



URBAN FORESTRY & FOREST MANAGEMENT CONSULTING

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October 1, 2021

Jack Mangan
Manager, Acquisitions & Corporate Development
Homestead Land Holdings Limited
80 Johnson Street
Kingston, ON
K7L 1X7

RE: TREE CONSERVATION REPORT FOR 100 VARLEY DRIVE, OTTAWA

Dear Jack,

This report details a pre-construction tree conservation report (TCR) for the above-noted property in Ottawa. The need for this TCR is related to the proposed redevelopment of the subject property to include a 9-storey residential building with surrounding amenity areas, surface parking and one level of below ground parking.

Tree conservation reports are required for all properties subject to site plan control applications on which trees of 10 centimetres in diameter or greater are present. The approval of this TCR by the City of Ottawa and the issuing of a permit by them authorize the removal of approved trees. **Importantly, although this report may be used to support the application for a City tree removal permit, it does not by itself constitute permission to remove trees or begin site clearing activities. No such work should occur before a tree removal permit is issued by the City of Ottawa.**

The inventory in this report details the assessment of all individual trees on and directly adjacent to the subject property. Twenty two trees within the development zone conflict with the proposed construction and so are slated for removal. All of these trees are fully on the subject property. Field work for this report was completed in September 2021.

TREE SPECIES, CONDITION, SIZE AND STATUS

Table 1 on pages 2 through 7 details the species, condition, size (diameter), ownership and status of each individual tree on and adjacent to the subject property. Each of these trees are referenced by the numbers plotted on the tree conservation plan included on page 8 of this report.



Table 1. Species, condition, size (diameter) and status of trees at 100 Varley Drive

Tree No.	Tree species	Condition (VP→E)	DBH ¹ (cm)	Owner -ship	Age class, tree condition notes & preservation status (to be removed or preserved and protected)
1	Red oak (<i>Quercus rubra</i>)	Good	49.1	City	Mature; central dominant stem with co-dominant stems at 5.5m from grade – central with competing lateral; crown asymmetric due to influence of tree #2; native species; to be preserved and protected
2	Red oak	Good	44.3	Private	Mature; central stem for most of height with co-dominant leaders at 7m; lower laterals suppressed, upper competing; crown very asymmetric due to influence of tree #1; native species; to be preserved and protected
3	Black walnut (<i>Juglans nigra</i>)	Good	29.2	Shared (with city)	Mature; central dominant stem with major competing lateral at 2m on west; native species; to be preserved and protected
4	Butternut (<i>Juglans cinerea</i>)	Good	39.8	Private	Mature; four stems arising at 1.4m – central constricted and in decline; few signs of butternut canker (<i>Ophiognomonium clavignenti-juglandacearum</i>) – full crown (little dieback), several sooty and callused cankers; native species – possibly a hybrid tree; to be preserved and protected
5	Red maple (<i>Acer rubrum</i>)	Fair	73.0 (at 0.6m)	Neighbour	Mature; double stemmed at grade – divergent with included bark to 1.5m; south stem dominant due to girdling roots constricting north stem; native species; to be preserved and protected
6	Red maple	Fair	53.7	Neighbour	Mature; co-dominant stems 1.5m with inclusion ridges on both sides of union; both stems bifurcate at 3.5m; suppressed lateral at 1.75m on south; multiple girdling and bindings roots; multiple girdling and bindings roots stunting growth - top dead; native species; to be preserved and protected
7	Red maple	Poor	67.5 (at 0.3m)	Neighbour	Mature; central stem with major suppressed lateral at grade on southeast; lateral very divergent with decay at 2m; native species; to be preserved and protected
8	Red maple	Fair	33.0	Neighbour	Mature; co-dominant stems at 1.75m – central with competing lateral on south; central stem bifurcates at 2.25m; multiple girdling and bindings roots; native species; to be preserved and protected
9	Red maple	Poor	64.0 (at 0.4m)	Neighbour	Mature; tri-stemmed at 0.5m with included bark to 1.5-2m; central stem constricted by laterals - major deadwood, bark loss and insect activity in lower bole; native species; to be preserved and protected



Table 1. Con't

10	Red maple	Fair	28.1 & 30.6	Private	Mature; double stemmed at 0.6m with included bark to 1.2m; in decline due to restricted rooting area; leader on west stem dead, major lateral on east dead at 3.5m; scattered smaller dead throughout crown; native species; to be preserved and protected
11	Red maple	Good	26.8	Private	Mature; central dominant stem with suppressed lateral on south at 3m; multiple leaders – rounded crown apex; native species; to be preserved and protected
12	Red maple	Good	34.3 & 37.7	Private	Mature; double stemmed at 0.7m with included bark to 1.4m; stems moderately divergent; good crown density, leaf size and colour; native species; to be preserved and protected
13	Red maple	Fair	33.6 & 39.0	Private	Mature; double stemmed at 0.4m; southeast stem bifurcates into three at 2-2.5m; basal decay on southeast; native species; to be preserved and protected
14	Red maple	Poor	12 avg.	Private	Immature; coppice growth - nine stems from grade; good crown density, leaf size and colour; native species; to be preserved and protected
15	Red maple	Fair	29.5 & 30.6	Private	Mature; double stemmed at 0.3m with included bark to 1.2m; central dominant stem with competing lateral; fair crown density, leaf size and colour; native species; to be preserved and protected
16	Red maple	Very Poor	39.4	Private	Mature; crown holding only 10% living branches; native species; to be preserved and protected
17	Red maple	Good	48.0 (at 1m)	Private	Mature; co-dominant stems 1.3m; generally symmetric crown; good crown density, leaf size and colour; native species; to be preserved and protected
18	Red maple	Good	28.9 & 31.4	Private	Mature; double stemmed at 0.2m; good crown density, leaf size and colour; native species; to be preserved and protected
19	White spruce (<i>Picea glauca</i>)	Poor	24.1	Private	Mature; poor crown density, growth increment and needle colour in upper crown, fair in lower half; native species; to be preserved and protected
20	White spruce	Very Poor	22.1	Private	Mature; holding less than 25% living foliage; native species; to be preserved and protected

Table 1. Con't

21	White spruce	Very Poor	41.3	Private	Mature; holding less than 10% living foliage; native species; to be preserved and protected
22	White spruce	Dead	27.6	Private	Mature; native species; to be preserved and protected
23	White spruce	Good	40.4	Private	Mature; good crown density, growth increment and needle colour; crown mildly asymmetric; native species; to be preserved and protected
24	White spruce	Poor	30.1	Private	Mature; very poor crown density, growth increment and needle colour in upper 1/3 of crown, poor in lower 2/3; native species; to be preserved and protected
25	Golden weeping willow (<i>Salix alba</i> var. <i>vitellina</i>)	Good	100.1	Private	Very mature; central stem for most of height; suppressed laterals at 3, 4 and 12m; crown very asymmetric due to influence of tree #26; cultivar; to be preserved and protected
26	Golden weeping willow	Poor	87.0	Private	Very mature; central stem broken at 8m; lateral arising at 3m now dominant; crown very asymmetric due to influence of adjacent trees; cultivar; to be preserved and protected
27	Golden weeping willow	Very Poor	54.9	Private	Mature; topped at 10m with decay in wound; major decay in main stem; cultivar; to be preserved and protected (though should be removed)
28	Golden weeping willow	Fair	102.2	Private	Very mature; central stem with tri-dominant leaders at 16m; suppressed laterals at 3, 6 and 9m – most broken due to storm damage, decay in wounds; cultivar; to be preserved and protected
29	White spruce	Fair	28.0	Private	Mature; fair crown density, growth increment and needle colour; many exposed and uplifted roots; native species; to be preserved and protected
30	White spruce	Fair	32.6	Private	Mature; fair crown density, growth increment and needle colour; sunscald injury to lower stem; native species; to be preserved and protected
31	White spruce	Good	41.4	Private	Mature; good crown density, growth increment and needle colour; crown asymmetric; native species; to be preserved and protected
32	White spruce	Very Poor	37.2	Private	Mature; very poor crown density, growth increment and needle colour; mildly divergent; native species; to be preserved and protected
33	White spruce	Poor	21.0	Private	Mature; poor crown density, growth increment and needle colour; stunted form; native species; to be preserved and protected

Table 1. Con't

34	White spruce	Good	31.6	Private	Mature; upright form with asymmetric crown; good crown density, growth increment and needle colour; native species; to be preserved and protected
35	White spruce	Fair	34.6	Private	Mature; generally symmetric crown; many exposed and damaged roots; fair crown density, growth increment and needle colour; native species; to be preserved and protected
36	White spruce	Poor	23.3	Private	Mature; many exposed and damaged roots; fair crown density, growth increment and needle colour at crown apex, poor in remainder; sweep in main stem at 15m; stunted form; native species; to be preserved and protected
37	White spruce	Poor	43.9	Private	Mature; many exposed and damaged roots; fair crown density, growth increment and needle colour in upper half of crown, poor in lower half; native species; to be preserved and protected
38	White spruce	Fair	47.9	Private	Mature; stem divergent and crown asymmetric; many exposed and damaged roots; fair crown density, growth increment and needle colour; native species; to be preserved and protected
39	White spruce	Good	40.3	Private	Mature; upright stem with generally symmetric crown; many exposed and damaged roots; good crown density, growth increment and needle colour; native species; to be preserved and protected
40	White spruce	Poor	23.9	Private	Mature; upright narrow crown; many exposed and damaged roots; very poor crown density, growth increment and needle colour; stunted form; native species; to be preserved and protected
41	White spruce	Poor	35.5	Private	Mature; many exposed and uplifted roots; poor crown density, growth increment and needle colour; native species; to be preserved and protected
42	White spruce	Poor	48.1	Private	Mature; poor crown density, growth increment and needle colour; native species; to be removed (conflicts with construction)
43	White spruce	Fair	37.9	Private	Mature; fair crown density, growth increment and needle colour; native species; to be removed (conflicts with construction)

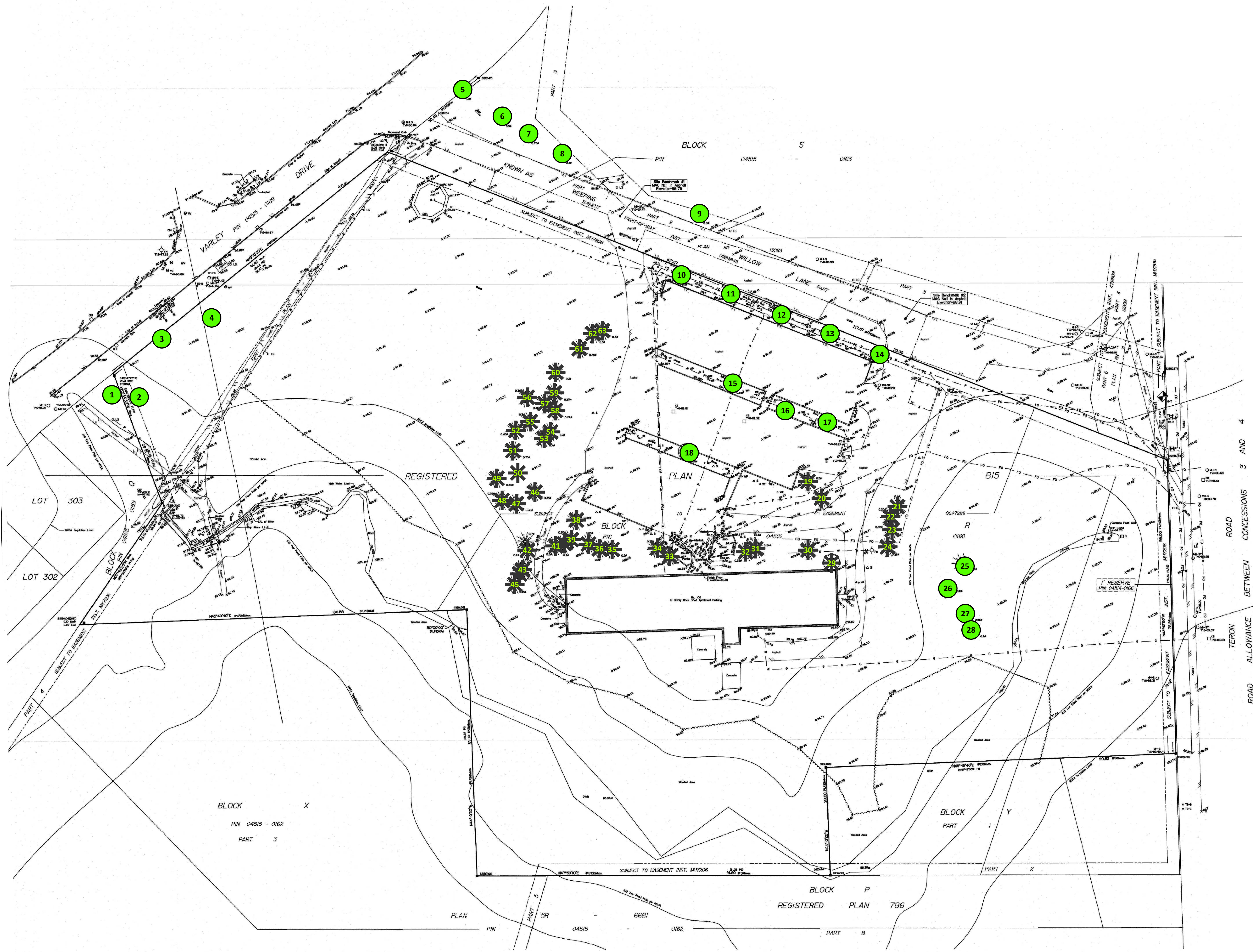
Table 1. Con't

44	White spruce	Very Poor	24.1	Private	Mature; very asymmetric crown due to influence of adjacent trees; very poor crown density, growth increment and needle colour in lower 2/3 of crown; native species; to be removed (conflicts with construction)
45	White spruce	Good	36.0 & 38.6	Private	Mature; double stemmed at 0.3m; moderately divergent; exposed and damaged roots; very good crown density, growth increment and needle colour; native species; to be removed (conflicts with construction)
46	White spruce	Poor	37.7	Private	Mature; exposed and damaged roots; poor crown density, growth increment and needle colour; native species; to be removed (conflicts with construction)
47	White spruce	Fair	41.5	Private	Mature; fair crown density, growth increment and needle colour; native species; to be removed (conflicts with construction)
48	White spruce	Fair	39.0	Private	Mature; fair crown density, growth increment and needle colour; native species; to be removed (conflicts with construction)
49	White spruce	Fair	47.0	Private	Mature; dead and broken branches; fair crown density, growth increment and needle colour; native species; to be removed (conflicts with construction)
50	White spruce	Fair	36.9	Private	Mature; generally upright symmetric crown; good crown density, growth increment and needle colour; native species; to be removed (conflicts with construction)
51	White spruce	Good	36.2	Private	Mature; some exposed and damaged roots; good crown density, growth increment and needle colour; native species; to be removed (conflicts with construction)
52	White spruce	Good	51.1	Private	Mature; many exposed and damaged roots; good crown density, growth increment and needle colour; native species; to be removed (conflicts with construction)
53	White spruce	Fair	47.3	Private	Mature; asymmetric crown; fair crown density, growth increment and needle colour; native species; to be removed (conflicts with construction)
54	White spruce	Fair	33.8	Private	Mature; asymmetric crown; fair crown density, growth increment and needle colour; native species; to be removed (conflicts with construction)

Table 1. Con't

55	White spruce	Fair	38.1	Private	Mature; asymmetric crown; fair crown density, growth increment and needle colour; native species; to be removed (conflicts with construction)
56	White spruce	Poor	35.1	Private	Mature; scattered dead branches; poor crown density, growth increment and needle colour; native species; to be removed (conflicts with construction)
57	White spruce	Fair	53.8	Private	Mature; upright narrow crown; fair crown density, growth increment and needle colour; native species; to be removed (conflicts with construction)
58	White spruce	Poor	25.8	Private	Mature; many dead branches; very poor crown density, fair growth increment and needle colour; native species; to be removed (conflicts with construction)
59	White spruce	Poor	31.7	Private	Mature; poor crown density, growth increment and needle colour; native species; to be removed (conflicts with construction)
60	White spruce	Poor	39.7	Private	Mature; scattered dead branches; poor crown density, growth increment and needle colour; native species; to be removed (conflicts with construction)
61	White spruce	Fair	38.2	Private	Mature; generally symmetric crown; fair crown density, growth increment and needle colour; native species; to be removed (conflicts with construction)
62	White spruce	Fair	39.5	Private	Mature; very asymmetric crown; good crown density, growth increment and needle colour; native species; to be removed (conflicts with construction)
63	White spruce	Good	48.0	Private	Mature; asymmetric crown; good crown density, growth increment and needle colour; native species; to be removed (conflicts with construction)

¹ diameter at breast height, or 1.4m from grade (unless otherwise indicated); average diameters indicate multi-stemmed trees



GENERAL NOTES

Bearings are grid, derived from Can-Net 2016 Real Time Network GPS observations and are referenced to Specified Control Points 0191960037 and 01919791051, MTM Zone 9 (78°30' West Longitude) NAD-83 (original).
 For comparison purposes, a rotation of 0°25'50" counter clockwise was applied to bearings on P1 and P2.

ELEVATION NOTES

1. Elevations shown are geodetic and are referred to the CGVD28 geodetic datum.
 2. It is the responsibility of the user of this information to verify that the job benchmark has not been altered or disturbed and that its relative elevation and description agrees with the information shown on this drawing.

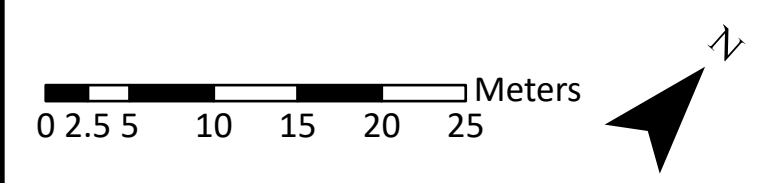
UTILITY NOTES

1. This drawing cannot be accepted as acknowledging all of the utilities and it will be the responsibility of the user to contact the respective utility authorities for confirmation.
 2. Only visible surface utilities were located.
 3. A field location of underground plant by the pertinent utility authority is mandatory before any work involving breaking ground, probing, excavating etc.

PLANS COMPLETED BY ANNIS, O'SULLIVAN & VOLLEBEKK LTD.

LEGEND

Denotes	
—○—	Survey Monument Planted
—■—	Survey Monument Found
SIB	Standard Iron Bar
SB	Short Standard Iron Bar
SB	Iron Bar
(WIT)	Witness
Mes.	Measured
(AOG)	Annis, O'Sullivan, Vollebakk Ltd.
(P)	(AOG) Plan dated April 28, 1997
(P2)	Registered Plan 815
MVCA	Ontario Reg. 15306 via Mississippi Valley Conservation Authority
○FH	Fire Hydrant
○WV	Water Valve
○WC	Water Chamber (Waterman)
○M+ST	Maintenance Hole (Storm Sewer)
○M+S	Maintenance Hole (Sanitary)
○M+B	Maintenance Hole (Bell Telephone)
—W—	Underground Water
—P—	Underground Power
—G—	Underground Gas
—FO—	Underground Fibre Optic
—OW—	Overhead Wires
□CB	Catch Basin
□DB	Catch Basin Inlet
—T/G—	Top of Grate
—T/P—	Top of Pipe
—T/S—	Top of Spindle
Inv	Invert
□DI	Ditch Inlet
CSF	Corrugated Steel Pipe
CP	Concrete Pipe
CH	Handhole
BTB	Bell Terminal Box
CTB	Cable Terminal Box
Sign	Sign
HTP	Hydro Transformer Pad
BF	Board Fence
RWS	Stone Retaining Wall
RWT	Timber Retaining Wall
Gate	Gate
ULP	Utility Pole
AN	Anchor
LS	Light Standard
WP	Wood Post with Charging Station
MB	Mail Box
RC	Refuse Container
Ø	Diameter
±	Location of Elevations
±	Top of Concrete Curb and Retaining Wall Elevation
±	Centreline
—C/L—	Property Line
*	CONIFEROUS TREE
●	DECIDUOUS TREE



DRAWING: Tree Information Plan

PROJECT: 100 VARLEY DRIVE
CITY OF OTTAWA



Andrew K. Boyd, R.P.F.

SCALE: 1:450	100V
DATE: 2021-09-28	
DRAWN BY: SS	
SHEET NO: 1	

Pictures 1 through 4 on pages 11 and 12 of this report show selected trees on and adjacent to the subject property.

FEDERAL AND PROVINCIAL REGULATIONS

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

- 1) Endangered Species Act (2007): A single butternut (*Juglans cinerea*) was identified on the subject property. This species of tree is listed as threatened under the Province of Ontario's Endangered Species Act (2007) and so is protected from harm. A butternut health assessment will be required to obtain a permit to disturb the habitat within 50m of this tree.
- 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 AND PROTECTION MEASURES

Preservation and protection measures intended to mitigate damage during construction will be applied for the trees to be retained on and adjacent to the subject property. 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, erect a fence as close as possible to the CRZ of the tree(s);
2. Do not place any material or equipment within the CRZ of the tree(s);
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.

¹ critical root zone (CRZ) is established as being 10 centimetres from the trunk of a tree for every centimetre of DBH. The CRZ is calculated as DBH x 10 cm.

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

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

Yours,



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



Picture 1. Trees #1 and 2 (right to left) at 100 Varley Drive



Picture 2. Trees #52 through 42 (left to right) at 100 Varley Drive





Picture 3. Trees #10-13 (left to right) at 100 Varley Drive



Picture 4. Trees #25-28 (left to right) at 100 Varley Drive

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 activities 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.