P.O. BOX 13593, STN. KANATA, OTTAWA, ON K2K 1X6
TELEPHONE: (613) 838-5717
WEBSITE: WWW.IFSASSOCIATES.CA
URBAN FORESTRY & FOREST MANAGEMENT CONSULTING

November 14, 2022

Gino J. Aiello
GJA Inc.
110 Didsbury Road Unit #9
Ottawa, ON
K2T 0C2

RE: TREE CONSERVATION REPORT FOR 1037 CARP ROAD, OTTAWA

This Tree Conservation Report (TCR) was prepared by IFS Associates Inc. (IFS) in support of the development of 1037 Carp Road. It builds upon a preliminary TCR prepared in September 2021. The need for this report is related to trees protected under the City of Ottawa's Tree Protection By-law (By-law No. 2020-340). The By-law reflects Section 4.8.2. of the City of Ottawa's Official Plan which calls for the retention of the City's urban forestry canopy and, in particular, large healthy trees.

Under the By-law a TCR is required for all plans of subdivision, site plan control applications, common elements condominium applications, and vacant land condominium applications where there is a tree of 10 cm in diameter at breast height (DBH) or greater on a site and/or if there is a tree on an adjacent site that has a critical root zone (CRZ) extending onto a development site. Trees of any size on adjacent City lands must also be documented in a TCR. A "tree" is defined in the By-law as any species of woody perennial plant, including its root system, which has reached or can reach a minimum height of at least 450 cm at physiological maturity. The CRZ is calculated as DBH x 10 cm.

The inventory in this report details the assessment of all individual trees on the subject property and adjacent private properties and City of Ottawa land. Field work for this report was completed in September 2020 and November 2022. Between these inspections many trees suffered wind damage – wind throw of full trees and stem breakage. To some extent this was predicted in the September 2021 report when it was noted the remaining trees would be "prone to breakage now that surrounding trees have been removed". Going forward, most remaining trees should be considered equally prone to damage – especially considering the root loss which accompanies any development.

The development proposed for this property includes the construction of a new commercial building with adjacent surface parking and a septic field to the south. Because of the extensive excavation needed for these features, as well as a depressed storage area to the rear (northeast) of the property, swales to the southeast and southwest, and retaining wall to the northwest, only one tree on the property will be retained – a mature bur oak. Nearby neighbouring trees and trees on city land at the front of the property will be heavily disturbed for similar reasons. For this reason, in case its necessary permission for their removal should be sought from the affected landowners.

TREE SPECIES, CONDITION, SIZE AND STATUS

Table 1 below details the species, ownership, size (diameter), condition and status of the individual and groups of trees on the subject and adjacent properties. Each of these trees is referenced by the numbers plotted on the tree conservation plan on page 7 of this report.

Table 1. Species, ownership, diameter, condition and status of trees at 1037 Carp Road

Tree No.	Tree species	Owner-ship[1]	DBH[2] (cm)	Tree Condition; Age Class; Condition Notes; Species Origin & **Preservation Status** (to be removed or preserved and protected)
1	White cedar *(Thuja occidentalis)*	Neigh-bour	+/-35	Fair; mature; upright form; poor crown density, fair growth increment and needle colour; crown asymmetric due to influence of tree #2; native species; **to be preserved and protected**
2	White cedar *(Thuja occidentalis)*	Neigh-bour	+/-25	Fair; mature; upright form; poor crown density, fair growth increment and needle colour; crown asymmetric due to influence of tree #1; native species; **to be preserved and protected**
3	Bitternut hickory *(Carya cordiformis)*	Shared w/neigh -bour	25 avg.	Fair; mature; four stemmed at grade; crown asymmetric towards south; native species; **to be preserved and protected**
4	Sugar maple *(Acer saccharum)*	Shared with city	13	Good; immature; dominant central stem; native species; **to be removed**
5	White cedar *(Thuja occidentalis)*	Private	31	Very poor; mature; main stem divergent towards south; 90 percent dead (very poor density, increment and colour); native species; **to be removed**
6	White cedar *(Thuja occidentalis)*	Private	31	Fair; mature; main stem divergent towards south; fair density, increment and colour; heavy vine *(Vitis* spp.*)* growth in crown; native species; **to be removed**
7	Sugar maple *(Acer saccharum)*	City	17	Good; maturing; dominant central stem; native species; **to be removed**
8	Crab apple *(Malus* spp.*)*	City	34	Poor; mature; double stemmed at 0.5m; both stems heavily divergent towards southwest; cultivar; **to be removed**
9	White elm *(Ulmus americana)*	Private	18	Fair; mature; heavily divergent towards south; no outward sign of Dutch elm disease *(Ophiostoma novo-ulmi)*; native species; **to be removed**
10	White cedar *(Thuja occidentalis)*	Private	31	Good; mature; upright; fair density, increment and colour; crown asymmetric due to influence of tree #11; native species; **to be removed**

Table 1. Con't

Tree No.	Tree species	Owner-ship[1]	DBH[2] (cm)	Tree Condition; Age Class; Condition Notes; Species Origin & **Preservation Status** (to be removed or preserved and protected)
11	White cedar (Thuja occidentalis)	Private	26	Good; mature; upright; fair density, increment and colour; crown asymmetric due to influence of tree #10; native species; **to be removed**
12	Sugar maple *(Acer saccharum)*	Private	17	Good; maturing; upright; native species; **to be removed**
13	Bur oak *(Quercus macrocarpa)*	Private	28	Good; mature; single dominant upright stem with competing lateral on east; native species; **to be removed**
14	Sugar maple *(Acer saccharum)*	Private	33	Fair; mature; central stem with major suppressed lateral at 5m on east; native species; **to be removed**
15	Sugar maple *(Acer saccharum)*	Private	19	Fair; mature; upright form; suppressed lateral at 5m on south; native species; **to be removed**
16	Sugar maple *(Acer saccharum)*	Private	23	Poor; mature; heavily suppressed by tree #17; divergent and asymmetric towards south; native species; **to be removed**
17	Sugar maple *(Acer saccharum)*	Private	29	Fair; mature; upper crown divergent and asymmetric towards south; native species; **to be removed**
18	Sugar maple *(Acer saccharum)*	Private	32	Fair; mature; co-dominant stems at 3m; lateral at 1m on southeast broken at 8m; native species; **to be removed**
19	Sugar maple *(Acer saccharum)*	Private	43	Fair; mature; divergent and asymmetric towards southeast; native species; **to be removed**
20	Sugar maple *(Acer saccharum)*	Private	33	Poor; mature; secondary stem removed at 1m; major stem wound 4-5m on north; native species; **to be removed**
21	Bur oak *(Quercus macrocarpa)*	Private	56	Very good; mature; single dominant upright stem with living crown held in upper 2/3 height (above canopy); native species; **to be preserved and protected**
22	Sugar maple *(Acer saccharum)*	Private	30	Good; mature; upright form; native species; **to be removed**
23	Sugar maple *(Acer saccharum)*	Private	25	Good; mature; upright form; native species; **to be removed**

Table 1. Con't

Tree No.	Tree species	Owner-ship[1]	DBH[2] (cm)	Tree Condition; Age Class; Condition Notes; Species Origin & **Preservation Status** (to be removed or preserved and protected)
24	Sugar maple *(Acer saccharum)*	Private	20	Good; mature; single dominant stem and leader; living crown held high; prone to stem breakage and sunscald without surrounding trees; native species; **to be removed**
25	Sugar maple *(Acer saccharum)*	Private	38	Good; mature; central stem with one competing and two suppressed laterals at 10m; crown held high and asymmetric towards east; good root collar; native species; **to be removed**
26	White elm *(Ulmus americana)*	Private	29	Fair; mature; single stem divergent towards north; tri-dominant leaders at 10m; no outward sign of Dutch elm disease *(Ophiostoma novo-ulmi)*; native species; **to be removed**
27	Sugar maple *(Acer saccharum)*	Neigh-bour	42	Good; mature; asymmetric towards north; native species; **to be preserved and protected**
28	Bur oak *(Quercus macrocarpa)*	Neigh-bour	45	Good; mature; upright form; parallel co-dominant stems at 12m; native species; **to be preserved and protected**
29	White elm *(Ulmus americana)*	Neigh-bour	36	Good; maturing; no outward sign of Dutch elm disease *(Ophiostoma novo-ulmi)*; native species; **to be preserved and protected**
30	Sugar maple *(Acer saccharum)*	Neigh-bour	18	Good; mature; asymmetric towards east; native species; **to be preserved and protected**
31	White cedar *(Thuja occidentalis)*	Private	43	Poor; mature; one stem of three still standing; in advanced decline; native species; **to be removed**
32	White cedar *(Thuja occidentalis)*	City	18 & 18	Poor; mature; double stemmed from grade; divergent towards east; dominant stems broken at 2m; fair density, increment and colour; native species; **to be removed**
33	White cedar *(Thuja occidentalis)*	City	15 avg.	Poor; mature; four stemmed; fair density, increment and colour; native species; **to be removed**
34	White cedar *(Thuja occidentalis)*	Private	13 & 20	Fair; mature; double stemmed from grade; fair density, increment and colour; native species; **to be removed**

Table 1. Con't

Tree No.	Tree species	Owner-ship[1]	DBH[2] (cm)	Tree Condition; Age Class; Condition Notes; Species Origin & **Preservation Status** (to be removed or preserved and protected)
35	White cedar *(Thuja occidentalis)*	City	15 & 19	Fair; mature; double stemmed from grade; divergent towards southeast; fair density, increment and colour; native species; **to be removed**
36	White cedar *(Thuja occidentalis)*	City	23 & 25	Good; mature; double stemmed from grade; generally upright; fair density, increment and colour; native species; **to be removed**
37	White cedar *(Thuja occidentalis)*	Shared with city	18	Fair; mature; single stemmed; fair density, increment and colour; native species; **to be removed**
38	Sugar maple *(Acer saccharum)*	Neigh-bour	21	Fair; maturing; divergent form towards north; native species; **to be preserved and protected**
39	White elm *(Ulmus americana)*	Neigh-bour	15	Good; maturing; generally upright form; no outward sign of Dutch elm disease *(Ophiostoma novo-ulmi)*; native species; **to be preserved and protected**
40	White elm *(Ulmus americana)*	Neigh-bour	17	Fair; maturing; single stem divergent towards northeast; no outward sign of Dutch elm disease *(Ophiostoma novo-ulmi)*; native species; **to be preserved and protected**
41	White cedar *(Thuja occidentalis)*	City	27	Poor; mature; topped below Hydro lines; fair increment and colour; native species; **to be removed**
42	White cedar *(Thuja occidentalis)*	Private	10 avg.	Fair; mature; seven stemmed from grade – layered; fair increment and colour; native species; **to be removed**

[1]As determine from topographic survey prepared by Fairhall, Moffat and Woodland Ltd; [2] Diameter at breast height, or 1.3m from grade (unless otherwise indicated)

Tree grouping #A: Overstory dominated by maturing bur oak (14cm), Manitoba maple *(Acer negundo)* (10, 12 & 12cm), white elm (11cm), basswood *(Tilia americana)* (12, 13, 14 & 14cm) and sugar maple (10, 10, 15cm). Many trees of the same species are in the understory, along with staghorn sumac *(Rhus typhina)* on the edges of the grouping. The overstory trees are being negatively impacted by heavy vine growth *(Vitis* spp.). This grouping is shared with the neighbouring private property to the northwest. Trees on the subject property will be removed as a result of the proposed retaining wall.

Tree grouping #B: Overstory of three white cedars (18, 19 and 20cm) and one sugar maple (14). Much wind throw damage to surrounding trees. Possibly shared with private property to the northeast. Trees on the subject property will be removed as a result of the grade change necessary for a proposed depressed storage area.

Tree grouping #C: A line of remnant trees dominated by 22 sugar maples with four standing dead ash trees *(Fraxinus* spp.*).* The maples average less than 20cm in diameter and the ash are all dead due to emerald ash borer *(Agrilus planipennis)*. Several of these trees appear to be shared with the private properties to the northeast. The dead ash trees are posing a threat to these properties. Trees on the subject property will be removed as a result of the grade change necessary for a proposed depressed storage area.

Tree grouping #D: A grouping of remnant trees dominated by 24 sugar maples which average less than 10cm in diameter. Several of these trees appear to be shared with the private properties to the northeast. Trees on the subject property will be removed as a result of the grade change necessary for a proposed depressed storage area.

Pictures 1 through 6 on pages 10 to 14 of this report show selected trees and groupings on and adjacent to the subject property. All pictures were taken in November 2022.

FEDERAL AND PROVINCIAL REGULATIONS

Federal and provincial regulations can be applicable to trees on private property. In particular, the following two regulations have been considered for this property:

1) Endangered Species Act (2007): No living butternuts *(Juglans cinerea)* were identified on the subject or adjacent properties. However, a cut stump from a tree of this species was noted. The diameter of the remaining stump was 44cm and the tree appeared to have been alive when cut. This species of tree is listed as threatened under the Province of Ontario's Endangered Species Act (2007) and so is protected from harm. It is not known whether a butternut health assessment (BHA) was completed prior to the tree being cut.

2) Migratory Bird Convention Act (1994): In the period between April and August of each year nest surveys are required to be performed by a suitably trained person no more than five (5) days before trees or other similar nesting habitat are to be removed.

TREE PRESERVATION MEASURES

As excavation occurs within the CRZs of trees #3, 21, 28 and 29 the following measures will be taken:

1. Hydro excavation along the edge of excavation in proximity to the tree to carefully expose roots. Exposed roots will then be cleanly cut and sealed before being reburied. Excavation can then resume using traditional mechanical means. Sealing the cleanly cut root ends with a beeswax product will help prevent the loss of moisture and facilitate healing.
2. If the excavation is to be left open for any time a covering of at least three layers of moistened burlap is to be draped over the exposed face of excavation closet to the tree. This will help reduce the loss of soil moisture (as soil dries the roots contained within die).


87 Lloydalex Crescent
85 Lloydalex Crescent
83 Lloydalex Crescent
81 Lloydalex Crescent
Proposed Building
1027 Carp Road
1051 Carp Road
CARP ROAD
(REFERENCE BEARING) N49°42'50"W
N47°30'10"E
N47°30'50"E
N47°48'20"W
30.48
59.46
59.40
R5.60
R5.00
0.68
GAS
0 1 2 5 10 25 Metres

TREE PROTECTION MEASURES

Protection measures intended to mitigate damage during construction will be applied for the trees to be retained. The following measures are the minimum required by the City of Ottawa to ensure tree survival during and following construction:

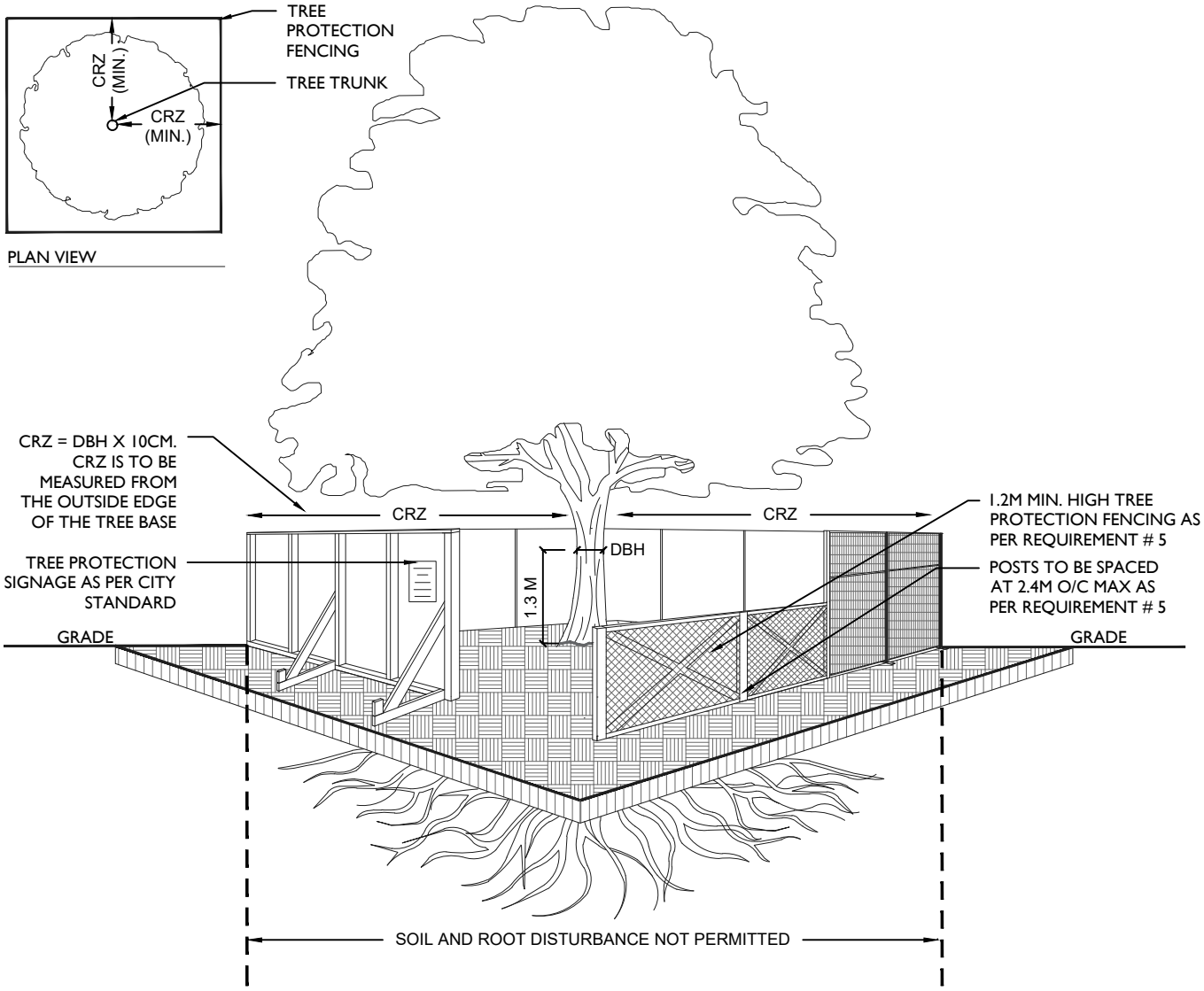
1. As per the City of Ottawa's tree protection barrier specification (included on the following page), erect a fence as close as possible to the CRZ.
2. Do not place any material or equipment within the CRZ.
3. Do not attach any signs, notices or posters to any tree.
4. Do not raise or lower the existing grade within the CRZ without approval.
5. Tunnel or bore instead of trenching within the CRZ of any tree.
6. Do not damage the root system, trunk or branches of any tree.
7. Ensure that exhaust fumes from all equipment are NOT directed towards any tree's canopy.

Please do not hesitate to contact me with any questions concerning this report.

This report is subject to the attached Limitations of Tree Assessments and Liability to which the reader's attention is directed.

Yours,

Andrew K. Boyd, B.Sc.F, R.P.F. (#1828)
Certified Arborist #ON-0496A and TRAQualified
Consulting Urban Forester



TREE PROTECTION REQUIREMENTS:

1. PRIOR TO ANY ACTIVITY IN PROXIMITY TO A PROTECTED TREE THAT COULD RESULT IN DIRECT OR INDIRECT INJURY TO THAT TREE OR ITS ROOTING AREA, TREE PROTECTION FENCING MUST BE INSTALLED AROUND THE CRITICAL ROOT ZONE (CRZ), AND REMAIN IN PLACE UNTIL THE WORK IS COMPLETE.
2. WITHIN THE CRZ THERE MUST BE:
   - NO GRADING CHANGES
   - NO PLACEMENT OR STORAGE OF CONSTRUCTION MATERIALS OR SITE 'FURNITURE' SUCH AS OUTHOUSES
   - NO OPERATION OR STORAGE OF EQUIPMENT
   - NO EXTENSION OF HARD SURFACE OR CHANGE OF LANDSCAPING
   - NO EXCAVATION OTHER THAN APPROVED METHODS

   UNLESS OTHERWISE APPROVED BY THE CITY
3. THE LOCATION OF THE TREE PROTECTION FENCING MUST BE DETERMINED BY A TREE CARE PROFESSIONAL AND DETAILED ON ANY ASSOCIATED PLANS FOR THE SITE, IF PART OF A BUILDING PERMIT APPLICATION. THE PLAN AND CONSTRUCTED FENCING MUST BE APPROVED BY THE CITY PRIOR TO THE COMMENCEMENT OF WORK.
4. PLANS FOR MOVEMENT AND STORAGE OF EQUIPMENT AND MATERIALS ON SITE MUST BE DETERMINED AND DISCUSSED WITH ALL CONTRACTORS TO ACCOUNT FOR THE EXCLUSION OF THE TREE PROTECTION AREAS
5. TREE PROTECTION FENCING MUST BE AT LEAST 1.2M IN HEIGHT, AND CONSTRUCTED OF RIGID OR FRAMED MATERIALS (E.G. MODULOC - STEEL, PLYWOOD HOARDING, OR SNOW FENCE ON A 2"X4" WOOD FRAME WITH POSTS TO BE SPACED AT A MAXIMUM OF 2.4 M APART), SUCH THAT THE FENCE LOCATION CANNOT BE ALTERED. ALL SUPPORTS AND BRACING MUST BE PLACED OUTSIDE OF THE CRZ, AND INSTALLATION MUST MINIMISE DAMAGE TO EXISTING ROOTS. (SEE DETAIL)
6. IF THE TREE PROTECTION FENCING AREA MUST BE REDUCED TO FACILITATE CONSTRUCTION ACCESS, THE CRITICAL ROOT ZONE MUST BE PROTECTED WITH PLYWOOD, WOOD CHIPS, OR STEEL PLATING OR OTHER MITIGATION TECHNIQUES PRESCRIBED BY THE TREE CARE PROFESSIONAL AND APPROVED BY THE CITY.

BY-LAWS

ALL CITY-OWNED TREES ARE PROTECTED UNDER THE MUNICIPAL TREES AND NATURAL AREAS PROTECTION BY-LAW (2006-279). PRIVATELY-OWNED TREES GREATER THAN 50CM DIAMETER ARE PROTECTED UNDER THE URBAN TREE CONSERVATION BY-LAW (2009-200).

Ottawa

TREE PROTECTION BARRIER SPEC.

SCALE:	NTS
DATE:	MARCH 2019
DRAWING NO.:	1 of 1

Picture 1. Trees #5-15 (right to left) at 1037 Carp Road

Picture 2. Trees #36-41 (left to right) at 1037 Carp Road

Picture 3. Trees #27-30 (right to left) at 1037 Carp Road

Picture 4. Trees #18-22 (right to left) at 1037 Carp Road

Picture 5. Tree grouping B at 1037 Carp Road

Picture 6. Tree grouping D at 1037 Carp Road

LIMITATIONS OF TREE ASSESSMENTS & LIABILITY

GENERAL

It is the policy of *IFS Associates Inc.* to attach the following clause regarding limitations. We do this to ensure that our clients are clearly aware of what is technically and professionally realistic in assessing trees for retention.

This report was carried out by *IFS Associates Inc.* at the request of the client. The information, interpretation and analysis expressed in this report are for the sole benefit and exclusive use of the client. Possession of this report or a copy thereof does not imply right of publication or use for any purpose by any other than the client to whom it is addressed. Unless otherwise required by law, neither all or any part of the contents of this report, nor copy thereof, shall be conveyed by anyone, including the client, to the public through public relations, news or other media, without the prior expressly written consent of the author, and especially as to value conclusions, identity of the author, or any reference to any professional society or institute or to any initialed designation conferred upon the author as stated in his qualifications.

This report and any values expressed herein represent the opinion of the author; his fee is in no way contingent upon the reporting of a specified value, a stipulated result, nor upon any finding to be reported. Details obtained from photographs, sketches, *etc.*, are intended as visual aids and are not to scale. They should not be construed as engineering reports or surveys. Although every effort has been made to ensure that this assessment is reasonably accurate, the tree(s) should be reassessed at least annually. The assessment presented in this report is valid at the time of the inspection only. The loss or alteration of any part of this report invalidates the entire report.

LIMITATIONS

The information contained in this report covers only the tree(s) in question and no others. It reflects the condition of the assessed tree(s) at the time of inspection and was limited to a visual examination of the accessible portions only. *IFS Associates Inc.* has prepared this report in a manner consistent with that level of care and skill ordinarily exercised by members of the forestry and arboricultural professions, subject to the time limits and physical constraints applicable to this report. The assessment of the tree(s) presented in this report has been made using accepted arboricultural techniques. These include a visual examination of the above-ground portions of each tree for structural defects, scars, cracks, cavities, external indications of decay such as fungal fruiting bodies, evidence of insect infestations, discoloured foliage, the condition of any visible root structures, the degree and direction of lean (if any), the general condition of the tree(s) and the surrounding site, and the proximity of people and property. Except where specifically noted in the report, the tree(s) examined were not dissected, cored, probed or climbed to gain further evidence of their structural condition. Also, unless otherwise noted, no detailed root collar examinations involving excavation were undertaken.

While reasonable efforts have been made to ensure that the tree(s) proposed for retention are healthy, no warranty or guarantee, expressed or implied, are offered that these trees, or any parts of them, will remain standing. This includes other trees on or off the property not examined as part of this assignment. It is both professionally and practically impossible to predict with absolute certainty the behaviour of any single tree or groups of trees or their component parts in all circumstances, especially when within construction zones. Inevitably, a standing tree will always pose some risk. Most trees have the potential for failure in the event of root loss due to excavation and other construction-related impacts. This risk can only be eliminated through full tree removal.

Notwithstanding the recommendations and conclusions made in this report, it must be realized that trees are living organisms, and their health and vigour constantly change over time. They are not immune to changes in site conditions, or seasonal variations in the weather. It is a condition of this report that *IFS Associates Inc.* be notified of any changes in tree condition and be provided an opportunity to review or revise the recommendations within this report. Recognition of changes to a tree's condition requires expertise and extensive experience. It is recommended that *IFS Associates Inc.* be employed to re-inspect the tree(s) with sufficient frequency to detect if conditions have changed significantly.

ASSUMPTIONS

Statements made to *IFS Associates Inc.* in regards to the condition, history and location of the tree(s) are assumed to be correct. Unless indicated otherwise, all trees under investigation in this report are assumed to be on the client's property. A recent survey prepared by a Licensed Ontario Land Surveyor showing all relevant trees, both on and adjacent to the subject property, will be provided prior to the start of field work. The final version of the grading plan for the project will be provided prior to completion of the report. Any further changes to this plan invalidate the report on which it is based. *IFS Associates Inc.* must be provided the opportunity to revise the report in relation to any significant changes to the grading plan. The procurement of said survey and grading plan, and the costs associated with them both, are the responsibility of the client, not *IFS Associates Inc.*

LIABILITY

Without limiting the foregoing, no liability is assumed by *IFS Associates Inc.* for: 1) any legal description provided with respect to the property; 2) issues of title and/or ownership with respect to the property; 3) the accuracy of the property line locations or boundaries with respect to the property; 4) the accuracy of any other information provided by the client or third parties; 5) any consequential loss, injury or damages suffered by the client or any third parties, including but not limited to replacement costs, loss of use, earnings and business interruption; and, 6) the unauthorized distribution of the report.

INDEMNIFICATION

An applicant for a permit or other approval based on this report shall agree to indemnify and save harmless *IFS Associates Inc.* from any and all claims, demands, causes of action, losses, costs or damages that affected private landowners and/or the City of Ottawa may suffer, incur or be liable for resulting from the issuance of a permit or approval based on this report or from the performance or non-performance of the applicant, whether with or without negligence on the part of the applicant, or the applicant's employees, directors, contractors and agents.

Further, under no circumstances may any claims be initiated or commenced by the applicant against *IFS Associates Inc.* or any of its directors, officers, employees, contractors, agents or assessors, in contract or in tort, more than 12 months after the date of this report.

ONGOING SERVICES

IFS Associates Inc. accepts no responsibility for the implementation of any or all parts of the report, unless specifically requested to supervise the implementation or examine the results of activates recommended herein. In the event that examination or supervision is requested, that request shall be made in writing and the details, including fees, agreed to in advance.