Tree Inventory & Preservation Plan Report
1258 Rebecca Street
Oakville, Ontario

prepared for

Wilk Associated Landscape Architecture Ltd.
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prepared by

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Introduction

Kuntz Forestry Consulting Inc. was retained by Wilk Associated Landscape Architecture Ltd. complete a Tree Inventory and Preservation Plan report in support of a proposed development for the properties located at 1258 Rebecca Street in the City of Oakville, Ontario. The subject property is located on the southwest of Rebecca Street and north of Woodside Drive, within a residential and commercial mixed area.

The work plan for this tree preservation study included the following:

- Prepare inventory of the tree resources over 15 cm in diameter on private lands and trees of all sizes within the road right-of-way;
- Evaluate potential tree saving opportunities based on proposed plans; and,
- Document the findings in a Tree Inventory and Preservation Plan report.

The results of the evaluation are provided below.

Methodology

Tree Inventory

The tree inventory was conducted on 14 December 2021. Trees measuring over 10 cm DBH on private lands and trees of all sizes on the road right-of-way were included in the tree inventory. Tree locations were located using the topographic survey provided. Trees were identified as Trees 1-31 located on or within 6m of the property. Tree locations are shown on Figure 1. See Table 1 for the results of the inventory.

Tree resources were visually assessed for condition utilizing the following parameters:

Tree # - numbers assigned to trees that corresponds to Figure 1.
Species - common and botanical names provided in the inventory table.
DBH - diameter (centimeters) at breast height, measured at 1.4 m above the ground.
Condition - condition of tree considering trunk integrity, crown structure and crown vigor. Condition ratings include poor (P), fair (F) and good (G).
Drip Line – Crown radius (meters); and
Comments - additional relevant detail. Defects are rated as light (L), moderate (M), or heavy (H).

Tree Inventory

A tree valuation was calculated for the trees within the road right-of-way based on the information obtained by the tree inventory. The value was calculated using the Reproduction Cost Method – Trunk Formula Technique as described in the Guide for Plant Appraisal, 10th Edition (CTLA, 2019). The Ontario Supplement (2003) provides regionally relevant data pertaining to basic costs for trees.

<u>Trunk Formula Technique</u>

This method is used for trees that are larger than what is commonly available for transplant from a nursery. The Unit Tree Cost of the replacement tree is derived from a survey of nurseries or supplied by the Regional Plant Appraisal Council and published within the Ontario Supplement

(2003). For Ontario, the unit tree cost has been set at $6.51/cm^2$ within the Supplement and this value has been used for the calculation. For trees that are small enough in size to be replaced with nursery stock, the price of the nursery stock was obtained through wholesale price quotes from multiple nurseries throughout southern Ontario, if applicable.

The Basic Tree Cost is calculated by multiplying the unit tree cost by the cross-sectional area of the subject tree. For multi-stemmed trees, the appraised trunk area considers the cross-sectional area of all stems. The Appraised Value is calculated by multiplying the Basic Reproduction Cost by the three depreciation factors (Condition Rating, Functional Limitation Rating, and External Limitation Rating, as described in the Guide).

The appraised value of trees is therefore calculated using the following equation:

Basic Tree Cost = Appraised Tree Trunk Area X Unit Tree Cost

Appraised Value = Basic Tree Cost X Condition Rating X Functional Limitation Rating X External Limitation Rating

Functional Limitation Ratings and External Limitation Ratings are calculated according to the methods outlined in the guide. Condition ratings were calculated based on the assessed condition of the trees on the site and in accordance with the guide.

Existing Site Conditions

The subject property is currently comprised of meadow. Tree resources exist in the form of landscape trees and natural regeneration. Refer to Figure 1 for the existing site conditions.

Individual Tree Resources

The inventory documented 31 trees and ten dead ashes on and within six metres of the subject property. Refer to Table 1 for the full tree inventory and Figure 1 for the location of trees reported in the tree inventory.

Tree resource was comprised of Blue Spruce (*Picea pungens*), Austrian Pine (*Pinus nigra*), Silver Maple (*Acer saccharinum*), Siberian Elm (*Ulmus pumila*), Bur Oak (*Quercus macorcarpa*), Apple species (*Malus spp.*), Balsam Fir (*Abies balsamea*), White Mulberry (*Morus alba*), Honey Locust (shademaster) (*Gleditsia triacanthos inermis*), American Beech (*Fagus garndifolia*) and White Birch (*Betula papyrifera*).

Proposed Development

The proposed development includes the construction of three single detached houses, seven buildings with associated road and landscaping. Refer to Figure 1 for the proposed development.

Discussion

The following sections provide a discussion and analysis of tree impacts and tree preservation relative to the proposed work and existing conditions.

Development Impacts/Tree Removal

The removal of Trees 7, 10-24 and 27-31 (private trees) is required to accommodate the proposed development. Permits to remove these trees will be required from the Town.

The removal of Trees 30 & 31 (public trees) will be required to accommodate the proposed entrance into the subdivision. A permit to remove the public trees will be required from the Town.

Refer to Figure 1 for the location of tree removals.

Tree Preservation

The preservation of Trees 1-6, 8, 9, 25 and 26 will be possible with the use of appropriate tree protection measures as indicated on Figure 1. Tree protection measures must be implemented prior to the proposed construction to ensure tree resources designated for retention are not impacted by the proposed work. Refer to Figure 1 for the location of required tree preservation fencing and general Tree Protection Plan Notes and tree preservation fence details. Special mitigation measures have been prescribed for Trees 2-6 and 8-9 as described below.

Trees 2-6 & 8-9

Encroachment into the minimum Tree Protection Zone (mTPZ) of Tree 2-6 and 8-9 will be required to accommodate the construction of the proposed single detached lot in NE corner of the proposed development and associated patio and landscaping. Trees 2-4 are located in the neighbouring property and Tree 8 is a shared tree, so permission from the respectful landowner to injure these trees will be required. If the following protection and mitigation measures are employed before, during and after construction, long-term adverse effects are not anticipated to this tree.

1) Use air-spading to excavate a trench outside of the TPZ. Exposed roots must be pruned in accordance with Good Arboricultural Standards, and the area backfilled with native topsoil. These operations must be supervised by a certified Arborist. If structural roots or a significant quantity of feeder roots are encountered, the work must be stopped, and Urban Forestry contacted immediately.
2) Install vertical tree protection hoarding per Figure 1 during construction.

Trees 5 and 6 are located in the neighbouring property, so permission from the respectful landowner to injure these trees will be required. If the following protection and mitigation measures are employed before, during and after construction, long-term adverse effects are not anticipated to this tree.

1) Use air-spading to excavate a trench outside of the TPZ. Prune roots inside trench according to Good Aboricultural Practices. Back fill trench with clean topsoil. These operations must be supervised by a certified Arborist. If structural roots or a significant quantity of feeder roots are encountered, the work must be stopped, and Urban Forestry contacted immediately.
2) Erect TPZ fencing around the mTPZ as shown on Figure 1. See preservation plan notes on Figure 1.
3) Maintain TPZ during construction. Required work post construction must be conducted by hand including final landscaping. Changes to grades inside TPZ area not permitted ever. The elevation of the grades inside the TPZ must factoring into final grading for

conveyance of storm water (proposed swales). Installation of any patio stones must be on grade on mineral soil, only remove organic layer.

Refer to Appendix A for the photographs of the trees.

Tree Valuation
The value of Tree 25, 26, 30 and 31 located within the road right-of-way, were calculated to be $1623.64., $2012.77, $1623.64, and $1938.91. As such, the total value of Tree 25, 26, 30 and 31 is $7198.95. Refer to Table 2 for the tree valuation calculations.

Summary and Recommendations

Kuntz Forestry Consulting Inc. was retained by Wilk Associated Landscape Architecture Ltd. to complete a Tree Inventory and Preservation Plan for the proposed construction at 1258 Rebecca Street in Oakville, Ontario. A tree inventory was conducted and reviewed in the context of the proposed site plan.

The findings of the study indicate a total of 31 trees within six metres of the subject property. The removal of Trees 7, 10-24 and 27-31 will be required to accommodate the proposed site plan. Trees 1-6, 8-9 and 25-26 can be saved provided appropriate tree protection measures are employed as per Figure 1.

The following recommendations are suggested to minimize impacts to trees identified for preservation. Refer to Figure 1 for tree protection fencing locations and general Tree Protection Plan Notes and tree preservation fence details.

- Tree protection barriers and fencing should be erected at locations as prescribed on Figure 1. All tree protection measures should follow the guidelines as set out in the tree preservation plan notes and the tree preservation fencing detail.

- No construction activity including surface treatments, excavations of any kind, storage of materials or vehicles, unless specifically outlined above, is permitted within the area identified on Figure 1 as a tree protection zone (TPZ) at any time during or after construction.
- Branches and roots that extend beyond prescribed tree protection zones that require pruning must be pruned by a qualified Arborist or other tree professional. All pruning of tree roots and branches must be in accordance with Good Arboricultural Standards.
- Site visits, pre, during and post construction is recommended by either a certified consulting arborist (I.S.A.) or registered professional forester (R.P.F.) to ensure proper utilization of tree protection barriers. Trees should also be inspected for damage incurred during construction to ensure appropriate pruning or other measures are implemented.

Respectfully Submitted,

Kuntz Forestry Consulting Inc.

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Limitations of Assessment

Only the tree(s) identified in this report were included in the inventory. The assessment of the trees presented in this report has been made using accepted arboricultural techniques. These may include a visual examination taken from the ground of all the above-ground parts of the 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 of lean (if any), the general condition of the trees and the identification of potentially hazardous trees or recommendations for removal (if applicable). Where trees could not be directly accessed (ie. due to obstructions, and/or on neighbouring properties), trees were assessed as accurately as possible from nearby vantage points.

Locations of trees provided in the report are determined as accurately as possible based on the best information available. If official survey information is not provided, tree location in the report may not be exact. In this case, if trees occur on or near property boundaries, an official site survey may be required to determine ownership utilizing specialized survey protocol to gain precise location.

Furthermore, recommendations made in this report are based on the site plans that have been provided at the time of reporting. These recommendations may no longer be applicable should changes be made to the site plan and/or grading, servicing, or landscaping plans following report submission.

Notwithstanding the recommendations and conclusions made in this report, it must be recognized that trees are living organisms, and their health and vigor constantly change over time. They are not immune to changes in site conditions or seasonal variations in the weather conditions. Any tree may fail if the forces applied to the tree exceed the strength of the tree or its parts.

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

Table 1. Tree Inventory

Location: 1258 Rebecca St., Oakville Date: 14 December 2021 Surveyors: PK

Tree #	Common Name	Scientific Name	DBH	TI	CS	CV	RZE	CDB	CW	mTPZ	Comments	Ownership	Action
1	Blue Spruce	*Picea pungens*	~25	G	G	G	P/F		6	2.4	Parking lot near by	Neighbouring	Retain
2	Austrian Pine	*Pinus nigra*	~15, 25	F	G	F	F		6	2.4	Co-dominance at base	Neighbouring	Retain
3	Silver Maple	*Acer saccharinum*	~45	G	F	F	F/G		8	3.0	Pruning wounds (H), 1 meter off fence	Neighbouring	Retain
4	Silver Maple	*Acer saccharinum*	~35	G	F	F	F/G		10	3.0	Pruning wounds (H), poor form (L), 5 meters off fence	Neighbouring	Retain
5	Siberian Elm	*Ulmus pumila*	~12, 20, 20	P/F	F	P/F	F/G		9	3.0	Epicormic branching (H)	Neighbouring	Retain
6	Siberian Elm	*Ulmus pumila*	~25	G	F	P/F	F/G		5	2.4	Epicormic branching (H)	Neighbouring	Retain
7	Siberian Elm	*Ulmus pumila*	~22	G	VP	VP	G		1.5	2.4	Poor form (H), epicormic branching (H), pruning wounds (H)	Private	Remove
8	Siberian Elm	*Ulmus pumila*	~30, 40, 35	F	G	P	P/F		16	3.0	Surrounded by fence, building, pavement	Shared	Retain
9	Bur Oak	*Quercus macrocarpa*	~120	G	G	F	G	20	22	7.2	Leaning (L), epicormic branching (M), 5.5 meters from fence	Neighbouring	Retain
10	Silver Maple	*Acer saccharinum*	81	G	F	F	G		16	5.4	Epicormic branching (L)	Private	Remove

11	Bur Oak	*Quercus macrocarpa*	~28	P	P	P	G		2	2.4	Remove, includeding fence, poor form (H), epicormic branching (H)	Private	Remove
12	Silver Maple	*Acer saccharinum*	~20, 35, 45, 30, 30	F	F	F	G		16	3.0	Co-dominance at base with 5 stems	Private	Remove
13	Silver Maple	*Acer saccharinum*	47.5	G	F	F/G	G		9	3.0	Poor form (L)	Private	Remove
14	Silver Maple	*Acer saccharinum*	32	G	FG	G	G		9	3.0		Private	Remove
15	Sugar Maple	*Acer saccharum*	~8, 10, 16	P/F	G	G	G		7	2.4	Co-dominance at base with 3 stems	Private	Remove
16	Silver Maple	*Acer saccharinum*	~8, 10, 15, 20, 20	F	G	G	G		12	2.4	Co-dominance at base with 5 stems	Private	Remove
17	Silver Maple	*Acer saccharinum*	~8, 15, 15, 15, 15, 15	F	G	G	G		12	2.4	Co-dominance at base with 6 stems	Private	Remove
18	Apple species	*Malus sp.*	~12, 18, 10	G	G	F	G		8	2.4		Private	Remove
19	Apple species	*Malus sp.*	~26	G	G	F	G		7	2.4		Private	Remove
20	Balsam Fir	*Abies balsamea*	~20	G	G	F	G		3	2.4		Private	Remove

21	Blue Spruce	*Picea pungens*	~25	G	G	G	G	40	4	2.4	Dead leader	Private	Remove
22	Blue Spruce	*Picea pungens*	~23	G	G	G	G		4	2.4		Private	Remove
23	White Mulberry	*Morus alba*	89	F	P/F	P	G	20	16	5.4	Exposed roots (H), 2 broken branches,epicormic branching (H)	Private	Remove
24	Silver Maple	*Acer saccharinum*	92	P/F	F	F	G		18	6.0	Pruning wounds (H), cankers (H), epicormic branching (M), to remove	Private	Remove
25	Honey Locust (shademaster)	*Gleditsia triacanthos inermis*	48.5	G	G	P/F	F		9	3.0	Asymmetrical crown (H), hybrid	City	Retain
26	Honey Locust (shademaster)	*Gleditsia triacanthos inermis*	54	G	P/F	P/F	F		10	3.6	Asymmetrical crown (H), epicormic branching (H), hybrid	City	Retain
27	American Beech	*Fagus grandifolia*	56	G	G	F	G		12	3.6		Private	Remove
28	White Birch	*Betula papyrifera*	28	G	G	P	G	40	6	2.4	Dead leader	Private	Remove
29	White Birch	*Betula papyrifera*	40.5	G	G	P	G	45	7	3.0	Dead leader	Private	Remove
30	Honey Locust (shademaster)	*Gleditsia triacanthos inermis*	48.5	G	G	P/F	F		14	3.0	Pruning wounds (M), epicormic branching (M)	City	Remove
31	Honey Locust (shademaster)	*Gleditsia triacanthos inermis*	53	G	G	P/F	F		15	3.6	Pruning wounds (M), epicormic branching (M)	City	Remove

Codes		
DBH	Diameter at Breast Height	(cm)
TI	Trunk Integrity	(G, F, P)
CS	Crown Structure	(G, F, P)
CV	Crown Vigor	(G, F, P)
CDB	Crown dieback	%
DL	Dripline	(m)
mTPZ	Minimum tree protection zone, as measure from edge of tree	(m)
P = poor, F = fair, G = good, ~ = estimate, (VL) = very light, (L) = light, (M) = moderate, (H) = heavy		

Table 2. Tree Valuation of Town-Owned Trees

1258 Rebecca St, Oakville					*Appraised Trunk Area (cm^2)*	*Unit Tree Cost (RPAC)*	*Basic Tree Cost ($)*	Depreciation			*Appraised Tree Value*	*Minimum Value Per Tree ($)*	*Final Appraised Tree Value*
Tree	**Common Name**	**Scientific Name**	**DBH**	**OC**				*Condition Rating (%)*	*Functional Limitation Rating (%)*	*External Limitation Rating (%)*			
25	Honey Locust (shademaster)	*Gleditsia triacanthos inermis*	48.5	P/F	1847	6.51	12026.95	0.25	0.6	0.9	$ 1,623.64	$ 744.00	$ 1,623.64
26	Honey Locust (shademaster)	*Gleditsia triacanthos inermis*	54	P/F	2290	6.51	14909.37	0.25	0.6	0.9	$ 2,012.77	$ 744.00	$ 2,012.77
30	Honey Locust (shademaster)	*Gleditsia triacanthos inermis*	48.5	P/F	1847	6.51	12026.95	0.25	0.6	0.9	$ 1,623.64	$ 744.00	$ 1,623.64
31	Honey Locust (shademaster)	*Gleditsia triacanthos inermis*	53	P/F	2206	6.51	14362.29	0.25	0.6	0.9	$ 1,938.91	$ 744.00	$ 1,938.91
													$ 7,198.95

Appendix A. Photographs of Trees

Image 1. Tree 1 (middle one)

Image 2. Tree 2 behind the fence

Image 3. Tree 3 (left), Tree 4 (right)

Image 4. Tree 5 (left), Tree 6 (right)

Image 5. Tree 7 (behind shrub)

Image 6. Tree 8 (behind chain link fence

Image 7. Tree 9

Image 8. Tree 10 (behind buckthorn

Image 9. Tree 11

Image 10. Tree 12

Image 11. Tree 13

Image 12. Tree 14

Image 13. Tree 15

Image 14. Tree 16

Image 15. Tree 17

Image 16. Tree 18

Image 17. Tree 19

Image 18. Tree 20-22 from right to left

Image 19. Tree 23

Image 20. Tree 24

Image 21. Tree 25


Image 22. Tree 26


Image 23. Tree 27


Image 24. Tree 28 (right), Tree 29 (left)


Image 25. Tree 30

Image 26. Tree 31