

TREE INVENTORY REPORT - Hedbern Homes

158, 162, 166, and 170 Ardagh Road

Barrie, ON



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August 28, 2019

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INTRODUCTION

The following document is a tree and vegetation assessment for lots 158, 162, 166, 170 and lands north of 172 Ardagh Road in Barrie, ON. These lots constitute a part of a land assembly for future residential developments fronting on the proposed extension of Bishop Drive and Ardagh Road.

Stefan Bolliger Associates Inc. was requested to prepare a Tree Inventory and Preservation Plan for the site noted above. Through a tree quality assessment, we are recommending which trees should be removed or preserved based on location, quality and species composition. Trees not immediately located on the properties, but trees that might be impacted by future developments, have also been accounted for. Construction activities can directly impact root zones and natural levels of the water table thereby adversely affecting trees. The tree assessment and inventory takes relevant information into account and provides appropriate recommendations for preservation and removal.

The work plan for this study included the following:

- Preparation of base plans for field inventory
- Compilation of tree inventory for all trees of 10 cm DBH and greater located on road allowance, boundary trees, and private trees that could be adversely affected by construction activities
- Provide a description of each vegetation unit or individual tree by species, size (DBH), form and spread, maturity, health, aesthetic significance and any other relevant information and assign a preservation value (low, medium, high)
- Assign a Protection Level for each vegetation unit or individual tree (Level 0-No preservation measures required, Level 1 – must be protected, Level 2 – protect where feasible high preservation value, Level 3 – protect where feasible medium preservation value)
- Survey the limits of each tree and locate rare, endangered and specimen trees and report to the Ministry of Natural Resources and Forestry
- Plot vegetation unit's location and canopy on a contour survey base plan

LOCATION

The sites are located on the north side of Ardagh Road, in Barrie, Ontario, west of Highway 400, and west of Elizabeth Street. The properties fall from Elizabeth Street towards Ferndale Drive in a westerly direction and extend north towards Bishop Drive cul-de-sac.

GENERAL SITE DESCRIPTION

The five lots (158, 162, 166, 170, and lands north of 172) extend from Ardagh Road in a northerly direction. There are a total of three (3) residential dwellings located within the acquired properties. One (1) located on lot 158, one (1) located on lot 166, and one (1) on lot 170. The home that was previously located on lot 162 has been removed. All homes will require demolition for construction to occur. Fill has been placed on lots 162, 166, 170 and lands north of lot 172 by previous owners which has affected vegetation and water table characteristics to the northern sections of the properties. The back northern portions of lots 162, 166 and 170 are in an originally wooded and vegetated state and are overall in poor condition. Lot 158 is currently well maintained by the homeowner.

The vacant land within the land assembly is currently unmaintained and in poor condition, with evidence of potential trespassing. The condition of the trees is overall poor as well and it appears that the lots are used for illicit activities and personal uses. It does not appear that the surrounding land owners use this property, and that it is likely non-residents who have created the substandard state within the space.

SPECIFIC SITE DESCRIPTIONS

LOT 158

This lot is located on the north side of Ardagh Road and is currently a residential property with a single-family home and garage located on the south portion of the property. Approximately 50% of this property has been cleared of vegetation in the past, likely in order to erect the home. Half

of the property is unused and contains species of the original forest cover including Black Cherry (*Prunus serotina*), Manitoba Maple (*Acer negundo*), Sugar Maple (*Acer saccharum*) and White Ash (*Fraxinus americana*).

The northern portion of the property, which is used by the homeowner, has been well-maintained overall, with few trees including one (1) mature Apple (*Malus sp.*) tree (30 DBH), and one young Mountain Ash (*Sorbus americana*), less than 10 cm DBH. These trees will also require removal due to conflict with the site plan.

LOT 162:

The majority of this lot has been substantially cleared, and 75% of the property has been filled. On the east side, species of the original forest cover of the Ardagh Bluff can be recognized. They include Sugar Maple (*Acer saccharum*), White Ash (*Fraxinus americana*), Black Cherry (*Prunus serotina*) and Basswood (*Tilia americana*). Due to the very close filling operation along the east property line, the trees are under stress. The bottoms of the trunks have been filled up to 30 to 60 cm from the base of the roots by previous owners of the property. The western site boundary is bordered by shrub vegetation, consisting mainly of unruly Manitoba Maple (*Acer negundo*) growth.

The upper part of the filled area is grassed and currently unmaintained. The sloped part of the filled site is covered with wild grasses and native sedges. Due to present conditions, water is accumulating to the back of the lot creating a substantial wet area. Since the slope leading to the wet area has been disturbed, a grove of Cottonwood saplings, 3 to 10 cm in trunk diameter, has established itself. They are seedlings of a mature Cottonwood (*Populus deltoides*) located further north on the property, along the north eastern property line. A clump of cedars (*Thuja occidentalis*) is also located at the north-east side of the property. It is under stress, due to the very wet conditions. Much of the northern section of the site is very swampy and wet, providing a very good environment for undesirable invasive reed grasses which are growing in abundance. (*Phragmites var.*)

LOT 166:

A residence is currently located on the southern portion of this property containing a fenced and maintained yard with a shed in the north west corner of the fenced in area. Some grading and clearing has taken place on the back of the lot where evidence of Manitoba Maple (*Acer negundo*) removal can be seen. The back of the usable portion of the lot is divided by a dense pile of shrub branches. Behind this pile the site drops slightly and is vegetated by Manitoba Maples (*Acer negundo*) and Dogwoods (*Cornus sp.*) as well as sedges and native low grasses as underbrush. The Manitoba Maples (*Acer negundo*) create a maze of fallen stems and newly sprouting small branches and trees. Many of the trees are clumps split and halved forming an almost impossible thicket. The soil is very wet and the northern portion of the lot shows exposed surface water covered with reed grasses (*Phragmites var.*). A grove of Cottonwoods (*Populus deltoides*) and Manitoba Maples (*Acer negundo*) cover a slightly higher portion adjacent to a more manicured lower area adjacent to the Bishop cul-de-sac. A few of these trees are 45 to 75 cm in diameter, but seem to perish and topple as soon as they reach 15 to 18 m in height. Majority of the new growth on site are trees approximately 10 to 15 cm in diameter.

LOT 170:

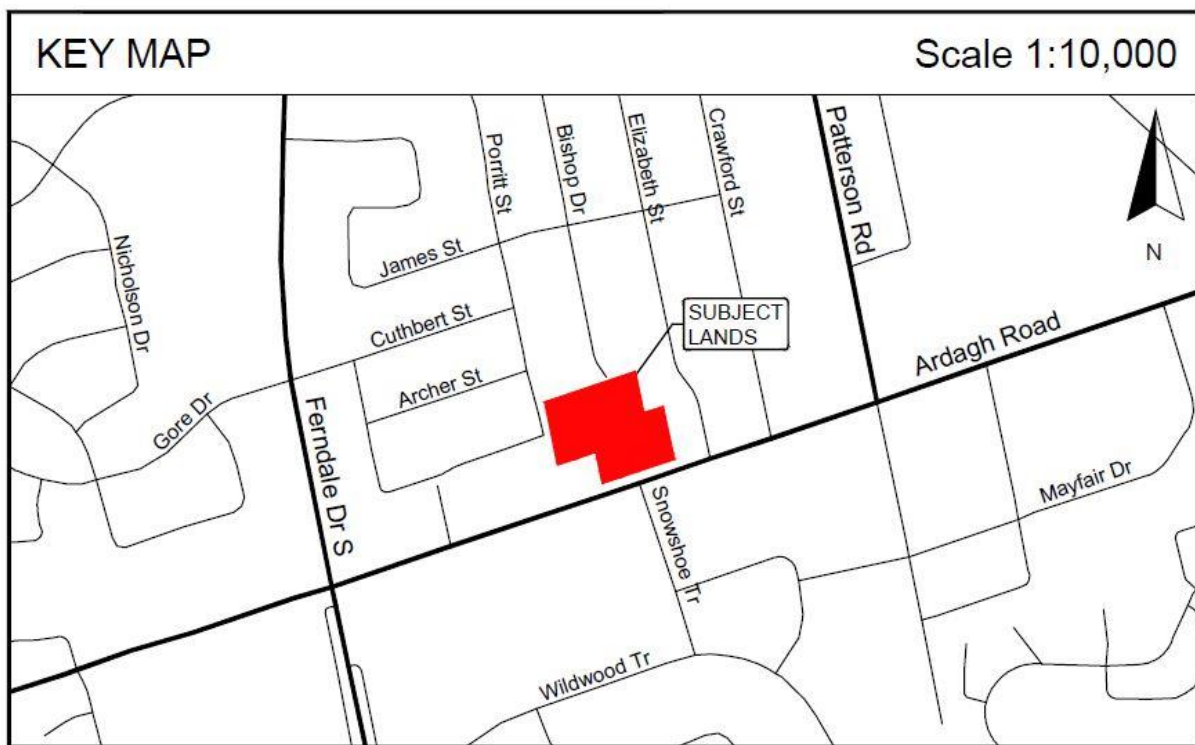
A residence is located on the southern portion of the property. The lot is overall well-maintained by the property owners. The boundary of the property consists of young Manitoba Maple (*Acer negundo*), Lilac (*Syringa sp.*), and Sugar Maple (*Acer saccharum*) in a disorderly mix. There is a young Chinese Elm (*Ulmus parvifolia*) located in the south eastern portion of the property, against the corner of the home, as well as a young cedar (*Thuja occidentalis*) in the south western corner of the home. In the north corner of the property, one semi-mature Magnolia (*Magnolia sp.*) in poor health can be found. There is also a cluster of Chinese Elm (*Ulmus parvifolia*) located on the north western portion of the property.

LANDS NORTH OF LOT 172:

The trees on this property are mainly Black Cherry (*Prunus serotina*), Manitoba Maple (*Acer negundo*), White Birch (*Betula papyrifera*), with few Black Willows (*Salix nigra*), White Ash (*Fraxinus americana*) and a large cedar (*Thuja occidentalis*) clump. Most of the trees on this

property are mature, but are in generally poor health and are of inferior species. Understory plants consist of Red Osier Dogwood (*Cornus sericea*), Black Cherry (*Prunus serotina*) saplings, reed grasses (*Phragmites sp.*), Poplar (*Populus sp.*) saplings, and cattails (*Typhia latifolia*). There is also a large section of Japanese Knotweed (*Fallopia japonica*) located along the south property boundary. Furthermore, the south west edge of the property has been filled up to the property boundary during past construction as well as a raised filled area (approx. 2m above natural grade) in the south portion of the property.

Key Map



Vegetation Inventory

Based on our site visits and aerial photography acquired from the official City of Barrie database, we have prepared an inventory of existing trees. Since the trees are generally of poor quality and

inferior species composed mainly of softwoods, a detailed survey of individual tree specimens is not recommended.

The following description outlines in more detail the site conditions, species particulars and the general condition of the sites. The five (5) sites investigated are all part of a remnant, trapped, moist and disturbed forest system and as such, present little in terms of species composition and ecological diversity. The adverse conditions caused by a changing urbanizing landscape have affected this local forest system and allowed nuisance and invasive plants to take over. Below, property specific recommendations can be found.

LOT 158:

There are two (2) trees located on the used portion of the property including one (1) mature Apple (*Malus sp.*) tree in good health and form, and one (1) young Mountain Ash (*Sorbus americana*) in good health and form. These trees will require removal due to conflict with the site plan and are Level 0 trees that can be removed as required.

Located on the north eastern portion of the property are two (2) boundary trees that will require written permission from adjacent property owners prior to removal. This includes one Manitoba Maple (*Acer negundo*), and one Sugar Maple (*Acer saccharum*) both in fair health and form. If permission is not granted by adjacent property owners, tree preservation fencing will be required as well as monitoring of trees during and post construction. These trees are Level 1 Protection trees until permission is granted for removal.

LOT 162:

The trees on this property are of generally poor condition and quality. Trees of higher quality species include Sugar Maple (*Acer saccharum*) and Black Cherry (*Prunus serotina*). They are located along the easterly section of the property boundary and are not of sufficient health to be preserved as they have been compromised by current site conditions. The trees to the back of the lot are generally small Eastern Cottonwood (*Populus deltoides*), with a short life span and

generally fair quality. They are not to be considered for preservation. All trees not considered boundary trees are Level 0 Protection and will require removal due to conflict with the site plan.

There are eight (8) trees along the property boundary of 162 and 166 that have been generally well maintained by the property owner of 166. Although some are of good quality, they are Level 0 protection and will require removal due to conflict with the site plan. On the east property line, there are four (4) boundary trees in fair to poor health and form that will require written permission from the adjacent property owners prior to removal. These include tree 12, 13, 16 and 51. Tree 12 will require consent from the owner of 10 Elizabeth Street; tree 13 will require consent from owner of 12 Elizabeth Street; tree 16 will require consent from owner of 8 Elizabeth Street; and tree 51 will require consent from the owner of 15 Elizabeth Street. These trees include one (1) Eastern Cottonwood (*Populus deltoides*) in fair condition, two (2) Manitoba Maple (*Acer negundo*) trees, and one (1) Black Willow (*Salix nigra*) in good condition. If permission is not granted by adjacent property owners, tree preservation fencing will be required during construction, and monitoring shall occur during and post-construction.

LOT 166:

This lot is dominated by Manitoba Maple (*Acer negundo*) growth of considerably poor quality. The trees appear to reach an age of approximately 25-30 years when they topple over due to top weights of the branching structure that cannot be supported by the shallow root system. Some Black Locust (*Robinia pseudoacacia*) trees have been able to establish themselves on a higher node within the wet lands.

The northern portion of the lot is traversed by a low wet area. A grove of Aspen (*Populus tremuloides*) and Manitoba Maple (*Acer negundo*) have been able to establish themselves on the north-eastern section of the lot. Due to the wet site conditions, these trees are not able to mature properly. Many topple over or perish within these wet site conditions. The ground level is generally vegetated with sedges, native grasses, raspberries (*Rubus var.*) and blackberries (*Rubus var.*) and some dogwoods (*Cornus var.*) Although the site is covered by woody vegetation, no trees are worthy within the property boundaries to be preserved.

One (1) Blue Spruce (*Picea pungens*) and one (1) Norway Maple (*Acer platanoides*) can be found on the north side of the property and are boundary trees bordering the City R.O.W. These trees will require preservation fencing and monitoring during and post construction or permission from the City of Barrie for removal.

LOT 170:

This lot has been modified by filling to an extensive degree by the previous owner. Both sides (east and west boundary) have been impacted by the abrupt grade changes, from the filled area (about 2m from original ground has been added) to the elevations on the adjacent lots. The west side is dominated by compromised Manitoba Maple (*Acer negundo*). The east side shows remnants of the original forest cover of the area, whose root zones and stems have been compromised by additional fill material by previous land owners.

The northern section of the lot has been affected by filling. The lot descends in a more gradual manner in a northerly direction. The process of re-naturalization and re-vegetation has recently begun. Thus, the predominance of Aspen seedlings (*Populus tremuloides*) originating from more mature specimens on or adjacent to the site can be observed. The northern portion of the site is dominated by open wet conditions that have attracted invasive reed grasses (*Phragmites* var.), and cattails (*Typha latifolia*). On the Western knoll, a Yellow Birch (*Betula lutea*) clump has been able to establish itself successfully. A cedar clump (*Thuja occidentalis*), a Sugar Maple (*Acer saccharum*) and Cottonwood (*Populus deltoides*) are of good size (75 to 100cm) and are located close to the north-eastern corner of the site. The vegetation on this site is of very disturbed and random nature. These trees are Level 0 Protection trees and will require removal due to conflict with the site plan.

There is one boundary Manitoba Maple (*Acer negundo*) tree in poor health on the north portion of this property, bordering on the Bishop Drive cul-de-sac. This tree is a Level 1 Protection tree until permission for removal is granted, and will require written permission from the adjacent property owner prior to removal, or preservation fencing if permission is not granted.

LANDS NORTH OF LOT 172

The majority of trees on this lot are of poor condition, health and quality. Trees along the western border include Manitoba Maple (*Acer negundo*), White Ash (*Fraxinus americana*), and White Birch (*Betula papyrifera*) as well as a large area containing invasive Japanese Knotweed (*Fallopia japonica*). The northern portion contains saplings of species from the original forest as well as reed grasses (*Phragmites sp.*) and cattails (*Typha latifolia*).

The majority of the trees on this property are inferior species and in poor health and condition with some having been affected by previous construction within their root zones. All trees on the property will require removal due to conflict with the site plan and will not require preservation fencing. One (1) boundary tree located on the northern property line will require written consent from the property owner of 117 Bishop Drive prior to removal. It is recommended that an eradication plan be put in place for the removal/control of the invasive Japanese Knotweed (*Fallopia japonica*) on site to reduce the spread to other properties. This may include Best Management Practices for Controlling Invasive Knotweed as set out by the Ontario Invasive Plant Council's.

Recommendations

Lot 158 is a residential lot with no trees of exceptional quality or health and therefore the trees may be removed. Boundary trees along the eastern, and north western edges of this property will require written permission from the adjacent property owner for removal or injury of the trees. If permission is not granted, preservation fencing will be required during construction, and monitoring will take place during and post construction.

Lots 158, 162, 166, 170 and lands north of 172 are composed from south to north by a grassed area, a wet forested area, an open wetland condition and some pioneering growth of small trees and softwoods. The current site conditions do not allow for the establishment of sustained mature hardwoods over the near future. The trees appear to perish at about the 20 to 25 years of age

and at a size of generally 45 to 75cm in diameter and 15 to 18 m in height. Most tree species on the properties are of medium to low species value, and although this land offers habitat for some wildlife, it is not of exceptional ecological value. The removal of the tree cover to accommodate future engineering and development objectives is a reasonable course of action, however, it is the expectation that all boundary trees identified in this report will require permission from adjacent property owners prior to removal. If permission is not granted, preservation fencing shall be erected and trees shall be monitored during and post construction. It is recommended that the lots be cleared and re-graded to make way for redevelopment. A tree removal permit must to be submitted to the City of Barrie before removal of any trees can occur.

Inventory Map

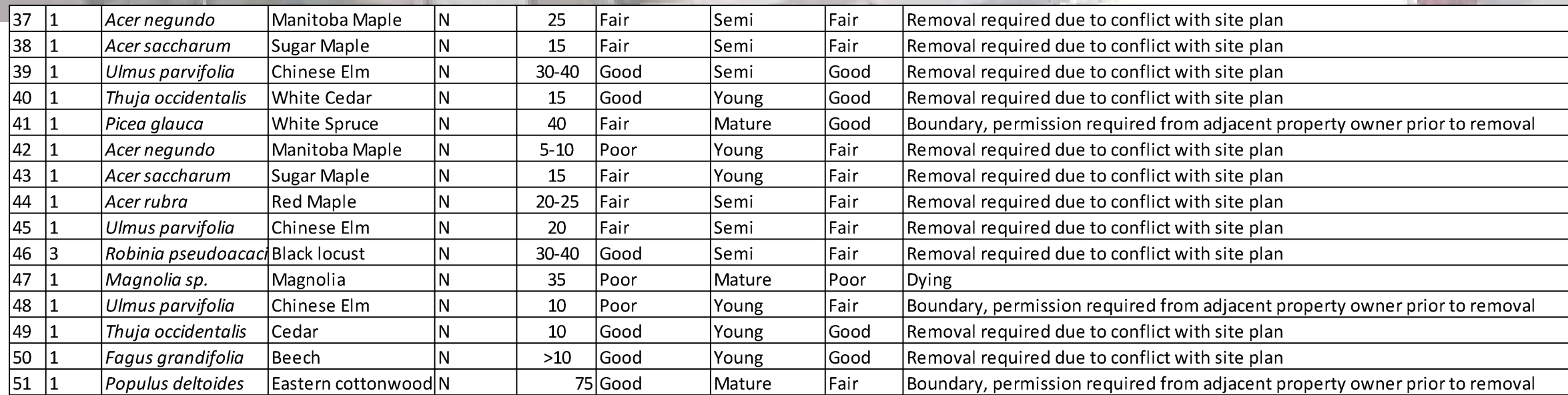
Appendix A shows a plan for lots 158, 162, 166, 170 and lands north of 172. The plan describes the site conditions of each lot. Due to the random location and adverse site conditions, it has not been possible to locate individual trees and shrubs precisely. The growth habits, especially of the predominant Manitoba Maples (*Acer negundo*) made accurate inventorying less accurate than desired. Trees that could be located and are of note on the five sites have been annotated, keyed and assessed. Botanical and common names of the tree and other vegetation species have been indicated throughout the report text and the associated maps.

Appendix A – Aerial Photo with Vegetation Inventory

Appendix B – Tree Inventory-Proposed Site Plan

Appendix C – Tree Photographs Correlating to Individual Lots

Appendix A – Aerial Photo with Vegetation Inventory



No.	Veg/Unit	Botanical Name	Common Name	Endang'd or Rare?	DBH (cm)	Form/Spread	Maturity	Health/Quality	Recommendations
1	1	<i>Malus sp.</i>	Apple	N	30	Good	Mature	Good	Removal required due to conflict with site plan
2	1	<i>Acer saccharum</i>	Sugar Maple	N	44.5	Good	Semi	Good	Removal required due to conflict with site plan
3	1	<i>Fraxinus americana</i>	White Ash	N	26	Poor	Semi	Poor	Removal required due to conflict with site plan
4	1	<i>Acer negundo</i>	Manitoba Maple	N	5-15	Poor	Young	Fair	Removal required due to conflict with site plan
5	1	<i>Picea glauca</i>	White Spruce	N	15	Fair	Young	Fair	Removal required due to conflict with site plan
6	1	<i>Acer negundo</i>	Manitoba Maple	N	160	Poor	Mature	Poor	Removal required due to conflict with site plan
7	1	<i>Acer saccharum</i>	Sugar Maple	N	20	Poor	Semi	Fair	Removal required due to conflict with site plan
8	1	<i>Prunus serotina</i>	Black Cherry	N	25	Poor	Semi	Fair	Removal required due to conflict with site plan
9	5	<i>Tilia americana</i>	Basswood	N	10-45	Good	Semi	Good	Removal required due to conflict with site plan
10	1	<i>Acer negundo</i>	Manitoba Maple	N	30	Poor	Semi	Fair	Removal required due to conflict with site plan
11	4	<i>Prunus serotina</i>	Black Cherry	N	20-25	Poor	Semi	Poor	1 Dead, removal required due to conflict with site plan
12	1	<i>Acer negundo</i>	Manitoba Maple	N	20	Poor	Semi	Fair	Boundary, permission required from adjacent property owner prior to removal
13	1	<i>Acer negundo</i>	Manitoba Maple	N	20	Fair	Semi	Fair	Boundary, permission required from adjacent property owner prior to removal
14	1	<i>Salix nigra</i>	Black Willow	N	45	Good	Mature	Good	Boundary, permission required from adjacent property owner prior to removal
16	1	<i>Acer saccharum</i>	Sugar Maple	N	25	Fair	Semi	Fair	Boundary, permission required from adjacent property owner prior to removal
17	1	<i>Salix nigra</i>	Black Willow	N	35	Fair	Semi	Good	Removal required due to conflict with site plan
18	1	<i>Robinia pseudoacacia</i>	Black Locust	N	30	Fair	Semi	Fair	Removal required due to conflict with site plan
19	1	<i>Betula papyrifera</i>	White Birch	N	5-15	Good	Young	Good	Removal required due to conflict with site plan
20	1	<i>Picea glauca</i>	White Spruce	N	45	Good	Mature	Good	Boundary, permission required from adjacent property owner prior to removal
21	1	<i>Acer negundo</i>	Manitoba Maple	N	45	Poor	Mature	Fair	Removal required due to conflict with site plan
22	1	<i>Acer platanoides</i>	Norway Maple	N	25	Good	Semi	Good	Boundary, permission required from adjacent property owner prior to removal
23	1	<i>Betula papyrifera</i>	White Birch	N	5-15	Good	Young	Good	Removal required due to conflict with site plan
24	1	<i>Betula papyrifera</i>	White Birch	N	30	Fair	Semi	Fair	Removal required due to conflict with site plan
25	2	<i>Salix nigra</i>	Black Willow	N	20-35	Fair	Semi	Good	Removal required due to conflict with site plan
26	1	<i>Acer negundo</i>	Manitoba Maple	N	45	Poor	Mature	Fair	Boundary, permission required from adjacent property owner prior to removal
27	1	<i>Fraxinus americana</i>	White Ash	N	35	Poor	Semi	Poor	Removal required due to conflict with site plan
28	5	<i>Acer negundo</i>	Manitoba Maple	N	20-45	Poor	Semi	Fair	Removal required due to conflict with site plan
29	1	<i>Betula papyrifera</i>	White Birch	N	20	Fair	Semi	Fair	Removal required due to conflict with site plan
30	1	<i>Acer negundo</i>	Manitoba Maple	N	15-70	Poor	Semi	Fair	Removal required due to conflict with site plan
31	1	<i>Acer saccharum</i>	Sugar Maple	N	25	Fair	Semi	Good	Removal required due to conflict with site plan
32	1	<i>Malus sp.</i>	Apple	N	25	Fair	Semi	Fair	Removal required due to conflict with site plan
33	1	<i>Acer saccharum</i>	Sugar Maple	N	20	Fair	Semi	Fair	Removal required due to conflict with site plan
34	1	<i>Picea glauca</i>	White Spruce	N	45	Fair	Mature	Fair	Removal required due to conflict with site plan
35	1	<i>Robinia pseudoacacia</i>	Black Locust	N	30	Fair	Semi	Fair	Removal required due to conflict with site plan
36	1	<i>Acer saccharum</i>	Sugar Maple	N	20	Good	Semi	Good	Removal required due to conflict with site plan

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Appendix B – Site Inventory-Proposed Site Plan



LEGEND :

- DECIDUOUS BOUNDARY TREES
- EVERGREEN BOUNDARY TREES
- DECIDUOUS TREES
- EVERGREEN TREES
- SPECIES GROUPING/CLUMPS
- BOUNDARY/LOT LINES
- TREE ID NUMBER
- INVASIVE PHRAGMITES

NOTES:

- PRELIMINARY ONLY. NOT FOR CONSTRUCTION.
- ALL DIMENSIONS IN METERS UNLESS NOTED OTHERWISE.

1	2019-08-01	TREE INVENTORY REVISED LAYOUT	AD/EE
NO.		REVISION DESCRIPTION	BY
DATE PRINTED			

This drawing has been created electronically. Handwritten or manual revisions to the drawing are only valid when accompanied by the Landscape Architect's initials.

Contractor must verify all dimensions on the project and report any discrepancy to the Landscape Architect before proceeding with the work.

All drawings and specifications are the property of the Landscape Architect.

All drawings to be used for construction only when signed by the Landscape Architect.

Signed

date

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Client: **HEDBERN HOMES
INNOVATIVE SOLUTIONS PLANNING**

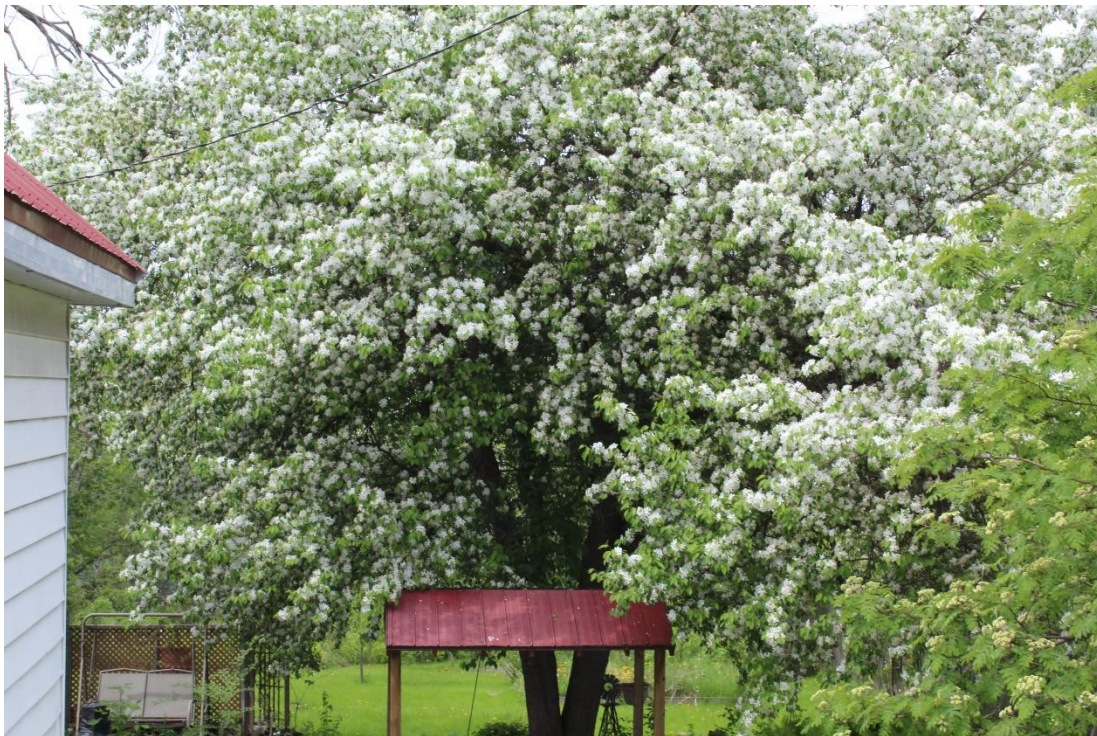
LOCATION: **158, 162, 166 & 170
ARDAGH ROAD
BARRIE, ONTARIO**

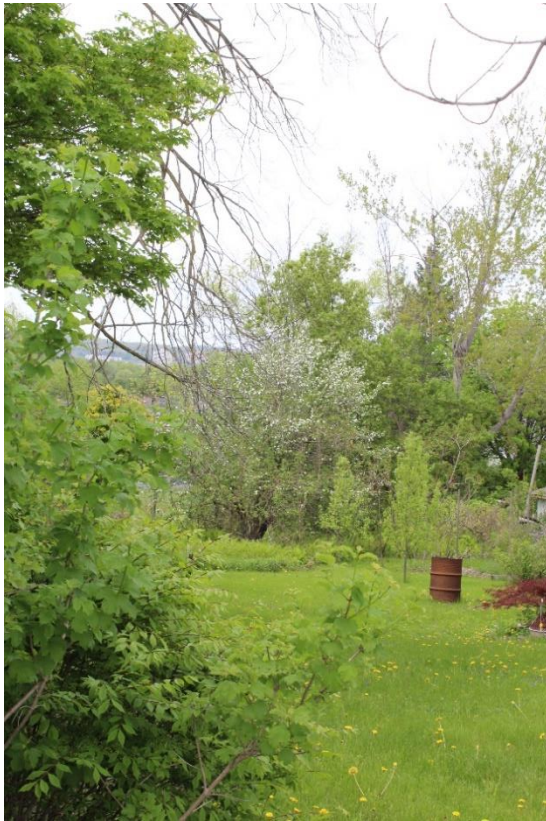
Drawing: **TREE INVENTORY AND
PRESERVATION PLAN WITH
CONCEPTUAL SITE PLAN**

SCALE: 1:350	DATE: JUNE 12, 2019
DRAWN BY: EE	CHECKED BY: SB
PROJECT NO. 2019-0003	SHEET: L2

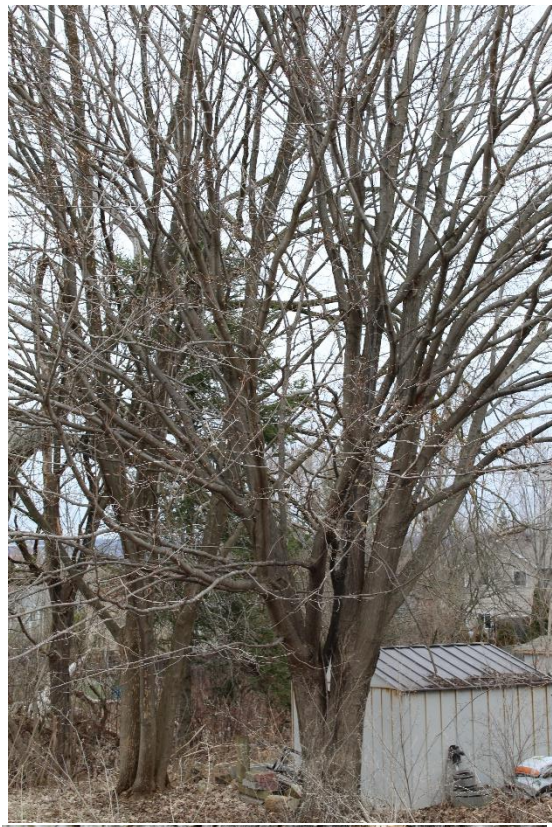
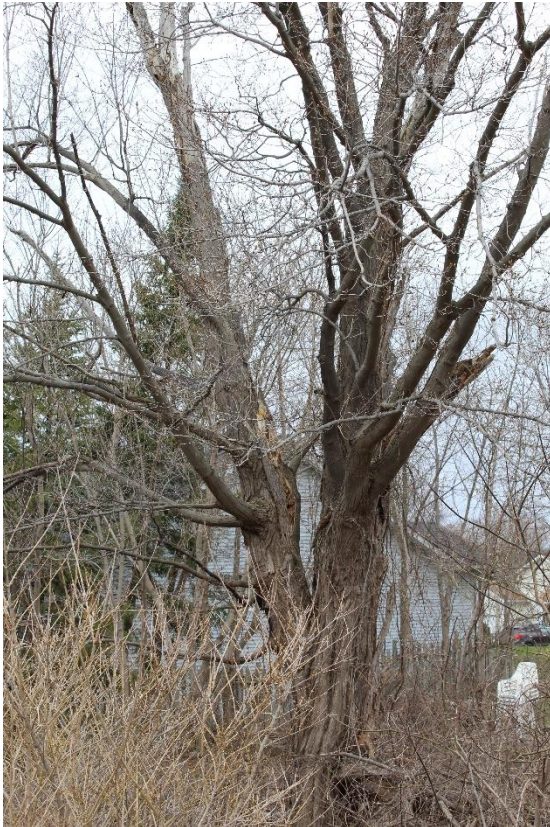
Appendix C - Tree Photographs

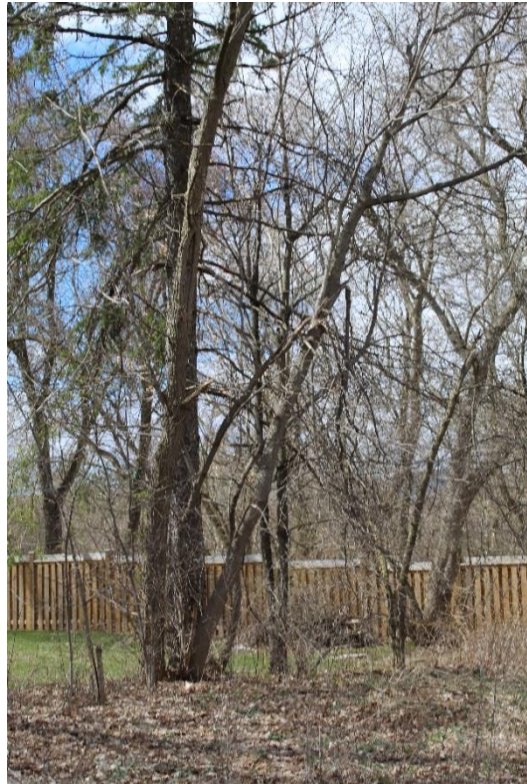
LOT 158



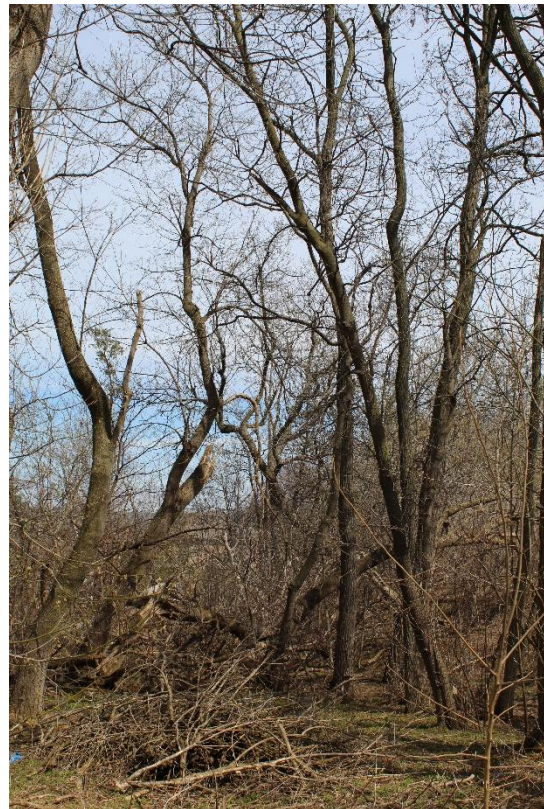
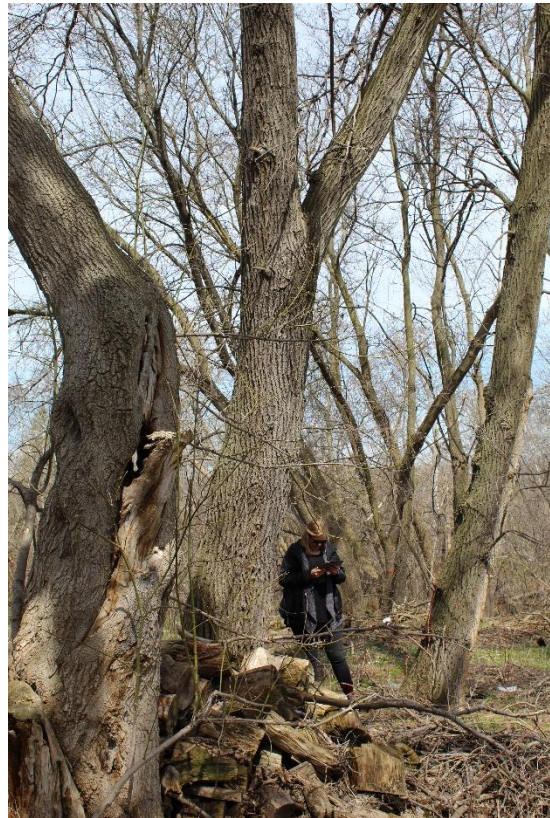


LOT 162





LOT 166





LOT 170/Lands north of 172



