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Arborist Report

Pre-Construction Assessment

Prepared For:

Quintessential Developments Inc.

Committee of Adjustment
Received | Reçu le

2024-02-01

City of Ottawa | Ville d'Ottawa
Comité de dérogation

Site Address:

297 Dovercourt Ave
Ottawa, ON
K1Z 7H4

October 17, 2023

Prepared By:

Jordan Barker



ISA Certified Arborist (ON-2488A)

ISA Tree Risk Assessment Qualified (TRAQ), Butternut Health Assessor (663)

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©2023 Davey Resource Group. All rights reserved. This document must be used in conjunction with the tree inventory lists, and Tree Preservation Plans with arborist comments (these plans are to be printed on correct size to ensure scalability). This document must be used in whole and with all pages.

Contents

Summary 3

Introduction 4

Limitations of the Assignment 4

Methods 5

Observations 5

Discussion..... 6

Conclusion..... 7

Recommendations 7

Appendix 1 – Tree Protection Action Key (TPAK) 8

Appendix 2 – Tree Protection Plan (Preview) 9

Appendix 3 – Hoarding (TPF) Detail 10

Appendix 4 – References 11

Appendix 5 – Glossary of Common Arboricultural Terms 12

Appendix 6 – Arborist Qualifications 15

Appendix 7 – Photographs..... 16

Conditions of Assessment Agreement..... 21

Summary

The following Arborist Report is with respect to the proposed construction of 2 new dwellings at 297 Dovercourt Ave, Ottawa.

23 trees were assessed on and near the site.

10 trees are recommended to be removed to accommodate construction:

- Tree #3, an 8 cm Sand Cherry
- Tree #4, a 10 cm Juniper
- Tree #5, a hedgerow of 2-5 cm Eastern White Cedars
- Tree #6, an 8 cm **dead** Eastern White Cedar
- Tree #7, a 12 cm Norway Maple
- Tree #8, a 12 cm Crab Apple
- Tree #9, a 20 cm Lilac Tree
- Tree #10, a hedgerow of 5-13 cm Eastern White Cedars
- Tree #12, a hedgerow of 2-8 cm Eastern White Cedars
- Tree #13, a boundary 20 cm Manitoba Maple in poor condition growing through the rear yard fence.

13 trees are recommended to be preserved and protected with tree protection fencing installed around their Critical Root Zones.

1 replacement tree is recommended to be planted in the City right-of-way. The tree to be planted shall be a Red Oak (*Quercus rubra*) of minimum size 50 mm measured no less than 15 cm above ground level.

It is imperative for all crew contracted to perform this construction to thoroughly understand this report and the recommendations stated within.

Introduction

Davey Resource Group (DRG) was retained by the client to develop an Arborist Report and Tree Protection Plan (TPP) for the proposed construction of 2 new dwellings at 297 Dovercourt Ave, Ottawa.

An inventory and assessment of all the trees within the scope of the assignment was conducted. The Arborist was to document the current condition, size, and location of the trees as they relate to the proposed work. To account for the spatial scope of work within the site, the location of the planned construction and all trees within 6 meters of it were surveyed.

Recommendations for tree preservation or removal are to be provided and follow City of Ottawa Tree Protection By-law No. 2020-340.

This report must be accompanied by the following additional documents:

1. A full printing of the tree inventory performed by Davey Resource Group (DRG), otherwise known as the Tree Protection Action Key (TPAK). (Appendix 1)
2. The construction maps with the Arborist Comments, otherwise known as the Tree Protection Plan (TPP). (Appendix 2)

Limitations of the Assignment

It must be understood that DRG is the assessor of the trees in relation to tree preservation practices. The construction supervisors should incorporate the information and recommendations provided within this report into their construction methodology to complete their project in a reasonable manner.

This Arborist Report is based on the project scope and details for tree preservation as discussed. All proposed construction methods are limited to what was provided in the site plans and in discussions with the Project Leader. Estimates, measurements and comments regarding tree preservation were based on the proposed construction plans and field observations.

This Arborist Report was compiled from field data collected from the ground. A basic visual assessment of the tree was performed. No level of ISA Tree Risk Assessment was performed. More data on risk may be obtained through a basic or advanced ISA Tree Risk Assessment.

Methods

- Tools used to assess the trees included a metric DBH measuring tape, metric measuring tape, and camera.
- Private, City and neighbour trees within 6 meters of planned construction work were included in the inventory.
- Trees were studied for their proximity to existing and planned structures to determine recommendations or precautions for trees requiring removal or injury.

Observations

- The site was inspected on August 10, 2023 by ISA Certified Arborist Ian Laidlaw.
- During the assessment, no evidence of construction was present, and work had not yet started. No injuries to any trees, nor any construction material storage or soil compaction within Tree Protection Zones was noted during the assessment.
- **23** trees were assessed for this report and labeled #1-23 in the inventory and Tree Protection Plan included within Appendices 1-2.
- Trees #3-10, 12, and 13 are to be removed to accommodate proposed construction.
- Trees #1, 2, 11, and 14-23 shall be preserved and protected with tree protection fencing.
- Tree #13 is a boundary tree growing through the rear yard fence between 297 Dovercourt Ave and 296 Duncairn Ave. The tree is co-owned by both property owners, and so the removal of this tree requires the consent of both property owners.

For further details and observations, refer to the Tree Protection Action Key (Appendix 1).

Discussion

To preserve and protect these trees, proper recommendations must be followed and abided by the client for the duration of the project.

Regulatory context

Under the Tree Protection By-law, the following *protected trees* cannot be injured or removed without a tree permit from the City:

- All City-owned trees throughout the urban and rural area
- All trees 10 cm or more in diameter at breast height on private properties within the urban area that are subject to a Planning Act application for Site Plan, Plan of Subdivision, or Plan of Condominium
- All trees 10 cm or more in diameter at breast height on private properties within the urban area that are over 1 hectare in size
- All distinctive trees on private properties 1 hectare or less in size, where distinctive trees are defined as:
 - Trees measuring 30 cm or more in diameter at breast height within the inner urban area (urban lands inside the Greenbelt)
 - Trees measuring 50 cm or more in diameter at breast height within the suburban area (urban lands outside the Greenbelt)

The protections on privately owned trees also apply to identified urban expansion or growth areas shown on schedules in the by-law. The areas covered by the various parts of the by-law can also be viewed on geoOttawa under the Forestry heading.

The by-law also provides protection to all City-owned natural areas by regulating activities that might cause negative impacts. Refer to Part III of the by-law for more information.

Conclusion

To account for the proposed construction of 2 new dwellings at 297 Dovercourt Ave, Ottawa, ON, we assessed **23** trees were assessed on site.

10 trees are recommended to be removed to accommodate construction:

- Tree #3, an 8 cm Sand Cherry
- Tree #4, a 10 cm Juniper
- Tree #5, a hedgerow of 2-5 cm Eastern White Cedars
- Tree #6, an 8 cm **dead** Eastern White Cedar
- Tree #7, a 12 cm Norway Maple
- Tree #8, a 12 cm Crab Apple
- Tree #9, a 20 cm Lilac Tree
- Tree #10, a hedgerow of 5-13 cm Eastern White Cedars
- Tree #12, a hedgerow of 2-8 cm Eastern White Cedars
- Tree #13, a boundary 20 cm Manitoba Maple in poor condition growing through the rear yard fence.

13 trees are recommended to be preserved and protected with tree protection fencing installed around their Critical Root Zones.

Recommendations

In accordance with the numbering of trees in the inventory listed on the Tree Protection Action Key (Appendix 1), we have provided the following recommendations.

Trees to be preserved are specified with “Preserve” in the “Action” column in the Tree Protection Action Key (TPAK, Appendix 1).

- The homeowner shall install and properly maintain Tree Protection Fencing (Appendix 3) prior to and during construction work.
- We recommend all materials storage be kept outside of CRZs at all times during construction.

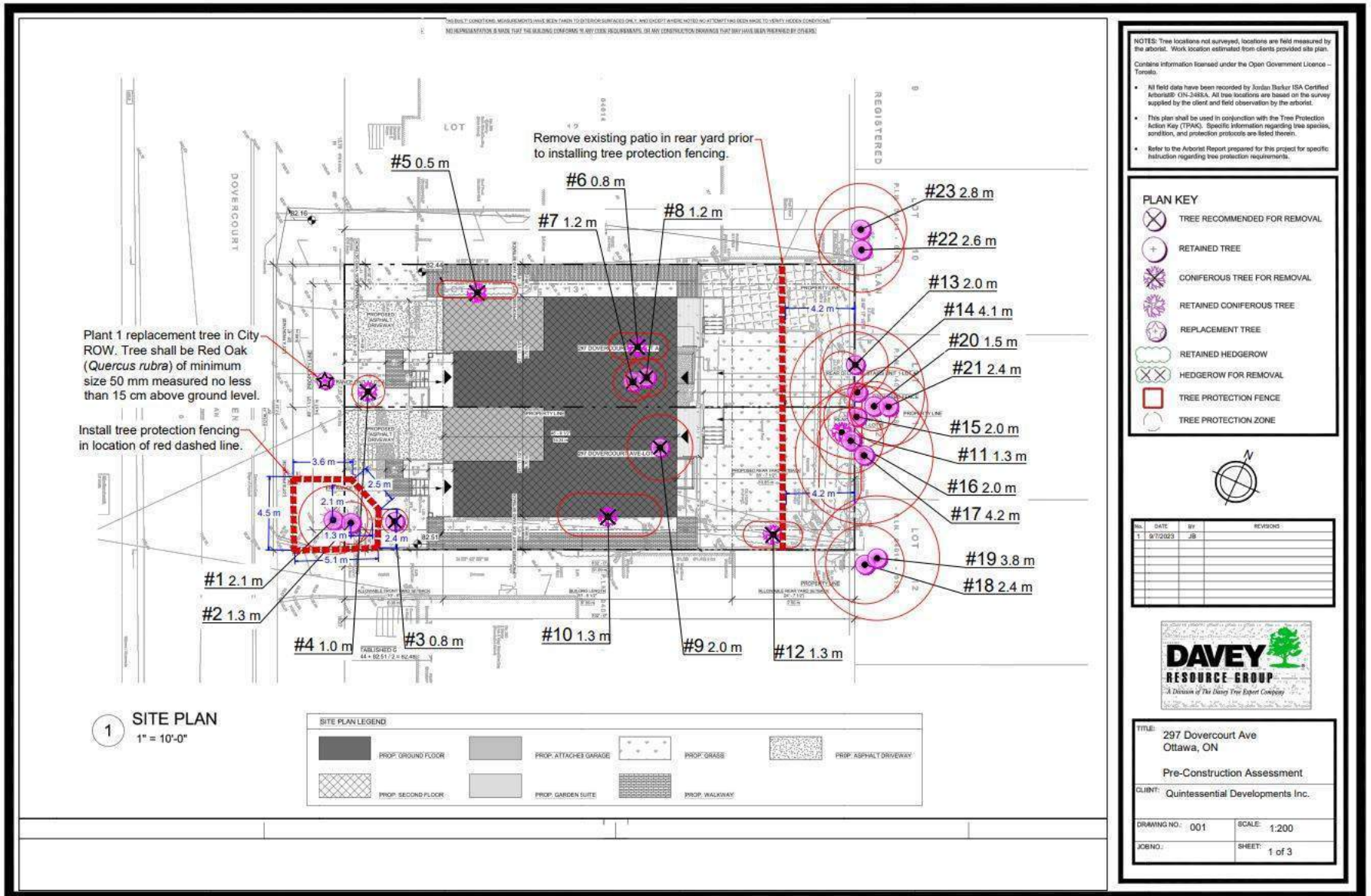
Trees to be removed are specified with “Remove” in the “Action” column in the TPAK.

- We recommend that Trees #3-10, 12, and 13 be removed to accommodate construction.

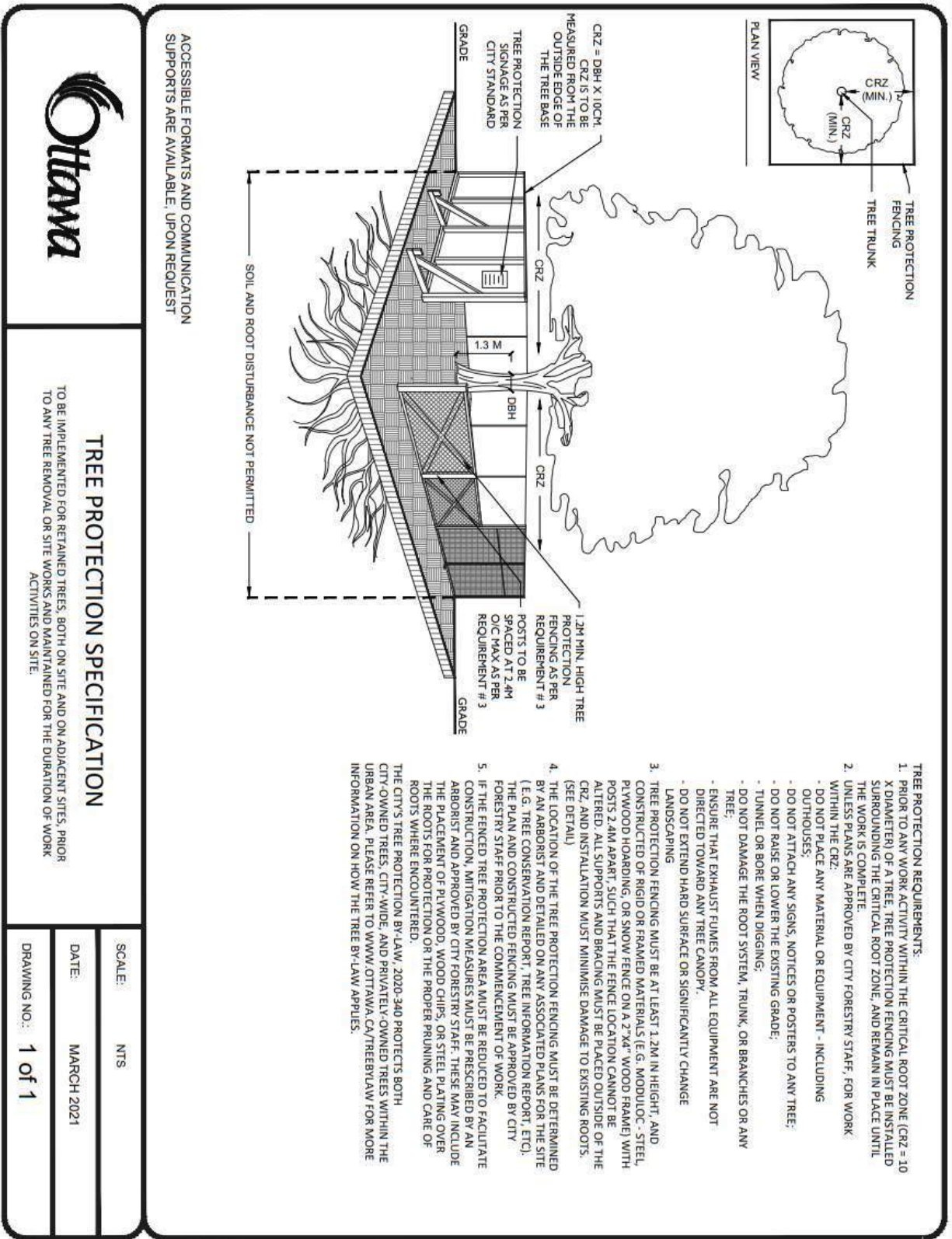
Appendix 1 – Tree Protection Action Key (TPAK)

Tree Map Number	Species	Botanical	DBH (cm) @ 1.4 m	Tree Ownership	CRZ Distance (m)	Health	Structure	Overall Condition	Construction inside Min CRZ? (Y/N)	Construction Impact (None, Low, Medium, High)	Action	Permit Required? (Y/N)	Recommendations
1	Austrian Pine	<i>Pinus nigra</i>	21	City	2.1	Good	Good	Good	N	None	Preserve	N	Protect tree with tree protection fencing.
2	Colorado Blue Spruce	<i>Picea pungens</i>	13	Private	1.3	Good	Good	Good	N	None	Preserve	N	Protect tree with tree protection fencing.
3	Sand Cherry	<i>Prunus x cistena</i>	8	Private	0.8	Good	Good	Good	Y	High	Remove	N	Remove tree to accommodate proposed construction.
4	Juniper	<i>Juniperus species</i>	10	Private	1.0	Good	Good	Good	Y	High	Remove	N	Remove tree to accommodate proposed construction.
5	Eastern White Cedar	<i>Thuja occidentalis</i>	2-5	Private	0.5	Good	Good	Good	Y	High	Remove	N	Remove tree to accommodate proposed construction.
6	Eastern White Cedar	<i>Thuja occidentalis</i>	8	Private	0.8	Dead	Dead	Dead	Y	High	Remove	N	Remove tree to accommodate proposed construction.
7	Norway Maple	<i>Acer platanooides</i>	12	Private	1.2	Good	Good	Good	Y	High	Remove	N	Remove tree to accommodate proposed construction.
8	Crab Apple	<i>Malus profusion</i>	12	Private	1.2	Fair	Fair	Fair	Y	High	Remove	N	Remove tree to accommodate proposed construction.
9	Lilac Tree	<i>Syringa reticulata</i>	20	Private	2.0	Good	Good	Good	Y	Medium	Remove	N	Remove tree to accommodate proposed construction.
10	Eastern White Cedar	<i>Thuja occidentalis</i>	5-13	Private	1.3	Good	Good	Good	Y	Medium	Remove	N	Remove tree to accommodate proposed construction.
11	Eastern White Cedar	<i>Thuja occidentalis</i>	5-13	Private	1.3	Good	Good	Good	N	None	Preserve	N	Protect tree with tree protection fencing.
12	Eastern White Cedar	<i>Thuja occidentalis</i>	2-8	Private	0.8	Good	Good	Good	N	None	Remove	N	Remove tree to accommodate proposed construction.
13	Manitoba Maple	<i>Acer negundo</i>	20	Boundary	2.0	Poor	Poor	Poor	N	None	Remove	N	Remove poor condition tree.
14	Manitoba Maple	<i>Acer negundo</i>	41	Boundary	4.1	Good	Good	Good	N	None	Preserve	N	Protect tree with tree protection fencing.
15	Norway Maple	<i>Acer platanooides</i>	20	Boundary	2.0	Good	Good	Good	N	None	Preserve	N	Protect tree with tree protection fencing.
16	Manitoba Maple	<i>Acer negundo</i>	20	Private	2.0	Good	Good	Good	N	None	Preserve	N	Protect tree with tree protection fencing.
17	Norway Maple	<i>Acer platanooides</i>	42	Neighbour	4.2	Good	Good	Good	N	None	Preserve	N	Protect tree with tree protection fencing.
18	Manitoba Maple	<i>Acer negundo</i>	24	Neighbour	2.4	Good	Good	Good	N	None	Preserve	N	Protect tree with tree protection fencing.
19	Manitoba Maple	<i>Acer negundo</i>	38	Neighbour	3.8	Good	Good	Good	N	None	Preserve	N	Protect tree with tree protection fencing.
20	Common Buckthorn	<i>Rhamnus cathartica</i>	15	Neighbour	1.5	Good	Good	Good	N	None	Preserve	N	Protect tree with tree protection fencing.
21	Manitoba Maple	<i>Acer negundo</i>	24	Neighbour	2.4	Good	Good	Good	N	None	Preserve	N	Protect tree with tree protection fencing.
22	Norway Maple	<i>Acer platanooides</i>	26	Neighbour	2.6	Good	Good	Good	N	None	Preserve	N	Protect tree with tree protection fencing.
23	Norway Maple	<i>Acer platanooides</i>	28	Neighbour	2.8	Good	Good	Good	N	None	Preserve	N	Protect tree with tree protection fencing.

Appendix 2 – Tree Protection Plan (Preview)



Appendix 3 – Hoarding (TPF) Detail



TREE PROTECTION SPECIFICATION
 TO BE IMPLEMENTED FOR RETAINED TREES, BOTH ON SITE AND ON ADJACENT SITES, PRIOR TO ANY TREE REMOVAL OR SITE WORKS AND MAINTAINED FOR THE DURATION OF WORK ACTIVITIES ON SITE.

SCALE: NTS
 DATE: MARCH 2021
 DRAWING NO.: 1 of 1

Appendix 4 – References

1. ISA, 2001-2011. Best Management Practices, Books 1-9, Companion publications to ANSI A300 Standards for Tree Care
2. Dujesiefken, Dr. Dirk, 2012. Director of the Institute for Tree Care in Germany, The CODIT Principle, research presented on cambial regrowth on trees after injury at the Annual ISA Conference in Kingston Ontario
3. Sinclair and Lyon, 2005. Diseases of Trees and Shrubs, Second Edition
4. ISA, 2010. Glossary of Arboricultural Terms
5. Neely and Watson, ISA, 1994 and 1998. The Landscape Below Ground 1 and 2
6. Matheny and Clark, ISA, 1994. A Photographic Guide to the Evaluation of Hazard Trees in Urban Areas, 2nd Edition
7. Matheny and Clark, ISA 1998. Trees and Development, A Technical Guide to Preservation of Tree During Land Development
8. PNW-ISA, 2011. Tree Risk Assessment in Rural Areas and Urban/Rural Interface, Version 1-5
9. City of Toronto, 2015. Application to Injure or Destroy Trees
10. Todd Hurt & Bob Westerfield, 2005. Tree Protection During Construction and Landscaping Activities
11. City of Toronto, 2015. Toronto Municipal Code Chapter 813: Trees.
12. City of Toronto, 2016. Tree Protection Policy and Specifications for Construction Near Trees

Appendix 5 – Glossary of Common Arboricultural Terms

Arborist	A professional who possesses the technical competence gained through experience and related training to provide for or supervise the management of trees and other woody plants in residential, commercial, and public landscapes.
ANSI A300	Acronym for American National Standards Institute. In the United States, industry-developed, national consensus standards of practice for tree care.
Bark Tracing	Cutting away torn or injured bark to leave a smooth edge.
Branch Bark Ridge	Raised strip of bark at the top of a branch union, where the growth and expansion of the trunk or parent stem and adjoining branch push the bark into a ridge.
Callus wood	Undifferentiated tissue formed by the cambium, usually as the result of wounding.
Clinometer	A device used to calculate the height of trees.
Consulting Arborist	An Arboricultural consultant is one of the following: <ul style="list-style-type: none"> • American Society of Consulting Arborists, Registered Consulting Arborist (ASCA RCA#___) • International Society of Arboriculture, Board Certified Master Arborist (ISA BCMA #___B) • ISA Certified Arborist/Municipal Specialist in good standing for a minimum of 6 years with 6 years of proven experience in a management role related to arboriculture, and has attested and signed to a code of ethics related to arboriculture (ISA#_____)
Compartmentalization	Natural defense process in trees by which chemical and physical boundaries are created that act to limit the spread of disease and decay organisms
Critical Root Zone – (CRZ)	Area of soil around a tree where the minimum amounts of roots considered critical to the structural stability or health of the tree are located. CRZ determination is sometimes based on the drip line or a multiple of dbh (12:1, 12cm of ground distance from the trunk for every cm of dbh) but because root growth is often asymmetric due to site conditions, on-site investigation is preferred.
Daylighting	Also known as Hydro-vac, this is the process by which soil is vacuumed up. In the context of tree care this allows workers to access the soil below the roots without mortal damage to significant roots.
DBH	Acronym for tree diameter at breast height. Measured at 1.4m above ground.
Decurrent	Rounded or spreading growth habit of the tree crown.
Directional Pruning	Providing clearance by pruning branches that could significantly affect the integrity of utility facilities or other structures, and leaving in place branches that could have little or no effect.
Dripline	Imaginary line defined by the branch spread of a single parent or group of plants

Excurrent	Tree growth habit characterized by a central leader and a pyramidal crown.
Included bark	Bark that becomes embedded in a crotch (union) between branch and trunk or between codominant stems. Causes a weak structure.
Lion's Tailing	Poor pruning practice in which an excessive number of branches are thinned from the inside and lower part of specific limbs or a tree crown, leaving mostly terminal foliage. Results in poor branch taper, poor wind load distribution, and higher risk of branch failure.
MTPZ	Acronym for Minimum Tree Protection Zone, also known as the Structural Root Zone (SRZ), which is the distance from the tree equal to 6 times the dbh, within which the likelihood of encountering roots that are structural supports for the tree.
Moment	Rotational force that is created by any line force on a body. The magnitude of a moment is defined as the product of the force magnitude and perpendicular distance from the line of action of the force to the axis of which the moment is being calculated.
Mortality Spiral	A sequence of stressful events or conditions causing the decline and eventual death of a tree.
Mulch	Material that is spread or sometimes sprayed on the soil surface to reduce weed growth, to retain soil moisture and moderate temperature extremes, to reduce compaction from pedestrian traffic or to prevent damage from lawn-maintenance equipment, to reduce erosion or soil spattering onto adjacent surfaces, to improve soil quality through its eventual decomposition, and/or to improve aesthetic appearance of the landscape. Mulch can be composed of chipped, ground, or shredded organic material such as bark, wood, or recycled paper; unmodified organic material such as seed hulls; organic fiber blankets or mats; or inorganic material such as plastic sheeting.
Organic Matter	Material derived from the growth (and death) of living organisms. The organic components of the soil.
CRZ	Acronym for Critical Root Zone, also known as the Critical Root Zone (see definition above), within which there is a high likelihood of encountering roots that are necessary for the survival for the tree.
Project Arborist	The consulting arborist retained to provide all tree preservation recommendations to the project manager or contractors on a given construction project.
Qualified Arborist	An arborist who has documented related training (i.e. ISA, MTCU, or equivalent) and on-the-job experience (minimum of 5 years)
Radial trenching	Technique for aerating the soil or alleviating compaction around a tree by removing and replacing soil (which may be amended) in trenches (typically 300mm deep and 150mm wide) made in a spoke like pattern (radially from the trunk) in the root zone to

	improve conditions for root growth.
Reaction Wood	Wood formed in leaning or crooked stems or on lower or upper sides of branches as a means of counteracting the effects of gravity.
Removal Cut	A cut that removes a branch at its point of origin. Collar cut.
Reduction Cut	A pruning cut that reduces the length of a branch or stem back to a lateral branch large enough to assume apical dominance.
Resistograph®	A brand name of a device consisting of a specialized micro-drill bit that drills into trees and graphs density differences that are used to detect decay.
Soft-Scaped	Landscaping practices that do not involved solid or deeply-dug foundations. Patios consisting of slab rocks laid on-top of the soil with minimal excavation and base (less than 10cm) and causing minimal damage to existing tree roots.
Static Support System	Cabling system that utilizes rigid materials such as rods and steel cables to limit movement and provide constant support of limbs.
Structural cells	Modular system consisting of units of soil and integrated support structures that serve both as a foundation for paved surfaces and a hospitable environment for tree root growth,
Structural pruning	Pruning to establish a strong arrangement or system of scaffold branches.
Structural Soil™	Pavement substrate that can be compacted to meet engineering specifications yet remains penetrable be tree roots in the urban environment. Composed of angular crushed stone, clay loam, and hydrogel mixed in a weight ratio of 100:20:0.03. Developed at the Urban Horticulture Institute, Cornell University, Ithaca, NY.
Supersonic Air Excavation Techniques (SSAT)	A methodology using a device that directs a jet of highly compressed air to excavate soil. Used within the root zone of trees to avoid or minimizing damage to the roots, or near underground structures such as pipes and wires to avoid or minimize damage to them.
Tree Protection Zone (TPZ)	Defined area within which certain activities are prohibited or restricted to prevent or minimize potential injury to designated trees, especially during construction. TPZ is sometimes based on a minimum multiple of dbh (e.g. 6:1, 6cm of ground distance from the trunk for 1cm of dbh)
Walls	Trees have 4 walls in a process known as compartmentalization. <ul style="list-style-type: none"> ● Wall 1 prevents decay moving up and down in a tree ● Wall 2 prevents decay moving inward in a tree ● Wall 3 prevents decay moving laterally in a tree ● Wall 4 is the new growth formed on the outside of the tree, callus growth.
Woundwood	Lignified, differentiated tissues produced on woody plants after wounding.

Appendix 6 – Arborist Qualifications



Jordan Barker is a Consulting Arborist with Davey Resource Group. His formal education includes a Bachelor of Science in Biology from Western University and a Master of Science in Biology with a focus in Forest Ecology from McMaster University. Mr. Barker has five years of varied work experience in the forestry, arboriculture, and ecological assessment fields. Mr. Barker has worked with DRG as an Inventory Arborist and Consulting Arborist.

Certifications

ISA Certified Arborist (ON-2488A)

ISA Tree Risk Assessment Qualification

Butternut Health Assessor (#663)

Appendix 7 – Photographs



Tree #1



Tree #2



Tree #3



Tree #4



Tree #5



Tree #6



Tree #7



Tree #8



Tree #9



Tree #10



Tree #11



Tree #12



Tree #13, 14, 15, and 16



Tree #17



Tree #18



Tree #19



Trees #20 and 21



Tree #22



Tree #23

Conditions of Assessment Agreement

This Conditions of Assessment Agreement is made pursuant to and as a provision of Davey Resource Group, a division of The Davey Tree Expert Co. of Canada, Limited (“Davey”), providing tree assessment services as agreed to between the parties, the terms and substance of which are incorporated in and made a part of this Agreement (collectively the “Services”).

Trees are living organisms that are subject to stress and conditions and which inherently impose some degree or level of risk. Unless a tree is removed, the risk cannot be eliminated entirely. Tree conditions may also change over time even if there is no external evidence or manifestation. In that Davey provides the Services at a point in time utilizing applicable standard industry practices, any conclusions and recommendations provided are relevant only to the facts and conditions at the time the Services are performed. Given that Davey cannot predict or otherwise determine subsequent developments, Davey will not be liable for any such developments, acts, or conditions that occur including, but not limited to, decay, deterioration, or damage from any cause, insect infestation, acts of god or nature or otherwise.

Unless otherwise stated in writing, assessments are performed visually from the ground on the above-ground portions of the tree(s). However, the outward appearance of trees may conceal defects. **Therefore, to the extent permitted by law, Davey does not make and expressly disclaims any warranties or representations of any kind, express or implied, with respect to completeness or accuracy of the information contained in the reports or findings resulting from the Services beyond that expressly contracted for by Davey in writing, including, but not limited to, performing diagnosis or identifying hazards or conditions not within the scope of the Services or not readily discoverable using the methods applied pursuant to applicable standard industry practices.** Further, Davey’s liability for any claim, damage or loss caused by or related to the Services shall be limited to the work expressly contracted for.

In performing the Services, Davey may have reviewed publicly available or other third- party records or conducted interviews, and has assumed the genuineness of such documents and statements. Davey disclaims any liability for errors, omissions, or inaccuracies resulting from or contained in any information obtained from any third- party or publicly available source.

Except as agreed to between the parties prior to the Services being performed, the reports and recommendations resulting from the Services may not be used by any other party or for any other purpose. The undersigned also agrees, to the extent permitted by law, to protect, indemnify, defend and hold Davey harmless from and against any and all claims, demands, actions, rights and causes of action of every kind and nature, including actions for contribution or indemnity, that may hereafter at any time be asserted against Davey or another party, including, but not limited to, bodily injury or death or property damage arising in any manner from or in any way related to any disclaimers or limitations in this Agreement.

By accepting or using the Services, the customer will be deemed to have agreed to the terms of this Agreement, even if it is not signed.

Acknowledged by:

Name of Customer: _____

Authorized Signature: _____

Date: _____