



Urban Forestry & Forest Management Consulting

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Kieran Watson, M. Plan
Development Planner
Ashcroft Homes
18 Antares Drive
Ottawa ON
K2E 1A9

RE: TREE CONSERVATION REPORT – PHASE 2, QWEST (114 RICHMOND ROAD, OTTAWA)

Dear Kieran,

This report serves as a Tree Conservation Report (TCR) for phase 2 of the above-noted development proposed by Ashcroft Homes. It builds upon the Tree Preservation Plan prepared by Corush Sunderland Wright (CSW) in 2012. The need for this report is related to trees protected under the Urban Tree Conservation By-law 2009-200 and the Municipal Trees and Natural Areas Protection By-law 2006-279.

This TCR is specifically related to seven maple trees located directly east of Nun's Walk, a paved pathway which links this phase of the development to Byron Avenue to the south. As all seven trees are greater than 50 centimetres (cm) in diameter they are considered 'distinctive' under By-law 2009-200.

The seven trees in question are all mature to very mature silver maples (*Acer saccharinum*), a species native to eastern Canada. The two more northerly trees (trees #38 and 41 on the CSW report) will be impacted by a nearby fire route and turning circle while the five other trees will be impacted by the construction of a 4-storey residential building. In each case, regardless of the impact of construction, all seven trees are proposed for preservation and protection during construction.

This report will focus on the current health, both physiological and structural, of the seven trees and the projected impacts of the nearby construction on their rooting systems - in particular the loss of roots and available rooting area. It will not address the impact of the nearby buildings in terms of changes to their exposure to sunlight, winds, etc. as this work has been done by others.

TREE SIZE AND CONDITION

Generally speaking all seven trees appear to be in good health. They all have well-formed crowns which are upright and roughly symmetrical (with the exception of tree #55). Each crown



is held at approximately 5m above grade due to the need to provide clearance over Nun's Walk and the development site to the west. Their root collars appear to be well formed with only occasional girdling or binding roots present (with the exception of tree #46 – see picture 1 on page 4).

Table 1 below details the condition of the seven silver maple trees in phase 2 of Qwest. The location of each tree is identified in the CSW plan 'Arb-2'. The pictures on pages 4, 5, 6 and 7 of this report show the current state of the trees prior to leaf out this past spring.

Table 1. Tree number, diameter, distances and condition of impacted silver maple trees

Tree No.	DBH ¹ (cm)	CRZ ² (m)	Distance to excavation ³ (m)	Tree condition
38	77.8	7.8	+/-6	Very mature; multiple co-dominant stems arising at 1.0m from grade – broad crown; good crown density, growth increment and leaf colour; multiple exposed surface roots
41	102.5 (at 0.5m)	+/-10	+/-4.5	Very mature; central stem with co-dominant leaders at 3.5m and competing laterals at 1.2m on north and east sides; crown raised to 7m on west; good crown density, growth increment and leaf colour; multiple exposed surface roots
44	57.4	5.7	+/-3.5	Mature; central stem with competing lateral at 2.5m on east; tri-dominant leaders at 3.5-4m - central stem with competing laterals on north and south sides; major surface root damaged by mowers
46	54.9	5.5	+/-3.5	Mature; central stem with competing lateral at 2m on west and suppressed laterals at 2.5m on north and 3.25m on west side; co-dominant leaders at 4m; two binding roots present
48	50.9	5.1	+/-3.5	Mature; co-dominant stems at 2m – with very weak union due to included bark (fissure present); central stem with competing lateral on west; competing leaders at 3m on east and southeast sides
51	51.3	5.1	+/-3.5	Mature; central stem with suppressed lateral at 1.75m on west; competing laterals at 2m and 3.5m on northwest; suppressed lateral at 2.5m on south; ribs of reaction wood from 3.5-6.5m on south and 4.5-5.5m on north -
55	56.9	5.7	+/-3.5	Mature; poor growth form – primary union at 0.5m with four divergent competing stems; southeast stem with shear plane fracture present in 2018 was recently removed

¹ diameter at breast height, or 1.4m from grade (unless otherwise noted); ² critical root zone - 10 centimetres from the trunk of a tree for every centimetre of trunk diameter at breast height (per City of Ottawa specifications); ³ distance from outside of tree trunk to closest edge of excavation (as provided by Ashcroft Homes)

When comparing critical rooting zones with distances to the closest edge of excavation, it is apparent each tree will experience direct root loss due to excavation. Furthermore, due to the proximity of the approved building footprints, road beds, etc. significant loss of available rooting area is evitable. As with all development sites, there is only so much room to go around, especially below ground.

That being said, given the resilience of the species to root loss, the relative youth of five of the seven trees, the possibility of roots reaching beyond Nun's Walk to access soil and the ability to ameliorate the unaffected rooting areas, none of the seven trees are expected to be terminally impacted as a result of the nearby excavation. However, their longevity will be diminished as growth stress related to restricted rooting areas is certain to have a long-term impact on their health and vigour.

PRE-EXCAVATION TREE PROTECTION MEASURES

Given the need to go beyond the minimum measures in terms of protecting the seven maple trees, the following measures are recommended to promote their survival during and following construction:

TREE PROTECTION BARRIER: Wood hoarding fencing supported by t-bars or self-standing metal fencing should be installed at the furthest distance possible from the trees. Since this barrier is meant to prevent construction traffic from entering the protected area, it should be kept in place until construction is complete. Signage could be attached to the fence indicating its purpose as a tree protection barrier. Also, neither the storage nor stockpiling of materials should take place within this area.

ROOT PROTECTION BUFFER: A surface buffer is required to guard against soil compaction outside of the protective fence. This buffer should consist of woodchips spread to a thickness of 10 cm covered by a layers of 2 cm thick (¾ inch) plywood or steel plates. This buffer is important to prevent the compaction of soil surrounding the tree's fine feeding roots.

POST-EXCAVATION TREE PRESERVATION MEASURES

Until backfilled, excavations closet to the trees should be covered with at least three layers of burlap and kept moist through watering with a soft-spray nozzle at least three times a week. A top cover of plastic should be used in order to retain moisture during extended periods when watering may not be possible, for instance over weekends.

The landscape fabric presently around the trees should be removed and replaced with a layer of topsoil in direct contact with the native soil. This soil should then be covered by woodchip mulch. The combined depth of soil and mulch should not exceed 10cm and should not be spread to the point that any tree's root collar is obscured. This treatment should extend for the length of the tree line so to encompass all seven trees and cover all exposed surface roots. If desired this area can be made into a garden bed containing low-growing herbaceous vegetation.

Finally, the maple trees should be inspected regularly for dieback and any dead branches pruned out when warranted (the species is prone to branch loss under wind and ice loads). Fertilization with a liquid, deep-root, slow-release fertilizer is recommended every other year during and after the completion of construction.

This report is subject to the attached Limitations of Tree Assessments to which the reader's attention is directed. Please do not hesitate to contact me if you have questions or comments.

Yours,

Andrew Boyd

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ISA Certified Arborist #ON-0496A and TRAQualified
Consulting Urban Forester



Picture 1. Binding root on root collar of tree in Phase 2 of Qwest development. Picture taken March 2018.



Picture 2. Line of silver maple trees in Phase 2 of Qwest development (looking eastward). Note Nun's Walk on far side of trees. Picture taken April 2019.



Picture 3. Line of silver maple trees in Phase 2 of Qwest development (looking southeastward). Snow fence is approximate distance of excavation in relation to trees in background (tree #41 is in foreground). Picture taken April 2019.



Picture 2. Silver maple tree #38 in Phase 2 of Qwest development (looking northward). Stakes on left indicated set back of future fire route. Picture taken April 2019.



Picture 4. Root collar of tree #38 in Phase 2 of Qwest development (note damaged root flares and landscape fabric). Picture taken April 2019.

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 named above. 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) recommended 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. If necessary, a 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 procurement of said survey, and the costs associated with it, 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.

Further, under no circumstances may any claims be initiated or commenced by the client 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.