

Arborist Report

2512-2532 Argyle Road
Mississauga, Ontario

October 29, 2018

Prepared for:

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Contents

Introduction	1
Methodology	1
Results and Discussion	2
Recommendations and Specifications	5
Conclusion.....	11
Appendix 1 – Tree Inventory	12
Appendix 2 – Selected Figures	16
Appendix 3 – Tree Related Plans	17
Limitations of Assessment	21

NB: This Arborist Report has been prepared using the latest drawings and information provided by the client and/or agents and may be intended for inclusion in a site plan approval or similar planning submission. Any subsequent design or site plan changes affecting trees may require revisions to this report. New drawings and information should be provided to UFI prior to report submission to municipal planning authorities.

Links (URLs) provided to web-based resources are current to the date of the report.

Introduction

Urban Forest Innovations Inc. (UFI) has been requested to prepare an arborist report for the proposed development at 2512-2532 Argyle Road, in Mississauga, Ontario. This report reviews the potential impacts of the proposed site works upon trees within or close to the limits of disturbance, and outlines required and recommended tree protection measures and regulatory requirements associated with the proposed development.

In total, 128 trees are addressed in this report. The tree inventory is provided in Appendix 1. Selected photographs are provided in Appendix 2. A tree protection plan is provided in Appendix 3.

This report should be read in conjunction with all other servicing, grading and landscaping plans prepared for the project.

Methodology

Field Observations

Field observations were made on February 12, 2018, by Shane Jobber, ISA Certified Arborist ON-1746A. There was no construction activity on the site at the time of the field observations. Subject site trees and off-site trees within 6 meters of the potential limits of disturbance are included in the inventory. Tree diameter was measured at 1.4 metres above grade (DBH) and trees were assessed for health, structure and risk potential. No trees were tagged as part of this inventory.

Tree Assessments

A brief explanation of each tree assessment category included in the inventory is outlined below:

Species — The common and botanical names are provided for each tree.

Diameter at Breast Height (DBH) — The diameter of each tree, in centimetres, at breast height (1.4 m above grade).

Canopy Width (CW) — An estimation of the average diameter of the tree canopy, in metres.

Trunk Integrity (TI) — An assessment of the tree's trunk for any externally-visible defects or weaknesses. It is rated on an ascending scale of poor-fair-good.

Canopy Structure (CS) — An assessment of the tree's main scaffold branches and the canopy of the tree for defects or weaknesses visible from ground level. It is also rated on an ascending scale of poor-fair-good.

Canopy Vitality (CV) – An assessment of the general health and vigour of the tree, derived partly through a comparison of deadwood and live growth relative to a 100% healthy tree. The size and colour of foliage are also considered in this category. During the leaf-off season, the number and distribution of buds is an important determinant of canopy vitality. This indicator is also rated on an ascending scale of poor-fair-good.

Tree Protection Zone (TPZ) – The recommended tree protection zone radius, in metres, as measured from the base of the subject tree's main trunk.

Location (Loc.) – The location of the tree relative to the subject site: on the subject site (S), on neighbouring property (N), on municipal property (M), or on a property boundary (B).

Recommendation (Rec.) – The recommendation for each tree: Protect (P), Injure (I), or Remove (R). A dash (-) denotes trees to be preserved with no additional protection requirements.

Comments – Comments pertaining to the tree may be provided, as needed.

Results and Discussion

This section of the report outlines the key issues related to the proposed works from an arboricultural and tree preservation perspective. Specific recommendations regarding tree protection are outlined. General recommendations are also provided in the 'Recommendations and Specifications' section of this report.

General Work Plan

The proposed works will include the demolition of 3 existing residential dwellings and construction of four blocks of townhomes with an underground garage.

By-laws and Legislation

City of Mississauga by-laws and Provincial legislation may regulate injury or destruction of trees depending upon their location, size or other factors. The following tree protection by-laws and legislation apply on the subject site.

Private Tree Protection By-law

The City of Mississauga's Private Tree Protection By-law (0254-2012) regulates the injury and destruction of certain privately-owned trees. Pursuant to this by-law, removal or injury of more than 2 healthy trees with a diameter at breast height (dbh) of over 15 cm per calendar year requires a permit. Removal or injury of trees less than 15 cm in diameter, or removal or injury of one or two trees greater than 15 cm dbh per year does not require a permit.

Detailed information about the Private Tree Protection by-law can be found online at:

http://www.mississauga.ca/portal/residents/urbanforestry?paf_gear_id=9700018&itemId=300012

Boundary Trees – Ontario Forestry Act, R.S.O. 1990

The Provincial *Forestry Act, R.S.O. 1990* states:

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.

16 trees (#1, 2, 3, 20, 40, 41, 42, 120, 121, 122, 123, 124, 125, 126, 127, and 128) appear to be growing on the boundary between the subject site and the adjacent properties.

Endangered, Rare or Protected Species

No endangered, rare or otherwise protected tree species were observed on the site.

Tree Removal

Although site works will avoid tree removal to the furthest extent possible, removal will be necessary to facilitate the proposed site design. Recommendations for tree removal are based upon consideration of the anticipated impacts upon trees due to implementation of the proposed works, the immediate and forecasted health and structural condition of the tree, and the ability of the tree to make continued contributions to the newly modified landscape.

Site Works

The proposed site works and associated landscape modifications will require the removal of 64 trees on the subject site:

- Trees #1, 2, 3, 45, 46, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 110, 112, 113, 114, 115, and 116.

Condition

8 trees are recommended for removal for reasons unrelated to the proposed works:

- Trees #7, 11, 13, 21, 75, 76, 109, and 111 were assessed for poor structural and/or biological condition at the time of field works and should be considered for removal prior to the commencement of site works.

Tree Protection

All other trees addressed in this report are proposed for retention. This section outlines specific tree protection measures for retained trees. General tree protection recommendations and specifications are found in the 'Recommendations and Specifications' section of this report.

Retained trees in proximity to the proposed works shall be protected through the implementation of the following tree protection methods:

- **Tree Protection Hoarding** – Hoarding fencing shall be established at a specific distance from the base of each protected tree, as provided in Appendix 1, and in configurations as shown in Appendix 3 – Tree Protection Plan.
- **Root-Sensitive Excavation and Pruning** – All groundbreaking activities within Tree Protection Zones shall be accomplished by root-sensitive excavation utilizing hand-digging, hydrovac or pneumatic soil excavation (e.g., Airspade), as outlined in the 'Recommendations and Specifications' section of this report. Excavations must be supervised by a Certified Arborist, who must be enabled to stop works if, during the course of excavation, significant structural or transport roots (greater than approximately 25 mm diameter) are encountered, in order to properly prune the roots.

Specific guidance for the implementation of tree protection measures is provided below:

- Trees located along the north property line (4, 5, 6, 8, 9, 10, 12, 14, 15, 16, 17, 18, 19, 20, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 47, 48, 49, 50, 51, 52, 53) shall be protected jointly behind solid plywood hoarding set at a distance of approximately 1 to 4 m from the property boundary, as shown in Appendix 3. Construction will necessitate a reduction to the hoarding dimensions of many trees, constituting injury to by-law regulated trees #4, 6, 8, 9, 10, 14, 19, 22, 25, 27, 29, 31, 35, 43, 44, 47, 51, 52. Excavations within unprotected Tree Protection Zones must be root-sensitive, utilizing hand-digging, hydrovac or pneumatic soil excavation, and be accompanied by proper root pruning by a Certified Arborist.
- Hoarding established for trees located along the north property line shall be extended across the rear of the site, offset by approximately 1.8 m from the property line and by approximately 6.5 to 7.5 m from the existing chain link fence. This hoarding extension is to ensure protection of trees located off-site.
- Trees #117-119 (Fig. 4), which are located on neighbouring property, shall be protected jointly behind solid plywood hoarding set at a distance of approximately 3.5 m from the existing board fence (property line).
- Trees #120-128, which are located on the property boundary, shall be protected jointly behind solid plywood hoarding set at a distance of approximately 2.5 m from the existing board fence (property line).

Tree Risk and Required Tree Maintenance

At the time of inspection, there were no immediate risks posed by any trees on the subject site.

By-law and Permit Requirements

In total, 54 privately-owned trees greater than 15 cm dbh are proposed for removal and injury to enable site works:

- Trees #45, 55, 58, 59, 62, 64, 67, 68, 69, 70, 71, 73, 74, 77, 78, 79, 80, 81, 82, 83, 84, 86, 87, 88, 89, 90, 92, 96, 103, 107, 108, 110, 112, 113, 114, and 116, for removal.
- Trees #4, 6, 8, 9, 10, 14, 19, 22, 25, 27, 29, 31, 35, 43, 44, 47, 51, 52, for injury.

An *Application to Permit the Injury or Destruction of Trees on Private Property* and a *Tree Injury or Destruction Questionnaire and Declaration* may be required to enable the proposed removals and injuries.

The City's *Application to Permit the Injury or Destruction of Trees on Private Property* form can be found online at:

http://www7.mississauga.ca/documents/FormsOnline/Form_2205_Permit_Destroy_Trees.pdf

The City of Mississauga's *Tree Injury or Destruction Questionnaire and Declaration* form can be found online at: <http://www7.mississauga.ca/Documents/FormsOnline/2206.pdf>

By-law regulated trees #75, 76, and 111 were identified as standing dead; it is expected that permit exemption will be granted for their removal.

Additionally, 10 municipally-owned trees are proposed for removal:

- Trees #1, 2, 3, 93, 94, 95, 99, 100, 101, and 102.

The total number of replacement trees or payment to the Corporate Replacement Tree Planting Fund required to compensate for the removal of City trees will be determined by the City of Mississauga.

Recommendations and Specifications

This section outlines general recommendations for tree protection, and **not all recommendations may apply to the subject project**. Refer to the preceding sections for tree-by-tree recommendations. This section should be read in conjunction with the City of Mississauga's various tree protection and site plan application guidelines and policies, including:

Private Tree Protection By-law (0254-2012):

<http://www.mississauga.ca/file/COM/treeprotection.pdf>

Tree Protection and Hoarding Requirements:

http://www.mississauga.ca/file/COM/tree_hoarding_req.pdf

Site Plan and Development Applications information:

http://www.mississauga.ca/portal/residents/urbanforestry?paf_gear_id=9700018&itemId=104803033n

Site Plan Application: Process Guidelines:

<http://www6.mississauga.ca/online/planbldg/Manuals/ExternalGuidelines-SitePlan-2013August.pdf>

Tree Protection

Four important tree protection measures should be undertaken on the project site if trees are to be preserved in a manner which will maintain their health over the long term. These include:

1. Establishment of tree protection fencing and/or hoarding around adequately-sized Tree Protection Zones (TPZs) prior to the commencement of any construction activity;
2. Installation of root zone compaction protection where compaction may be caused by construction traffic or materials/equipment storage and staging;
3. Implementation of root-sensitive excavation wherever Tree Protection Zones (TPZs) or significant rooting areas may be encroached upon by excavation and/or grading, and;
4. Root pruning in advance of conventional excavation, on an as-needed basis.

Tree Protection Zones (TPZs)

The purpose of a Tree Protection Zone (TPZ) is to prevent root damage, soil compaction and soil contamination, and workers and machinery must not encroach upon Tree Protection Zones in any way.

To prevent access and ensure that the TPZ is effective, the following steps shall be implemented in the establishment of TPZ fencing and/or hoarding.

1. The locations of TPZs should be clearly identified on the project Site Plan. Typically, TPZs are to be shown as circles around tree location points, and are to be drawn to scale in accordance with the minimum required TPZ radius, as outlined in Appendix 1.
2. No groundbreaking activities or demolition should occur until all tree protection requirements have been met and the consulting arborist has confirmed the establishment of Tree Protection Zone fencing and/or hoarding.
3. Hoarding shall consist of 4' x 8' sheets of plywood laid lengthwise and supported using "L" shaped supports to prevent root damage. Hoarding shall be affixed to the frame in such a manner as to prevent removal of individual sections or movement of the entire hoarding structure. Construction fencing can be used where pedestrian or motorist sightlines may be obscured by solid hoarding. Framed construction fencing can also be used to frame large Tree

Protection Zones or tree groups, with expressed prior approval of City of Mississauga. Framed fencing must be supported by a solid 2" × 4" frame. Fencing and/or hoarding shall be maintained intact throughout the duration of the construction project, unless otherwise specified.

4. Upon installation, all tree protection fencing and/or hoarding must be approved by City of Mississauga.
5. All fencing and/or hoarding is to remain in place in good condition throughout the entire duration of the project. No fencing and/or hoarding is to be removed, relocated or otherwise altered without the written permission of the City of Mississauga.
6. No grade change, excavation, or storage of fill, equipment or supplies is permitted within the TPZ at any time. Any encroachment of the TPZ shall not be undertaken without expressed written permission of the City of Mississauga. TPZ encroachment may constitute Tree Injury as defined by various municipal tree protection policies and by-laws, and may subject the responsible parties to prescribed penalties.
7. Signage similar to Figure 1, below, should be mounted on each side of TPZ fencing and/or hoarding immediately upon establishment and should be maintained for the duration of the project. Every sign should have minimum dimensions of 40 cm × 60 cm.
8. All contractors and supervisors should be informed of the tree protection requirements, including potential penalties, at a pre-construction meeting.
9. Trees and TPZs should be regularly monitored by a consulting arborist throughout the duration of the project.
10. If TPZ encroachment should occur at any time during construction, the consulting arborist should evaluate the trees immediately so that appropriate treatment can be performed in a in a timely manner.



Figure 1: Sample TPZ information sign.

Root Zone Compaction Protection

Where traffic or access through the root zone is anticipated, a Root Zone Compaction Protection treatment should be installed.

Where limited non-vehicular access across the root zone is anticipated (e.g., occasional foot traffic, wheelbarrow), a Light Root Zone Compaction Protection specification should be implemented, as described below:

- Installation of medium-weight non-woven geotextile fabric or landscape cloth over affected area;
- Installation of 150 mm of wood chips over the fabric area;
- Installation of ½" plywood over wood chip mulch, and;
- Installation of appropriate covering material, if desired.

Where moderate non-vehicular access across the root zone is anticipated (e.g., materials staging) a Moderate Root Zone Compaction Protection specification should be implemented, as described below:

- Installation of medium-weight non-woven geotextile fabric or landscape cloth over affected area;
- 100 mm of granular clear stone laid over fabric area;
- Installation of medium-weight non-woven geotextile fabric or landscape cloth over the stone;
- Installation of 150 mm of wood chips over fabric area, and;

- Installation of ½" plywood over wood chip mulch.

In areas where frequent non-vehicular access or longer-term materials storage in the root zone is anticipated, or in areas where additional measures must be implemented to ensure complete exclusion of excavation activity, a Horizontal Hoarding/Excavation Exclusion specification should be implemented, as described below:

- Installation of medium-weight non-woven geotextile fabric or landscape cloth over affected area;
- Installation of 3 stacked and joined courses of 4" x 4" timbers around the area to be protected (including cross-members or joists, as required to maintain structural integrity);
- Installation of wood chip mulch in entire protected area, and;
- Installation of 2 layers of ¾" plywood or 1 steel plate over the protected area.

In areas where vehicular access or severe potential root zone compaction are anticipated, such as site access roads, temporary parking areas or heavy machine staging areas, a more robust Heavy Root Zone Compaction Protection specification should be developed and implemented on a site-specific basis. Key elements of such a specification may include multiple steel plates over load-dissipating materials, or modular geocellular systems such as Permavoid ArborRaft.

Root-sensitive Excavation

Efforts should be made to exclude excavation or grade changes, including cutting or filling, from all TPZs. Where this is not possible, and unless otherwise specified, excavation shall utilize a root-sensitive methodology such as hand-digging, hydrovac or pneumatic (e.g., AirSpade) soil excavation, as specified in the arborist report.

Root-sensitive excavation must be conducted in advance of excavation using conventional excavation machinery. The objective of root-sensitive excavation is threefold: 1) to determine whether roots will be present beneath areas to be excavated and therefore determine the likely extent of damage to trees to be retained; 2) to finalize decisions about trees for which removal/preservation decisions are contingent upon the extent of roots encountered, and 3) to enable proper root pruning, as described below.

Unless otherwise specified, root-sensitive excavation typically entails creating a trench approximately 200-300 mm wide between the subject tree (e.g., outside the established TPZ) and the area to be excavated, without damaging existing significant roots. Unless otherwise specified, root-sensitive excavation should be undertaken to a minimum depth of 800 mm, unless excavation is proposed to a shallower final depth. If excavation is for exploratory reasons and root pruning is not anticipated, equipment utilized during root-sensitive excavation should be operated at reduced pressures to prevent damage to root bark.

No excavation, whether undertaken by conventional or root-sensitive means shall take place within established tree protection zones without expressed written permission of the City of Mississauga.

Root Pruning

Root pruning can help reduce the stresses experienced by a tree with root damage, encourage the growth of new fine and feeder roots, and prevent the spread of decay. Root pruning should be undertaken in conjunction with root-sensitive excavation in advance of conventional excavation, or immediately afterwards if unexpected roots are encountered. Root pruning should only be undertaken by an ISA Certified Arborist, and in the manner outlined below:

1. Roots that are severed, exposed, or diseased and are greater than 2.0 cm in diameter should be properly pruned. All roots must be pruned with clean and sharp hand tools only. Shovels, picks or other construction tools shall not be used to prune roots. Wound dressings or pruning paint must not be used to cover the ends of any cut.
2. Roots should be pruned in a similar fashion as branches, taking care to maintain the integrity of the root bark ridge. Root should be pruned back to native soil; root stubs must not be left upon completion of root pruning.
3. Prolonged exposure of tree roots must be avoided – exposed roots should be covered and kept moist with soil, mulch, irrigation, or at least moistened burlap if they are to be exposed for longer than 3 hours. All cut roots should be covered with soil or excavated trenches should be backfilled with native material as soon as possible following root pruning.

Post-construction Care

The following recommendations should be implemented upon completion of construction to ensure that the health and condition of retained and newly-planted trees is maintained and improved.

Retained Trees

1. Trees which have been retained through the construction process should be regularly monitored by an ISA Certified Arborist for signs of construction-induced stress, which may not be apparent until 3-6 years after site disturbance.
2. Wherever possible, root zone amelioration including watering and mulching should be undertaken. However, treatments such as fertilization should be avoided unless directly specified by the project consulting arborist.
3. Any physical damage to retained trees should be assessed by the project consulting arborist and properly mitigated, as required. If necessary, broken limbs or exposed roots should be pruned, damaged bark should be traced, and soil decompaction and/or decontamination should be undertaken by an ISA Certified Arborist. Stability of trees with significant root zone disturbance should be assessed, and advanced stability assessment or mitigation should be implemented if necessary.

New Trees

1. All newly planted trees and shrubs should be provided with a bed of composted woodchip mulch 10-15 cm thick, extending to at least the dripline of the plant. Mulch should be periodically replaced as it decomposes, and weeds should be removed from the mulch bed manually. The mulch must not touch the bark of the tree and under no circumstances should it be mounded up against the stem in a “volcano” style. This is especially damaging for young trees with thin bark.
2. All new plantings should be watered at least once per week during the growing season within the first two years after planting. Watering intensity should be increased during periods of drought. Watering should be deep and slow, ensuring that water penetrates to deep roots. Trees should not be watered directly adjacent to the trunk, but rather in a circular pattern extending from the trunk to at least the dripline. The soil should be allowed to dry in between watering periods to allow air to reach the roots.
3. Minimal pruning should be undertaken in the first two years after planting. Foliage should be retained to allow for the roots to establish. Only dead, crossing and broken branches should be pruned back to an appropriate pruning point at the time of planting.
4. New plantings should be inspected in the second year to assess health and condition. Dead or dying plants should be replaced in the next appropriate planting season.

Conclusion

There are 128 trees that may be affected by the proposed development at 2512-2532 Argyle Road, in Mississauga, Ontario. The proposed works will require the implementation of specific measures to ensure effective tree protection. 39 by-law regulated private trees (greater than 15 cm) will require removal and 18 by-law regulated private trees will require injury to enable the proposed works. 10 municipally-owned trees are proposed for removal. An *Application to Permit the Injury or Destruction of Trees on Private Property* and a *Tree Injury or Destruction Questionnaire and Declaration* will likely be required to enable the proposed removals.

It is important that good arboricultural practices be undertaken during the entire course of construction. No material storage or construction access shall take place within tree protection zones (TPZs); sensitive excavation and root pruning shall be undertaken, as required; and any necessary branch and/or root pruning shall be undertaken by an ISA Certified Arborist.

Appendix 1 – Tree Inventory

Table 1: Inventory of trees at 2512-2532 Argyle Road, Mississauga, Ontario. Tree assessments are based upon field observations undertaken on February 12, 2018, by S. Jobber (ISA Certified Arborist ON-1746A).

Tree	Common Name	Scientific Name	DBH	CW	TI	CS	CV	TPZ	Loc.	Rec.	Comments
1	Colorado Spruce	<i>Picea pungens</i>	16	3	G	F	G	1.5	B(M)	R	
2	Colorado Spruce	<i>Picea pungens</i>	7	2	F	F	G	1	B(M)	R	
3	Colorado Spruce	<i>Picea pungens</i>	12	2	G	F	G	1	B(M)	R	
4	Elm Species	<i>Ulmus</i> sp.	20	4	G	F	P	2	S	I	
5	Norway Maple	<i>Acer platanoides</i>	14,10	6	F	F	G	3	S	P	
6	Norway Maple	<i>Acer platanoides</i>	18	6	G	F	G	3	S	I	
7	Eastern White Cedar	<i>Thuja occidentalis</i>	13,11,9	7	G	F	-	3.5	S	R-Cond.	Dead.
8	Siberian Elm	<i>Ulmus pumila</i>	22,20	8	F	F	G	4	S	I	
9	Eastern White Cedar	<i>Thuja occidentalis</i>	22	5	F	F	F	2.5	S	I	
10	Eastern White Cedar	<i>Thuja occidentalis</i>	16	4	G	F	F	2	S	I	
11	Ash Species	<i>Fraxinus</i> sp.	11	5	G	G	P	2.5	S	R-Cond.	EAB infested.
12	Eastern White Cedar	<i>Thuja occidentalis</i>	13,9	5	F	F	P	2.5	S	P	
13	Eastern White Cedar	<i>Thuja occidentalis</i>	13,9	7	F	F	-	3.5	S	R-Cond.	Dead.
14	Eastern White Cedar	<i>Thuja occidentalis</i>	18,8	6	G	F	F	3	S	I	
15	Eastern White Cedar	<i>Thuja occidentalis</i>	13,9	5	F	F	F	2.5	S	P	
16	Eastern White Cedar	<i>Thuja occidentalis</i>	13	4	G	F	P	2	S	P	
17	White Mulberry	<i>Morus alba</i>	13	6	G	G	G	3	N	P	
18	Eastern White Cedar	<i>Thuja occidentalis</i>	14,12,9	8	G	F	F	4	S	P	
19	Eastern White Cedar	<i>Thuja occidentalis</i>	22	5	G	F	F	2.5	S	I	
20	Eastern White Cedar	<i>Thuja occidentalis</i>	9,7,6	4	G	F	P	2	B	P	
21	Eastern White Cedar	<i>Thuja occidentalis</i>	10	3	G	F	-	1.5	S	R-Cond.	Dead.
22	Norway Maple	<i>Acer platanoides</i>	20,17,13,11	9	F	F	G	4.5	S	I	
23	Eastern White Cedar	<i>Thuja occidentalis</i>	9,9,8	5	G	F	P	2.5	S	P	
24	Eastern White Cedar	<i>Thuja occidentalis</i>	12	5	G	F	P	2.5	S	P	
25	Eastern White Cedar	<i>Thuja occidentalis</i>	16	5	G	P	G	2.5	S	I	
26	Eastern White Cedar	<i>Thuja occidentalis</i>	12	5	G	F	G	2.5	S	P	
27	White Mulberry	<i>Morus alba</i>	15	8	G	G	G	4	S	I	
28	Eastern White Cedar	<i>Thuja occidentalis</i>	12	4	G	F	P	2	S	P	
29	White Mulberry	<i>Morus alba</i>	24	9	G	G	G	4.5	S	I	
30	Eastern White Cedar	<i>Thuja occidentalis</i>	14,11	5	F	F	F	2.5	S	P	
31	English Oak	<i>Quercus robur</i>	30	10	G	G	G	5	N	I	DBH estimated.
32	Ash Species	<i>Fraxinus</i> sp.	12	5	G	G	F	2.5	N	P	EAB infested.
33	Eastern White Cedar	<i>Thuja occidentalis</i>	10	5	G	F	F	2.5	S	P	

Tree	Common Name	Scientific Name	DBH	CW	TI	CS	CV	TPZ	Loc.	Rec.	Comments
34	Eastern White Cedar	<i>Thuja occidentalis</i>	12	5	G	F	F	2.5	S	P	
35	English Oak	<i>Quercus robur</i>	40	5	G	G	G	2.5	N	I	DBH estimated.
36	White Mulberry	<i>Morus alba</i>	12	6	G	G	G	3	S	P	
37	Eastern White Cedar	<i>Thuja occidentalis</i>	12,9,8	5	F	F	F	2.5	S	P	
38	White Mulberry	<i>Morus alba</i>	12	6	F	G	G	3	S	P	
39	Eastern White Cedar	<i>Thuja occidentalis</i>	12	5	G	F	F	2.5	S	P	
40	Eastern White Cedar	<i>Thuja occidentalis</i>	19,10,10	7	G	F	F	3.5	B	P	
41	White Mulberry	<i>Morus alba</i>	17	9	G	G	G	4.5	B	P	
42	Norway Maple	<i>Acer platanoides</i>	12	8	G	G	G	4	B	P	
43	English Oak	<i>Quercus robur</i>	30	10	G	F	G	5	N	I	DBH estimated.
44	English Oak	<i>Quercus robur</i>	25	9	G	G	G	4.5	N	I	DBH estimated.
45	Norway Maple	<i>Acer platanoides</i>	17	8	G	G	G	4	S	R	
46	Norway Maple	<i>Acer platanoides</i>	10	5	G	G	G	2.5	S	R	Unsurveyed, location approximated.
47	Bur Oak	<i>Quercus macrocarpa</i>	26	7	G	F	G	3.5	S	I	
48	Norway Maple	<i>Acer platanoides</i>	11	6	G	G	G	3	S	P	
49	Norway Maple	<i>Acer platanoides</i>	14	9	G	G	G	4.5	S	P	
50	English Oak	<i>Quercus robur</i>	45	6	G	F	G	3	N	P	DBH estimated.
51	Norway Maple	<i>Acer platanoides</i>	17,16,15	8	F	F	G	4	S	I	
52	Norway Maple	<i>Acer platanoides</i>	25	9	G	G	G	4.5	S	I	
53	Norway Maple	<i>Acer platanoides</i>	11	9	G	G	G	4.5	S	P	
54	Norway Maple	<i>Acer platanoides</i>	14	5	G	G	G	2.5	S	R	Unsurveyed, location approximated.
55	Norway Maple	<i>Acer platanoides</i>	22	7	G	G	G	3.5	S	R	
56	Norway Maple	<i>Acer platanoides</i>	10	6	G	G	G	3	S	R	
57	Norway Maple	<i>Acer platanoides</i>	13	6	G	G	G	3	S	R	
58	Ash Species	<i>Fraxinus</i> sp.	55	13	G	F	F	6.5	S	R	EAB infested.
59	Norway Maple	<i>Acer platanoides</i>	34	10	G	G	G	5	S	R	
60	Eastern White Cedar	<i>Thuja occidentalis</i>	14	3	F	F	F	1.5	S	R	
61	Ash Species	<i>Fraxinus</i> sp.	10	5	F	F	F	2.5	S	R	EAB infested.
62	Norway Maple	<i>Acer platanoides</i>	18	6	G	G	G	3	S	R	
63	Manitoba Maple	<i>Acer negundo</i>	13	6	G	G	G	3	S	R	
64	Norway Maple	<i>Acer platanoides</i>	16	7	F	F	G	3.5	S	R	
65	Norway Maple	<i>Acer platanoides</i>	10	5	G	G	G	2.5	S	R	
66	Siberian Elm	<i>Ulmus pumila</i>	10	5	G	F	G	2.5	S	R	
67	White Mulberry	<i>Morus alba</i>	16,11	6	G	F	G	3	S	R	
68	Norway Maple	<i>Acer platanoides</i>	78	20	G	F	F	10	S	R	
69	Scots Pine	<i>Pinus sylvestris</i>	43	9	G	G	F	4.5	S	R	

Tree	Common Name	Scientific Name	DBH	CW	TI	CS	CV	TPZ	Loc.	Rec.	Comments
70	Norway Spruce	<i>Picea abies</i>	26	7	G	G	G	3.5	S	R	
71	Colorado Spruce	<i>Picea pungens</i>	29	6	G	G	G	3	S	R	
72	Norway Spruce	<i>Picea abies</i>	14	5	G	G	G	2.5	S	R	
73	Norway Maple	<i>Acer platanoides</i>	37	10	G	F	G	5	S	R	
74	Eastern White Cedar	<i>Thuja occidentalis</i>	22,21,19	6	F	F	F	3	S	R	
75	Eastern White Cedar	<i>Thuja occidentalis</i>	18	4	G	G	-	2	S	R-Cond.	Dead.
76	Eastern White Cedar	<i>Thuja occidentalis</i>	24	4	F	F	-	2	S	R-Cond.	Dead.
77	Eastern White Cedar	<i>Thuja occidentalis</i>	28,12	5	G	F	F	2.5	S	R	
78	Eastern White Cedar	<i>Thuja occidentalis</i>	30,24	7	G	F	G	3.5	S	R	
79	Eastern White Cedar	<i>Thuja occidentalis</i>	34,28	9	G	F	F	4.5	S	R	
80	White Spruce	<i>Picea glauca</i>	37	7	G	G	F	3.5	S	R	
81	Red Oak	<i>Quercus rubra</i>	85	20	G	G	G	10	S	R	
82	Colorado Spruce	<i>Picea pungens</i>	36	7	G	G	F	3.5	S	R	
83	Sugar Maple	<i>Acer saccharum</i>	34	7	G	G	G	3.5	S	R	
84	Norway Spruce	<i>Picea abies</i>	70	11	G	F	G	5.5	S	R	
85	Norway Maple	<i>Acer platanoides</i>	12	5	G	G	G	2.5	S	R	
86	White Pine	<i>Pinus strobus</i>	57	10	G	F	G	5	S	R	
87	Norway Maple	<i>Acer platanoides</i>	21	6	G	G	G	3	S	R	
88	Siberian Elm	<i>Ulmus pumila</i>	36	10	G	F	F	5	S	R	
89	Siberian Elm	<i>Ulmus pumila</i>	36	9	G	F	F	4.5	S	R	
90	Siberian Elm	<i>Ulmus pumila</i>	54	12	G	F	F	6	S	R	
91	Norway Maple	<i>Acer platanoides</i>	11	5	G	G	G	2.5	S	R	
92	Sugar Maple	<i>Acer saccharum</i>	30	10	G	G	G	5	S	R	
93	Colorado Spruce	<i>Picea pungens</i>	22	3	G	F	G	1.5	B(M)	R	
94	Colorado Spruce	<i>Picea pungens</i>	14	3	G	F	G	1.5	B(M)	R	
95	Colorado Spruce	<i>Picea pungens</i>	14	3	G	F	G	1.5	B(M)	R	
96	Colorado Spruce	<i>Picea pungens</i>	15	3	G	F	G	1.5	S	R	
97	Colorado Spruce	<i>Picea pungens</i>	12	3	G	F	G	1.5	S	R	
98	Colorado Spruce	<i>Picea pungens</i>	10	2	G	F	G	1	S	R	
99	Colorado Spruce	<i>Picea pungens</i>	10	2	G	F	G	1	B(M)	R	
100	Colorado Spruce	<i>Picea pungens</i>	10	2	G	F	G	1	B(M)	R	
101	Colorado Spruce	<i>Picea pungens</i>	10	2	G	F	G	1	B(M)	R	
102	Siberian Elm	<i>Ulmus pumila</i>	19,14,11	5	G	F	G	2.5	M	R	
103	Norway Maple	<i>Acer platanoides</i>	75	20	F	G	F	10	S	R	
104	Eastern White Cedar	<i>Thuja occidentalis</i>	10	3	F	F	G	1.5	S	R	
105	Eastern White Cedar	<i>Thuja occidentalis</i>	10	3	G	F	G	1.5	S	R	

Tree	Common Name	Scientific Name	DBH	CW	TI	CS	CV	TPZ	Loc.	Rec.	Comments
106	Eastern White Cedar	<i>Thuja occidentalis</i>	10	3	G	F	G	1.5	S	R	
107	Siberian Elm	<i>Ulmus pumila</i>	34	7	G	F	G	3.5	S	R	
108	Siberian Elm	<i>Ulmus pumila</i>	15,12,10	5	G	F	G	2.5	S	R	
109	Eastern White Cedar	<i>Thuja occidentalis</i>	13	4	G	F	P	2	S	R-Cond.	
110	Norway Maple	<i>Acer platanoides</i>	77	20	F	F	G/F	10	S	R	
111	Spruce Species	<i>Picea</i> sp.	30	7	G	G	-	3.5	S	R-Cond.	Dead.
112	Colorado Spruce	<i>Picea pungens</i>	27,23	7	G	F	G	3.5	S	R	
113	Ash Species	<i>Fraxinus</i> sp.	35,35	11	G	F	F	5.5	S	R	EAB infested.
114	Juniper Species	<i>Juniperus</i> sp.	40	7	F	G	G	3.5	S	R	
115	White Mulberry	<i>Morus alba</i>	14	5	G	F	G	2.5	S	R	
116	Norway Maple	<i>Acer platanoides</i>	61	16	F	F	G	8	S	R	
117	Scots Pine	<i>Pinus sylvestris</i>	45	7	G	G	G	3.5	N	P	DBH estimated.
118	Scots Pine	<i>Pinus sylvestris</i>	35	6	G	F	G	3	N	P	DBH estimated.
119	Scots Pine	<i>Pinus sylvestris</i>	45	7	G	G	G	3.5	N	P	DBH estimated.
120	Eastern White Cedar	<i>Thuja occidentalis</i>	21	5	G	F	G	2.5	B	P	
121	Eastern White Cedar	<i>Thuja occidentalis</i>	24	4	G	F	G	2	B	P	
122	Eastern White Cedar	<i>Thuja occidentalis</i>	12	4	G	F	G	2	B	P	
123	Eastern White Cedar	<i>Thuja occidentalis</i>	12	3	G	F	F	1.5	B	P	
124	Eastern White Cedar	<i>Thuja occidentalis</i>	10	3	G	F	F	1.5	B	P	
125	Eastern White Cedar	<i>Thuja occidentalis</i>	25,18	5	F	F	F	2.5	B	P	
126	Eastern White Cedar	<i>Thuja occidentalis</i>	10	3	G	F	G	1.5	B	P	
127	Eastern White Cedar	<i>Thuja occidentalis</i>	14	3	F	F	F	1.5	B	P	
128	Eastern White Cedar	<i>Thuja occidentalis</i>	17	4	G	F	G	2	B	P	

Appendix 2 – Selected Figures



Figure 2: Trees 10-30 along the north property line.

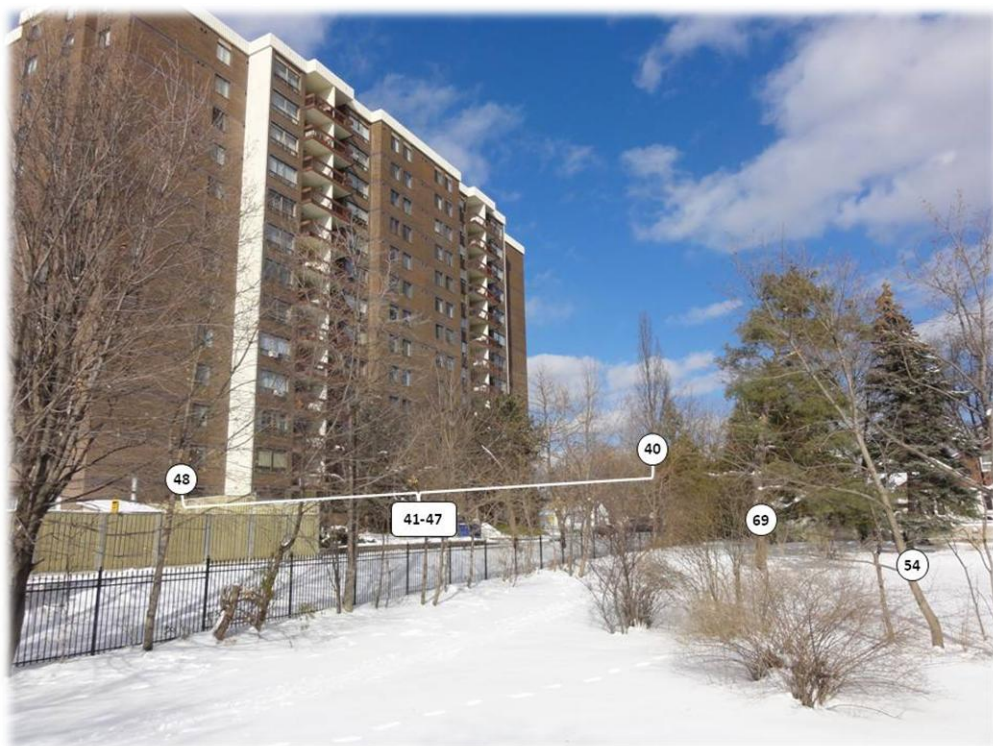


Figure 3: Trees 40-48, 54, and 69 along the north property line.

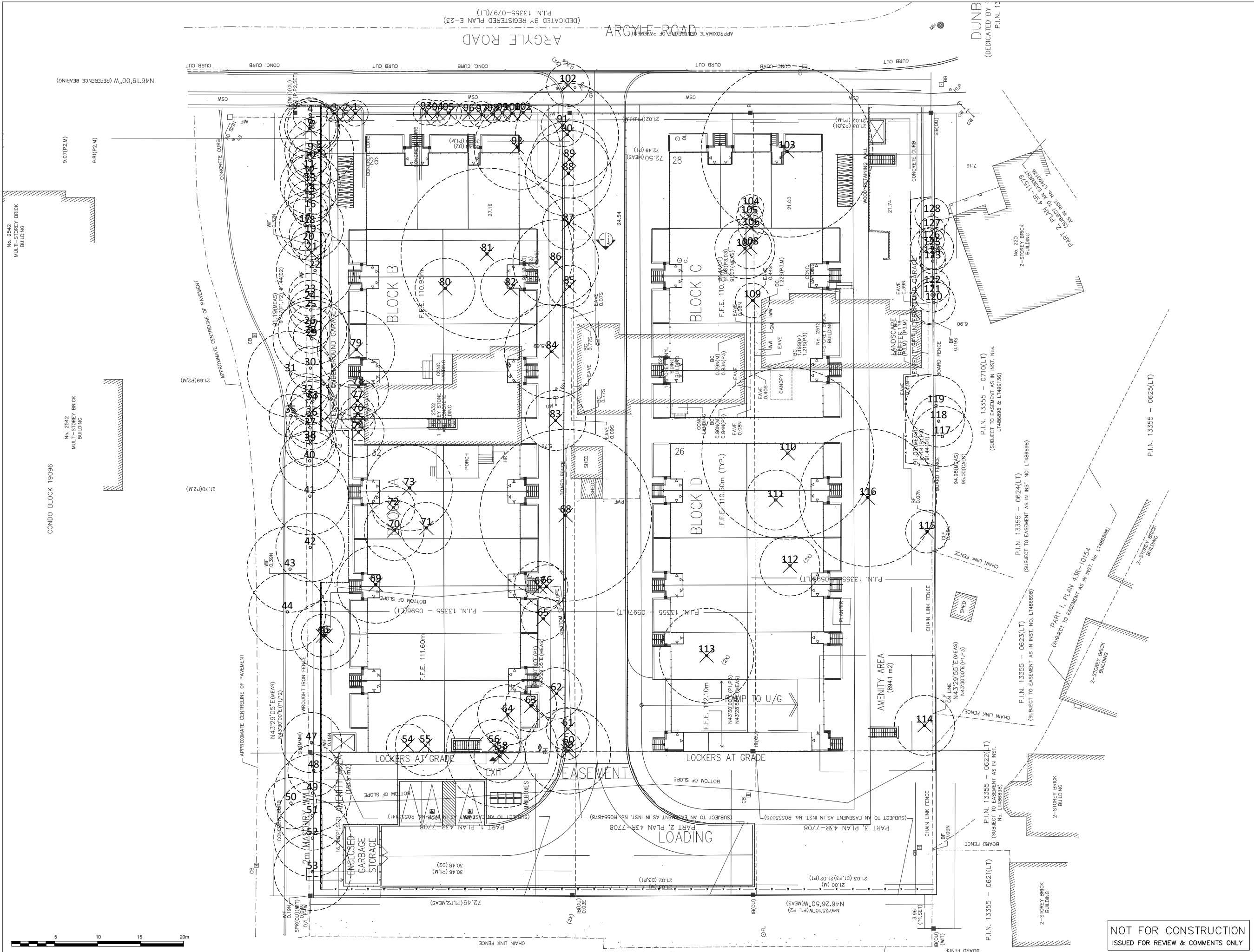


Figure 4: Trees 117-119 along the south property line.

Appendix 3 – Tree Related Plans

Inclusions:

1. Tree Protection Plan (1 page)
2. Parking Plan (1 page)



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EXISTING TREE TO BE RETAINED

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EXISTING TREE TO BE REMOVED

TREE PROTECTION ZONE (TPZ)

TREE HOARDING/FENCING

ROOT-SENSITIVE EXCAVATION

GENERAL NOTES

1. REFER TO UFI ARBORIST REPORT FOR A FULL INVENTORY OF TREE SPECIES AND REMOVAL REQUIREMENTS.

2. NO GROUNDBREAKING ACTIVITIES OR DEMOLITION SHOULD OCCUR UNTIL ALL TREE PRESERVATION REQUIREMENTS HAVE BEEN MET. OF PRIMARY CONCERN IS THE ESTABLISHMENT OF PROPER HOARDING AT TREE PROTECTION ZONES (TPZ).

3. A UFI CONSULTING ARBORIST SHOULD BE CONSULTED FOR ALL WORK THAT IMPACTS THE TREE PROTECTION ZONE.

4. THE LOCATION OF THE TREE PROTECTION ZONES HAVE BEEN CLEARLY INDICATED ON THE SITE PLAN. FENCING SHALL REMAIN IN PLACE UNTIL ALL SITE WORK HAS BEEN COMPLETED, AND MAY NOT BE REMOVED, RELOCATED, OR OTHERWISE ALTERED WITHOUT THE WRITTEN PERMISSION OF THE CONSULTING ARBORIST.

5. A QUALIFIED ARBORIST WILL UNDERTAKE PROPER ROOT PRUNING WHEN AND IF ROOTS OF RETAINED TREES ARE TO BE EXPOSED, DAMAGED OR SEVERED BY CONSTRUCTION ACTIVITIES. EXPOSED ROOTS WILL BE COVERED WITH SOIL OR MULCH AS SOON AS POSSIBLE TO PREVENT FURTHER DAMAGE AND DESICCATION. ROOT PRUNING PRIOR TO EXCAVATION WILL HELP PREVENT UNNECESSARY DAMAGE TO TREE ROOTS.

6. THE TREE PROTECTION ZONE SHOULD BE POSTED WITH SIGNS. WITHIN THE TREE PROTECTION ZONE THERE WILL BE NO:

- GRADE CHANGES
- DUMPING OR STORAGE OF ANY MATERIALS
- USE OF ANY MACHINERY WITHOUT PRIOR APPROVAL
- LANDSCAPING WITH HEAVY MACHINERY
- ACTIVITY OF ANY KIND WITHOUT PERMISSION OF THE CONSULTING ARBORIST

7. EFFORTS SHOULD BE MADE TO ROUTE ALL UNDERGROUND UTILITIES AROUND THE TREE PROTECTION ZONES. IF THIS IS NOT POSSIBLE, THEY SHOULD BE BORED OR TUNNELED UNDER THE ROOT ZONE OF THE TREES (MINIMUM 1.6 M). USING TRADITIONAL TRENCHING METHODS, THERE WILL BE SIGNIFICANT ROOT DAMAGE TO THE TREES THAT ARE BEING PRESERVED. WHERE POSSIBLE IT IS STRONGLY RECOMMENDED THAT ANY INSTALLATION OF UNDERGROUND UTILITIES (WATER, SEWAGE OR HYDRO) SHOULD UTILIZE A NON-DESTRUCTIVE METHODOLOGY SUCH AS DIRECTIONAL BORING, AIRSPADE TECHNOLOGY OR HYDROVAC REMOVAL OF SOIL.

8. IF INJURY SHOULD OCCUR TO RETAINED TREES DURING CONSTRUCTION, THE CONSULTING ARBORIST SHOULD EVALUATE THEM SO THAT APPROPRIATE TREATMENTS CAN BE RECOMMENDED AND PERFORMED.

9. ALL CONTRACTORS SHOULD BE INFORMED OF THE TREE PROTECTION MEASURES AND GUIDELINES AT A PRE-CONSTRUCTION MEETING.

10. MONITORING OF THE TREES AND THE TREE PROTECTION ZONE SHOULD BE CONDUCTED BY THE CONSULTING ARBORIST THROUGHOUT THE DURATION OF THE PROJECT.

1	29/10/2018	ISSUED FOR ARBORIST REPORT	SJ	PW	
No.	DATE	DESCRIPTION	BY:	CH/KD.	
REVISIONS					
PREPARED FOR					
NAK Design Group Inc. 411 Richmond Street East, Suite 104 Toronto, Ontario M5A 3S5					
PREPARED BY					
URBAN FOREST INNOVATIONS INC. 1331 Northaven Drive Mississauga, Ontario L5G 4E8 T: 905-274-1022 F: 905-274-2170					
TITLE					
TREE PROTECTION PLAN 2512-2532 ARGYLE ROAD, MISSISSAUGA, ONTARIO					
SCALE			SHEET		
AS INDICATED			TP-1		
DATE			29/10/2018		

NOT FOR CONSTRUCTION
ISSUED FOR REVIEW & COMMENTS ONLY

The Designer of these plans and specifications gives no warranty or representation to any party about the constructability of the represented by them, all contractors or subcontractors must satisfy themselves when bidding and at all times that they can properly construct the work represented by these plans.

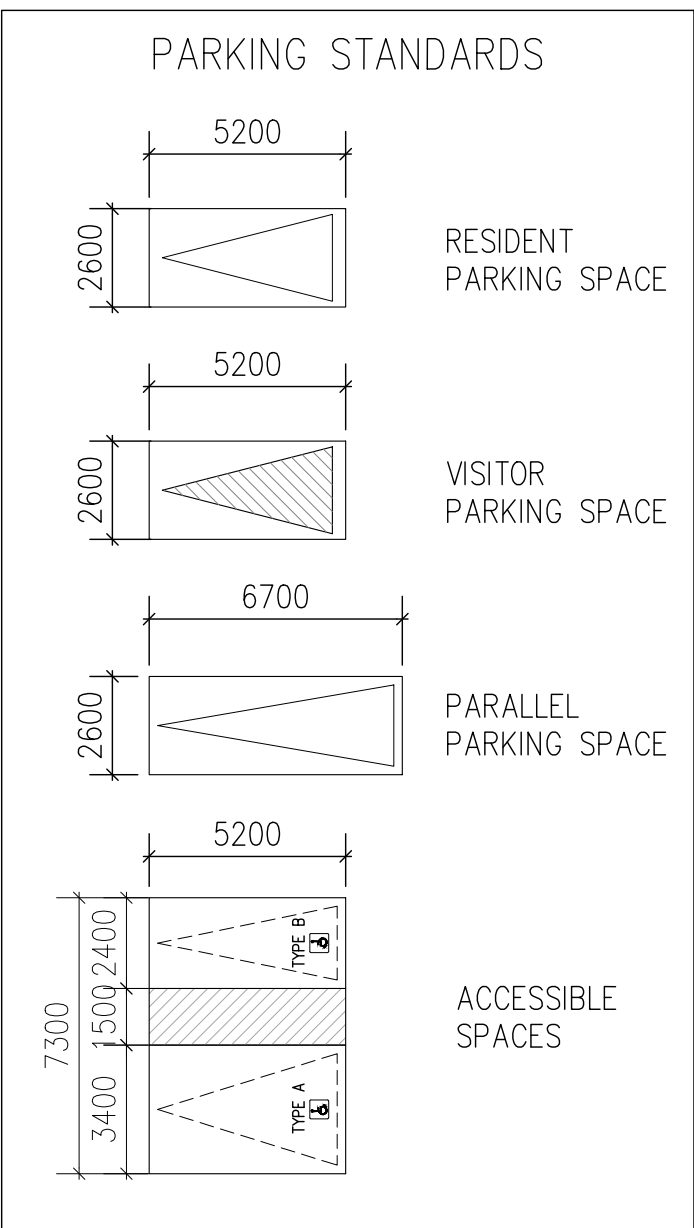
07-09-2018

mark zwicker

project:
2532-2542 argyle rd
mississauga, ontario

own by

A201



Limitations of Assessment

It is our policy to attach the following clause regarding limitations. We do this to ensure that the client is aware of what is technically and professionally realistic in assessing and retaining trees.

The assessment(s) of the tree(s) presented in this report has been made using accepted arboricultural techniques. These may include, among other factors, a visual examination of: the above-ground parts of the tree(s) for visible structural defects, scars, external indications of decay such as fungal fruiting bodies, evidence of pests or pathogens, 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, the tree(s) was not cored, probed, climbed or assessed using any advanced methods, and there was no detailed inspection of the root crown(s) involving excavation.

Notwithstanding the recommendations and conclusions made in this report, it must be recognized that trees are living organisms, and their health and vigour constantly change over time. They are not immune to changes in site or weather conditions, or general seasonal variations. Weather events such as wind or ice storms may result in the partial or complete failure of any tree, regardless of assessment results.

While reasonable efforts have been made to accurately assess the overall condition of the subject tree(s), no guarantee or warranty is offered, expressed or implied, that the tree(s) or any of its parts will remain standing or in stable condition. It is both professionally and practically impossible to predict with absolute certainty the behaviour of any single tree or its component parts, regardless of the assessment methodology implemented. Inevitably, a standing tree will always pose some level of risk. Most trees have the potential for failure under adverse weather conditions, and the 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 tree(s) should be re-assessed periodically. The assessment presented in this report is only valid at the time of inspection.

Prepared and submitted by:



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