

TREE CONSERVATION REPORT – 2390 STEVENAGE DRIVE, OTTAWA

PREPARED FOR:

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INTRODUCTION

The importance of protecting vegetative cover on sites subject to development is specified in Section 4.7.2 of the City of Ottawa's Official Plan. In accordance with this the City of Ottawa's Urban Tree Conservation By-law (By-law no. 2009-200) requires a detailed Tree Conservation Report (TCR) prior to the removal of trees on sites within the urban boundary of Ottawa. Tree conservation reports are required for all site plan control applications on properties where there is a tree of 10 centimetres or greater in diameter.

This report has been prepared in accordance with the City of Ottawa's Tree Conservation Report Guidelines. 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. Further, if any shared trees or trees located on adjacent properties are slated for removal permission from neighbouring owners is required prior to removal.**

The subject property is located at 2390 Stevenage Drive. The specific areas of the property now under site plan control are the existing warehouses fronting onto Stevenage Drive (proposed to undergo a major expansion) and an open area the to the south and east which are proposed to hold a new warehouse, 151 trailer parking spaces, a stormwater management pond and a snow storage area. This area is 3.4 hectares in size.

METHODOLOGY

Surveys of the site were completed on June 28, August 24 and 29, 2018. Tree growth was assessed via a reconnaissance survey of the property. Where consistent vegetation over 10cm in diameter was present a series of sample plots in which the overstory trees and visible understory vegetation was assessed for species, size (average diameter) and general health condition. This information was then compiled so that stands (areas of similar tree age and species composition) and smaller groupings of like species could be delineated. Street trees were inspected individually for size and health condition. Locations of street trees and forest stands/groupings can be found on the accompanying tree conservation plan.

TREE INVENTORY

From a review of historic aerial photography it is apparent the subject land was farmed into the late 1970s. In anticipation of cultivation the entire property was cleared of trees with the exception of a hedgerow of deciduous trees along what is now the fence line between 2390 and 2220 Stevenage Drive. Seeds from these mature trees and from other sources off the property initiated the woody vegetation now present. The only other



notable feature on the property is a swale which runs the length of the southern property line. A variety of native and non-native trees were planted atop the swale presumably soon after it was completed.

CULTURAL MEADOW

Since the cessation of agricultural activities in the 1980s the formerly cleared areas have been left to regenerate naturally. Slightly more than half the area where the new warehouse and surrounding parking, pond and snow storage areas are proposed is now occupied by a cultural meadow, dominated by non-woody (*i.e.* herbaceous) vegetation. This is an early stage of natural succession where woody vegetation is not yet dominant. Where scattered trees and shrub species are present they are less than 10 centimetres in diameter, below the size threshold that is pertinent to TCRs.

Infrequently present are apple trees (*Malus spp.*). The historic aerial photographs reviewed as part of background for this report showed no obvious signs of an orchard on the property. Instead, it is likely these trees are the progeny of trees on neighbouring properties. Scattered hawthorn (*Crataegus spp.*) are present amongst the apple. These trees are less than 10cm in diameter.

Other native vegetation on the site consists of lower growing shrub species: staghorn sumac (*Rhus typhina*), red-osier dogwood (*Cornus stolonifera*) and nannyberry (*Viburnum lentago*). A non-native species also infrequently present is amur maple (*Acer tataricum* subsp. *ginnala*). All of these species have been able to successfully regenerate due to the lack of shading from a consistent overhead canopy. Again, these trees are all less than 10cm in diameter.

FORESTED AREA

The only consistent canopy coverage on the property is found within a hardwood stand located along the northern half of the subject area. Red (*Acer rubrum*) and Manitoba maple (*Acer negundo*), white elm (*Ulmus americana*), ash (*Fraxinus spp.*) and bur oak (*Quercus macrocarpa*) are the dominant overstory tree species present (see Table 1 below). Many of the red maples and oaks are mature, with some reaching over 50cm in diameter. These trees once formed the hedgerow left after the fields were cleared for agricultural purposes.

Table 1. Overstory of hardwood stand at 2390 Stevenage Drive

| Tree species | Average Diameter(cm) | Percent occupancy¹ |
|---------------------|-----------------------------|--------------------------------------|
| Manitoba maple | 23 | 33 |
| Red maple | 23 | 22 |
| Ash ² | 11 | 21 |
| White elm | 16 | 17 |
| Bur oak | 27 | 7 |

¹ by stem count; ² only living trees counted

As shown above in Table 1, the most frequent native tree species present which are over 10cm in diameter are scattered individual and groupings of red maple, ash species and white elm. Also present are native bur oak. However, many, if not most, of the elm and ash over 10cm are dead due to Dutch elm disease (*Ophiostoma ulmi* and *Ophiostoma novo-ulmi*) and Emerald ash borer (*Agrilus planipennis*), respectively. All of the aforementioned species are well adapted to disturbance and so often respond quickly in terms of recolonizing former agricultural fields through seed dispersal from adjacent trees. The nearby hedgerow would have likely been the source of most of the four native species dominating the overstory.

The intensive and regular disturbance due to agricultural pursuits has given rise to the woody species most often found over the majority of the site: naturalized and invasive species. Naturalized tree species are present in significant numbers – in particular Manitoba maple (*Acer negundo*). Being intolerant of shade young trees of this species are found in open areas and along forest edges. Mature trees are found throughout the forested area but the oldest and most dense are in western-most area.

Several groups of mature, native trees are present within the forested area – two groupings of bur oak and a larger stand of bur oak/red maple. Although desirable, the placement of these groupings in the middle of the site prohibits their retention.

In terms of understory species, the most widespread species is buckthorn (*Rhamnus* spp.). These species, common buckthorn (*Rhamnus cathartica*) and glossy buckthorn (*Rhamnus frangula*), both introduced and highly invasive, are present throughout the site. However, the majority of individuals present are under 10cm in diameter. The presence of buckthorn is not surprising as site disturbance in such peri-urban areas encourages the spread of non-native (alien), invasive and naturalized species.

Typical vegetative conditions within the forested area are shown in Pictures 1 and 2 on page 5 of this report.

STREET TREES

A total of thirteen trees were found at the front of the property along Stevenage Drive. All are non-native species, Norway maple (*Acer platanoides*) and little-leaf linden (*Tilia cordata*). In general the maples are in decline due to poor branching structure and girdling roots – issues common to Norway maples.

Table 2. Species, size and condition of street trees at 2390 Stevenage Drive

| Tree no. | Tree species | D.B.H ¹ (cm) | Tree condition, age class and status (to be removed or preserved and protected) |
|----------|--------------|-------------------------|---|
| 1 | Norway maple | 47 | Fair; mature; to be preserved and protected |
| 2 | Norway maple | 36 | Very poor; mature; top half of crown dead due to branch cluster; multiple girdling roots present; to be removed (due to condition) |

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|----|--------------------|---------|--|
| 3 | Norway maple | 38 | Very poor; mature; top half of crown dead due to branch cluster; primary union with split - failing; to be removed (due to condition) |
| 4 | Norway maple | 46 | Fair; mature; to be preserved and protected |
| 5 | Norway maple | 35 | Poor; mature; top half of crown in advanced decline due to branch cluster; to be preserved and protected |
| 6 | Norway maple | 39 | Poor; mature; top half of crown in advanced decline due to branch cluster; to be removed (conflicts with construction) |
| 7 | Norway maple | 43 | Fair; mature; top half of crown in advanced decline due to branch cluster; to be preserved and protected |
| 8 | Norway maple | 25 | Fair; mature; moderately pruned by Hydro as tree is below lines; to be preserved and protected |
| 9 | Norway maple | 22 avg. | Fair; mature; double stemmed at 0.5m; to be preserved and protected |
| 10 | Little-leaf linden | 35 | Fair; mature; heavy basal sprouting; to be removed (conflicts with construction) |
| 11 | Little-leaf linden | 34 | Fair; mature; heavy basal sprouting; to be removed (conflicts with construction) |
| 12 | Norway maple | 17 | Very poor; mature; advanced canker at 0.25m; in moderate decline; to be removed (conflicts with construction) |
| 13 | Little-leaf linden | 54 | Good; mature; co-dominant stems at 2.25m; dense crown; to be removed (conflicts with construction) |

¹ diameter at breast height, or 1.4m from grade; average diameters indicate multi-stemmed trees

Selected street trees are shown in Pictures 3 and 4 on page 6 of this report.

USE OF EXISTING VEGETATION

Retention of existing vegetation in the rear of the property is thought to be impossible given the level of disturbance required for the warehouse, parking, pond and snow storage areas combined with the grade changes which are necessary for each. However, the majority of existing trees at the front of the property as well as all vegetation outside of the property limits will be preserved and protection during construction.

ENDANGERED SPECIES

No butternuts (*Juglans cinerea*) were found on the subject or nearby adjacent properties. This tree species is listed as endangered under the Province of Ontario's Endangered Species Act (ESA) and so is protected from harm.



Picture 1. Cultural meadow in foreground with dead ash and elm in forested area.



Picture 2. Grouping of mature bur oaks at 2390 Stevenage Drive.



Picture 3. Street trees #6-8 in front of 2390 Stevenage Drive.



Picture 4. Street trees #10-13 in front of 2390 Stevenage Drive.

PRESERVATION AND PROTECTION MEASURES

Measures intended to mitigate damage to trees during construction generally entail preserving current site characteristics within and around groups of trees. It is important to understand that changes to water table levels, soil bulk densities, grades and drainage are generally unavoidable within construction zones. Therefore groups of trees and trees along edges have a greater likelihood of long-term survival following construction. This is due to the fact that for a majority of these trees site characteristics within their rooting zones will remain largely unchanged. In this instance it is shared and neighbouring trees along property lines which will be the focus of preservation and protection measures.

The following measures are recommended by the City of Ottawa to ensure the survival of trees on adjacent property during construction:

1. Erect a fence at the critical root zone (CRZ¹) of trees;
2. Do not place any material or equipment within the CRZ of the tree;
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 when digging within the CRZ of a 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 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 if you have any questions concerning this tree conservation report

Yours,

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