

**Tree Inventory & Preservation Plan Report
16 – 18 Mill Street
Georgetown, Ontario**

prepared for

**Egmond Associates Ltd.
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prepared by



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Introduction

Kuntz Forestry Consulting Inc. was retained by Egmond Associates Ltd. to complete a Tree Inventory and Preservation Plan report as part of a development application for the properties located at 16 – 18 Mill Street in Georgetown, ON. The subject properties are located north of Mill Street South and east of Dayfoot Drive, within a residential area.

The work plan for this tree preservation study included the following:

- Prepare inventory of the tree resources greater than 10 cm DBH on or within six meters of the subject properties, and trees of all sizes within the road right-of-way;
- Evaluate potential tree saving opportunities based on proposed development plans; and,
- Document the findings in a Tree Inventory and Preservation Plan report.

The results of the evaluation are provided below.

Methodology

Trees greater than 10 cm DBH on or within six meters of the subject properties and trees of all sizes within the road right-of-way were included in the inventory. Trees were located using a handheld GPS unit (Trimble GeoExplorer® Series) accurate to ± 1 metre and aerial imagery of the site. The Town of Halton Hills requires dripline as the limit of protection and as such the dripline of each tree was measured in field. Trees included in the inventory were identified with the numbers 1 – 36.

Tree resources were visually assessed for condition utilizing the following parameters:

Tree # – Number assigned to trees that corresponds to Figure 1.

Species – Common and botanical names provided in the inventory table.

DBH – Diameter (centimeters) at breast height, measured at 1.4 m above the ground.

Condition – Condition of tree considering trunk integrity (TI), crown structure (CS) and crown vigor (CV). Condition ratings include poor (P), fair (F), and good (G).

Crown Dieback – Percentage of dead branches within the crown.

Dripline – Crown radius.

Comments – Any other relevant tree condition information.

Stand Tally Analysis

Where trees were situated in groups and their individual locations could not be deciphered, they were inventoried in tree polygons. Tree polygons are denoted with a “P” in front of the tree number. Trees within a tree polygon were inventoried using a 100% tally analysis by species, size class, and quality. Trees with a DBH of 10cm or greater were included in the stand tally analysis.

Trees were assessed for condition utilizing the following parameters:

Species: Common and botanical names provided in the inventory table;

Size Class (DBH): 10 – 24cm, 26 – 36cm, 38 – 48cm, 50 cm and over;

Quality Class: Acceptable Growing Stock (AGS), Unacceptable Growing Stock (UGS)

Trees classified as AGS are trees with no major defects in the bole and exhibit a relatively good crown structure and vigour. Trees classified as UGS are trees with a major defect in the bole or exhibiting a relatively poor crown structure or vigour.

Existing Site Conditions

The subject properties are occupied by two residential buildings, a parking lot, and amenity areas. Tree resources exist in the form of landscape trees and natural regeneration. Refer to Figure 1 for the existing site conditions.

Individual Tree Resources

The tree inventory was conducted on 28 August 2020. The inventory documented 34 trees, one hedgerow, and one tree polygon on and within six metres of the proposed development and within the road right-of-way.

Tree resources are comprised of Siberian Elm (*Ulmus pumila*), Blue Spruce (*Picea pungens*), Manitoba Maple (*Acer negundo*), Black Walnut (*Juglans nigra*), Eastern White Cedar (*Thuja occidentalis*), Basswood (*Tilia americana*), Norway Maple (*Acer platanoides*), and White Spruce (*Picea glauca*). Refer to Table 1 and Table 2 for the full tree inventory and Figure 1 for the location of trees reported in the tree inventory.

Proposed Development

The proposed development includes the demolition of the existing building and the construction of a 4-storey residential building with underground parking and above ground parking. Refer to Figure 1 for the proposed development.

Discussion

The following sections provide a discussion and analysis of tree impacts and tree preservation relative to the proposed development and existing conditions.

Development Impacts/Tree Removal

The removal of 26 trees and one tree polygon, including Trees 1 – 6, 8 – 10, 13, 14, 16, 20 – 23, 25 – 27, and 29 – 36, will be required to accommodate the proposed development. Trees 1 – 3, 27, and 29 are located close to the proposed road widening such that their roots and / or crowns would be impacted by construction. Trees 5 and 6 conflict with the proposed stormwater connection and excavation required for the underground parking. Trees 10 and 36 have trunks that conflict with the removal of the existing asphalt parking lot. Trees 31 – 34 have trunks that conflict with the proposed building. P35 conflicts with the connection to the future development north of the subject property. Trees 4, 8, 9, 13, 14, 16, 20, 22, 23, 25, 26, 30, and one tree labeled as “Failed Tree” on Figure 1 are in poor and / or hazardous condition and their removal is advised regardless of the site plan. Refer to Figure 1 for the location of the proposed tree removals.

Trees 1 – 3, 5, 6, 8, 9, 13, 14, 16, 21 – 23, 25, 27, 29, 30, P35, and 36 are located on neighbouring properties or the property boundary and permission from their respective landowners is required prior to their removal.

It should be noted that trees are to be removed outside of breeding bird window (April 1 - August 31). Otherwise, an avian biologist should conduct a nest search within 24 hours prior to removals.

Tree Preservation

Preservation of the remaining 8 trees and one hedgerow will be possible with the use of appropriate tree protection measures as indicated on Figure 1. Tree protection measures must be implemented prior to the proposed development to ensure tree resources designated for retention are not impacted. Refer to Figure 1 for the location of required tree preservation fencing, general Tree Protection Plan Notes, and tree preservation fence details. Special mitigation measures have been prescribed for Trees H7, 11, 12, 15, 17, 19, and 24, as described below.

Tree H7

Encroachment into the dripline of Tree H7 will be required to accommodate the proposed development, including grading works. If the following protection and mitigation measures are employed before, during, and after construction, long-term adverse effects are not anticipated to these trees.

1. The removal of the existing asphalt within the dripline of Tree H7 should be conducted with minimal impact by machinery. Asphalt debris should be removed by pulling away radially from the trunk. Any roots damaged through asphalt removal or building demolition should be hand pruned by a Certified Arborist in accordance with Good Arboricultural Standards.
2. Prior to construction, air-spading technology should be used to excavate a trench at the anticipated limit of grading works within the dripline of Tree H7, as shown in Figure 1.
3. The roots of Tree H7 are to be pruned inside the trench by a Certified Arborist in accordance with Good Arboricultural Standards.
4. The trench is to be backfilled with clean topsoil.
5. Tree protection fencing should be installed adjacent to the trench, as shown in Figure 1.
6. All works should be supervised by a Certified Arborist in accordance with Good Arboricultural Standards.

Trees 11, 12, and 15

Minimal encroachment into the driplines of Trees 11, 12, and 15 will be required to accommodate the proposed development. If the following protection and mitigation measures are employed before, during, and after construction, long-term adverse effects are not anticipated to these trees.

1. The removal of the existing asphalt driveway within the driplines of Trees 11, 12, and 15 should be conducted with minimal impact by machinery. Asphalt debris should be removed by pulling away radially from the trunk. Any roots damaged through the process of removing asphalt should be hand pruned by a Certified Arborist in accordance with Good Arboricultural Standards.

2. Clean topsoil and grass seed are to be placed in the removed asphalt driveway area within the driplines of Trees 11, 12 and 15.
3. Tree protection fencing should be installed at the driplines of Trees 11, 12, and 15, as shown in Figure 1.
4. All works should be supervised by a Certified Arborist in accordance with Good Arboricultural Standards.

Trees 17, 19, and 24

Encroachment into the driplines of Trees 17, 19, and 24 will be required to accommodate the proposed development. It is unlikely that many of their roots extend on the subject property, as there is currently an existing asphalt parking lot in this area. Furthermore, these trees are located downhill from the proposed development. Tree roots generally exploit water resources and other resources that can be easily accessed, and considering water runs downhill, very few tree roots are anticipated to be located uphill within the boundaries of the proposed development. If the following protection and mitigation measures are employed before, during, and after construction, long-term adverse effects are not anticipated to these trees.

1. The removal of the existing asphalt driveway within the driplines of Trees 17, 19, and 24 should be conducted with minimal impact by machinery. Asphalt debris should be removed by pulling away radially from the trunk. Any roots damaged through the process of removing asphalt should be hand pruned by a Certified Arborist in accordance with Good Arboricultural Standards.
2. Clean soil and grass seed are to be placed in the removed asphalt driveway area within the driplines of Trees 17, 19, and 24.
3. Tree protection fencing should be installed two metres east of the proposed building within the driplines of Trees 17, 19, and 24 to provide room for construction and excavation, as shown in Figure 1.
4. All works should be supervised by a Certified Arborist in accordance with Good Arboricultural Standards.

Tree Compensation

The removal of 15 trees are required to accommodate the proposed development. 12 additional trees have been marked for removal due to condition alone. Halton Region does not have a specified compensation ratio for tree removals. Standard compensation ratios for several surrounding municipalities require 3:1 for healthy tree removals and 1:1 for removal of trees in poor condition. Currently the landscape plan is showing 19 caliper sized plantings. All existing space for tree plantings have been exhausted. The remaining compensation requirements may be satisfied by cash in lieu.

Summary and Recommendations

Kuntz Forestry Consulting Inc. was retained by Egmond Associates Ltd. to complete a Tree Inventory and Preservation Plan report in support of a development the properties located at 16 – 18 Mill Street in Georgetown, ON. A tree inventory was conducted and reviewed in the context of the proposed works.

The findings of the study indicate a total of 34 trees, one hedgerow, and one tree polygon on and within six metres of the subject properties. The removal of 26 trees and one tree polygon is required to accommodate the proposed development. The remaining 8 trees

and one hedgerow can be saved provided appropriate tree protection measures are installed prior to the proposed development.

The following recommendations are suggested to minimize impacts to trees identified for preservation. Refer to Figure 1 for tree protection fence locations, further tree preservation plan notes, and the tree protection fencing detail.

- Tree protection barriers and fencing should be erected at locations as prescribed on Figure 1. All tree protection measures should follow the guidelines as set out in the tree preservation plan notes and the tree preservation fencing detail.
- No construction activity including surface treatments, excavations of any kind, storage of materials or vehicles, unless specifically outlined above, is permitted within the area identified on Figure 1 as a tree protection zone (TPZ) at any time during or after construction.
- Branches that extend beyond prescribed tree protection zones that require pruning must be pruned by a qualified Arborist or other tree professional. All pruning of tree branches must be in accordance with Good Arboricultural Standards.
- Special mitigation measures have been prescribed for select trees, as described in the *Tree Preservation* section of this report.
- Site visits, pre, during and post construction is recommended by either a certified consulting arborist (I.S.A.) or registered professional forester (R.P.F.) to ensure proper utilization of tree protection barriers. Trees should also be inspected for damage incurred during construction to ensure appropriate pruning or other measures are implemented.
- To avoid interference with the eggs, nests, or young of birds protected under the federal Migratory Birds Convention Act, removals should not occur from 1 April to 30 September of any given year. Ideally, removals should occur between 1 October and 31 March to avoid interference with all nesting birds. Should removals be required within the 1 April to 30 September breeding period, a qualified avian biologist should conduct a thorough survey no more than 48 hours prior to the desired tree removal date to confirm the presence or absence of protected species. If protected species are present, removals cannot occur without permission from the Canadian Wildlife Service.

Respectfully Submitted,
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Limitations of Assessment

Only the tree(s) identified in this report were included in the inventory. The assessment of the trees presented in this report has been made using accepted arboricultural techniques. These may include a visual examination taken from the ground of all the above-ground parts of the tree for structural defects, scars, external indications of decay such as fungal fruiting bodies, evidence of attack by insects, discoloured foliage, the condition of any visible root structures, the degree of lean (if any), the general condition of the trees and the identification of potentially hazardous trees or recommendations for removal (if applicable). Where trees could not be directly accessed (i.e. due to obstructions, and/or on neighbouring properties), trees were assessed as accurately as possible from nearby vantage points.

Locations of trees provided in the report are determined as accurately as possible based on the best information available. If official survey information is not provided, tree location in the report may not be exact. In this case, if trees occur on or near property boundaries, an official site survey may be required to determine ownership utilizing specialized survey protocol to gain precise location.

Furthermore, recommendations made in this report are based on the site plans that have been provided at the time of reporting. These recommendations may no longer be applicable should changes be made to the site plan and/or grading, servicing, or landscaping plans following report submission.

Notwithstanding the recommendations and conclusions made in this report, it must be recognized that trees are living organisms, and their health and vigor constantly change over time. They are not immune to changes in site conditions or seasonal variations in the weather conditions. Any tree will fail if the forces applied to the tree exceed the strength of the tree or its parts.

Although every effort has been made to ensure that this assessment is reasonably accurate, the trees should be re-assessed periodically. The assessment presented in this report is valid at the time of inspection.

Table 1. Tree Inventory

Tag	Common Name	Scientific Name	DBH	TI	CS	CV	CDB	DL	Comments	Action
1	Siberian Elm	<i>Ulmus pumila</i>	31	F-G	F	F		4.5	Epicormic branching (M), broken branches (M), included bark (M), asymmetrical crown (M)	Remove
2	Blue Spruce	<i>Picea pungens</i>	47	F-G	F-G	F-G	5	3	Deadwood (L), included bark (L)	Remove
3	Manitoba Maple	<i>Acer negundo</i>	5 - 10	F	P-F	P-F		2	Multi-stem at base, epicormic branching (H), deadwood (M)	Remove
4	Manitoba Maple	<i>Acer negundo</i>	5 - 35	F	P-F	P	25	4	Pruning wounds (H), crack from base to 3 metres (M), deadwood (M), multi-stem at base, epicormic branching (H), main stem with top-down dieback	Remove (Condition)
5	Black Walnut	<i>Juglans nigra</i>	47	G	F-G	F-G		8	Epicormic branching (M), asymmetrical crown (M)	Remove
6	Manitoba Maple	<i>Acer negundo</i>	42	P-F	P-F	P-F		7	Epicormic branching (H), lean (M) away from property, one stem pruned at base, cavity (M) in crown, growth deficit (L) at base	Remove
H7	Eastern White Cedar	<i>Thuja occidentalis</i>	5 - 10	G	G	G		1.5	~30 trees	Retain
8	Manitoba Maple	<i>Acer negundo</i>	~20, ~20	P	P	P		5	Cavity (VH) at union, co-dominant stems at 1 metre, epicormic branching (M), coppice (H), asymmetrical crown (M), epicormic branching (H)	Remove (Condition)
9	Manitoba Maple	<i>Acer negundo</i>	~70, ~60, ~50	P-F	P-F	P-F		8	Multi-stem at 0.5 metres, epicormic branching (H), stem wound (H), broken branches (H), attached to existing building	Remove (Condition)
10	Siberian Elm	<i>Ulmus pumila</i>	27	F	F-G	F		5	Asymmetrical crown (M), growing through the pavement, vine competition (H), epicormic branching (M), broken branches (L)	Remove
11	Black Walnut	<i>Juglans nigra</i>	30	G	F-G	G		5	Crooks (L), vine competition (L), asymmetrical crown (L)	Retain
12	Basswood	<i>Tilia americana</i>	24	F	P-F	F		4	Co-dominant stems at 3 metres, vine competition (H), located on slope, poor form	Retain
13	Manitoba Maple	<i>Acer negundo</i>	35	P	P	P		5	Vine competition (H), stem wound (H) at 0.5 metres, main stem dead, main stem with horizontal union, epicormic branching (M)	Remove (Condition)
14	Manitoba Maple	<i>Acer negundo</i>	28	P-F	P-F	P		4	Coppice growth (H), cavity (M) at base, epicormic branching (H) bulge (M) at 2 metres	Remove (Condition)
15	Black Walnut	<i>Juglans nigra</i>	12	F-G	F-G	F-G		2	Asymmetrical crown (M), vine competition (H), crooks (M)	Retain
16	Manitoba Maple	<i>Acer negundo</i>	13	P-F	P-F	F		5	Pheonix limb from failed tree, lean (M) towards property, epicormic branching (H), cavity (M) at base	Remove (Condition)
17	Norway Maple	<i>Acer platanoides</i>	19	F-G	G	G		5	Growth deficit (L) at base	Retain

18	Norway Maple	<i>Acer platanoides</i>	19	G	G	G		4.5		Retain
19	Black Walnut	<i>Juglans nigra</i>	23	F	F	F-G		5	Asymmetrical crown (H), bow (M), epicormic branching (L), deadwood (L)	Retain
20	Manitoba Maple	<i>Acer negundo</i>	~40, ~35, ~30	P-F	P	P		10	One limb failing away from property, vine competition (H), broken branches (M), coppice growth (M), multi-stem at base, included fence, epicormic branching (H)	Remove (Condition)
21	Manitoba Maple	<i>Acer negundo</i>	22	P-F	F	P-F		4	Lean (L), epicormic branching (H), coppice growth (M), cavity (M) at 2.5 metres	Remove
22	Manitoba Maple	<i>Acer negundo</i>	39, ~35, ~25	P	P	P		10	Multi-stem at base, asymmetrical crown (H), two stems failing away from property, included fence, epicormic branching (H), lean (L) on main stem, lean (H) on other stems	Remove (Condition)
23	Manitoba Maple	<i>Acer negundo</i>	23	P-F	P-F	P-F		7	Sweep (M), located on slope, epicormic branching (H), stem wound (M) in crown, deadwood (L), asymmetrical crown (H)	Remove (Condition)
24	Norway Maple	<i>Acer platanoides</i>	18	F	P-F	F-G		6	Sweep (M), co-dominant stems at 3.5 metres, asymmetrical crown (H), epicormic branching (L), located on slope, previous stem pruned at base	Retain
25	Manitoba Maple	<i>Acer negundo</i>	~30	P	P	P		8	Asymmetrical crown (H), included fence, lean (H) away from property, epicormic branching (H), crack (H) in main stem, coppice growth (H)	Remove (Condition)
26	Manitoba Maple	<i>Acer negundo</i>	20 - 50	P	P	P		8	Included fence, multi-stem at base, broken branches (H), epicormic branching (H), vine competition (H), two stems failing away from property, included bark (H), cavity (L) at base, decay (M) at base	Remove (Condition)
27	Norway Maple	<i>Acer platanoides</i>	10	F-G	F	F-G		4	Asymmetrical crown (M), lean (L) toward property	Remove
28	Norway Maple	<i>Acer platanoides</i>	12	G	F-G	F-G		3.5	Co-dominant stems at 2 metres, asymmetrical crown (M)	Retain
29	Norway Maple	<i>Acer platanoides</i>	15	F-G	F	F		4	Bow (M), asymmetrical crown (H), coppice growth (L), epicormic branching (L), crooks (L), lean (L) away from property	Remove
30	Manitoba Maple	<i>Acer negundo</i>	~45	P-F	P-F	P	10	8	Co-dominant stems at base, small stem pruned at 1 metre, included fence, lean (M) on main stem away from property, epicormic branching (H), cavity at 2 metres, coppice growth (H), deadwood (L)	Remove (Condition)
31	Blue Spruce	<i>Picea pungens</i>	15	G	F-G	G		1.5	Pruning wounds (M), asymmetrical crown (L)	Remove
32	Manitoba Maple	<i>Acer negundo</i>	11	F-G	F-G	F-G		2	Sweep (L), epicormic branching (L)	Remove
33	Manitoba Maple	<i>Acer negundo</i>	13	G	G	F-G		2		Remove
34	Manitoba Maple	<i>Acer negundo</i>	11	F-G	F-G	F-G		2	Lean (L) over balcony	Remove
P35	Refer to Table 2									Remove
36	Manitoba Maple	<i>Acer negundo</i>	~15	F	F	F		2		Remove

Codes		
DBH	Diameter at Breast Height	(cm)
TI	Trunk Integrity	(G, F, P)
CS	Crown Structure	(G, F, P)
CV	Crown Vigor	(G, F, P)
CDB	Crown Dieback	%
DL	Dripline	(m)
P = poor, F = fair, G = good, ~ = estimate, (VL) = very light, (L) = light, (M) = moderate, (H) = heavy		

Table 2. Stand Tally Analysis

P35

Tree Size Class >	Polewood (1 - 24 cm DBH)		Small (26 - 36 cm DBH)		Medium (38 - 48 cm)		Large (50 cm +)		Total All Sizes	
Species	AGS	UGS	AGS	UGS	AGS	UGS	AGS	UGS	AGS	UGS
Norway Maple (<i>Acer platanoides</i>)	0	0	1	0	0	0	0	0	0	0
White Spruce (<i>Picea glauca</i>)	0	0	3	0	0	0	0	0	0	0
Total Number of Trees	0	0	4	0	0	0	0	0	4	0