871 Equestrian Court, Unit 1, Oakville ON L6L 6L7
Tel: 647-795-8153 | www.pecg.ca

April 22, 2024

Mr. Frank Crocco
Dunlop Developments (Barrie) Inc. c/o CIR Contracting
129 Rowntree Dairy Road, Unit No. 4
Vaughan, Ontario L4L 6C9

Dear Mr. Frank Crocco:

Re: Arborist Report and Tree Preservation Plan for 149 Dunlop Street East, City of Barrie, Ontario (Palmer #2110601) File No. D28-011-2022

1. Introduction

Palmer was retained by Dunlop Developments (Barrie) Inc. to complete this Arborist Report and Tree Preservation Plan for the proposed development at 149 Dunlop Street East, City of Barrie, Ontario (the 'Subject Property' – **Figure 1**). An Environmental Impact Study for the Subject Property was submitted by Palmer under a separate cover (Palmer, 2023).

The Subject Property is 0.16 hectares (ha) and is currently entirely developed with a commercial plaza building and associated parking lots. The Subject Property is surrounded by further paved parking lot and Kempenfelt Bay to the south, Sam Cancilla Park to the east, Dunlop St E to the north, and Mulcaster St to the west. The general study area is quite disturbed as a result of human use and development.

This report includes a review of relevant tree preservation policies, the tree inventory methods and results, a tree preservation plan identifying trees proposed to be retained and recommended tree protection measures, as well as the tree replacement recommendations for trees proposed to be removed. Recommendations for construction methods are also detailed, as they pertain to trees.

LEGEND

Subject Property (0.16 ha)

Key Map

20 10 0 20

METRE SCALE

North American Datum 1983
Universal Transverse Mercator Projection Zone 17

Scale: 1:1,000
Page Size: Letter (8.5 x 11 inches)

Drawn: CV
Checked: RA
Date: Jun 23, 2023

Source Notes:
Imagery (2016) provided by City of Barrie map service

NORTH

CLIENT

CIR Contracting

PROJECT

149 Dunlop Street East, Barrie

TITLE

Site Location

Palmer™

REF. NO. 2110601-1-1

Figure 1

Document Path: G:\Shared drives\Projects 2021 (21001 to 21123)\21106 - CIR Contracting\2110601 - 149 Dunlop Street East, Barrie\GIS\1_Workspace\Task 2 - Ecology Figures\2110601_1-1_Site Location.mxd

2. Relevant Policy

2.1 City of Barrie

2.1.1 Official Plan (2023)

The purpose of the City of Barrie Official Plan (OP) is to provide guidance for consideration of land use changes, the provision of public works, actions of local boards, municipal initiatives, and the actions of private enterprise. Section 3.2.4.6 states the importance of tree planting, as they are essential to the surrounding neighbourhoods and its residents.

Section 6.3.2 of the OP states the importance of urban trees and vegetation as a sustainable design element to improve the energy efficiency of buildings, reduce heat island effect and sequester carbon (City of Barrie, 2023).

2.1.2 Lake Simcoe Protection Plan (2009)

The Lake Simcoe Protection Plan, 2009, (LSPP) responds to a provincial mandate to better protect water resources and natural heritage and address natural hazards in the Lake Simcoe watershed (City of Barrie, 2023). The LSPP has separate requirements depending on whether the proposed development is located within or outside an existing settlement area. The Subject Property is located within a Settlement Area and is therefore subject to the applicable policies under the Act.

2.1.3 Tree Preservation By-Law (No.2014-115)

In the City of Barrie, the Tree Preservation By-Law (No.2014-115) outlines the guidelines for protection trees in the City of Barrie. The purpose of the City's *Tree Preservation By-Law* is to *"prohibit or regulate the injuring or destruction of trees on private property in the City of Barrie"* (City of Barrie, 2014). This by-law applies to all trees situated on City property as well as trees in private property found within an ecological woodlot of at least 0.2 ha (1/2 acre). The boundary of the woodland is defined by its ecological limit and not by private property boundaries. Under Section 5(d and e), the unavoidable injury or destruction of trees necessitated by works under an approved site plan by the City are exempt from the By-Law. This arborist report has been prepared as part a development site plan application.

2.1.4 Tree Protection Manual (2019)

The *Tree Protection Manual* describes the process of obtaining approval to remove trees in a development area within the City of Barrie (City of Barrie, 2019). A tree inventory, assessment, and preservation plan must be prepared, as part of the pre-submission of the application. Step-by-step explanations are provided on how to assess and determine preservation of trees and what standard mitigation measures should be employed during construction.

2.2 Migratory Birds Convention Act

The *Migratory Birds Convention Act* (MBCA), 1994 and Migratory Birds Regulations (MBR), 2014 protect most species of migratory birds and their nests and eggs anywhere they are found in Canada (Government of Canada, 1994). General prohibitions under the MBCA and MBR protect migratory birds, their nests, and eggs, and prohibit the deposition of harmful substances in waters/areas frequented by them. The MBR

includes an additional prohibition against incidental take, which is the inadvertent harming or destruction of birds, nests or eggs.

3. Methods

The tree inventory was completed by an International Society of Arboriculture (ISA) Certified Arborist on October 28, 2021. A tree inventory was completed for all woody perennial plants which have reached or can reach a height of at least 1.5 metres (m) at physiological maturity, as defined in Barrie's *Tree Protection Manual*, within and adjacent of the Subject Property. Information collected during the inventory included species name, tree tag number, diameter at breast height (DBH), percentage of dead branches, a general health assessment (structure and vigour), dripline, and notes on tree trunk and canopy conditions.

4. Results

4.1 Tree Inventory

The tree inventory included a total of 11 individuals (**Figure 2**), all of which are in good health (**Table 1**). Four (36%) of the inventoried trees are native to Ontario including White Spruce (*Picea glauca*) and Eastern White Cedar (*Thuja occidentalis*). Seven (64%) of the inventoried trees are considered non-native including Blue Spruce (*Picea pungens*) and Small-leaved Linden (*Tilia cordata*); however, these species are common landscaping species in Ontario. Juniper and Cherry species observed were also considered as non-native/landscaping varieties, but only identifiable to genus level. Of these trees, eight were determined to be publicly owned, while three are privately owned. There were no Species at Risk (SAR) trees observed. The full tree inventory is provided in **Appendix A**.

Table 1.Summary of Tree Inventory Results

Scientific Name	Common Name	Poor Health	Fair Health	Good Health	Grand Total
*Juniperus sp.**	Juniper sp.	-	-	1	1
Picea glauca	White Spruce	-	-	1	1
*Picea pungens**	Blue Spruce	-	-	2	2
*Prunus sp.**	Cherry sp.	-	-	1	1
Thuja occidentalis	Eastern White Cedar	-	-	3	3
*Tilia cordata**	Small-leaved Linden	-	-	3	3
Total		**0**	**0**	**11**	**11**

*Non-native/landscaping species

General Notes
• This tree protection plan is designed to work in concert with the tree evaluation report for the project.
• All tree protection barriers shall be in place and approved by the City prior to construction access.
• Tree protection barriers shall remain in place and in good conditions until all construction is complete and approved by the City.
• All arboriculture work such as pruning of branches and roots, shall be done by a qualified tree worker certified with the International Society of Arboriculture by the City.
Tree Protection and Fencing
All existing trees which are to remain shall be fully protected with fencing erected around the entire perimeter of the tree protection zone in accordance with Table 1 (City of Barrie's "Tree Protection Manual"). Groups of trees and other existing plantings to be protected, shall be done in a like manner with fencing around the entire clump(s).
• Protective fencing shall be installed in accordance with the specifications provided in "City of Barrie: P1232" from the City's Tree Protection Manual (2019).
• All supports and stakes shall be outside the tree protection zone and shall minimize root damage.
• Areas within the protective fencing shall remain undisturbed and shall not be used for the storage of building materials or equipment.
• This work shall be completed, to the satisfaction of the commissioner of development services, prior to the issuance of building perm its for the site development. The developer or their agent shall take every precaution necessary to prevent damage to trees or shrubs to be retained.
• 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 desiccation.
• If grades around trees to be preserved are likely to change, the developer shall be required to take such precaution as dry welling and root feeding to the satisfaction of the commissioner of development services.
• An ISA Certified Arborist shall be on site for any work which prevents any tree or tree protection zone.
• Tree protection zones are to include signs (as per below) installed on all sides of protective barrier. Signs shall be of the following dimensions: 279 mm x 432 mm. Further details of the text sizing, spacing and font can be found in "City of Barrie: P1231"

Tree Preservation Area sign template
Note to Owner: Sign to be 11 inches high by 17 inches long and printed at 50 metre intervals along tree preservation fencing, as per the Tree Removal Permit.

TREE PRESERVATION AREA

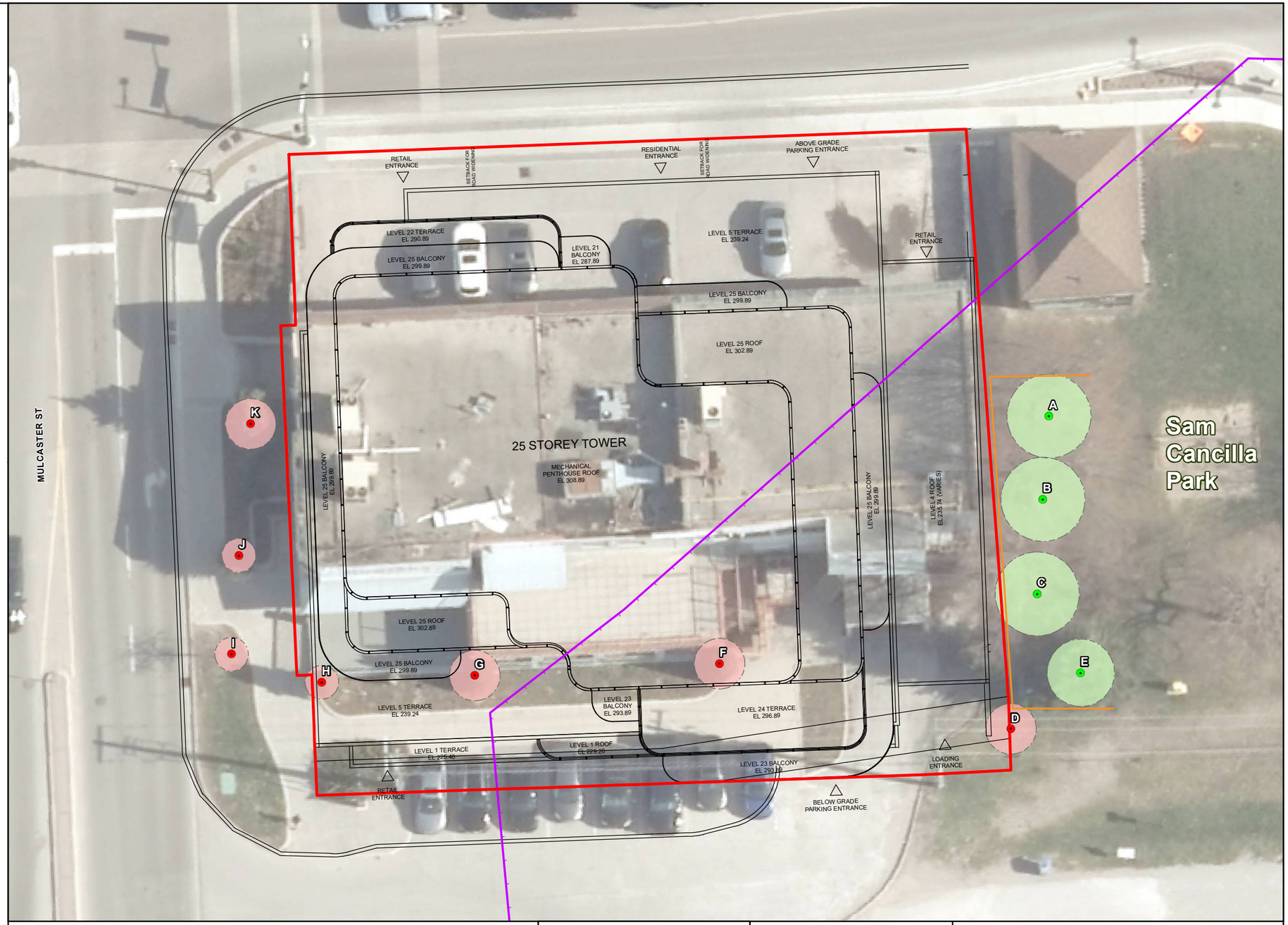
NO UNAUTHORIZED TREE CUTTING PERMITTED IN THIS AREA

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 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 Barrie 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 1 to August 1 of any given year. Should removal be required within the April 1 to August 1 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.
• Tree removal signage can be found in "City of Barrie: P1230" and should be posted in a visible location (7) seven weekdays before the injury or destruction of vegetation, and will remain for a period of no less than (2) two months following the completion of vegetation removal.

Table 1. Trees Proposed to be Removed

Scientific Name	Common Name	Tree Labels	Good Health
Juniperus sp.	Juniper sp.	J	1
Picea pungens	Blue Spruce	D, K	2
Prunus sp.	Cherry sp.	I	1
Thuja occidentalis	Eastern White Cedar	F, G, H	3
Total			**7**



LEGEND

- Inventory Tree *with TPZ* to Retain
- Inventory Tree *with TPZ* to Remove
- LSRCA Regulation Limit
- Tree Protection Fencing
- Development Plan
- Subject Property (0.16 ha)

STAMP:

0 5 10
METRE SCALE

North American Datum 1983
Universal Transverse Mercator Projection Zone 17

Scale: 1:250
Page Size: Tabloid (11 x 17 inches)

Drawn: SM
Checked: KT
Date: Mar 26, 2024

NORTH

Source Notes:
Imagery (2022) provided by City of Barrie map service

CLIENT: CIR Contracting

PROJECT: 149 Dunlop Street East, Barrie

TITLE: **Tree Preservation Plan**

Palmer

REF. NO. 2110601-2-3

Figure 2

Document Path: G:\Shared drives\Projects 2021 (21001 to 21123)\21106 - CIR Contracting\2110601 - 149 Dunlop Street East, Barrie\GIS\1_Workspace\Task 3 - Arborist Report Figures\2110601_2-1_Tree Preservation Plan.mxd

4.2 Trees to be Retained

Among the inventoried trees, four trees are proposed to be retained (**Table 2**), three (75%) of which are non-native, and all of which are in good condition. All of the trees proposed to be retained are public trees adjacent to or along the boundary of the Subject Property, within Sam Cancilla Park (**Figure 2**). Partial pruning of canopies and possibly roots may be required in order to accommodate development within the Subject Property Limits.

Table 2. Trees Proposed to be Retained

Scientific Name	Common Name	Good Health
Picea glauca	White Spruce	1
*Tilia cordata**	Small-leaved Linden	3
Total		**4**

*Non-native species

4.3 Trees to be Removed

Among the inventoried trees, seven trees are proposed to be removed (**Table 3**), three (43%) of which are native and all of which are in good condition. Four of the seven trees proposed to be removed are public trees (Trees K, J, I and D). The locations of these seven trees overlap with the proposed development including necessary access, improvements to the boulevard design, and landscaping. These trees are of low preservation value as they are planted species (City of Barrie, 2019).

Table 3. Trees Proposed to be Removed

Scientific Name	Common Name	Tree Labels	Good Health
*Juniperus sp.**	Juniper sp.	J	1
*Picea pungens**	Blue Spruce	D, K	2
*Prunus sp.**	Cherry sp.	I	1
Thuja occidentalis	Eastern White Cedar	F, G, H	3
Total			**7**

*Non-native/landscaping species

5. Tree Preservation Plan

The specifications for tree protection are detailed below and illustrated on **Figures 2 and Appendix B** with the location of required tree protection fencing. These standard mitigation measures are based on the Tree Protection Manual (City of Barrie, 2019) and in accordance with the City's Standard Details P 1230, 1231, 1232, 1234 and 1236.

5.1 Tree Protection Fencing

It is recommended that development limits be clearly defined in-field using erosion control fencing, and all clearing and grading activities are to remain within these limits. It is expected that such measures will be appropriate for protection of trees situated beyond the development limits.

Trees proposed for retention outside the proposed development area should also be protected by installation of additional tree protection fencing. Fencing provides protection from potential damage during construction activities such as the use of machinery near trees and branches, and stockpiling of materials over the root zone. Tree protection fencing should be installed at the recommended Tree Protection Zone (TPZ) distance for each individual tree (**Table 4**). Based on the City of Barrie's guidelines, the minimum TPZs are based on the DBH of the tree, while the optimum TPZs are based on the tree's dripline. For this Tree Preservation Plan, the minimum TPZ was applied to each tree.

Table 4. Tree Protection Zone

DBH*	Minimum TPZ Distance**	Optimum TPZ Distance
>=10 cm	1.0 m	dripline
11-25 cm	1.5 m	dripline
26-40 cm	2.0 m	dripline
41-60 cm	2.5 m	dripline
61-80 cm	3.0 m	dripline
81 cm +	4.0 m	dripline

*DBH measurement of tree is taken at 1.37 metres above the ground

**TPZ distances are to be measured from the outside edge of the tree base

Within the TPZ there must be:

- No alteration or disturbance to existing grade of any kind;
- No changes to the grade by adding fill, excavating or scraping;
- No storage of construction materials or equipment;
- No storage of soil, construction waster or debris;
- No disposal of any deleterious materials e.g., concrete sleuth, gas, oil, paint; and
- No movement of vehicles, equipment, or pedestrians.

As per the City's Standard Details, wire fencing should be installed with a minimum height of 900 mm. The specifications for tree protection fencing are provided in **Appendix B**.

5.2 Pruning

Roots and branches of existing trees that are disturbed by excavation or any other construction activity should be pruned to ensure the long-term health of the tree. These trees are immediately adjacent to the proposed works and vulnerable to becoming injured as a result of nearby works with machinery. Pruning should be conducted by a Certified Arborist using good arboricultural practices. In general, pruning is to be

done by hand making clean cuts. Rotary tools and torque motions should not be employed. Efforts should be made to keep exposed roots moist and soils replaced as soon as feasible.

5.3 Tree Replacement

As noted in Section 4.3, a total of seven inventoried trees (four public and three private) are proposed for removal to accommodate the proposed development. Currently, the City of Barrie does not have a policy for tree replacement on private property. As for the removal of public trees, it states that replacement trees must be planted according to the appraisal calculations outlined in Section 7.0 of the City's *Tree Protection Manual, 2019*. To determine the appraised value of a tree, species, size, location and current condition are considered in the calculation (**Table 5**).

Table 5. Tree Appraisal Calculations

Tag #	Species	Height (m) / DBH (cm)	Base Value Current Price	Value Indices			Current Price/cm³ or Height	Current Growth Value	Tree Value
				Species	Location	Health			
D	Blue Spruce	6 m*	$400	1.0	0.7	0.75	$160	$550.20	$550.20
I	Cherry Species	10 cm	$500	0.4	0.7	0.75	$100	$210	$500
J	Juniper Species	3 m	$400	0.6	0.7	0.75	$160	$151.20	$400
K	Blue Spruce	8 m*	$400	1.0	0.7	0.75	$160	$672	$672
Total									**$2,122.20**

* Approximate

The total tree value is calculated at $2,122.20, which is required to replace the four public trees lost. As the current growth value for Trees I and J are below the Base Value Current Price, that value has been applied for those trees. The total cost estimate includes the purchase of the nursery stock, delivery, installation and administration fees.

To mitigate for lost trees within the private property, it is recommended that trees be replaced in at least a 1:1 ratio. As such, a total of three replacement trees are recommended to be planted.

Replacement tree species should be native to the Simcoe area, ideally sourced from local nurseries and be representative of the immediate landscape. The following species are recommended based on the dominant canopy composition of the adjacent forests:

- Sugar Maple
- Eastern White Cedar
- White Spruce
- Basswood

It is recommended that compensation trees be 50 – 60 millimetre (mm) caliper stock (5 cm DBH), which have been shown to establish better than larger stock (Struve, 2009; Watson, 1985). It is recommended that tree replacements be incorporated into future landscape plans. As per City of Barrie's *Tree Protection Manual* (City of Barrie, 2019), *"if a tree is significantly injured or destroyed, the City of Barrie determines the Tree Appraisal value by adjusting a tree's basic value by its condition, location, and species based on the Guide for Plant Appraisal, published by the Council of Tree and Landscape Appraisers and the International Society of Arboriculture Tree Evaluation Guide*."

6. Management and Monitoring

6.1 Pre-Construction Phase

To avoid a MBCA offence by the inadvertent injury or destruction of active nests and/or eggs during bird nesting periods, it is recommended that all vegetation (including tree) removal works are conducted between September 1 and April 14 of any given year. Should tree removal during the bird nesting season be unavoidable, a qualified biologist should conduct a nesting survey immediately before any vegetation removal is conducted. 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.

All trees to be removed be felled into the proposed development area as to avoid damage to the adjacent treed areas. The tree protection fencing should be installed, then inspected by the City, before the commencement of any earth works or construction. Appropriate tree pruning would also be completed at this point. Any pruning of tree roots and branches of tree necessary to accommodate construction work should be completed using best arboricultural practices.

6.2 Construction Phase

Contractors are responsible for all protection techniques, to the satisfaction of the City of Barrie or their designated Certified Arborist. Protective fencing should be installed (Section 5.1) and remain in place throughout the duration of construction and should not allow vehicles, foot traffic, or equipment to compact soil within the tree protection fencing area.

6.3 Post-Construction Phase

The removal of tree protection fencing and additional tree care measures should only be completed when all construction activities have been completed and landscaping has been initiated. Planting of replacement trees as per Section 5.3 will be initiated as part of landscaping and be completed by nursery professionals or a Certified Arborist. To promote successful establishment, plantings 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 will be completed for a minimum of one growing season post-planting, following preliminary acceptance by the City. Monitoring should be designed to assess the growth and establishment of the planted trees, ensuring that the conditions of any nursery guarantees are met.

7. Conclusions

Of the 11 total inventoried trees (four public and seven private), four public trees are to be retained. The other seven are proposed to be removed, as they overlap with the anticipated development area. The Tree Preservation Plan described in this report is intended to be implemented to ensure the protection for trees being retained, suitable mitigation measures are followed for trees that may be injured, and appropriate replacements for trees proposed to be removed. The management and monitoring recommendations are provided as direction for the various phases of construction to ensure that impacts to trees are minimized to the greatest extent feasible.

Yours truly,

Prepared By:

Karisa Tyler, M.Sc.
Ecologist

Reviewed By:

Erin Donkers, B.Sc. PG [ER]
Senior Ecologist, ISA Certified Arborist ON-2555A

Catherine Jay, BLS, CSLA, OALA, MCIP, RPP
Principal, Head of Urban Design, SGL Planning & Design Inc.

Approved By:

Austin Adams, M.Sc., EP
Senior Ecologist, ISA Certified Arborist ON-2000A

8. References

City of Barrie. (2014). *Tree Preservation By-Law (No.2014-115).*

City of Barrie. (2019). *Tree Protection Manual.*

City of Barrie. (2023). *Official Plan.*

Government of Canada. (1994). Migratory Birds Convention Act, 1994 (S.C. 1994, c. 22). Retrieved from http://laws-lois.justice.gc.ca/eng/acts/m-7.01/

Palmer. (2023). *Environmental Impact Study for 149 Dunlop Street East, City of Barrie, Ontario.*

Struve, D. K. (2009). Tree establishment: A review of some of the factors affecting transplant survival and establishment. *Arboriculture & Urban Forestry, 35*, 10-13.

Watson, G. (1985). Tree size affects root generation and top growth after transplanting. *Journal of Arboriculture, 11*, 37-40.

Appendix A

Tree Inventory

Appendix A: Tree Inventory

Property/Project: 149 Dunlop St E, Barrie
Project Number: 2110601
Surveyor Name: Erin Donkers

Date: October 28, 2021

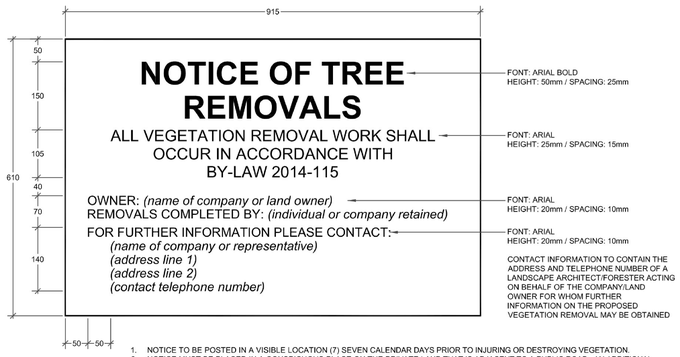
Tag #	Common Name	Scientific Name	DBH	Effective DBH	% dead branches	Condition (G /F/P/D)*		Dripline (m)		TPZ	Recommendation
			(cm)	(cm)		Structure	Vigour	1	2	(m)	(Retain, remove, transplant)
A	Little-leaved Linden	*Tilia cordata*	45	45	<10	G	G	4	4	2.5	Retain
B	Little-leaved Linden	*Tilia cordata*	55	55	10	G	G	4	4	2.5	Retain
C	Little-leaved Linden	*Tilia cordata*	51	51	10-20	G	G	4	4	2.5	Retain
D	Blue Spruce	*Picea pungens*	18	18		G-F	G	2	0.5	1.5	Remove
E	White Spruce	*Picea glauca*	37	37		G	G	3	3	2	Retain
F	Eastern White Cedar	*Thuja occidentalis*	11+9+5	15		G	G	0.5	0.5	1.5	Remove
G	Eastern White Cedar	*Thuja occidentalis*	8+6+6+6	13		G	G	0.5	0.5	1.5	Remove
H	Eastern White Cedar	*Thuja occidentalis*	3+3+3+5	7		G	G	0.5	0.5	1	Remove
I	Cherry sp.	*Prunus* sp.	10	10	25	G	F	1.5	1.5	1	Remove
J	Juniper sp.	*Juniperus sp.*	9	9		G	G	1	1	1	Remove
K	Blue Spruce	*Picea pungens*	22	22		G	G	1	1	1.5	Remove

***Condition Rating:**
GOOD: dead branches < 10%, signs of good compartmentalization on wounds, no structural defects
FAIR: 10-30% dead branches, size or occurrence of wounds present some concerns, minor structural defects
POOR: > 30% dead branches, weak compartmentalization, early leaf drop, presence of insects or disease, major structural defects
DEAD: no signs of life

Appendix B

City of Barrie's Standard Specification for Tree Protection

P1230
TREE REMOVAL NOTIFICATION TEMPLATE[1]

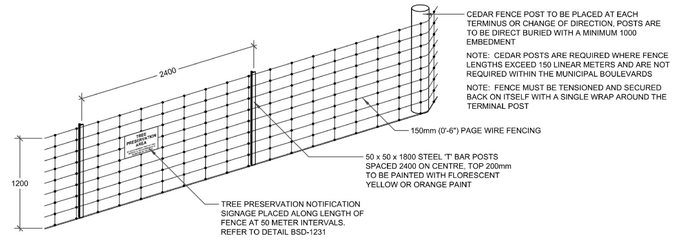


1. NOTICE TO BE POSTED IN A VISIBLE LOCATION (7) SEVEN CALENDAR DAYS PRIOR TO INJURING OR DESTROYING VEGETATION.
2. NOTICE MUST BE PLACED IN A CONSPICUOUS PLACE ON THE PRIVATE LAND THAT IS ADJACENT TO A PUBLIC ROAD. AN ADDITIONAL SIGN IS REQUIRED FOR EACH PUBLIC ROAD FRONTAGE.
3. SIGNAGE MUST REMAIN IN PLACE FOR A PERIOD OF NO LESS THAN (2) TWO MONTHS FOLLOWING THE COMPLETION OF VEGETATION REMOVALS FROM THE SUBJECT SITE.
4. ALL DIMENSIONS ARE IN MILLIMETRES.

P1231
TREE PRESERVATION AREA TEMPLATE[2]

1. SIGNS MUST BE FABRICATED FROM WEATHER RESISTANT MATERIAL.
2. SIGNS ARE TO BE SECURELY FASTENED AND PLACED IN 50 METER INTERVALS ALONG ALL TREE PRESERVATION FENCING.
3. SIGNS MUST REMAIN POSTED FOR THE DURATION OF THE PROJECT OR UNTIL APPROVAL TO REMOVE PRESERVATION FENCING IS PROVIDED BY THE MUNICIPALITY.
4. ALL DIMENSIONS ARE IN MILLIMETRES.
5. THIS DETAIL IS TO BE USED IN CONJUNCTION WITH BSD-1230 AND BSD-1232.

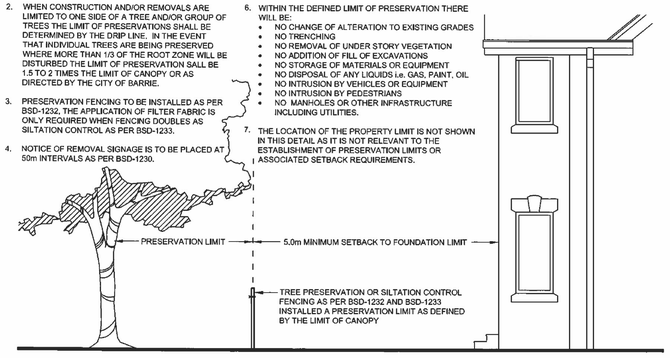
P1232
TREE PRESERVATION FENCING[2]



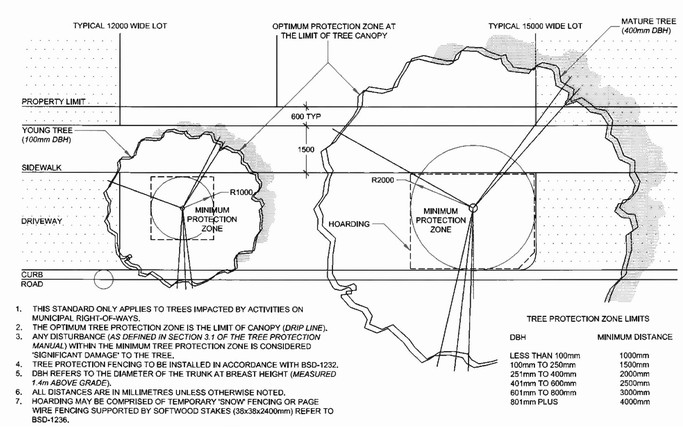
1. THIS DETAIL IS USED IN CONJUNCTION WITH BSD-1233 -SEDIMENTATION CONTROL FENCE.
2. PAGE WIRE FENCE TO BE ATTACHED TO CEDAR RAIL POSTS WITH 'U' SHAPED GALVANIZED NAILS ON EACH HORIZONTAL STRAND.
3. USE A MINIMUM OF FOUR (4) 100MM, 16 GAUGE GALVANIZED T-POST CLIPS TO ATTACH PAGE WIRE FENCE TO EACH 'T' BAR POST.
4. 'T' BARS ARE TO BE DRIVEN INTO THE GROUND TO A MINIMUM DEPTH OF 600mm.
5. ALL MEASUREMENTS ARE IN MILLIMETRES UNLESS OTHERWISE NOTED.
6. THIS DETAIL TO BE USED IN CONJUNCTION WITH BSD-1230, BSD-1231, BSD-1234 AND BSD-1235.

P1235
LIMIT OF TREE PRESERVATION FOR DEVELOPMENT APPROVAL[2]

1. THE DRIP LINE IS MEASURED FROM THE OUTER MOST LIMIT OF BRANCHING WITHIN THE CROWN OF THE TREE. THE FURTHEST DISTANCE SHALL APPLY TO THE ENTIRE PERIMETER OF THE CROWN.
2. WHEN CONSTRUCTION AND/OR REMOVALS ARE LIMITED TO ONE SIDE OF A TREE AND/OR GROUP OF TREES THE LIMIT OF PRESERVATIONS SHALL BE DETERMINED BY THE DRIP LINE. IN THE EVENT THAT INDIVIDUAL TREES ARE BEING PRESERVED WHERE MORE THAN 1/3 OF THE ROOT ZONE WILL BE DISTURBED THE LIMIT OF PRESERVATION SALL BE 1.5 TO 2 TIMES THE LIMIT OF CANOPY OR AS DIRECTED BY THE CITY OF BARRIE.
3. PRESERVATION FENCING TO BE INSTALLED AS PER BSD-1232, THE APPLICATION OF FILTER FABRIC IS ONLY REQUIRED WHEN FENCING DOUBLES AS SILTATION CONTROL AS PER BSD-1233.
4. NOTICE OF REMOVAL SIGNAGE IS TO BE PLACED AT 50m INTERVALS AS PER BSD-1230.
5. THERE IS TO BE NO GRADING, CONSTRUCTION OF SWALES, CATCH BASINS OR OTHER DRAINAGE CONTROLS PLACED WITHIN THE LIMIT OF PRESERVATION.
6. WITHIN THE DEFINED LIMIT OF PRESERVATION THERE WILL BE:
   - NO CHANGE OF ALTERATION TO EXISTING GRADES
   - NO TRENCHING
   - NO REMOVAL OF UNDER STORY VEGETATION
   - NO ADDITION OF FILL OF EXCAVATIONS
   - NO STORAGE OF MATERIALS OR EQUIPMENT
   - NO DISPOSAL OF ANY LIQUIDS i.e. GAS, PAINT, OIL
   - NO INTRUSION BY VEHICLES OR EQUIPMENT
   - NO INTRUSION BY PEDESTRIANS
   - NO MANHOLES OR OTHER INFRASTRUCTURE INCLUDING UTILITIES.
7. THE LOCATION OF THE PROPERTY LIMIT IS NOT SHOWN IN THIS DETAIL AS IT IS NOT RELEVANT TO THE ESTABLISHMENT OF PRESERVATION LIMITS OR ASSOCIATED SETBACK REQUIREMENTS.



P1234
LIMIT OF TREE PROTECTION FOR ACTIVITIES ON MUNICIPAL RIGHT-OF-WAYS[2]

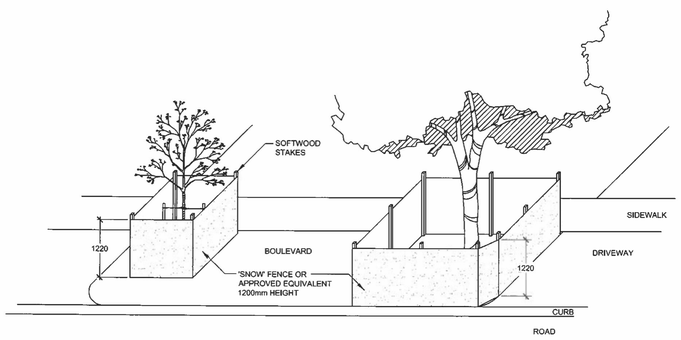


1. THIS STANDARD ONLY APPLIES TO TREES IMPACTED BY ACTIVITIES ON MUNICIPAL RIGHT-OF-WAYS.
2. THE OPTIMUM TREE PROTECTION ZONE IS THE LIMIT OF CANOPY (*DRIP LINE*).
3. ANY DISTURBANCE *(AS DEFINED IN SECTION 3.1 OF THE TREE PROTECTION MANUAL)* WITHIN THE MINIMUM TREE PROTECTION ZONE IS CONSIDERED 'SIGNIFICANT DAMAGE' TO THE TREE.
4. TREE PROTECTION FENCING TO BE INSTALLED IN ACCORDANCE WITH BSD-1232.
5. DBH REFERS TO THE DIAMETER OF THE TRUNK AT BREAST HEIGHT (*MEASURED 1.4m ABOVE GRADE*).
6. ALL DISTANCES ARE IN MILLIMETRES UNLESS OTHERWISE NOTED.
7. HOARDING MAY BE COMPRISED OF TEMPORARY 'SNOW' FENCING OR PAGE WIRE FENCING SUPPORTED BY SOFTWOOD STAKES (38x38x2400mm) REFER TO BSD-1236.

TREE PROTECTION ZONE LIMITS

DBH	MINIMUM DISTANCE
LESS THAN 100mm	1000mm
100mm TO 250mm	1500mm
251mm TO 400mm	2000mm
401mm TO 600mm	2500mm
601mm TO 800mm	3000mm
801mm PLUS	4000mm

P1236
TREE HOARDING DETAIL FOR ACTIVITIES ON MUNICIPAL RIGHT-OF-WAYS[2]



1. TREE HOARDING TO USE ONLY SOFTWOOD STAKES (38X38X2400) EXTENDING 300mm INTO FIRM GROUND SPACED AT ONE METER CENTRES. SECURE USING #12 GAUGE GALVANIZED WIRE OR APPROVED EQUIVALENT.
2. THIS STANDARD ONLY APPLIES TO TREES IMPACTED BY ACTIVITIES ON MUNICIPAL RIGHT-OF-WAYS.
3. THE OPTIMUM TREE PROTECTION ZONE IS THE LIMIT OF CANOPY (*DRIP LINE*).
4. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE NOTED.
5. THIS DETAIL TO BE USED IN CONJUNCTION WITH BSD-1234.

Tree Protection Specifications

0 10 20
metres

N

LEGEND:

1. City of Barrie Design Standard (July, 2022)
2. City of Barrie Design Standard (June 2015)

FIGURE:	LD-1
CLIENT:	CIR Contracting
PREPARED BY:	Palmer™

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PROJECT:	149 Dunlop Street East Arborist Report		
PROJECT NO.	2110601	REVISION:	1
DATE:	Jul 18, 2023	SCALE:	1:200
DRAWN:	SM	DATUM:	NAD 1983
CHECKED:	AA	PROJECTION:	UTM zone 17

PROJECT CITY REFERENCE NUMBER:

PROJECT LEGAL DESCRIPTION:

KEY MAP:

STAMP:

CITY ACCEPTANCE:

Document Path: G:\Shared drives\Projects 2021 (21001 to 21123)\21106 - CIR Contracting\2110601 - 149 Dunlop Street East, Barrie\GIS\1_Workspace\Task 3 - Arborist Report Figures\2110601_3-1_Tree Protection Specifications.mxd