



JACKSON ARBORICULTURE INC.

CONSULTING AND GIS ANALYSIS

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Tree Inventory and Preservation Plan Report

Subject Property:

1634 Four Mile Creek Road
Niagara-on-the-Lake, ON

Prepared For:

Rudy Doerwald & Melanie Williams
P.O. Box 1161
Virgil, ON L0S 1T0

Prepared By:

Jackson Arboriculture Inc.
118 Pleasant Ridge Road
Brantford, ON N3R 0B8

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Jackson Arboriculture Inc. Project No. 529

1.0 Introduction

Jackson Arboriculture Inc. was retained by Rudy Doerwald & Melanie Williams to complete a Tree Inventory and Preservation Plan report for a property situated at 1634 Four Mile Creek Road in the Town of Niagara-on-the-Lake, Ontario, hereby referred to as the subject property. It is understood that an application will be filed with the Town for the construction of a residential development.

This study has been completed in accordance with the Town of Niagara-on-the-Lake private tree by-law No. 5139-19. The private tree by-law regulates the removal of trees 12.5 cm in diameter and larger.

2.0 Methodology

At the onset of the project the scope of work was coordinated with the client and the consulting team. Prior to conducting a site visit, the topographic survey and current aerial photography were overlaid utilizing geographic information software for use on site during the completion of the tree inventory. The tree locations and the site plan were then overlaid and a tree preservation analysis was completed to determine the impacts to the trees included in the inventory.

2.1 Tree Inventory

A site visit was conducted on the 21st of October 2024 to complete the tree inventory. All trees 12.5 cm in diameter and larger situated on subject property within 10 m of the proposed development, on neighbouring property within 6 m and within the road allowance were included in the inventory. A visual assessment was completed on each tree included in the inventory and the following information is provided in the tree inventory table (Table 1):

- **Tree #:** A number assigned to each tree corresponding to the tree inventory (Table 1) and the Tree Preservation Plan (Sheet 1).
- **Species:** Common and scientific (Latin) species names.
- **DBH:** The trunk diameter at breast height, measured in centimeters at 1.4 m from the ground.
- **Condition:** The health of the tree considering the trunk integrity, the crown structure and the crown vigour; each rated as good, fair or poor. The condition ratings are based on the signs, symptoms and defects exhibited by each tree, considering the surroundings in which it is growing.
- **Dripline:** The distance from the trunk to the tips of the branches.
- **mTPZ:** Minimum tree preservation zone distance as measured in meters from the base of the tree. This is the distance at which tree protection fence is to be installed (unless noted otherwise below).
- **Location:** The property where the tree is situated, based on the topographic survey and gps locations taken on site.
- **Comments:** Any additional notes relevant to the tree's health or growing conditions.

- **Recommendation:** The recommended removal or preservation of each tree based on the results of the impact assessment.

The trees included in the inventory were identified with numbers 1-30 and were located using the topographic survey provided and a tablet computer with a GPS receiver.

2.2 Impact Assessment

A tree preservation analysis was completed on each tree included in the tree inventory considering the impacts from the proposed development and many other factors including, but not limited to, tree condition, species, DBH and the existing site conditions. The impacts from the proposed development will occur where tree roots conflict with machinery during construction, grading and servicing.

During the tree preservation analysis the minimum Tree Preservation Zone (mTPZ) distance was utilized to determine the potential impacts to each tree included in the inventory. Where encroachment is required within the mTPZ, tree removal may be required.

The mTPZ distance is the minimum distance at which development can safely occur without considerably impacting a tree's root system. The mTPZ distance is based on the diameter of the tree and measured in meters from the base of the stem. Refer to Table 2 for the mTPZ distances based on trunk diameter.

Table 2. Minimum tree preservation zone distances.

DBH (cm)	Min. Tree Preservation Zone Distance (m)*
	Radius
< 10	1.8
11 – 40	2.4
41 – 50	3.0
51 – 60	3.6
61 – 70	4.2
71 – 80	4.8
81 – 90	5.4
91 – 100	6.0
101 – 110	6.6

*As measured from the outside of the tree trunk.

3.0 Existing Conditions

The subject property is currently occupied by a small flower shop, asphalt parking and manicured lawn. The Four Mile Creek traverses the western edge of the property in a south to north direction. The property is bound by residential development to the north, Four Mile Creek Road to the east, a dental clinic and cemetery to the south, and wooded area (conservation land) to the west.

4.0 Tree Inventory Results

The results of the tree inventory indicate that a total of 30 trees 12.5 cm in diameter or larger reside on subject property within 10 m of the proposed development and on neighbouring property within 6 m. No trees were identified within the road allowance. The trees included in the inventory appear to be comprised of landscape plantings and naturally occurring trees.

No rare, threatened or endangered tree species were documented in the tree inventory. Refer to Table 1 for the complete tree inventory and Sheet 1 for the tree locations.

5.0 Proposed Development

The proposed development includes the construction of a single-family residential dwelling behind the existing flower shop. Access to the dwelling is proposed from Four Mile Creek Road via a private driveway south of the existing flower shop. The conservation land residing at the western edge of the property will be protected behind a 15 m setback from the top of slope. The flower shop and asphalt parking are proposed to be retained within the site planning.

6.0 Discussion

The following sections discuss the tree removal requirements, tree preservation opportunities and tree preservation recommendations based on the results of the impact assessment.

6.1 Tree Removal

The results of the impact assessment indicate that the removal of Trees 1-5, 7-12, 13, 14, 16, 20, 21 and 23 will be required to accommodate the proposed development. Of the 17 trees identified for removal, 4 are classified as weed species in the Private Tree By-law and are unregulated by the By-law.

Trees 2, 3, 9, 10, 12 and 14 appear to reside partially or fully on neighbouring property to the south. Permission from the neighbouring property owner will be required prior to removal as per the Forestry Act, R.S.O. 1990.

6.2 Tree Preservation

The results of the impact assessment indicate that the preservation of Trees 6, 12, 15, 17-19, 22 and 24-30 will be possible with the use of appropriate tree protection measures.

Light encroachment within the mTPZ of Tree 18 will be required to accommodate the proposed covered patio. If any tree roots are exposed during construction they must be pruned by a Certified Arborist in accordance with good arboricultural practice to ensure that the root systems are not damaged.

The tree protection fence must be installed prior to the commencement of construction to ensure that the trees identified for preservation are not impacted by the proposed development. Tree protection fence must be installed at the mTPZ distance as outlined this report and on Sheet 1 unless noted otherwise in this report.

Refer to Sheet 1 for the prescribed tree protection fence locations, additional tree protection plan notes and the tree protection fence detail.

6.3 Tree Preservation Recommendations

The following recommendations are made in attempts to reduce the impacts to trees identified for preservation:

- Tree protection fence must be installed prior to the commencement of construction to ensure that the trees identified for preservation are not damaged during construction.
- Tree protection fence must be installed at the mTPZ distance as outlined in this report and on Sheet 1.
- Once tree protection fence has been installed it must not be moved, relocated or altered in any way (unless repairing fallen fence etc.) for the duration of the construction period.
- No intrusion into an area identified on Sheet 1 as a tree preservation zone (TPZ) is allowed at anytime during construction unless noted otherwise in this report and on Sheet 1.
- No storage of machinery, construction debris, materials, waste or any other items is allowed within a TPZ.
- Any tree branches and roots that conflict with the proposed development must be pruned by a Certified Arborist in accordance with good arboricultural practice.
- Tree protection fencing should be inspected by a Certified Arborist prior to and during construction to ensure that the fencing remains intact and in good repair throughout the stages of development.

7.0 Summary

Jackson Arboriculture Inc. was retained by Rudy Doerwald & Melanie Williams to complete a Tree Inventory and Preservation Plan report for a property situated at 1634 Four Mile Creek Road in

the Town of Niagara-on-the-Lake, Ontario. A tree inventory was conducted and an impact assessment was completed in the context of the proposed development plan.

The tree inventory documented a total of 30 trees situated on subject property within 10 m of the proposed development, on neighbouring property within 6 m and within the road allowance. The results of the impact assessment indicate that the removal of 17 trees will be required to accommodate the proposed development. Of the trees identified for removal, 4 are classified as weed species and are unregulated by the Private Tree By-law.

Respectfully submitted,
Jackson Arboriculture Inc.

Jeremy Jackson

Jeremy Jackson, H.B.Sc.,
ISA Certified Arborist #ON-1089A
GIS Analyst

8.0 Limitations of Assessment

It is our policy to attach the following limitations of assessment to ensure that the client, municipalities and agencies are fully aware of what is technically and professionally realistic when visually assessing and 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 attack by insects, discoloured foliage, the condition of any visible root structures, the degree and direction of any lean, the general condition of the trees and the surrounding site, and the proximity of property and people.

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. 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 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 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, trees should be re-assessed periodically. The assessment presented in this report is valid at the time of the inspection.

Table 1. Tree Inventory

Location: 1634 Four Mile Creek Rd, NOTL

Date: 21 Oct. 2024

Surveyors: JJJ

Tree #	Common Name	Scientific Name	DBH	TI	CS	CV	DL	mTPZ	Location	Comments	Action
1	Manitoba Maple	<i>Acer negundo</i>	53	F	F	FG	6	3.6	Subject Property	Union at 2 m, lean northeast, growth deficit, weed species	Remove
2	White Mulberry	<i>Morus alba</i>	17	G	FG	G	3.5	2.4	Boundary	Understorey, weed species	Remove
3	Black Locust	<i>Robinia pseudoacacia</i>	19	G	G	G	3	2.4	Boundary		Remove
4	Black Walnut	<i>Juglans nigra</i>	47	G	G	G	7	3.0	Subject Property		Remove
5	Norway Spruce	<i>Picea abies</i>	33	G	G	G	4	2.4	Subject Property		Remove
6	European Larch	<i>Larix decidua</i>	32	F	FG	G	6	2.4	Subject Property	Spiralling stem wound with heart rot, lean northeast	Preserve
7	Blue Spruce	<i>Picea pungens</i>	25	G	G	G	2	2.4	Subject Property		Remove
8	White Mulberry	<i>Morus alba</i>	36	G	G	G	6	2.4	Subject Property	Snag - Tree 9 leaning and resting in crown, weed species	Remove
9	Black Locust	<i>Robinia pseudoacacia</i>	45	P	F	F	5	3.0	Boundary	Root plate failure, heavy lean east - snagged in the crown of Tree 8	Remove
10	White Mulberry	<i>Morus alba</i>	21, 15	F	F	F	3	2.4	Neighbouring	Union at ground, snag in crown, weed species	Remove
11	Black Cherry	<i>Prunus serotina</i>	29	G	G	G	5	2.4	Subject Property		Remove
12	Black Locust	<i>Robinia pseudoacacia</i>	35	PF	F	FG	8	2.4	Neighbouring	Heavy stem wound with dry rot and fruiting body	Remove
13	Horsechestnut	<i>Aesculus hippocastanum</i>	12.5	FG	G	G	3	2.4	Subject Property	Canker lesions, crook, understorey	Remove
14	Horsechestnut	<i>Aesculus hippocastanum</i>	69	FG	G	G	5	4.2	Boundary	Union at 3 m, light canker lesions	Remove
15	Black Walnut	<i>Juglans nigra</i>	30	G	G	G	5	2.4	Neighbouring		Preserve
16	Horsechestnut	<i>Aesculus hippocastanum</i>	27, 9	G	G	G	3.5	2.4	Subject Property	Union at ground	Remove
17	Manitoba Maple	<i>Acer negundo</i>	12.5	F	PF	PF	1	2.4	Neighbouring	Top of crown is dead, weed species	Preserve
18	Black Walnut	<i>Juglans nigra</i>	65	G	G	G	8	4.2	Neighbouring		Preserve
19	Manitoba Maple	<i>Acer negundo</i>	38, 11, 7, 8	P	PF	PF	3	3.0	Neighbouring	38 cm stem dead above 1 m, weed species	Preserve
20	Blue Spruce	<i>Picea pungens</i>	38	G	G	G	3	2.4	Subject Property		Remove
21	Norway Spruce	<i>Picea abies</i>	52	G	G	G	5	3.6	Subject Property		Remove
22	Red Maple	<i>Acer rubrum</i>	~15	G	G	G	3	2.4	Neighbouring		Preserve
23	White Spruce	<i>Picea glauca</i>	22	G	G	G	2	2.4	Subject Property	Broken branches	Remove
24	Honey Locust cultivar	<i>Gleditsia triacanthos</i> var. 'inermis'	~38	G	G	G	8	2.4	Neighbouring		Preserve
25	White Spruce	<i>Picea glauca</i>	~35	G	G	G	3.5	2.4	Neighbouring	Patio stones surrounding flare of tree	Preserve
26	Norway Spruce	<i>Picea abies</i>	~32	G	G	G	4	2.4	Neighbouring		Preserve
27	White Spruce	<i>Picea glauca</i>	~31	G	PF	PF	3.5	2.4	Neighbouring	30% crown dieback	Preserve
28	White Spruce	<i>Picea glauca</i>	~28	G	G	G	3	2.4	Neighbouring		Preserve
29	Blue Spruce	<i>Picea pungens</i>	~45	G	G	G	4	3.0	Neighbouring		Preserve

Tree #	Common Name	Scientific Name	DBH	TI	CS	CV	DL	mTPZ	Location	Comments	Action
30	Norway Maple	<i>Acer platanoides</i>	~25	G	G	G	4	2.4	Neighbouring	Weed species	Preserve

Legend		
DBH	Diameter at Breast Height	(cm)
TI	Trunk Integrity	(G, F, P)
CS	Crown Structure	(G, F, P)
CV	Crown Vigor	(G, F, P)
mTPZ	Minimum Tree Preservation Zone	(m)
G	Good	
F	Fair	
P	Poor	
~	Estimate	