



TREE PRESERVATION REPORT FOR ZONING BY-LAW AMENDMENT

**1170 FANSHAWE PARK ROAD
LONDON, ONTARIO**

Report prepared by
Ron Koudys Landscape Architects Inc

On December 15th, 2023

RKLA Project #22-196



Kathleen Garrett
ON-3009A

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1.0 INTRODUCTION AND EXECUTIVE SUMMARY

1.1 INTRODUCTION

Ron Koudys Landscape Architects Inc. (RKLA) was retained by Brock Development Group Inc. to prepare a tree assessment report in conjunction with the proposed development at 1170 Fanshawe Park Road. The intent of this report is to summarize the findings of the tree assessment and make recommendations regarding tree preservation and removal based on tree health, the current site plan, and anticipated site grading for the purpose of application for rezoning.

Note that refinement of these recommendations will be made upon design refinement at the time of application for site plan approval.

1.2 EXECUTIVE SUMMARY

The inventory captured 66 individual trees. Trees were identified within the subject site, and within 3 meters of the legal property boundary. No species classified as endangered or threatened under the Ontario Endangered Species Act, 2007, S.O. 2007, c. 6 were observed during the tree inventory. All trees observed are common to the current land uses and can be characterized as anthropogenic or opportunistic. The subject site is NOT within or immediately adjacent to a City of London Tree Protection Area.

1.2.1 TREE SPECIES COMPOSITION CHART

THE FOLLOWING CHART SUMMARIZES THE AMOUNT OF EACH TREE SPECIES OBSERVED.

%	Qty.	Botanical Name	Common Name
27%	18	<i>Picea pungens</i>	Colorado Green Spruce
18%	12	<i>Celtis occidentalis</i>	Hackberry
17%	11	<i>Juglans nigra</i>	Black Walnut
12%	8	<i>Thuja occidentalis</i>	White Cedar
8%	5	<i>Acer saccharum</i>	Sugar Maple
6%	4	<i>Acer negundo</i>	Manitoba Maple
3%	2	<i>Tilia americana</i>	Basswood
2%	1	<i>Acer nigrum</i>	Black Maple
2%	1	<i>Carya cordiformis</i>	Bitternut Hickory
2%	1	<i>Cotinus coggygria</i>	Smokebush
2%	1	<i>Morus alba</i>	Mulberry
2%	1	<i>Pinus sylvestris</i>	Scotch Pine
2%	1	<i>Quercus rubra</i>	Red Oak
100%	66	Total	

1.2.2 TREE REMOVAL AND PRESERVATION RECOMMENDATIONS

- Removal of 52 trees from the subject site due to direct conflict with proposed construction.
- Removal of 5 trees located on the property boundary or adjacent to the property boundary on 1186 Fanshawe Park Road. Tree removal consent will be acquired at the time of SPA.

- Removal of 1 tree located on the adjacent property to the north of the subject site. Legal description: Middlesex Con 5 Pt Lot 10 RP. Tree removal consent will be acquired at the time of SPA.
- Removal of 1 tree located on the boundary between the subject site and the City ROW of Stackhouse Ave. Tree removal consent will be acquired at the time of SPA.
- Preserve 7 trees located beyond the subject site.
- Follow pre, during, and post construction recommendations outlined in the Construction Impact Mitigation Recommendations in this report.

2.0 SUBJECT SITE AND SCOPE OF WORK

The subject site is located at 1170 Fanshawe Park Road. There are two existing buildings located on the site. The trees are generally scattered throughout the property boundary.

Refer to Figure 1 for scope of tree inventory.



Figure 1 - City of London mapping with 2023 aerial imagery. NTS

Red dashed line - Limit of inventory



3.0 METHODOLOGY

Field work was completed on July 12th, 2022 by RKL A staff member Michelle Peeters, ISA certified arborist ON 2129A. An additional site review was completed on December 7th, 2023 by RKL A staff member Kathleen Garrett, ISA certified arborist ON 3009A. A topographic survey provided by Callon Dietz Inc. was used as a base for the fieldwork and determined tree location/ownership. All trees with a minimum DBH of 10cm within the given scope were identified and assessed. Groups of trees and hedges were identified and assessed as vegetation units, and include trees smaller than 10cm DBH. Trees were NOT tagged in the field. Each tree was assigned a number which are

identified in the tree data table and on the tree preservation plan. Tree identification numbers include 1-66.

The following information was recorded for each individual tree:

- Genus + specific epithet (Species)
- Diameter at breast height (DBH) (centimetres)
- Crown radius (metres)
- Crown Condition (overall general vigour of crown)
- Structural Form (excellent, good, fair, poor)
- Structural Integrity (good, fair, poor, hazard)
- General Comments

3.1 HEALTH ASSESSMENT

Trees were assessed following accepted arboricultural techniques and best practices using a limited visual inspection. The inspection included a 360-degree visual examination of the above-ground parts of each tree for structural defects including cavities, wounds, scars, external indicators of internal decay, evidence of insect presence, discoloured or deformed foliage, canopy and root distribution, and the overall condition of the tree. Evaluation of tree health was based on visible tree health indicators including live buds, foliage condition, deadwood, structural defects, form, and signs of disease or insect infestation. If needed, field observations were reviewed against available online imagery of the site to assist in determining tree canopy health. Quantified health assessments included in the inventory are explained here:

Crown Condition Assessment

- 5 Healthy: less than 10% crown decline
- 4 Slight decline: 11% - 30% crown decline
- 3 Moderate decline: 31% - 60% crown decline
- 2 Severe decline: 61% - 90% crown decline
- 1 Dead - No visible indication of living foliage or buds in crown

Structural Form Assessment

- Excellent: An ideal expression of a specific tree species, true to form, balanced canopy, good flare, typical internode length, full crown, etc.
- Good: A satisfactory and generally expected expression of a specific tree species, with only minor or typical variances from an ideal form.
- Fair: Nearly satisfactory, with defects or a combination of defects such as codominant leaders, unbalanced crown, poor/no flare, shortened internodes, has been poorly pruned, etc.
- Poor: Significantly flawed expression of a specific tree species

Structural Integrity Assessment

- Good: Defects if present are minor (e.g. twig dieback, small wounds); defective tree part is small (e.g. 5-8 cm diameter limb) providing little if any risk.
- Fair: Defects are numerous or significant (e.g. dead scaffold limbs); defective parts are moderate in size (e.g. limb greater than 5-8 cm in diameter).
- Poor: Defects are severe (trunk cavity in excess of 50%); defective parts are large (e.g. majority of crown).
- Hazard: Defects are severe and acute; defective part or collective defective parts render the tree a high risk threat to potential targets.

3.2 CRITICAL ROOT ZONES

The critical root zone of a tree is the portion of the root system that is the minimum necessary to maintain tree vitality and stability. Critical root zones are commonly prescribed by municipal bylaws based solely on DBH and/or drip line, and are typically expressed as a circular shape around the tree. There are a number of other factors, however, that are considered when establishing a critical root zone.

Factors that inform location and extent of a tree preservation barriers to protect the critical root zone include: species tolerance to root loss and other construction impacts (as established by authoritative resources and professional experience), tree trunk size (DBH), tree health and vigour, structural condition, landscape context, soil type, moisture availability, topography, ground cover, crown size (drip line) and balance, current physical root restrictions, visible root arrangement, relationship to neighbouring trees, relationship between tree and proposed construction, type of proposed construction, etc.

The City of London Tree Protection By-Law (C.P.-1555-252) defines the Critical Root Zone as “the area of land within a radius of ten (10) cm from the trunk of a tree for every one (1) cm of trunk diameter”. The Tree Preservation drawing graphically represents this radius for trees to be preserved.

4.0 TREE INVENTORY AND PRESERVATION/REMOVAL RECOMMENDATIONS

4.1 TREE DATA TABLE

The following recommendations are based on requirements of the current site plan. Grey indicates recommended removal.

GENERAL INFORMATION				SIZE		HEALTH & CONDITION				RECOMMENDATIONS		
ID #	BOTANICAL NAME	COMMON NAME	LOCATION	DBH (cm)	CANOPY RADIUS (m)	CROWN CONDITION	STRUCTURAL FORM	STRUCTURAL INTEGRITY	COMMENTS	EXPECTED CONSTRUCTION IMPACTS	PRESERVE OR REMOVE	IMPACT MITIGATION, REMOVAL RATIONALE, CONSENT REQUIREMENTS
1	<i>Morus alba</i>	Mulberry	Subject Site	21, 13, 10, 7, 7, 4	4	4	fair	poor	Multistem 6, tight unions, canopy heavy NE	conflict with proposed driveway	remove	conflict with construction
2	<i>Juglans nigra</i>	Black Walnut	BOUNDARY - Subject Site & MIDDLESEX CON 5 PT LOT 10 RP	35	5	5	good	good	Supressed, canopy heavy N	conflict with proposed driveway	remove	consent for removal required from adjacent property owner
3	<i>Juglans nigra</i>	Black Walnut	1240 Fanshawe Park Road E	12	3	4	fair	good	Supressed	none	preserve	tree protection barrier
4	<i>Juglans nigra</i>	Black Walnut	1240 Fanshawe Park Road E	28	4	5	good	good	Supressed	none	preserve	tree protection barrier
5	<i>Celtis occidentalis</i>	Hackberry	1240 Fanshawe Park Road E	11	3	5	fair	good	Supressed, 90d bent leader	none	preserve	tree protection barrier

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6	<i>Picea pungens</i>	Colorado Green Spruce	Subject Site	28	4	2	good	good	Significant deadwood and thinning	conflict with proposed driveway	remove	conflict with construction
7	<i>Picea pungens</i>	Colorado Green Spruce	Subject Site	28	2	1	fair	poor	Fully dead	conflict with proposed driveway	remove	conflict with construction and poor tree condition
8	<i>Picea pungens</i>	Colorado Green Spruce	Subject Site	26	2	1	fair	poor	Fully dead	conflict with proposed driveway	remove	conflict with construction and poor tree condition
9	<i>Picea pungens</i>	Colorado Green Spruce	Subject Site	31	2	1	poor	poor	Fully dead, fallen over, trunk snapped at base	conflict with proposed driveway	remove	conflict with construction and poor tree condition
10	<i>Picea pungens</i>	Colorado Green Spruce	Subject Site	14	2	2	fair	fair	Significant deadwood, lower branches removed	conflict with proposed driveway	remove	conflict with construction
11	<i>Picea pungens</i>	Colorado Green Spruce	Subject Site	27	4	2	good	fair	Significant deadwood, moribund, very thin crown	conflict with proposed driveway	remove	conflict with construction
12	<i>Picea pungens</i>	Colorado Green Spruce	Subject Site	25	3	1	fair	fair	Fully dead, codominant leaders, grapevine into crown	conflict with proposed driveway	remove	conflict with construction
13	<i>Picea pungens</i>	Colorado Green Spruce	Subject Site	23	2	3	fair	fair	Moribund, thinning crown	conflict with proposed driveway	remove	conflict with construction
14	<i>Picea pungens</i>	Colorado Green Spruce	Subject Site	23	1.5	1	fair	poor	Fully dead	conflict with proposed driveway	remove	conflict with construction and poor tree condition
15	<i>Picea pungens</i>	Colorado Green Spruce	Subject Site	16	1.5	1	fair	poor	Fully dead	conflict with proposed driveway	remove	conflict with construction and poor tree condition
16	<i>Picea pungens</i>	Colorado Green Spruce	Subject Site	30	4	3	good	good	Suppressed, thin crown	conflict with proposed driveway	remove	conflict with construction
17	<i>Juglans nigra</i>	Black Walnut	Subject Site	13	2	1	poor	poor	Fully dead, lean N	conflict with proposed driveway	remove	conflict with construction and poor tree condition
18	<i>Picea pungens</i>	Colorado Green Spruce	Subject Site	21	2	1	fair	poor	Fully dead	conflict with proposed driveway	remove	conflict with construction and poor tree condition
19	<i>Picea pungens</i>	Colorado Green Spruce	Subject Site	34	4	4	good	good	Suppressed, upper crown living only	conflict with proposed driveway	remove	conflict with construction

Tree Preservation Report for zoning by-law amendment
1170 Fanshawe Park Road London, Ontario

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20	<i>Picea pungens</i>	Colorado Green Spruce	Subject Site	26	4	1	fair	poor	Fully dead	conflict with proposed driveway	remove	conflict with construction and poor tree condition
21	<i>Picea pungens</i>	Colorado Green Spruce	Subject Site	28	3	3	good	good	Upper crown living only	conflict with proposed driveway	remove	conflict with construction
22	<i>Picea pungens</i>	Colorado Green Spruce	Subject Site	21	2	3	good	good	Upper crown living only	conflict with proposed driveway	remove	conflict with construction
23	<i>Picea pungens</i>	Colorado Green Spruce	Subject Site	25	3	3	good	good	Upper crown living only	conflict with proposed driveway	remove	conflict with construction
24	<i>Picea pungens</i>	Colorado Green Spruce	Subject Site	26	2	3	good	good	Upper crown living only, grapevine into crown	conflict with proposed driveway	remove	conflict with construction
25	<i>Acer negundo</i>	Manitoba Maple	Subject Site	23	5	3	fair	fair	Significant lean N, deadwood, epicormic growth	conflict with proposed parking lot	remove	conflict with construction
26	<i>Juglans nigra</i>	Black Walnut	Subject Site	37	5	5	good	good	Canopy heavy W, suppressed	conflict with proposed parking lot	remove	conflict with construction
27	<i>Tilia americana</i>	Basswood	Subject Site	28, 25, 23, 23, 22, 22, 19, 18	8	5	fair	fair	Multistem 8, primary union just above grade, minor torn branches, wide open canopy	conflict with proposed parking lot	remove	conflict with construction
28	<i>Tilia americana</i>	Basswood	Subject Site	38, 37, 33, 33	7	5	good	good	Multistem 4, upright form	conflict with proposed parking lot	remove	conflict with construction
29	<i>Pinus sylvestris</i>	Scotch Pine	1186 Fanshawe Park Road E	22	3	4	fair	good	Significant soil piled at base	conflict with proposed parking lot	remove	conflict with construction and poor tree condition, removal consent required from 1186 Fanshawe Park Road East
30	<i>Juglans nigra</i>	Black Walnut	Subject Site	29	4.5	5	good	good	Full form	conflict with proposed parking lot	remove	conflict with construction
31	<i>Juglans nigra</i>	Black Walnut	Subject Site	31	4.5	5	good	good	Full form	conflict with proposed parking lot	remove	conflict with construction
32	<i>Celtis occidentalis</i>	Hackberry	Subject Site	10	3.5	5	fair	good	Suppressed	conflict with proposed parking lot	remove	conflict with construction

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33	<i>Celtis occidentalis</i>	Hackberry	Subject Site	14	4	5	fair	good	Supressed, low branched	conflict with proposed parking lot	remove	conflict with construction
34	<i>Juglans nigra</i>	Black Walnut	BOUNDARY - Subject Site & 1186 Fanshawe Park Road E	57	7	5	fair	fair	Codominant leaders with buttressing	conflict with proposed parking lot	remove	removal consent required from 1186 Fanshawe Park Road
35	<i>Acer negundo</i>	Manitoba Maple	BOUNDARY - Subject Site & 1186 Fanshawe Park Road E	36	7	3	poor	poor	45d lean E, epicormic growth, trunk cavities, significant deadwood	conflict with proposed parking lot	remove	conflict with construction and poor tree condition, removal consent required from 1186 Fanshawe Park Road East
36	<i>Acer negundo</i>	Manitoba Maple	Subject Site	34	7	4	poor	poor	30d lean W, epicormic growth, significant deadwood	conflict with proposed parking lot	remove	conflict with construction and poor tree condition
37	<i>Celtis occidentalis</i>	Hackberry	BOUNDARY - Subject Site & 1186 Fanshawe Park Road E	31	5	5	good	good	Quality specimen	minor conflict to critical root zone	preserve	tree protection barrier
38	<i>Juglans nigra</i>	Black Walnut	1186 Fanshawe Park Road E	40	8	5	good	good	Quality specimen	minor conflict to critical root zone	preserve	tree protection barrier
39	<i>Juglans nigra</i>	Black Walnut	1186 Fanshawe Park Road E	29	7	5	good	good	Quality specimen	minor conflict to critical root zone	preserve	tree protection barrier
40	<i>Celtis occidentalis</i>	Hackberry	Subject Site	28	6	5	fair	good	Quality specimen, supressed, uncorrected lean	conflict with proposed parking lot	remove	conflict with construction, trunk leans over proposed parking
41	<i>Celtis occidentalis</i>	Hackberry	BOUNDARY - Subject Site & 1186 Fanshawe Park Road E	41	7	5	good	good	Quality specimen	minor conflict to critical root zone	preserve	tree protection barrier
42	<i>Acer saccharum</i>	Sugar Maple	1186 Fanshawe Park Road E	52	3	1	poor	poor	Fully dead	tree likely to become hazardous located next to the construction	remove	removal consent required from 1186 Fanshawe Park Road
43	<i>Acer negundo</i>	Manitoba Maple	Subject Site	11	2.5	5	fair	good	Sparse crown	conflict with proposed building	remove	conflict with construction

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44	<i>Juglans nigra</i>	Black Walnut	Subject Site	13	3	5	good	good	Full form	conflict with proposed building	remove	conflict with construction
45	<i>Celtis occidentalis</i>	Hackberry	Subject Site	12	2	5	good	good	Full form	conflict with proposed building	remove	conflict with construction
46	<i>Carya cordiformis</i>	Bitternut Hickory	Subject Site	18	2.5	4	poor	poor	Trunk rot at primary union, suppressed	conflict with proposed building	remove	conflict with construction
47	<i>Acer saccharum</i>	Sugar Maple	Subject Site	19	5	5	good	good	Suppressed	conflict with proposed building	remove	conflict with construction
48	<i>Acer saccharum</i>	Sugar Maple	BOUNDARY - Subject Site & 1186 Fanshawe Park Road E	22	4	5	good	fair	Suppressed, codominant leaders	conflict with proposed building	remove	consent required
49	<i>Celtis occidentalis</i>	Hackberry	Subject Site	51, 41, 24, 20	8	5	good	good	Multistem 4, fused trunks	conflict with proposed building	remove	
50	<i>Celtis occidentalis</i>	Hackberry	Subject Site	39	7	5	good	good		conflict with proposed building	remove	conflict with construction
51	<i>Celtis occidentalis</i>	Hackberry	Subject Site	48, 29	8	5	good	good	Multistem 2	conflict with proposed building	remove	conflict with construction
52	<i>Acer nigrum</i>	Black Maple	Subject Site	51	8	5	good	good	Circling roots	conflict with proposed building	remove	conflict with construction
53	<i>Cotinus coggygria</i>	Smoke bush	Subject Site	19, 16, 16, 16, 15, 14	4	5	fair	fair	Multistem 6, gnarly trunks, epicormic growth, loose crown	conflict with proposed building	remove	conflict with construction
54	<i>Quercus rubra</i>	Red Oak	Subject Site	45	8	5	good	good	Sparse crown	conflict with proposed building	remove	conflict with construction
55	<i>Thuja occidentalis</i>	White Cedar	Subject Site	16	1.5	1	good	poor	Fully dead	conflict with proposed building	remove	conflict with construction
56	<i>Thuja occidentalis</i>	White Cedar	Subject Site	19, 17, 17, 9, 9	2.5	4	fair	fair	Multistem 5, thin crown, trunk cavities, dead lower branches	conflict with proposed building	remove	conflict with construction
57	<i>Thuja occidentalis</i>	White Cedar	Subject Site	35, 24	3	4	fair	fair	Multistem 2, dead lower branches	conflict with proposed building	remove	conflict with construction

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58	<i>Thuja occidentalis</i>	White Cedar	Subject Site	23, 20, 19, 18	4	5	fair	fair	Multistem 4, branched to grade	conflict with proposed building	remove	conflict with construction
59	<i>Thuja occidentalis</i>	White Cedar	Subject Site	13, 9	2	4	fair	fair	Multistem 2, thin, suppressed	conflict with proposed building	remove	conflict with construction
60	<i>Thuja occidentalis</i>	White Cedar	Subject Site	24, 16	4	5	fair	fair	Multistem 2, branched to grade	conflict with proposed building	remove	conflict with construction
61	<i>Celtis occidentalis</i>	Hackberry	Subject Site	35, 35	6	5	good	good	Multistem 2, full form	conflict with proposed building	remove	conflict with construction
62	<i>Celtis occidentalis</i>	Hackberry	BOUNDARY - Subject Site & City ROW Stackhouse Ave	17, 13	4	5	fair	fair	Multistem 2, gnarly base, old stump at base of tree	conflict with proposed building	remove	conflict with construction and fair tree condition, consent required from the City of London
63	<i>Thuja occidentalis</i>	White Cedar	Subject Site	31, 30, 24, 22, 10	3.5	5	good	good	Multistem 5, primary union just above grade	conflict with proposed building	remove	conflict with construction
64	<i>Acer saccharum</i>	Sugar Maple	Subject Site	61	6	5	fair	fair	Full form, codominant leaders, minor deadwood	conflict with proposed building	remove	conflict with construction
65	<i>Thuja occidentalis</i>	White Cedar	Subject Site	19, 19	2.5	5	good	good	Multistem 2, suppressed, sparse crown	conflict with proposed building	remove	conflict with construction
66	<i>Acer saccharum</i>	Sugar Maple	Subject Site	64	6	5	fair	fair	Multiple significant trunk cavities	conflict with proposed building	remove	conflict with construction

5.0 POTENTIAL CONSTRUCTION IMPACTS ON TREES

Some trees have been recommended for removal due to direct conflict with the proposed development. Some trees that have been recommended for preservation may be in proximity to the proposed construction. Trees to be preserved may be affected by the construction process, or by the construction itself. It is imperative that the design team and the construction crew understand the potential for, and the causes of tree damage. Trees recommended for preservation may experience some or all of the following potential construction impacts. Strategies and methods to avoid these impacts are outlined in the Construction Impact Mitigation Recommendations section of this report.

5.1 SOIL COMPACTION

Soil compaction is caused by heavy or repeated compression or vibration of the soil around the tree. Soil compaction reduces the amount and size of macro and micro pore space that is vital for subsurface movement of air and water. The harmful effects of soil compaction include, but are not limited to: slower water infiltration, poor aeration, reduced root growth and an overall increased susceptibility to biotic and abiotic stressors.

5.2 ROOT LOSS

Root loss occurs when roots are severed. The majority of roots are typically located within the top 60cm of soil and can extend outward up to three times the extent of the tree drip line. Excavation of any kind within the critical root zone* can sever roots. Two categories of roots need to be considered when evaluating impacts of root loss - small, fibrous absorbing roots, and large structural roots. Significant loss of either or both of these functions can cause stress and/or affect the structural stability of the tree. Note, however, that it is commonly accepted that healthy trees can typically tolerate and recover from the removal of approximately 33% (up to a maximum of 50%) of their root mass. Thorough consideration regarding extent of acceptable root removal is dependent on individual species characteristics, root loss distribution, and site specific conditions (*ref. Trees and Development: A Technical Guide to Preservation of Trees During Land Development by Nelda Matheny and James R. Clark, 1998. Pg 72*).

* Refer to 'Critical Root Zones' in this report for definition.

5.3 GRADE CHANGES

Lowering of the grade around trees has immediate and long term effects on trees. Lowering of grade requires immediate root loss from cutting the roots which results in water stress from the root removal and potential reduced structural stability.

Raising the grade around a tree can be equally damaging. The addition of fill over the root zone of a tree alters the roots' ability for normal water and gas exchange that is necessary for healthy root growth and stability. Fill essentially suffocates the roots and can lead to the slow and eventual decline of the tree.

5.4 MECHANICAL DAMAGE

Mechanical damage is caused by physical contact with a tree that damages the tree to any degree. During land development and construction activities, there is an increased risk of both minor and fatal mechanical damage to trees from construction equipment. Minor damage can create entry points for insects and pathogens, and fatal damage can cause irreparable structural damage.

5.5 CHANGES TO EXPOSURE - SUN AND WIND

Trees can be negatively affected by increased exposure to sun or wind when neighbouring trees are removed. This can be of particular concern when 'interior trees' (trees that have developed surrounded by other trees) are suddenly exposed to forest edge conditions. These trees may experience higher intensity of direct sunlight resulting in leaf scald, and instability due to increased wind and snow loads.

Trees can be negatively affected by decreased exposure to sunlight. Proposed development that includes tall buildings located to the south and west of mature existing trees can greatly reduce the amount of daily direct sunlight. While this change in environment may not cause the immediate or eventual death of a tree, it can

certainly slow development and alter growing habits and patterns, and must therefore be a consideration when evaluating trees for potential preservation.

5.6 SOIL CONTAMINATION

Soil health around a tree can be compromised by contamination from spills or leaks of fuels, solvents, or other construction related fluids.

5.7 WATER AVAILABILITY

Grading and servicing requirements for development can affect water availability for trees. Trees may experience a loss of available water due to a lowered water table or the capture or redirection of subsurface and/or overland flow. Conversely, trees may experience an increase of available water due to changes in site grading and storm water retention efforts.

The successful survival of the trees to be preserved is largely dependent on adhering to the construction impact mitigation recommendations that follow.

6.0 CONSTRUCTION IMPACT MITIGATION RECOMMENDATIONS

The following general recommendations are provided to guide the removal process, mitigate construction impacts, and ensure compliance with provincial, federal, and municipal regulatory requirements. Some of the recommendations listed below are noted to be undertaken by an ISA certified arborist.

6.1 PRE-CONSTRUCTION RECOMMENDATIONS

- a) Prior to any construction activity, tree preservation fencing is to be installed as per the attached tree preservation drawings and detail.
- b) Trees approved for removal are to be clearly indicated in the field (marked with spray paint or other agreed upon method) by the project arborist or landscape architect prior to any tree removal operations. All removals to be undertaken by an ISA certified arborist.
- c) In accordance with the Migratory Birds Convention Act, 1994, all removals must take place between September 1st and March 31st to avoid disturbing nesting migratory birds. If tree removal occurs between April 1st and August 31st, a biologist is required to complete a search for nests. Once cleared, the contractor has 48 hours to remove. If removal does not occur within 48 hours, another search will be required.
- d) Care should be taken during the felling operation to avoid damaging the branches, stems, trunks, and roots of nearby trees to be preserved. Where possible, all trees are to be felled towards the construction zone to minimize impacts on adjacent vegetation. All removals to be undertaken by an ISA certified arborist.
- e) It is recommended that the existing ground-layer vegetation at the base of trees to be preserved remain intact within the critical root zone so as not to disturb the soil around the base of the existing trees.
- f) Final site grading plans should ensure that the existing soil moisture conditions are maintained.

6.2 RECOMMENDATIONS RELATED TO THE CONSTRUCTION PROCESS

- a) Tree preservation fencing is to be maintained in good condition and effective for the duration of construction until all construction activity is complete or as per the project arborist or landscape architect.
- b) Tree preservation fencing is to remain intact as per the tree preservation drawings, and can only be temporarily removed with the express written consent from the project arborist or landscape architect. Should tree preservation fencing be temporarily relocated or moved, it is to be reinstated as per the tree preservation plans as soon as possible.
- c) No construction, excavation, adding of fill, stockpiling of construction material, or heavy equipment is permitted within the critical root zone/within the tree preservation fencing.
- d) When excavation near a tree is required, and it is anticipated that roots will be severed and exposed, duration of exposure is to be minimized to prevent root desiccation.
- e) During the excavation process, roots 25mm or larger that are severed and exposed should be hand pruned to leave a clean-cut surface. To be undertaken by an ISA certified arborist. Exposed severed roots that cannot be covered in soil on the same day as the cuts are made are to be kept moist. Exposed roots are to be kept moist by covering them with water soaked burlap or any other means available to prevent them from drying out.
- f) Avoid idling heavy equipment under or within close proximity to trees to be preserved to prevent canopy damage from exposure to the heat of the exhaust.
- g) Broken branches on trees within the subject site to be preserved should be cleanly cut as soon as possible after the damage has occurred. To be undertaken by an ISA certified arborist.

6.3 POST-CONSTRUCTION RECOMMENDATIONS

- a) Avoid discharging rain water leaders adjacent to retained trees, as this may result in an overly moist environment which can cause root rot.
- b) After all work is completed, tree preservation fences and any other impact mitigation paraphernalia must be removed.
- c) A final review must be undertaken by the project arborist or landscape architect to ensure that all mitigation measures as described above have been met.

7.0 DISCLAIMER

The assessment of the trees presented within 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, evidence of insect presence, discoloured foliage, the general condition of the trees and the surrounding site, as well as the proximity of property and people. None of the trees examined were dissected, cored, probed, or climbed, and detailed root crown examinations involving excavation were not undertaken.

Notwithstanding the recommendations and conclusions made in this report, it must be realized that trees are living organisms and their health and vigour is constantly changing. They are not immune to changes in site conditions or seasonal variations in the weather.

While reasonable efforts have been made to ensure the trees recommended for retention are healthy, no guarantees are offered or implied, that these trees or any part of them will remain standing.

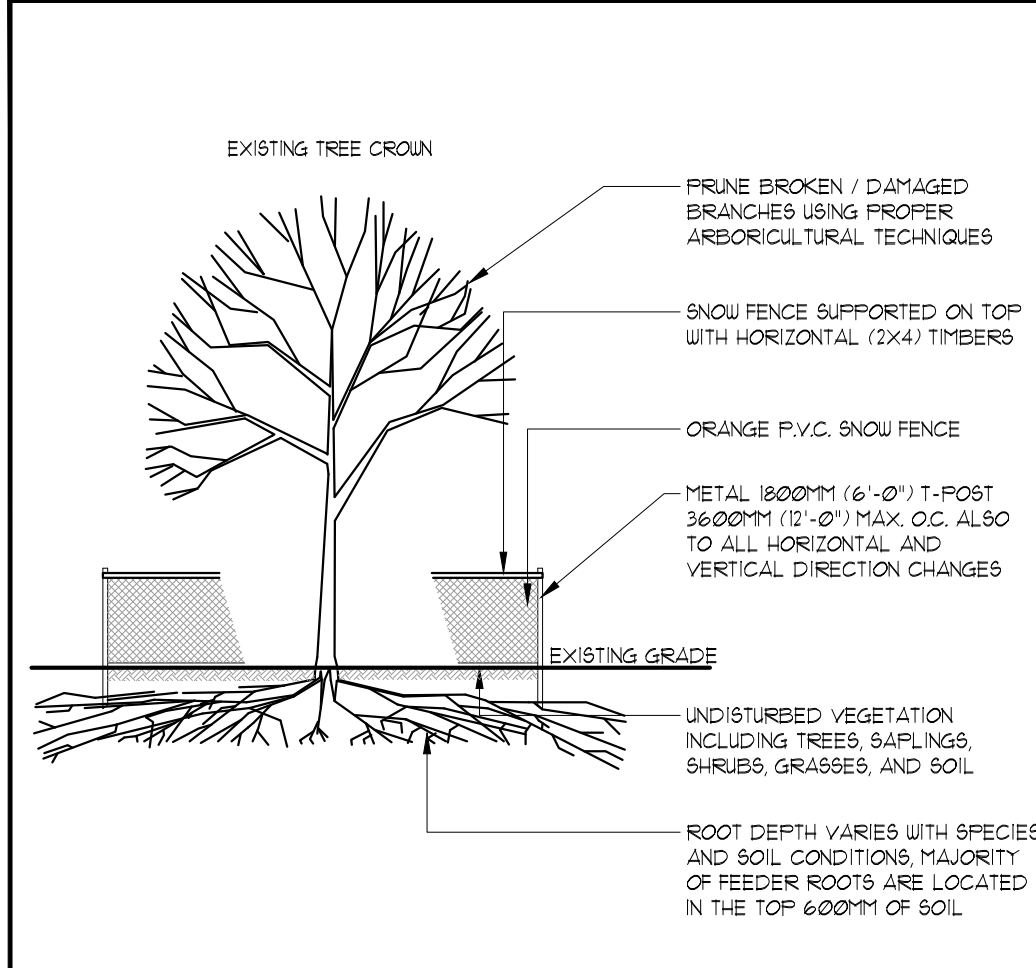
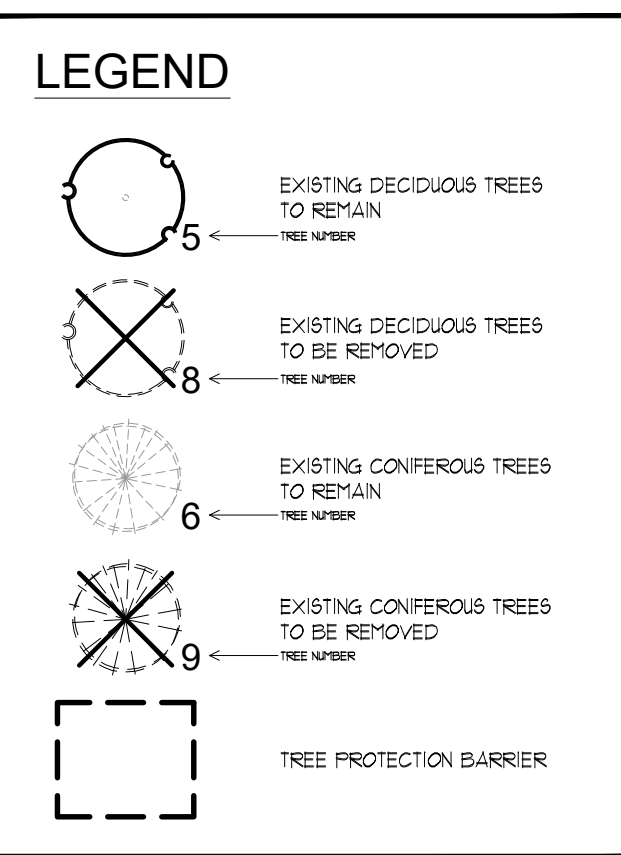
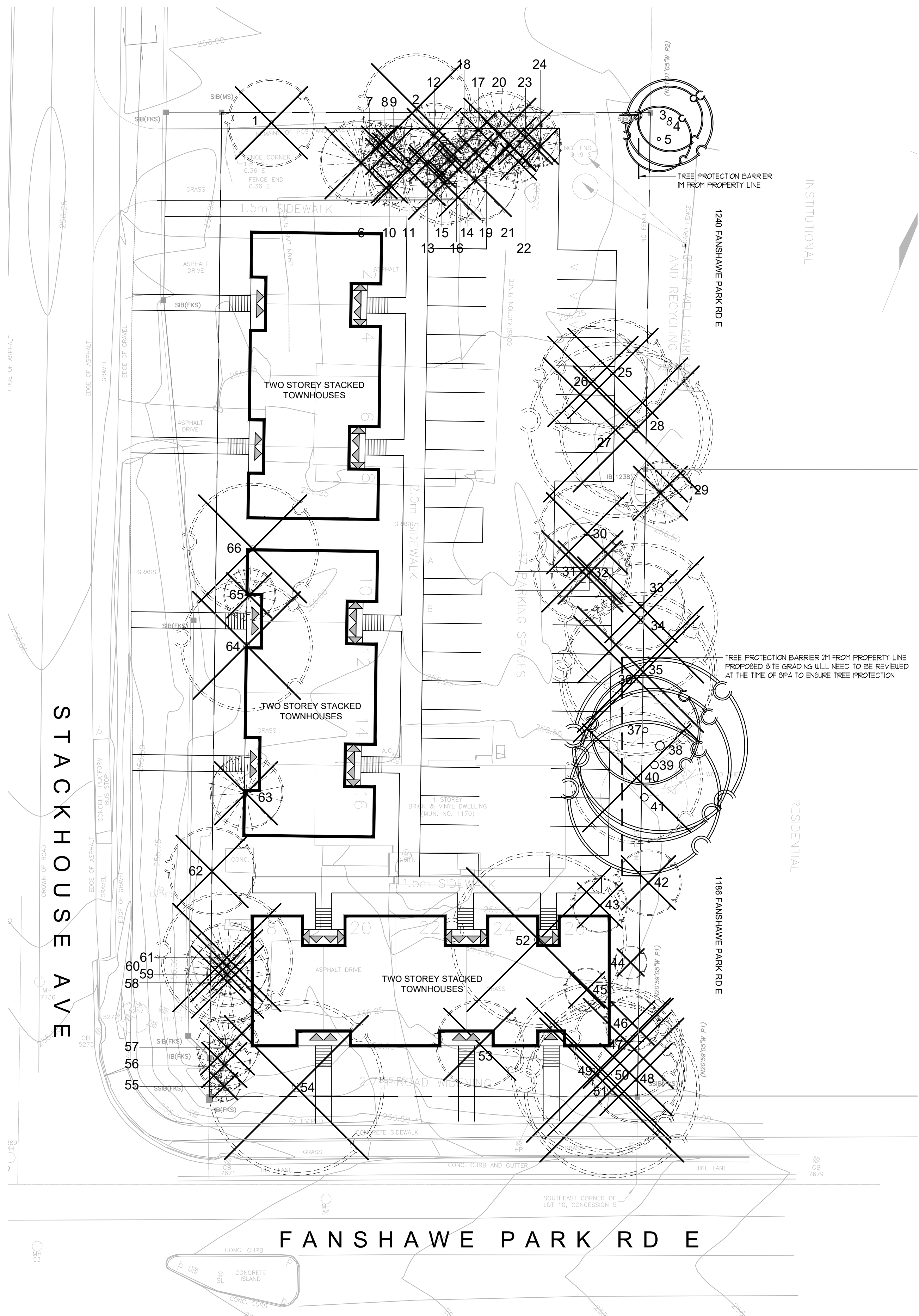
Note that this arborist report has been prepared using the latest drawings and information provided by the client. Any subsequent design or site plan changes affecting trees may require revisions to this report. Any new information or drawings are to be provided to RKLA prior to report submission to planning authorities.

8.0 CONTACT INFORMATION

Office:
Ron Koudys Landscape Architects Inc.
368 Oxford Street East
London, Ontario
N6A 1V7
Ph: 519-667-3322
Fax: 519-645-2474

Staff:
Field work and report author:
Kathleen Garrett, ISA Certified Arborist ON-3009A - Katie@rkla.ca

9.0 APPENDIX A - TREE PRESERVATION DRAWINGS



NOTES:

- EXISTING TREES ARE TO BE PROTECTED FROM CONSTRUCTION WITH THE INSTALLATION OF A 1000MM (4'-0") HIGH SNOW FENCE, HELD IN PLACE WITH 1800MM (6'-0") T-BAR. THE BARRIER IS TO BE INSTALLED PRIOR TO ANY CONSTRUCTION AND MUST REMAIN IN PLACE UNTIL ALL CONSTRUCTION IS COMPLETED.
- ALL SUPPORTS AND BRACING SHOULD BE INSIDE THE TREE PROTECTION ZONE. ALL SUCH SUPPORTS SHOULD MINIMIZE DAMAGING ROOTS IN THE TREE PROTECTION ZONE.
- NO CONSTRUCTION ACTIVITY, GRADE CHANGES, SURFACE TREATMENT, OR EXCAVATION OF ANY KIND IS PERMITTED WITHIN THE TREE PROTECTION ZONE.
- NO MOVEMENT OF EQUIPMENT, STORAGE OF BUILDING SUPPLIES, CLEANING OR EQUIPMENT, OR DUMPING OF SOLVENTS, GASOLINE, ETC. MAY OCCUR WITHIN THIS FENCE LINE.
- WHERE HIGH QUALITY SPECIMENS OCCUR ADJACENT TO AREAS SUBJECTED TO INTENSIVE CONSTRUCTION ACTIVITY, WOODEN CRIBBING SHOULD BE INSTALLED TO PROTECT TRUNKS FROM DAMAGE IN THE EVENT THAT HEAVY EQUIPMENT BREAKS DOWN THE SNOW FENCING. FENCE TO BE INSPECTED BY ENVIRONMENTAL CONSULTANT ON A REGULAR BASIS AND BE MAINTAINED BY THE SUBDIVIDER / BUILDER.

TEMP. TREE PROTECTION BARRIER - N.T.S.

6.0 CONSTRUCTION IMPACT MITIGATION RECOMMENDATIONS

THE FOLLOWING GENERAL RECOMMENDATIONS ARE PROVIDED TO GUIDE THE REMOVAL PROCESS, MITIGATE CONSTRUCTION IMPACTS, AND ENSURE COMPLIANCE WITH PROVINCIAL, FEDERAL, AND MUNICIPAL REGULATORY REQUIREMENTS. SOME OF THE RECOMMENDATIONS LISTED BELOW ARE NOTED TO BE UNDERTAKEN BY AN ISA CERTIFIED ARBORIST.

6.1 PRE-CONSTRUCTION RECOMMENDATIONS

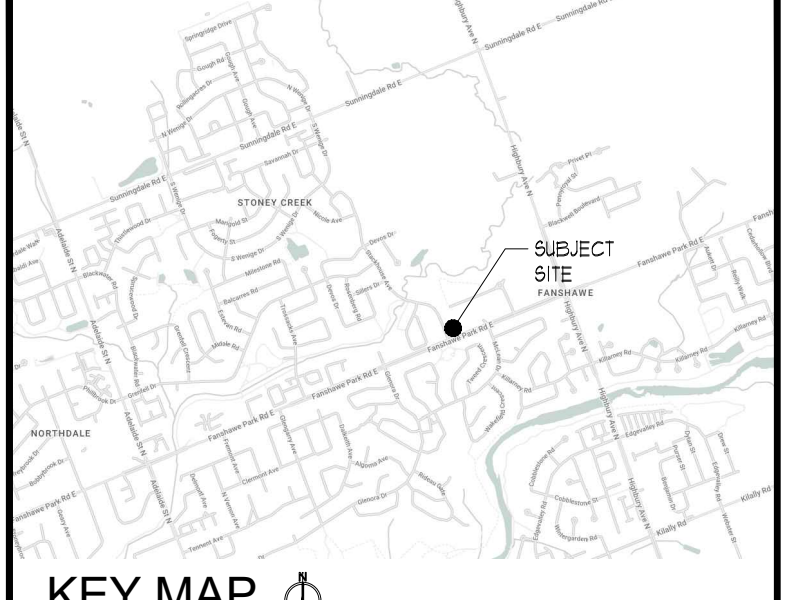
- a) PRIOR TO ANY CONSTRUCTION ACTIVITY, TREE PRESERVATION FENCING IS TO BE INSTALLED AS PER THE ATTACHED TREE PRESERVATION DRAWINGS AND DETAIL.
- b) TREES APPROVED FOR REMOVAL ARE TO BE CLEARLY INDICATED IN THE FIELD (MARKED WITH SPRAY PAINT OR OTHER AGREED UPON METHOD) BY THE PROJECT ARBORIST OR LANDSCAPE ARCHITECT PRIOR TO ANY TREE REMOVAL OPERATIONS. ALL REMOVALS TO BE UNDERTAKEN BY AN ISA CERTIFIED ARBORIST.
- c) IN ACCORDANCE WITH THE MIGRATORY BIRDS CONVENTION ACT, 1994, ALL REMOVALS MUST TAKE PLACE BETWEEN SEPTEMBER 1ST AND MARCH 31ST TO AVOID DISTURBING NESTING MIGRATORY BIRDS. IF TREE REMOVAL OCCURS BETWEEN APRIL 1ST AND AUGUST 31ST, A BIOLOGIST IS REQUIRED TO COMPLETE A SEARCH FOR NESTS. ONCE CLEARED, THE CONTRACTOR HAS 48 HOURS TO REMOVE. IF REMOVAL DOES NOT OCCUR WITHIN 48 HOURS, ANOTHER SEARCH WILL BE REQUIRED.
- d) CARE SHOULD BE TAKEN DURING THE FELLING OPERATION TO AVOID DAMAGING THE BRANCHES, STEMS, TRUNKS, AND ROOTS OF NEARBY TREES TO BE PRESERVED. WHERE POSSIBLE, ALL TREES ARE TO BE FELLED TOWARDS THE CONSTRUCTION ZONE TO MINIMIZE IMPACTS ON ADJACENT VEGETATION. ALL REMOVALS TO BE UNDERTAKEN BY AN ISA CERTIFIED ARBORIST.
- e) IT IS RECOMMENDED THAT THE EXISTING GROUND-LAYER VEGETATION AT THE BASE OF TREES TO BE PRESERVED REMAIN INTACT WITHIN THE CRITICAL ROOT ZONE SO AS NOT TO DISTURB THE SOIL AROUND THE BASE OF THE EXISTING TREES.
- f) FINAL SITE GRADING PLANS SHOULD ENSURE THAT THE EXISTING SOIL MOISTURE CONDITIONS ARE MAINTAINED.

6.2 RECOMMENDATIONS RELATED TO THE CONSTRUCTION PROCESS

- a) TREE PRESERVATION FENCING IS TO BE MAINTAINED IN GOOD CONDITION AND EFFECTIVE FOR THE DURATION OF CONSTRUCTION UNTIL ALL CONSTRUCTION ACTIVITY IS COMPLETE OR AS PER THE PROJECT ARBORIST OR LANDSCAPE ARCHITECT.
- b) TREE PRESERVATION FENCING IS TO REMAIN INTACT AS PER THE TREE PRESERVATION DRAWINGS, AND CAN ONLY BE TEMPORARILY REMOVED WITH THE EXPRESS WRITTEN CONSENT FROM THE PROJECT ARBORIST OR LANDSCAPE ARCHITECT. SHOULD TREE PRESERVATION FENCING BE TEMPORARILY RELOCATED OR MOVED, IT IS TO BE REINSTATED AS PER THE TREE PRESERVATION PLANS AS SOON AS POSSIBLE.
- c) NO CONSTRUCTION, EXCAVATION, ADDING OF FILL, STOCKPILING OF CONSTRUCTION MATERIAL, OR HEAVY EQUIPMENT IS PERMITTED WITHIN THE CRITICAL ROOT ZONE/WITHIN THE TREE PRESERVATION FENCING.
- d) WHEN EXCAVATION NEAR A TREE IS REQUIRED, AND IT IS ANTICIPATED THAT ROOTS WILL BE SEVERED AND EXPOSED, DURATION OF EXPOSURE IS TO BE MINIMIZED TO PREVENT ROOT DESICCATION.
- e) DURING THE EXCAVATION PROCESS, ROOTS 25MM OR LARGER THAT ARE SEVERED AND EXPOSED SHOULD BE HAND PRUNED TO LEAVE A CLEAN-CUT SURFACE. TO BE UNDERTAKEN BY AN ISA CERTIFIED ARBORIST. EXPOSED SEVERED ROOTS THAT CANNOT BE COVERED IN SOIL ON THE SAME DAY AS THE CUTS ARE MADE ARE TO BE KEPT MOIST. EXPOSED ROOTS ARE TO BE KEPT MOIST BY COVERING THEM WITH WATER SOAKED BURLAP OR ANY OTHER MEANS AVAILABLE TO PREVENT THEM FROM DRYING OUT.
- f) AVOID IDLING HEAVY EQUIPMENT UNDER OR WITHIN CLOSE PROXIMITY TO TREES TO BE PRESERVED TO PREVENT CANOPY DAMAGE FROM EXPOSURE TO THE HEAT OF THE EXHAUST.
- g) BROKEN BRANCHES ON TREES WITHIN THE SUBJECT SITE TO BE PRESERVED SHOULD BE CLEANLY CUT AS SOON AS POSSIBLE AFTER THE DAMAGE HAS OCCURRED. TO BE UNDERTAKEN BY AN ISA CERTIFIED ARBORIST.

6.3 POST-CONSTRUCTION RECOMMENDATIONS

- a) AVOID DISCHARGING RAIN WATER LEADERS ADJACENT TO RETAINED TREES, AS THIS MAY RESULT IN AN OVERLY MOIST ENVIRONMENT WHICH CAN CAUSE ROOT ROT.
- b) AFTER ALL WORK IS COMPLETED, TREE PRESERVATION FENCES AND ANY OTHER IMPACT MITIGATION PARAPHERNALIA MUST BE REMOVED.
- c) A FINAL REVIEW MUST BE UNDERTAKEN BY THE PROJECT ARBORIST OR LANDSCAPE ARCHITECT TO ENSURE THAT ALL MITIGATION MEASURES AS DESCRIBED ABOVE HAVE BEEN MET.



KEY MAP

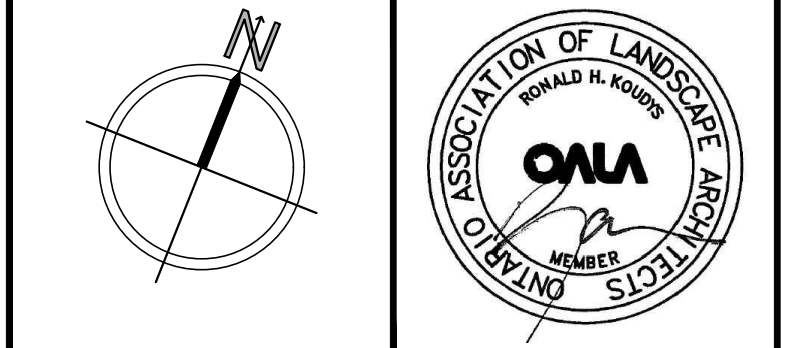


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THIS DRAWING SHALL NOT BE USED FOR CONSTRUCTION OR TENDER PURPOSES UNLESS SIGNED AND DATED BY RONALD H. KOUDYS, O.A.L.A. C.S.L.A. LANDSCAPE ARCHITECT, LONDON, ONTARIO (519) 667-3322.

Ronald H. Koudys, O.A.L.A. C.S.L.A. DATE

DATE	DESCRIPTION	No.
2023-12-15	ISSUED FOR ZBA	2.
2023-12-14	ISSUED FOR REVIEW	1.

PLOTTING INFORMATION
PLOTTED DATE = 2023-12-15
PLOTTED SCALE = 1:1



PROJECT TITLE:
1170 Fanshawe Park Road
London, Ontario

DRAWING TITLE:
TREE PRESERVATION PLAN

DATE: DECEMBER 2023	SCALE: AS NOTED	DRAWING No.:
DRAWN: RKL/Inc.	CHECKED BY: RKL	T-1
PROJECT No.:		22-196Ld