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URBAN FORESTRY & FOREST MANAGEMENT CONSULTING

May 13, 2019

Joey Theberge  
Theberge Homes  
904 Lady Ellen Place  
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K1Z 5L5

**RE: TREE CONSERVATION REPORT – 21 WITHROW AVENUE, OTTAWA**

Dear Joey,

This report details a pre-construction Tree Conservation Report (TCR) for the above-noted property in Ottawa. This TCR has been compiled in accordance with section 4.7 of the City of Ottawa Official Plan, 2007.

The need for this TCR is related to the re-development of the subject property. Such reports are required for properties under site plan control applications that are greater than one hectare in area, are located within the urban boundary and on which there are trees 10 centimetres in diameter or greater. 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 and groups of trees on the subject property. The construction proposed for the site includes renovating the existing dwelling (including demolition of an attached garage and construction of a new exterior garage) and construction of 13 single-family dwellings. A new roadway into the development from St. Helen's Place is also planned. Construction of the proposed new roadway and dwellings will require a majority of the existing trees to be removed. These include trees fully on the subject property and several shared trees along property lines. Permission from neighbouring property owners will be required for the removal of shared trees. No trees were found to be present on adjacent City of Ottawa property.

**TREE SPECIES, CONDITION, SIZE AND STATUS**

On the Table 1 on page 2 details the species, condition, size (diameter) and status of the individual trees on and adjacent to the subject property. Each of these trees is referenced by the numbers plotted on the accompanying tree conservation plan prepared Gino J. Aiello, Landscape Architect.



Table 1. Species, condition, diameter and status of trees at 21 Withrow Avenue.

| Tree No. | Tree Species   | Condition (VP→E) | DBH <sup>1</sup> (cm)               | Tree Condition Notes & <b>Preservation Status</b> (to be removed or preserved and protected)   |
|----------|--|------------------|-------------------------------------|--|
| 1        | Grouping of trees: sugar maple ( <i>Acer saccharum</i> ); white elm ( <i>Ulmus americana</i> ); black-locust ( <i>Robinia pseudoacacia</i> ); buckthorn ( <i>Rhamnus</i> spp.) | Good             | <10 avg.                            | Overstory of maple and elm, understory of introduced, invasive buckthorn (from seed) and naturalized black-locust (from root sprouts); trees over 10cm are: maple 52cm and elm 34 and 44cm; <b>to be preserved and protected (some trees on the eastern-most end will be lost due to the proposed location of Hydro transformer)</b> |
| 2        | White cedar hedge ( <i>Thuja occidentalis</i> )  | Fair             | 10 avg.                             | Mature; thin due to shading from adjacent trees; native species; <b>to be preserved and protected</b>  |
| 3        | Black-locust   | Fair             | 61                                  | Mature; naturalized species; <b>to be removed due to conflicts with construction</b>   |
| 4        | Sugar maple  | Good             | 35                                  | Mature; good growth form; native species; <b>to be removed due to conflicts with construction</b>  |
| 5        | Norway maple ( <i>Acer platanoides</i> )   | Good             | 35                                  | Mature; fair growth form; introduced, invasive species; <b>to be removed due to conflicts with construction</b>  |
| 6        | Black-locust   | Good             | 40                                  | Mature; naturalized species; <b>to be removed due to conflicts with construction</b>   |
| 7        | Black-locust   | Fair             | 35                                  | Mature; naturalized species; <b>to be removed due to conflicts with construction</b>   |
| 8        | Black walnut ( <i>Juglans nigra</i> )  | Fair             | 107                                 | Very mature; co-dominant stems from 0.25m – broad crown; native species; <b>to be removed due to conflicts with construction</b>   |
| 9        | Bur oak ( <i>Quercus macrocarpa</i> )  | Good             | 48                                  | Mature; heavy vine growing into crown; native species; <b>to be removed due to conflicts with construction</b>   |
| 10       | Line of trees: primarily buckthorn with 11 planted Scots pine ( <i>Pinus sylvestris</i> ) and 4 white spruce ( <i>Picea glauca</i> )   | Poor             | <10 buck-thorn; 18-27 pine & spruce | Maturing; several dead trees, others heavily pruned from hydro lines; <b>to be removed due to conflicts with construction</b>  |

Table 1. Con't

| Tree No. | Tree Species                            | Condition (VP→E) | DBH <sup>1</sup> (cm) | Tree Condition Notes & <b>Preservation Status</b> (to be removed or preserved and protected)  |
|----------|---|------------------|-----------------------|---|
| 11       | Butternut<br>( <i>Juglans cinerea</i> ) | Poor             | 34                    | Planted or progeny of planted tree; <b>to be removed due to conflicts with construction</b>   |
| 12       | Norway maple                            | Fair             | 30                    | Mature; fair growth form; introduced, invasive species; <b>to be removed due to conflicts with construction</b>   |
| 13       | Norway maple                            | Fair             | 29                    | Mature; fair growth form; introduced, invasive species; <b>to be preserved and protected</b>  |
| 14       | White elm                               | Good             | 26                    | Mature; no signs of Dutch elm disease ( <i>Ophiostoma novo-ulmi</i> ); native species; <b>to be preserved and protected</b>   |
| 15       | Scots pine                              | Poor             | 20                    | Maturing; naturalized species; <b>to be preserved and protected</b>   |
| 16       | White spruce                            | Poor             | 23                    | Maturing; thin, asymmetrical crown; <b>to be removed due to poor condition</b>  |
| 17       | White spruce                            | Poor             | 35                    | Mature; thin, asymmetrical crown due to influence of nearby butternuts; <b>to be removed due to poor condition</b>  |
| 18       | Butternut                               | Poor             | 15                    | Planted or progeny of planted tree; <b>to be removed due to poor condition</b>  |
| 19       | White pine                              | Good             | 40                    | Mature; upright form; good crown density, growth increment and needle colour; <b>to be preserved and protected</b>  |
| 20       | Butternut                               | Poor             | 22                    | Planted or progeny of planted tree; <b>to be removed due to poor condition</b>  |
| 21       | White cedar hedge                       | Fair             | 12 avg.               | Mature; thin due to shading from adjacent trees; native species; <b>to be removed due to conflicts with construction</b>  |
| 22       | Sugar maple                             | Fair             | 87                    | Very mature; divergent and asymmetrical form due to adjacent maple; major deadwood in crown; native species; <b>to be removed due to conflicts with construction</b>                          |
| 23       | Sugar maple                             | Good             | 94                    | Very mature; co-dominant stems at 2m with strong union; mildly divergent and asymmetrical form due to adjacent maple; native species; <b>to be removed due to conflicts with construction</b> |

Table 1. Con't

| Tree No. | Tree Species  | Condition (VP→E) | DBH <sup>1</sup> (cm) | Tree Condition Notes & <b>Preservation Status</b> (to be removed or preserved and protected)   |
|----------|---|------------------|-----------------------|--|
| 24       | White cedar hedge   | Fair             | 16 avg.               | Mature; thin due to shading from adjacent trees; some winter damage; <b>to be preserved and protected</b>  |
| 25       | Norway maple  | Fair             | 32                    | Mature; single stem with competing laterals from 0.5m-broad crown; planted 'Crimson king' variety; introduced, invasive species; <b>to be removed due to conflicts with construction</b> |
| 26       | White pine  | Good             | 48                    | Mature; upright form; good crown density, growth increment and needle colour; <b>to be preserved and protected</b>   |
| 27       | Portion of Norway spruce tree line ( <i>Picea abies</i> ) | Fair-Good        | 17-52cm               | Mature; co-dominant trees; planted; introduced species; <b>to be removed due to conflicts with subdrain, catch basins and swale necessary for drainage and storm water management</b>    |
| 28       | Sugar maple   | Poor             | 123                   | Very mature; advanced decay in lower bole below dog's leg; living crown held offset to bole; will become hazardous; <b>to be removed due to poor condition</b>                           |
| 29       | Sugar maple   | Poor             | 119                   | Very mature; advanced decay in union of once tri-dominant stems (one failed in past, another just recently); will become hazardous; <b>to be removed due to poor condition</b>           |
| 30       | Norway spruce   | Fair             | 112                   | Very mature; poor crown density, growth increment and needle colour-senescent; planted; introduced species; <b>to be removed due to conflicts with construction</b>                      |
| 31       | Sugar maple   | Poor             | +/-100                | Very mature; cavity on southeast side of main stem at 2m; major wound from past co-dominant stem failure on west side; will become hazardous; <b>to be removed due to poor condition</b> |

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| Tree No. | Tree Species   | Condition (VP→E) | DBH <sup>1</sup> (cm)    | Tree Condition Notes & <b>Preservation Status</b> (to be removed or preserved and protected)   |
|----------|--|------------------|--------------------------|--|
| 32       | Portion of tree grouping: primarily sugar maple, buckthorn and black-locust (with scattered white cedar and lilac ( <i>Syringa vulgaris</i> )) | Fair-Good        | 5-25                     | Maturing; most originated from seed or root sprouts (including naturalized 22cm Horsechestnut ( <i>Aesculus hippocastanum</i> )); <b>to be removed due to conflicts with subdrain, catch basins and swale necessary for drainage and storm water management</b>  |
| 33       | Grouping of trees: primarily buckthorn, sugar maple and staghorn sumac ( <i>Rhus typhina</i> )   | Fair-Poor        | 10-37                    | Maturing to mature; most originated from seed or root sprouts (including naturalized 18cm Horsechestnut); at southern end of grouping are two mature trees: a dead elm (37cm) and sugar maple (34 cm) in poor condition; heavy vine growth throughout; <b>to be removed due to conflicts with construction</b> |
| 34       | Portion of spruce line: 13 Norway spruce and 21 white spruce   | Fair-Good        | Norway 28-47; white 6-21 | Mature; line of white spruce generally suppressed by faster growing Norway spruce located to south; planted; <b>to be removed due to conflicts with proposed location of Hydro transformer</b>   |
| 35       | Portion of spruce line: 3 Norway spruce and 4 white spruce   | Poor-Good        | Norway 30-48; white 6-21 | Mature; line of white spruce suppressed by faster growing Norway spruce located to south and west; one Norway topped by hydro (poor tree); planted; <b>all white spruce to be removed due to conflicts with construction, 2 of 3 Norway spruce to be preserved and protected</b>                               |
| 36       | Grouping of trees: sugar maple; white elm; buckthorn   |                  |                          | Overstory of maple and elm, understory of buckthorn (from seed) and black-locust (from root sprouts); trees over 10cm are mainly sugar maple; <b>to be removed for roadway construction</b>  |

<sup>1</sup>Diameter at breast height, or 1.4m from grade (unless otherwise noted).

### ENDANGERED SPECIES

Six butternut (*Juglans cinerea*) were found on the subject property. This species of tree is listed as endangered under the Province of Ontario's Endangered Species Act (ESA, 2007) and so is protected from harm.



A review of historic aerial photographs of the property revealed significant amounts of tree planting dating back to the mid-twentieth century. The presence of many mature introduced species and tree lines confirms these efforts. However, since the property has been settled since the mid-nineteenth century, it is possible tree planting started even earlier. In response to this, and in an effort to confirm their provenance, leaf samples from all six butternut trees were sent away for hybridity testing. The results found each tree to be genetically pure. Nonetheless, it is almost certain all trees currently on the property were either planted or are the progeny of planted trees. As a result, since planted butternut are not protected under the ESA, the normal protocol in relation to butternuts was not required. That being said, a butternut health assessment (BHA) was submitted to the Ministry of Natural Resources and Forestry on September 27<sup>th</sup> after three trees were removed by the proponent in mid-September under the presumption they were hazardous. This BHA found the remaining three trees to be Category 1, or ‘non-retainable’.

### **TREE PRESERVATION AND PROTECTION MEASURES**

Preservation and protection measures intended to mitigate damage during construction will be applied to the trees to be retained on and adjacent to the subject property. The following measures are recommended to ensure tree survival during and following construction:

1. Erect a fence (snow or metal) as close as possible to the critical root zone (CRZ)<sup>1</sup> of trees;
2. Attach signs to the fence indicating the area within is a protected space (do not attach any signs, notices or posters to any tree);
3. Do not place any material or equipment within the CRZ of trees;
4. When possible do not raise or lower the existing grade within the CRZ;
5. Tunnel or bore instead of digging or trenching within the CRZ of trees;
6. Do not damage the root system, trunk or branches of any tree – if damage does occur cut the wound cleanly and, especially in the case of roots, seal the wound with beeswax;
7. Ensure that exhaust fumes from all equipment are not directed towards any tree's crown.

<sup>1</sup> The critical root zone (CRZ) is established as being 10 centimetres from the trunk of a tree for every centimetre of trunk diameter at breast height (DBH). The CRZ is calculated as DBH x 10 cm.

Please do not hesitate to contact me with any questions concerning this Tree Conservation Report.

Yours,

*Andrew Boyd*

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