74 Berkeley Street, Toronto, ON M5A 2W7 Tel: 647-795-8153 |
www.pecg.ca

February 26, 2021

Domenic Porretta and Frank Crocco
2683340 Ontario Ltd.
129 Rowntree Dairy Road, Unit No. 16
Vaughan, Ontario
L4L 6E1

Dear Domenic Porretta and Frank Crocco:

Re: Arborist Report and Tree Preservation Plan for 255 Dundas Street West, Mississauga (Palmer #1901606)

1. Introduction

Palmer has completed this Arborist Report and Tree Preservation Plan (TPP) for the proposed redevelopment of 255 Dundas Street West, Mississauga (the Site). This Arborist Report and TPP was completed as part of a Site Plan application for the proposed redevelopment, which will include a mixed-use development concept, including a high rise of various storeys, with an inner courtyard and a single level of underground parking.

The Site currently includes a pre-existing plaza and parking lot; therefore, most of the Site is paved or otherwise developed (**Figure 1**). Exceptions to this include landscape trees and a wooded area along the western property limit, associated with a channelized portion of Mary Fix Creek. A natural feature and natural hazard setback is proposed for the redevelopment along Mary Fix Creek, which will include the restoration and naturalization of the adjacent portions of the Subject Property.

This report includes an assessment of applicable policy, methods and results of the tree inventory completed within the Site and the identification of trees to be retained and trees to be removed. Recommended tree protection measures for tree to be retained are detailed, as are City of Mississauga requirements for construction methods as they pertain to trees. The tree compensation plan for the Site is outlined. Management and monitoring specifications for the project construction phases are also detailed.

2. Policy Conformity

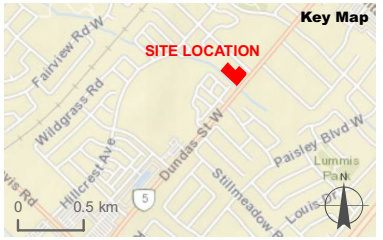
2.1 City of Mississauga Private Tree Protection By-law 254-12

The *Private Tree Protection By-law* (254-12) is intended to conserve and protect trees on private land within the City of Mississauga (City of Mississauga, 2012). This by-law applies to heritage trees or when three or more trees ≥15 centimetres (cm) of diameter at breast height (DBH) are proposed to be removed. However, this Arborist Report has been prepared in support of a Development Application process. Tree removal as part of an approved Development Plan is an exempt activity under Sections 6(3)(i) and (j) of the By-law.

LEGEND:

Subject Property

Imagery (2019) provided by Region of Peel.



0 10 20 30 40

metres

PROJECT NO.	1901606	REVISION:	1
DATE:	May 25, 2020	SCALE:	1:1000
DRAWN:	BE	DATUM:	NAD 1983
CHECKED:	AA	PROJECTION:	UTM zone 17

CLIENT:
Blackthorn Development

PREPARED BY:
Palmer

PROJECT:
255 Dundas Street West, Mississauga

TITLE:
Site Location

Figure 1

Document Path: C:\Egnyte\Shared\Projects\Active\19016 - Blackthorn Development\1901606 - 255 Dundas Street EIS_ArborMapping\Figures\5_ArcGIS\1901606_1-1 Site Location.mxd

2.2 City of Mississauga Official Plan

The City of Mississauga's Official Plan (Chapter 19, Section 19.4, sub-section 19.4.5) states that an Arborist Report including Tree Survey/Tree Preservation Plan may be required as part of a complete application submission for an official plan amendment, rezoning, draft plan of subdivision, condominium, consent application or site plan application to supplement the development proposal (City of Mississauga, 2019).

During pre-application consultation for the proposed development, it was confirmed that an Arborist Report was required for this project.

2.3 Terms of Reference – Arborist Reports, Tree Inventory/Survey and Tree Preservation Plans

The City of Mississauga created a Terms of Reference for Arborist Reports to ensure "*that the potential effects of proposed development on existing trees and vegetation and to ensure the proposal conforms to the relevant Official Plan policies, Urban Design Guidelines, standards and details of the City of Mississauga*" (City of Mississauga, 2019). This document details the trees that should be inventoried for a report and the data to be collected, the content and format for an Arborist Report (including compensation ratios), and the content and format for the companion Tree Preservation Plan.

3. Methods

A tree inventory was completed for all trees ≥10 cm DBH within and adjacent to the Site, in accordance with the City of Mississauga *Terms of Reference* (City of Mississauga, 2019). All trees on Site and within 6 metres (m) of the property line were inventoried to establish Tree Protection Zones (TPZ). The tree inventory was completed by an International Society of Arboriculture (ISA) certified arborist on April 1, 2020. Information collected during the inventory includes species scientific and common names, tree tag number, DBH, location, crown spread, a general health assessment (structure, vigour and overall), and notes on tree trunk and canopy conditions. Where adjacent property access was not obtained, visual estimates were made. Notes on ownership and proposed actions including preservation techniques were made.

4. Results

4.1 Tree Inventory

The tree inventory included 87 individual trees (**Figure 2**). Non-Native species were predominant (54% of stem count), comprising 8 of the 14 species observed (**Overall,** most trees were in Fair to Good condition. An off-site Apple (*Malus* sp.) tree (Tree D) appeared in Poor to Dead condition; as did a Norway Maple (*Acer platanoides*) (Tree #351) and an Ash (*Fraxinus* sp.) (Tree #329) within the adjacent Mary Fix Creek corridor. Evidence showed that the Ash (*Fraxinus* sp.) had succumbed to Emerald Ash Borer (EAB) infestation. The full tree inventory is provided in **Appendix A.**

Table 1); however, 48 (55%) of the 87 trees were native species. Landscaping in the Subject Property was primarily American Basswood (*Tilia americana*), Austrian Pine (*Pinus nigra*), and a cultivar of Honey Locust (*Gleditsia triacanthos*). Trees along the property line but within the Mary Fix Creek corridor included a more diverse mix of native and non-native species, and notably included a large Shagbark Hickory (*Carya ovata*)

at the fenceline. All are trees commonly found or planted in southern Ontario urban landscapes. There were no Species at Risk (SAR) trees observed, such as Butternut (*Juglans cinerea*).

Overall, most trees were in Fair to Good condition. An off-site Apple (*Malus* sp.) tree (Tree D) appeared in Poor to Dead condition; as did a Norway Maple (*Acer platanoides*) (Tree #351) and an Ash (*Fraxinus* sp.) (Tree #329) within the adjacent Mary Fix Creek corridor. Evidence showed that the Ash (*Fraxinus* sp.) had succumbed to Emerald Ash Borer (EAB) infestation. The full tree inventory is provided in **Appendix A.**

Table 1. Summary of Tree Inventory Results

Common Name	Scientific Name	Count
American Basswood*	*Tilia americana*	27
Apple sp.	*Malus* sp.	7
Ash sp.*	*Fraxinus* sp.	1
Austrian Pine	*Pinus nigra*	16
Black Walnut*	*Juglans nigra*	1
Honey Locust (Cultivar)*	*Gleditsia triacanthos*	12
Manitoba Maple	*Acer negundo*	4
Norway Maple	*Acer plantanoides*	6
Pin Cherry*	*prunus pensylvanica*	4
Pussy Willow*	*Salix discolor*	1
Shagbark Hickory*	*Carya ovata*	1
Siberian Elm	*Ulmus pumila*	5
White Spruce*	*Picea glauca*	1
White Willow	*Salix alba*	1
Total		**87**

*Native species

TREE PRESERVATION SPECIFICATIONS

GENERAL NOTES

• THIS TREE PROTECTION PLAN IS DESIGNED TO WORK IN CONCERT WITH THE ARBORIST REPORT FOR THE PROJECT.

• ALL TREE PROTECTION BARRIERS SHALL BE IN PLACE AND INSPECTED BY THE CITY OF MISSISSAUGA DEVELOPMENT AND DESIGN DIVISION PRIOR TO ANY DEMOLITION OR CONSTRUCTION ACTIVITY.

• TREE PROTECTION BARRIERS SHALL REMAIN IN PLACE AND IN GOOD CONDITIONS UNTIL ALL CONSTRUCTION IS COMPLETE AND APPROVED BY THE CITY OF MISSISSAUGA DEVELOPMENT AND DESIGN DIVISION.

• AN INTERNATIONAL SOCIETY OF ARBORICULTURE (ISA) CERTIFIED ARBORIST SHALL BE ON SITE FOR ANY WORK WHICH IMPACTS ANY TREE OR TREE PROTECTION ZONE.

• ALL ARBORICULTURE WORK SUCH AS PRUNING OF BRANCHES AND ROOTS, SHALL BE DONE BY A QUALIFIED TREE WORKER CERTIFIED WITH THE ISA.

TREE PROTECTION AND FENCING

• ALL EXISTING TREES WHICH ARE TO REMAIN SHALL BE FULLY PROTECTED WITH FENCING ERECTED AROUND THE PERIMETER OF THE TREE PROTECTION ZONE AS PER THIS PLAN.

• PROTECTIVE FENCING SHALL BE INSTALLED IN ACCORDANCE WITH SOLID HOARDING DETAIL OF THE CITY OF MISSISSAUGA "TREE PRESERVATION HOARDING" SPECIFICATIONS, PROVIDED AS **APPENDIX B** OF THIS REPORT.

• AREAS WITHIN THE PROTECTIVE FENCING SHALL REMAIN UNDISTURBED AND SHALL NOT BE USED FOR THE STORAGE OF BUILDING MATERIALS OR EQUIPMENT.

• NO RIGGING CABLES SHALL BE WRAPPED AROUND OR INSTALLED IN TREES; AND SURPLUS SOIL, EQUIPMENT, DEBRIS OR MATERIALS SHALL NOT BE PLACED OVER ROOT SYSTEMS OF THE TREES WITHIN THE PROTECTIVE FENCING. NO CONTAMINANTS WILL BE DUMPED OR FLUSHED WHERE FEEDER ROOTS OF TREES EXIST.

• WHERE ROOT SYSTEMS OF PROTECTED TREES ARE EXPOSED DIRECTLY ADJACENT TO OR DAMAGED BY CONSTRUCTION WORK, THEY SHALL BE TRIMMED NEARLY BY A QUALIFIED ARBORIST AND THE AREA BACK FILLED WITH APPROPRIATE MATERIAL TO PREVENT DISSICATION.

• IF GRADES AROUND TREES TO BE PRESERVED ARE LIKELY TO CHANGE, THE DEVELOPER SHALL BE REQUIRED TO TAKE SUCH PRECAUTIONS AS DRY WELLING AND ROOT FEEDING.

• TREE PROTECTION ZONES ARE TO INCLUDE SIGNAGE (AS PER BELOW) INSTALLED ON CONSTRUCTION-FACING SIDES OF THE PROTECTIVE BARRIER. SIGNS SHALL BE 40 CM X 60 CM.

Tree Protection Zone (TPZ)

All construction related activities, including grade alteration, excavation, soil compaction, any materials or equipment storage, disposal of liquid and vehicular traffic are NOT permitted within this TPZ.

This tree protection barrier must remain in good condition and must not be removed or altered without authorization of City of Mississauga Development and Design Division. Concerns or inquiries regarding this TPZ can be directed to the 3 -1-1 Contact Centre (905-615-4311 outside City Limits) OR eplans.devdes@mississauga.ca.

TREE PRUNING

• WHERE LIMBS OR PORTIONS OF TREES ARE REMOVED TO ACCOMMODATE CONSTRUCTION WORK, THEY WILL BE CAREFULLY REMOVED BY AN ISA CERTIFIED ARBORIST.

• IF ANY DAMAGE OCCURS TO TREES, INCLUDING BROKEN LIMBS, DAMAGE TO ROOTS, OR WOUNDS TO THE MAIN TRUNK, IT MUST BE REPORTED TO THE PROJECT CONSULTING ARBORIST IMMEDIATELY SO THAT MITIGATION MEASURES CAN BE PROMPTLY IMPLEMENTED.

TREE REMOVAL

• TREES ARE TO BE FELLED INTO THE CONSTRUCTION AREA TO REDUCE THE POTENTIAL FOR INJURY/DAMAGE TO PROTECTED AREAS.

• TREES TO BE PRESERVED THAT HAVE DIED OR HAVE BEEN DAMAGED BEYOND REPAIR, SHALL BE SUBJECT TO SUITABLE COMPENSATION AS DETERMINED BY THE CITY OF MISSISSAUGA AND REVIEW OF THE TREE INVENTORY AND ANALYSIS.

• TO AVOID INTERFERENCE WITH THE EGGS, NESTS OR YOUNG OF BIRDS PROTECTED UNDER THE FEDERAL MIGRATORY BIRDS CONVENTION ACT (GOVERNMENT OF CANADA, 1994), REMOVALS SHOULD NOT OCCUR FROM APRIL 15 TO AUGUST 15 OF ANY GIVEN YEAR. IDEALLY, REMOVAL SHOULD OCCUR FROM AUGUST THROUGH DECEMBER TO AVOID INTERFERENCE WITH ALL NESTING BIRDS. SHOULD REMOVAL BE REQUIRED WITHIN THE APRIL 15 TO AUGUST 15 BREEDING PERIOD, A QUALIFIED AVIAN BIOLOGIST SHOULD CONDUCT A THOROUGH SURVEY IMMEDIATELY PRIOR TO THE DESIRED TREE REMOVAL DATE TO CONFIRM PRESENCE OR ABSENCE OF PROTECTED SPECIES. IF PROTECTED SPECIES ARE PRESENT, REMOVAL CANNOT OCCUR WITHOUT A PERMIT FROM THE CANADIAN WILDLIFE SERVICE.

• NO BRANCHES OR BRUSH FROM CLEARING IS TO BE STORED ON THE SITE. CUTTING, BRUSH AND CHIPPING CLEANUP ARE TO BE COMPLETED OUTSIDE OF THE MIGRATORY BIRD NESTING SEASON.

ROOT PROTECTION – ADJACENT TO SUB-SURFACE SHORING

• EXPOSED ROOTS SHALL BE PRUNED BACK TO THE FACE OF SHORING/TRENCH WALL TO BE RETAINED. NO ROOTS GREATER THAN 6 CM (2.5") IN DIAMETER SHALL BE PRUNED WITHOUT AUTHORIZATION OF THE CITY AND IN CONSULTATION WITH THE PROJECT ARBORIST.

• ALL ROOTS MUST BE PRUNED WITH CLEAN AND SHARP HAND TOOLS ONLY. SHOVELS, PICKS OR OTHER CONSTRUCTION TOOLS SHALL NOT BE USED TO PRUNE ROOTS. WOUND DRESSINGS OR PRUNING PAINT SHALL NOT BE USED TO COVER THE ENDS OF ANY CUT.

• ROOTS SHOULD BE PRUNED IN A SIMILAR FASHION AS BRANCHES, TAKING CARE TO MAINTAIN THE INTEGRITY OF THE ROOT BARK RIDGE, WHERE PRESENT. ROOTS SHOULD BE PRUNED BACK TO A LATERAL ROOT AT LEAST ONE THIRD OF THE DIAMETER; ROOT STUBS MUST NOT BE LEFT UPON COMPLETION OF ROOT PRUNING.

• PROLONGED EXPOSURE OF TREE ROOTS MUST BE AVOIDED. ALL PRUNED ROOTS SHOULD BE COVERED WITH SOIL OR EXCAVATED TRENCHES SHOULD BE BACKFILLED WITH NATIVE MATERIAL AS SOON AS POSSIBLE FOLLOWING ROOT PRUNING.

• IF CONVENTIONAL EXCAVATION IS NOT SCHEDULED TO OCCUR IMMEDIATELY AFTER ROOT-SENSITIVE EXCAVATION AND ROOT PRUNING, THE TRENCH SHOULD BE BACKFILLED.

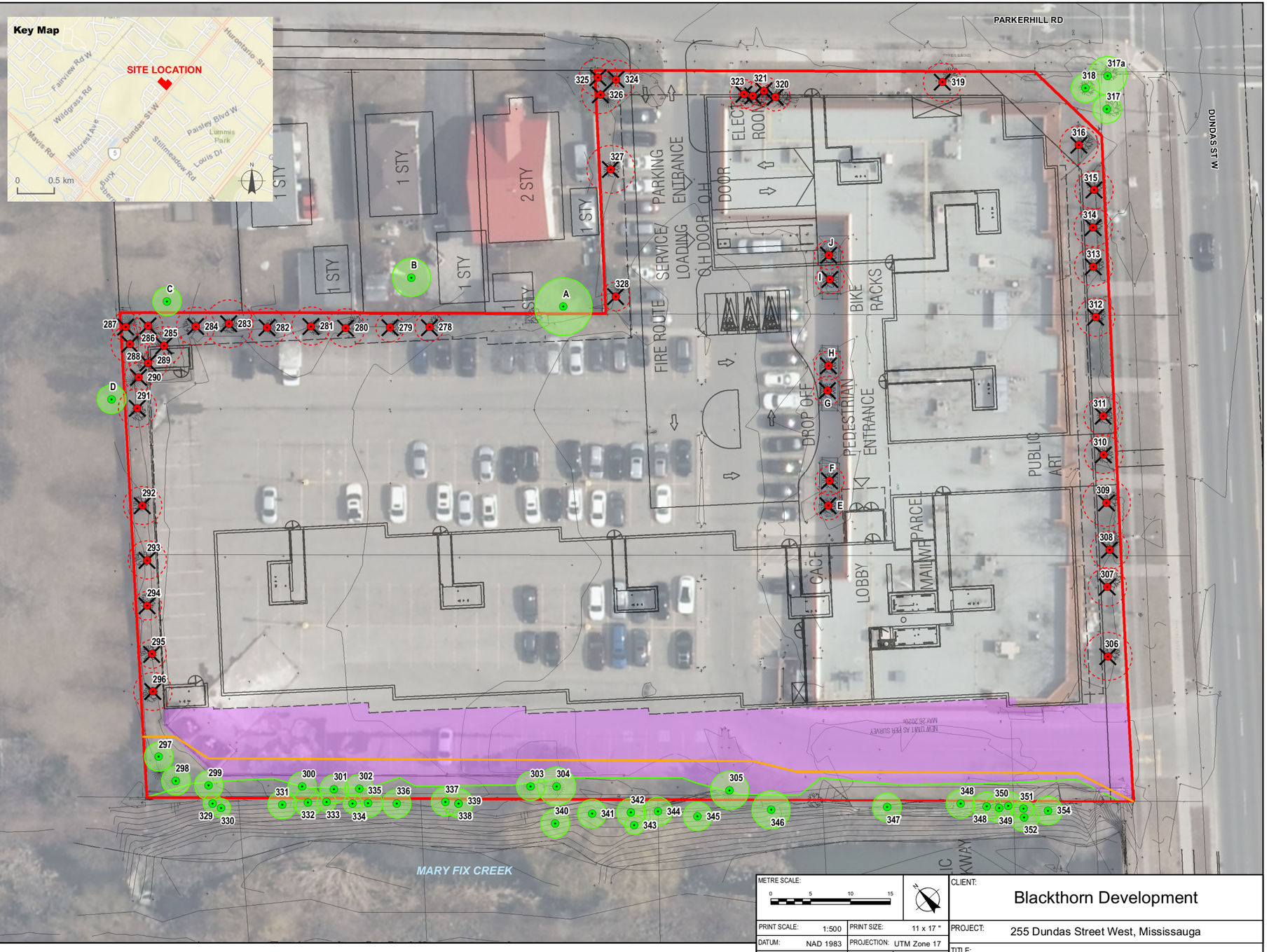
• THE TPZ BARRIER SHOULD BE SET TO THE LIMIT OF THE SHORING/TRENCH TO ENSURE THAT EXCAVATION DOES NOT EXTEND BEYOND THE LIMIT OF ROOT PRUNING.

ROOT PROTECTION – RESTORATION AREA

• EXISTING SOILS ADJACENT TO THE RESTORATION AREA (I.E. ALONG THE PROPERTY LINE) ARE NOT TO BE DISTURBED.

• AFTER REMOVAL OF CONCRETE AND OTHER MATERIALS, THE UNDERLYING SOILS SHOULD BE AERATED AND FRACTURED USING A PNEUMATIC SOIL EXCAVATION TOOL (E.G., AirSpade OR SIMILAR). CARE IS TO BE TAKEN TO NOT DISTURB ANY ROOT SYSTEMS THAT MAY BE REVEALED.

• AFTER DECOMPACTION, THE AREA SHOULD BE GRADED WITH A CERTIFIED WEED-FREE SOIL AND COMPOST MIX TO ACCOMMODATE RESTORATION. SOILS SHOULD BE GRADED TO MATCH EXISTING GRADES POST CONCRETE REMOVAL, BUT BE A MINIMUM OF 200 MM DEPTH. THE SOIL MIX SHOULD BE "TILLED IN" USING THE PNEUMATIC SOIL EXCAVATION TOOL.



LEGEND:

- Tree to be Retained
- Tree to be Removed
- Dripline *(as Staked by CVC on February 19, 2020)*
- Tree Protection Fencing
- Restoration Area
- Subject Property

METRE SCALE: 0 5 10 15

PRINT SCALE:	1:500	PRINT SIZE:	11 x 17 "
DATUM:	NAD 1983	PROJECTION:	UTM Zone 17
DATE:	Feb 19, 2021	DRAWN: BE	CHECKED: AA

NOTES:
1. Imagery (2019) provided by Region of Peel.

CLIENT: Blackthorn Development

PROJECT: 255 Dundas Street West, Mississauga

TITLE: Tree Protection Plan

Palmer

PROJECT NO. 1901606

FIGURE 2

REVISION: 2

Document Path: G:\Shared drives\Projects 2019\19016 - Blackthorn Development\1901606 - 255 Dundas Street EIS_Arbor\Mapping\Figures\5_ArcGIS\1901606_2-1 Tree Protection Plan_v2.mxd

4.2 Trees to be Retained

A total of 41 trees are proposed to be retained (**Table 2**). Most trees proposed to be retained are within the Mary Fix Creek corridor or neighbouring properties, adjacent to the Site (**Figure 2**). Tree protection fencing has been proposed for all on-Site trees. Most of the trees proposed to be retained are in good to fair health, with the exception of the off-Site Apple and the Ash and Norway Maple within the Mary Fix corridor.

The City of Mississauga street trees (Trees #317, 317a and 318) at the corner of Dundas Street and Parkhill Road are outside the zone of influence of the proposed development and would be protected by construction fencing.

Table 2. Trees Proposed to be Retained

Common Name	Scientific Name	Count
American Basswood*	*Tilia americana*	1
Apple sp.	*Malus* sp.	7
Ash sp.*	*Fraxinus* sp.	1
Austrian Pine	*Pinus nigra*	8
Black Walnut*	*Juglans nigra*	1
Honey Locust (Cultivar)*	*Gleditsia triacanthos*	4
Norway Maple	*Acer plantanoides*	6
Pin Cherry*	*prunus pensylvanica*	4
Pussy Willow*	*Salix discolor*	1
Shagbark Hickory*	*Carya ovata*	1
Siberian Elm	*Ulmus pumila*	5
White Spruce*	*Picea glauca*	1
White Willow	*Salix alba*	1
Total		**41**

*Native species

4.3 Trees to be Removed

A total of 46 trees inventoried within the Site require removal to accommodate the proposed development (**Table 3**Error! Reference source not found.). The development plan encroaches well within the Tree Protection Zones (TPZ) of these trees and should be removed. Trees on the north and east sides (278 to 296, 324 to 328) are likely to be impacted by the sub-surface excavation and shoring activities. Additionally, on-Site trees along Dundas Street and Parkhill Road are adjacent to street entrances for the proposed development. All standing trees appeared to be in good to fair health.

Recommendations to ensure the survival of the retained trees in light of the required removals and the proposed development are detailed in Section 5. This includes general and tree-specific recommendations.

Table 3: Trees Proposed to be Removed

Common Name	Scientific Name	Count
American Basswood*	*Tilia americana*	26
Austrian Pine	*Pinus nigra*	8
Honey Locust (Cultivar)*	*Gleditsia triacanthos*	8
Manitoba Maple	*Acer negundo*	4
Total		**46**

*Native species

5. Tree Preservation Plan

General and tree-specific tree protection measures are outlined below. The specifications for protection of retained trees are detailed on the Tree Protection Plan (**Figure 2**), including the locations of required tree protection fencing. The Tree Protection Plan is intended to act in concert with this Arborist Report; it is expected that the recommendations of both instruments be implemented for the project. Trees proposed to be retained will be primarily protected by tree protection fencing, as per the City's *Tree Preservation Hoarding* Specification (**Appendix B**). As a proxy for dripline, the minimum TPZ for each tree was determined using the criteria provided in the ISA *Arborists' Certification Study Guide, Third Edition* (Lilly, 2010).

5.1 Tree Protection Fencing

Fencing provides protection from potential damage during construction activities such as the use of machinery near trees branches and stockpiling of materials over the root zone. Fencing detailed on **Figure 2** should be installed as per the solid hoarding detail in the City's *Tree Preservation Hoarding* Specification (also provided within **Appendix B** of this report); a summary of these specifications is as follows:

- Fencing must be at least 1.2 m tall and is recommended to be comprised of 1/2" plywood 4' x 8' panels.
- It is recommended that for this project, fencing should be secured to metal "T-bar" supports a maximum of 2.4 m apart, being 1.2 m above ground and 1.2 m below ground (2.4 m).
- Fencing to be framed to the T-bars using 2" x 4" wooden top and bottom rails. Supports and rails must be outside of the established TPZ.
- Signage measuring 40 cm x 60 cm to be mounted to the construction side of each TPZ barrier (**Photo 1**). Signage to indicate that work including grading, construction access and material storage is prohibited within the boundaries of the TPZ, as well as provide fine cost for breach of these requirements.

Tree Protection Zone (TPZ)
All construction related activities, including grade alteration, excavation, soil compaction, any materials or equipment storage, disposal of liquid and vehicular traffic are NOT permitted within this TPZ. This tree protection barrier must remain in good condition and must not be removed or altered without authorization of City of Mississauga Development and Design Division. Concerns or inquiries regarding this TPZ can be directed to the 3-1-1 Contact Centre (905-615-4311 outside City Limits) OR eplans.devdes@mississauga.ca.

Photo 1: Sample TPZ Signage

It is required that such protection measures be installed to that satisfaction of the City's Development and Design Division prior to any construction access of the Site and must remain in place and in good condition until all construction is completed.

The construction-facing side of the fencing is to be placed adjacent to the current curbs/limits of development for **Trees #297 to 354**, where Natural Feature setback restoration is proposed to occur.

5.2 Felling and Grinding

Trees to be removed will be felled into the Site by an ISA certified arborist using good arboricultural practices to limit potential damage to the trees being retained.

5.3 Pruning

Any limbs required to accommodate construction or damaged/broken during the course of construction will be pruned cleanly by an ISA certified arborist using good arboricultural practices. Pruning should be completed using clean, scissor action (not anvil type) secateurs in accordance with approved arboricultural practices. All pruning cuts will be made to a growing point such as a bud, twig or branch; no stubs should be left.

5.4 Work Within the TPZ – Trenching and Root Pruning

Where root systems of protected trees are exposed directly adjacent to or damaged by construction work, they shall be trimmed neatly by a qualified arborist in accordance to good arboricultural practices and the area back filled with appropriate material to maintain moisture/prevent desiccation.

Trees A to D:

Due the Site limits, it is assumed that excavation for the subsurface areas will be cut downwards and shored prior to construction of retaining walls, rather than via a graded pit. There is the potential for injury to off-site **Trees A to D**, as the planned retaining wall may encroach partially within their TPZ.

To increase the potential for root preservation, in areas adjacent to **Trees A to D**, it is recommended that initial trenching for the retaining wall (to 800 mm in depth) be completed by low pressure airspade or

hydrovac. Exposed roots are to be pruned by a qualified arborist in accordance with good arboricultural practices. No roots greater than 6 cm (2.5") in diameter shall be pruned without the authorization of the City and in consultation with the Project arborist.

Roots should be pruned in a similar fashion as branches, talking care to maintain the integrity of the root bark ridge, where present. Roots should be pruned back to a lateral root at least one third the diameter. Root stubs are not to be left upon completion of root pruning.

Prolonged exposure of tree roots should be avoided. Upon completion and shoring of the excavation, the area is to be back filled with appropriate native material to maintain moisture/prevent desiccation.

Trees #297 to 354

The natural feature / natural hazard setback area adjacent to the western property limits is to be restored. The existing trees and soils adjacent to this restoration area (i.e., along the property line – **Trees #297 to 354**) are not to be disturbed. Within the restoration area, the existing hard surfaces such as concrete and curb structures are to be removed. After the removal of concrete and other materials, the underlying soils should be aerated and fractured using a low pressure airspade or similar. Care is to be taken to preserve any root systems that may be revealed.

After aeration/fracturing, the area should be graded with a certified weed-free topsoil and compost mix to accommodate restoration. Soils should be graded to match existing grades post-removal, but be a minimum depth of 200 mm. The soil mix should be "tilled in" using the low pressure airspade or similar.

6. Compensation Plantings

6.1 Replacement Trees

The City of Mississauga requires replacement trees if **three or more healthy trees** are to be removed on private property (City of Mississauga, 2020). Trees can be planted by the landowner, or predetermined fees can be provided to the City to plant trees on City property. Replacement trees must be 6 cm DBH for deciduous trees or 1.8 m tall for coniferous trees. The City requires the following replacement ratios:

- 1:1 for healthy trees ≤49 cm DBH; and
- 2:1 for healthy trees ≥50 cm DBH.

Fees are predetermined by the City, and can change from time to time. At the time of writing this report, these fees were $421.75 for the first three trees and $95.23 for every subsequent tree (City of Mississauga, 2020). However, it is recommended that trees be planted, as the development will require landscaping and the establishment of the restoration area adjacent to Mary Fix Creek.

All 46 trees proposed to be removed from the Site are 48 cm DBH or less. Therefore, a **total of 46 trees** are recommended to be planted within the Site in compensation of the trees proposed to be removed (**Table 3**). Compensation trees are recommended to be planted as part of the restoration of the natural

feature/hazard setback adjacent to the Mary Fix Creek channel. The Environmental Impact Study (EIS) for the proposed redevelopment recommends that additional trees be planted to enhance the restoration area; the 46 trees recommended here are to replace those removed to accommodate development. It is assumed that additional landscape trees may also be provided.

6.2 Tree Species

The majority of the trees to be removed from the Site are American Basswood and non-native Austrian Pines. A planting plan that includes American Basswood is suggested to provide a unified appearance to the property (**Table 4**). Additional species have also been suggested to provide a diversity and interest to the restoration area.

Tree species suggested have been considered as they are tolerant of partial shade conditions adjacent to the proposed high-rise, and tolerant of tableland drainage conditions adjacent to the Mary Fix channel. While other species can be considered, another planting criterion should be selecting only native trees to increase the quality and character of the overall natural system. Currently, selecting Ash species should be avoided due to the advance of Emerald Ash Borer (EAB) in Ontario.

Table 4: Proposed Compensation Tree Species

Tree Species	Quantity*	Recommended Size
American Basswood (*Tilia americana*)	22	60 mm caliper
American Sycamore (*Platanus occidentalis*)	10	60 mm caliper
Red Maple (*Acer rubrum*)	10	60 mm caliper
Canadian Hemlock (*Tsuga canadensis*)	4	180 – 200 cm wire basket

* Note that the EIS recommends additional enhancement plantings.

7. Management and Monitoring

7.1 Pre-Construction Phase

The erection of tree protection fencing (**Figure 2**) as per the Site Plan is to be conducted under the supervision of an ISA Certified Arborist, prior to the commencement of site clearance, demolition or any other type of construction. Any pruning or trimming of trees to accommodate the fencing will be completed by a Certified Arborist using best industry practices. All trees to be removed will be felled into the proposed development area as to avoid damage to the adjacent trees. Fencing must remain intact through the completion of construction.

7.2 Construction Phase

Tree protection fencing will be regularly inspected for damage and proper function by construction personnel. Any damage will be reported to the construction supervisor and repaired immediately. Protective fencing shall remain in place throughout the duration of construction and shall not allow traffic, vehicles, foot traffic or equipment to compact soil within the TPZ. Any build up of sediments at tree bases will be removed as part of fencing repairs.

Periodic monitoring of the Site during demolition, excavation and construction may be required to ensure tree protection measures are performed or remain in place throughout the duration of the construction. If required, monitoring will be performed by the developer's Consulting Arborist.

7.3 Post-Construction Phase

The removal of tree protection barriers will only be initiated once all construction activities have been completed and landscaping has been initiated. The TPZ barriers and any additional tree care measures must remain in place until approval is given by the City of Mississauga.

Planting of trees as per Section 6 will be initiated as part of landscaping and be completed by nursery professionals or a Certified Arborist. Planting will occur solely during the spring or fall planting seasons; being April 15 - July 1, and September 15 – November 15 respectively.

Monitoring of tree establishment should be completed for a minimum of two growing seasons post-planting. Monitoring will be designed to assess the growth and establishment of the planted trees, ensuring that the conditions any nursery guarantees are met.

7.4 Migratory Bird Convention Act

The developer is required to be informed about the Wildlife Act and Migratory Bird Convention Act, 1994. It is an offence to destroy active nests and/or eggs during bird nesting periods. Common nesting periods for the Vaughan area (nesting zone C2) extend from April 15th to August 15th for most birds (Government of Canada, 2019). Nesting can occur at other times as well. Should tree removal during bird nesting season be unavoidable, the developer is required to conduct a nesting survey. In addition, the developer is also required to provide on-site monitoring by a registered professional biologist to ensure nests will not be damaged.

8. Conclusions

Of the 87 inventoried trees, it is recommended that 24 trees be removed, and 63 trees be retained. The Tree Preservation Plan is intended to act in concert with this Arborist Report; it is expected that the recommendations of both instruments be implemented for the Project. The Tree Preservation Plan, as detailed on **Figure 2** is to be implemented, including tree-specific recommendations outlined in this report. The Compensation Plan for the replacement of trees lost is detailed in Section 6 and is to include 24 trees, per the City of Mississauga requirements. Recommendations for construction methods as they pertain to trees have been outlined in Section 7.

9. Certification and Contact

We trust that this report and TPP provides an appropriate plan for the preservation and compensation for trees associated with the proposed redevelopment of 255 Dundas Street West. Should you have any questions or comments regarding the enclosed, please contact Austin Adams at (647) 461-2372 or austin.adams@pecg.ca.

Yours truly,

Prepared By:

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Sr. Ecologist, ISA Certified Arborist ON-2000A

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Appendix A

Tree Inventory

Appendix A. Tree Inventory

Tree Tag	Scientific Name	Common Name	DBH (cm)	Effective DBH (cm)	TPZ (m)*	% Dead Branches	Condition		Recommendation
							Str.	Vig.	
A	*Juglans nigra*	Black Walnut	~55	55	3.6		G	G	Retain
B	*Gleditsia triacanthos*	Honey Locust (Cultivar)	~30	30	2.4		F	G	Retain
C	*Malus* sp.	Apple sp.	~20	20	1.8		P-F	F	Retain
D	*Malus* sp.	Apple sp.	~20	20	1.8		P-F	P-D	Retain
278	*Tilia americana*	American Basswood	28	28	1.8	<10	G	G	Retain
279	*Tilia americana*	American Basswood	29	29	1.8		F	G	Retain
280	*Tilia americana*	American Basswood	39	39	2.4	<10	G	G	Retain
281	*Tilia americana*	American Basswood	39	39	2.4	<10	G	G	Retain
282	*Tilia americana*	American Basswood	40	40	2.4		G	G	Retain
283	*Tilia americana*	American Basswood	43	43	3.0	<10	F	G	Retain
284	*Tilia americana*	American Basswood	36	36	2.4		G	G	Retain
285	*Tilia americana*	American Basswood	31	31	2.4		F	G	Remove
286	*Pinus nigra*	Austrian Pine	25	25	1.8	50	F	F	Retain
287	*Pinus nigra*	Austrian Pine	27	27	1.8	40	F	F	Retain
288	*Pinus nigra*	Austrian Pine	32	32	2.4	20	F-G	G	Retain
289	*Tilia americana*	American Basswood	38	38	2.4	10	F	G	Remove
290	*Pinus nigra*	Austrian Pine	28	28	1.8	30	F-G	G	Retain
291	*Tilia americana*	American Basswood	34	34	2.4	<10	F	G	Retain
292	*Tilia americana*	American Basswood	39	39	2.4	<10	G	G	Retain
293	*Tilia americana*	American Basswood	31	31	2.4	<10	F	F	Retain
294	*Tilia americana*	American Basswood	29	29	1.8	<10	G	G	Retain
295	*Tilia americana*	American Basswood	25	25	1.8	<10	G	G	Retain
296	*Tilia americana*	American Basswood	34	34	2.4		G	G	Retain
297	*Pinus nigra*	Austrian Pine	27	27	1.8	<10	P-F	G	Retain
298	*Pinus nigra*	Austrian Pine	25	25	1.8	20	G	F	Retain

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Tree Tag	Scientific Name	Common Name	DBH (cm)	Effective DBH (cm)	TPZ (m)*	% Dead Branches	Condition		Recommendation
							Str.	Vig.	
299	*Salix discolor*	Pussy Willow	5, 7, 6, 4	11	1.8	<10	G	G	Retain
300	*Pinus nigra*	Austrian Pine	23	23	1.8	20	G	G	Retain
301	*Pinus nigra*	Austrian Pine	26	26	1.8	10	G	G	Retain
302	*Pinus nigra*	Austrian Pine	27	27	1.8	15	G	G	Retain
303	*Pinus nigra*	Austrian Pine	25	25	1.8	30	F	G	Retain
304	*Pinus nigra*	Austrian Pine	32	32	2.4	20	F	G	Retain
305	*Pinus nigra*	Austrian Pine	32	32	2.4	<10	G	G	Retain
306	*Gleditsia triacanthos*	Honey Locust (Cultivar)	48	48	3.0	<10	G	G	Remove
307	*Tilia americana*	American Basswood	~35	35	2.4	<10	G	F	Remove
308	*Tilia americana*	American Basswood	40	40	2.4	<10	G	G	Remove
309	*Tilia americana*	American Basswood	41	41	3.0	10	G	G	Remove
310	*Tilia americana*	American Basswood	39	39	2.4	<10	F	G	Remove
311	*Tilia americana*	American Basswood	36	36	2.4	<10	G	G	Remove
312	*Tilia americana*	American Basswood	36	36	2.4	<10	F	G	Remove
313	*Tilia americana*	American Basswood	35	35	2.4	<10	F-G	G	Remove
314	*Tilia americana*	American Basswood	40	40	2.4		G	G	Remove
315	*Tilia americana*	American Basswood	37	37	2.4	<10	G	G	Remove
316	*Gleditsia triacanthos*	Honey Locust (Cultivar)	36	36	2.4		F	G	Remove
317	*Gleditsia triacanthos*	Honey Locust (Cultivar)	22	22	1.8		F	G	Retain
317a	*Gleditsia triacanthos*	Honey Locust (Cultivar)	30	30	2.4		P-F	G	Retain
318	*Gleditsia triacanthos*	Honey Locust (Cultivar)	28	28	1.8		F	G	Retain
319	*Tilia americana*	American Basswood	40	40	2.4	10	P-F	G	Remove
320	*Acer negundo*	Manitoba Maple	17	17	1.8	<10	F	G	Remove
321	*Acer negundo*	Manitoba Maple	19	19	1.8	<10	F	G	Remove
322	*Acer negundo*	Manitoba Maple	13	13	1.8	<10	F	G	Remove
323	*Acer negundo*	Manitoba Maple	10, 9	13	1.8	<10	P-F	G	Remove

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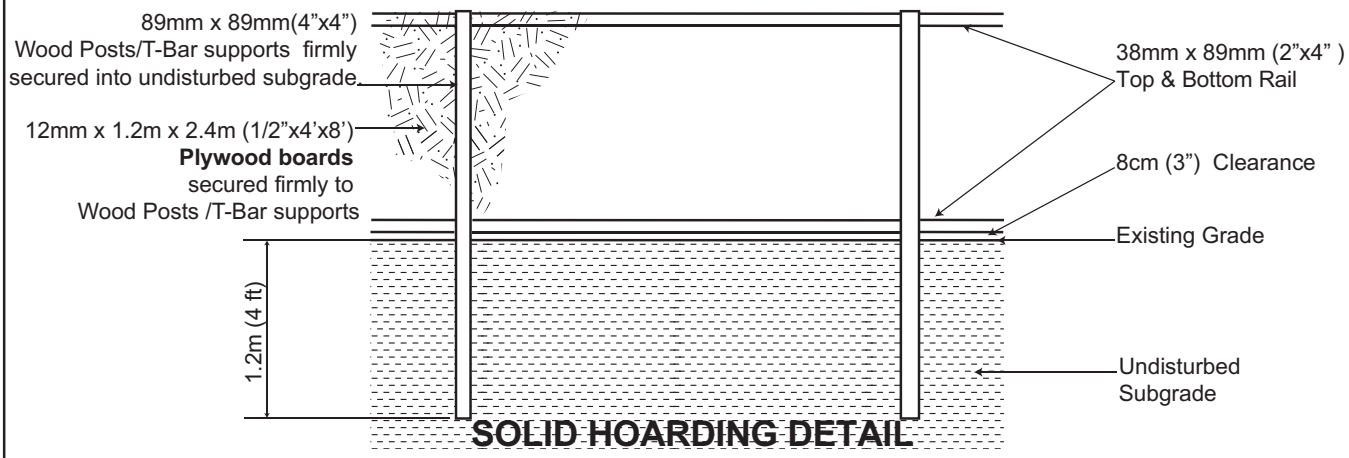
Tree Tag	Scientific Name	Common Name	DBH (cm)	Effective DBH (cm)	TPZ (m)*	% Dead Branches	Condition		Recommendation
							Str.	Vig.	
324	*Pinus nigra*	Austrian Pine	40	40	2.4	15	F	F	Retain
325	*Pinus nigra*	Austrian Pine	40	40	2.4	10	F	G	Retain
326	*Pinus nigra*	Austrian Pine	33	33	2.4	<10	G	F	Retain
327	*Tilia americana*	American Basswood	44	44	3.0	<10	F-G	G	Retain
328	*Pinus nigra*	Austrian Pine	28	28	1.8	<10	F-G	G	Retain
329	*Fraxinus* sp.	Ash sp.	9	9	1.2	100	F	D	Retain
330	*Acer plantanoides*	Norway Maple	8	8	1.2	10	P-F	F	Retain
331	*Acer plantanoides*	Norway Maple	10, 12	16	1.8	<10	P-F	G	Retain
332	*Malus* sp.	Apple sp.	11	11	1.8	<10	P	F	Retain
333	*Malus* sp.	Apple sp.	6, 6	8	1.2	<10	F	F	Retain
334	*Acer plantanoides*	Norway Maple	8	8	1.2	<10	G	G	Retain
335	*prunus pensylvanica*	Pin Cherry	8, 7, 7, 5	14	1.8	<10	F	G	Retain
336	*Malus* sp.	Apple sp.	13	13	1.8	<10	G	G	Retain
337	*prunus pensylvanica*	Pin Cherry	7, 8, 7	13	1.8	<10	F	G	Retain
338	*Malus* sp.	Apple sp.	10, 16	19	1.8	<10	G	G	Retain
339	*prunus pensylvanica*	Pin Cherry	13	13	1.8	<10	F	G	Retain
340	*Salix alba*	White Willow	27	27	1.8	20	F	G	Retain
341	*prunus pensylvanica*	Pin Cherry	18	18	1.8	<10	F	G	Retain
342	*Acer plantanoides*	Norway Maple	11	11	1.8	10	P-F	F	Retain
343	*Picea glauca*	White Spruce	8	8	1.2	30	F	F	Retain
344	*Malus* sp.	Apple sp.	15, 10	18	1.8	10	P	F	Retain
345	*Acer plantanoides*	Norway Maple	8, 13, 8, 13	22	1.8	<10	F	G	Retain
346	*Carya ovata*	Shagbark Hickory	35	35	2.4	<10	G	G	Retain
347	*Ulmus pumila*	Siberian Elm	13	13	1.8	<10	G	G	Retain
348	*Ulmus pumila*	Siberian Elm	14, 9, 18, 6	25	1.8	15	F	G	Retain
349	*Tilia americana*	American Basswood	8, 13, 6, 6, 11, 7, 5, 5	23	1.8	10	P-F	G	Retain

Tree Tag	Scientific Name	Common Name	DBH (cm)	Effective DBH (cm)	TPZ (m)*	% Dead Branches	Condition		Recommendation
							Str.	Vig.	
350	*Ulmus pumila*	Siberian Elm	18, 11, 6	22	1.8	20	F	G	Retain
351	*Acer plantanoides*	Norway Maple	6	6	1.2	100?	G	D?	Retain
352	*Ulmus pumila*	Siberian Elm	12, 10	16	1.8	<10	F	G	Retain
353	No tag in box.								
354	*Ulmus pumila*	Siberian Elm	28	28	1.8	20	G	G	Retain
E	*Gleditsia triacanthos*	Honey Locust (Cultivar)	~20	20	1.8	<10	G	G	Remove
F	*Gleditsia triacanthos*	Honey Locust (Cultivar)	~20	20	1.8	<10	G	G	Remove
G	*Gleditsia triacanthos*	Honey Locust (Cultivar)	~20	20	1.8	<10	G	G	Remove
H	*Gleditsia triacanthos*	Honey Locust (Cultivar)	~20	20	1.8	<10	G	G	Remove
I	*Gleditsia triacanthos*	Honey Locust (Cultivar)	~20	20	1.8	<10	G	G	Remove
J	*Gleditsia triacanthos*	Honey Locust (Cultivar)	~20	20	1.8	<10	G	G	Remove

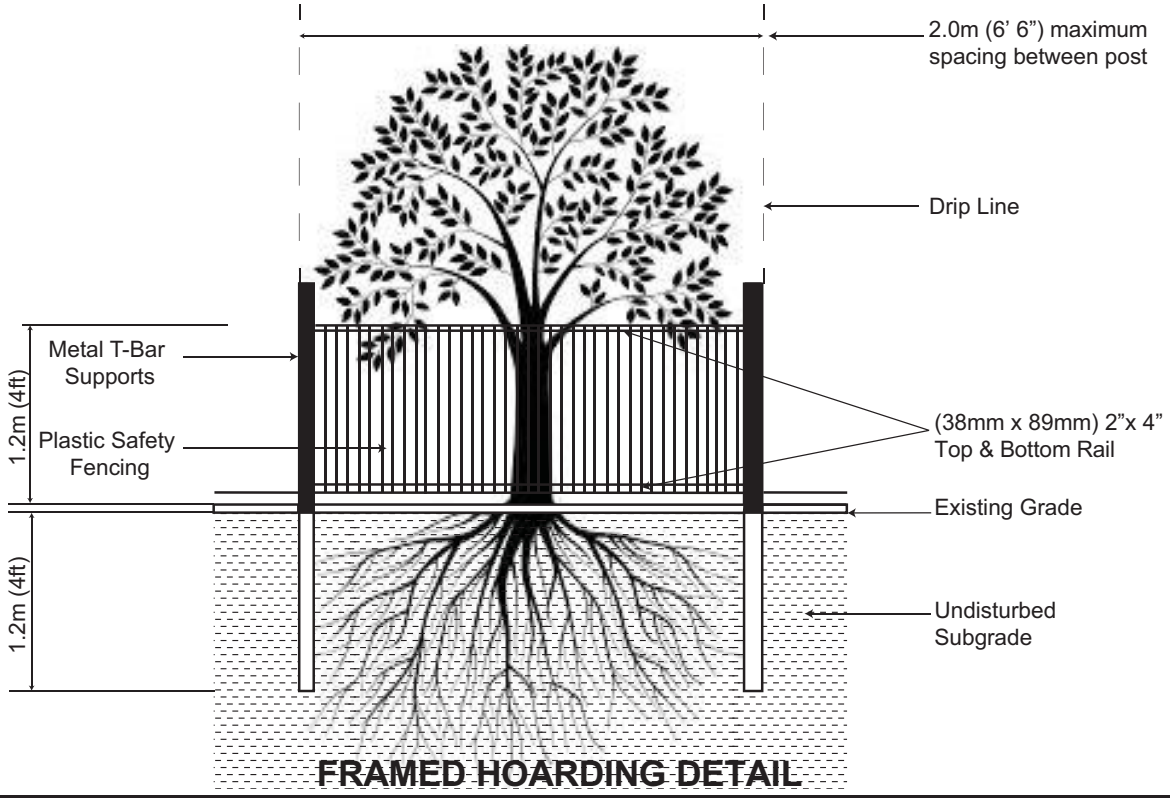
*Effective DBH calculated as the square root of the sum of squares for all tree stems.
Condition – Good/Fair/Poor/Dead – for Structural (Str.) and Vigour (Vig.)

Appendix B

City of Mississauga Tree Preservation Hoarding Detail



SOLID HOARDING DETAIL



FRAMED HOARDING DETAIL

NOTES:

1. Hoarding details to be determined following initial site inspection.
2. Private tree hoarding to be approved by Development & Design ;
   City tree hoarding to be approved by Community Services Dept.
3. Hoarding must be supplied, installed and maintained by the applicant throughout all phases of construction.
   Inspection must be conducted by the Development and Design Division prior to removing any/all private hoarding.
4. Do not allow water to collect and pond behind or within hoarding.
5. **T-bar supports are acceptable alternative to 4x4 posts. U-shaped metal supports will not be accepted.**
6. **Plywood** must be utilized for ‘solid’ hoarding. OSB/Chipboard will not be accepted for solid hoarding. Plywood sheets must be installed on “construction” side of frame.
7. Applicant is responsible to ensure utility locates are completed within city boulevard prior to installing framed hoarding.

TREE PRESERVATION HOARDING

MISSISSAUGA

SCALE : N.T.S DATE : June 2017