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November 21, 2017

Our File No.: AA17-093A

Arborist Report
Caledon 410 Developments Ltd., Mayfield West Phase 2
Town of Caledon
Regional Municipality of Peel

1.0 Introduction

The Town of Caledon requires the preparation of an Arborist Report, as part of its draft plan application preconsultation checklist, that identifies the trees on or adjacent the subject property, determines trees to be preserved or removed, and the methods of protection of preserved trees and calculations of compensation for removed trees. Aboud & Associates was retained by Caledon 410 Developments Ltd., to prepare the Arborist Report.

1.1 Tree Study Terms of Reference

The Terms of Reference for Arborist Services were provided by Nick Pirzas, Senior Landscape Architect, Community Services, Town of Caledon. The terms of reference are detailed in Section 2.2.

In addition to any applicable municipal by-laws, it is required by law in the province of Ontario to obtain consent for the injury or removing of any boundary or offsite tree prior to injuring or removing that tree. Paragraph 10 of the Forestry Act, R.S.O. 1990, c. F.26 states that:

- 10. (2) Every tree whose trunk is growing on the boundary between adjoining lands is the common property of the owners of the adjoining lands. 1998, c. 18, Sched. I, s. 21.
- (3) Every person who injures or destroys a tree growing on the boundary between adjoining lands without the consent of the land owners is guilty of an offence under this Act. 1998, c. 18, Sched. I, s. 21.

2.0 Methods

2.1 Site Context

The subject site is located in the Town of Caledon. The study area (see Drawing TPP1) includes adjacent lands within 6 m of the subject property boundary to include candidate trees within up to 6 m of the subject property. Trees within Woodlots A and B (Drawing TP1) are not included with the exception of trees along the woodlot edges adjacent the development that meet the definition of candidate tree.

2.2 Candidate Trees

Trees for detailed study (i.e. inventoried and assessed) are:

- Trees with diameters of 15cm or more, situated on private property on the subject site.
- b) Trees with diameters of 15cm or more, situated on private property, up to within 6m of the subject site.
- c) Trees of all diameters situated within the City road allowance adjacent to the subject site.

Note: Trees were not tagged.

The locations of candidate trees were recorded in the field using GPS technology (Trimble® Geo XH 6000) with a typical accuracy of 30cm (approximately) and the following data were collected.

- Tree identification number which corresponds to plans
- Species (scientific and common names)
- Diameter at breast height DBH (cm)
- Crown Diameter (m)
- Minimum Tree Protection Zone ¹
- Condition (Biological Health, Structural Condition, and Overall Condition)
- Proposed Action (retain, relocate or remove)
- Ownership: ownership of trees is defined as i) onsite private (on the subject parcel), ii) off-site private, iii) shared between the subject parcel and off-site private, or iv) off-site municipal
- Recommendation based on Current Condition
- Recommendation based on Development Impacts
- Final Recommendation (Preserve or Remove)
- Compensation Requirements ²
- Comments
- Reasons for Removal
- Minimum Tree Protection Zones (MTPZs) are assigned minimum distances from the outer edge of the trunk base. MTPZs are a guide based on trunk diameter to show the limit where disturbances (e.g. excavation) may occur with the objective to avoid severance of anchor roots. MTPZ distances will be assigned using standard protection zone distances of the City of Guelph. The Town of Caledon does not use or define MTPZs.
- Tree Compensation: The Town of Caledon requires 2:1 compensation for removed candidate trees. Candidate trees for compensation are 15cm DBH and greater, removed based on impacts from the proposed development, and having an existing condition of Fair, Good or Excellent. The ratio of compensation of removed candidate trees is 2:1. Trees less than 15cm DBH, with an existing condition of Poor, Very Poor or Dead, or hazardous do not require compensation.

The tree inventory and assessment was conducted by Steven Aboud, ISA Certified Arborist on June 14, 2017.

The following attached documents are part of this investigation.

•	Appendix 1.	Tree Inventory and Assessment Definitions (see TPP2)
•	Appendix 2.	Tree Data (see TPP2)
•	Appendix 3.	Limitations of this Tree Assessment
•	Appendix 4.	Protection of Migratory Birds and Development
•	Drawing TPP1	Tree Inventory and Preservation Plan
•	Drawing TPP2	Tree Inventory and Preservation Plan (Enlargements)
•	Drawing TPP3	Appendix 1 (Tree Inventory and Assessment Definitions) and Appendix 2 (Tree Data)
•	Drawing TPP4	Tree Notes and Tree Protection Fence Detail

Appendix 1 provides a description of assessment methods and definitions of codes assigned to trees listed in Appendix 2. Recommendations to preserve or remove individual trees were assigned based on a tree's current condition and the expected impact from the proposed development. The final preservation or removal recommendation for each tree, observations, recommendations, and other data listed above are provided in Appendix 2.

We provide *Appendix 3 - Limitations of this Tree Assessment* to clarify what is reasonable and possible in our assessment of trees. *Appendix 4 - Protection of Migratory Birds and Development* is provided for reducing impacts to breeding birds.

2.3 Future Tree Studies

The development concept plan prepared by Glen Schnarr & Associates (dated May 18, 2017) was used to conduct the impact assessment to trees. Plans of grading and servicing were not used. For the purposes of determining recommendations of tree preservation and removal, all trees within the proposed development as shown on the concept plan are recommended for removal. Off-site trees adjacent the southeast boundary of the subject lands may be impacted by the proposed development from grading. A final impact assessment of these trees can be performed following a review of a grading and servicing plan. We note that the locations of Tree Numbers T9 to T23, inclusive will require survey grade precision because of their close proximity to the subject property boundary. This type of survey would be prepared by the project surveyor.

3.0 Observations and Recommendations

3.1 Tree Inventory Data Summary

The tree inventory collected information of 111 trees or tree groups in the study area. Specific data for each individual tree and a summary of selected totals are provided in *Appendix 2*.

The composition of trees and tree groups is comprised of 23 types. Of these, over half (i.e. 69 specimens) are comprised of four tree types; Norway Spruce, Manitoba Maple, Silver Maple, and Cutleaf Silver Maple. A breakdown of tree types by occurrence is provided in Table A.

Table A. Summary of Inventoried Tree Types

ltem	Tree Type - Common name in brackets ()	Occurrences
1	Picea abies (Norway Spruce)	36
1	Acer negundo (Manitoba Maple)	13
1	Acer saccharinum (Silver Maple)	11
1	Acer saccharinum 'Laciniatum' (Cutleaf Silver Maple)	9
1	Acer saccharum ssp. saccharum (Sugar Maple)	8
1	Fraxinus pennsylvanica (Green Ash)	6
1	Carya ovata (Shagbark Hickory)	4
1	Populus tremuloides (Trembling Aspen)	3
1	Thuja occidentalis (Eastern White Cedar)	3
1	Gleditsia triacanthos (Honeylocust)	2
1	Juniperus chinensis (Chinese Juniper)	2
1	Picea glauca (White Spruce)	2
1	Pinus sylvestris (Scots Pine)	2
1	Acer platanoides (Norway Maple)	1
1	Acer rubrum 'Franksred' (Franksred Sugar Maple)	1
1	Aesculus hippocastanum (Horse Chestnut)	1
1	Crataegus sp. (Hawthorn)	1
1	Malus pumila (Apple)	1
1	Prunus virginiana 'Schubert' (Schubert Chokecherry)	1
1	Quercus macrocarpa (Bur Oak)	1
1	Quercus palustris (Pin Oak)	1
1	Thuja occidentalis 'Spiralis' (Spiral Eastern White Cedar)	1
1	Tilia cordata 'Greenspire' (Greenspire Littleleaf Linden)	1
23	Total Types Total Trees	111

The locations, identification numbers, minimum tree protection zones, crown diameters, preserve/remove recommendations, and protection details of trees are shown on Drawings TPP1 and TPP2.

A summary of the six condition ratings of the 111 trees is: Fair (39), Poor (28), Good (16), Dead (13), Very Poor (12), and Excellent (3).

3.2 Endangered or Threatened Species

The provincial **Endangered Species Act, 2007 (ESA)** provides protection to species designated as Threatened or Endangered on the Species at Risk in Ontario list (MNRF 2015. https://www.ontario.ca/environment-and-energy/species-risk-ontario-list). The habitat of species at risk is also generally protected under the ESA. Protected habitat is habitat identified as essential for life processes including: breeding, rearing, feeding, hibernation and migration.

Under the ESA, no person shall: *kill, harm, harass, capture or take a living member of a species that is listed on the Species at Risk in Ontario List as an extirpated, endangered or threatened species*"

And "No person shall damage or destroy the habitat of a species that is listed on the Species at Risk in Ontario list as an endangered or threatened species." Butternut is a threatened and protected species and trees of all sizes are protected under Ontario's Endangered Species Act, 2007.

As part of the current investigation, no specimen of Butternut was recorded within the study area.

3.3 Recommendations for Preservation and Removal

3.3.1 Trees Recommended for Preservation

It is recommended that 27 of the 111 studied trees be preserved. These trees recommended for preservation are in acceptable biological and structural condition and will be minimally or not impacted by the proposed works. For those trees to be preserved and that could be impacted from the proposed work, mitigation measures are provided (Section 3.4). Table B provides a summary of recommended action assigned to all inventoried trees.

3.3.2 Trees Recommended for Removal

There are a total of 84 trees recommended for removal due to their low condition rating (including severe deficiency types such as leans, deadwood, trunk decay and split stems, or dead) and/or impact from the proposed development. Deficiencies recorded for individual trees are provided in *Appendix 2*.

3.3.2.1 Trees Recommended for Removal Based on Condition

A total of 54 trees are recommended for removal based on their existing condition (Appendix 2).

3.3.2.2 Trees Recommended for Removal Based on Development

A total of 60 trees are recommended for removal due to impacts from the proposed construction.

Table B. Summary of Recommended Action Assigned to Trees

Recommended Action	Based on Condition	Based on Development	Based on Condition AND Development
Preserve	57	51	27
Remove	54	60	84
Totals	111	111	111

3.4 Tree Protection Measures

In order to successfully preserve the trees recommended for preservation in Section 3.3.1 and shown on Drawings TPP1 and TPP2 from the proposed development, protection measures are recommended. These are listed below and detailed on Drawings TPP1-TPP4.

 Tree Protection Fence must be installed as specified (Tree Preservation Fence Detail, Standard No. 707, Town of Caledon) and at the locations shown on *Drawings TPP1-2*.
 Tree Protection Zone Information Signage is recommended. It should include the following specifications:

Tree Protection Zone Signage:

- a. Title: Tree Protection Zone (TPZ)
- b. No Grade Change, Dumping, Storage of Materials, Storage of Equipment, Unauthorized Entry, Tree Injury or Removal, Disturbance of Any Kind, Protection Fence is not to be damaged or moved and to remain in place until all construction is completed.
- c. Sign to be Gatorboard, 11" X 17", white with black lettering.
- 2. Notes of tree protection are provided on Drawing TPP4.

3.6 Transplanting

Trees (Tree Numbers 12, 16, 19 and 20) on site located along the southeast property boundary are of a size (i.e. 5-18cm DBH) and condition (i.e. good to excellent) for transplant consideration. However the trees are not accessible to tree spade equipment because they are between fenced private property on one side and a sizable swale on the other (i.e. on the subject lands). Therefore no existing trees are recommended for transplanting.

4.0 Inspections

A schedule of site monitoring inspections of the project and construction activities related to trees by the project arborist is recommended. Details of monitoring inspections should be prepared following detailed site design, e.g. grading and servicing.

5.0 Tree Compensation

Compensation of trees as a result of impacts from construction is required. Using the Town's definition of candidate trees requiring compensation, there are 41 trees requiring compensation. Based on the Town's ratio of two trees to replace each removed tree, a total of 82 (i.e. 2 X's 41) compensation trees are required (Appendix 1, Drawing TPP3).

6.0 Additional Tree Notes of the Town

The Town requires that the following notes be included in the Arborist Report.

- Any trees located on the property line or on the adjacent property that are proposed to be removed or pruned, will require written consent from the adjacent property owner. All correspondence is to be forwarded to the Town prior to final approval.
- 2:1 tree compensation will be required for tree all removals. Tree compensation planting
 will be in addition to the standard required planting. In the event that tree compensation
 cannot be accommodated for in the planting design, financial compensation shall be
 collected at a rate (per tree) as determined by the Town.

7.0 Conclusions

Aboud & Associates was retained by Caledon 410 Developments Limited to prepare an Arborist Report for their lands within the Mayfield West Phase 2 Secondary Plan. The Terms of Reference for the tree study were provided by the Town of Caledon. Through field study of the on-site and selected offsite trees and analysis of the proposed development we provide the following conclusions.

- 1. 111 trees / tree groups were assessed. Their composition is comprised of 23 types. Over half are made up of Norway Spruce, Manitoba Maple, Silver Maple and Cutleaf Silver Maple. The condition of assessed trees ranges as follows: Excellent -3, Good -16, Fair -39, Poor -28, Very Poor -12, and Dead -13.
- 2. As part of the current investigation, no specimen of Butternut, a threatened and protected species under Ontario's Endangered Species Act, 2007 was recorded within the study area.
- 3. 27 of the 111 trees studied are recommended for preservation. A total of 84 trees are recommended for removal based on their existing condition or impacts from the proposed development.
- 4. Measures to protect trees are provided. These are described in Section 3.4 and on Drawings TPP1-4.
- 5. Protection of migratory bird nests is provided in *Appendix 4* and *Drawing TPP4*, General Tree Notes.
- 6. Further tree studies are recommended. These are needed to assess the impact from grading and servicing (Section 2.3) and will include precisely locating tree locations by the project surveyor.
- 7. Transplantation of trees is not recommended due to limitations of transplant equipment access (Section 3.6).
- 8. 82 trees are recommended for compensation per the Town's requirements to account for the loss of 41 trees from the proposed development (Section 5.0).
- 9. A schedule of site monitoring inspections of the project and construction activities related to trees by the project arborist is recommended. Details of monitoring inspections should be prepared following detailed site design, e.g. grading and servicing.
- 10. Details of trees, their locations, and protection measures are provided on Drawings TPP1-4.

Report Prepared By:

ABOUD & ASSOCIATES INC.



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APPENDIX 1. TREE INVENTORY AND ASSESSMENT DEFINITIONS

Note: Not all definitions may apply.

DBH (cm): Diameter at breast height, 1.4 m above ground, measured in centimeters.

Numbers in square brackets [xx, xx, ...] denotes the DBH's of each stem of tree with multiple stems.

Crown Reserve (meters): Diameter of tree canopy estimated in meters.

Minimum Tree Protection Zone (MTPZ): The minimum setback required to maintain the structural integrity of the tree's anchor roots, based on generally accepted arboricultural principles. If trees are protected to the TPZ then the tree's anchor root structure is expected to be maintained. Protection zone distances from: Specifications for Trees (SS-31) City of Guelph. February 2012. The Tree Protection Zone is a distance in metres measured from the outside edge of the tree base.

Biological Condition: Related to presence and extent of disease/disease symptoms and the vigour of the tree.

H (**High**) - No diseases/disease symptoms present, and moderate to high vigour.

M (Moderate) - Presence of minor diseases/disease symptoms, and/or moderate vigour.

L (Low) - Presence of major diseases/disease symptoms, (i.e., extensive crown dieback), and/or poor vigour.

A further rating may be assigned of ML = Low side of Moderate, HM = Moderate side of High.

Structural Condition: Related to defects in a tree's structure, (i.e., lean, co-dominant trunks).

H (High) - No structural defects, well-developed crown.

M (Moderate) - Presence of minor structural defects.

L (Low) - Presence of major structural defects.

A further rating may be assigned of M(L) = Low side of Moderate, H(M) = Moderate side of High.

Overall Condition: Excerpted from the City of Kitchener's Tree Management Policy (I-1160. February 28, 2002)

Excellent – Sound, thrifty, full-crowned trees of natural shape with no dead limbs in the top of the crown and no significant evidence of decline.

Good – Full-to-medium crowned tree of natural shape with a live crown ratio > 40% that exhibit no more than minor dead wood (e.g. up to 10% secondary branches only and mainly in the lower crown) and no more than one moderate trunk defect or indicator of decline.

Fair – Full-to-small crowned trees with a live crown ratio > 25% that exhibit no more than moderate dead wood (e.g. 11 to 35% secondary branches mostly) and no more than two moderate trunk defects or indicators of decline.

Poor – Medium-to-very small crowned trees (e.g. live crown ratio < 25%) that exhibit one or more of the following conditions:

- a) Trees with significant foliage of poor colour and less than normal size
- b) Trees with significant crown dieback (e.g. > 35% dead wood in primary limbs)
- Trees with major trunk defects or decay (e.g. one extensive problem, or 3 or more distinct but moderate decline indicators).

Very Poor - Dying trees with very little live crown.

Dead - No live foliage present.

Ownership:

Private (On-site) Tree: Tree trunk located completely within the boundary of the subject property.

Off-site Tree: Tree trunk located on private property completely outside of the property boundary of the subject property.

Municipal Tree: Tree is located on the property of the municipality/region, e.g., within Right-of-Way.

Shared (Boundary) Tree: Tree located on property boundary of the subject property and adjacent private or public property.

Recommended Action: A recommendation of the following three categories is assigned to preserve or remove a tree:

- i) The tree's current biological health and structural condition
- ii) The anticipated impacts from proposed development
- iii) The summary of the previous two categories. Note: Only trees having a recommendation of preserve for both health and structure, and impacts from the proposed development are assigned a final recommendation of preserve.

P (Preserve) - Tree typically has a Biological Health rating of Moderate Low or higher AND a Structural Condition rating of Moderate Low or higher, AND is likely to survive impact from the proposed development (if present). The tree is likely to survive for at least 5 to 10 years.

R (Remove) - Tree typically has a Biological Health rating of Low, AND/OR a Structural Condition rating of Low, AND/OR will not survive the proposed development impacts (if present). The tree is not likely to survive more than 3 to 5 years.

Compensation: Candidate trees for compensation are 15cm DBH and greater, removed based on impacts from the proposed development, and having an existing condition of Fair, Good or Excellent. The ratio of compensation of removed candidate trees is 2:1. Trees less than 15cm DBH, with an existing condition of Poor, Very Poor or Dead, or hazardous do not require compensation.

^{**}, An asterisk beside the tree number indicates a group of trees of the same type and in the same general area.

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Tree No*	Species	der teid	Jianalei Ji	The Select of th	A Best of Control of C		dition of the state of the stat	Silicor June de	Si private de la constante de	Color Color	de la	Soonent Presente	Reason for Removal (If applicable)
1	Acer saccharinum Silver Maple	60	14	3.6	M	М	Fair	<u>М</u>	P	P	P P		(x, -4-1-x, -2-1-x)
2	Acer saccharum ssp. saccharum Sugar Maple	42	15	3	М	М	Fair	Р	Р	R	RD	Crown broken (moderate).	In conflict with proposed commercial area construction.
3	Acer saccharinum Silver Maple	38	10	2.4	М	М	Fair	Р	Р	R	RD	Crown broken (minor).	In conflict with proposed commercial area construction.
4	Aesculus hippocastanum Horse Chestnut	28	7	1.8	M(L)	L	Poor	Р	R	R	RCD	Crown broken (severe); Trunk decay (Moderate)	In conflict with proposed commercial area construction and in poor condition.
5	Picea abies Norway Spruce	34	7	2.4	L	L	ery Po	Р	R	R	RCD	Crown dieback (severe); 95% dead.	In conflict with proposed commercial area construction and in poor condition.
6	Acer saccharinum Silver Maple	114	15	7.2	M(L)	M(L)	Poor	Р	R	R	RCD	Crown dieback (severe); deadwood (severe).	In conflict with proposed commercial area construction and in poor condition.
7*	Acer negundo Manitoba Maple	50	10	3	H(M)	L	ery Po	Р	R	R	RCD	Group of 3 trees. Crown broken (severe).	In conflict with proposed commercial area construction and in poor condition.
8	Acer negundo Manitoba Maple	28	10	1.8	М	М	Fair	Р	Р	R	RD		In conflict with proposed commercial area construction.
9	Gleditsia triacanthos Honeylocust	20	8	1.8	H(M)	H(M)	Good	0	Р	Р	Р		
10	Acer saccharum ssp. saccharum Sugar Maple	18	5	1.8	H(M)	H(M)	Good	0	Р	Р	Р		
11	Gleditsia triacanthos Honeylocust	22	6	1.8	М	М	Good	0	Р	Р	Р	Construction in MTPZ. Root cutting recommended. See Notes.	

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Tree No*	Species	SEH LEIGH	Jianetel Co	Sero Mil	A Glarie		Sition Ones	SHOT OWN OF	Andrick O	andrion's Records	andrium' Reco	Comment	Reason for Removal (If applicable)
12	Juniperus chinensis Chinese Juniper	18	3	1.8	H(M)	М	Good	Р	Р	R	RD		In conflict with proposed storm water management pond.
13	Juniperus chinensis Chinese Juniper	15	3	1.8	H(M)	М	Fair	0	Р	Р	Р	Construction in MTPZ. Root cutting recommended. See Notes.	
14	Prunus virginiana 'Schubert' Schubert Chokecherry	15	8	1.8	H(M)	H(M)	Good	0	Р	Р	Р	Construction in MTPZ. Root cutting recommended. See Notes.	
15	Acer saccharinum Silver Maple	25	6	1.8	Н	H(M)	xceller	0	Р	Р	Р	Construction in MTPZ. Root cutting recommended. See Notes.	
16*	Thuja occidentalis 'Spiralis' Spiral Eastern White Cedar	10	2	1.8	н	H(M)	Good	Р	Р	R	RD	Group of 4 trees along fence.	In conflict with proposed storm water management pond.
17	Acer platanoides Norway Maple	15	8	1.8	H(M)	H(M)	Good	0	Р	Р	Р	Construction in MTPZ. Root cutting recommended. See Notes.	
18	Quercus palustris Pin Oak	30	8	2.4	Н	Н	Exceller	0	Р	Р	Р	Construction in MTPZ. Root cutting recommended. See Notes.	
19*	Picea glauca White Spruce	12	4	1.8	Н	Н	xceller	Р	Р	R	RD	2 trees 2m apart.	In conflict with proposed residential construction.
20*	Thuja occidentalis Eastern White Cedar	5	2	1.2	Н	М	Good	Р	Р	R	RD	Hedgerow of 30 trees.	In conflict with proposed residential construction.
21	Tilia cordata 'Greenspire' Greenspire Linden	12	4	1.8	Н	М	Good	0	Р	Р	Р	Front yard of existing house #68. Construction in MTPZ. Root cutting recommended. See Notes.	
22	Acer rubrum 'Franksred' Red Sunset Maple	10	4	1.8	H(M)	H(M)	Good	0	Р	Р	Р	In front yard of existing house #20.	
23	Acer negundo Manitoba Maple	45	4	3	М	L	ery Po	Р	R	Р	RC	Crown broken (severe); no other candidate trees in corner;	In poor condition.
24	Fraxinus pennsylvanica Green Ash	15	5	1.8	М	М	Fair	Р	Р	Р	Р		
25*	Acer saccharinum Silver Maple	22	6	1.8	H(M)	М	Fair	Р	Р	Р	Р	Group of 5 trees.	
26*	Acer saccharinum Silver Maple	20	6	1.8	H(M)	М	Fair	Р	Р	Р	Р	Group of 4 trees.	

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Tree No*	Species	SBH treed	janeter j	Legister Control of the Control of t	de de de la		dition of the state of the stat	M. Cartifer	Mulder St. Accorded	Original Color	dige by the property of the pr	Comment Group of 4 trees.	Reason for Removal (If applicable)
27*	Acer saccharinum Silver Maple	20	6	1.8	H(M)	М	Fair	Р	Р	Р	Р	Group of 4 trees.	
28	Carya ovata Shagbark Hickory	45	10	3	M(L)	M(L)	Fair	Р	Р	Р	Р	Crown dieback (moderate); crown sprouts (moderate).	
29	Quercus macrocarpa Bur Oak	90	16	5.4	L	L	Dead	Р	R	Р	RC		In poor condition.
30	Carya ovata Shagbark Hickory	40	12	2.4	H(M)	Н	Good	Р	Р	Р	Р		
31	Populus tremuloides Trembling Aspen	30 [22,20]	6	1.8	H(M)	М	Fair	Р	Р	Р	Р		
32	Populus tremuloides Trembling Aspen	28[22,18]	6	1.8	H(M)	М	Fair	Р	Р	Р	Р		
33	Carya ovata Shagbark Hickory	42	10	3	H(M)	H(M)	Good	Р	Р	Р	Р		
34	Malus pumila Apple	30	8	2.4	H(M)	М	Fair	Р	Р	Р	Р		
35	Carya ovata Shagbark Hickory	45	10	3	М	М	Fair	Р	Р	Р	Р	Crown broken (moderate); Crown dieback (minor).	
36	Acer saccharinum Silver Maple	85	12	5.4	М	M(L)	Fair	Р	Р	Р	Р	Crown dieback (moderate); Multi- branched node at 2m.	
37	Fraxinus pennsylvanica Green Ash	15	5	1.8	М	H(M)	Good	Р	Р	Р	Р		
38	Fraxinus pennsylvanica Green Ash	19[15,12]	6	1.8	М	М	Fair	Р	Р	Р	Р		
39	Fraxinus pennsylvanica Green Ash	18	4	1.8	М	L	ery Po	Р	R	Р	RC	Crown broken (severe).	In poor condition.
40	Populus tremuloides Trembling Aspen	20	4	1.8	М	M(L)	Poor	Р	R	Р	RC	Crown broken (moderate).	In poor condition.
41	Fraxinus pennsylvanica Green Ash	18	6	1.8	М	L	ery Po	Р	R	Р	RC	Crown broken (severe).	In poor condition.
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Tree No*	Species	DEH LENG	Dial Anni	A Sept A	1 Radius		differ One	oure of	A Single Ling Single Property of the State o	inde Leconin	origor Seco	Comment	Reason for Removal (If applicable)
42*	Crataegus sp. Hawthorn	5 - 10	4 - 8	1.8	H(M)	М	Good	Р	R	R	RCD	Group of approximately 50 trees. DBH and Crown Reserve are ranges. Crown broken (severe).	In conflict with proposed residential construction and in poor condition.
43	Acer saccharum ssp. saccharum Sugar Maple	4	2	1.2	L	L	Dead	M	R	Р	RC	Crown broken (severe).	In poor condition.
44	Acer saccharum ssp. saccharum Sugar Maple	4	2	1.2	M(L)	M(L)	Poor	М	R	Р	RC	Crown dieback (moderate); Removal of wire recommended.	In poor condition.
45	Acer saccharinum 'Laciniatum' Cutleaf Silver Maple	5	2	1.2	M(L)	M(L)	Poor	М	R	Р	RC	Crown dieback (moderate); Removal of wire recommended.	In poor condition.
46	Acer saccharinum 'Laciniatum' Cutleaf Silver Maple	5	2	1.2	M(L)	M(L)	Poor	М	R	Р	RC	Crown dieback (moderate); Removal of wire recommended.	In poor condition.
47	Acer saccharinum 'Laciniatum' Cutleaf Silver Maple	4	2	1.2	M(L)	M(L)	Poor	М	R	Р	RC	Crown dieback (moderate); Removal of wire recommended.	In poor condition.
48	Acer saccharum ssp. saccharum Sugar Maple	3	2	1.2	L	L	Dead	М	R	Р	RC		In poor condition.
49	Acer saccharinum 'Laciniatum' Cutleaf Silver Maple	4	2	1.2	L	L	ery Po	М	R	Р	RC	Crown dieback (severe);	In poor condition.
50	Acer saccharinum 'Laciniatum' Cutleaf Silver Maple	5	2	1.2	L	L	ery Po	М	R	Р	RC	Crown dieback (severe);	In poor condition.
51	Acer saccharinum 'Laciniatum' Cutleaf Silver Maple	5	2	1.2	L	L	ery Po	М	R	Р	RC	Crown dieback (severe);	In poor condition.
52	Acer saccharum ssp. saccharum Sugar Maple	4	2	1.2	L	L	ery Po	М	R	Р	RC	Crown dieback (severe).	In poor condition.
53	Acer saccharum ssp. saccharum Sugar Maple	4	2	1.2	L	L	Dead	М	R	Р	RC		In poor condition.
54	Acer saccharinum 'Laciniatum' Cutleaf Silver Maple	5	2	1.2	L	L	ery Po	М	R	Р	RC	Crown dieback (severe);	In poor condition.
55	Acer saccharum ssp. saccharum Sugar Maple	4	2	1.2	L	L	Dead	М	R	Р	RC		In poor condition.
56	Acer saccharinum 'Laciniatum' Cutleaf Silver Maple	5	2	1.2	M(L)	L	Poor	М	R	Р	RC	Crown dieback (moderate); Removal of wire recommended.	In poor condition.

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Tree		SEH TEN	Jishele 1	Legal Control of the	de d		de de la constitución de la cons	STEEL COLUMN STEEL	S. Stiroge Principles	State of Life	RC	Comment Crown dieback (severe); Removal of	Reason for Removal
No*	Species	OBL Heigh	Cto.	, Mis	B iol	Stri	One	Onlot	*/ 46° 46	~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	~ 4ec.	Comment	(If applicable)
57	Acer saccharinum 'Laciniatum' Cutleaf Silver Maple	4	2	1.2	L	L	ery Po	М	R	Р	RC	Crown dieback (severe); Removal of wire recommended.	In poor condition.
58	<i>Picea abies</i> Norway Spruce	35	8	2.4	M(L)	M(L)	Poor	М	R	Р	RC	Crown thinning (moderate).	In poor condition.
59	Pinus sylvestris Scots Pine	30	6	2.4	L	L	Dead	М	R	Р	RC		In poor condition.
60	Picea abies Norway Spruce	35	8	2.4	M(L)	М	Fair	М	Р	Р	Р	Crown thinning (moderate).	
61	Picea abies Norway Spruce	38	8	2.4	M(L)	М	Fair	Р	Р	R	RD	Crown thinning (moderate).	In conflict with proposed commercial area construction.
62	Picea abies Norway Spruce	45	8	3	M(L)	М	Fair	Р	Р	R	RD	Crown thinning (moderate).	In conflict with proposed commercial area construction.
63	Pinus sylvestris Scots Pine	38	8	2.4	M(L)	М	Fair	Р	Р	R	RD	Crown thinning (moderate).	In conflict with proposed commercial area construction.
64	Picea abies Norway Spruce	38	8	2.4	М	М	Fair	Р	Р	R	RD	Crown thinning (minor).	In conflict with proposed commercial area construction.
65	Picea abies Norway Spruce	35	6	2.4	М	М	Fair	Р	Р	R	RD	Crown thinning (minor).	In conflict with proposed commercial area construction.
66	Thuja occidentalis Eastern White Cedar	24	5	1.8	М	M(L)	Fair	Р	Р	R	RD		In conflict with proposed commercial area construction.
67	Thuja occidentalis Eastern White Cedar	20	3	1.8	М	M(L)	Fair	Р	Р	R	RD	Crown broken (moderate).	In conflict with proposed commercial area construction.
68	Picea abies Norway Spruce	48	10	3	М	М	Fair	Р	Р	R	RD	Crown thinning (minor).	In conflict with proposed commercial area construction.
69*	Acer negundo Manitoba Maple	15 - 30	5 - 10	2.4	М	М	Fair	Р	Р	R	RD	Tree group of 6 stems. DBH and Crown Reserve are ranges. Crown thinning (minor).	In conflict with proposed commercial area construction.

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Tree No*	Species	der tree	Diametel Co	A Control of the Cont	de de de de la		dition of the state of the stat	di Cordior	Muce of the control o	State of Co.	de d	Schotter Presente Comment	Reason for Removal (If applicable)
INO	Species	\ \phi \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	700	\ h_{V,	1 B	/ 5 th	\ Q_1	\ Q_1, Q_1	1 60 60	1 60, 60	/ &e.	Comment	` '' '
70	Picea abies Norway Spruce	35	8	2.4		H(M)	Good	Р	Р	R	RD		In conflict with proposed commercial area construction.
71	<i>Picea glauca</i> White Spruce	25	6	1.8	H(M)	М	Fair	Р	Р	R	RD		In conflict with proposed commercial area construction.
72*	Acer negundo Manitoba Maple	15 - 40	5 - 10	2.4	М	M(L)	Fair	Р	Р	R	RD	Tree group of 5 stems. DBH and Crown Reserve are ranges.	In conflict with proposed commercial area construction.
73	Picea abies Norway Spruce	45	8	3	М	М	Fair	Р	Р	R	RD		In conflict with proposed commercial area construction.
74	Picea abies Norway Spruce	45	8	3	М	М	Fair	Р	Р	R	RD		In conflict with proposed commercial area construction.
75	Picea abies Norway Spruce	45	8	3	M(L)	M(L)	Poor	Р	R	R	RCD	Crown thinning (moderate).	In conflict with proposed commercial area construction and in poor condition.
76	Acer negundo Manitoba Maple	38	8	2.4	M(L)	L	Poor	Р	R	R	RCD	Trunk lean (severe).	In conflict with proposed commercial area construction and in poor condition.
77	Acer negundo Manitoba Maple	35	8	2.4	M(L)	L	Poor	Р	R	R	RCD	Trunk lean (severe).	In conflict with proposed commercial area construction and in poor condition.
78	Acer negundo Manitoba Maple	30	5	2.4	M(L)	L	Poor	Р	R	R	RCD	Trunk lean (severe).	In conflict with proposed commercial area construction and in poor condition.
79	Picea abies Norway Spruce	45	8	3	L	L	Dead	Р	R	R	RCD		In conflict with proposed commercial area construction and in poor condition.

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Tree		Ser tenga	Jiana et l	The defendance of the second	de d		titlor out	Sure of	Muricial Control of Principal	Constant of Consta	de la	Comment	Reason for Removal
No*	Species	OBH Heids	S Cto	n Mis	\$ion	Stri	One	Only	\$ 40° 60°	10 / Sec. Se	10 ABCO	Comment	(If applicable)
80	Acer negundo Manitoba Maple	55	10	3.6	М	M(L)	Poor	Р	R	R	RCD	Trunk lean (severe).	In conflict with proposed commercial area construction and in poor condition.
81	Acer negundo Manitoba Maple	28	6	1.8	М	L	Poor	Р	R	R	RCD	Trunk lean (severe).	In conflict with proposed commercial area construction and in poor condition.
82	Picea abies Norway Spruce	55	10	3.6	М	H(M)	Good	Р	Р	R	RD		In conflict with proposed commercial area construction.
83	Picea abies Norway Spruce	30	6	2.4	М	М	Fair	Р	Р	R	RD		In conflict with proposed commercial area construction.
84	Picea abies Norway Spruce	24	6	1.8	M(L)	М	Poor	Р	R	R	RCD		In conflict with proposed commercial area construction and in poor condition.
85	Picea abies Norway Spruce	45	8	3	М	М	Fair	Р	Р	R	RD		In conflict with proposed commercial area construction.
86	Picea abies Norway Spruce	30	6	2.4	M(L)	М	Poor	Р	R	R	RCD		In conflict with proposed commercial area construction and in poor condition.
87	Picea abies Norway Spruce	25	6	1.8	M(L)	М	Poor	Р	R	R	RCD		In conflict with proposed commercial area construction and in poor condition.
88	Acer negundo Manitoba Maple	59 [45,38]	12	3.6	М	M(L)	Fair	Р	Р	R	RD		In conflict with proposed commercial area construction.
89	Picea abies Norway Spruce	40	6	2.4	M(L)	М	Poor	Р	R	R	RCD	Crown thinning (moderate).	In conflict with proposed commercial area construction and in poor condition.

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Tree		JBH teigh	Janes I Janes	Legiste St. Legist	of Held of Hel		dition of the state of the stat	M. Cordinary	S. Stringer	October State of Control of Contr	Se Control of the second of th	Comment	Reason for Removal
No*	Species	JOBY HOUSE	700	M	Sion	Sin	\040	On Off			/ 48c	Comment	(If applicable)
90	Picea abies Norway Spruce	48	8	3	M(L)	М	Poor	Р	R	R	RCD	Crown thinning (moderate).	In conflict with proposed commercial area construction and in poor condition.
91	Picea abies Norway Spruce	25	8	1.8	M(L)	М	Poor	Р	R	R	RCD	Crown thinning (moderate).	In conflict with proposed commercial area construction and in poor condition.
92	Picea abies Norway Spruce	35	8	2.4	M(L)	М	Poor	Р	R	R	RCD	Crown thinning (moderate).	In conflict with proposed commercial area construction and in poor condition.
93	Picea abies Norway Spruce	35	8	2.4	M(L)	М	Poor	Р	R	R	RCD	Crown thinning (moderate).	In conflict with proposed commercial area construction and in poor condition.
94	Picea abies Norway Spruce	45	10	3	M(L)	М	Poor	Р	R	R	RCD	Crown thinning (moderate).	In conflict with proposed commercial area construction and in poor condition.
95*	Acer negundo Manitoba Maple	15 - 30	5 - 10	2.4	М	M(L)	Fair	Р	Р	R	RCD	Group of 5 trees. DBH and crown Reserve are ranges. Crown thinning (moderate).	In conflict with proposed commercial area construction and in poor condition.
96	Acer negundo Manitoba Maple	55 [35,30,30]	12	3.6	М	M(L)	Poor	Р	R	R	RCD	Trunk lean (severe).	In conflict with proposed commercial area construction and in poor condition.
97	Picea abies Norway Spruce	45	8	3	М	М	Fair	Р	Р	R	RD	Crown thinning (minor).	In conflict with proposed commercial area construction.
98	Picea abies Norway Spruce	32	6	2.4	М	M(L)	Fair	Р	Р	R	RD	Crown thinning (minor); trunk lean (moderate).	In conflict with proposed commercial area construction.

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Tree No*	Species	BH Jeed	Jake of Land	de de la	A Colification of Colification		tura Out	Silicor June de	Stride of the second	Color	de d	Souther Tresserie Comment	Reason for Removal (If applicable)
99	Picea abies Norway Spruce	50	10	3	M	M	Fair	P	P	R	RD	Crown thinning (minor).	In conflict with proposed commercial area construction.
100	Picea abies Norway Spruce	32	6	2.4	L	M(L)	ery Po	Р	R	R	RCD	Crown thinning (severe).	In conflict with proposed commercial area construction and in poor condition.
101	Picea abies Norway Spruce	35	6	2.4	М	М	Fair	Р	Р	R	RD	Crown thinning (minor).	In conflict with proposed commercial area construction.
102	Picea abies Norway Spruce	35	6	2.4	L	L	Dead	Р	R	R	RCD		In conflict with proposed commercial area construction and in poor condition.
103	Picea abies Norway Spruce	35	6	2.4	L	L	Dead	Р	R	R	RCD		In conflict with proposed commercial area construction and in poor condition.
104	Picea abies Norway Spruce	40	6	2.4	M(L)	M(L)	Poor	Р	R	R	RCD	Crown thinning (severe).	In conflict with proposed commercial area construction and in poor condition.
105	Picea abies Norway Spruce	35	6	2.4	L	L	Dead	Р	R	R	RCD		In conflict with proposed commercial area construction and in poor condition.
106	Picea abies Norway Spruce	30	4	2.4	L	L	Dead	Р	R	R	RCD		In conflict with proposed commercial area construction and in poor condition.
107	Picea abies Norway Spruce	35	6	2.4	L	L	Dead	Р	R	R	RCD		In conflict with proposed commercial area construction and in poor condition.

Tree No*	Species	der teig	Jakes in Jak	Jedes Line Line Line Line Line Line Line Line	A digital la digital l		dition one	our dr	Articide of the state of the st	Order Order	de la	Comment	Reason for Removal (If applicable)
108	Acer saccharinum Silver Maple	90	10	5.4	М	L	Poor	Р	R	R	RCD	Crown broken (severe).	In conflict with proposed commercial area construction and in poor condition.
109	Fraxinus pennsylvanica Green Ash	35	8	2.4	L	L	Dead	Р	R	R	RCD		In conflict with proposed commercial area construction and in poor condition.
110	Acer saccharinum Silver Maple	45	8	3	M(L)	L	Poor	Р	R	R	RCD	Trunk decay (moderate); Crown broken (moderate).	In conflict with proposed commercial area construction and in poor condition.
111	Acer saccharinum Silver Maple	60	12	3.6	H(M)	M	Fair	Р	Р	R	RD	Crown broken (minor); Crown dieback (minor);	In conflict with proposed commercial area construction.

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Tree No*	Species	SEH Jeidit John Reft Bedge Studies	oure of	Municipal Commission of the Co	Chief State of the State of St	Recorded to the second	Book of the second of the seco	Reason for Removal ((f applicable)
	Inventory Summary							
		Onsite (P)	82]	
	Ownership	Offsite - Private (O)	10					
		Municipal (M)	19					
		Shared (S)	0					
		Total	111					
	Recommendations -	Preserve (P)		57				
	Condition	Remove (R)		54				
		Total		111				
	Recommendations -	Preserve (P)			48			
	Development	Remove (R)			63			
		Total			111			
		Preserve (P)				26		
	Recommendations -	Remove Due to Condition (RC)				22		
	Final	Remove Due to Development (RD)				30		
		Remove Due to Condition AND Development (RCD)				33		
		Total			_	111	•	

^{*} Indicates tree group (multiple trees of same species)

DBH (Diameter at breast Height): Measurement of tree stem diameter at 1.4 metres above ground.

² [XX, YY,] Denotes DBH's of Each Stem of Tree witH Multiple Stems

³ Minimum Tree Protection Zone distance measured from the center of the tree stem (MTPZ radius plus 1/2 DBH).

Tree Protection Policy and Specifications for Construction Near Trees (City of Toronto, June 2013).

⁴The City of Brampton enforces a compensation rate of 3 trees for each existing, healthy tree removed over 15 cm DBH

APPENDIX 3. LIMITATIONS OF TREE ASSESSMENT

It is the policy of Aboud & Associates Inc. to attach the following clause regarding limitations. We do this to ensure that developers, agencies, municipalities and owners are clearly aware of what is technically and professionally realistic in retaining trees.

The assessment of the trees presented in this report has been made using accepted arboricultural techniques. These include a visual examination of the above-ground parts of each tree for structural defects, scars, external indications of decay such as fungal fruiting bodies, evidence of insect attack and crown dieback, discoloured foliage, the condition of any visible root structures, the degree and direction of lean (if any), the general condition of the tree(s) and the surrounding site, and the proximity of property and people. Except where specifically noted in the report, none of the trees examined were dissected, cored, probed, or climbed, and detailed root crown examinations involving excavation were not undertaken.

Notwithstanding the recommendations and conclusions made in this report, it must be realized that trees are living organisms, and their health and vigour constantly change over time. They are not immune to changes in site conditions, or seasonal variations in the weather conditions, including severe storms with high-speed winds.

While reasonable efforts have been made to ensure that the trees recommended for retention are healthy unless stated otherwise within the report, no guarantees are offered, or implied, that these trees, or any parts of them, will remain standing. It is both professionally and practically impossible to predict with absolute certainty the behaviour of any single tree or group of trees or their component parts in all circumstances. Inevitably, a standing tree will always pose some risk. Most trees have the potential for failure in the event of adverse weather conditions, and this risk can only be eliminated if the tree is removed.

Although every effort has been made to ensure that this assessment is reasonably accurate, the trees should be re-assessed periodically. The assessment presented in this report is valid at the time of the inspection.

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APPENDIX 4. PROTECTION OF MIGRATORY BIRDS AND DEVELOPMENT

Most species of birds in Ontario are protected under the federal Migratory Birds Convention Act, 1994 (MBCA) or the provincial Fish and Wildlife Conservation Act, 1997. The "incidental take" of migratory bird nests or the disturbance, destruction or taking of the nest of a migratory bird are prohibited under section 6 of the *Migratory Bird Regulations* (MBRs), under the authority of the MBCA. "Incidental take" is defined as the harming of migratory bird nests due to actions such as construction activities. No permit can be issued for the incidental take of migratory birds or their nests as a result of economic activities.

The provincial Fish and Wildlife Conservation Act, 1997, provides protection for some species excluded from the MBCA, including raptors, gamebirds and specially protected birds. Under the Act (Section 7 (1)) a person shall not destroy, take or possess the nest or eggs of a bird that belongs to a species that is wild by nature. With the exception of the nest or eggs of an American crow, brownheaded cowbird, common grackle, house sparrow, red-winged blackbird or starling (Section 7(2)).

Project construction, operation or maintenance activities such as vegetation clearing, tree removal/harvesting, site grubbing, site access, excavation and stockpiling of soil/fill could result in the incidental take of migratory birds or their nests if conducted in migratory bird habitat. Construction activities could also disturb nearby breeding birds and disrupt breeding. It is the proponent's responsibility to meet the requirements of the MBRs and should projects or activities result in the contravention of the MBRs, prosecution under the MBCA may be initiated.

In order to ensure compliance with the MBRs, Aboud & Associates recommends the following:

- Activities resulting in the disturbance, destruction or removal of potential breeding bird habitat should, where possible, not take place during the General Nesting Period as outlined by Environment Canada (2014). The General Nesting Period is identified in 'Environment Canada's Avoidance Guidelines for Incidental Take' (2014) as the <u>period between the end of March and August 31</u> in Nesting Zones C1 and C2 in Ontario, located in the Lower Great Lakes/St. Lawrence Plain (Bird Conservation Region (BCR) 13).
- 2. When it is absolutely necessary that work must take place during the General Nesting Period, a qualified wildlife biologist must carry out a comprehensive survey to identify areas on the subject property where birds are building nests, incubating eggs, rearing young, etc. All disruptive activities in the nesting area should be halted and identified nests should be protected with a buffer (i.e. nest protection zone/no disturbance zone) appropriate for the species, the disturbance intensity level and the surrounding habitat. Disruptive activities can continue inside the buffered area once the biologist has deemed that fledglings have naturally left the vicinity of the nest.
- 3. Disruptive activities taking place outside of the General Nesting Period can be preceded by an assessment by a qualified wildlife biologist to ensure that the identification of stick nests of owls and raptors is undertaken in suitable habitat. Most raptor species, with the exception of species protected under the ESA are excluded from the MBCA; as a result, the nesting period for this group is not included under Environment Canada's general nesting periods.

References:

Environment Canada. 2014. Incidental take of Migratory Birds in Canada. https://www.ec.gc.ca/paom-itmb/default.asp?lang=En&n=C51C415F-1. Accessed: April 7, 2015.

Fish and Wildlife Conservation Act, 1997.

Migratory Birds Convention Act, 1994.

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