

ARBORIST REPORT

VAUGHAN FIRE STATION 7-12 9541 WESTON ROAD

for:

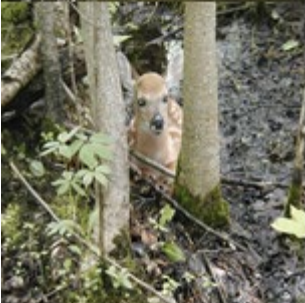
THOMASBROWN**ARCHITECTS**

by:



MARCH 2022

LGL FILE TA9196



VAUGHAN FIRE STATION 7-12

9541 WESTON ROAD

ARBORIST REPORT

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MARCH 2022
LGL PROJECT TA9196

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1.0 INTRODUCTION

LGL Limited (LGL) has been retained by Thomas Brown Architects to provide arborist services for the Vaughan Fire Station 7-12 located at 9541 Weston Road in the City of Vaughan (City). The location of the property is presented in **Figure 1**.

This Arborist Report documents the results of the tree inventory conducted in February 2022 and includes an impact assessment which provides recommendations for tree protection, removals and mitigation measure. The impact assessment and mitigation is based on a review of the grading limits provided by Thomas Brown Architects.



LEGEND

-  Subject Property
-  Waterbody

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0 100 200 300 400 M



9541 Weston Road KEY MAP



Project: TA9196	Figure: 1
Date: February 22, 2022	Prepared By: AM
Scale: 1:10,000	Verified By: JB

2.0 METHODOLOGY

An ISA Certified Arborist conducted an inventory of tree resources on February 15, 2022, to identify potential tree resources on and within six metres adjacent to the property. Tree locations were captured by an Ontario Land Surveyor and matched in the field where feasible. Attention was paid to canopy size and shape where tree canopies overhang the work zone and may conflict with machinery manoeuvring. The tree inventory was conducted in accordance with the *York Region Street Tree and Forest Preservation Guidelines* (Environmental Services Department 2016) and the *Tree Protection Protocol* (City of Vaughan 2018).

The following information was collected for each tree:

- Species: each tree was identified to species level using common and scientific name;
- Size: diameter at breast height (DBH) measured in centimetres at 1.37 meters above ground level;
- Dripline diameter: the radial dripline for each tree was estimated to the nearest metre;
- Health Assessment: assessed as per the York Region Tree Condition Rating Specifications on qualities such as trunk integrity, crown structure, vigour, disease and dieback; and,
- General comments as warranted.

Tree locations that were not identified in the survey provided to LGL were captured in the field using a differential EOS Arrow 100 GPS unit. GPS accuracy is generally within 1 metre horizontal distance; however, it is noted that densely treed areas, tall buildings and satellite reception can affect accuracy.

Surveyed trees have been screened for rare species as referenced by the Ministry of Natural Resources and Forestry (MNRF) Natural Heritage Information Centre (NHIC), which includes classification of Endangered, Threatened, and Special Concern species both at a provincial and federal scale.

3.0 RESULTS

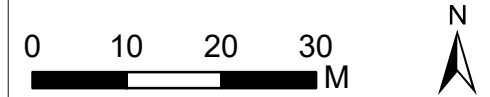
A total of 225 trees were identified and assessed during the tree inventory. Trees within the study area range in size from 1 to 180 cm DBH and range from good to poor condition. Trees surveyed include planted amenity trees within the subject property, and naturally occurring trees bordering the property. A detailed summary of all trees surveyed are presented in the **Appendix A Tree Inventory** and the locations of each tree (by identifier number) are presented in **Figure 2**.



LEGEND

- Subject Property
- Construction Limits
- Butternut to be Retained
- Tree to be Retained
- Tree to be Relocated
- Tree to be Impacted
- Tree to be Removed
- Proposed Relocation Tree 73
- Tree Protection Fencing
- Minimum Tree Protection Zone
- Dripline

Data Source: LGL Field Survey (2022). Contains public sector information made available under The Regional Municipality of York Open Data Licence. Contains information licensed under the Open Government Licence - Ontario. Produced by LGL Limited under License with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2022.



9541 Weston Road
TREE RESOURCES



Project: TA9196	Figure: 2
Date: April 1, 2022	Prepared By: AM
Scale: 1:800	Verified By: JB

3.1 SPECIES AT RISK

Two tree species that are regulated under the Ontario *Endangered Species Act*, 2007 were identified within the study area including Kentucky coffee tree (*Gymnocladus dioica*) and butternut (*Juglans cinerea*).

3.1.1 Kentucky Coffee Tree

Kentucky coffee tree is regulated as Threatened under the *Ontario Endangered Species Act*, 2007 and was noted within the property. Three (3) Kentucky coffee trees were planted as amenity trees (LGL Tree #28, 54, 55). Ministry of Natural Resources and Forestry (MNR) has advised that amenity and streetscape Kentucky coffee trees are not regulated under the *Endangered Species Act*, 2007, due to their non-native origin.

3.1.2 Butternut

Four (4) butternut (*Juglans cinerea*) were identified within and adjacent to the study area (LGL Tree #129, 143, 182, 183). Butternut is regulated as Endangered under the *Ontario Endangered Species Act*, 2007. The butternut trees were identified on the southern edge of the property and within the adjacent Vellore Tract Woodlot. In general, all butternut trees had signs of canker (sooty marks and open wounds) and evidence of crown dieback. One butternut tree (LGL Tree #143) was determined to be dead. Butternut locations are depicted in **Figure 2**. Consultation with the MNR should be undertaken given that works are proposed to occur within the 50 m butternut habitat protection zone and a Butternut Health Assessment will be required during the growing season.

TABLE 1. BUTTERNUT TREES LOCATED ADJACENT TO THE SUBJECT PROPERTY

Tree #	Scientific Name	Common Name	DBH (cm)	York Region Tree Condition Rating	Radial Dripline (m)	Distance from proposed disturbance limits (m)
129	<i>Juglans cinerea</i>	butternut	14.0	Satisfactory	2	31
143	<i>Juglans cinerea</i>	butternut	16.0	Dead	2	3
182	<i>Juglans cinerea</i>	butternut	55.0	Potential trouble	5	12
183	<i>Juglans cinerea</i>	butternut	45.0	Satisfactory	4	65

3.2 MEMORIAL TREES

A memorial tree was identified on the subject property (LGL Tree #73). The tree is a small pear tree (*Pyrus sp.*) with a diameter of 5 cm. Since the proposed development will impact this tree, it is recommended that it be relocated to another suitable location within the property, outside of the limits of disturbance. A proposed relocation site has

been included in **Figure 2**. It is recommended that the City of Vaughan Parks, Forestry and Horticulture Operations department be consulted before relocation.

4.0 IMPACT ASSESSMENT

An impact assessment was completed to determine impacts to tree resources as a result of the proposed development. This assessment was conducted using the grading limits provided by Thomas Brown Architects in March 2022. The impact assessment was completed by comparing the extent of tree dripline and tree protection zones with the proposed disturbance limits. Trees recommended for removal include trees within or outside the disturbance limits that would not be able to withstand construction related impacts. Trees identified as impacted likely will require root and/or canopy pruning; however, impacts will be minor or unavoidable and the trees should be retained by using proper mitigation techniques. Note that this impact assessment is an estimate based on the information available at the time of report preparation and some assumptions have been made since the exact machine type and dimension, limits of disturbance, and roots zones are not known.

4.1 TREES IDENTIFIED FOR REMOVAL

As noted in **Section 4.0**, trees identified for removal includes trees within the proposed disturbance limits and those trees outside of the disturbance limits where the amount of critical root zone that will be removed will likely cause significant and irreversible decline of the health of the tree. As such, a total 13 trees have been identified for removal as a result of the proposed development. Of the 13 trees to be removed, 10 trees measure 20 cm DBH and greater. Trees identified for removal are listed in **Appendix A** and presented in **Figure 2**.

4.2 TREES IDENTIFIED AS IMPACTED

Impacted trees are those that are identified for retention, but encroachment into the minimum tree protection zone (TPZ) will occur. A total of 1 tree has been identified as impacted as a result of the proposed works. Trees identified as injured and the reason for the injury are listed in **Appendix A** and are presented in **Figure 2**.

4.3 TREES IDENTIFIED FOR RETENTION

A total of 211 trees have been identified for retention and listed in **Appendix A** and presented in **Figure 2**.

5.0 MITIGATION

5.1 GENERAL RECOMMENDATIONS

The following general recommendations conform to good forestry practices and are designed to help ensure impacts to trees surrounding the work zone, and those identified to be retained are minimized. General recommendations include:

- Tree protection fencing must be installed as per the approved Tree Preservation Plan. The contract administrator must review and approve the fencing prior to the commencement of any grading work and the fencing will be maintained until all construction is complete;
- Tree protection fencing must be installed in accordance with York Region specifications and as per the locations outline on **Figure 2**;
- Heavy machinery should not to be operated within the TPZ (including overhead swinging of machine arms);
- Construction materials, equipment, soil, construction waste or debris are not to be stored within the TPZ or dripline of the trees identified for protection;
- There should be no movement or parking of vehicles, placement of equipment or pedestrian traffic within the TPZ;
- No grade changes shall occur within the TPZ unless approved by the Tree Protection Plan;
- Trees shall not have any rigging cables or hardware of any sort attached or wrapped around them, nor shall any contaminants be dumped within protected areas;
- All removals must be felled into the work zone to ensure that damage does not occur to trees within the TPZ;
- Should any additional, incidental or accidental tree injuries occur during construction, a qualified Arborist should be consulted to determine whether additional mitigation measures should be employed; and
- Tree clearing shall not be conducted during the *Migratory Bird Convention Act* (MBCA) breeding season commonly considered April 1 – August 31, unless under appropriate permitting.

5.2 PRUNING

The following recommendations shall be implemented for any root or canopy pruning taken on the property.

5.2.1 Root Pruning

All approved root pruning shall be undertaken by an ISA Certified Arborist or an Ontario College of Trades 444A Arborist or Arborist Apprentice and in accordance with Best

Management Practices. The following practices shall be implemented for any root pruning:

- Prior to root pruning low pressure hydro-vac excavation should be undertaken in a 0.5 m wide section within and along the length of the TPZ to a depth of 500 mm to expose the roots;
- No roots greater than 6 cm in diameter shall be pruned;
- Exposed roots shall not be allowed to dry out, where roots are exposed they shall be covered by dampened mulch or topsoil to prevent desiccation;
- All pruning shall maintain the integrity of the root bark ridge;
- A slow release deep root low nitrogen fertilizer shall be applied to any trees requiring root pruning to increase vigour; and,
- Backfilling shall occur as soon as possible and shall occur with clean native uncontaminated topsoil.

5.2.2 Canopy Pruning

All canopy and clearance pruning shall be undertaken by an ISA Certified Arborist or an Ontario College of Trades 444A Arborist or Arborist Apprentice. Any branches that overhang the work site and require pruning shall be pruned using good arboricultural practices in accordance with American National Standard (ANSI) A300 (Part 1) – 2008 Pruning.

6.0 COMPENSATION FOR TREE REMOVALS

The City of Vaughan requires the replacement of all individual trees removed as per the Tree Protection Protocol (2018). **Table 2** calculates the required number of replacement trees.

TABLE 2. RATIO OF TREE REPLACEMENT FOR PRIVATE TREES

DBH of Tree to be Removed	Ratio of Replacement Trees Required	Number of Removed trees	Number of Trees to be Planted
20-30 cm	1:1	7	7
31-40 cm	2:1	1	2
41-50 cm	3:1	1	3
51 cm or greater	4:1	1	4
	Total	10	16

The total number of calculated replacement trees is 16. A total of 50 trees have been recommended for planting as per the Vaughan Fire Station 7-12 Site Plan provided by Thomas Brown Architects and as such, the compensation requirements have been satisfied.

7.0 SUMMARY AND CONCLUSION

An evaluation of tree resources within the study area was conducted in the winter of 2022. An impact assessment (**Section 5.0**) has been undertaken based on the design and has identified the following potential concerns regarding construction near trees in the study area include:

- Removals – Thirteen (13) trees have been identified for removal;
- Injure – One (1) tree has been identified as injured;
- Retained – Two-hundred and eleven (211) trees have been identified for retention without injury.

One tree has been identified as a memorial tree and is recommended for transplanting. A detailed summary of the impact assessment is provided in **Appendix A**.

8.0 DISCLAIMER

8.1 LIMITATIONS OF THIS ASSESSMENT

This Assessment is based on the circumstances and observations as they existed at the time of the site inspection of the Client's Property and the trees situate thereon and upon information provided by the Client to LGL Limited. The opinions in this Assessment are given based on observations made and using generally accepted professional judgment, however, because trees and plants are living organisms and subject to change, damage and disease, the results, observations, recommendations, and analysis as set out in this Assessment are valid only as at the date any such testing, observations and analysis took place and no guarantee, warranty, representation or opinion is offered or made as to the length of the validity of the results, observations, recommendations and analysis contained within this Assessment. As a result, the Client shall not rely upon this Assessment, save and except for representing the circumstances and observations, analysis and recommendations that were made as at the date of such inspections. It is recommended that the trees discussed in this Assessment should be re-assessed periodically.

8.2 RESTRICTION OF ASSESSMENT

The Assessment carried out was restricted to the Property. No assessment of any other trees or plants has been undertaken by LGL. LGL is not legally liable for any other trees

or plants on the Property except those expressly discussed herein. The conclusions of this Assessment do not apply to any areas, trees, plants or any other property not within the study area or referenced in this Assessment.

8.3 PROFESSIONAL RESPONSIBILITY

In carrying out this Assessment, LGL Limited and any Assessor appointed for and on behalf of LGL Limited to perform and carry out the Assessment has exercised a reasonable standard of care, skill and diligence as would be customarily and normally provided in carrying out this Assessment. The Assessment has been made using accepted arboricultural techniques. These include a visual examination of each tree for structural defects, scars, external indications of decay such as fungal fruiting bodies, evidence of insect attack, 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 current or planned proximity of property and people. Except where specifically noted in the Assessment, none of the trees examined on the property were dissected, cored, probed, or climbed and detailed root crown examinations involving excavation were not undertaken.

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

Without limiting the foregoing, no liability is assumed by LGL or its directors, officers, employers, contractors, agents or Assessors for:

- a) any legal description provided with respect to the Property;
- b) issues of title and or ownership respect to the Property;
- c) the accuracy of the Property line locations or boundaries with respect to the Property;
- d) the accuracy of any other information provided to LGL by the Client or third parties;
- e) any consequential loss, injury or damages suffered by the Client or any third parties, including but not limited to replacement costs, loss of use, earnings and business interruption; and,
- f) the unauthorized distribution of the Assessment.

8.4 GENERAL

Any plans and/or illustrations in this Assessment are included only to help the Client visualize the issues in this Assessment and shall not be relied upon for any other purpose.

Appendix A

Tree Inventory

Tree #	Scientific Name	Common Name	DBH (cm)	Additional Stems	Estimation of DBH (x)	York Region Tree Condition Rating	Radial Dripline (m)	Location		ESASARA	Memorial Tree	Tree Protection Zone (m)	Impact Assessment				Tree Preservation Measures						COMMENTS
								Number	Street				Remove	Protect	Impacted	Reason	Canopy Pruning	Protect with Hoarding	Root Pruning	Air-spade/hand dig pit	Open Trench Excavation	Trenchless Excavation	
1	Quercus rubra	red oak	18.0			Good	3					1.80											Girdling root
2	Fagus sylvatica	European Beech	15.0			Good	1					1.80											Wound a base, columnar
3	Fagus sylvatica	European Beech	17.0			Good	2					1.80											
4	Fagus sylvatica	European Beech	18.0			Good	2					1.80											
5	Fagus sylvatica	European Beech	17.0			Good	2					1.80											
6	Fagus sylvatica	European Beech	17.0			Good	2					1.80											
7	Fagus sylvatica	European Beech	16.0			Good	3					1.80											
8	Fagus sylvatica	European Beech	16.0			Good	3					1.80											
9	Fagus sylvatica	European Beech	18.0			Good	3					1.80											
10	Fagus sylvatica	European Beech	10.0			Good	1					1.80											
11	Fagus sylvatica	European Beech	17.0			Good	2					1.80											
12	Fagus sylvatica	European Beech	18.0			Good	3					1.80											
13	Acer saccharinum	silver maple	26.0			Good	3					1.80											
14	Acer saccharinum	silver maple	22.0			Good	3					1.80											
15	Tilia americana	basswood	62.0			Good	5					4.20											
16	Quercus rubra	red oak	21.0			Good	4					1.80											
17	Quercus rubra	red oak	32.0			Good	3					2.40											
18	Acer saccharum ssp. saccharum	sugar maple	48.0			Good	5					3.00											
19	Juglans nigra	black walnut	44.0			Good	5					3.00											
20	Tilia americana	basswood	22.0			Good	3					1.80											
21	Acer saccharinum	silver maple	19.0			Good	3					1.80											
22	Acer saccharinum	silver maple	23.0			Good	3					1.80											
23	Acer saccharinum	silver maple	20.0			Good	3					1.80											
24	Acer saccharinum	silver maple	22.0			Good	3					1.80											
25	Malus baccata c.v.	Crabapple	19.0			Good	2					1.80											
26	Gleditsia triacanthos var. inermis	honey locust	17.0			Good	2					1.80											
27	Gleditsia triacanthos var. inermis	honey locust	17.0			Good	2					1.80											
28	Gymnocladus dioica	Kentucky coffee tree	13.0			Good	2					1.80											
29	Gleditsia triacanthos var. inermis	honey locust	14.0			Good	2					1.80											
30	Fagus sylvatica	European Beech	20.0			Good	3					1.80											
31	Fagus sylvatica	European Beech	17.0			Good	2					1.80											
32	Fagus sylvatica	European Beech	17.0			Good	2					1.80											
33	Fagus sylvatica	European Beech	16.0			Good	2					1.80											
34	Fagus sylvatica	European Beech	19.0			Good	2					1.80											
35	Fagus sylvatica	European Beech	19.0			Good	3					1.80											
36	Fagus sylvatica	European Beech	16.0	14, 14		Good	3					1.80											
37	Fagus sylvatica	European Beech	22.0			Good	3					1.80											
38	Fagus sylvatica	European Beech	18.0			Good	2					1.80											
39	Fagus sylvatica	European Beech	17.0			Good	2					1.80											
40	Fagus sylvatica	European Beech	17.0			Good	1					1.80											Columnar, wounds on bark
41	Acer saccharinum	silver maple	11.0			Good	2					1.80											
42	Ulmus sp.	elm	12.0			Good	2					1.80											
43	Ulmus sp.	elm	14.0			Good	2					1.80											
44	Ulmus sp.	elm	13.0			Good	2					1.80											
45	Gleditsia triacanthos var. inermis	honey locust	18.0			Good	3					1.80											
46	Platanus x acerifolia	London plane tree	20.0			Good	3					1.80											
47	Gleditsia triacanthos var. inermis	honey locust	17.0			Good	2					1.80											
48	Gleditsia triacanthos var. inermis	honey locust	14.0			Good	2					1.80											
49	Platanus x acerifolia	London plane tree	29.0			Good	4					1.80											

Tree #	Scientific Name	Common Name	DBH (cm)	Additional Stems	Estimation of DBH (x)	York Region Tree Condition Rating	Radial Dripline (m)	Location		ESA/SARA	Memorial Tree	Tree Protection Zone (m)	Impact Assessment				Tree Preservation Measures						COMMENTS
								Number	Street				Remove	Protect	Impacted	Reason	Canopy Pruning	Protect with Rounding	Root Pruning	Air-spade and dig pit	Open Trench Excavation	Trenchless Excavation	
50	Platanus x acerifolia	London plane tree	26.0			Good	4					1.80											
51	Acer saccharinum	silver maple	24.0			Good	3					1.80											
52	Acer saccharinum	silver maple	29.0			Good	4					1.80											
53	Platanus x acerifolia	London plane tree	20.0			Good	3					1.80											
54	Gymnocladus dioicus	Kentucky coffee tree	14.0			Good	3					1.80											
55	Gymnocladus dioicus	Kentucky coffee tree	11.0			Good	2					1.80											
56	Picea pungens	blue spruce	7.0			Good	1					1.20											
57	Acer saccharinum	silver maple	180.0			Good	12					10.80											
58	Tilia cordata	little leaf linden	23.0			Good	3					1.80											
59	Tilia cordata	little leaf linden	26.0			Good	3					1.80											
60	Acer negundo	Manitoba maple	20.0			Good	4					1.80											
61	Acer negundo	Manitoba maple	11.0			Good	2					1.80											
62	Pinus strobus	white pine	25.0			Good	3					1.80											
63	#N/A	Unknown	15.0			Good	2					1.80											
64	Picea glauca	white spruce	22.0			Good	2					1.80											
65	Picea glauca	white spruce	20.0			Good	2					1.80											
66	Picea glauca	white spruce	29.0			Good	3					1.80											
67	Malus baccata c.v.	Crabapple	23.0			Good	3					1.80											
68	Malus baccata c.v.	Crabapple	18.0			Good	3					1.80											
69	Ulmus sp.	elm	14.0			Good	2					1.80											
70	Ulmus sp.	elm	13.0			Good	2					1.80											
71	Ulmus sp.	elm	15.0			Good	2					1.80											
72	Picea glauca	white spruce	17.0			Good	2					1.80											
73	Pyrus sp.	pear	5.0			Good	1				x	1.20											Memorial tree: Graziano Agnoluzzi
74	Picea pungens	blue spruce	13.0			Good	2					1.80											
75	Picea pungens	blue spruce	19.0			Good	2					1.80											
76	Picea pungens	blue spruce	17.0			Good	2					1.80											Wound at base
77	Ostrya virginiana	ironwood	15.0			Good	3					1.80											
78	Acer saccharum ssp. saccharum	sugar maple	20.0			Good	4					1.80											Wound at base
79	Acer saccharum ssp. saccharum	sugar maple	29.0			Good	4					1.80											
80	Acer negundo	Manitoba maple	23.0			Good	5					1.80											Heavy lean south
81	Ulmus americana	White elm	25.0			Good	3					1.80											
82	Acer negundo	Manitoba maple	35.0			Good	5					2.40											Mod lean south
83	Acer saccharum ssp. saccharum	sugar maple	30.0			Good	4					2.40											
84	Ostrya virginiana	ironwood	18.0			Good	0					1.80											Heavy lean south
85	Ostrya virginiana	ironwood	33.0	15,11		Good	4					2.40											
86	Acer saccharum ssp. saccharum	sugar maple	12.0			Good	3					1.80											Wound at base
87	Ostrya virginiana	ironwood	15.0	13.0		Good	3					1.80											
88	Tilia americana	basswood	30.0	28,24		Good	4					2.40											
89	Tilia americana	basswood	21.0			Good	3					1.80											
90	Tilia americana	basswood	26.0			Good	2					1.80											
91	Tilia americana	basswood	21.0			Good	3					1.80											
92	Ostrya virginiana	ironwood	21.0			Good	3					1.80											
93	Acer saccharum ssp. saccharum	sugar maple	11.0			Good	3					1.80											
94	Acer negundo	Manitoba maple	20.0			Good	4					1.80											Mod lean west
95	Quercus bicolor	swamp white oak	17.0			Good	3					1.80											
96	Acer saccharum ssp. saccharum	sugar maple	19.0			Good	3					1.80											
97	Ulmus americana	White elm	43.0			Good	6					3.00											
98	Acer saccharum ssp. saccharum	sugar maple	18.0			Potential trouble	2					1.80											Large wound at base
99	Acer saccharum ssp. saccharum	sugar maple	18.0	15.0		Good	4					1.80											
100	Acer saccharum ssp. saccharum	sugar maple	10.0			Potential trouble	2					1.80											Wounds on trunk

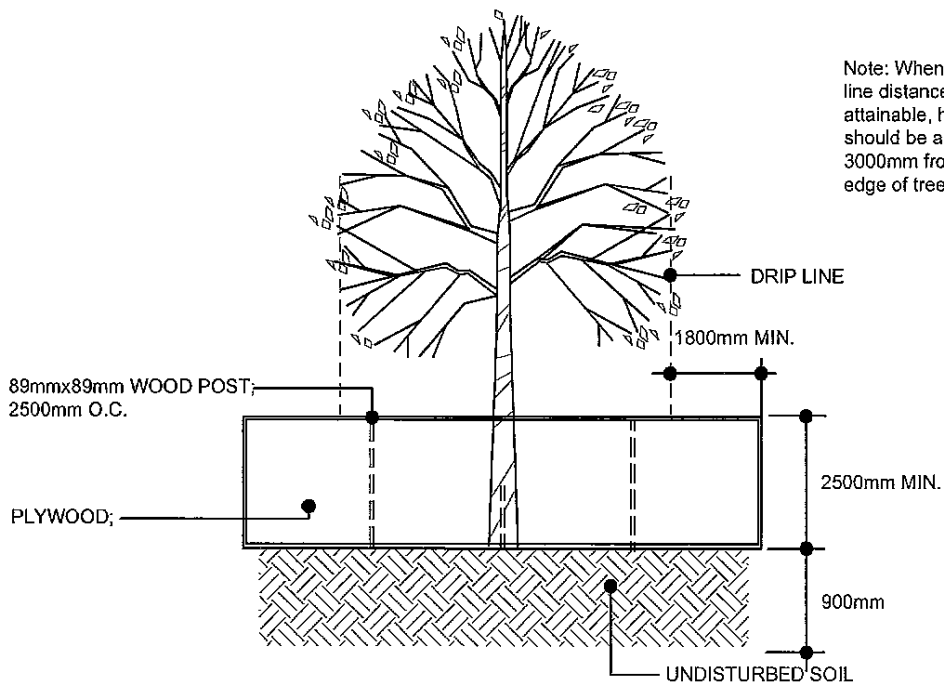
Tree #	Scientific Name	Common Name	DBH (cm)	Additional Stems	Estimation of DBH (x)	York Region Tree Condition Rating	Radial Dripline (m)	Location		ESA/SARA	Memorial Tree	Tree Protection Zone (m)	Impact Assessment				Tree Preservation Measures						COMMENTS
								Number	Street				Remove	Protect	Impacted	Reason	Canopy Pruning	Protect with Rounding	Root Pruning	Air-spade and dig pit	Open Trench Excavation	Trenchless Excavation	
101	Acer saccharum ssp. saccharum	sugar maple	10.0			Potential trouble	1					1.80											Wounds on trunk
102	Acer saccharum ssp. saccharum	sugar maple	21.0			Satisfactory	3					1.80											Wounds on trunk and in canopy
103	Acer saccharum ssp. saccharum	sugar maple	15.0			Potential trouble	3					1.80											Wounds on trunk
104	Acer saccharum ssp. saccharum	sugar maple	52.0			Good	5					3.60											
105	Acer saccharum ssp. saccharum	sugar maple	24.0			Good	2					1.80											
106	Ulmus americana	White elm	13.0			Good	2					1.80											
107	Acer saccharum ssp. saccharum	sugar maple	39.0			Good	4					2.40											
108	Acer saccharum ssp. saccharum	sugar maple	25.0			Good	4					1.80											
109	Acer saccharum ssp. saccharum	sugar maple	55.0			Good	5					3.60											
110	Acer saccharum ssp. saccharum	sugar maple	68.0			Good	6					4.20											
111	Acer saccharum ssp. saccharum	sugar maple	45.0			Good	5					3.00											
112	Acer saccharum ssp. saccharum	sugar maple	42.0			Good	5					3.00											
113	Acer saccharum ssp. saccharum	sugar maple	39.0			Good	4					2.40											
114	Acer saccharum ssp. saccharum	sugar maple	35.0			Satisfactory	4					2.40											Lower branch damage
115	Acer saccharum ssp. saccharum	sugar maple	11.0			Potential trouble	2					1.80											Bark damage from rodent
116	Ulmus americana	White elm	18.0			Death imminent	3					1.80											Snapped trunk
117	Acer saccharum ssp. saccharum	sugar maple	11.0			Good	2					1.80											
118	Acer saccharum ssp. saccharum	sugar maple	8.0			Good	2					1.20											
119	Tilia americana	basswood	15.0			Good	2					1.80											
120	Acer saccharum ssp. saccharum	sugar maple	79.0			Good	6					4.80											
121	Acer saccharum ssp. saccharum	sugar maple	11.0			Good	2					1.80											
122	Tilia americana	basswood	31.0			Good	3					2.40											
123	Acer saccharum ssp. saccharum	sugar maple	15.0			Good	2					1.80											
124	Acer saccharum ssp. saccharum	sugar maple	15.0			Good	2					1.80											
125	Acer saccharum ssp. saccharum	sugar maple	49.0			Good	5					3.00											
126	Acer saccharum ssp. saccharum	sugar maple	55.0			Good	6					3.60											Widowmaker in canopy
127	Acer saccharum ssp. saccharum	sugar maple	43.0			Good	4					3.00											
128	Juglans nigra	black walnut	27.0			Good	4					1.80											
129	Juglans cinerea	butternut	14.0			Satisfactory	2			x		1.80											
130	Juglans nigra	black walnut	12.0			Satisfactory	2					1.80											Dead leader, removed
131	Acer saccharum ssp. saccharum	sugar maple	55.0			Good	4					3.60											
132	Acer saccharum ssp. saccharum	sugar maple	54.0			Good	6					3.60											
133	Acer saccharum ssp. saccharum	sugar maple	50.0			Good	4					3.00											
134	Acer saccharum ssp. saccharum	sugar maple	37.0			Good	4					2.40											
135	Acer saccharum ssp. saccharum	sugar maple	12.0			Good	2					1.80											
136	Acer saccharum ssp. saccharum	sugar maple	10.0			Good	2					1.80											
137	Acer saccharum ssp. saccharum	sugar maple	9.0			Good	2					1.20											
138	Prunus avium	sweet cherry	18.0			Potential trouble	2					1.80											
139	Acer saccharum ssp. saccharum	sugar maple	57.0			Good	5					3.60											Minor branch dieback
140	Acer saccharum ssp. saccharum	sugar maple	49.0			Good	4					3.00											Minor branch dieback
141	Juglans nigra	black walnut	34.0			Good	5					2.40											
142	Fraxinus sp.	ash	15.0			Death imminent	2					1.80											Crown 90% dead
143	Juglans cinerea	butternut	16.0			Dead	2			x		1.80											
144	Fraxinus sp.	ash	11.0			Good	2					1.80											
145	Fraxinus sp.	ash	9.0			Good	2					1.20											
146	Fraxinus sp.	ash	6.0			Good	2					1.20											
147	Juglans nigra	black walnut	33.0			Good	5					2.40											
148	Juglans nigra	black walnut	18.0			Good	3					1.80											
149	Juglans nigra	black walnut	21.0			Good	4					1.80											
150	Juglans nigra	black walnut	28.0			Good	4					1.80											
151	Juglans nigra	black walnut	32.0			Good	4					2.40											

Tree #	Scientific Name	Common Name	DBH (cm)	Additional Stems	Estimation of DBH (x)	York Region Tree Condition Rating	Radial Dripline (m)	Location		ESA/SARA	Memorial Tree	Tree Protection Zone (m)	Impact Assessment				Tree Preservation Measures						COMMENTS
								Number	Street				Remove	Protect	Impacted	Reason	Canopy Pruning	Protect with Hoarding	Root Pruning	Air-spade and dig pit	Open Trench Excavation	Trenchless Excavation	
152	Juglans nigra	black walnut	34.0			Good	4					2.40											
153	Juglans nigra	black walnut	32.0			Good	5					2.40											
154	Juglans nigra	black walnut	51.0			Good	6					3.60											
155	Acer saccharum ssp. saccharum	sugar maple	21.0			Good	4					1.80											Wounds on trunk
156	Tilia americana	basswood	25.0			Good	3					1.80											
157	Tilia americana	basswood	28.0			Good	4					1.80											
158	Tilia americana	basswood	13.0	12.0		Good	3					1.80											
159	Fraxinus sp.	ash	11.0			Satisfactory	2					1.80											
160	Pinus strobus	white pine	38.0			Good	4					2.40											
161	Acer platanoides	Norway maple	15.0	10.0		Good	0					1.80											
162	Juglans nigra	black walnut	35.0			Good	5					2.40											
163	Juglans nigra	black walnut	32.0			Good	4					2.40											
164	Juglans nigra	black walnut	37.0			Good	6					2.40											
165	Juglans nigra	black walnut	25.0			Satisfactory	3					1.80											
166	Juglans nigra	black walnut	31.0			Good	4					2.40											
167	Juglans nigra	black walnut	42.0			Good	6					3.00											
168	Juglans nigra	black walnut	24.0			Good	3					1.80											Grape vine up trunk
169	Juglans nigra	black walnut	18.0			Good	2					1.80											Grape vine up trunk
170	Juglans nigra	black walnut	19.0			Potential trouble	2					1.80											Crown 40% dead
171	Acer saccharum ssp. saccharum	sugar maple	20.0			Declining	2					1.80											Large wound up trunk
172	Juglans nigra	black walnut	14.0			Good	2					1.80											Vines up trunk
173	Juglans nigra	black walnut	28.0			Good	4					1.80											
174	Juglans nigra	black walnut	28.0			Satisfactory	4					1.80											Cavity at base of crown
175	Juglans nigra	black walnut	28.0			Potential trouble	4					1.80											Large wound/cavity at branch union
176	Juglans nigra	black walnut	21.0			Good	3					1.80											
177	Acer platanoides	Norway maple	18.0			Potential trouble	2					1.80											Crack up trunk, 20% dead canopy, wound at base
178	Acer platanoides	Norway maple	25.0			Potential trouble	2					1.80											Crack up trunk, 20% dead canopy, epi
179	Juglans nigra	black walnut	31.0			Good	3					2.40											10% dead crown
180	Juglans nigra	black walnut	15.0			Satisfactory	2					1.80											
181	Juglans nigra	black walnut	14.0			Good	4					1.80											
182	Juglans cinerea	butternut	55.0			Potential trouble	5			x		3.60											
183	Juglans cinerea	butternut	45.0			Satisfactory	4			x		3.00											
184	Ostrya virginiana	ironwood	18.0			Satisfactory	2					1.80											Wound up trunk
185	Acer saccharum ssp. saccharum	sugar maple	11.0			Good	2					1.80											
186	Acer saccharum ssp. saccharum	sugar maple	41.0			Good	4					3.00											
187	Acer saccharum ssp. saccharum	sugar maple	41.0			Good	4					3.00											
188	Acer saccharum ssp. saccharum	sugar maple	49.0			Good	4					3.00											
189	Acer saccharum ssp. saccharum	sugar maple	35.0			Good	4					2.40											
190	Acer saccharum ssp. saccharum	sugar maple	12.0			Good	2					1.80											
191	Acer saccharum ssp. saccharum	sugar maple	15.0			Good	3					1.80											
192	Acer saccharum ssp. saccharum	sugar maple	50.0			Good	5					3.00											
193	Acer saccharum ssp. saccharum	sugar maple	42.0			Good	4					3.00											
194	Acer saccharum ssp. saccharum	sugar maple	43.0			Good	4					3.00											
195	Acer saccharum ssp. saccharum	sugar maple	10.0			Good	2					1.80											
196	Acer saccharum ssp. saccharum	sugar maple	10.0			Good	2					1.80											
197	Acer saccharum ssp. saccharum	sugar maple	27.0			Potential trouble	2					1.80											Large wound midway on trunk, fungus in cavity
198	Acer saccharum ssp. saccharum	sugar maple	12.0			Good	2					1.80											
199	Acer saccharum ssp. saccharum	sugar maple	11.0			Good	2					1.80											
200	Fraxinus sp.	ash	20.0			Declining	2					1.80											Eab, thin canopy
201	Acer saccharum ssp. saccharum	sugar maple	37.0			Good	4					2.40											
202	Acer saccharum ssp. saccharum	sugar maple	12.0			Good	2					1.80											

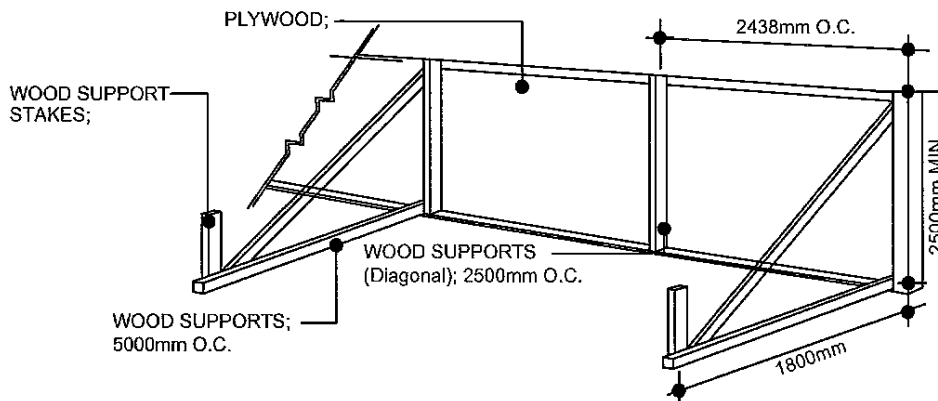
Tree #	Scientific Name	Common Name	DBH (cm)	Additional Stems	Estimation of DBH (x)	York Region Tree Condition Rating	Radial Dripline (m)	Location		ESA/SARA	Memorial Tree	Tree Protection Zone (m)	Impact Assessment				Tree Preservation Measures						COMMENTS
								Number	Street				Remove	Protect	Impacted	Reason	Canopy Pruning	Protect with Rounding	Root Pruning	Air-spade/hand dig pit	Open Trench Excavation	Trenchless Excavation	
203	Acer saccharum ssp. saccharum	sugar maple	18.0			Good	3					1.80											
204	Acer saccharum ssp. saccharum	sugar maple	12.0			Good	2					1.80											
205	Acer saccharum ssp. saccharum	sugar maple	40.0			Good	5					2.40											
206	Acer saccharum ssp. saccharum	sugar maple	36.0			Good	3					2.40											
207	Acer saccharum ssp. saccharum	sugar maple	29.0			Good	3					1.80											
208	Acer saccharum ssp. saccharum	sugar maple	20.0			Declining	2					1.80											Severe wound on trunk
209	Acer saccharum ssp. saccharum	sugar maple	11.0			Good	2					1.80											
210	Acer saccharum ssp. saccharum	sugar maple	15.0			Good	2					1.80											Wound on trunk
211	Acer saccharum ssp. saccharum	sugar maple	11.0			Good	3					1.80											
212	Ginkgo biloba	ginkgo	10.0			Good	1					1.80											
213	Ostrya virginiana	ironwood	11.0			Good	3					1.80											
214	Acer saccharum ssp. saccharum	sugar maple	31.0			Good	4					2.40											
215	Ostrya virginiana	ironwood	12.0			Good	2					1.80											
216	Ulmus americana	White elm	12.0	6.0		Good	3					1.80											
217	Acer saccharum ssp. saccharum	sugar maple	13.0			Good	2					1.80											
218	Acer saccharum ssp. saccharum	sugar maple	12.0			Good	2					1.80											
219	Tilia americana	basswood	22.0			Good	3					1.80											
220	Quercus bicolor	swamp white oak	11.0			Good	1					1.80											
221	Carpinus caroliniana	blue beech	12.0	10.0		Declining	2					1.80											Declining crown 80%
222	Ostrya virginiana	ironwood	11.0			Good	2					1.80											
223	Quercus macrocarpa	bur oak	27.0			Good	3					1.80											
224	Tilia americana	basswood	25.0	19,15		Good	4					1.80											
225	Ulmus americana	White elm	11.0			Good	2					1.80											

Appendix B

City of Vaughan Tree Protection



Note: When 1800mm drip line distance is not attainable, hoarding should be at least 3000mm from outside edge of tree trunk.



Note: All Support Stakes and Hoarding Posts to be wood 2" x 4" member.


Note: All Plywood to be 4'x8' sheets.

Note: All Connection Points to be Rigid.

NOTES:

1. Attachment of fence to trees to be preserved is not allowed.
2. Ensure fence is continuous and is located beyond the drip line of trees to be preserved.
3. Fencing to be installed prior to start of construction.
4. All supports and bracing should be inside the Tree Protection Zone. All such supports should minimize damaging roots outside the Tree Protection Barrier.
5. No Construction activity, grade changes, surface treatment or excavations of any kind is permitted within the Tree Protection Zone.

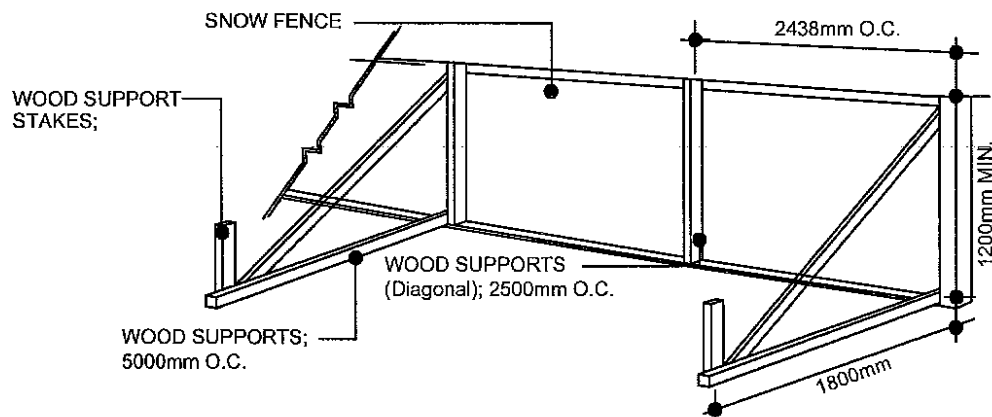
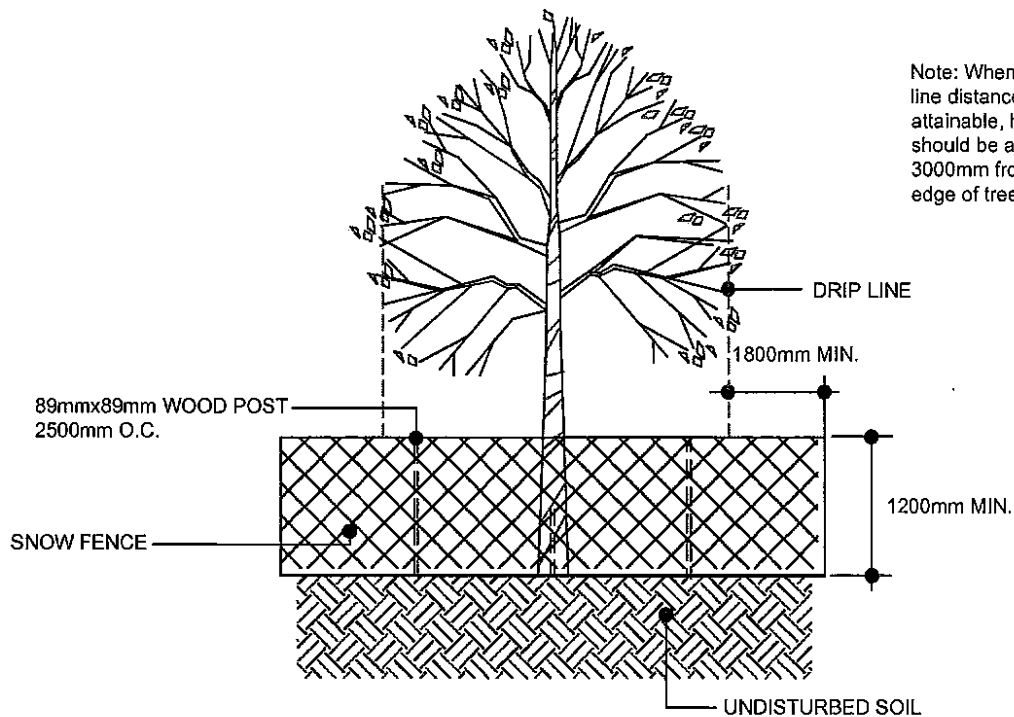
2.	HEIGHT OF FENCING UPDATE	PD	12/10/16
1.	DETAIL UPDATE	PD	09/12/11
#	REVISIONS	APR'D	DATE



VAUGHAN

HEAVY DUTY PLYWOOD TREE PROTECTION

DRAWN: <u>S.T.</u>	APPROVED: <u>M.T.</u>	DRAWING NO.
NOT TO SCALE	DATE: <u>14/11/08</u>	<u>MLA 107</u>



Note: All Support Stakes and Hoarding Posts to be wood 2" x 4" member.
Note: All Connection Points to be Rigid.

NOTES:

1. Attachment of fence to trees to be preserved is not allowed.
2. Ensure fence is continuous and is located beyond the drip line of trees to be preserved.
3. Fencing to be installed prior to start of construction.
4. All supports and bracing should be inside the Tree Protection Zone. All such supports should minimize damaging roots outside the Tree Protection Barrier.
5. No Construction activity, grade changes, surface treatment or excavations of any kind is permitted within the Tree Protection Zone.

2.			
1.			
#	REVISIONS	APR'D	DATE
LIGHT DUTY TREE HOARDING PROTECTION DETAIL (SNOW FENCE)			
DRAWN: JC		APPROVED: KH	
NOT TO SCALE		DATE: 04/07/2016	
		DRAWING NO. MLA 107B	