COSTCO WHOLESALE CORPORATION

COSTCO NEWMARKET
ARBORIST REPORT

DECEMBER 12, 2024

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ARBORIST REPORT

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PROJECT NO.: 211-07806-00
DATE: DECEMBER 12, 2024

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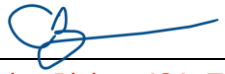

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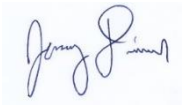

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TABLES

FIGURES

APPENDICES

1 INTRODUCTION

WSP Canada Inc. (WSP) was retained by Costco Wholesale Corporation to prepare an Arborist Report for the proposed works the Costco Depot site located in the Town of Newmarket. The project includes installation of an electrical conduit along the west side of the subject site.

WSP Landscape Architecture has completed a tree inventory within the project limits. The purpose of the inventory was to assess vegetation for health, location and potential impacts related to the proposed works. Tree Preservation Plans have been prepared in association with this report.

1.1 STUDY AREA

- The study area consists of trees within and adjacent to the west side of the parking area at the existing Costco Depot located at 18182 Yonge Street in East Gwillimbury;
    - The approximate limits of the study area are shown in Figure 1.

Figure 1: Study Area

Note: the study limit is outlined in red. Image taken from Google Maps (last accessed December 2024).

1.2 REPORT FRAMEWORK

This report details the results of the tree inventory; provides an overview of the relevant policy and legislation in relation to the proposed works; and makes recommendations for tree protection, tree injury, mitigative measures and removals based on the proposed works.

- In accordance with Town of East Gwillimbury's guidelines for vegetation assessments, trees inventoried include:
  - All trees 5cm DBH or greater within the proposed construction area;
  - As some trees were found to be <5cm DBH, these trees were added to the inventory;
  - Trees on private and city property that could be impacted by the proposed works;
- Trees were assessed for species, quantity, dripline radius, condition and location (located using aerial imagery and topographic survey).
- Recommendations have been provided for tree protection, tree injury and removals based on the proposed site plan and limits of work.
- This report is to be read in conjunction with:
  - Appendix A: Tree Preservation Table;
  - Appendix B: Site Photos;
  - Appendix C: Tree Preservation Plans (TP-1 to TP-4);

2 EXISTING CONDITIONS

The Costco Newmarket Warehouse is located at the south-west corner of Green Lane and Yonge Street. The study limits are located within and adjacent to the west parking area.

Vegetation is mainly deciduous of native and non-native tree species.

2.1 BUILT FORM

- Commercial buildings;
- Gas bar;
- Parking lots with treed medians and perimeters;
- Roadways;

2.2 TREED VEGETATION

Trees within the inventoried area consist of planted native and non-native, mostly deciduous trees, with one coniferous specie. Trees are primarily young ranging in size from 5cm to 32cm DBH.

2.2.1 WEST PARKING LOT AND CITY TREES

- Vegetation composition is detailed below:
  - Frequent: Columnar Oak (*Quercus robar 'fastigiata'*)
  - Occasional: Honey Locust (*Gleditsia tricanthos*); Red Maple (*Acer rubrum*); Blue Spruce (*Picea pungens*); Tatarian Maple (*Acer tataricum*);
  - Rare: n/a

2.2.2 OVERALL CONDITION OF STREET TREES AND PRIVATE TREES

Tree health ranges between good and poor, with a majority observed to be in good condition. Signs of decline and defects were observed on some trees including:

- Mower damage;
- Wound / crack / cavity on trunk;
- 'Witches broom' structure;
- Buried root flare;
- V-shaped union;
- Dead or broken branches;

3 POLICY CONTEXT

This section summarizes the various municipal, regional, provincial and federal planning policies and regulations related to the tree inventory and which apply to the project. Thus, they provide the policy context for this Arborist Report.

3.1 TOWN OF NEWMARKET – PRIVATE TREE BY-LAW

The Town of Newmarket has a by-law to regulate the injury or destruction of trees on private property within the Town of Newmarket (By-Law 2022-10).

- Applies to trees equal to or greater than 20cm DBH or grade on private property in the Town.
- This by-law does not apply to trees regulated by the towns Woodlot by-law 2007-71, as amended, and the Regional Municipality of York Forest Conservation by-law 2013-68, as amended.
- Any tree removal (except as authorized by SPA/subdivision agreement/consent or permit obtained under the Private Tree Protection By-law) is unlawful and the property owner(s) and any person who participates in such removal is subject to the penalty provisions of the by-law.

Applicability to Project

- There are trees located on private property within the study area limits, however the site is located within the Town of East Gwillimbury, therefore the by-law does not apply.

3.2 TOWN OF EAST GWILLIMBURY – TREE PRESERVATION GUIDELINES

The Town of East Gwillimbury has a by-law (2024-077) to prohibit or regulate the injuring or destruction of trees on private property.

- A permit is required for the injury or destruction of trees within the Town of East Gwillimbury and may require fees for the permit.
- This by-law applies to trees equal to or greater than 20cm DBH on private property within the geographic limits of the Town.
- This by-law does not apply to any Woodland with an area of 1.0 ha or greater or to any woodlot with an area of 0.2 ha up to 1.0 ha within the Town.

Applicability to Project

- There are trees on private property within the limits of the Town of East Gwillimbury and meet the requirements of the by-law, however trees that will require removal are all <20cm DBH and are exempt from the by-law.

3.3 REGION OF YORK – STREET TREES

The York Region Street Tree and Forest Preservation Guidelines (January 2022) applies to Region-owned street trees and natural vegetation within the road allowance or lands owned by the Region. These Guidelines apply where site disturbance is proposed in the Regional road allowance and specifically:

- For any site disturbance proposed in the Regional road allowance, the tree inventory will include;

- All individual Street Trees located within 10m of the limit of potential Site Disturbance or whose Crown extends into the limit of potential Site Disturbance;
- All individual trees 10cm DBH or greater, and described as Natural Vegetation, and located within 10m of the limit of potential Site Disturbance or whose Crown extends into the limit of potential Site Disturbance;
- Groups of trees less than 10cm DBH, and described as Natural Vegetation, and located within 10m of the limit of potential Site Disturbance or whose Crown extends into the limit of potential Site Disturbance;
- All trees 10cm DBH or greater, located on Adjacent Lands, and located within 10m of the limit of potential Site Disturbance or whose Crown extends into the limit of potential Site Disturbance.

Applicability to Project

- Green Lane is a Regional Road; therefore, this By-law applies to all trees within and adjacent to the ROW.

3.4 REGIONAL MUNICIPALITY OF YORK – FOREST CONSERVATION BY-LAW

A by-law to prohibit or regulate the destruction of injuring of trees in the Regional Municipality of York.

- A by-law to prohibit or regulate the destruction of trees in woodlands designated by the by-law;
- Provides that a lower-tier municipality may delegate all or part of its power to pass a by-law respecting the destruction of injuring of trees to its upper-tier municipality with the agreement of the upper-tier municipality;
- Requires that a permit be obtained to injure or destroy trees and may impose conditions to a permit, including conditions relating to the matter in which destruction occurs and the qualifications of persons authorized to injure or destroy trees;
- For the purpose of achieving the objectives of the Regional Official Plan by sustaining a healthy natural environment while also having regard to good forestry practices;
- Applies to all woodlands and to woodlands in those

Applicability to Project

- There are no woodlands within the study limits; therefore, this By-law does **not** apply.

3.5 CANADA FOOD AND INSPECTION AGENCY

Canada Food and Inspection Agency (CFIA) Directive D-03-08: Phytosanitary Requirements to Prevent the Introduction into and Spread within Canada of the Emerald Ash Borer (EAB), *Agrilus planipennis* (Fairmaire) applies to Ash species (*Fraxinus spp*.) observed on properties that are located within the EAB Regulated Areas of Canada, prepared by the CFIA and dated March 2021. This area covers all south and central Ontario and western Quebec. Ash trees that require removal are subject to this directive.

Applicability to Project

- The CFIA restricts the movement of all Ash material including wood, bark, chips or bark chips from being transported outside of the Regulated Area. A Movement Certificate is required by the CFIA for any Ash material leaving the Regulated Area.

- Ash are permitted to be chipped on site and/or removed or cut down and removed from site. Chipped Ash material that is to remain on site must be ground or chipped to a size of less than 2.5 cm in any two dimensions. All Ash material chipped or whole that is to be removed from site must be disposed of within the Regulated Areas of Canada.
- Refer to the CFIA website for a current map of the '*Emerald Ash Borer Regulated Areas of Canada'*
- A total of three Ash trees (*Fraxinus sp*.) were observed within the study limits within the southwest parcel. All three trees were dead and showed signs of EAB. All trees are recommended for removal and therefore CFIA guidelines must be followed.

3.6 ENDANGERED SPECIES ACT, 2007

Species designated as Threatened or Endangered by the Committee on the Status of Species at Risk in Ontario (COSSARO), otherwise known as Species at Risk in Ontario (SARO), and their habitats (i.e., areas essential for breeding, rearing, feeding, hibernation and migration) are automatically afforded legal protection under the Endangered Species Act, 2007 (ESA) (Government of Ontario 2007). The ESA (Subsection 9 (1)) states that:

- "No person shall,

  a) kill, harm, harass, capture or take a living member of a species that is listed on the SARO List as an extirpated, endangered or threatened species;

  b) possess, transport, collect, buy, sell, lease, trade or offer to buy, sell, lease or trade;

     (i) a living or dead member of a species that is listed on the Species at Risk in Ontario List as an extirpated, endangered or threatened species;

     (ii) any part of a living or dead member of a species referred to in subclause (i);

     (iii) anything derived from a living or dead member of a species referred to in subclause (i); or,

  c) sell, lease, trade or offer to sell, lease or trade anything that the person represents to be a thing described in subclause (b) (i), (ii) or (iii)".
- Clause 10(1) (a) of the ESA states that:
- "No person shall damage or destroy the habitat of a species that is listed on the SARO list as an endangered or threatened species".

<u>Applicability to Project</u>

- No woody Species at Risk were found within the project limits.

4 FIELD SURVEYS

4.1 TREE INVENTORY METHODOLOGY

Field observations were conducted on November 18, 2024. Trees were inventoried as per the following criteria:

- Trees were assessed for species, quantity, DBH, dripline radius, and general health condition;
- Tree locations were identified using a site plan with previously surveyed trees;
- Representative photographs were taken, which are on file at WSP;
- Trees were assessed in accordance with the Town of Newmarket's By-laws

4.2 TREE INVENTORY RESULTS

A total of **45** trees were assessed for this report:

- **6** individual trees >20cm DBH and **39** individual trees <20cm DBH, with alphanumerical identifiers:
  - Tree numbers T1 to T45;

Refer to the following table for a breakdown of trees per location. Refer to Appendix A for details on the inventory of each tree.

Table 4.1 – Tree Location

LOCATION	TREE NUMBERS	TOTAL
Costco Newmarket - west parking area	T1 – T42	42
Green Lane - road side allowance	T43 – T45	3
Total		**45**

5 DEFINITIONS

The following are the definitions of the assessment categories utilized in our tree assessment:

Table 5.1 – Definitions

ACRONYM / DEFINITION	DESCRIPTION
Tree Number	This number refers to the number on the on the tree tag or alpha-numeric, alphabetical or tree grouping label listed in Table 1: Tree Inventory and Preservation Charts and labelled on the Tree Preservation Plans (e.g. 142 or A1).
Tree Grouping	A tree grouping is more than one (1) tree located within close proximity of other trees, generally with no separation between the canopies.
DBH	This refers to diameter (in centimetres) at breast height and is measured at 1.4 m above the ground for each tree.
Tree Protection Zone	This to the area around a tree that is to be protected through tree protection measures e.g. hoarding. No construction activities are to be undertaken within this zone.
Suppressed	Refers to trees that have their crowns completely overtopped by adjacent trees and received limited to very limited sunlight.
Co-dominant Stem	Stems equal in size and relative importance that make up the overall crown of the tree.
Union	Junction point where two or more stems meet. A ‘U’ shaped junction indicates a well-formed union. A ‘V’ shaped junction indicates a weakly formed union, whereas stems grow and increase in girth, weak bark called ‘included bark’ forms within the junction and stems start to push apart causing vertical cracks and loss of structure.
Compartmentalization	This is a naturally occurring process by which chemical and physical barriers are synthesized to prevent the spread of decay and disease in trees.
Irregular Tree Form	Refers to branches and stems that have formed irregularly often resulting in contorted growth, weak attachments, weakly formed unions and codominant stems. The irregular growth of scaffold (lateral) branches typically leads to damage to other scaffold branches.
Imminently Hazardous Tree	Refers to a destabilized or structurally compromised tree that is in imminent danger of causing damage or injury to life or property.
Injure and Injury	Described as any act that will harm a tree's health, including failure to protect in accordance with standards set by the City’s tree protection / preservation policy.
Root Zone	Refers to the subterranean area around the tree measured from the trunk to up to 2 to 3 m beyond the dripline.
Critical Root Zone	The minimum area of the root system necessary to maintain vitality or stability of the tree. Typically, this area extends to the dripline of the tree. The severing of one root can cause approximately 5-20% loss of the root system. A reduction of this area by greater than 30% can pose stability concerns for the tree.

Table 5.2 – Tree Assessment Criteria

DEFINITION	DESCRIPTION
Trunk Integrity (T.I.)	This is an assessment of the trunk for any defects or weaknesses. It is measured on a scale of poor, fair, good.
Canopy Structure (C.S.)	This is an assessment of the scaffold branches, unions and the canopy of the tree. This is measured on a scale of poor, fair, good.
Canopy Vigour (C.V.)	This is an assessment of the health of the tree and assesses the amount of deadwood and live growth in the crown as compared to a 100% healthy tree. The size, colour and amount of foliage are also considered in this category. This is measured on a scale of poor, fair, good.
Good	Tree displays less than 15% deficiency/defect within the given tree assessment criteria (TI, CS, CV).
Fair	Tree displays 15%-40% deficiency/defect within the given tree assessment criteria (TI, CS, CV).
Poor	Tree displays greater than 40% deficiency/defect within the given tree assessment criteria (TI, CS, CV).

6 DISCUSSION

This section is a discussion of the retention potential, preservation and / or impacts to trees within the study limit. Vegetation recommendations, impacts and preservation are detailed in the following sections.

6.1 PROPOSED WORKS

Proposed works are shown on the Tree Preservation Plan (TP-1 to TP-4). The anticipated proposed works related to the site development include:

- A proposed electrical conduit;
  - Asphalt to be removed and replaced;
  - Line painting for parking spaces;
- Proposed transformer and shore power building;

6.2 TREE RECOMMENDATIONS / ASSUMPTIONS

The site plan elements have been illustrated on the Tree Preservation Plans.

The following recommendations / assumptions apply to trees that are to be removed, injured, preserved, retained and or transplanted.

6.2.1 TREE REMOVAL

- Tree removal is based on the degree of excavation / disturbance within the TPZ, considering tree species, size, condition and the amount of critical roots that would be impacted that are vital to sustaining the trees overall health and stability. This amount of impact and above is likely to cause a significant and irreversible decline in health of the tree.
- This designation also may be applied to trees that are dead, in poor condition or trees that could pose future safety concerns and trees dying because of a disease or insect infestation.

6.2.2 TREE REMOVALS WITHIN A REGIONAL ROAD

As per the *York Region Street Tree and Forest Preservation Guidelines* (January 2022), the following standards must apply to all tree removals:

- Where an encroachment occurs within 1m of the trunk of the tree, tree removal is recommended.
- Trees designated for removal must be clearly marked in field with the letter ‘R’ using orange or red high-visibility spray paint at DBH height (1.37m) and at the base of the stem (stump height).
- If TPZ barriers require removal to undertake approved tree removal, a Qualified Tree Professional must be onsite during removals.
- Root zone compaction protection shall be installed if vehicles and/ or large equipment used for tree removal (e.g., bucket truck, woodchipper) will encroach upon minimum required TPZs of trees to be retained.
- Approved tree removals shall be carried out prior to other Site Disturbance and in such a manner as to prevent Site Disturbance and damage to trees to be retained.

6.2.3 TREE PRESERVATION ZONE – ENCROACHMENT / REDUCTION

- Where proposed works, such as excavation, grading or topsoil, will encroach into a Tree Protection Zone (TPZ), a reduction will be required;
- Where reductions are moderate to significant, mitigative measures may be recommended to minimize damage to roots and canopy. Measures may consist of root-exploratory excavation, root-sensitive excavation and root pruning, stem protection, root zone compaction protection and canopy clearance pruning.

6.2.4 TREE PRESERVATION

- Preservation of trees is considered where an encroachment, excavation or disturbance into the TPZ is expected to be minor or nil and that tree health and stability will not be adversely impacted;
- The implementation of mitigation measures will reduce potential impacts to the tree therefore allowing for the tree to be preserved.

6.2.5 TREE RETENTION

- Proposed works will occur beyond the TPZ and the dripline with no impacts to the tree. Trees can be retained and do not require tree protection hoarding.

6.2.6 TREE TRANSPLANTING

- Where encroachments occur within 1m of the trunk, transplanting is an alternative to removal / replacement;
- Transplanting is dependant on:
  - Young trees that are in good condition and generally between 4 to 6cm DBH.

6.2.7 EAST GWILLIMBURY TREE PROTECTION BY-LAW

- As provided under section 3 of this Report, the existing trees are regulated under By-law 2024-077 and the Region of York Street and Forest Preservation Guidelines.

Table 6.1 – Tree Location Table

LOCATION	APPLICABLE BY-LAW / GUIDELINE	TREE NUMBERS	TOTAL
Private	Town of East Gwillimbury By-law (2024-077)	T1 – T42	42
Public	Region of York	T43 – T45	3
		Total	**45**

6.3 TREE REMOVALS - CONSTRUCTION

- Impacts to trees will occur where trees are located within the limits of excavation for the proposed electrical conduit and transformer building.
- Where an encroachment into a TPZ is greater than 25%, then the tree will be recommended for removal.
- Refer to tables 6.2 and 6.3 which detail removals by by-law relevance, tree number, species, size, encroachment, reason for removal and quantity.

Table 6.2 – Tree Removal Table

Tree #	Species	Size (DBH)	Quantity	TPZ encroachment	Reason
T12	Columnar Oak	7	1	Approx. 30% of TPZ.	Proposed electrical conduit.
T13	Columnar Oak	7	1	Approx. 30% of TPZ.	Proposed electrical conduit.
T14	Columnar Oak	6	1	Approx. 30% of TPZ.	Proposed electrical conduit.
T15	Columnar Oak	6	1	Approx. 30% of TPZ.	Proposed electrical conduit.
T39	Honey Locust	13	1	Approx. 40% of TPZ.	Proposed fence and limit of construction.

Table 6.3 – Tree Removal Table – By-law Relevance

BY-LAW	TREE #	QUANTITY
Private >20cm DBH	-	0
Private <20cm DBH	T12, T13, T14, T15, T39	5
Region	-	0
Total		**5**

- These trees are required to be removed as the encroachment into the TPZ is too severe and mitigation measures would be ineffective.

6.4 TREE REMOVALS - HEALTH

Trees that have been assessed in ‘poor’ or ‘dead’ condition, are recommended to be removed based on condition only and the potential to become a ‘hazard’. Removal is not related to construction activities.

There are **no trees** that have been recommended to be removed due to poor health.

6.5 TREE PRESERVATION ZONE – ENCROACHMENT / REDUCTION

- The location of the limit of excavation and / or grading, has the potential to encroach into and require a reduction of the TPZs of trees;
- Specific mitigation measures e.g. Air Spade / Hydro-vacuum excavation may be recommended to be applied as detailed in Sections 7.1 to reduce the potential for root damage from excavation and other construction activities;
    - This measure is not recommended for young trees 10cm DBH or less as roots are less developed and more fragile.
- Any roots and branches encountered are to be pruned in accordance with the recommendations in Sections 10.2 and 10.3. Refer to the following tree injury details.

Table 6.4 – Tree Injury Summary Table

TREE #	SPECIES	DBH (cm)	INJURY (TPZ REDUCTION)	MITIGATION & SURVIVAL
T22	Columnar Oak	18	Tree protection zone reduction on east side for installation of the proposed transformer.	Existing asphalt within the TPZ shall be removed manually or with small machinery to avoid root injury. **Hydro-vacuum / air-spade excavation and root pruning**. Excavate using hydro-vacuum or air-spade. Exposed roots are to be pruned at the limit of excavation using accepted pruning techniques (see Section 7.1 and 10.2). This measure will enable pruned root ends to sprout new roots once construction has been completed and the site has been restored to ensure that structural stability and health will remain unchanged.
T23	Columnar Oak	16	Tree protection zone reduction on east side for installation of the proposed transformer.	See notes for T22.

T24	Columnar Oak	10,8,8	Tree protection zone reduction on east side for installation of the proposed transformer.	See notes for T22.
T25	Columnar Oak	10,10	Tree protection zone reduction on east side for installation of the proposed transformer.	See notes for T22.
T43	Tatarian Maple	5	TPZ reduction for the proposed trench for the electrical conduit.	**Hydro-vacuum / air-spade excavation and root pruning**. Excavate the trench using hydro-vacuum or air-spade. Exposed roots are to be pruned at the limit of excavation using accepted pruning techniques (see Section 7.1 and 10.2). This measure will enable pruned root ends to sprout new roots once construction has been completed and the site has been restored to ensure that structural stability and health will remain unchanged.
T44	Tatarian Maple	6	TPZ reduction for the proposed trench for the electrical conduit.	See notes for T43.
T45	Tatarian Maple	5	TPZ reduction for the proposed trench for the electrical conduit.	See notes for T43.

6.6 TREE PRESERVATION

Trees that are well beyond construction limits with no encroachment into the tree protection zone can be retained. These trees will not require tree protection hoarding. Trees where construction limits will either encroach into the tree protection zone or will be within close proximity of the TPZ and / or dripline, will require tree protection hoarding. The following Tables provide details on tree protection zones for trees on private property, which are based on Town of Newmarket Tree Protection Zones, as the Town of East Gwillimbury does not exist or are not publicly available. For trees within the road allowance of Green Lane West, the Region of York's tree protection zones will apply.

- Table 6.5 details the minimum required TPZ's for trees associated with a construction project in the Town of Newmarket;
- Table 6.6 details the minimum TPZ required for trees within the regional road allowance of Green Lane West (Region of York).
- Table 6.7 details trees by category (retain or preserve), location and tree ID. Refer to Appendix A for minimum TPZ distances for trees.

Table 6.5 – Minimum Tree Protection Zone (TPZ) Determination – Town of Newmarket

TRUNK DIAMETER	MINIMUM PROTECTION DISTANCES REQUIRED (PUBLIC AND PRIVATE TREES)
<10cm	1.8m
11 to 40cm	2.4m
41 to 50cm	3.0m
51 to 60cm	3.6m
61 to 70cm	4.2m
71 to 80cm	4.8m
81 to 90cm	5.4m
91 to 100cm	6.0m
>100cm	60m + 10cm per 1cm DBH

*Town of Newmarket (2024). *Private Tree Protection Guide*.

Table 6.6 – Minimum Tree Protection Zone (TPZ) Determination – Region of York

TRUNK DIAMETER	MINIMUM PROTECTION DISTANCES REQUIRED STREET TREES AND TREES IN NATURALIZED AREAS	EXAMPLE
<24cm	2.4m	
>25cm	DBH (cm) x 10 / 100 = TPZ	43cm x 10 / 100 = 4.3m TPZ

*York Region (2022). *York Region Street Tree and Forest Preservation Guidelines*, York Region Forestry.

Table 6.7 – Tree Preservation Table

CATEGORY	BY-LAW	TREE NUMBERS	MIN. TPZ	QUANTITY
Retain	Private	T29, T30, T31, T32, T33, T34, T35, T36, T37, T38, T41, T42	1.8	12
	Region	-	-	0
Preserve	Private	T1, T2, T3, T4, T5, T6, T7, T8, T9, T10, T11, T16, T17, T18, T19, T20, T21, T26, T27, T28, T40	1.8	21
	Region	-	-	0
Total				**33**

6.6.1 HOARDING

Tree protective hoarding is to be installed for trees listed above under 'Preserve' and per the minimum TPZ distance.

- Place along limit of work or at limit of tree protection zone, as shown on plans.

Town of Newmarket – Hoarding Notes

- Tree Protection hoarding is to be installed to minimize the impact on the trees (over 20cm DBH) to be preserved prior construction and is to remain until the construction is completed (applicable to Private and Public trees);
- No construction activity, grade changes, surface treatment or excavations of any kind is permitted within the Tree Protection Zone;
- Tree protection shall be installed as outlined in the arborist report prior to the commencement of any construction/demolition activities;
- Hoarding inspection shall be conducted by forestry staff prior to any construction/demolition activities;
- The tree protection barriers shall be installed at the approved location and shall be maintained in their original location and condition until all construction activities within the site have ceased and all equipment is removed from the site. No equipment or material storage, flushing of fuel or washing of equipment is allowed within the TPZ. Any works within the TPZ area to be performed or supervised by a Certified Arborist;
- Hoarding to be installed per Town of Newmarket as outlined in the *Private Tree Protection Guide*.
    - Light duty tree hoarding (snow fence) is to be used in areas where visibility of pedestrians and vehicular traffic is a concern.

6.7 TREE PRUNING

Trees identified for pruning have a canopy that extends over the work area or road and branches at a height that would interfere within construction equipment and machinery during construction. Pruning is to be undertaken by a certified arborist using proper arboricultural techniques and guidelines in this report prior to the start of construction. This includes trees identified as 'injured' and 'tree protection encroachments.'

- No pruning is required to facilitate the proposed works.

7 MITIGATION MEASURES

Mitigation measures are recommended to reduce the amount of impact within the root zone of trees. These measures will be determined at the detailed design stage, however, may include:

- Any roots exposed during grading are to be pruned using good arboricultural practices and per the guidelines in this report;
- To minimize damage to roots it is recommended that excavators scrape soil within the same direction of the roots and not across. Any roots exposed are too be pruned neatly and cleanly.
- Areas where excavation, grading and construction have compacted soil within a reduced TPZ, at the completion of construction, scarify soil to a depth of 100mm. Restore disturbed areas and apply the following methods below;
    - Water trees periodically during construction;
    - After construction it is recommended that a 75mm depth layer of mulch be placed in a 2m radius around the trunks of these trees.

7.1 AIR SPADE / HYDRO VACUUM EXCAVATION

Seven trees T22, T23, T24, T25, T43, T44 and T45 will have TPZ encroachment for the proposed works. The following measures are recommended to be applied to minimize the damage to the root zone of these trees.

- Install tree protection hoarding as shown on Tree Preservation Plans;
- Air spade / hydro-vacuum excavation on the outside of tree protection hoarding;
- Ensure that the pressure used from the air spade / hydro-vacuum is such that it will not damage roots during excavation;
- Prune any roots in this area using good arboricultural practices per the guidelines in this report and under the supervision of a Certified Arborist;
- Backfill with excavated material or better, immediately after completion of air spade excavation to prevent roots from drying out;
- Water trees periodically during construction;
- Apply a layer of 50mm depth mulch in a 2m radius around the trees;
- It is recommended that this measure be applied while a Certified Arborist is present.

8 TREE REMOVALS / INJURY / COMPENSATION

To facilitate the proposed works a minimal amount of tree removal will be required. Refer to the charts below that detail removals and compensation.

- Private trees are subject to the compensation protocol (1:1 replacement ratio) for non-construction purposes;

Table 8.1 – Removal and Compensation Table – Town of East Gwillimbury

By-law	Removals	Exempt	Subtotal	Subtotal (Included on Permits)	Replacement Ratio (Recommended)	Replacement Trees
Private Non-Construction	-	-	-	-	1:1	0
Private Construction	5	5	0	-	1:1	0
City	-	-	-	-	1:1	0
Total						**0**

8.1.1 EXEMPTIONS FROM COMPENSATION

The following trees have been excluded from the removal and compensation table as:

- Tree diameter is below the minimum requirement of 20cm DBH, therefore omitted from removals and compensation table;

Table 8.2 – Exemptions Table

By-law	Tree ID	Reason	Quantity
Private	T12, T13, T14, T15, T39	<20cm DBH	5
	-	Dead	0
Total			**5**

8.1.2 OVERALL COMPENSATION NOTES

All five (5) trees to be removed are <20cm DBH and are therefore exempt from compensation requirements. However, there is adequate space for five trees to be replaced on the subject site. Refer to landscape drawings for recommended species and location details.

9 CONCLUSION

Trees inventoried for this report are a mixture of young to semi-mature, planted trees within the existing depot area and parking lot. Most trees were under 20cm DBH. Tree species were mostly deciduous with one coniferous specie, both native and non-native.

Impacts to existing trees will be moderate as the proposed depot upgrade will require the removal of five (5) trees within private property owned by Costco Wholesale Corporation. These trees are all <20cm DBH and do not require compensation, however replacement trees have been recommended. In addition, seven (7) trees will have a TPZ encroachment from the proposed grading and works. Air-spade / hydro-vacuum excavation has been recommended for all eight trees as a mitigation measure. Given the implementation of the mitigation measures enclosed in this report, including protection hoarding for trees, detrimental impacts to trees to be preserved are not anticipated.

Care should be taken to protect trees to be retained with tree protection fencing as illustrated on the attached plans. Tree protection fencing shall be erected prior to the start of construction and demolition and maintained for the duration of the work. Priority should be given to protecting vegetation that will not be impacted by grading and construction.

10 PRESERVATION AND PROTECTION RECOMMENDATIONS

The survival rates for trees, which are in proximity to construction, are dependent on the resultant changes to a variety of environmental and anthropogenic factors. These construction activities bring about changes to a variety of environmental features such as the existing microclimate that includes winds, air temperature, soil moisture, amount of available sunlight, soil quality, and the level of the water table. Increased human activities may also damage the structure and/or physiological activities of the trees. The full effects of any damage that occurs may not appear until several years after its occurrence. Thus, it is essential that both vegetative clearing and preservation methods follow the guidelines below and those generally accepted as keeping with good arboricultural and construction practices. The guidelines are subject to adjustments deemed reasonable and appropriate considering the proximity and number of trees involved and the site-specific servicing requirements.

10.1 GENERAL RECOMMENDATIONS

The following is a list of practical considerations for the construction phase of the project that applies to all trees that may be impacted by the construction:

- The tree protection fencing will be maintained until all construction is completed, soils are stabilized, and all the equipment has been removed from the site.
- Prior to the commencement of tree removals, all limits of the locations of the tree preservation fencing must be clearly staked in the field, installed per approved plans, and approved by the contract administrator. All trees within the tree preservation zone must be left standing. The tree removals must be coordinated in accordance and compliance with the Migratory Bird Convention Act (MBCA).
- All removals must be felled into the work area to ensure that damage does not occur to the trees within the tree preservation zone.
- Upon completion of the tree removals, all felled trees are to be removed from the site, and all should be brush chipped. All brush, roots and wood debris must be shredded into pieces that are smaller than 25 mm in size to ensure that any insect pests that could be present within the wood are destroyed.
- The Canadian Food and Inspection Agency (CFIA) has issued a prohibition of movement where the Emerald Ash Borer (EAB) has been confirmed. EAB has been found within the Region of Peel and is within the EAB Regulated Area which covers most of Ontario and a portion of western Quebec. This directive pertains to the movement of regulated materials (including but not limited to ash wood or bark and ash wood chips or bark chips) from a regulated area. EAB regulated articles moving out of a regulated area must be accompanied by a Movement Certificate issued by the CFIA. Refer to the EAB Regulated Areas of Canada found on the CFIA website.
- Ash materials may be removed from the site and disposed of within the 'Regulated Area' (see CFIA website for the 'Regulated Area' limits). Should it be necessary to dispose of Ash products outside of the 'Regulated Area' a 'Movement Certificate' will be required from the CFIA prior to transport.
- Tree protection fencing must be constructed and installed as per the details on the approved Tree Preservation Plan. Upon installation of the fencing, the contractor will contact the contract administrator to review and approve the fencing and its location prior to commencement of any grading work.
- Areas within the tree preservation zone (TPZ) are not to be used for any type of storage (e.g. storage of debris, construction material, surplus soils, and construction equipment). No trenching or tunnelling for underground services shall be located within the tree protection zone or dripline of trees designated for preservation within or adjacent to the construction zone.

- No grade changes shall occur within tree preservation zone unless approved as part of this report. If any grade changes may occur, either as a cut or fill situation, the consulting arborist must be notified prior to such work occurring to ensure that all precautions to preserve the tree are made.
- Trees shall not have any rigging cables or hardware of any sort attached or wrapped around them, nor shall any contaminants be dumped within the protective areas. Further, no contaminants shall be dumped or flushed where they may come into contact with the feeder roots of the trees.
- If it is necessary to remove additional limbs or portions of trees after construction has commenced, in order to accommodate the construction, the consulting arborist is to be informed and under their direction the removal is to be executed carefully and in full accordance with arboricultural techniques, by a certified arborist.

10.2 ROOT PRUNING PRACTICES

- All approved root pruning is to take place by or under the supervision of an arborist and in accordance good arboricultural practices.
- Pruned root ends shall be neatly and squarely trimmed, and the area shall be backfilled with clean native fill as soon as possible to prevent desiccation and promote root growth.
- The exposed roots shall not be allowed to dry out and an appropriate watering schedule shall be undertaken (e.g. water bi-weekly to field capacity between **June 1st and September 15th** so that the roots maintain optimum soil moisture during construction and backfilling operations.
- Backfilling shall occur immediately and shall be with clean uncontaminated topsoil from an approved source. It is recommended that texture of backfill be coarser than existing soils, and that backfill comes into clean contact with existing soils, i.e. remove air pockets, sod, etc.

10.3 BRANCH PRUNING PRACTICES

- All limbs damaged or broken during construction shall be pruned cleanly, utilizing by-pass secateurs in accordance with approved arboricultural practices. Should there be a potential risk of transfer of disease from infected to non-infected trees, tools must be disinfected after pruning each tree by dipping in methyl hydrate. This practice is particularly important during periods of tree stress and when pruning many members of the same genera, within which a disease could be spread quickly (i.e., Verticillium Wilt on Maples or Fireblight on genera of the Rosaceae family).
- All pruning cuts should be made to a growing point such as a bud, twig or branch, cut just outside the branch collar (the swollen area at the base of the branch that sometimes has a bark ridge), and perpendicular to the branch being pruned rather than as close to the trunk as possible. This minimizes the site of the wound. No stubs should be left. Poor cut location, poor cut angle and torn cuts are not acceptable.
- Extensive pruning is best completed before plants break dormancy. Pruning should be limited to the removal of no more than 25% of the total bud and leaf bearing branches. Pruning should include the careful removal of:
    - Deadwood;
    - branches that are weak, damaged, diseased and those which will interfere with construction activity,
    - secondary leaders of conifers,
    - trunk and root suckers,
    - trunk waterspouts, and
    - tight V-shaped or weak crotches (included unions).
- Any branches that overhang the work area and require pruning are to be pruned using good arboricultural practices utilizing by-pass secateurs in accordance with American National Standard (ANSI) A300 (Part 1) – 2008 Pruning.

- The Contractor must report immediately any damage to trees such as broken limbs, damage to roots, or wounds to the main trunk or stem systems so that the damage can be assessed immediately.

10.4 CONSTRUCTION IMPLEMENTATION

Pre-Construction:

- A site meeting will be held with Contractor and Contract Administrator to review the clearing limits and confirm the installation location for the temporary tree protection fence;
- Tree removal along the tree retention limit must be carefully felled away from the tree retention limit and into the construction / development area. Stumps adjacent to trees identified for retention are to be flush cut and not chipped or grubbed to avoid impacts to retained trees.

Construction:

- Periodic inspections will be undertaken by the site supervisor to ensure that the mitigation measures are being maintained during construction;
- The temporary protection fence is to be maintained throughout the entire construction period. No equipment storage, flushing of fuel, washing of construction equipment, and storage of spoil or construction debris is to occur behind the temporary protection fence;
- To avoid root zone impacts on trees to be retained, excavated material will not be stored against the tree protection barrier;

Post-Construction:

- The temporary protection fence will be removed last after all the construction has ended, soils are stabilized, and all the equipment has been removed.

10.5 MIGRATORY BIRD PROTECTION

- To reduce the possibility of contravention of the MBCA, vegetation removal should be scheduled to occur outside of the overall bird nesting season of **March 31 to August 31**. Some birds may nest before and after this peak bird nesting season due to annual seasonal fluctuations. If a nest of a migratory bird is found within the construction area outside of this nesting period, it still receives protection.
- If vegetation must be removed during the overall bird nesting season:
    - Nest and nesting activity searches will be conducted in areas defined as simple habitat (i.e., the CUM1-1 community) by a qualified Biologist no more than 24 hours prior to vegetation removal. Nesting activity will be documented when it consists of confirmed breeding evidence, as defined by OBBA criteria (Cadman, 2009).
    - If an active nest or confirmed nesting activity of a migratory bird is observed in simple habitat, regardless of the timing window recommended, a species-specific buffer area following ECCC guidelines will be applied to the nest or confirmed nesting activity wherein no vegetation removal will be permitted until the young have fledged from the nest. The radius of the buffer will depend on species, level of disturbance and landscape context (ECCC 2018), which will be confirmed by a qualified Biologist, but will protect a minimum of 10 m around the nest or nesting activity.
    - The results of all nest searches will be documented at the end of each survey day in a Technical Memorandum, including information on the searcher, date, time conducted, weather conditions, habitat type, vegetation community type, observations of breeding activity, observations of confirmed nests including co-ordinates, and, if required, the buffer applied to identified breeding/nesting sites.
- If vegetation removal must occur in complex habitats within the above-listed timing windows and absolutely cannot be avoided, the same Best Management Practices (BMPs) such as nest and nesting activity searches described above will be undertaken.

11 LITERATURE CITED

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- Canadian Food Inspection Agency. January 14, 2021 (5th Revision). D-03-08: Phytosanitary Requirements to Prevent the Introduction Into and Spread Within Canada of the Emerald Ash Borer, Agrilus planipennis (Fairmaire).
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- Town of Newmarket. 2024. Private Tree Protection Guide.

12 LIMITATIONS OF ASSESSMENT

- It is our policy to attach the following clause regarding limitations. We do this to ensure that the client is aware of what is technically and professionally realistic in retaining trees.
- The assessment of the trees presented in this report has been made using accepted arboricultural techniques. These include a visual examination 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 and direction of lean (if any), the general condition of the trees and the surrounding site, and the proximity of property and people. Except where specifically noted, the trees were not cored, probed or climbed and there was no detailed inspection of the root crowns involving excavations.
- Notwithstanding the recommendations and conclusions made in this report, it must be recognized 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 conditions.
- While reasonable efforts have been made to ensure that the subject trees are healthy, no guarantees are offered, or implied, that these trees or any of their parts will remain standing. It is both professionally and practically impossible to predict with absolute certainty the behaviour of any single tree or its component parts under all circumstances. Inevitably, a standing tree will always pose some level of risk. Most trees have the potential for failure under adverse weather conditions, and the risk can only be eliminated if the tree is removed.

APPENDIX

A TREE PRESERVATION TABLE

Appendix A: Tree Preservation Tables

Project: Costco Wholesale - Newmarket **Fieldwork by:** Christina Blakoe ON-1206A **Date of Fieldwork:** 2024-11-18 **Weather:** 8 degrees, sunny

Tree Condition Assessment Criteria:
TI - Trunk Integrity: assessment of the trunk for any defects or weaknesses.
CS - Canopy Structure: assessment of scaffold branches, unions and canopy
CV - Canopy vigour: assessment of the health of the tree, based on the % of deadwood, disease, pests & live crown

Tree Condition:
Good (G): tree displays less than 15% deficiency/defect within the given tree assessment criteria (TI,CS,CV)
Fair (F): tree displays 15-40% deficiency/defect within the given tree assessment criteria (TI,CS,CV)
Poor (P): tree displays greater than 40% deficiency/defect within the given tree assessment criteria (TI,CS,CV)

Recommendation Legend:

- Trees to be Retained - 1 2 trees
- Trees to be Preserved - 2 trees
- Trees to be Preserved - TPZ Encroachment w/ no Injury - 19 trees
- Trees to be Removed - Construction & Grading - 5 trees
- Trees to be Preserved with Injury - TPZ Encroachment 7 trees

Tree #	*Botanical Name*	Common Name	Qty	DBH (cm)	Tree Condition			Dripline Radius (m)	Tree Location / Applicable By-law	Address	Tree Protection Zone	Recommendation	Comments - Removal / Preservation
					TI	CS	CV						
Costco Wholesale - 18182 Yonge St. Newmarket													
T1	*Picea pungens*	Blue Spruce	1	31	G	G	G-F	3.5	Private	18182 Yonge St.	2.4	Preserve - TPZ Encroachment w/ no Injury	Lower deadwood approx. 15%. Pruned from light pole.
T2	*Picea pungens*	Blue Spruce	1	31	G	G	G	3.5	Private	18182 Yonge St.	2.4	Preserve - TPZ Encroachment w/ no Injury	
T3	*Picea pungens*	Blue Spruce	1	32	G	F	F	3.5	Private	18182 Yonge St.	2.4	Preserve - TPZ Encroachment w/ no Injury	Deadwood approx. 15-20%. Brown needles. Secondary, smaller leader.
T4	*Quercus robur 'fastigiata'*	Columnar Oak	1	22	G	G	G	3.0	Private	18182 Yonge St.	2.4	Preserve - TPZ Encroachment w/ no Injury	Multi-stemmed at base.
T5	*Quercus robur 'fastigiata'*	Columnar Oak	1	19	G	G	G	3.0	Private	18182 Yonge St.	2.4	Preserve - TPZ Encroachment w/ no Injury	
T6	*Acer rubrum*	Red Maple	1	5	F	F	G	2.0	Private	18182 Yonge St.	1.8	Preserve - TPZ Encroachment w/ no Injury	Injury at base. Witches Broom.
T7	*Acer rubrum*	Red Maple	1	5	G	F	G	2.0	Private	18182 Yonge St.	1.8	Preserve - TPZ Encroachment w/ no Injury	Witches Broom.
T8	*Acer rubrum*	Red Maple	1	5	G-F	F	G	2.0	Private	18182 Yonge St.	1.8	Preserve - TPZ Encroachment w/ no Injury	Buried root flare.
T9	*Quercus robur 'fastigiata'*	Columnar Oak	1	17	G	G	G	2.5	Private	18182 Yonge St.	2.4	Preserve - TPZ Encroachment w/ no Injury	
T10	*Quercus robur 'fastigiata'*	Columnar Oak	1	18,15	G	G	G	2.5	Private	18182 Yonge St.	2.4	Preserve - TPZ Encroachment w/ no Injury	
T11	*Quercus robur 'fastigiata'*	Columnar Oak	1	22	G	G	G	2	Private	18182 Yonge St.	2.4	Preserve - TPZ Encroachment w/ no Injury	
T12	*Quercus robur 'fastigiata'*	Columnar Oak	1	7	G	G	G	1.5	Private	18182 Yonge St.	1.8	Remove	Buried root flare.
T13	*Quercus robur 'fastigiata'*	Columnar Oak	1	7	G	G	G	1.5	Private	18182 Yonge St.	1.8	Remove	Buried root flare.
T14	*Quercus robur 'fastigiata'*	Columnar Oak	1	6	G	G	G	1.5	Private	18182 Yonge St.	1.8	Remove	Buried root flare.
T15	*Quercus robur 'fastigiata'*	Columnar Oak	1	6	G	G	G	1.5	Private	18182 Yonge St.	1.8	Remove	Buried root flare.
T16	*Quercus robur 'fastigiata'*	Columnar Oak	1	22	G	G	G	2.5	Private	18182 Yonge St.	2.4	Preserve - TPZ Encroachment w/ no Injury	
T17	*Quercus robur 'fastigiata'*	Columnar Oak	1	15,10	G	G	G	2.5	Private	18182 Yonge St.	2.4	Preserve - TPZ Encroachment w/ no Injury	
T18	*Quercus robur 'fastigiata'*	Columnar Oak	1	19	G	G	G	2	Private	18182 Yonge St.	2.4	Preserve - TPZ Encroachment w/ no Injury	
T19	*Quercus robur 'fastigiata'*	Columnar Oak	1	19	G	G	G	2	Private	18182 Yonge St.	2.4	Preserve - TPZ Encroachment w/ no Injury	
T20	*Quercus robur 'fastigiata'*	Columnar Oak	1	15,11	G	G	G	2	Private	18182 Yonge St.	2.4	Preserve - TPZ Encroachment w/ no Injury	Multiple leaders.
T21	*Quercus robur 'fastigiata'*	Columnar Oak	1	16	G	G	G	2	Private	18182 Yonge St.	2.4	Preserve - TPZ Encroachment w/ no Injury	Deadwood approx. 10%
T22	*Quercus robur 'fastigiata'*	Columnar Oak	1	18	G	G	G	2	Private	18182 Yonge St.	2.4	Preserve - With injury	Injury will be mitigated through air-spade mitigation.
T23	*Quercus robur 'fastigiata'*	Columnar Oak	1	16	G	G	G	2	Private	18182 Yonge St.	2.4	Preserve - With injury	Deadwood approx. 10%. Injury will be mitigated through air-spade mitigation.
T24	*Quercus robur 'fastigiata'*	Columnar Oak	1	10,8,8	G	G	G	2	Private	18182 Yonge St.	2.4	Preserve - With injury	Injury will be mitigated through air-spade mitigation.
T25	*Quercus robur 'fastigiata'*	Columnar Oak	1	10,10	G	G	G	2	Private	18182 Yonge St.	2.4	Preserve - With injury	Deadwood approx. 10%. Injury will be mitigated through air-spade mitigation.
T26	*Quercus robur 'fastigiata'*	Columnar Oak	1	12	G	G	G	2	Private	18182 Yonge St.	2.4	Preserve - TPZ Encroachment w/ no Injury	Deadwood approx. 5%

Appendix A: Tree Preservation Tables

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Tree Condition Assessment Criteria:
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CV - Canopy vigour: assessment of the health of the tree, based on the % of deadwood, disease, pests & live crown

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Trees to be Preserved - TPZ Encroachment w/ no Injury - 19 trees
Trees to be Removed - Construction & Grading - 5 trees
Trees to be Preserved with Injury - TPZ Encroachment 7 trees

Tree #	*Botanical Name*	Common Name	Qty	DBH (cm)	Tree Condition			Dripline Radius (m)	Tree Location / Applicable By-law	Address	Tree Protection Zone	Recommendation	Comments - Removal / Preservation
					TI	CS	CV						
T27	*Quercus robur 'fastigiata'*	Columnar Oak	1	10,10,9	G	G	G	2	Private	18182 Yonge St.	2.4	Preserve - TPZ Encroachment w/ no Injury	
T28	*Quercus robur 'fastigiata'*	Columnar Oak	1	9,8,8	G	G	G	2	Private	18182 Yonge St.	1.8	Preserve	Full TPZ to be preserved.
T29	*Quercus robur 'fastigiata'*	Columnar Oak	1	12,10	G	G-F	G	2	Private	18182 Yonge St.	2.4	Retain	Small broken limbs lower canopy.
T30	*Quercus robur 'fastigiata'*	Columnar Oak	1	9,7	G	G	G	2	Private	18182 Yonge St.	1.8	Retain	
T31	*Quercus robur 'fastigiata'*	Columnar Oak	1	10	G	G	G	2	Private	18182 Yonge St.	1.8	Retain	Lower canopy pruned from parking.
T32	*Quercus robur 'fastigiata'*	Columnar Oak	1	9,9,8	G	G	G	2	Private	18182 Yonge St.	1.8	Retain	Lower canopy pruned from parking.
T33	*Quercus robur 'fastigiata'*	Columnar Oak	1	11,9,9	G	G	G	2	Private	18182 Yonge St.	2.4	Retain	
T34	*Quercus robur 'fastigiata'*	Columnar Oak	1	11	G	G	G-F	2	Private	18182 Yonge St.	2.4	Retain	Deadwood approx. 15%. Canopy thinner than others.
T35	*Quercus robur 'fastigiata'*	Columnar Oak	1	9,9,9	G-F	G	G	2	Private	18182 Yonge St.	1.8	Retain	Injury lower trunk.
T36	*Quercus robur 'fastigiata'*	Columnar Oak	1	15,10	G	G	G	2	Private	18182 Yonge St.	2.4	Retain	
T37	*Quercus robur 'fastigiata'*	Columnar Oak	1	10	G	G	G	2	Private	18182 Yonge St.	1.8	Retain	Pruned from parking.
T38	*Acer rubrum*	Red Maple	1	13	G-F	G	F	2	Private	18182 Yonge St.	2.4	Retain	20% deadwood. Decay at base.
T39	*Gleditsia tricanthos*	Honey Locust	1	13	G	G	G	2	Private	18182 Yonge St.	2.4	Remove	Small injury mid-trunk.
T40	*Gleditsia tricanthos*	Honey Locust	1	12	G	G-F	G	2	Private	18182 Yonge St.	2.4	Preserve	Full TPZ to be preserved.
T41	*Gleditsia tricanthos*	Honey Locust	1	11	G	G	G	2	Private	18182 Yonge St.	2.4	Retain	Root flare present.
T42	*Gleditsia tricanthos*	Honey Locust	1	11	G	G	G	2	Private	18182 Yonge St.	2.4	Retain	Root flare present.
Costco Wholesale - Green Lane West, Newmarket													
T43	*Acer tataricum*	Tatarian Maple	1	5	G	G	G	1.5	Region	Green Ln. W	2.4	Preserve - With injury	Injury will be mitigated through air-spade mitigation.
T44	*Acer tataricum*	Tatarian Maple	1	6	G	G	G	1.5	Region	Green Ln. W	2.4	Preserve - With injury	Injury will be mitigated through air-spade mitigation.
T45	*Acer tataricum*	Tatarian Maple	1	5	G	G	G	1.5	Region	Green Ln. W	2.4	Preserve - With injury	Injury will be mitigated through air-spade mitigation.

APPENDIX

B SITE PHOTOS

APPENDIX

C TREE PRESERVATION PLANS