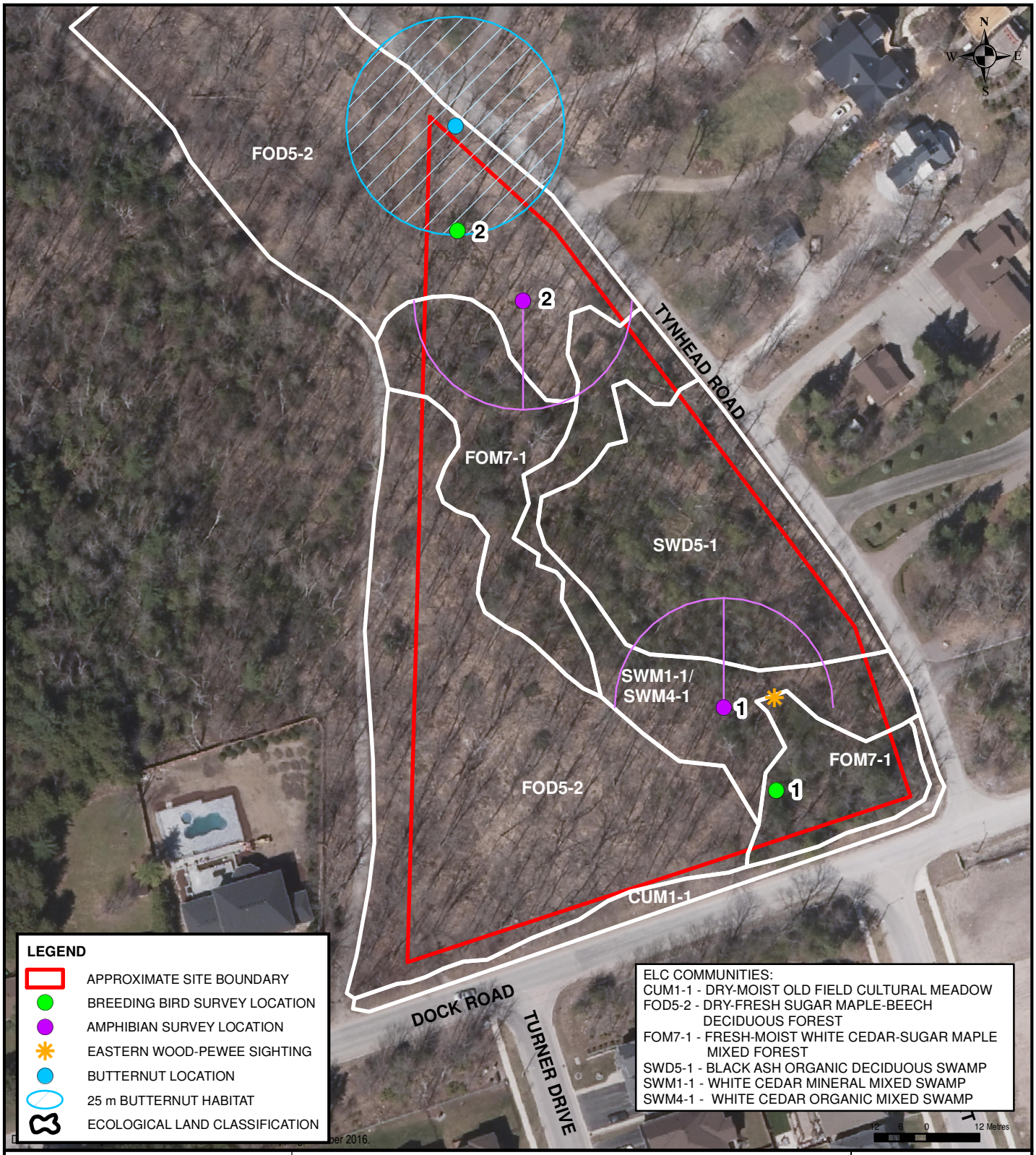
FIGURES



126 DON HILLOCK DRIVE, UNIT 2
AURORA, ONTARIO CANADA L4G 0G9
TEL.: 905-750-3080 | FAX: 905-727-0463 | WWW.WSP.COM

PROJECT: SCOPED ENVIRONMENTAL IMPACT STUDY PART OF LOT 14, CONCESSION 3 & BLOCK 'D', REGISTERED PLAN 1423 DOCK ROAD, CITY OF BARRIE, ONTARIO	SCALE: 1:40,000
	DRAWN BY: TP / CHECKED BY: -
TITLE: SITE LOCATION MAP	PROJECT NO: 171-07646-00 200
	DATE: JUNE 2018
CLIENT: MR. RYAN SCOTT	FIGURE NO: 1 / REV.: -

Document Path: T:\171-07646-00\200\171-07646-00 200 Figure 1 Location Map.mxd



wsp
126 DON HILLOCK DRIVE, UNIT 2
AURORA, ONTARIO CANADA L4G 0G9
TEL.: 905-750-3080 | FAX: 905-727-0463 | WWW.WSP.COM

PROJECT: SCOPED ENVIRONMENTAL IMPACT STUDY
PART OF LOT 14, CONCESSION 3 &
BLOCK 'D', REGISTERED PLAN 1423
DOCK ROAD, CITY OF BARRIE, ONTARIO

TITLE: EXISTING CONDITIONS

CLIENT: MR. RYAN SCOTT

SCALE: 1:1,250

DRAWN BY: TP

CHECKED BY: -

PROJECT NO: 171-07646-00 200

DATE: JUNE 2018

FIGURE NO: 2

REV.: -

Document Path: T:\171-07646-00\200\171-07646-00 200 Figure 2 Existing Conditions.mxd

126 DON HILLOCK DRIVE, UNIT 2
AURORA, ONTARIO CANADA L4G 0G9
TEL.: 905-750-3080 | FAX: 905-727-0463 | WWW.WSP.COM

PROJECT: SCOPED ENVIRONMENTAL IMPACT STUDY PART OF LOT 14, CONCESSION 3 & BLOCK 'D', REGISTERED PLAN 1423 DOCK ROAD, CITY OF BARRIE, ONTARIO	SCALE: 1:1,250
	DRAWN BY: TP / CHECKED BY: -
TITLE: PROPOSED DEVELOPMENT	PROJECT NO: 171-07646-00 200
	DATE: JUNE 2018
CLIENT: MR. RYAN SCOTT	FIGURE NO: 3 / REV.: -

Document Path: T:\171-07646-00\200\171-07646-00 200 Figure 3 Proposed Development.mxd

APPENDIX

A AGENCY CONSULTATION

From: Melinda Bessey [mailto:M.Bessey@lsrca.on.ca]
Sent: Wednesday, October 18, 2017 4:28 PM
To: Reeves, Dan <Dan.Reeves@wsp.com>
Cc: Kate Lillie <K.Lillie@lsrca.on.ca>
Subject: 4 Dock Road - Barrie

Hi Dan,

It was great to meet with you on the Dock Road site (#4 Dock Road) to discuss the contemplated application for Zoning By-law Amendment and Draft Plan of Subdivision to create 9 residential lots. It is noted that LSRCA provided correspondence on July 21, 2010 in response to an EIS Addendum prepared by Azimuth which was provided in support of a *Planning Act* application (City Reference D14-1460). These comments provided in the July 21, 2010 letter were based upon a review of the documents in the context of the policies which were applicable to that application at that time. While the submitted EIS would have demonstrated conformity the policies of that time, they may not be in conformity with current policies of today. It is also noted the current proposal appears to require more extensive removal of the features than was proposed by the previous concept.

If the landowner were to submit an application under the Planning Act, the application would be required to demonstrated conformity with the current policies.

The woodland and wetland on the property are considered to be level 2 natural heritage resources as per schedule H of the Barrie OP. Policy 3.5.2.4 (a) ii. states: *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.*

The current proposal appears to require the removal of the entire wetland and a large portion of the woodland (>25%). The property also has the potential to contain significant wildlife habitat. An EIS would be required to support the proposal and demonstrate no negative impact to the natural heritage features; however, based on a high-level review and our recent site visit, it is believed the extent of removal currently proposed could negatively impact these features. If development of this property is pursued, a proposal that reduces the amount of feature loss and restricts any removal to the edge of the feature might be better able to conform to policy.

As discussed on site, perhaps the concept could be revised to show the creation of 6 lots (19.9m frontage and 34m depth). The frontage would be on to Dock Road and would eliminate the requirement for the costly construction of Street A. If policy conformity is demonstrated, any feature removal would require to be offset as per out Ecological Offsetting Policy. The value of placing the remaining features into a protective zone and conveyance of those features to the City to be added to the adjacent feature area should be further discussed with the LSRCA.

If you have any questions concerning the above, please feel free to give me a call.

Kind regards,

Melinda Bessey, MSc., MCIP, RPP

Development Planner
Lake Simcoe Region Conservation Authority
120 Bayview Parkway,
Newmarket, Ontario L3Y 3W3
905-895-1281, ext. 151 | 1-800-465-0437 |
m.bessey@LSRCA.on.ca | www.LSRCA.on.ca

Please note: the LSRCA Board of Directors approved a change to our Fee Policy. The new fees will take effect on January 1, 2017. Please click here for the new fee schedule.

Twitter: @LSRCA
Facebook: LakeSimcoeConservation

From: Shirley, Brent (MNRF) [mailto:brent.shirley@ontario.ca]
Sent: Thursday, July 20, 2017 3:02 PM
To: Reeves, Dan
Subject: RE: Dock Road, Barrie

Hi Dan,

As you are likely aware the species at risk records found in the NHIC database are not exhaustive and are based on **known** occurrences only. As a result, although there may be no record (or confirmation) of a species at risk on site it does not mean that they are not present if appropriate habitat exists. Due diligence is therefore still required and would include an appropriate consideration of what species could be present based on available habitat at the location noted above. Your field work should inform you on what species on the SARO list could possibly be encountered based on available habitats in the area of the study and the possible survey methodologies required during your site assessments.

I have found the following additional species at risk that could be in the area, based on aerial photo interpretation.

Butternut (END)

Tri-colored Bat (END)

For example, if any habitat exists that would support woodland SAR birds (Wood Thrush, Eastern Wood-Pewee,…etc) then you should consider those species as well.

If you have any questions please feel free to contact me.

Best Regards,

Brent Shirley

A/ Management Biologist
Midhurst District Ministry of Natural Resources & Forestry
2284 Nursery Rd
Midhurst, ON
L0L 1X0

Phone- 705-725-7547
Fax- 705-725-7584

From: Reeves, Dan [mailto:Dan.Reeves@wsp.com]
Sent: June 30, 2017 10:59 AM
To: Shirley, Brent (MNRF); Findlay, Graham (MNRF); Benvenuti, Jodi (MNRF)
Subject: Dock Road, Barrie

Good morning,

WSP has been retained to conduct an EIS for a site in Barrie, Ontario (Dock Road – see attached Site Map). A UTM benchmark for this site is Zone 17 Easting 608165, Northing 491065 (NAD 83). Refer to the attached image for site location details.

We have conducted a desktop background review of the site and are requesting any additional information pertaining to natural heritage features, fish habitat, significant wildlife habitat and species at risk be provided for the above noted property. The findings of our desktop review are discussed below.

Natural Heritage Values Present

A survey of the OMNR NHIC database was conducted to determine if there are any known Threatened or Endangered species on or within 120 m of the site. Two (2) one square kilometer (1 km^2) quadrats (17PK0814, 17PK0714) surrounding the site were checked to ensure potential species at risk were accounted for in the search. No recorded Species at Risk from the study area and the immediate vicinity were found.

The OMNRF NHIC database and the City of Barrie Official Plans were reviewed to determine if there are any known ANSIs, Provincially Significant Wetlands, Wildlife Concentration Areas, Rare Vegetation Communities, or other Natural Heritage Features on or within 120 m of the site. Level 2 significant component of the Natural Heritage Resource network has been identified in the City of Barrie's OP on and adjacent to the property. No other significant natural heritage features were found.

A survey of the Ontario Breeding Bird Atlas (1st and 2nd version) was conducted to determine if there are any occurrences of avian species at risk on or adjacent to the site. Barn Swallow (*Hirundo rustica*), Bank Swallow (*Riparia riparia*), and Bobolink (*Dolichonyx oryzivorus*) were observed within the general vicinity of the site during the first and second atlas.

A review of aerial photographs was carried out to determine if there is suitable habitat for additional species at risk. Based on this review it is reasonable for the potential of Northern Myotis (*Myotis septentrionalis*) and Little Brown Myotis (*Myotis lucifugus*) may find suitable habitat within the study area.

Further, it has been previously noted that a non-retainable Butternut (*Juglans cinerea*) was located on the Site.

Please advise if there are additional features or species at risk that should be addressed as part of this investigation. If we can provide any additional information to assist with this information request please do not hesitate to contact me.

Kind regards,

Dan Reeves, M.Sc., ISA Certified Arborist
Ecologist, Environment

T+ 1 705-712-0181 *New
F+ 1 705-735-6450
M+ 1 705-716-1811

561 Bryne Drive, Units C&D
Barrie, ON
L4N 9Y3

wsp.com

APPENDIX

B TERMS OF REFERENCE

SCOPE OF WORK

ENVIRONMENTAL IMPACT STUDY

PRECONSULTATION

Upon client approval, pre-consultation with appropriate regulating agencies will be carried out to ensure that the scope of work is sufficient to meet expectations. Consultation with the Ministry of Natural Resources and Forestry (MNRF) and the Lake Simcoe and Region Conservation Authority (LSRCA) will take place immediately upon approval to reduce the likelihood that seasonal survey timing windows are not missed.

BIOLOGICAL INVENTORY / ASSESSMENT

Several site visits are proposed; surveys will focus on species-specific searches for identified species at risk with the potential to occur on the site, and accepted protocols for gathering natural heritage information. Specifically, the EIS will include:

- Ecological Land Classification (ELC) Mapping as per Lee et al. 1998. Ecological Land Classification for Southern Ontario: First Approximation and Its Applications. SCSS Field Guide FG-02;
- Breeding Bird Surveys (i.e. two point count visits), timed appropriately;
- Calling Amphibian Surveys (i.e. two visits including a survey for egg masses, if applicable);
- Vegetation Identification (i.e. three visits) to support a three-season vegetation survey;
- Evaluation of Significant Wildlife Habitat , record observations of all wildlife occurrences and assess general wildlife habitat function as well;
- A description of ~~the~~ any watercourses on the site (if present), including a description of aquatic habitat;
- Broad scale assessment of linkages and corridors; ~~and,~~
- Identification of potential impacts and development of potential mitigation measures; ~~.~~
- Screen for species at risk protected under the *Endangered Species Act* (2007) and assess existing or potential habitat (contact the local Ontario Ministry of Natural Resources and Forestry (MNRF) district office).

Formatted: Space Before: 0 pt, After: 6 pt, Line spacing: Multiple 1.1 li

Formatted: Font: (Default) Calibri, English (United States)

Surveys will also include incidental observations for rare or endangered plant and wildlife species or their habitat that are known to occur within the area.

DEFINING THE NATURAL HERITAGE SYSTEM

EXISTING CONDITIONS, SITE DESCRIPTION AND ASSESSMENT OF FUNCTION

A detailed description of the existing site conditions of the property will be included as per the study requirements; based upon the identified environmental issues, this description will describe the site in terms of both a planning context and natural heritage features. As relevant, this assessment may include details on Natural Heritage Features, Areas of Natural or Scientific Interest (ANSI), provincially significant wetlands, and significant woodlands. Based on background research and the site visit, the report will describe vegetation communities, water features and other physical characteristics of the property as appropriate. To describe the existing conditions, the following resources may be used in addition to accepted in-field protocols:

- Committee on the Status of Endangered Wildlife in Canada (COSEWIC) reports;
- Ecological Land Classification (ELC) information;
- Local Watershed reports, if available;
- Natural Heritage Information Centre (NHIC) database/mapping;

- Local Endangered Species Act mapping and reports;
- Ontario Rare Breeding Bird data;
- Relevant studies in the area;
- Species at Risk Public Registry (SARA); and
- Ministry of Natural Resources and Forestry (MNRF) mapping and reports of Species at Risk and rare species.

The Site Description will place the property within the context of the applicable legislative zoning and their restrictions, and assess the functions of the natural features determined to be present. The level of depth required for the preparation of biophysical inventories and feature assessments on-site will be determined through consultation discussions and a background review, and may include:

A description of relevant physical, hydrologic, and environmentally significant features, and an assessment of the linkages between them;

As relevant to the Site, an assessment of Natural Heritage Features (NHF) as defined in the Provincial Policy Statement (OMMAH, 2014), which include:

- Fish Habitat;
- Habitats of Endangered and Threatened Species;
- Significant Areas of Natural and Scientific Interest (ANSI);
- Significant Wetlands;
- Significant Coastal Wetlands;
- Other Coastal Wetlands in Ecoregions 5E, 6E and 7E;
- Significant Wildlife Habitat;
- Significant Woodlands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Mary's River); and,
- Significant Valleylands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Mary's River).

The EIS must demonstrate conformity with all applicable legislation and policies.

Formatted: List Bullet1, Space Before: 0 pt, After: 0 pt, No bullets or numbering

DEVELOPMENT OF THE NATURAL HERITAGE SYSTEM

DEVELOPMENT PROPOSAL

A detailed description of the property and the proposed undertaking will be included as per the study requirements, and based upon the identified environmental issues may include a site plan including proposed land use activities, location mapping and aerial photographs. The report will include a map of the property showing the boundaries of environmentally significant features, and the distances to the proposed development site.

EVALUATION OF ECOLOGICAL IMPACTS

An Assessment of Impacts is required for EIS studies and is based upon the findings of the earlier stages of the study. The assessment of impact stage includes:

- A detailed description of anticipated environmental impacts, direct or indirect, based on the proposed development. Focus will be on the natural features and ecological functions that are identified on or adjacent to the development footprint, or deemed significant; ~~and~~
- A determination of the degree or magnitude that threatened or endangered species, significant areas, or habitats that may be impacted by the proposed development;~~.~~
- A map of the proposed development and limit of disturbance on a current, high quality orthoimage; and

- A map the natural heritage features (KHNFs & KHFs), vegetation communities and other environmental features (watercourses, wetlands, areas of groundwater discharge, wildlife habitat etc.) on a current, high quality orthoimage.
-

DISCUSSION OF MITIGATING MEASURES

When it is determined that the proposed development has the potential to negatively impact an identified natural heritage feature, it is necessary to develop measures to mitigate the threat. Mitigative measures generally include:

- A review of the proposed site plan and recommendations for measures to mitigate impacts during construction and completed development phases;
- Descriptions of measures that may be utilized to avoid or minimize identified impacts on predefined natural features, functions, or surface waters;
- Measures that should be used to reduce the impacts on natural features in the event negative impacts cannot be avoided (including appropriate restoration and/or offsetting strategies);
- A direct assessment of the use of set-backs to mitigate potential impacts to natural features, including fish habitat and wetlands, if relevant; and
- Monitoring programs, where deemed necessary.

Formatted: Font: (Default) Arial, 10 pt, English (Canada)

Formatted: Font: (Default) Arial, 10 pt

Formatted: Normal, Indent: Left: 0.25", No bullets or numbering

APPENDIX

C SPECIES LISTS

APPENDIX B: SPECIES LISTS

Table 1 – Bird Observations

SCIENTIFIC NAME	COMMON NAME	GRANK[1]	SRANK[1]	COSEWIC[2]	SARO[3]	BREEDING[4]
Ardea herodias	Great Blue Heron	G5	S5	-	-	NONE
Cardinalis cardinalis	Northern Cardinal	G5	S5	-	-	PROB
Carduelis tristis	American Goldfinch	G5	S5B	-	-	POSS
Colaptes auratus	Northern Flicker	G5	S4B	-	-	POSS
Contopus virens	Eastern Wood-Pewee	G5	S4B	SC	SC	PROB
Corvus brachyrhynchos	American Crow	G5	S5B	-	-	POSS
Cyanocitta cristata	Blue Jay	G5	S5	-	-	POSS
Larus delawarensis	Ring-billed Gull	G5	S5B, S4N	-	-	NONE
Melanerpes carolinus	Red-bellied Woodpecker	G5	S4	-	-	POSS
Melospiza melodia	Song Sparrow	G5	S5B	-	-	POSS
Molothrus ater	Brown-headed Cowbird	G5	S4B	-	-	PROB
Myiarchus crinitus	Great Crested Flycatcher	G5	S4B	-	-	PROB
Pheucticus ludovicianus	Rose-breasted Grosbeak	G5	S4B	-	-	POSS
Picoides pubescens	Downy Woodpecker	G5	S5	-	-	POSS
Poecile atricapillus	Black-capped Chickadee	G5	S5	-	-	CONF
Quiscalus quiscula	Common Grackle	G5	S5B	-	-	CONF
Sayornis phoebe	Eastern Phoebe	G5	S5B	-	-	POSS
Sitta carolinensis	White-breasted Nuthatch	G5	S5	-	-	POSS
Spizella passerina	Chipping Sparrow	G5	S5B	-	-	PROB
Sturnus vulgaris	European Starling	G5	SNA	-	-	POSS
Troglodytes aedon	House Wren	G5	S5B	-	-	PROB
Turdus migratorius	American Robin	G5	S5B	-	-	PROB
Vireo gilvus	Warbling Vireo	G5	S5B	-	-	POSS
Vireo olivaceus	Red-eyed Vireo	G5	S5B	-	-	PROB
Zenaida macroura	Mourning Dove	G5	S5	-	-	POSS

[1] Nature Conservancy conservation concern rankings (NHIC, 2010): G - Global Level, S - Sub-national Rank (Ontario), B - Breeding, N – Non-breeding, 1 - Critically Imperiled, 2 - Imperiled, 3 - Vulnerable, 4 - Apparently Secure, 5 - Secure.
Protection status: [2]COSEWIC - Committee on the Status of Endangered Wildlife in Canada; [3]SARO - Species at Risk in Ontario; END – Endangered, THR – Threatened, SC – Special concern, "-" – Not listed. [4]Ontario Breeding Bird Atlas breeding evidence (Bird Studies Canada, 2006): CONF – Confirmed, PROB – Probable, POSS - Possible

Table 2 – Incidential Wildlife Observations

FAMILY	SCIENTIFIC NAME	COMMON NAME	GRANK[1]	SRANK[1]	COSEWIC[2]	SARO[3]
Mammals						
Sciuridae	*Sciurus carolinensis*	Eastern Gray Squirrel	G5	S5	-	-

Sciuridae	*Tamias striatus*	Eastern Chipmunk	G5	S5	-	-
Reptiles and Amphibians						
Hylidae	*Pseudacris crucifer*	Spring Peeper	G5	S5	-	-

[1] Nature Conservancy conservation concern rankings (NHIC, 2010): G - Global Level, S - Sub-national Rank (Ontario), B - Breeding, N – Non-breeding, 1 - Critically Imperiled, 2 - Imperiled, 3 - Vulnerable, 4 - Apparently Secure, 5 - Secure.
Protection status: [2]COSEWIC - Committee on the Status of Endangered Wildlife in Canada; [3]SARO - Species at Risk in Ontario; END – Endangered, THR – Threatened, SC – Special concern, "-" – Not listed.

Table 3 - Plant Observations

FAMILY	SCIENTIFIC NAME	COMMON NAME	CC[1]	CW[2]	GRANK	SRANK
Aceraceae	*Acer rubrum*	Red Maple	4	0	G5	S5
Aceraceae	*Acer saccharum*	Sugar Maple	4	3	G5	S5
Ranunculaceae	*Actaea pachypoda*	White Baneberry	6	5	G5	S5
Alismataceae	*Alisma plantago-aquatica*	Common Water-plantain	3	-5	G5	S4?
Brassicaceae	*Alliaria petiolata*	Garlic Mustard	0	0	G?	SE5
Ranunculaceae	*Anemone canadensis*	Canada Anemone	3	-3	G5	S5
Ranunculaceae	*Anemone cylindrica*	Long-headed Anemone	7	5	G5	S4
Asteraceae	*Arctium minus*	Common Burdock	0	5	G?	SE5
Araceae	*Arisaema triphyllum*	Jack-in-the-pulpit	5	-2	G5	S5
Aristolochiaceae	*Asarum canadense*	Wild Ginger	6	5	G5	S5
Asteraceae	*Aster cordifolius*	Heart-leaved Aster	5	5	G5	S5
Asteraceae	*Aster lanceolatus*	Panicled Aster	3	-3	G5	S5
Asteraceae	*Aster lateriflorus*	One-sided Aster	3	-2	G5	S5
Asteraceae	*Aster novae-angliae*	New England Aster	2	-3	G5	S5
Asteraceae	*Aster puniceus* var. *puniceus*	Purple-stem Aster	6	-5	G5	S5
Asteraceae	*Aster* sp.	Aster species				
Berberidaceae	*Berberis thunbergii*	Japanese Barberry	0	4	G?	SE5
Betulaceae	*Betula alleghaniensis*	Yellow Birch	6	0	G5	S5
Betulaceae	*Betula papyrifera*	White Birch	2	2	G5	S5
Asteraceae	*Bidens frondosa*	Devil's Beggar-ticks	3	-3	G5	S5
Poaceae	*Bromus inermis*	Smooth Brome	0	5	G4G5	SE5
Cyperaceae	*Carex blanda*	Common Wood Sedge	3	0	G5?	S5
Cyperaceae	*Carex gracillima*	Graceful Sedge	4	3	G5	S5
Cyperaceae	*Carex hystericina*	Porcupine Sedge	5	-5	G5	S5
Cyperaceae	*Carex intumescens*	Bladder Sedge	6	-4	G5	S5
Cyperaceae	*Carex pedunculata*	Long-stalked Sedge	5	5	G5	S5

FAMILY	SCIENTIFIC NAME	COMMON NAME	CC[1]	CW[2]	GRANK	SRANK
Cyperaceae	*Carex rosea*	Stellate Sedge	5	5	G5	S5
Cyperaceae	*Carex* sp.	Sedge species				
Berberidaceae	*Caulophyllum* sp.	Cohosh species				
Asteraceae	*Chrysanthemum leucanthemum*	Ox-eye Daisy	0	5	G?	SE5
Asteraceae	*Cichorium intybus*	Chicory	0	5	G?	SE5
Onagraceae	*Circaea lutetiana*	Canada Enchanter's Nightshade	3	3	G5	S5
Asteraceae	*Cirsium arvense*	Canada Thistle	0	3	G?	SE5
Liliaceae	*Convallaria majalis*	Lily-of-the-valley	0	5	G5	SE5
Convolvulaceae	*Convolvulus arvensis*	Field Bindweed	0	5	G?	SE5
Cornaceae	*Cornus alternifolia*	Alternate-leaved Dogwood	6	5	G5	S5
Apiaceae	*Daucus carota*	Wild Carrot	0	5	G?	SE5
Dryopteridaceae	*Dryopteris carthusiana*	Spinulose Wood Fern	5	-2	G5	S5
Dryopteridaceae	*Dryopteris marginalis*	Marginal Wood Fern	5	3	G5	S5
Equisetaceae	*Equisetum arvense*	Field Horsetail	0	0	G5	S5
Asteraceae	*Erigeron* sp.	Fleabane species				
Fagaceae	*Fagus grandifolia*	American Beech	6	3	G5	S4
Oleaceae	*Fraxinus americana*	White Ash	4	3	G5	S5
Oleaceae	*Fraxinus nigra*	Black Ash	7	-4	G5	S5
Oleaceae	*Fraxinus pennsylvanica* var. *lanceolata*	Green Ash	3	-3	G5	S5
Rubiaceae	*Galium palustre*	Marsh Bedstraw	5	-5	G5	S5
Geraniaceae	*Geranium robertianum*	Herb Robert	0	5	G5	SE5
Poaceae	*Glyceria striata*	Fowl Glyceria	3	-5	G5	S4S5
Xanthorrhoeaceae	*Hemerocallis fulva*	Tawny Day-lily	0	5	G?	SE5
Boraginaceae	*Hydrophyllum virginianum*	Virginia Water-leaf	6	-2	G5	S5
Hypericoideae	*Hypericum perforatum*	Common St. John's-wort	0	5	G?	SE5
Balsaminaceae	*Impatiens capensis*	Spotted Jewel-weed	4	-3	G5	S5
Juglandaceae	*Juglans cinerea*	Butternut	6	2	G4	S3?
Juglandaceae	*Juglans nigra*	Black Walnut	5	3	G5	S4
Asteraceae	*Lactusa canadensis*	Tall Lettuce	3	2	G5	S5
Poaceae	*Leersia oryzoides*	Rice Cut Grass	3	-5	G5	S5
Lythraceae	*Lythrum salicaria*	Purple Loosestrife	0	-5	G5	SE5
Asparagaceae	*Maianthemum canadense*	Canada Mayflower	5	0	G5	S5
Asparagaceae	*Maianthemum racemosum*	False Solomon's Seal	4	3	G5	S5

FAMILY	SCIENTIFIC NAME	COMMON NAME	CC[1]	CW[2]	GRANK	SRANK
Lamiaceae	*Matteuccia struthiopteris*	Ostrich Fern	5	-3	G5	S5
Fabaceae	*Melilotus alba*	White Sweet-clover	0	3	G5	SE5
Lamiaceae	*Mentha arvensis* ssp. *borealis*	Wild Mint	3	-3	G5	S5
Lamiaceae	*Monarda fistulosa*	Wild Bergamot	6	3	G5	S5
Onagraceae	*Oenothera* sp.	Evening-primrose species				
Lamiaceae	*Onoclea sensibilis*	Sensitive Fern	4	-3	G5	S5
Betulaceae	*Ostrya virginiana*	Ironwood	4	4	G5	S5
Oxalidaceae	*Oxalis stricta*	Upright Yellow Wood-sorrel	0	3	G5	S5
Plantaginaceae	*Penstemon digitalis*	Foxglove Beard-tongue	6	1	G5	S4S5
Poaceae	*Phalaris arundinacea*	Reed Canary Grass	0	-4	G5	S5
Plantaginaceae	*Plantago lanceolata*	Ribgrass	0	0	G5	SE5
Plantaginaceae	*Plantago major*	Common Plantain	0	-1	G5	SE5
Poaceae	*Poa pratensis* ssp. *pratensis*	Kentucky Blue Grass	0	1	G?	S5
Asteraceae	*Prenanthes alba*	White Lettuce	6	3	G5	S5
Rosaceae	*Prunus virginiana*	Choke Cherry	2	1	G5	S5
Fagaceae	*Quercus rubra*	Red Oak	6	3	G5	S5
Ranunculaceae	*Ranunculus acris*	Tall Buttercup	0	-2	G5	SE5
Rhamnaceae	*Rhamnus cathartica*	Common Buckthorn	0	3	G?	SE5
Anacardiaceae	*Rhus typhina*	Staghorn Sumac	1	5	G5	S5
Grossulariaceae	*Ribes triste*	Swamp Red Currant	6	-5	G5	S5
Rosaceae	*Rubus idaeus*	Wild Red Raspberry	0	5	G5	SE1
Rosaceae	*Rubus occidentalis*	Black Raspberry	2	5	G5	S5
Polygonaceae	*Rumex obtusifolius* ssp. *obtusifolius*	Bitter Dock	0	-3	G?	SE5
Adoxaceae	*Sambucus racemosa*	Red-berried Elderberry	5	2	G5	S5
Cyperaceae	*Scirpus atrovirens*	Black Bulrush	3	-5	G5?	S5
Cyperaceae	*Scirpus validus*	Softstem Bulrush	5	-5	G?	S5
Solanaceae	*Solanum dulcamara*	Bittersweet Nightshade	0	0	G?	SE5
Asteraceae	*Solidago canadensis*	Canada Goldenrod	1	3	G5	S5
Asteraceae	*Solidago gigantea*	Giant Goldenrod	4	-3	G5	S5
Asteraceae	*Sonchus arvensis*	Field Sow-thistle	0	1	G?	SE5
Liliaceae	*Streptopus roseus*	Rose Twisted Stalk	7	0	G5	S5
Asteraceae	*Taraxacum officinale*	Common Dandelion	0	3	G5	SE5
Typhaceae	*Taxus canadensis*	Canada Yew	7	3	G5	S4

FAMILY	SCIENTIFIC NAME	COMMON NAME	CC[1]	CW[2]	GRANK	SRANK
Ranunculaceae	*Thalictrum dioicum*	Early Meadow-rue	5	2	G5	S5
Cupressaceae	*Thuja occidentalis*	Eastern White Cedar	4	-3	G5	S5
Tiliaceae	*Tilia americana*	Basswood	4	3	G5	S5
Anacardiaceae	*Toxicodendron radicans*	Poison-ivy	5	-1	G5	S5
Melanthiaceae	*Trillium grandiflorum*	White Trillium	5	5	G5	S5
Pinaceae	*Tsuga canadensis*	Eastern Hemlock	7	3	G5	S5
Asteraceae	*Tussilago farfara*	Coltsfoot	0	3	G?	SE5
Typhaceae	*Typha* sp.	Cattail species				
Ulmaceae	*Ulmus americana*	American Elm	3	-2	G5?	S5
Urticaceae	*Urtica dioica*	Stinging Nettle	0	-1	G5T?	SE2
Caprifoliaceae	*Viburnum lantanoides*	Hobble Bush	8	0	G5	S5
Apocynaceae	*Vincetoxicum rossicum*	Dog-Strangling Vine	0	5	G?	SE5
Vitaceae	*Vitis riparia*	Riverbank Grape	0	-2	G5	S5

[1] CC - Coefficient of Conservatism: From 0 – 10, "10" being most conservative, or only found only in relatively undisturbed habitats. [2] CW - Coefficient of Wetness: From -5 – 5, "-5" being obligate wetland species, "5" being obligate upland species. [3] Nature Conservancy conservation concern rankings (NHIC, 2010): G - Global Level, S - Sub-national Rank (Ontario), E – Exotic, 1 - Critically Imperiled, 2 - Imperiled, 3 - Vulnerable, 4 - Apparently Secure, 5 - Secure.

APPENDIX C

Agency review comments response table

From: Species at Risk (MECP) <SAROntario@ontario.ca>
Sent: December 19, 2023 5:03 PM
To: Dil, Matt
Subject: Automatic reply: 211 Dock Road, Barrie - Species at Risk Screening

(le français suit) --

Thank you for your submission to the Species at Risk Branch, Ministry of the Environment, Conservation and Parks (MECP). Your email is being reviewed by our staff to determine next steps for your inquiry or submission. We strive to follow up with a response to your inquiry within 15 business days.

If you have determined that there are species at risk and/or their habitat on or around your activity location and your work is going to contravene the *Endangered Species Act, 2007* (ESA), (e.g., kill, harm, harass a species at risk or damage or destroy its habitat), you may require a permit or other type of authorization. Please visit Register or Get a Permit (link) for more information.

Blanding's Turtle (Ontario Shield Ecozone population), Butternut, Bobolink, Eastern Meadowlark, and Eastern Whip-poor-will are designated conservation fund species eligible for Ontario's Species at Risk Conservation Fund (the Fund). The Fund is administered by the Species Conservation Action Agency (the Agency), whose purpose is to protect and recover select species at risk and their habitats through investments from the fund.

To provide shortened timelines, increased predictability, and reduced downstream implementation burden, proponents can choose to pay a species conservation charge into the Fund. Proponents who choose this approach will also complete actions to avoid and minimize impacts on species at risk and their habitats. For more information about the Fund option, visit Species at Risk Conservation Fund | ontario.ca. **You can also contact** speciesconservationagency@ontario.ca.

For more information on protecting and recovering species at risk, please visit https://www.ontario.ca/page/species-risk.

Other helpful links:

Policies and Best Management Practices, visit https://www.ontario.ca/page/species-risk-guides-and-resources

Butternut trees on your property, visit https://www.ontario.ca/page/butternut-trees-your-property

Nous vous remercions d'avoir adressé votre demande à la Direction des espèces en péril du ministère de l'Environnement, de la Protection de la nature et des Parcs. Votre courriel est en cours d'examen par notre personnel afin de déterminer les prochaines étapes de votre demande ou de votre soumission. Nous nous efforçons de répondre à votre demande dans un délai de 15 jours ouvrables.

Si vous avez établi que des espèces ou leur habitat sont en péril sur ou autour de votre lieu d'activité et que vos travaux vont contrevenir à la *Loi de 2007 sur les espèces en voie de disparition* (p. ex. tuer, blesser, harceler une espèce en péril ou endommager ou détruire son habitat), il se peut que vous ayez besoin d'un permis ou d'un autre type d'autorisation. Veuillez visiter le site Comment obtenir un permis ou une autorisation (lien) pour de plus amples renseignements.

La tortue mouchetée (population de l'écozone du Bouclier ontarien), le noyer cendré, le goglu des prés, la sturnelle des prés et l'engoulevent bois-pourri sont des espèces désignées admissibles au Fonds pour la conservation des espèces en péril de l'Ontario (le Fonds). Le Fonds est administré par l'Agence pour l'action en matière de conservation des espèces (l'Agence), dont l'objectif est de protéger et de rétablir certaines espèces en péril et leurs habitats grâce à des investissements provenant du Fonds.

Afin de raccourcir les délais, d'accroître la prévisibilité et de réduire le fardeau de mise en œuvre en aval, les promoteurs peuvent choisir de verser au Fonds une redevance pour la conservation des espèces. Les promoteurs qui choisissent cette approche prendront également des mesures pour éviter et réduire au minimum les répercussions sur les espèces en péril et leurs habitats. Pour de plus amples renseignements sur l'option du Fonds, visitez le site Fonds pour la conservation des espèces en péril | ontario.ca. **Vous pouvez également envoyer un courriel à l'adresse** speciesconservationagency@ontario.ca.

Pour de plus amples renseignements sur la protection et le rétablissement des espèces en péril, veuillez consulter le site suivant https://www.ontario.ca/fr/page/especes-en-peril.

Autres liens utiles :

Pour les politiques et pratiques exemplaires de gestion, consultez le site https://www.ontario.ca/fr/page/la-boite-outils-de-reference-pour-les-especes-en-peril.

Pour les noyers cendrés sur votre propriété, visitez https://www.ontario.ca/fr/page/les-noyers-cendres-sur-votre-propriete.

From: Dil, Matt
Sent: December 19, 2023 5:02 PM
To: Species at Risk (MECP)
Cc: Stettler, Alex
Subject: 211 Dock Road, Barrie - Species at Risk Screening
Attachments: CA0013279.4699_M_Rev0_211 Dock Road_SAR Screening Memo_19Dec2023.pdf

Hello,

WSP Canada Inc. (WSP) was retained by 1000067364 Ontario Inc. to complete an Environmental Impact Study (EIS) update and assessment of potential SAR habitat for proposed development at 211 Dock Road, Barrie. The attached Technical Memorandum summarizes the field survey approach, findings, assessment of potential impacts and recommended mitigation, as well as conclusions regarding Endangered Species Act (ESA) compliance for review and comment by the Ministry of Environment, Conservation and Parks (MECP).

Your prompt response is appreciated. Thank you,

Matt Dil
Senior Ecologist

T+ 1 519-904-1777

211 Dock Road, City of Barrie
Comment Response Matrix

Date: November 2024 **IPS File No. 23-1282**

#	Circulation Comment	Responsible Consultant	Applicant Comment/Response
City of Barrie – Draft Plan of Subdivision Planning Comments ***Celeste Kitsemetry, Senior Planner*** ***(February 28, 2024)***			
Comments			
1	The wetlands and forested areas should be identified as Environmental Protection areas and dedicated to the City as a natural heritage feature. The triangular portion of Lot 3 that contains both wetland and forested area should be included as part of the dedication. As a result, Lot 3 will need to be reconfigured to be consistent with Lots 1, 2, 4, and 5. It is to be confirmed that there are no wetland features within proposed Lots 1, 2, 4, and 5, as well as in reconfigured Lot 3. Should any wetland features be within the proposed lots, the wetland features are to be dedicated to the City.	*WSP*	Please refer to Parks Planning - Ecology Review comment responses below, and Sections 2.1 and 3.1 of the EIS Amendment Memo (WSP 2024). The wetland feature contained within “Block A” will be dedicated to the City; however, the wetland features within Lots 3-5 will not be conveyed to the City and impacts to this portion of the wetland will be addressed in accordance with LSRCA Ecological Offsetting Policy, if applicable.
2	Development and Registration of this plan will not be considered until all infrastructure necessary to support the development of this plan is designed/approved and/or constructed in accordance with the City’s Master Plans and functioning to municipal standards. Specifically, municipal sanitary sewer servicing will need to be provided along the Dock Road frontage of the proposed development at the Owner’s expense and to the satisfaction of the Development Services Department.	*Pearson*	
3	It is recommended that a discussion be held between the LSRCA, D. Featherstone of Parks Planning, and the applicant regarding the natural heritage and environmental protection areas on the subject lands.	*WSP*	WSP met with the D. Featherstone and Parks Planning staff on March 22, 2024 to review the agency comments and environmental protection areas. Consultation with LSRCA regarding the wetland offsetting policy is ongoing.
4	The water demand/supply calculations and information submitted as part of the Functional Servicing Report will need to be revised as they appear to be for a previous townhouse development concept and the hydrant flow test results are too old to be reliable as representing current conditions.	*Pearson*	
1	***Applications Required***		
1.1	Plan of Subdivision: Subject application (D30-036-2023)		
2	***Official Plan Conformity***		
2.1	The applicant has provided a Planning Justification Report in support of the proposed plan of subdivision. The development is to proceed by way of Plan of Subdivision as proposed by the application, to ensure the proposal is appropriately connected to municipal servicing as an extension is required along Dock Road. The submitted Planning Justification Report confirms the nature of the application and its conformity with Official Plan policies, including the conformity of the proposal with the following sections: 2.3.7 **–** Neighbourhoods 2.4 **–** Growth Management	*WSP*	Acknowledged. Please refer to Parks Planning - Ecology Review comment responses below.

#	Circulation Comment	Responsible Consultant	Applicant Comment/Response
	2.6.1 **–** Neighbourhood Area 5.5.2 **–** Lake Simcoe Protection Plan 9.5.3 **–** Plans of Subdivision Policy 5.4.2 **–** Environmental Protection Overlays are still being considered as part of the review of the EIS. Please see the comments from D. Featherstone dated January 26, 2024.		
3	***Development Limits – Natural Heritage System***		
3.1	*Tree Removal & Ecological Offsetting* A Tree Removal Permit and associated Ecological Offsetting compensation will be required as **per the City's Ecological** Offsetting Policy. Please refer to additional Parks Planning comments by D. Featherstone attached regarding environment/natural heritage related documentation and/or detailed ecological offsetting compensation requirements	*WSP*	Acknowledged. Please refer to Parks Planning - Ecology Review comment responses below.
3.2a	*Tree Inventory, Assessment & Preservation Plan* **Update Required** - The provided Arborist Package must reflect the proposed development and existing site conditions. Parks Planning staff have noted that the lot lines shown in this package differs from the submitted Draft Plan of Subdivision and that the site now has a building structure and trees have been removed through the Building Permitting process. Please note that the drawing set is to reference the subject City file number (D30-036-2023).	*Landmark*	
3.2b	**Tree Removal Permit** - The vegetation present on and surrounding the subject site is identified as part of a woodlot (contiguous tree canopy cover), equal to or greater than 0.20 hectares/0.5 acres. A tree removal permit shall be required as part of this application.	*Landmark*	
3.3	*Proposed Lot Fabric and Recommended EP Land Dedication* Parks Planning staff do not support the proposed lot fabric, as shown on the Draft Plan of Subdivision, prepared by Innovative Planning Solutions, dated August 23, 2023. It is proposed that rear lot boundary of Lot 3 terminate in alignment with rear of Lots 2 and 4. Parks Planning Staff does not support development of the northern portion of the property (the balance of Lot 3), as to ensure the protection of the woodlot and its ecological function (Please refer to additional Parks Planning comments attached). It is recommended that the proposed balance of Lot 3 be conveyed to the City as EP lands. All dedications are to be at no cost to the City.	*WSP*	Please refer to Parks Planning - Ecology Review comment responses below, and Sections 2.1 and 3.1 of the EIS Amendment Memo (WSP 2024).
3.4	*Proposed EP Land Fencing Requirements* Should lands be conveyed to the City as EP lands, the Owner shall be required to install fencing along the City's EP/Park properties (as shown in the diagram above), to the satisfaction of Parks Planning staff. Fencing is to be provided as per P1210, installed in its entirety on City-property, and at no cost to the City. (See comments from K. Lilienthal and D. Featherstone of Parks Planning dated February 1, 2024)	*WSP*	As noted in Section 5.0 of the EIS Amendment Memo (WSP 2024), please refer to the Tree Inventory, Analysis, Preservation Plan & Canopy Survey Addendum (LEGroup May 2024) for updated details regarding Site fencing.
4	***LSRCA Review***		
4.1	The subject lands are not located within the vicinity of any natural hazards and therefore the proposal is consistent with Section 3.1 of the Provincial Policy Statement. LSRCA has reviewed the application as per our responsibilities as a regulatory authority under Ontario Regulation 179/06. This regulation, made under Section 28 of the Conservation Authorities Act, enables conservation authorities to regulate development in or adjacent to river or stream valleys, Great Lakes and inland lake shorelines, watercourses, hazardous lands and wetlands. Development taking place on these lands may require permission from the conservation authority to confirm that the control of flooding, erosion, dynamic beaches, pollution or the conservation of land are not affected. LSRCA also regulates the alteration to or interference in any way with a watercourse or wetland.	*IPS*	

#	Circulation Comment	Responsible Consultant	Applicant Comment/Response
4.2	The subject lands do not appear to be regulated under existing environmental mapping however the wetland feature on site may meet the text of the regulation which would be subject to a permit from LSRCA. It is noted that a permit for a single family dwelling was obtained from LSRCA in 2023. In the text of the regulation, a wetland is defined as land that, a. is seasonally or permanently covered by shallow water or has a water table close to or at its surface, b. directly contributes to the hydrological function of a watershed through connection with a surface watercourse, c. has hydric soils, the formation of which have been caused by the presence of abundant water, and d. has vegetation dominated by hydrophytic plants or water tolerant plants, the dominance of which have been favoured by the presence of abundant water. ("terre marécageuse") Based on the submitted environmental study completed by WSP, it is clear that the unevaluated wetland described as a treed swamp on the subject lands meets criteria for a), c), and d) of the regulation text however it is not clear that the wetland meets the b) criteria. If it can be demonstrated that the wetland feature is not connected with a surface watercourse than the feature is not regulated and no permit from LSRCA will be required for any works on the subject lands.	*WSP*	Please refer to Section 2.2 of the EIS Amendment Memo. The wetland is not connected to a surface watercourse; therefore, it is anticipated that an LSRCA permit will not be required to address wetland impacts. Further comments related to ecological offsetting for the wetland impacts are provided below under Parks Planning.
4.3	The LSRCA is currently reviewing the technical documents. Once satisfied, the LSRCA will release recommended conditions of Draft Plan approval. See comments from S. Filson of the LSRCA dated February 21, 2024.	*IPS*	
5	***Ecology Review***		
5.1	*EIS Review* The vegetation survey and community mapping work is reasonably accurate though it is noted that the November 2021 wetland boundary assessment was conducted outside standard windows for such work (this is noted in the EIS). There is a wetland mapped in the west-central portion of the property. The 2021 wetland boundary mapping is similar to the 2018 mapping effort. Although LSRCA was involved in review of past EIS efforts circa 2018, they have yet to include the property wetland within their regulated area. The unevaluated wetland is close to 0.5 ha in size. If 0.5 ha or greater, it would meet Official Plan (OP) criterion for an EPA Level 1 feature with associated policy protection.	*WSP*	Acknowledged. As noted in Section 2.1 of the EIS Amendment Memo (WSP 2024), the wetland delineation was verified with agencies during the site meeting on June 14, 2024.
5.2	The EIS notes that "SAR (Species at Risk) bat (END; Endangered) treed roosting habitat may be present in the Site and further consultation with MECP is recommended." This consultation should be undertaken by the consultant as per their recommendation.	*WSP*	Please refer to Section 3.3 of the EIS Amendment Memo (WSP 2024). Potential impacts to SAR bats have been addressed through assessment of habitat, mitigation measures and agency consultation.
5.3	Black Ash (Endangered) are documented on the property in numbers sufficient to describe a black ash swamp (SWD5-1) component within the wetland. The 2018 EIS identifies this as the largest community within the broader wetland.	*WSP*	Please refer to Section 3.3 of the EIS Amendment Memo (WSP 2024). Potential impacts to Black Ash have been addressed through assessment of habitat in relation to applicable ESA regulations.
5.4	Significant Woodlands : The EIS assessment conveys that this is not a significant woodland. Based on a review of the EIS and the Natural Heritage Reference Manual, it is disagreed that this is not a significant woodland.	*WSP*	Please refer to Parks Planning - Ecology Review comment responses below, and Section 4.0 of the EIS Amendment Memo (WSP 2024).

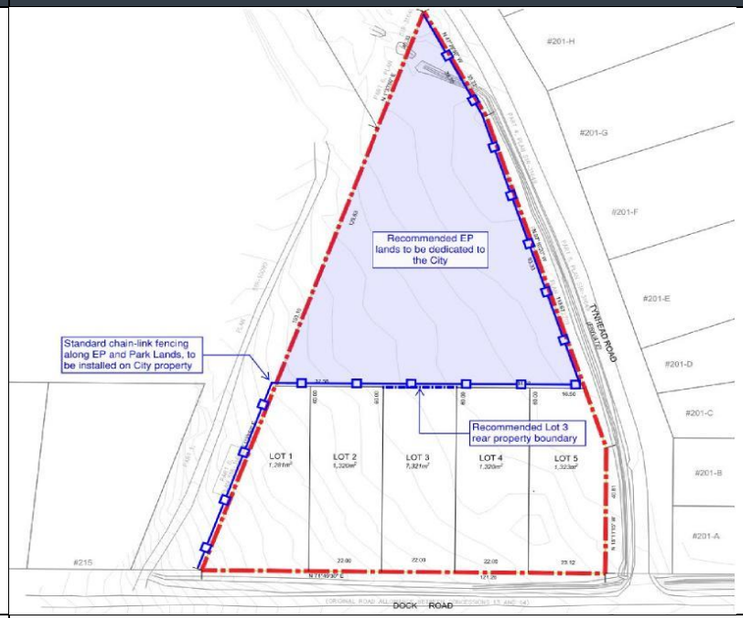
#	Circulation Comment	Responsible Consultant	Applicant Comment/Response
5.5	*Summary* It is recommended that the forest is viewed as a Significant Woodland/EPA Level 1 feature. The wetland forest may also be an EPA Level 1 feature in of itself. In-season field verification of the wetland boundary is required with City/LSRCA in attendance to confirm boundary to assist with EPA Level and mitigation requirement assessment.	*WSP*	Please refer to Parks Planning - Ecology Review comment responses below. As noted in Section 2.1 of the EIS Amendment Memo (WSP 2024), the wetland delineation was verified with agencies during the site meeting on June 14, 2024. Based on the recent wetland delineation, it is less than 0.5 ha and, therefore, does not meet the criteria for EPA Level 1 and remains EPA Level 2.
5.6	Although support may eventually be provided to the proposed development envelopes within Lots 2-5, additional work is required to support these envelopes from an ecological perspective including additional mitigation in the rear of all lots. Proposed Lot 3 is problematic in that it may keep the door open for more development in this area which may eventually degrade the EPA Level 1/2 woodland feature to Level 3 status and result in the removal of the entire wetland forest.	*WSP*	Please refer to Parks Planning - Ecology Review comment responses below, and Sections 3.1 and 6.4 of the EIS Amendment Memo (WSP 2024).
5.7	There is a significant opportunity here to retain forest cover north of the proposed development envelopes within public ownership to retain this Level 1/2 forest feature and its significant woodland functions in perpetuity and expand current Tyndale Park holdings for the benefit of Barrie residents.	*WSP*	Please refer to Parks Planning - Ecology Review comment responses below, and Section 3.1 of the EIS Amendment Memo (WSP 2024).
5.8	It is likely that the Arborist Package will require a full update to reflect the current proposal and updated/new City policies. See comments from D. Featherstone, Terrestrial Ecologist – Parks Planning dated January 26, 2024.	*WSP*	Please refer to the Tree Inventory, Analysis, Preservation Plan & Canopy Survey Addendum (LEGroup May 2024) for updated details
6	***Road Widening/Property Conveyances/Corridor Protection***		
6.1	In accordance with the Transportation Master Plan an ultimate right of way of 24 metres has been identified for Dock Road; to this regard a 2.0 metre protection is required along the entire frontage of Dock Road; no permanent structures shall be located within the protection zone. See comments from D. Chan of Transportation Planning dated January 26, 2024.	*IPS*	
7	***Environmental Risk Management and Compliance***		
8.1	The site is located within an Intake Protection Zone 2 under the South Georgian Bay Lake Simcoe Source Protection Plan. The City's Drinking Water Protection Policy also applies to the Site.	*Azimuth*	
8.2	The reviewed hydrogeological and geotechnical reports indicate that the upper aquifer is close to surface and may present flowing conditions, both of whichmay result in dewatering concerns. Some foundation options (i.e., full depth basements, underground parking) may not be feasible due to the shallow water table. Alternative design options (i.e., slab on grade construction, or full foundation waterproofing) are to be explored and implemented. See comments from Environmental Risk Management and Compliance dated February 6, 2024.	*Azimuth*	
9	***Water Operations***		
9.1	The proposed 25mm water service for each of the 5 lots is acceptable. See comments from A. Miller of Water Operations dated January 12, 2024.	*Pearson*	
10	***Waste Management***		
10.1	Single family municipal curbside collection services will be available for the proposed. See comments from R. Stephens of Waste Management dated February 2, 2024.	*IPS*	
11	***Comments/Response Matrix***		
11.1	The formal application submission shall be accompanied by a comment/response matrix which clearly identifies how each City/Agency comment has been addressed. Applications shall be submitted digitally through the City's APLI Portal.	*IPS*	

#	Circulation Comment			Responsible Consultant	Applicant Comment/Response
	City of Barrie - Plan of Subdivision Application Zoning Comments ***(February 6, 2024)***				
	General Comments				
	The below matrix has been created based on Lot 3 being consistent with Lots 1, 2, 4, and 5, as the wetlands and forested areas on the north portion of Lot 3 are to be dedicated to the City as a Natural Heritage feature.			*IPS*	
	Standards	**Required by By-law**	**Proposed**		
	Lot Area (min.) Table 5.3	900m^2	1,281 sq. m. **–** Lot 1 1,320 sq. m. **–** Lot 2 1,320 sq. m. **–** Lot 3 1,320 sq. m. **–** Lot 4 1,323 sq. m. **–** Lot 5	*IPS*	
	Lot Frontage (min.) Table 5.3	22m	32.14m **–** Lot 1 22m **–** Lot 2 22m **–** Lot 3 22m **–** Lot 4 23.12m **–** Lot 5	*IPS*	
	City of Barrie - Development Services Department ***Olga Sanchez, Planning Services Technical Coordinator*** ***(February 12, 2024)***				
	Addressing Comments				
1	Street numbers shall be assigned by the City of Barrie in accordance with the Street Addressing Policy as follows: • A street number will be assigned to each new lot. • Draft street numbers will be assigned by the city following approval of a final set of drawings in the Site Plan process. • Street numbers shall be officially assigned following the registration of the Site Plan Agreement			*IPS*	
2	The Applicant should contact Development Services – Planning to coordinate the completion of the Street Naming and Street Numbering at the times indicated above.			*IPS*	
	City of Barrie - Development Services Department ***Gary Matthie, Senior Development Services Technologist*** ***(February 5, 2024)***				
	Draft Plan Comments/Conditions				
1	Development and Registration of this plan will not be considered until all infrastructure necessary to support the development of this plan is designed/approved and/or constructed in accordance with the City's Master Plans and functioning to municipal standards. Specifically, municipal sanitary sewer servicing will need to be provided along the Dock Road frontage of the proposed development at the Owner's expense and to the satisfaction of the Development Services Department.			*Pearson*	

#	Circulation Comment	Responsible Consultant	Applicant Comment/Response
2	The water demand/supply calculations and information submitted as part of the Functional Servicing Report will need to be revised as they appear to be for a previous townhouse development concept and the hydrant flow test results are too old to be reliable as representing current conditions.	*Pearson*	
3	The owner will be responsible for obtaining the necessary approvals from any other applicable agencies with respect to its concerns e.g. Lake Simcoe Conservation Authority.	*IPS*	
4	The owner shall discharge any, and all, applicable City of Barrie Act or local improvement charges associated with the subject property.	*IPS*	
	Standard Conditions		
1	The Design, Approval and Development of the Subdivision shall follow the submission procedures/requirements and review process as outlined in the City of Barrie Development Manual.	*IPS*	
2	The owner shall be responsible for the provision of all works and services including the connection to existing municipal services in accordance with current City development standards and policies and to the satisfaction of the municipality.	*Pearson*	
3	The owner shall conform to all approved master engineering studies including environmental investigation, hydrogeological and hydrological studies, noise studies, traffic impact studies (all synchro analysis sheets to be included), etc., to determine the conditions under which development should be permitted and should be fully responsible for the provision of all works and services required to support the proposed land use in accordance with current City of Barrie Development Standards and Policies to the satisfaction of the Engineering Department.	*Pearson*	
4	The owner shall provide a functional servicing report, completed by an experienced civil engineer, to assess all servicing, transportation, and environmental concerns associated with the proposed development to the satisfaction of the Engineering Department.	*Pearson*	
5	The owner shall provide a noise study, completed by an experienced acoustical engineer, and shall undertake any measures required to satisfy the Ministry of the Environment, and the City.	*IPS*	
6	The owner shall be responsible for the development of appropriate storm, sanitary and water conveyance systems including outlet works and/or other related facilities, to the satisfaction of the Engineering Department. In that regard, the proposed servicing shall include for the provision of the servicing to all external areas. A special provision must be implemented when outletting storm drainage into any environmentally sensitive areas.	*Pearson*	
7	The owner will be responsible for complying with, and satisfying, all applicable policies and requirements of approval from the Ministry of the Environment and Climate Change, Ministry of Natural Resources, Lake Simcoe Region Conservation Authority, Nottawasaga Valley Conservation Authority and the City of Barrie, all in accordance with current City development standards and policies.	*Pearson*	
8	The owner will retain the services of a professional hydrogeological engineer who must be approved, in writing, by the City of Barrie's Director of Engineering. The owner must complete a hydrogeological study by the said professional hydrogeological engineer, to the satisfaction of the Engineering Department. Without limiting the generality of the foregoing, the study will include a survey of all water supply systems within 300 metres of the subject property, and/or the zone of influence, and report of the possible impact the development of the plan will have on the existing water supply systems. Should the Engineering Department apprehend or determine that the existing water supply systems will be altered or eliminated based on the study and any other available supporting data, the owner will be responsible for providing the interim and permanent restoration of the water supply systems, to the satisfaction of the City of Barrie. This report should be conclusive with provisions and recommendations on servicing within the noted recharge area.	*Azimuth*	
9	The owner acknowledges and agrees that the proposed development must be serviced from the municipal water distribution system.	*Pearson*	

#	Circulation Comment	Responsible Consultant	Applicant Comment/Response
10	The water distribution system for the subject land shall be of sufficient size to provide the maximum day usage plus maintain minimum fire flows, all to the satisfaction of the Engineering Department.	*Pearson*	
11	Should the Ministry of the Environment, Conservation and Parks, and/or the City of Barrie at any time conclude that the City of Barrie does not have sufficient water reserve capacity to adequately service the Hewitt's Secondary Plan, development shall not proceed until the capacity issue can be resolved to the satisfaction of the Ministry and/or the City of Barrie.	*Pearson*	
12	Before any site alteration within the subject property, the owner and/or his agents will apply for a Site Alteration Permit if necessary, as described within By-law 2014-100. Prior to the commencement of any works within the site, all requirements, obligations and control measures, as described within Bylaw 2014-100, will be in place and undertaken to the satisfaction of the City of Barrie and to the appropriate conservation authority in those areas which are under their jurisdictions. Further, it will be the owner's responsibility through its professional consultant, to maintain the said works for the duration of the subject development.	*Pearson*	
13	The owner shall provide the City of Barrie with the registered plan of subdivision and all other associated plans referred to in Horizontal Control Surveys UTM (Zone 17) NAD83. They are to be supplied in both hard copy and digital format.	*IPS*	
14	Please be advised that for any undeveloped lots which have an overall gradient of 15% or greater, the owner will be required to prepare special lot grading plans that will identify areas of significant grades and excessive potential tree loss but maintain an overall drainage scheme. In that regard, these plans shall be in accordance with the City of Barrie's Lot Grading Policies and Guidelines.	*Pearson*	
15	In order to mitigate the harmful effects of concentrated stormwater runoff into ravine areas, the owner shall employ various means and methods to decrease the anticipated flow. Such methods may include redirection of the stormwater roof leaders to road, soak away pits, and rear yard infiltration galleries.	*Pearson*	
16	As a requirement of development, the owner will be responsible for entering a Subdivider's Agreement with the City of Barrie.	*IPS*	
City of Barrie - Development Services, Parks Planning ***Karen Lilienthal, Landscape Architectural Planner*** ***(February 1, 2024)***			
	Parks Planning Comments		
1.1	**Tree Removal Permit and Ecological Offsetting Compensation** Staff have noted that the Owner is proposing harm and/or destruction of trees to facilitate the proposed development. A Tree Removal Permit and associated Ecological Offsetting compensation will be required as per the City's Ecological Offsetting Policy	*WSP*	Please refer to the Tree Inventory, Analysis, Preservation Plan & Canopy Survey Addendum (LEGroup May 2024) for updated details
1.2	The Owner shall provide documents, such as an Environmental Impact Study (EIS), Natural Heritage Evaluation (NHE) and/or a Tree Preservation Plan (TPP) for Parks Planning review. **Please refer to additional Parks Planning comments attached regarding environment/natural heritage related documentation and/or detailed ecological offsetting compensation requirements.**	*WSP & Landmark*	Acknowledged
1.3	Ecological Offsetting compensation fees are applicable at the time of Tree Removal Permit or posting of securities/Letter of Credit, whichever occurs first. Approvals of environment/natural heritage documentation and/or Tree Preservation Plans will occur through the development application process.	*WSP*	Please refer to the Tree Inventory, Analysis, Preservation Plan & Canopy Survey Addendum (LEGroup May 2024) for updated details.
1.4	Should trees, subject to ecological offsetting, be removed in advance of providing ecological offsetting compensation, increased fees shall apply as per the Fees By-law.	*WSP*	Acknowledged

#	Circulation Comment	Responsible Consultant	Applicant Comment/Response
2	**Tree Inventory, Assessment and Preservation Plan** Staff have reviewed the Arborist Package (including Tree Inventory and Preservation Plan) prepared by Landmark Environmental Group Ltd., dated November 22, 2021. Please see comments below:	*Landmark*	
2a	Update Required The provided Arborist Package must reflect the proposed development and existing site conditions. Parks Planning staff have noted that the lot lines shown in this package differs from the submitted Draft Plan of Subdivision and that the site now has a building structure and trees have been removed through the Building Permitting process. Please note that the drawing set is to reference the subject City file number (D30-036-2023).	*Landmark*	
2b	Updated City of Barrie Standard Details The former "BSD" documents are no longer in circulation. Please verify that the City's most recent Standard Details are being referenced. Details can be downloaded from the City's website at: https://www.barrie.ca/planning-building-infrastructure/infrastructure-standards	*Landmark*	
2c	Tree Removal Permit The vegetation present on and surrounding the subject site is identified as part of a woodlot (contiguous tree canopy cover), equal to or greater than 0.20 hectares/0.5 acres. A tree removal permit shall be required as part of this application.	*Landmark*	
2d	Confirmation of Proposed Removals Parks Planning Staff requires confirmation regarding all proposed tree removals on-site, including trees on private property, as they will be subject the City's Ecological Offsetting Policy. Please provide area quantities for proposed tree removals on private property. Confirmation is required regarding trees that are located between the proposed tree preservation fencing and 5m developable limit delineated on the plans.	*Landmark*	
2e	Municipal Boundary Trees **Please see attached comments by the City's Forestry Department.**	*Landmark*	
2f	Municipal Street Tree Planting The Owner is to provide a cash contribution to the Municipal Street Tree Planting Program through Development Services - Parks Planning of $400 per additional lot created. As per the provided Draft Plan of Subdivision, it is anticipated that a total of four (4) additional lots shall be created, and the Owner to provide a total of $1,600 to the Municipal Street Tree Planting Program.	*Landmark*	
3	**Parkland Dedication/Cash-in-lieu of Parkland** Land contribution shall not be required to satisfy parkland dedication requirements for the subject development. Finance – Development Charges is to advise regarding any requirements for cash-in-lieu of parkland, as per By-law 2017-073 section 6(1).	*IPS*	
4	**Proposed Lot Fabric and Recommended EP Land Dedication** Parks Planning staff do not support the proposed lot fabric, as shown on the Draft Plan of Subdivision, prepared by Innovative Planning Solutions, dated August 23, 2023. It is proposed that rear lot boundary of Lot 3 terminate in alignment with rear of Lots 2 and 4. Parks Planning Staff does not support development of the northern portion of the property (the balance of Lot 3), as to ensure the protection of the woodlot and its ecological function (**Please refer to additional Parks Planning comments attached).** It is recommended that the proposed balance of Lot 3 be conveyed to the City as EP lands	*WSP*	Please refer to Parks Planning - Ecology Review comment responses below, and Section 3.1 of the EIS Amendment Memo (WSP 2024).

#	Circulation Comment	Responsible Consultant	Applicant Comment/Response
			
5	**<u>Proposed EP Land Fencing Requirements</u>** Should lands be conveyed to the City as EP lands, the Owner shall be required to install fencing along the City's EP/Park properties (as shown in the diagram above), to the satisfaction of Parks Planning staff. Fencing is to be provided as per P1210, installed in its entirety on City-property, and at no cost to the City.	*Landmark*	
6	**<u>Landscape Plans</u>** The Owner shall be required to provide landscape plans, as per Section 4.1.6 of the City of Barrie Site Plan Application Manual, signed and stamped by a qualified Landscape Architect. The landscape plans are to be developed in accordance with the landscape design guidelines outlined in Section 9.0 of the City of Barrie's Urban Design Manual. Landscape plans shall include, but not limited to: • Existing site conditions • Proposed fencing **All landscape related submissions are to adhere to the Parks Planning's Electronic Document Standards for Landscape Submissions (see attached).**	*Landmark*	
7	**<u>Landscape Cost Estimate</u>** The Landscape Consultant shall prepare and provide an itemized cost estimate for the supply and installation of all landscape works (in both PDF and Excel file formats). The cost estimate is to separate internal works LC values and external works LC values, including a standard 10% contingency to be included in the final total summary.	*Landmark*	

#	Circulation Comment	Responsible Consultant	Applicant Comment/Response
	City of Barrie - Development Services, Parks Planning ***David Featherstone, Terrestrial Ecologist*** ***(January 26, 2024)***		
	Ecological Review Comments		
	EIS Review		
1	Appendix A and B of the 2018 Scoped EIS documents agency (LSRCA) correspondence in support of a Terms of Reference for the 2018 EIS. Field work undertaken at that time appears to have generally addressed the items noted in the Terms of Reference.	*WSP*	Noted
2	The vegetation survey and community mapping work is reasonably accurate though I note that the November 2021 wetland boundary assessment was conducted outside standard windows for such work (this is noted in the EIS). There is a wetland mapped in the west-central portion of the property. The 2021 wetland boundary mapping is similar to the 2018 mapping effort. Although LSRCA was involved in review of past EIS efforts circa 2018, they have yet to include the property wetland within their regulated area. I note that the unevaluated wetland is close to 0.5 ha in size. If 0.5 ha or greater, it would meet Official Plan (OP) criterion for an EPA Level 1 feature with associated policy protection.	*WSP*	Information regarding the LSRCA regulated area available at the time was used in preparation of the 2023-2024 EIS updates. Based on the recent June 2024 wetland delineation with the agencies, it is less than 0.5 ha; therefore, it does not meet the criteria for EPA Level 1 and remains EPA Level 2.
3	The EIS notes that “SAR (Species at Risk) bat (END; Endangered) treed roosting habitat may be present in the Site and further consultation with MECP is recommended.” This consultation should be undertaken by the consultant as per their recommendation.	*WSP*	Please refer to Section 3.3 of the EIS Amendment Memo (WSP 2024) for updates regarding SAR habitat.
4	Black Ash (Endangered) are documented on the property in numbers sufficient to describe a black ash swamp (SWD5-1) component within the wetland. The 2018 EIS identifies this as the largest community within the broader wetland.	*WSP*	Please refer to Section 3.3 of the EIS Amendment Memo (WSP 2024) for updates regarding SAR habitat.
5	The two breeding bird survey stations were located close to existing road edges rather than toward the woodland core. Though I concur with the EIS assessment that traditional forest interior (> 100 m from forest edge) is not present in the woodland, I suspect that a survey further from the forest edge may have picked up additional species. I have personally observed Pileated Woodpecker along the forest trail heading north into Tyndale Park. Despite this shortcoming, Eastern Wood Pe-wee (Special Concern) has been documented within the woodland. Although not a forest interior species, it does require forest cover to provide life cycle requirements.	*WSP*	Noted.
	Significant Woodlands		
1	I disagree with the EIS assessment that this is not a significant woodland. Based on my review of the Natural Heritage Reference Manual (NHRM; MNR, 2010) I note the following:	*WSP*	Please refer to Section 4.0 of the EIS Amendment Memo (WSP 2024) for updates regarding Natural Heritage Feature assessment. It is acknowledged the City is recommending that the woodland is designated as *Significant Woodland;* however, we offer the following commentary regarding the criteria and impacts assessment (refer to comments 1.1-1.3 below)
1.1	*Ecological Functions Criteria (NHRM)* The woodland is connected to Lake Simcoe through Tyndale Park and associated contiguous forest cover (albeit narrow through park). This meets three NHRM subcriteria: (b; Proximity to Woodlands or Other Habitats), (c; linkages) and (d; water protection). The presence of both upland forest and wetland forest is indicative of biodiversity (e; woodland diversity) within a relatively small woodland setting	*WSP*	The connection to Lake Simcoe through the Tyndale Park is not a natural vegetation community; it is a disturbed corridor (manicured lawns in the park and roadway bisecting). Based on previous project experience, areas divided by roadways are not considered linkages unless there are eco-passage culverts, which are not present. Regarding water protection, there is not a direct surface water connection to the lake due to the bisecting road. Regarding the biodiversity habitat on site, while we agree

#	Circulation Comment	Responsible Consultant	Applicant Comment/Response
			this is present, the proposed removals are minor and will not impact the function of habitat diversity on the local landscape.
1.2	*Uncommon Characteristics* (NHRM) The presence of black ash (Endangered) as a dominant element within one of the swamp forest blocks - identified as black ash swamp SWD 5-1 on both previous and current EIS efforts (Figure 2 in both reports) - and the presence of eastern wood-pewee (Special Concern) is evidence of Uncommon Characteristics within the woodland.	*WSP*	The habitat in the northern portion of the Site will remain suitable for Eastern Wood-pewee post-construction, and Black Ash will remain in the retained portion of the forested wetland. Furthermore, recent assessments of the Black Ash on site (LEGroup 2024) indicated no approvals under the Endangered Species Act will be required given their current health condition.
1.3	*Economic and Social Values* (NHRM) Contrary to EIS assessment, a significant portion of the broader woodlot does lie within public (City) ownership with an established trail and linkage to the Kempenfelt Bay (Lake Simcoe) shoreline via Tyndale Park. As per the NHRM, this identifies significant values including air-quality improvement and recreation with potential interpretive opportunities. Planning authorities have the ability to recognize the social values that these woodlands provide, especially in proximity to Settlement Areas (NHRM, 2010).	*WSP*	The air quality and recreational opportunities provided by the woodland will be maintained post-construction on the City-owned portion of the Site (Block A).
2	The planning authority has provincial direction to identify Significant Woodlands within its jurisdiction. I recommend, based on the assessment above, that the City identify this as a Significant Woodland. I note that the existing woodland is large enough (4.7 ha) to meet OP criterion for EPA Level 1 designation if deemed as Significant Woodland.	*WSP*	Based on current designation in the City's Official Plan, the woodland is not designated as Significant Woodland, and it is designated as EPA Level 2 and "neighbourhood" for land use; however, we acknowledge the City's authority to update EPA Levels based on further review or natural heritage features and the context of proposed developments. Please refer to Section 2.1 of the EIS Amendment Memo (WSP 2024) for updated Official Plan policy implications.
Arborist Package Review			
1	The Arborist Package documents provide an inventory of trees along all property edges. The two broader forest patches (Section 1 and 2) are described by percent cover by species. I note that Section 1 (roughly equivalent to EIS wetland) description does not match the EIS vegetation community description but, rather, appears to suggest an upland sugar maple/white ash forest.	*Landmark*	
2	All drawings appear to show a parcel depth of approximately 70 m north from Dock Road rather than the 60 m configuration shown in the proposed concept plan. Similarly, the areal extents of each proposed lot (LD-1) differ significantly from lot areas identified in the proposed concept plan.	*Landmark*	
3	LD-1 (Tree Preservation and Compensation) does not reflect the new City Ecological Offsetting Policy and appears to be based on older unit compensation calculation.	*Landmark*	
4	I note that all drawings are dated (November 20, 2021) and do not reflect the current proposal. This package must be updated to reflect the current proposal and current policies to inform my review.	*Landmark*	
Development Proposal			
1	I note that the development concept has changed from 2018 to 2023: 2018 – six single family dwelling lots (middle four lots approximately 95 m deep) and two empty lots to the rear 2023 – five single family dwelling lots (60 m deep) with Lot 3 extending north to include the remainder of the property (noting Lot 1 already under construction via permit approval)	*WSP*	Noted. Lot 3 boundaries have been revised – no development is proposed in the north of Lot 3. The portion of the site north of Lot 3 ("Block A") will become City owned.

#	Circulation Comment	Responsible Consultant	Applicant Comment/Response
2	Review of wetland extent will require in-season wetland delineation work and it would be preferable for qualified agency staff to confirm boundary with the consultant. LSRCA has indicated they are interested in this boundary delineation and would participate as well as City staff (myself). This work will assess the EPA level designation for the wetland. This work will also be required by LSRCA to ascertain required mitigation through their permit approval process. I note that wetland removals are proposed within Lots 4 and 5 and, too a lesser extent, in Lot 3.	*WSP*	The wetland delineation was verified with agencies during the site meeting on June 14, 2024. An agency-verified wetland boundary will be provided, and the LSRCA permitting and/or ecological offsetting implications will be reviewed by LSRCA, if required.
3	Working with the existing EPA Level 2 designation, I note that approximately 0.54 ha of forest (inclusive of forested swamp; consistent with EIS calculation) is proposed for removal (inclusive of Lot 1, cleared 2022/2023). The EIS notes this equates to 9.1% of existing forest cover (assuming 5.93 ha forest). My calculations using GIS orthoimagery assessment indicate that forest cover (including Lot 1) is closer to 4.71 ha (exclusive of "backyard" forest). Forest cover following proposed development would drop to 4.2 ha (excluding "backyard" forest) which brings the forest closer to Level 3 designation (forests 0.5 – 4 ha).	*WSP*	It should be acknowledged that "backyard forest" can still act as important habitat for local bird and wildlife species depending on individual landowner stewardship practices. Appropriate mitigation measures to protect habitat in the rear portion of lots has been recommended (refer to Section 6.4 or the EIS Amendment Memo WSP 2024). If forest cover post-development is reduced to 4.1 ha, this will still meet the City's criteria for EPA Level 1 (greater than 4.0 ha).
4	I note that the back (north) 12 m of each lot is to remain in tree cover; however, there is no discussion within the EIS as to how the natural forest/shrub/ground cover will be maintained in existing condition within a "back of lot" context or how impacts within this area can be prevented from migrating into the off-lot forest. Another 0.12 ha of forest impact is likely within the rear lots.	*WSP*	The development proposal was revised in November 2024, and it is acknowledged that tree removals may occur up to the rear lot limits; however, trees will be saved in the rear lots where possible. Appropriate mitigation measures to protect habitat in the rear portion of lots has been recommended (refer to Section 6.4 or the EIS Amendment Memo WSP 2024), which also includes temporary tree protection fencing along the new woodland dripline, permanent paige wire fencing along the north property boundary of Lots 1-5, and a proposed homeowner Stewardship Brochure.
5	Proposed Lot 3 has a proposed development envelope similar to Lots 1 to 5; however, it continues to extend northward, encompassing the remainder of the property. If additional severance/development proposals proceeded north of proposed development, remnant forest cover would likely be reduced to less than 4 ha resulting in a downgrading of the forest to Level 3. The wetland forest component could be removed in its entirety.	*WSP*	Lot 3 has been revised.
6	There is a clear connection of proposed remaining forest to Tyndale Park (and Kempenfelt Bay). In order to retain this EPA Level 1/2 forest in perpetuity and to expand long-term park opportunities for Barrie residents, I recommend that all forest north of Lot 1, 2, 4 and 5 lot limits be conveyed to the City. The north boundary of Lot 3 should be reconfigured to be consistent with the north boundaries of adjacent Lots 2 and 4.	*WSP*	Ownership of "Block A", located north of Lot 3, will be conveyed to the City and designated for Environmental Protection.
	Ecological Offsetting		
1	Although the EIS Addendum notes that LSRCA will no longer be involved with ecological offsetting, it does not identify that the City of Barrie will be involved with ecological offsetting on this property. Ecological offsetting will be required for any approved tree removals associated with this application. This may include a mix of areal forest removals and individual tree removals as per the City Ecological Offsetting Policy (2023).	*WSP*	Agreed. Please refer to the Tree Inventory, Analysis, Preservation Plan & Canopy Survey Addendum (LEGroup May 2024) for updated details.
	Summary		
1	I recommend that we view the forest as a Significant Woodland/EPA Level 1 feature. The wetland forest may also be an EPA Level 1 feature in of itself. In-season field verification of the wetland boundary is required with City/LSRCA in attendance to confirm boundary to assist with EPA Level and mitigation requirement assessment.	*WSP*	Acknowledged. Please refer to response for comment #2 under Development Proposal.
2	Although I may eventually be able to support the proposed development envelopes within Lots 2-5, additional work is required to support these envelopes from an ecological perspective including additional mitigation in the rear of	*WSP*	Acknowledged. Please refer to response for comment #4 under Development Proposal.

#	Circulation Comment	Responsible Consultant	Applicant Comment/Response
	all lots. Proposed Lot 3 is problematic in that it may keep the door open for more development in this area which may eventually degrade the EPA Level 1/2 woodland feature to Level 3 status and result in the removal of the entire wetland forest.		
3	There is a significant opportunity here to retain forest cover north of the proposed development envelopes within public ownership to retain this Level 1/2 forest feature and its significant woodland functions in perpetuity and expand current Tyndale Park holdings for the benefit of Barrie residents.	*WSP*	Acknowledged. Please refer to response for comment #6 under Development Proposal.
4	As noted above, it is likely that the Arborist Package will require a full update to reflect the current proposal and updated/new City policies.	*Landmark*	
Comments for Tree Preservation Plan Review dated January 11, 2024 from Jenna Webb, Forestry Program Coordinator ***Forestry Operations Comments***			
1	Date needs updated as it is Dated Nov 2021 on file.	*Landmark*	
2	Aerial needs to be updated 2023 Simcoe County Imagery which shows new build on lot 5.	*Landmark*	
3	Section 2, Lot 5 has already had trees removed for permit released Jan 2023. Tree preservation plan needs to be updated to show new area of where removals will start as Lot 5 already has a house built on it and trees have already been removed. Currently it is showing tree preservation fencing which isn't valid as house has already been built.	*Landmark*	
4	Tree Inventory is not up to date. Example- Tree # 64 boundary tree is marked to be preserved. It has already been removed with neighbours consent outlined in the tree preservation plan Jan23-23 211 Dock Rd. Tree inventory needs to be updated with correct information.	*Landmark*	
5	Previous application (January 2023) had LSRCA involved as there are two identified swamps in proposed lots 1,2,3. If LSRCA deems these areas still protected then the preservation plan needs to be updated showing the protected area, and tree preservation fencing and setbacks from protected swamp area.	*WSP & Landmark*	Acknowledged. Please refer to response for comment #2 under Development Proposal.
6	Section 1 composition is 46% ash and are noted to be mostly dead due to EAB. Just noting for Ecological offsetting.	*WSP*	Acknowledged. Refer to EIS Review comment #4 response.
7	ROWA Trees numbered 79-88 have already been removed with last permit. Tree inventory of ROWA Trees needs to be updated.	*Landmark*	
8	ROWA Trees: 37 trees identified for removal. 6 Dead Ash, 1 Dead Basswood. 30 Trees remaining to be compensated at $500 per tree as Ecological offsetting policy.	*Landmark*	

#	Circulation Comment	Responsible Consultant	Applicant Comment/Response
	City of Barrie - Transportation Planning **D. Chan, P. Eng., Transportation Engineer** **(January 26, 2024)**		
	Transportation Comments		
1	Staff reviewed the proposed site plan (D30-036-2023) for 211 Dock Road submitted to the City as part the pre-consultation process. The purpose of this review is to outline provide high-level comments for the proposal based on the supplied information and identify requirements to support a subsequent site plan application. The comments are not intended to address granular details as that will be completed as part of the site plan review process. Professionals completing the site design and traffic impact study must adhere to the following City guidelines. • Urban Design Guideline (Link) • Transportation Development Manual (link) • Transportation Association of Canada Geometric Design Guide • Relevant Ontario Traffic Manuals • ITE	*Pearson*	
2	Property Conveyance / Corridor Protection: In accordance with the Transportation Master Plan an ultimate right of way of 24 metres has been identified for Dock Road; to this regard a 2.0 metre protection is required along the entire frontage of Dock Road; no permanent structures shall be located within the protection zone	*Pearson*	
	City of Barrie - Surface Water Treatment **Allan Miller, Water Operations Technical Advisor** **(January 12, 2024)**		
	General Comments		
1	The water servicing plan provided by Pearson Engineering within the FSR, showing a proposed 25mm water service for each of the 5 lots, is acceptable to Water Operations. -The 25mm water services to be installed as per detail W502 (if cu) or W504 (if PEX). -Water connection fees apply (25mm-$1015..00) for each 25mm connection as per current City of Barrie Fees bylaw 2023-024 and to be paid for at time of ROWA permit issuance.	*Pearson*	
	City of Barrie - Environmental Risk Management and Compliance **Stephanie Huyssen, Senior Environmental Officer** **(February 6, 2024)**		
	Environmental Risk and Compliance Comments		
1	The Owner shall submit an updated Hydrogeological Study in accordance with the City's Terms of Reference, which establishes the seasonal high groundwater conditions, updated dewatering plan with expected depth of excavation, and the appropriate measures have been undertaken to comply with the City's *Drinking Water Protection Policy*, to the satisfaction of the Environmental Risk Management and Compliance Branch.	*Azimuth*	

#	Circulation Comment	Responsible Consultant	Applicant Comment/Response
2	The Owner shall submit a Foundation Design Analysis Study to the satisfaction of the Environmental Risk Management and Compliance Branch, including expected foundation depths (footings, piles, caissons etc.) and proposed techniques. *This foundation plan may be reviewed by a third party at the applicant's expense and subject to additional site plan approval conditions.*	*Clients*	
3	The Owner acknowledges and agrees to be responsible for complying with and satisfying all applicable policy requirements as laid out in the City of Barrie's *Drinking Water Protection Policy* to the satisfaction of the Environmental Risk Management Branch. a. The Owner shall acknowledge and agree that permanent dewatering including but not limited to basement sump pumps and/or active foundation drainage is prohibited (as per Section 5.1 of the City's Drinking Water Protection Policy as amended).	*Azimuth*	
4	The Owner acknowledges and agrees that if geothermal systems are to be included in design, consultation must first occur with the Environmental Risk Management and Compliance Branch.	*Clients*	
5	The Owner is responsible for complying with and satisfying all requirements of the City of Barrie's Deep Drilling Terms of Reference. Deep drilling and/or construction activities are not permitted beyond the upper aquitard without formal consultation with Environmental Risk Management and Compliance Branch. This restriction includes deep construction activities (e.g., piles, caissons, excavations, basement foundations, etc.). The policy is to ensure a plan is in place to address risk to the municipal drinking water supply aquifer.	*Azimuth*	
6	The Owner acknowledges and agrees that building supports are not permitted to be founded within the municipal supply aquifer in accordance with the City's Drinking Water Protection Policy. Drawings provided for detailed design shall clearly note proposed elevations of foundation supports and shoring.	*Pearson*	
7	The Owner shall ensure that priority shall be given to directing downspout and/or roof drain and leaders to pervious surfaces. In the event that this cannot be adhered to, runoff shall be directed away from pedestrian pathways, vehicle thoroughfares, and parking areas, limiting the distance runoff requires to travel prior to discharging to stormwater infrastructure.	*Azimuth*	
8	The Owner shall provide the Maximum Depth of Excavation (masl or m below current grade) – including for shoring etc. and the Maximum Depth of Foundation (masl or m below current grade) - i.e., Piles, caissons, site servicing etc.	*Clients*	
9	The Owner shall prepare a Construction Spill Management plan to mitigate the risk of a spill incident including communication and notification protocols.	*Azimuth*	
10	The Owner is required to maintain or abandon any wells (water supply, monitoring) in accordance with O. Reg. 903 and the Ministry of the Environment, Conservation and Parks (MECP) standards to ensure the structural integrity of the wells and to prevent them from becoming a transport pathway for possible contamination.	*Azimuth*	
11	The Owner shall obtain a Discharge Agreement from the City prior to any temporary construction dewatering discharge (as per Sewer Use By-law 2021002, as amended). A completed Discharge Agreement Application shall be submitted to Environmental Risk Management and Compliance at least six weeks prior to anticipated discharge. a. Temporary dewatering discharge shall be directed to the storm sewer system. Pre-treatment may be required for the discharge to comply with the Sewer Use By-law 2021-002	*Azimuth*	
12	Should fill be imported to the Site, a Fill Management Plan shall be developed by a Qualified Person as per the Site Alteration By-law 2014-100. The Fill Management Plan shall confirm that the fill quantity and quality is acceptable for the designated receiving site. Confirmatory sample results are required to demonstrate fill quality complies with the Soil, Groundwater and Sediment Standards referenced in Ontario Regulation 153/04 with respect to all contaminants in the fill and Ontario Regulation 406/19 On-site and Excess Soil Management, as amended.	*Azimuth*	

#	Circulation Comment	Responsible Consultant	Applicant Comment/Response
	City of Barrie - Business Performance and Environmental Sustainability ***Richard Stephens, Environmental Sustainability Specialist*** ***(February 2, 2024)***		
	Option 1 – Single Family Municipal Curbside Collection Services		
1	Curbside Collection Services are afforded to Residential Units defined as a dwelling unit usually containing cooking, eating, living, sleeping and sanitary facilities, used or intended to be used by one or more persons permitted by law that is: a. a single-detached residence b. a semi-detached residence c. A unit in a duplex, triplex, four-plex or five-plex d. a unit in an apartment building, condominium complex, townhouse complex, co-op complex or similar residential complex containing five (5) or fewer dwelling units e. a second suite f. does not include Boarding, Lodging and Rooming houses	*IPS*	
2	• The Owner of the Eligible Property must place Collectable Waste (included garbage, recycling and organics) to the approved Collection Point in an accessible location not hidden from view as close as possible to the edge of the roadway without obstructing the roadway or sidewalk or interfering with road maintenance operations including but not limited to winter snow removal or street sweeping. • The Owner of the Eligible Property shall only set out Collectable Waste for Curbside Collection at an approved Collection Point abutting the geographical boundaries of the property where the Collectable Waste has been generated. • Collection vehicles will not back down roadways and the collector will not cross the street for waste collection additionally the roadway must be designed to include a turnaround area for the collection vehicles.	*IPS*	
3	*Municipal Laneways:* In order to ensure eligibility for municipal waste collection services the municipal lane must be designed to accommodate large waste collection vehicles and have the required widths, turning radius, overhead clearance, means of access and means of egress required for the waste collection vehicles. To help ensure eligibility for municipal waste collection services the following criteria must be met: • Laneway must be constructed as a two (2) way street, allowing collection vehicles to safely collect waste material from both sides of the laneway • Laneway entrances/turns must meet the minimum turning requirement of 13 meters • The Laneway must be kept free of snow and other materials • There must be safe unobstructed access during waste collection	*IPS*	
4	Collection: Collectable waste shall be placed out for Curbside Collection at an approved Collection Point abutting the geographical boundaries of the property where the Collectable Waste has been generated in accordance with the City's Waste Management By-law and curbside collection schedule.	*IPS*	

#	Circulation Comment	Responsible Consultant	Applicant Comment/Response
	Change of Law Notice – Recycling Program		
1	*On July 1st, 2021, the Ontario Ministry of Environment, Conservation and Parks introduced the Blue Box Regulation (O. Reg. 391/21) under the Resource Recovery and Circular Economy Act, 2016. The regulation makes companies (also known as producers) responsible for blue box programs' operation, including collection, as part of the Province's full producer responsibility framework.* *Responsibility for the recycling program in the City of Barrie, will transition to Producers on May 1, 2024. As of that date, any reference to recycling in this document can be considered general guidance to assist in designing for Producer Collection Services, as the City will no longer be providing and managing recycling services to Residential Units. For details on the Producer operated recycling system, Developers should contact Circular Materials at infor@circularmaterials.ca or visit their website Circularmaterials.ca.*	*IPS*	
	Enbridge Gas Inc. **Jaskleen Kaur, Municipal Planning Coordiantor** **(January 11, 2024)**		
	General Comments		
1	Enbridge Gas does not object to the proposed application(s) however, we reserve the right to amend or remove development conditions.	*Pearson*	
2	This response does not constitute a pipe locate, clearance for construction or availability of gas.	*Pearson*	
3	The applicant shall use the Enbridge Gas Get Connected tool to determine gas availability, service and meter installation details and to ensure all gas piping is installed prior to the commencement of site landscaping and/or asphalt paving. (https://enbridge.outsystemsenterprise.com/GetConnected_Th/Login2?OriginalURL=https%3A%2F%2Fenbridge.outsystemsenterprise.com%2FGetConnectedApp_UI%2F)	*Pearson*	
4	If the gas main(s) needs to be relocated as a result of changes in the alignment or grade of the future road allowances or for temporary gas pipe installations pertaining to phased construction, all costs are the responsibility of the applicant.	*Pearson*	
5	In the event that easement(s) are required to service this development, and any future adjacent developments, the applicant will provide the easement(s) to Enbridge Gas at no cost.	*Pearson*	
	Hydro One **Amin Pranav** **(February 22, 2024)**		
	General Comments		
1	We are in receipt of your Plan of Subdivision application, D30-036-2023 dated January 25th, 2024. We have reviewed the documents concerning the noted Plan and have no comments or concerns at this time. **Our preliminary review considers issues affecting Hydro One's 'High Voltage Facilities and Corridor Lands' only.**	*IPS*	

#	Circulation Comment	Responsible Consultant	Applicant Comment/Response
	Lake Simcoe Region Conservation Authority LSRCA ***Shawn Filson, Planner 2, Planning and Development*** ***(February 21, 2024)***		
	General Comments		
	Delegated Responsibility and Statutory Comments		
1	LSRCA has reviewed the application through our delegated responsibility from the Province to represent provincial interests regarding natural hazards identified in Section 3.1 of the Provincial Policy Statement. The subject lands are not within the vicinity of any natural hazards and therefore the proposal is consistent with Section 3.1 of the PPS.	*IPS*	
2	LSRCA has reviewed the application as per our responsibilities as a regulatory authority under Ontario Regulation 179/06. This regulation, made under Section 28 of the *Conservation Authorities Act*, enables conservation authorities to regulate development in or adjacent to river or stream valleys, Great Lakes and inland lake shorelines, watercourses, hazardous lands and wetlands. Development taking place on these lands may require permission from the conservation authority to confirm that the control of flooding, erosion, dynamic beaches, pollution or the conservation of land are not affected. LSRCA also regulates the alteration to or interference in any way with a watercourse or wetland.	*WSP*	Acknowledged
2.1	The subject lands do not appear to be regulated under existing environmental mapping however the wetland feature on site may meet the text of the regulation which would be subject to a permit from LSRCA. It is noted that a permit for a single family dwelling was obtained from LSRCA in 2023. In the text of the regulation, a wetland is defined as land that, a. is seasonally or permanently covered by shallow water or has a water table close to or at its surface, b. directly contributes to the hydrological function of a watershed through connection with a surface watercourse, c. has hydric soils, the formation of which have been caused by the presence of abundant water, and d. has vegetation dominated by hydrophytic plants or water tolerant plants, the dominance of which have been favoured by the presence of abundant water. (“terre marécageuse”) Based on the submitted environmental study completed by WSP, it is clear that the unevaluated wetland described as a treed swamp on the subject lands meets criteria for a), c), and d) of the regulation text however it is not clear that the wetland meets the b) criteria. If it can be demonstrated that the wetland feature is not connected with a surface watercourse than the feature is not regulated and no permit from LSRCA will be required for any works on the subject lands.	*WSP*	As described in Section 2.2 of the EIS Addendum Memo (WSP 2024), criterium b) is not met – the wetland on site is not connected to a surface watercourse; therefore, it is not regulated by LSRCA.
	Advisory Comments		
3	LSRCA has reviewed the application through our responsibilities as a service provider to the City of Barrie through our role as a public body, pursuant to the *Planning Act*. The proposal will result in the creation of four or more lots which meets the definition of Major development as defined through the LSPP. Subject to DP-4.8 of the LSPP, a stormwater management report inclusive of a phosphorus budget and water balance will be required. Technical comments relating to the water balance have been prepared by Melinda Morris, P.Geo. Technical comments relating to the stormwater review and phosphorus budget have been prepared by Manish Kaushal, P.Eng.	*Pearson*	

#	Circulation Comment	Responsible Consultant	Applicant Comment/Response
*	Please note that LSRCA is no longer reviewing natural heritage for *Planning Act* Applications within the City of Barrie outside of the secondary plan areas. We will therefore not be commenting on the submitted environmental study as part of this application. As noted above, the findings of the environmental study may still be important to discussion regarding the regulated limit on the subject lands.	*WSP*	Acknowledged
	Summary		
1	The proposal meets the definition of major development as defined by the Lake Simcoe Protection Plan (LSPP). LSRCA is reviewing stormwater as well as water balance and phosphorus offsetting. If you have any questions, please do not hesitate to contact the undersigned.	*Pearson*	
Lake Simcoe Region Conservation Authority – Engineering Review (February 21, 2024) ***Comments on FSR prepared by Pearson Engineering***			
1	*Section 2; page 1* Please reference: 1. LSRCA Technical Guidelines for Stormwater Submissions (April 2022); and 2. Lake Simcoe Phosphorus Offsetting Policy (May 2023)	*Pearson*	
2	*Section 6; page 3* Please specify the stormwater management design criteria, as per the LSRCA Technical Guidelines for Stormwater Submissions (April 2022). Including, but not limited to: • Quantity control • Quality control • Volume control • Phosphorus budget	*Pearson*	
3	*Figure 5* Two (2) Fig-5 are included in the report. Please check and remove the incorrect Fig-5 from the report.	*Pearson*	
4	*Section 6.1; page 3* Please reference latest version of the LSRCA Technical Guidelines for Stormwater Management Submissions (April 2022).	*Pearson*	
5	*Section 6.4; page 4* Quantity control – No quantity control is proposed. It is noted that the proposed development flows will increase at both the proposed outlets. Please demonstrate what efforts were made to reduce the post development peak flows to the pre— development levels. Alternatively, please demonstrate the increase in flows will not impact the adjacent properties. Please note: quantity control will be subject to the approval by the City of Barrie.	*Pearson*	
6	*Section 6.5* Quality control – no quality control is proposed. Please demonstrate how the proposed design will meet the design quality control criteria. Please note: quality treatment will also be subject to the approval by the City of Barrie.	*Pearson*	
7	*Section 8, Appendix D; page 7* Phosphorus	*Pearson*	
7.1	Post development areas do not match the pre-development area.	*Pearson*	
7.2	It appears the backyards of the lots are considered hay pasture. Please note that the phosphorus loading is to be per the intended landuse, i.e. high intensity residential. Please check and update the calculations accordingly.	*Pearson*	

#	Circulation Comment	Responsible Consultant	Applicant Comment/Response
7.3	Please note the existing forest area cannot be used for phosphorus mitigation. Please check and update the calculations.	*Pearson*	
7.4	Phosphorus loading from existing Forest area remains the same. No phosphorus removal can be applied to the forest area.	*Pearson*	
7.5	Please provide the offsetting cost as per the LSRCA Phosphorus offsetting policy (May 2023).	*Pearson*	
8	Please demonstrate how the volume control, as per the LSRCA technical Guidelines for Stormwater Management submissions (2022), will be achieved.	*Pearson*	
9	Please note that additional information has been requested as noted above for LSRCA to further review the application. Once this information has been provided, additional comments may be forthcoming.	*Pearson*	
Lake Simcoe Region Conservation Authority – Hydrogeology Review (February 21, 2024) ***Comments on Hydrogeological Evaluation and Technical memorandum prepared by Azimuth Environmental Consulting***			
	Hydro-G Report Comments		
1	A groundwater monitoring program was initiated in October 2017. Monthly groundwater levels were measured in April, May and June 2018. Please note that further groundwater level data is required to capture the seasonal high groundwater levels. Monthly readings are required between 1 March and 30 June. It is recommended that monitoring is to be completed for at least 12 months. Groundwater level data should be used to: a. determine if a 1 metre separation between the bottom of infiltration-based LIDs and the water table can be maintained throughout the year. b. Determine the building(s) depth that may extend below the water table and assist in quantifying the amount of dewatering that may be required	*Azimuth*	
2	Please note that as Site Plans advance *in-situ* percolation testing (Guelph Permeameter or similar) is required in the vicinity of and at the base of any proposed infiltration facilities.	*Azimuth*	
3	A Hydrogeological Evaluation was prepared for the site in 2018. An updated Site Plan was prepared in 2023. Please update the pre- and post- construction water balance with the new Site Plan. Demonstrate how the post- construction infiltration deficit will be mitigated.	*Azimuth*	
4	A Hydrogeological Evaluation was prepared for the site in 2018. The report provided to LSRCA does not have the Appendices or Figures included. It is recommended an updated Hydrogeological Evaluation and Water Balance Report be completed. Please note that it is anticipated that more comments will be forthcoming when a complete submission is received	*Azimuth*	
	FSR	*Azimuth*	
5	The 2018 hydrogeological evaluation noted high groundwater levels. In April 2018 levels ranged between -0.09 m bgs to 0.46 m bgs. The ability to mitigate the post-development infiltration deficit will be dependent on the final grade and if fill is brought onto the site.	*Azimuth*	
6	A Thornthwaite-Mather water balance assessment for both the pre- and post-development scenario is required as part of LSPP 4.8(d). The water balance will determine the post-development infiltration deficit, which in turn will inform the design for LID practices.	*Azimuth*	
6a	Please provide the reference for the climate data used. Please ensure that the data used is from a climate station local to the proposed development.	*Azimuth*	
6b	Please note that Section 4.0 of the LSRCA Water Balance Recharge Offsetting Policy (2023) requires the climate based water balance be authored by a qualified person (i.e., P.Geo. or exempted P.Eng. as per *Professional Geoscientists Act (2000)*).	*Azimuth*	

#	Circulation Comment	Responsible Consultant	Applicant Comment/Response
7	A minimum of 1 m separation is required between the invert of any proposed infiltration-based facility and the seasonal high groundwater elevation. Please demonstrate through cross-sections that include all dimensions and materials used, including the seasonal high groundwater elevation and the current and proposed ground levels that this can be achieved.	*Azimuth*	
8	Please demonstrate that there is a minimum 4m separation between the building foundations and any proposed infiltration-based LID facility.	*Azimuth*	
9	Please provided calculations demonstrating that the proposed LID facilities are sized for the appropriate volume to mitigate the post-development infiltration deficit.	*Azimuth*	
10	Please provide calculations demonstrating that the footprint of any proposed infiltration facility is sufficient to fully drawdown in the preferred 24-48 hours.	*Azimuth*	