

January 22, 2018

ARBORIST REPORT

967 & 973 Big Bay Point Road, Barrie, Ontario

INTRODUCTION AND BACKGROUND OF PROPOSED DEVELOPMENT

MHBC was retained to conduct an inventory of the existing trees within the boundaries of 967 and 973 Big Bay Point Road, as they pertain to the City of Barrie's guidelines. Field work was completed on December 18th, 2017, and this report relates to the condition of the trees as observed on that date.

The subject lands are located within the first development phase of the Hewitt's Secondary Plan and are designated Residential Area. The Site is adjacent to two active residential developments within the Secondary Plan which interconnect with each other to support future development in accordance with the approved Master Plan within the Hewitt's Secondary Plan.

The Hewitt's Secondary Plan was adopted by Council as Official Plan Amendment No. 39 in June of 2014. The Plan affects approximately 860 hectares of land, and is an important part of the City's future development in order to conform to the growth requirements of the Province's Growth Plan.

The creation of the Secondary Plan was founded upon a number of studies used to evaluate where and how to shape development within this portion of the City. An important component part of this work related to the creation of a Master Plan which outlines what development will look like, as well as a Natural Heritage System review, amongst other matters. Upon completion of the background work conducted by the City and its project team, the Secondary Plan was deemed to have been appropriately justified, enabling it to be approved.

As a result of the process to evaluate where and how development should occur within the Secondary Plan, the Site was identified to be utilized for residential purposes. No constraints were identified, and the lands were not considered to be part of the Natural Heritage System. Accordingly, Secondary Plan identifies that the site is to be used in accordance with the Residential Area designation, and does not restrict site work, or require any vegetative preservation or avoidance in order to do so.

PROCEDURE

The on-site inventory of existing trees was carried out using the current survey of the property and relies on the accuracy of this survey. The inventory includes trees within the area of work and all trees within 6.0 meters of the area of work as per City of Barrie's guidelines.

This inventory is summarized graphically in the Tree Inventory Plan TI-1 and Tree Inventory Details TI-2, which shall always be read in conjunction with this report and shall form part of this report. For the purposes of this report, trees and groupings of trees are identified in terms of species, size, condition, and recommendations.

The following rating system was used in describing the general condition of the trees inventoried:

Good (G): Indicates a condition of vigour and no major concerns;

Fair (F): Indicates an adequate tree, which may have some minor issues;

Poor (P): Indicates declining health, bad form, or other more serious issues;

Dead (D): Indicates a dead tree that should be removed.

ASSUMPTIONS AND LIMITING CONDITIONS

- Care has been taken to obtain all information from reliable sources. All data has been verified insofar as possible and is assumed to be correct; however MHBC can neither guarantee nor be responsible for the accuracy of information provided by others.
- Unless otherwise required by law, possession of this report or a copy thereof does not imply right of publication or use for any purpose in whole or in part by any other than the person or company by whom it was commissioned.
- The use of excerpts from this report or alterations to this report, without the authorization of MHBC Planning will invalidate the entire report. This report may not be used for any purpose other than its intended purpose as outlined.
- Unless expressed otherwise: 1) information contained in this report covers only those items that were examined and reflect the condition of those items at the time of inspection; and 2) the inspection is limited to visual examination or accessible items without dissection, excavation, probing, or coring. There is no warranty or guarantee, expressed or implied, that problems or deficiencies in the plants inventoried may not arise in the future.
- The determination of ownership of any subject tree(s) is the responsibility of the owner and any civil or common-law issues, which may exist between property owners with respect to trees, must be resolved by the owner. The recommendation to remove or maintain any tree(s) does not grant authority to encroach in any manner onto adjacent private properties.

SUMMARY OF TREE GROUPINGS INVENTORIED - The following table summarizes the on-site tree groupings that were identified on site. These correspond with the clouded areas as labeled on the Tree Inventory Plan TI-1. This method of identification is used for the entire site.

Tree Grouping	Species - dominant species shown in bold	Size range DBH (cm) of trees within Group	Proportion % for each size range within Group	General Condition of Group	Comments
A	Eastern White Pine (Pinus strobus)	0-5	0	F	Hedgerow. Approx. 15 stems
		6-12	0		
		13-20	0		
		21-40	15		
		>40	85		
B	Apple (Malus sp)	0-5	0	F	10 stems
		6-12	0		
		13-20	100		
		21-40	0		
		>40	0		
C	Poplar (Populus sp)	0-5	0	F	Approx. 10 Poplar stems Approx. 5 Maple stems
	Manitoba Maple (Acer negundo)	6-12	0		
		13-20	90		
		21-40	10		
		>40	0		
D	Eastern White Pine (Pinus strobus)	0-5	0	F	Approx. 100 stems
		6-12	5		
		13-20	15		
		21-40	50		
		>40	30		
E	Eastern White Pine (Pinus strobus)	0-5	0	F	Approx. 6 stems
		6-12	0		
		13-20	95		
		21-40	0		
		>40	5		
F	Eastern White Pine (Pinus strobus)	0-5	0	F	Approx. 20 stems
		6-12	0		
		13-20	0		
		21-40	100		
		>40	0		
G	Eastern White Pine (Pinus strobus)	0-5	0	F	Approx. 20 stems
		6-12	0		
		13-20	0		
		21-40	100		
		>40	0		

Tree Grouping	Species - dominant species shown in bold	Size range DBH (cm) of trees within Group	Proportion % for each size range within Group	General Condition of Group	Comments
H	Poplar (Populus sp)	0-5	0	F	Approx. 50 Poplar stems Approx. 5 Willow stems
	Willow (Salix sp)	6-12	90		
		13-20	10		
		21-40	0		
		>40	0		
I	Eastern White Pine (Pinus strobus)	0-5	0	F	2 large Pines and 1 large Black Cherry
	Black Cherry	6-12	0		
		13-20	0		
		21-40	0		
		>40	100		
J	Poplar (Populus sp)	0-5	0	F	Approx. 50 stems
		6-12	90		
		13-20	10		
		21-40	0		
		>40	0		
K	Eastern White Pine (Pinus strobus)	0-5	0	F	Approx. 10 stems
		6-12	0		
		13-20	0		
		21-40	100		
		>40	0		
L	Maple (Acer sp)	0-5	0	F	Approx. 5 stems
		6-12	0		
		13-20	0		
		21-40	100		
		>40	0		
M	Maple (Acer sp)	0-5	0	F	Approx. 12 Maple stems 1 Spruce and 1 Pine. Maples in poor form
	Pine (Pinus sp)	6-12	0		
	Spruce (Picea sp)	13-20	0		
		21-40	90		
		>40	10		
N	Manitoba Maple (Acer negundo)	0-5	0	F	1 stem
		6-12	0		
		13-20	0		
		21-40	100		
		>40	0		

Tree Grouping	Species - dominant species shown in bold	Size range DBH (cm) of trees within Group	Proportion % for each size range within Group	General Condition of Group	Comments
O	Eastern White Pine (Pinus strobus)	0-5	0	F	Approx. 5 stems
	Maple (Acer sp)	6-12	0		
		13-20	0		
		21-40	80		
		>40	20		
P	Maple (Acer sp)	0-5	0	F	Approx. 3 stems
		6-12	0		
		13-20	0		
		21-40	100		
		>40	0		
Q	Maple (Acer sp)	0-5	0	F	2 Maples stems
		6-12	0		
		13-20	0		
		21-40	100		
		>40	0		
R	Maple (Acer sp)	0-5	0	F	2 Maples and 1 Spruce
	Spruce (Picea sp)	6-12	0		
		13-20	0		
		21-40	70		
		>40	30		
S	Eastern White Cedar (Thuja occidentalis)	0-5	0	F	Hedgerow. Approx. 6 stems
		6-12	0		
		13-20	0		
		21-40	100		
		>40	0		
T	Spruce (Picea sp)	0-5	0	F	4 stems
		6-12	0		
		13-20	100		
		21-40	0		
		>40	0		

TREE PROTECTION RECOMMENDATIONS

The following standards shall apply to any trees that are identified to be retained. The City of Barrie's Municipal standards as contained within the **Tree Preservation Manual** shall supersede the recommendations contained herein. In all other instances, the following recommendations shall be treated as minimum standards for tree protection and retention.

1.0 ESTABLISH A TREE PROTECTION ZONE

The purpose of the tree protection zone is to prevent root damage, soil compaction and soil contamination during construction activities. Workers and machinery shall not disturb the tree protection zone in any way. In order to prevent access, the following recommendations are offered.

- Install tree protection hoarding as per detail 4 / TI-2. This shall apply to tree protection areas within or adjacent to current phase works. Trees slated for retention that are far enough removed from the current work phase will not require hoarding until such time that work would be performed in their vicinity.
- Allow no fill, equipment, supplies, or waste within the tree protection zone.
- Maintain the tree protection hoarding in good condition for the duration of construction.
- Tree protection hoarding is not to be removed until construction for current phase has been completed or until it is determined that construction activities will no longer impact the subject tree(s).

2.0 ROOT PRUNING

Where possible, hand dig areas closest to each tree to prevent any unnecessary tearing or pulling of roots. Removal of roots that are greater than 2.5 centimetres in diameter or roots that are injured or diseased should be performed as follows:

- Preserve the root bark ridge (similar in structure to the branch bark ridge). Directional Root Pruning (DRP) is the recommended technique and should be employed during hand excavation around tree roots. Roots are similar to branches in their response to pruning practices. With DRP, objectionable and severely injured roots are properly cut to a lateral root that is growing downward or in a favorable direction.
- All roots needing to be pruned or removed shall be cut cleanly with sharp hand tools, by a Certified Arborist.
- No wound dressings or pruning paint shall be used to cover the ends of each cut.
- All roots requiring pruning shall be cut using any of the following tools:
Large or small loppers, Hand pruners, Small hand saws, Woundscribers
- Avoid prolonged exposure of tree roots during construction - keep exposed roots moist and dampened with mulching materials, irrigation or wrap in burlap if exposed for longer than 4 hours.

3.0 FERTILIZATION AND IRRIGATION

The following measures are recommended:

- Aeration and deep root fertilize to ensure that all trees receive the appropriate nutrients for healthy growth.
- Fertilizer must be a low nitrogen formula such as 5-30-30 to promote root growth rather than shoot growth.
- If construction occurs during July and / or August, roots must be irrigated during conditions of drought.

4.0 ESTABLISH MAINTENANCE PROGRAM

Pre-Construction:

- Prune all trees to remove any deadwood and obstruction prune as required.

During Construction:

- Irrigate tree preservation zones during drought conditions (June through September), in an attempt to reduce the effects of drought stress.
- Inspect the site every month to ensure that all tree protection fence / hoarding is in place and in good condition, inspect the trees to monitor condition.

Post-Construction:

- Prune crowns to remove any newly developed deadwood only. Do not remove any live growth.

- Inspect the trees three times per year (May, July, and September) to monitor condition for a minimum period of 2 additional years.

5.0 LANDSCAPING

Any landscaping completed within the tree preservation zones, after construction is completed and tree protection fencing / hoarding has been removed, is to be carried out in such a way that it will not cause damage to any of the trees or their roots. The trees must be protected to the same standards listed earlier in this report, but without the use of tree protection fence or hoarding.

The following guidelines are recommended:

- **No grade changes** are permitted which include adding and/or removing soil.
- **No excavation** is permitted that can cause damage to the roots of the tree.
- **No heavy equipment** can be used to compact the soil within the tree preservation zone.
- Where possible, hard surface paving around trees to be protected should be constructed using permeable products such as interlocking stone. Areas to be paved must be hand dug when encroaching within the tree protection zone.

OBSERVATIONS AND CONCLUSIONS

Given the proposal for this site, the majority of trees will be affected due to conflicts with the proposed development. Replacement trees will be shown on the landscape plan which will be designed with the intent to replace canopy and thereby minimize the impact of canopy loss. Any removal of trees that border the property line of the subject site will require coordination with the adjacent landowner in addition to the requisite City permit prior to such removal.

Any trees to be retained will require careful consideration in order to minimize disturbance to tree roots. Excavation within tree protection zones is to be kept to a minimum and shall be in accordance with the recommendations contained within this report.

In some instances, anchor roots may be encountered in unexpected locations. In this circumstance, the contractor shall halt work and seek the direction of an ISA Certified arborist prior to making any cuts that may potentially destabilize a tree.

Special care shall be taken when working within or near the tree protection zones of trees that are to be retained. No removals shall take place in the absence of a City approved Tree Removal Permit.

Kindly direct any questions regarding this report to the undersigned.

Respectfully submitted,

MHBC Planning, Urban Design & Landscape Architecture



Nick A. Miele BLA, OALA, CSLA, ISA
Senior Landscape Architect, Partner
ISA Certified Arborist No. ON-1251A