

**Tree Inventory & Preservation Plan Report  
2100 Lakeshore Road  
Burlington, Ontario**

prepared for

**Terraplan Landscape Architects  
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Toronto, ON M3H 2Z1**

prepared by



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KUNTZ FORESTRY CONSULTING Inc. Project P2041

## Introduction

Kuntz Forestry Consulting Inc. was retained by Terraplan Landscape Architects to complete a Tree Inventory and Preservation Plan report in support of a development application for a property located at 2100 Lakeshore Road in the City of Burlington, Ontario. The subject property is located on the southeast side of Lakeshore Road and Martha Street.

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

- Prepare inventory of the tree resources over 10 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 development plans; and,
- Document the findings in a Tree Inventory and Preservation Plan report.

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).

**Comments** - additional relevant detail.

The results of the evaluation are provided below.

## Methodology

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. Trees were located using topographic survey provided for the subject property. Trees included in the inventory were numbered 1-22. Tree locations are shown on Figure 1. See Table 1 for the results of the inventory.

## Existing Site Conditions

The subject property is currently occupied by three commercial buildings, one residential dwelling, and associated parking lot. Tree resources exist in the form of landscape trees and natural generation. Refer to Figure 1 for the existing site conditions.

## Individual Tree Resources

The tree inventory was conducted on 9 January 2019. The inventory documented 22 trees 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 Manitoba Maple (*Acer negundo*), Norway Maple (*Acer platanoides*), Sugar Maple (*Acer saccharum*), Redbud (*Cercis canadensis*), Shademaster Honey Locust (*Gleditsia triacanthos 'inermis'*), Black Walnut (*Juglans nigra*), Norway Spruce (*Picea abies*), and Lilac (*Syringa vulgaris*).

## Proposed Development

The proposed development includes the demolition of the existing buildings and the construction of 26 storey residential tower with an underground parking. 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 development and existing conditions.

### *Development Impacts/Tree Removal*

The removal of all trees will be required to accommodate the proposed site plan. Refer to Figure 1 for the location of the proposed tree removals.

Trees 4, 8, 13-15, and 17-20 are located on the property boundary or neighbouring property; written consent from the owners of the neighbouring properties is required prior to their removal.

### *Tree Preservation*

Preservation of the trees will not be possible.

### Tree Valuation

A valuation was calculated for Trees 5, 6, 7, and 21 located on the road right-of-way. Refer to Appendix A for the tree value computation. The total appraised value of Trees 5-7, and 21 on the road right-of-way is calculated to be \$4,619.00. See below for the methodology used to calculate the appraised value of the trees.

### *Methodology*

The tree valuation spreadsheet is provided in Appendix A. The value was calculated using the Trunk Formula Method. This method is described in the Guide to Plant Appraisal, 9<sup>th</sup> Edition (2000). The Ontario Supplement (2003) provides regionally relevant data pertaining to species ratings, and basic costs for trees.

### *Trunk Formula Method*

This method is used for trees that are larger than what is commonly available for transplant from a nursery. The Tree Cost of the replacement tree is derived from a survey of nurseries. For this project, three nurseries were consulted for current costs of 90mm trees including installation. An average cost was calculated and this value was used in the valuation.

The Basic Tree Cost is calculated using the following equation:

$$\text{Basic Tree Cost} = \text{Installed Tree Cost} + (\text{Unit Tree Cost} \times \text{Appraised Tree Trunk Increase})$$

To determine the Basic Tree Cost, the method calculates the increase in cost due to size by multiplying the Unit Tree Cost by the difference in cross sectional area (at 1.4m)

between the appraised tree and the replacement tree (Appraised Tree Trunk Increase). For multi-stemmed trees, a single DBH was derived based on the cross-sectional areas of the stems. In Ontario, the Unit Tree Cost has been set at \$6.51/cm<sup>2</sup> (Ontario Supplement, 2003). The Installed Tree Cost is added to the calculated cost for the difference in size to give the Basic Tree Cost. The Appraised Value is calculated using the following equation:

$$\text{Appraised Value} = \text{Basic Tree Cost} \times \text{Species Rating} \times \text{Condition Rating} \times \text{Location Rating}$$

The Basic Tree Cost is multiplied by the species, condition and location ratings to give the Appraised Value.

Species ratings are provided in the Ontario Supplement (2003) to the Guide to Plant Appraisal, 9<sup>th</sup> Edition (2000). Location 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.

## Summary and Recommendations

Kuntz Forestry Consulting Inc. was retained by Terraplan Landscape Architects to complete a Tree Inventory and Preservation Plan report in support of a development application for property located at 2100 Lakeshore Road in the City of Burlington, Ontario. A tree inventory was conducted and reviewed in the context of the proposed works.

The findings of the study indicate a total of 22 trees on and within six metres of the subject property. The removal of all trees is required to accommodate the proposed site plan.

Respectfully Submitted,

**Kuntz Forestry Consulting Inc.**

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## References

Guide for Plant Appraisal, 9<sup>th</sup> Edition, 2000. Council of Landscape and Tree Appraisers. International Society of Arboriculture, Champaign, Illinois. 143 pp.

Ontario Supplement to the Guide for Plant Appraisal- 8<sup>th</sup> Edition, 2003. ISA Ontario. International Society of Arboriculture, Champaign, Illinois. 26 pp. Updated 2003.

## Table 1. Tree Inventory

Location: 2100 Lakeshore Road, Burlington

Date: 9 January 2019 Surveyors: KH

Tree #	Common Name	Scientific Name	DBH	TI	CS	CV	CDB	DL	mTPZ	Comments	Owner	Action
1	Redbud	<i>Cercis canadensis</i>	13, 11, 10, 9.5	F/G	G	F/G		4.0	2.4	Union at base and 1m with included bark (M), bow (L) to north	Private	Remove
2	Honey Locust (shademaster)	<i>Gleditsia triacanthos inermis</i>	22	G	G	G		4.0	2.4	Pruning wounds (L)	Private	Remove
3	Redbud	<i>Cercis canadensis</i>	11, 11, 9	F/G	G	F/G		4.0	2.4	Union at base and 0.8m, bow (L) to west	Private	Remove
4	Manitoba Maple	<i>Acer negundo</i>	24, ~24, 15	F/G	G	F/G		5.0	2.4	Union at base, spiral stems, epicormic branches (M)	Private/Neighbour	Remove
5	Manitoba Maple	<i>Acer negundo</i>	14, 13	F/G	G	F/G		4.0	2.4	Co-dominance at 0.3m, lean (L) to south, epicormic branches (M)	City	Remove
6	Lilac	<i>Syringa vulgaris</i>	14.5	G	G	G		3.0	2.4		City	Remove
7	Norway Spruce	<i>Picea abies</i>	45	G	F	P/F	20	5.0	3.0	Sparse crown (M), dead branches (L), lost leader	City/Private	Remove
8	Manitoba Maple	<i>Acer negundo</i>	22, 19, 17	P/F	F	F		6.0	2.4	Union at base, lean (L) to south, pruning wounds (M), epicormic branches (H), stem wound (M)	Private/Neighbour	Remove
9	Manitoba Maple	<i>Acer negundo</i>	30, 23	F	F	F		6.0	2.4	Co-dominance at base, 1 stem lean (M) to east, cavity at pruning wound, stem wound (M) at base	Private	Remove
10	Sugar Maple	<i>Acer saccharum</i>	27	F	P	P	70	3.0	2.4	Stem wound (L) near base with cavity, almost dead	Private	Remove
11	Manitoba Maple	<i>Acer negundo</i>	28.5	P/F	P/F	P/F	60	4.0	2.4	Dead leader, union at base but 1 stem dead, crook (L), lean (L)	Private	Remove
12	Manitoba Maple	<i>Acer negundo</i>	46	P/F	F	F	20	8.0	3.0	Lean (M) to southeast, cavity, dead branches (L)	Private	Remove
13	Black Walnut	<i>Juglans nigra</i>	93	F/G	P/F	P/F	40	14.0	6.0	Union at 2.5m, sparse crown (M), dead branches (M), broken branches (L)	Neighbour	Remove
14	Manitoba Maple	<i>Acer negundo</i>	12.5	P/F	F	P/F	30	6.0	2.4	Lean (H) to south, crook (M), dead branches (M)	Private/Neighbour	Remove
15	Manitoba Maple	<i>Acer negundo</i>	23, 15.5	P/F	F	F		6.0	2.4	Union at base (3 stems) but 1 stem pruned at 1.2m, crook (H), epicormic branches (M)	Private/Neighbour	Remove
16	Manitoba Maple	<i>Acer negundo</i>	31.5, 14	P/F	F	F		6.0	2.4	Union at base, crook (M), larger stem has lean (M) to east and vertical crack	Private	Remove
17	Manitoba Maple	<i>Acer negundo</i>	12.5, 11	F/G	G	G		4.0	2.4	Sweep (M), co-dominance at 1.2m	Neighbour	Remove
18	Black Walnut	<i>Juglans nigra</i>	45	F/G	P	P	80	4.0	3.0	Co-dominance at base but 1 stem dead, the other stem almost dead	Neighbour	Remove
19	Manitoba Maple	<i>Acer negundo</i>	10.5, 9	F/G	G	G		4.0	2.4	Co-dominance at base, sweep (L)	Neighbour	Remove
20	Black Walnut	<i>Juglans nigra</i>	53	P/F	P/F	P/F	40	4.0	3.6	Lost leader, pruning wounds (M), crack at base with cavity, hollow stem	Neighbour	Remove
21	Black Walnut	<i>Juglans nigra</i>	66.5	F/G	F/G	F	15	6.0	4.2	Co-dominance at 4m	City	Remove
22	Norway Maple	<i>acer platanoides</i>	27.5	F	F	F	15	5.0	2.4	Bow (L) to northeast, broken branches (L), dead branches (L), wasp nest	Private	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 Die Back	(%)
DL	Dripline	(m)
mTPZ	minimum Tree Protection Zone	(m)
Owner	Private, Neighbour, Town	
~ = estimate; (VL) = very light; (L) = light; (M) = moderate; (H) = heavy		

### Appendix A. Tree Valuation

2100 Lakeshore Road, Burlington

Tree Valuation Data				APPRAISED TRUNK AREA (cm <sup>2</sup> )	AREA OF REPLACEMENT TREE (cm <sup>2</sup> )	APPRAISED TREE TRUNK INCREASE (TA Increase)	TA INCREASE X \$6.51/cm <sup>2</sup>	INSTALLED COST \$	BASIC TREE COST \$	Species RATING %	Species VALUE \$	Condition RATING %	Condition VALUE \$	Location RATING %	FINAL VALUE \$
Tree #	Species - Common	Species - Botanical	DBH	DBH <sup>2</sup>	Condition										
5	Manitoba Maple	<i>Acer negundo</i>	14.13	19.1	F/G	286		\$1,467	\$2,384	0.39	\$930	0.70	\$651	0.35	\$228
6	Lilac	<i>Syringa vulgaris</i>	14.5	14.5	G	185		\$671	\$1,383	0.75	\$1,037	0.80	\$830	0.70	\$581
7	Norway Spruce	<i>Picea abies</i>	45	45	P/F	1590		\$9,938	\$10,700	0.71	\$7,597	0.20	\$1,519	0.70	\$1,064
21	Black Walnut	<i>Juglans nigra</i>	66.5	66.5	F	3471		\$22,183	\$22,981	0.67	\$15,397	0.60	\$9,238	0.50	\$4,619
														<b>Total</b>	<b>\$4,619</b>