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Tree Inventory and Preservation Plan Report

Subject Property:

1989 Appleby Line
Burlington, ON

Prepared For:

Adesso Design Inc.
218 Locke St. S., 2nd Floor
Hamilton, ON L8P 4B4

Prepared By:

Jackson Arboriculture Inc.
118 Pleasant Ridge Rd.
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1 June 2022

Jackson Arboriculture Inc. Project No. 290

1.0 Introduction

Jackson Arboriculture Inc. was retained by Adesso Design Inc. to complete a Tree Inventory and Preservation Plan report for a property situated at 1989 Appleby Line in the City of Burlington, Ontario, hereby referred to as the subject property. It is understood that a development application will be filed with the City for the redevelopment of the property.

The following study has been completed in accordance with the technical standards outlined in the City of Burlington's Specifications Index for Tree Protection and Preservation (SPEC NO. SS12A).

2.0 Methodology

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

2.1 Tree Inventory

A site visit was conducted on the 21st of February 2022 to complete the tree inventory. All trees 10 cm in diameter and larger situated on subject property, on neighbouring property within 6 m and within the road allowances were included in the tree 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 correlating to the tree inventory and the Tree Preservation Plan (Sheet 1), as prepared by Addeso Design Inc.
- **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, crown structure and crown vigour, rated as poor, fair or good.
- **Crown Width**: The distance from one side of the live crown to the other side.
- **mTPZ**: Minimum Tree Preservation Zone distance measured in meters from the base of the tree trunk at which tree protection fence is to be installed.
- **Crown Class**: The position of the tree crown in relation to the surrounding canopy.
- **Location**: The property where the tree is situated, based on the topographic survey.
- **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 impact assessment.

The trees included in the inventory are identified with numbers 1-53 and were located using the topographic survey provided and a tablet computer with a GPS chip.

2.2 Impact Assessment

A tree preservation analysis was completed on each tree individually 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 construction machinery during demolition, and construction.

During the tree preservation analysis the minimum Tree Protection Zone (mTPZ) distance, as outlined in the City's Specifications Index for Tree Protection and Preservation, was utilized to determine the potential impacts to each tree included in the inventory. The mTPZ distance is the minimum distance at which development can safely occur without appreciably damaging 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. Where encroachment is required within the mTPZ, tree removal may be required. Refer to Table 2 for the mTPZ distances based on trunk diameter.

Table 2. Minimum tree protection zone distances.

DBH (cm)	Min. Tree Preservation Zone Distance (m)*
	Radius
< 10	1.8
10 – 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 an Esso gas station and car wash. The property is bound by residential development to the east and south, Appleby Line to the west and Upper Middle Road to the north.

4.0 Tree Inventory Results

The results of the tree inventory indicate that a total of 53 trees reside on subject property, within the road allowances and on neighbouring property within 6 m of the property boundaries. The trees included in the inventory appear to be comprised of landscape plantings.

The trees included in the inventory are comprised of the following species:

- Little-leaf Linden (*Tilia cordata*),
- White Spruce (*Picea glauca*),
- Blue Spruce (*Picea pungens*),
- Honey Locust cultivar (*Gleditsia triacanthos var. 'inermis'*),
- Norway Maple (*Acer platanoides*),
- Amur Maple (*Acer ginnala*),
- Serviceberry species (*Amelanchier sp.*) and
- Japanese Flowering Lilac (*Syringa reticulata 'ivory silk'*).

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

5.0 Proposed Development

The proposed development includes the demolition of the existing gas station and the construction of a mixed use retail/residential building and associated asphalt parking.

6.0 Discussion

The following sections outline the recommended tree removal, the tree preservation opportunities based on the results of the impact analysis and the tree preservation recommendations.

6.1 Tree Removal

The removal of Trees 1-22, 27-37, 39, 41 and 53 will be required to accommodate the proposed development.

Trees 37 and 41 appear to reside within the municipal road allowance. Permission from the appropriate municipal department will be required prior to their removals.

6.2 Tree Preservation

The preservation of Trees 23-26, 38, 40, 42-51 and 53 will be possible with the use of appropriate tree protection measures. Tree protection measures must be implemented prior to the commencement of demolition to ensure that the trees identified for preservation are not damaged by the proposed development activities.

Encroachment within the mTPZs of Trees 42-50 to accommodate the proposed parking. If any roots are exposed during construction they must be pruned by a Certified Arborist in accordance with good arboricultural practice to ensure that roots are not damaged by the proposed development.

Tree protection fence must be installed at the mTPZ distances outlined in the tree inventory (Table 1). Refer to Sheets L-1 and L-2 for the prescribed tree protection fence locations and the tree protection fence detail.

6.3 Tree Protection Recommendations

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

- Tree protection fence must be installed at the mTPZ distances and locations outlined in Table 1 and on Sheet L-1 prior to the commencement of demolition.
- 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 storage of machinery, construction debris, materials, waste or any other items is allowed within a tree protection zone.
- Tree protection fence signage should be affixed to the tree protection fence to identify the tree protection zones.
- 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 Adesso Design Inc. to complete a Tree Inventory and Preservation Plan report for a property situated at 1989 Appleby Line in the City of Burlington, 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 53 trees situated on subject property, in the road allowances and on neighbouring property within 6 m of the property boundaries. The results of the impact assessment indicate that the removal of 36 trees will be required to accommodate the proposed development.

Respectfully submitted,
Jackson Arboriculture Inc.

Jeremy Jackson

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

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 of group of trees or their component parts in al 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 as the time of the inspection.

Table 1. Tree Inventory

Location: 1989 Appleby Ln, Burlington Date: 21 Feb. 2022 Surveyors: JJJ

Tree #	Common Name	Scientific Name	DBH	Cond.	CW	mTPZ	CC	Location	Comments	Recom.
1	Little-leaf Linden	*Tilia cordata*	13	F	4	2.4	D	Subject Property	Main stem dead in crown, multiple branch attachments	Remove
2	Little-leaf Linden	*Tilia cordata*	16	FG	4	2.4	D	Subject Property	Multiple branch attachments	Remove
3	Little-leaf Linden	*Tilia cordata*	24	FG	6	2.4	D	Subject Property	Multiple branch attachments, girdling root	Remove
4	White Spruce	*Picea glauca*	11	G	4	2.4	D	Subject Property		Remove
5	White Spruce	*Picea glauca*	11	FG	4	2.4	D	Subject Property	Lean	Remove
6	White Spruce	*Picea glauca*	13	G	4	2.4	D	Subject Property		Remove
7	White Spruce	*Picea glauca*	11	G	4	2.4	D	Subject Property		Remove
8	Blue Spruce	*Picea pungens*	12	G	4	2.4	D	Subject Property		Remove
9	White Spruce	*Picea glauca*	12	G	4	2.4	D	Subject Property		Remove
10	White Spruce	*Picea glauca*	13	FG	4	2.4	D	Subject Property	Guy wires starting to girdle stem	Remove
11	White Spruce	*Picea glauca*	11	G	4	2.4	D	Subject Property		Remove
12	White Spruce	*Picea glauca*	10	FG	4	2.4	D	Subject Property	Sparse crown	Remove
13	White Spruce	*Picea glauca*	16	FG	6	2.4	CD	Subject Property	Dead leader	Remove
14	Little-leaf Linden	*Tilia cordata*	15	FG	4	2.4	CD	Subject Property	Multiple branch attachments	Remove
15	Blue Spruce	*Picea pungens*	21	G	4	2.4	CD	Subject Property		Remove
16	Little-leaf Linden	*Tilia cordata*	20	G	6	2.4	CD	Subject Property		Remove
17	Little-leaf Linden	*Tilia cordata*	16	FG	6	2.4	CD	Subject Property	Union at 1.6 m	Remove
18	Blue Spruce	*Picea pungens*	~28	G	6	2.4	D	Subject Property		Remove
19	Honey Locust cultivar	*Gleditsia triacanthos var. 'inermis'*	19	G	8	2.4	D	Subject Property		Remove
20	Little-leaf Linden	*Tilia cordata*	16	FG	4	2.4	D	Subject Property	Union at 1.7 m, multiple branch attachments	Remove
21	Honey Locust cultivar	*Gleditsia triacanthos var. 'inermis'*	12	G	6	2.4	D	Subject Property		Remove
22	Honey Locust cultivar	*Gleditsia triacanthos var. 'inermis'*	14	G	6	2.4	D	Subject Property		Remove
23	Norway Maple	*Acer platanoides*	~13	G	4	2.4	D	Neighbouring		Preserve
24	Norway Maple	*Acer platanoides*	~13	FG	4	2.4	D	Neighbouring		Preserve
25	Norway Maple	*Acer platanoides*	~6	FG	2	1.8	D	Neighbouring	10% crown dieback	Preserve
26	Silver Maple	*Acer saccharinum*	~20	G	8	2.4	D	Neighbouring		Preserve
27	Blue Spruce	*Picea pungens*	27	G	6	2.4	D	Subject Property		Remove
28	Honey Locust cultivar	*Gleditsia triacanthos var. 'inermis'*	19	G	6	2.4	D	Subject Property		Remove

Tree #	Common Name	Scientific Name	DBH	Cond.	CW	mTPZ	CC	Location	Comments	Recom.
29	Honey Locust cultivar	*Gleditsia triacanthos var. 'inermis'*	17	G	6	2.4	D	Subject Property		Remove
30	Honey Locust cultivar	*Gleditsia triacanthos var. 'inermis'*	15	G	6	2.4	D	Subject Property		Remove
31	Honey Locust cultivar	*Gleditsia triacanthos var. 'inermis'*	21	FG	6	2.4	D	Subject Property	Seam	Remove
32	Honey Locust cultivar	*Gleditsia triacanthos var. 'inermis'*	15	G	6	2.4	D	Subject Property		Remove
33	Honey Locust cultivar	*Gleditsia triacanthos var. 'inermis'*	18	G	6	2.4	D	Subject Property		Remove
34	Honey Locust cultivar	*Gleditsia triacanthos var. 'inermis'*	15	G	6	2.4	D	Subject Property		Remove
35	Honey Locust cultivar	*Gleditsia triacanthos var. 'inermis'*	16	G	8	2.4	D	Subject Property		Remove
36	Honey Locust cultivar	*Gleditsia triacanthos var. 'inermis'*	26	G	10	2.4	CD	Subject Property		Remove
37	Little-leaf Linden	*Tilia cordata*	24	G	6	2.4	CD	ROW		Remove
38	Little-leaf Linden	*Tilia cordata*	29	G	6	2.4	D	ROW		Preserve
39	Honey Locust cultivar	*Gleditsia triacanthos var. 'inermis'*	21	G	8	2.4	CD	Subject Property		Remove
40	Amur Maple	*Acer ginnala*	<10					ROW		Preserve
41	Amur Maple	*Acer ginnala*	<10					ROW		Remove
42	Amur Maple	*Acer ginnala*	<10					ROW		Preserve
43	Amur Maple	*Acer ginnala*	<10					ROW		Preserve
44	Serviceberry species	*Amelanchier sp.*	<10					ROW		Preserve
45	Serviceberry species	*Amelanchier sp.*	<10					ROW		Preserve
46	Serviceberry species	*Amelanchier sp.*	<10					ROW		Preserve
47	Serviceberry species	*Amelanchier sp.*	<10					ROW		Preserve
48	Serviceberry species	*Amelanchier sp.*	<10					ROW		Preserve
49	Serviceberry species	*Amelanchier sp.*	<10					ROW		Preserve
50	Serviceberry species	*Amelanchier sp.*	<10					ROW		Preserve
51	Japanese Flowering Lilac	*Syringa reticulata 'ivory silk'*	10	F	2	2.4	D	ROW	Large stem wound	Preserve
52	Japanese Flowering Lilac	*Syringa reticulata 'ivory silk'*	10	FG	2	2.4	D	ROW	Stem wound at flare	Remove
53	Japanese Flowering Lilac	*Syringa reticulata 'ivory silk'*	11	FG	2	2.4	D	ROW		Preserve

Table Legend		
DBH	Diameter at Breast Height	(cm)
Con.	Condition	(G, F, P)
CW	Crown Width	(m)
mTPZ	Minimum Tree Preservation Zone	(m)
CC	Crown Class	(D, CD, I, S)
Recom.	Recommendation	(Preserve, Remove)
D	Dominant	
CD	Co-dominant	
I	Intermediate	
S	Suppressed	
G	Good	
F	Fair	
P	Poor	