RIVERSTONE
ENVIRONMENTAL SOLUTIONS INC.

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RS# 2020-004

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***SUBJECT*: Tree Inventory/Assessment and Preservation Plan/Removal Plan, Dundonald Street, City of Barrie.**

BACKGROUND

RiverStone Environmental Solutions Inc. (hereafter, "RiverStone") was retained to prepare a *Tree Inventory, Assessment and Preservation/Removal Plan* as part of a development application in the City of Barrie (hereafter, "the City"). The land subject to the proposed development (hereafter, "subject property") is located at 19 Dundonald Street in the City of Barrie (**Figure 1**). Per Schedule A of the City's Official Plan (Office Consolidation January 2018), the subject property is designated "Residential". The subject property falls within Level 3 with Existing Development designation of the Natural Heritage Resource Area (Schedule H). No portion of the property falls within the regulation limits of a Conservation Authority (Schedule F). Based on a review of the City of Barrie Zoning Bylaw 2009-141 (Office Consolidation December 2017), the subject property is zoned Residential (R2).

Based on information provided to our office, it is our understanding that the property owners are currently seeking to construct a 43-unit multi-residential building on the subject property. Based on your communications with planning staff at the City of Barrie, the City requires the completion of this inventory plan to determine the impact of the proposed development on the trees currently lining the property. Specific direction from the City notes that the following must be completed as part of the inventory;

> *The inventory must include the survey locations including the dripline of all neighboring vegetation to ensure compliance with BSD-1935 for all shared boundary trees with overhanging driplines (including any significant trees within the public blvd. This must be coordinated with the proposed Grading and Erosion Control Plans to ensure an area of non-disturbance is provided under the driplines, plus a 5m building setback to facilitate typical construction clearance from the protection zone.*

It was also noted by City Staff that;

> *The detailed inventory should follow 100% of the boundaries, (all of the Blvd and Duckworth ROW) and I would suggest it generally include all trees within 8m internally, and 4m external to the boundary (12m wide total) PLUS any mature specimens within a few extra metres. It is critical that the canopy driplines be accurately recorded, and that the tree preservation zone follow those driplines, particularly for the boundary/ off- site trees.*

Riverstone's on-site tree inventory was therefore conducted in a manner consistent the above information provided by the city above and outlined in the City of Barrie *Tree Protection Manual* (Version 4, Revised January 2019).

APPROACH AND METHODOLOGY

Background/Site Investigation

Prior to undertaking the site visit the tree preservation policies as they relate to the subject property were reviewed. The property survey, site plan drawings and correspondence from the City was also considered. The limits of study were restricted generally to a 12m swath along the property boundary with all trees within 8 m internally and 4m externally of the boundary inventoried. The tree inventory and health assessment was carried out on September 3, 2020, by C. Mann (Ecologist/ISA-certified Arborist). All trees 10 cm diameter at breast height (DBH) or greater (including multi-stemmed trees where total DBH exceeded 10 cm), were inventoried and assessed. Such trees were: (1) inventoried using metal number-stamped tags, (2) identified to species, (3) measured at approximately 1.37 metres above ground with tree calipers, (4) assessed for defects and indicators of decline (e.g., open wounds, broken branches, etc.), and (5) digitized with a high-accuracy GPS receiver (**Figure 2**). Based on the information collected, an overall visual assessment of tree health and structural integrity is provided, supported by preservation/removal direction based on their health, other attributes, and location on the subject property. Notwithstanding the above, it must be recognized that all trees (in good health or otherwise) have the potential for failure given adverse weather, damage due to mechanical injury, or other factors that cause stress. Trees assessed in this Tree Inventory, Assessment and Preservation were observed to occur as part of a woodlot that extends beyond the subject property with compensation calculated accordingly.

Site Assessment

Existing trees within the subject property may be negatively impacted during grading, construction, and other activities associated with implementation of the proposed development plan via the following pathways:

- Direct tree removal in areas where trees conflict with the development envelopes or areas of site alteration (e.g., grading, etc.);
- Mechanical injury to the trunk, roots, branches, and/or foliage during construction activities;
- Soil compaction within the rooting zone; and
- Smothering or exposure of roots due to changes in grade.

A graphic depicting the proposed building plan was provided to RiverStone by James Hunter of IPS on June 14, 2021 showing the preliminary plan with further communication on July 12, 2021 outlining that the grading limits would extend to property lines due to requirements for the construction of retaining walls. Based on these details, RiverStone has illustrated the proposed development plan graphically in **Figure 3**, which is overlayed on the tree inventory results.

Applicable Tree Protection Policies

This study has been conducted in accordance with the Town's By-law No. 2005-120 which protects trees during the development approval process. Section 3.1 of the City of Barrie *Tree Protection Manual* (Version 4, Revised January 2019) states that the City requires the preservation and incorporation of existing trees into new development proposals wherever practical and feasible.

TREE INVENTORY AND HEALTH ASSESSMENT

The results of the tree inventory and health assessment are provided in **Appendix A**. The locations of all tagged and assessed trees specifying those > 10 cm DBH are shown in **Figure 2**.

One hundred-sixteen (116) trees >10cm DBH were tagged and assessed during the tree inventory. Sugar Maple (*Acer saccharum*) was the most abundant tree assessed followed by American Basswood (*Tilia americana*), Black Walnut (*Juglans nigra*), Manitoba Maple (*Acer negundo*), American Beech (*Fagus grandifolia*), Norway Maple (*Acer platanoides*), Ironwood (*Carpinus caroliniana*), Northern Red Oak (*Quercus rubra*), Black Cherry (*Prunus serotina*), Eastern White Pine (*Pinus strobus*), White Spruce (*Picea glauca*) then White Ash (*Fraxinus*

americana). Although individuals were generally in good to fair health, most exhibited a range of defects that included trunk and branch wounds, large branching, sever lean, multiple stems and inclusion wood as well as indicators of decline. No Butternut (*Juglans cinerea*) were observed on the subject property, or in the boundary corridor during the field assessment.

In addition, to the assessment of the trees located on site, seventy-nine (79) boundary trees were reviewed to determine if there was the potential for impact to these exterior trees. Forty-nine (49) boundary trees were located on private lands to the north. Twenty-five (25) trees were assessed on City Property to the east and an additional three (3) trees were assessed within the Dundonald Street roadway right-of-way. These trees are located on City property or were identified as a boundary tree overlapping the private and public lands. Three (3) trees within the Dundonald Street right-of-way will require removal to accommodate the development **Figure 3**. The remaining boundary trees are not anticipated to require removal; however, the canopy and roots may be damaged during construction of the proposed development. Specific recommendations for these trees is provided below.

IMPACT ASSESSMENT AND RECOMMENDATIONS

Existing trees within the subject property may be negatively impacted during grading, construction, and other activities associated with implementation of residential development activities via the following pathways:

- Direct tree removal in areas where trees conflict with building envelopes or areas of site alteration (e.g., grading of building site and driveways, etc.);
- Mechanical injury to the trunk, roots, branches, and/or foliage during construction activities;
- Soil compaction within the rooting zone; and
- Smothering or exposure of roots as a result of changes in grade.

Figure 3 provides an overlay of the proposed building siting with RiverStone's tree preservation/removal direction. Based on discussions with the project team, it is assumed that the grading limits of the development will extend to the property boundary to facilitate construction of retaining walls. RiverStone anticipates that thirty-five (35) trees within the subject property, in addition to the three (3) right-of-way trees, will need to be removed (**Appendix A)**. In accordance with City of Barrie policy, trees occurring along property edges will require adjacent landowner permission for removal. Trees to be removed and boundary trees are shown on **Figure 3**.

All trees that were inventoried were given a tree protection value as outlined in the City of Barrie Tree Protection Manual. Based on Step 9 of the manual, there are no Endangered species and/or habitat or heritage trees on the subject property. However, there are forty-nine (49) trees located along the north property boundary with a neighbouring church and additional twenty-five (25) trees that border onto City of Barrie lands to the east and five (5) trees that are within the Dundonald Street right-of-way. These bordering trees either have canopy, part or all of the tree trunk growing on or overhanging the subject property and have been given a protection level of 1 based on the City of Barrie Tree Protection Manual. In order for these trees to be become Level 2 protected trees or removed, a written consent from adjacent property owner would be required. All trees that are or become Level 2 trees following consent would have a protection value of 2. The City of Barrie's tree compensation plan is based on a number of factors including the health of the tree, species of tree, location of tree and current size of tree. For deciduous trees, the compensation cost is $500 for a 5cm DBH nursery tree plus an additional one hundred dollars per cm of DBH of the tree. For coniferous trees, the compensation cost is $400 for a nursery tree plus one hundred and sixty dollars per metre of tree height. These numbers are then multiplied by a score factor for health, species and location from the City of Barrie *Tree Protection Manual* (Version 4, Revised January 2019).

In accordance with the City of Barrie By-law 2014-116 that regulates the removal of publicly owned trees, compensation is to be paid for removal of trees on City of Barrie owned property. Compensation for the five (5) trees that require removal within the Dundonald Street right-of-way is based on the formula outlined int the City of Barrie Tree Protection Manual and above is presented in Table 1 below.

Table 1. Trees located on City of Barrie owned property.

Tree Description	Replacement Cost
Tree # 801 Black Walnut (*Juglans nigra*)	$480.00
Tree # 814 Black Walnut (*Juglans nigra*))	$276.00
Tree # 815 Manitoba Maple (*Acer negundo*)	$63.00
TOTAL	$819.00

In addition to the three (3) trees planned for removal within the Dundonald right-of-way, construction will be grading up to the property boundary adjacent to boundary trees located on private lands to the north and City of Barrie lands to the east. Currently there is no requirement for any of these trees to be removed however it is important to note that construction activities are anticipated to be within the dripline of adjacent trees and construction is likely to cause indirect disturbance such as compaction of soils within the root zone and damage to roots. A retaining wall is currently along the north portion of the property and the location of the new retaining wall will be along the existing walls path. It is assumed that trees along the north property boundary have grown with the retaining wall as a restriction to grown and development impact is anticipated to potentially cause impacts to root. There will also be a requirement for the removal of overhanging branches of boundary trees that have grown into the subject property and currently form a portion of the dripline. A number of trees on adjacent lands to the north have grown over the property boundary and large portions on the trees canopy are solely overhanging the subject property. Due to the proximity of the proposed development within the driplines of boundary trees to be retained and the requirement for pruning of branches overhanging the subject property, these specimens require protection measures to be implemented. To guide the preparation of final site plans for the subject property, RiverStone recommends the following measures:

- **All trees identified as boundary trees (except for the three (3) to be removed) are to be treated as conditional maintenance trees. These trees are to be monitored during and post construction, with trees being monitored and maintained by a certified arborist related to any decline. If trees are damaged (root system, trunk or canopy) and decline to a point of requiring removal, trees will be compensated based on values determined in appendix A for trees located on City land and any agreement with associated neighbouring landowners.**
- **Prior to any construction, consent will be required from the adjacent landowners to work within the dripline of boundary trees or to prune or remove trees.**
- **Construction within the dripline of boundary trees (Figure 3) is to be limited as much as possible. Protection mitigation for roots systems, such as mulch layers or protection pads, are to be established prior to construction in consultation with an arborist.**
- **Detailed redevelopment and grading plans for subject property are to consider all boundary trees for retention as design constraints and minimize the amount of grading and activity as much as possible.**
- **At a minimum, tree protection fencing should be installed for all trees along the boundary of the property and maintained for the duration of the proposed development. Where possible and where grading permits, tree protection zones shall be established for boundary trees on adjacent lands. Tree protection zones are to be calculated as the crown radius around the stem of tagged trees shown in Appendix A with tree protection zones placed at a minimum distance from tagged trees according to individual minimum tree protection zones shown in Appendix A. No site alteration activities (e.g., grading, etc.), machinery movement, or storage of any equipment or materials should occur within the tree protection fencing.**

- **Where tree protection fence cannot be installed at the limit of the tree protection zone for certain trees, tree protection fence should be established as far from the tree as practical.**
- **Prior to construction and following consent, all boundary trees are to be assessed by a certified arborist to provide clearance and possible injury by construction machinery during construction and preform preventative maintenance. This is also to occur in the event of mechanical injury during construction to any trees and/or their branches. Preventative maintenance may include the following:**
    - **Pruning of large overhanging limbs cleanly and according to standard arboricultural practices.**
    - **Prune damaged limbs cleanly and according to standard arboricultural practices.**
    - **Prune damaged roots that have been exposed cleanly and according to standard arboricultural practices.**
    - **Trim loose bark but avoid enlarging any open wounds.**
- **Tree or vegetation removal and other disturbances within the dripline of adjacent trees is to be minimized to the extent possible.**
- **Any necessary tree or shrub removal should be completed outside of the primary breeding bird nesting window (i.e., between April 1 and August 31). If vegetation removal occurs during this period, a nest survey should be conducted by a qualified biologist within 5 days of commencement of construction activities to identify and locate active nests of bird species (where present) covered by the federal *Migratory Bird Convention Act, 1994* or provincial *Fish and Wildlife Conservation Act, 1997*. If a nest is located or evidence of breeding noted, a mitigation plan should be developed to avoid any potential impacts on birds or their active nests. Mitigation may require establishing appropriate buffers around active nests or delaying construction activities until the conclusion of the nesting season.**
- **Any necessary replacement tree plantings should consist of native species suitable to site conditions (e.g., light, moisture, etc.).**

CITY OF BARRIE TREE PROTECTION MANUAL AND BY-LAW NO. 2005-120

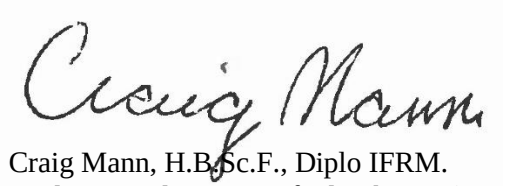
Provided that RiverStone's proposed recommendations and mitigation measures outlined herein are implemented in full, we believe that this tree inventory and preservation plan meets the requirements of the City of Barrie Tree Preservation Guidelines.

Please contact us if there are any questions regarding the report, or if further information is required.

Best regards,

RiverStone Environmental Solutions Inc.

Al Shaw, M.Sc.
Senior Ecologist/Principal



Craig Mann, H.B.Sc.F., Diplo IFRM.
Ecologist and ISA Certified Arborist (ON-2369A)

Legend

Ontario Base Mapping (OBM)

Roads

Planning Boundaries

Subject Property

N

Orthorectified aerial photo - spring 2018

Scale	RS Project No.	Date Last Updated	By
1:1,500	2020-004	Sep 05, 2020	JG

0 20 40 Metres

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Figure 1. Location Of Subject Property.

19 Dundonald Street, City of Barrie.

Prepared for: James Hunter

Inset; General Location Of Subject Property

Disclaimers:

- the scale text on this figure (e.g., 1:1000) is based on a 11x17" print. If this figure has been printed on a different page size, then only the scale bar is accurate.
- figure should not be used in place of a professional survey

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Legend

Ontario Base Mapping (OBM)

Roads

Planning Boundaries

Subject Property

Tree Inventory Area

Tree (With Tag Number)

N

Orthorectified aerial photo - spring 2018

Scale	RS Project No.	Date Last Updated	By
1:500	2020-004	Jul 16, 2021	JG

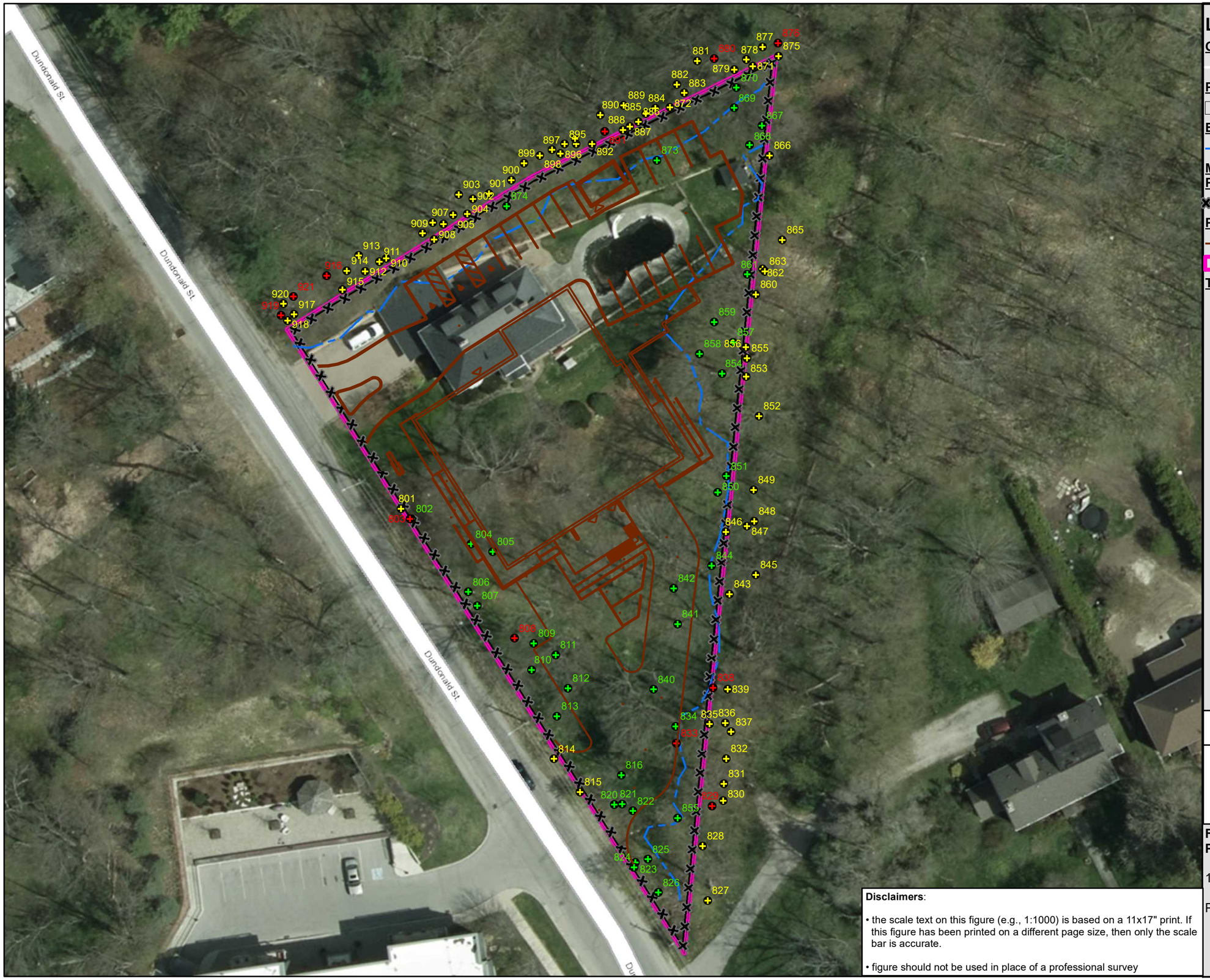
0 7.5 15 Metres

RiverStone Environmental Solutions Inc.

Figure 2. Tree Inventory.

19 Dundonald Street, City of Barrie.

Prepared for: James Hunter, IPS



Legend

N

Ontario Base Mapping (OBM)

- Roads

Planning Boundaries

- Subject Property

Biophysical Features+Functions-RiverStone

- Dripline

Measures Recommended by RiverStone to Prevent and/or Reduce Impacts

- Tree Protection Fencing

Proposed Development and Site Alteration

- Site Plan
- Grading Limit

Tree Inventory Recommendation

- Boundary Tree
- Hazard Tree
- Tree to be Removed

Disclaimers:

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- figure should not be used in place of a professional survey

Orthorectified aerial photo - spring 2018

Scale	RS Project No.	Date Last Updated	By
1:500	2020-004	Jul 21, 2021	JG

0 7.5 15 Metres

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Figure 3. Proposed Development, Tree Inventory Plan.

19 Dundonald Street, City of Barrie.

Prepared for: James Hunter, IPS

Appendix A. Tree Inventory

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Tag No.	Common Name	Scientific Name	DBH (cm)	Minimum Tree Protection Zone (m)	Crown Radius (m)	Trunk Integrity	Canopy Structure	Canopy Vigour	Defects and Decline Indicators	Development Plan (Figure 3)	Compensation Cost Calculations				Replacement Cost City Trees (If removed)[2]
											Health Factor	Species Factor	Location Factor	Size Based Cost	
801	Black Walnut	*Juglans nigra*	34	2	4	Good	Fair	Good	pruned under hydro	Boundary	0.5	0.8	0.3	3400	$ 408.00
802	Black Walnut	*Juglans nigra*	13	1.5	3	Good	Good	Fair	some dieback, pruned under hydro	Boundary	0.5	0.8	0.3	1300	$ 156.00
803	Black Walnut	*Juglans nigra*	14	1.5	2	Fair	Fair	Fair	shared stump with smaller stem, topped under hydro, dieback	Boundary	0.5	0.8	0.3	1400	$ 168.00
804	American Beech	*Fagus grandifolia*	39	2	4	Fair	Good	Fair	seam base to 2.0m, pruned, dieback in canopy	Remove	0.5	1.0	0.3	3900	$ 585.00
805	American Beech	*Fagus grandifolia*	39	2	7	Fair	Good	Good	seam 0.5m to 2.0m, pruned lower branches, healed over	Remove	0.5	1.0	0.3	3900	$ 585.00
806	Sugar Maple	*Acer saccharum*	29	2	4	Good	Good	Good	pruned, some dieback	Remove	0.75	1.0	0.3	2900	$ 652.50
807	Sugar Maple	*Acer saccharum*	35	2	5	Good	Fair	Good	trunk wound, multiple stems, inclusion at 10.0m	Remove	0.5	1.0	0.3	3500	$ 525.00
808	White Ash	*Fraxinus americana*	42	0	dead					Remove	0	1.0	0.3	4200	$ -
809	Sugar Maple	*Acer saccharum*	27	2	4	Good	Good	Good		Remove	0.75	1.0	0.3	2700	$ 607.50
810	Sugar Maple	*Acer saccharum*	33	2	5	Poor	Good	Good	large wound at base, multiple stems, inclusion wood, pruned	Remove	0.5	1.0	0.3	3300	$ 495.00
811	Sugar Maple	*Acer saccharum*	39	2	5	Good	Fair	Good	small wound at base, codom at 10.0m, inclusion wood,	Remove	0.5	1.0	0.3	3900	$ 585.00
812	Sugar Maple	*Acer saccharum*	35	2	5	Good	Good	Good	some dieback	Remove	0.75	1.0	0.3	3500	$ 787.50
813	Norway Maple	*Acer platanoides*	17	1.5	3	Poor	Fair	Good	old stump possible rot at base, pruned, no top, large lateral branches, tar spot	Remove	0.25	0.8	0.3	1700	$ 102.00
814	Black Walnut	*Juglans nigra*	23	1.5	2.5	Good	Fair	Good	topped under hydro	Boundary	0.5	0.8	0.3	2300	$ 276.00
815	Manitotoba Maple	*Acer negundo*	21	1.5	2	Fair	Fair	Good	wound at base, topped at 3.0m	Boundary	0.5	0.2	0.3	2100	$ 63.00
816	Black Walnut	*Juglans nigra*	24	1.5	3	Good	Good	Good		Remove	0.75	0.8	0.3	2400	$ 432.00
820	Sugar Maple	*Acer saccharum*	12	1.5	2	Poor	Fair	Good	wound at base, multiple large branches, inclusion wood	Remove	0.5	1.0	0.3	1200	$ 180.00
821	Black Walnut	*Juglans nigra*	20	1.5	4	Good	Fair	Good	codom at 6.0m, inclsion wood	Remove	0.75	0.8	0.3	2000	$ 360.00
822	Sugar Maple	*Acer saccharum*	22	1.5	3	Poor	Fair	Good	multiple stem below DDBH (11, 12 cm), wound at base, inclusion wood with other stem, wound	Remove	0.5	1.0	0.3	2200	$ 330.00
823	Manitotoba Maple	*Acer negundo*	11	1.5	2	Good	Poor	Good	sever lean, topped	Remove	0.5	0.2	0.3	1100	$ 33.00
824	Manitotoba Maple	*Acer negundo*	22	1.5	2	Poor	Fair	Good	multiple stem below DBH (11, 12 cm)sever lean, both topped, shared stump with inclusion wood	Remove	0.5	0.2	0.3	2200	$ 66.00
825	Manitotoba Maple	*Acer negundo*	12	1.5	2	Fair	Fair	Good	wound at base, sever lean, topped	Remove	0.5	0.2	0.3	1200	$ 36.00
826	Norway Maple	*Acer platanoides*	11	1.5	2	Poor	Fair	Fair	wound at base, tar spot, topped, branch wounds	Remove	0.25	0.8	0.3	1100	Hazard
827	Sugar Maple	*Acer saccharum*	30	2	3	Good	Good	Good		Boundary	0.75	1.0	0.3	3000	$ 675.00
828	Manitotoba Maple	*Acer negundo*	22	1.5	4	Poor	Poor	Good	wound at base, sever lean, large laterals with inclusion wood	Boundary	0.25	0.2	0.3	2200	$ 33.00
855	Sugar Maple	*Acer saccharum*	15	1.5	3	Fair	Good	Good	branch wound, root wound	Boundary	0.5	1.0	0.3	1500	$ 225.00
829	White Ash	*Fraxinus americana*	19	0	dead					Boundary	0	0.8	0.3	1900	$ -
830	Sugar Maple	*Acer saccharum*	28	2	4	Good	Good	Good		Boundary	0.75	1.0	0.3	2800	$ 630.00
831	Sugar Maple	*Acer saccharum*	38	2	4	Good	Good	Good		Boundary	0.75	1.0	0.3	3800	$ 855.00
832	Sugar Maple	*Acer saccharum*	30	2	4	Good	Fair	Good	dead leader at 10.0m, brush piles up against stem	Boundary	0.75	1.0	0.3	3000	$ 675.00
833	White Ash	*Fraxinus americana*	30	0	dead					remove	0	0.8	0.3	3000	$ -
834	American Basswood	*Tilia americana*	67	3	4	Good	Fair	Good	lean, branch stubbs possible rot	Remove	0.5	0.6	0.3	6700	$ 603.00
835	Sugar Maple	*Acer saccharum*	21	1.5	5	Good	Fair	Good	multiple stems with inclusion wood at 12.0m	Boundary	0.5	1.0	0.3	2100	$ 315.00
836	Sugar Maple	*Acer saccharum*	51	2.5	4	Good	Good	Good		Boundary	0.75	1.0	0.3	5100	$ 1,147.50
837	Sugar Maple	*Acer saccharum*	30	2	5	Fair	Good	Fair	wound at base, dieback, large branches mid canopy toward trail	Boundary	0.5	1.0	0.3	3000	$ 450.00
838	Sugar Maple	*Acer saccharum*	45	0	dead					Hazard	0	1.0	0.3	4500	$ -
839	Sugar Maple	*Acer saccharum*	31	2	3	Good	Good	Poor	dead top	Boundary	0.5	1.0	0.3	3100	$ 465.00
840	American Basswood	*Tilia americana*	42	2.5	5	Poor	Fair	Fair	lots of cankers on stem, epic at base, musltiple stems with inclusion wood, sparse foliage	Remove	0.5	0.6	0.3	4200	$ 378.00
841	Sugar Maple	*Acer saccharum*	36	2	5	Good	Good	Good		Remove	0.75	1.0	0.3	3600	$ 810.00
842	American Basswood	*Tilia americana*	36	2	4	Fair	Fair	Good	large dead branch, branch broke	Remove	0.5	0.6	0.3	3600	$ 324.00
843	Sugar Maple	*Acer saccharum*	40	2.5	4	Good	Fair	Good	small trunk wound, multiple stems one dead at 6.0m	Boundary	0.5	1.0	0.3	4000	$ 600.00
844	American Basswood	*Tilia americana*	24	1.5	3	Good	Good	Fair		Remove	0.75	0.6	0.3	2400	$ 324.00
845	Sugar Maple	*Acer saccharum*	36	2	4	Good	Good	Good		Boundary	0.75	1.0	0.3	2640	$ 594.00
846	Sugar Maple	*Acer saccharum*	22	1.5	3	Good	Fair	Good	multiple stems at 5.0m, inclusion wood, one dead	Boundary	0.5	1.0	0.3	2200	$ 330.00
847	American Basswood	*Tilia americana*	38	2	4.5	Good	Fair	Good	some woodpecker sign on trunk	Boundary	0.5	0.6	0.3	3800	$ 342.00
848	Sugar Maple	*Acer saccharum*	27	2	4	Good	Good	Good		Boundary	0.75	1.0	0.3	2700	$ 607.50
849	American Basswood	*Tilia americana*	23	1.5	3	Good	Poor	Good	sever lean, some woodpecker sign on trunk	Boundary	0.5	0.6	0.3	2300	$ 207.00
850	Sugar Maple	*Acer saccharum*	37	2	4	Good	Good	Good		Remove	0.75	1.0	0.3	3700	$ 832.50
851	Sugar Maple	*Acer saccharum*	48	2.5	6	Good	Fair	Good	heavey branches towards house, codom at 4.0m, inclusion wood	Remove	0.5	1.0	0.3	4800	$ 720.00
852	Sugar Maple	*Acer saccharum*	22	1.5	4	Good	Good	Good		Boundary	0.75	1.0	0.3	2200	$ 495.00
853	Sugar Maple	*Acer saccharum*	53	2.5	7	Good	Good	Good	couple branch stubs	Boundary	0.75	1.0	0.3	5300	$ 1,192.50
854	Sugar Maple	*Acer saccharum*	45	2.5	4	Good	Good	Good	branch heavey towards house	Remove	0.75	1.0	0.3	4500	$ 1,012.50
856	Sugar Maple	*Acer saccharum*	52	2.5	7	Good	Fair	Good	large branching in crown, healed over wounds, branching toward pool	Boundary	0.5	1.0	0.3	5200	$ 780.00
857	Sugar Maple	*Acer saccharum*	46	2.5	5	Good	Fair	Good	codom at 12.0m, inclusion wood	Remove	0.5	1.0	0.3	4600	$ 690.00
858	Black Walnut	*Juglans nigra*	12	1.5	4	Good	Good	Good	branching towards pool	Remove	0.75	0.8	0.3	1200	$ 216.00
859	Black Walnut	*Juglans nigra*	16	1.5	5	Good	Good	Good	branching toward pool	Remove	0.75	0.8	0.3	1600	$ 288.00

860	Sugar Maple	*Acer saccharum*	62	3	7	Good	Good	Good	some large branching	Boundary	0.75	1.0	0.3	6200	$	1,395.00
861	Norway Maple	*Acer platanoides*	12	1.5	3	Good	Good	Good	branches towards pool, tar spot	Remove	0.75	0.8	0.3	1200	$	216.00
862	Sugar Maple	*Acer saccharum*	17	2.5	4	Poor	Poor	Good	wound at base, branch wound db, large branch towards pool	Boundary	0.25	1.0	0.3	2640	$	198.00
863	Sugar Maple	*Acer saccharum*	17	1.5	4	Fair	Good	Good	exposed roots, slope	Boundary	0.5	1.0	0.3	1700	$	255.00
864	American Basswood	*Tilia americana*	32	2	5	Fair	Fair	Good	shared stump, large branching intertwined with, woodpecker sign on trunk, insect damage on leaves	Boundary	0.5	0.6	0.3	3200	$	288.00
865	Norway Maple	*Acer platanoides*	16	1.5	4	Good	Fair	Good	mult stem at 2.5, dead branch stub, tar spot	Boundary	0.5	0.8	0.3	1600	$	192.00
867	American Basswood	*Tilia americana*	32	2	5	Fair	Fair	Good	shared stump, intertwind with tree #898, lean, large branches towards pool, insect on leaves, woodpecker sign on trunk	Remove	0.5	0.6	0.3	3200	$	288.00
868	Manitotoba Maple	*Acer negundo*	12	1.5	3	Poor	Poor	Poor	wound at base, mult stems, sever lean, wound on trunk, some dieback	Boundary	0.25	0.2	0.3	1200	$	18.00
869	American Basswood	*Tilia americana*	47	2.5	6	Fair	Fair	Good	trunk wounds small, heavy large branching to pool, insect leaves, some woodpecker sign on trunk	Remove	0.75	0.6	0.3	4700	$	634.50
870	Northern Red Oak	*Quercus rubra*	52	2.5	5	Good	Fair	Good	codom stems at 6.0m, some dieback	Remove	0.5	1.0	0.3	5200	$	780.00
871	Sugar Maple	*Acer saccharum*	20	1.5	4	Good	Good	Good		Boundary	0.75	1.0	0.3	2000	$	450.00
872	Sugar Maple	*Acer saccharum*	12	1.5	3	Good	Good	Good		Boundary	0.75	1.0	0.3	1200	$	270.00
873	White Spruce	*Picea glauca*	34	2	4	Good	Good	Good	branching towards pool	Remove	0.75	0.8	0.3	height formula		
874	Sugar Maple	*Acer saccharum*	34	2	5	Good	Fair	Fair	branch wounds	Remove	0.5	1.0	0.3	3400	$	510.00
875	Sugar Maple	*Acer saccharum*	20	1.5	3	Good	Fair	Good	wound at 6.0m (small)	Boundary	0.5	1.0	0.3	2000	$	300.00
876	Sugar Maple	*Acer saccharum*	51	0	dead					Boundary	0	1.0	0.3	5100	$	-
877	Sugar Maple	*Acer saccharum*	24	1.5	4	Good	Good	Good		Boundary	0.75	1.0	0.3	2400	$	540.00
878	Eastern White Pine	*Pinus strobus*	49	2.5	4	Good	Good	Good		Boundary	0.75	0.8	0.3	height formula		
879	Sugar Maple	*Acer saccharum*	58	2.5	5	Poor	Fair	Good	seam at base, mult stem at 2.0m, inclusion, larg dead branches	Boundary	0.5	1.0	0.3	5800	$	870.00
880	White Ash	*Fraxinus american*	42	0	dead					Boundary	0	0.8	0.3	4200	$	-
881	Northern Red Oak	*Quercus rubra*	85	4	7	Poor	Good	Good	shared stump below DBH (45, 40 cm), inclusion at base	Boundary	0.5	1.0	0.3	8500	$	1,275.00
882	Sugar Maple	*Acer saccharum*	12	1.5	2	Poor	Good	Good	wound from base to 1.5m	Boundary	0.5	1.0	0.3	1200	$	180.00
883	Sugar Maple	*Acer saccharum*	12	1.5	3	Good	Good	Good	heavey branch toward pool	Boundary	0.75	1.0	0.3	1200	$	270.00
884	American Basswood	*Tilia americana*	17	1.5	3	Good	Fair	Good	twisty stem but good, woodpecker sign on trunk	Boundary	0.5	0.6	0.3	1700	$	153.00
885	White Ash	*Fraxinus american*	50	1.5		both dead			Multiple stem below DBH (25, 25 cm)	Boundary	0	0.8	0.3	5000	$	-
886	Sugar Maple	*Acer saccharum*	13	1.5	3	Fair	Good	Good	fence in tree, heavey branch towards pool	Boundary	0.5	1.0	0.3	1300	$	195.00
887	Sugar Maple	*Acer saccharum*	13	1.5	3	Poor	Fair	Good	seam 0.5m to 2.0m and 2.5m to 6.0m, over top, branching towards pool, lean	Boundary	0.25	1.0	0.3	1300	$	97.50
888	Sugar Maple	*Acer saccharum*	14	1.5	3	Good	Fair	Good	mult stem at 5.0m dead, overtop suppressed, branching towards pool	Boundary	0.5	1.0	0.3	1400	$	210.00
889	Sugar Maple	*Acer saccharum*	12	1.5	3	Good	Good	Good	overtop	Boundary	0.75	1.0	0.3	1200	$	270.00
890	Northern Red Oak	*Quercus rubra*	82	4	7	Poor	Good	Good	multiple stem below DBH (40, 42 cm cm), seam base to 1.5m, black ozze	Boundary	0.25	1.0	0.3	8200	$	615.00
891	White Ash	*Fraxinus american*	15	0	dead					Boundary	0	0.8	0.3	1500	$	-
892	Black Cherry	*Prunus serotina*	19	1.5	4	Good	Fair	Good	sever lean towards pool	Boundary	0.5	0.4	0.3	1900	$	114.00
893	Sugar Maple	*Acer saccharum*	26	2	4	Good	Fair	Good	large branching, inclusion wood, wounds, leader dead	Boundary	0.5	1.0	0.3	2600	$	390.00
894	Sugar Maple	*Acer saccharum*	28	2	3	Good	Good	Good		Boundary	0.75	1.0	0.3	2800	$	630.00
895	Sugar Maple	*Acer saccharum*	15	1.5	3	Poor	Fair	Good	wound at base, sever lean, branch wounds	Boundary	0.25	1.0	0.3	1500	$	112.50
896	Sugar Maple	*Acer saccharum*	17	1.5	4	Good	Good	Good	branches towards pool	Boundary	0.75	1.0	0.3	1700	$	382.50
897	Sugar Maple	*Acer saccharum*	14	1.5	2	Good	Good	Good	branches toward pool	Boundary	0.75	1.0	0.3	1400	$	315.00
898	Sugar Maple	*Acer saccharum*	12	1.5	2	Poor	Poor	Poor	brocken top at 3.0, still alive over hanging property line	Boundary	0.25	1.0	0.3	1200	$	90.00
899	Ironwood	*Ostrya virginiana*	35	1.5	2	Fair	Fair	Good	multiple stem below DBH (15, 20 cm), shared stump, possible inclusion wood, large laterals, both stems have branches towards pool	Boundary	0.5	0.8	0.3	3500	$	420.00
900	Sugar Maple	*Acer saccharum*	19	1.5	4	Good	Good	Good		Boundary	0.75	1.0	0.3	1900	$	427.50
901	Sugar Maple	*Acer saccharum*	44	2.5	6	Good	Fair	Good	some laterals	Boundary	0.5	1.0	0.3	4400	$	660.00
902	Sugar Maple	*Acer saccharum*	24	1.5	3	Good	Good	Fair	some dieback	Boundary	0.5	1.0	0.3	2400	$	360.00
903	Sugar Maple	*Acer saccharum*	20	1.5	3	Good	Fair	Good	large dead branch, twisty	Boundary	0.5	1.0	0.3	2000	$	300.00
904	Sugar Maple	*Acer saccharum*	31	2	5	Good	Good	Good	lean over property line	Boundary	0.75	1.0	0.3	3100	$	697.50
905	Ironwood	*Ostrya virginiana*	14	1.5	3	Good	Good	Good		Boundary	0.75	0.8	0.3	1400	$	252.00
906	Sugar Maple	*Acer saccharum*	17	1.5	4	Good	Fair	Good	large lateral branches over property boundary, brocken large branches, overtopped	Boundary	0.5	1.0	0.3	1700	$	255.00
907	American Basswood	Tilia americana	40	2	4	Fair	Fari	Poor	multiple stem below DBH (17, 23 cm), shared stump, wounds on stem, insect leaves, woodpecker sign on trunk, large dead branch	Boundary	0.25	0.8	0.3	4000	$	240.00
908	Sugar Maple	*Acer saccharum*	54	2.5	4	Poor	Poor	Good	multiple stem below DBH (17,10,15,12 cm)shared stump, fence through tree, wound at base,	Boundary	0.25	1.0	0.3	5400	$	405.00
909	Sugar Maple	*Acer saccharum*	35	2	4	Poor	Fair	Good	seam base to 2.5, must of stem lean and branches over property line	Boundary	0.25	1.0	0.3	3500	$	262.50
910	Sugar Maple	*Acer saccharum*	12	1.5	3	Fair	Poor	Good	over top all branches over property line, branch wounds	Boundary	0.25	1.0	0.3	1200	$	90.00
911	Sugar Maple	*Acer saccharum*	10	1	3	Good	Poor	Good	large branch over property, sever lean	Boundary	0.25	1.0	0.3	1000	$	75.00
912	Sugar Maple	*Acer saccharum*	24	1.5	5	Good	Fair	Good	large dead broken branches, top over property line	Boundary	0.5	1.0	0.3	2400	$	360.00
913	Sugar Maple	*Acer saccharum*	35	2	4	Fair	Fair	Good	branch growing out of base, codominante stems at 6.0m inclusion	Boundary	0.5	1.0	0.3	3500	$	525.00
914	Ironwood	*Ostrya virginiana*	21	1.5	4	Good	Good	Good	branching all towards drivway	Boundary	0.75	0.8	0.3	2100	$	378.00

915	White Ash	Fraxinus american	27	2	4	Good	Poor	Poor	mostly dead only few leaves in lower branches	Boundary	0	0.8	0.3	2700	$ -
916	White Ash	Fraxinus american	17	0	dead					Boundary	0	0.8	0.3	1700	$ -
917	American Beech	Tilia americana	30	2	5	Good	Fair	Fair	large laterals, inclusion wood, lean towards driveway, top over property line, dieback dead	Boundary	0.5	1.0	0.3	3000	$ 450.00
918	American Beech	Tilia americana	20	1.5	4	Good	Good	Good		Boundary	0.75	1.0	0.3	2000	$ 450.00
919	White Ash	Fraxinus american	27	2	dead					Boundary	0	0.8	0.3	2700	$ -
920	American Beech	Fagus grandifolia	12	1.5	4	Fair	Poor	Fair	top of tree over driveway, branch stubs possible rot, main leader dead	Boundary	0.25	1.0	0.3	1200	$ 90.00
921	American Beech	Fagus grandifolia	35	0	dead					Boundary	0	1.0	0.3	3500	$ -

[1]per City of Barrie Tree Protection Manual (Version 2, Revised January 2010)

2 Trees highlighted yellow represent trees included in replacement cost calculation