

ARBORIST REPORT

*Report to be read in conjunction with Tree Preservation Plan (dated December 23, 2024)
also by Baker Turner Inc.

Polaris Drive Townhouses

Polaris Drive
Mississauga, Ontario

Prepared By



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INTRODUCTION

Site Context

The site along Polaris Drive is south of Eglington Avenue West and immediately east of Mississauga Road. The site is proposed for development as townhouses. This proposed site use is similar to other properties in the area including residential single family houses immediately south of the property. Along the north property line is a church property with a large parking lot across the majority of the site. Along the rear is a forested ravine slope extending down to a recreational property with a clubhouse and other recreational infrastructure along the river.

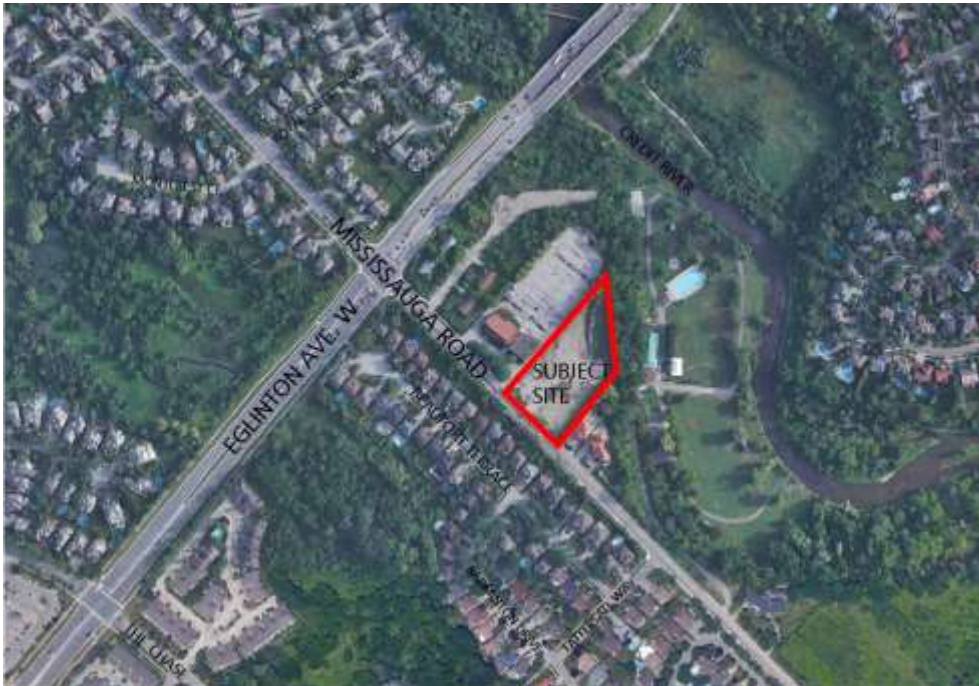


Figure 1. Context Aerial Image

Assignment

Baker Turner Inc. was asked to prepare an arborist report and a tree inventory & preservation plan. Trees within 6m of the property line were measured for approximate canopy width and trunk diameter at breast height (DBH) and assessed for structural and biological condition.

Site Description and Proposed Project

The proposed development site itself is cleared at present. There are no trees on the property and there is some stockpiling at the east end. There is a row of trees on the north-side neighbour's property line and a heavily vegetated slope on the east between the site and the existing park. Along the south is a cedar hedge.

The proposal for the site is a residential townhouse community. Trees on the neighbouring properties will be preserved through the use of hoarding and root sensitive excavation. Details for these mitigation efforts are found within this report and the Tree Inventory and Preservation Plan.

TREE INVENTORY TABLE

Table 1: Tree Inventory Table - See legend on page 4 for further details

Tree Number	Species	DBH (cm)	Canopy diameter (m)	Biological Health	Structural Condition	Recommended Action	Comments	Location
1	<i>Tilia cordata</i> (Little-leaf Linden)	44	10	M	M	P	Multibranch node with tight branching, included bark, a medium-sized girdling root and a 10° lean towards the subject site.	N
2	<i>Tilia cordata</i> (Little-leaf Linden)	44.5	10	M	M	P	Multibranch node with tight branching, included bark, and large pruned limbs.	N
3	<i>Tilia cordata</i> (Little-leaf Linden)	34	9	M	M	P	Large ripping wound on main limb, multibranch node and other large broken or pruned limbs.	N
4	<i>Tilia cordata</i> (Little-leaf Linden)	37	8	M	M	P	Large pruned limbs and pollarded ends.	N
5	<i>Tilia cordata</i> (Little-leaf Linden)	35.5	8	ML	M	P	Many dead branches including the leader (approx. 30% of canopy) and a multibranch node.	N
6	<i>Tilia cordata</i> (Little-leaf Linden)	37	9	M	M	I	Co-dominant leaders, crossing branches, included bark and medium sized cut branches.	N
7	<i>Tilia cordata</i> (Little-leaf Linden)	35	7	L	L	RN	Large wound down trunk of approx. 50% of trunk circumference and 75% of canopy is dead.	N
8	<i>Acer negundo</i> (Manitoba Maple)	14	3	M	M	P	Growing against fence, 10° lean towards site and some medium-sized broken branches.	N
9	<i>Catalpa bignoides</i> (Northern Catalpa)	27, 29.5	9	M	ML	P	Co-dominant leaders, 1 dead limb and heavy vine.	N
10	<i>Juglans nigra</i> (Black Walnut)	18	4	MH	MH	P	Vine in canopy	N
11	<i>Crataegus sp.</i> (Hawthorn)	16, 17, 18	7	M	M	P	Heavy vine in canopy, many large wounds.	N

12	<i>Malus sp.</i> (Crabapple)	22	6	M	ML	P	Wound of 30% trunk circumference, heavy vine in canopy and 10° to north.	N
13	<i>Acer negundo</i> (Manitoba Maple)	16	4	M	ML	P	45° lean towards site.	N
14	<i>Acer negundo</i> (Manitoba Maple)	24	7	M	ML	P	45° lean towards north.	N
15	<i>Carya cordiformis</i> (Bitternut Hickory)	56.5	10	H	H	P	Two large dead branches.	N
16	<i>Carya cordiformis</i> (Bitternut Hickory)	31.5	7	H	H	P	Unbalanced canopy to north.	N
17	<i>Acer negundo</i> (Manitoba Maple)	15	4	M	M	P	20° lean towards site and large dead branch.	N
18	<i>Crataegus sp.</i> (Hawthorn)	16, 16	6	ML	ML	P	20° lean towards north and towards site, large broken branches and canopy with many dead branches.	N
19	<i>Tilia americana</i> (Basswood)	52.5	10	M	M	I	Large dead and broken branches.	N
20	<i>Tilia americana</i> (Basswood)	22, 27, 29, 29	10	M	ML	P	Multiple leaders, one leader is dead (could be a hazard to building below given steep slope, and has included bark between limbs.	N
21	<i>Acer negundo</i> (Manitoba Maple)	32	10	M	M	I	20° lean down slope.	N
22	<i>Prunus serotina</i> (Black Cherry)	28	6	M	M	I		N
23	<i>Tilia americana</i> (Basswood)	14, 15	4	H	H	P	Co-dominant leaders	N
24	<i>Acer saccharum</i> (Sugar Maple)	17	6	H	H	P		N
25	<i>Carya cordiformis</i> (Bitternut Hickory)	49.5	10	H	H	I	Large hole at 2m height	N
26	<i>Quercus rubra</i> (Red Oak)	38	8	M	M	I	leans 45° to south and has 2 large dead branches.	N
27	<i>Malus sp.</i> (Crabapple)	15, 15	6	ML	ML	I	50% dead and broken canopy	N
28	<i>Carya cordiformis</i> (Bitternut Hickory)	20	6	MH	H	I	leaned on by tree 26.	N
29	<i>Quercus macrocarpa</i> (Bur Oak)	20	6	H	H	P	Slightly suppressed by nearby trees.	N

30	<i>Carya cordiformis</i> (Bitternut Hickory)	~50	8	ML	ML	I	Multiplewounds on uphill side of tree along many leaders, large broken and hanging limb creating potential hazard given steep slope.	N
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Tree Inventory Legend

DBH - Diameter of tree at breast height (1.37m) measured in centimeters.

Canopy Diameter (m) - Approximate diameter of canopy in meters.

Biological Health

H (High Quality) - Desirable urban tree species with vigorous growth and no apparent symptoms of disease or pests.

MH (Medium-High Quality) - Desirable urban tree species with moderate growth or minor symptoms of disease that are aesthetic only and less than 5% dieback.

M (Medium Quality) – Any species with moderate growth and minor dieback of less than 20% of canopy and/or minor symptoms of disease or pests.

ML (Medium-Low Quality) - Low vigour, with dieback of 15% - 50% of canopy and/or major symptoms of disease or pests.

L (Low Quality) - More than 50% of the canopy is dead.

D (Dead) – Tree shows no signs of life.

Structural Condition

H (High Quality) - No apparent defects to root crown, trunk, leader, or major limbs.

MH (Medium-High Quality) - Only insignificant defects to root crown or trunk and minor defects to canopy including limbs.

M (Medium Quality) - Minor defects to root crown, trunk and major limbs.

ML (Medium-Low Quality) – Major defects to long-term structure particularly at root crown, trunk and major limbs.

L (Low Quality) - Major defects that have an immediate risk of failure.

Recommended Action – P – Preserve; I – Injury due to construction; R - Remove for poor condition; RC – Remove for construction purposes; RN – Encourage neighbour or City to remove tree due to poor condition; R* - Remove with Neighbour's Approval; R** - Remove with City's Approval; Pr – Prune tree to removed dead wood and preserve sound branching structure.

Location – C – City-owned Boulevard; S – Subject Property; N – Neighbouring or Boundary Tree

Comments –

B – Borer

BF – Backfilled

CS – Compacted soil

DB (small, medium, large) – Dead branches

G – Girdling

HA – Hazard

IB (height) – Included bark

°L (direction) – Degree of lean showing direction

2L – Two leaders or co-dominant stems

MB – Multi-branched node

MS/ML – Multi-trunk tree

PL – Pruned limbs

SU – Suppressed crown

TB – Torn/broken branch

TD – Trunk damage

UB (direction) – Unbalanced crown and direction

V – Vine growing in tree

WB – Witches broom growth

WS – Watersprouts or epicormic sprouts

ZZ – Zigzag trunk

%D – Percentage of canopy is dead

%TD – Percentage of trunk diameter damaged

TREE IMAGES



Figure 2: Trees 1 – 7 along north property line and on neighbour's property.



Figure 3: View of site from north property line looking southeast.



Figure 4: View of site from north property line looking southwest.



Figure 5: View of ravine along property Line at north-east.



Figure 6: Tree along ravine at property line.



Figure 7: Tree along ravine.



Figure 8: Tree along ravine

SUMMARY OF RECOMMENDATIONS

1. Proposed Removal of Neighbour's Tree:

- a. **Removal recommended due to poor condition on the neighbouring property: #7.** Tree is in poor condition as such, the neighbouring property owner is encouraged to remove it.
- b. **Encourage neighbour to prune trees #20 and 30.** Trees to be preserved but neighbour to be encouraged to remove or to conduct careful mitigation strategies to reduce the potential for harm from existing hazards.

2. General Tree Preservation:

- a. **Preserve all trees on the property of adjacent neighbours** throughout construction as identified on the Tree Inventory & Preservation Plan. Trees should be enclosed within tree protection hoarding (See figure 9 for details and Tree Inventory & Preservation Plan for locations).
- b. **Injuries: Trees that will be injured due to construction include trees #6, 19, 21, 22, 25, 26, 27, 28 and 30.** These injuries are defined by construction activities within the minimum tree protection area defined on the tree preservation plan for each protected tree.

Tree Protection Hoarding:

Where shown on the tree inventory plan, tree protection must be present and in good condition throughout construction. Additionally, within the tree protection zone there may be no:

- Demolition, construction, replacement, or alteration of permanent or temporary buildings or structures.
- Installation of large stones, boulders, or additional hard surface treatment
- Altering grade by adding or removing soil or fill, excavating, trenching, topsoil or fill scraping, compacting soil or fill, dumping or disturbance of any kind
- Storage of construction materials, equipment, wood, branches, leaves, soil or fill, construction waste or debris of any sort
- Application, discharge or disposal of any substance or chemical that may adversely affect the health of a tree e.g. concrete sluice, gas, oil, paint, pool water or backwash water from a swimming pool
- Causing or allowing water or discharge, to flow over slopes or through natural areas
- Access, parking or movement of vehicles, equipment or pedestrians related to construction activities.
- Cutting, breaking, tearing, crushing, exposing, or stripping tree's roots, trunk and branches.
- Nailing or stapling into a tree, including attachment of fences, electrical wires or signs
- Stringing of cables or installing lights on trees
- Soil remediation, removal of contaminated fill
- Excavating for directional or micro-tunneling and boring

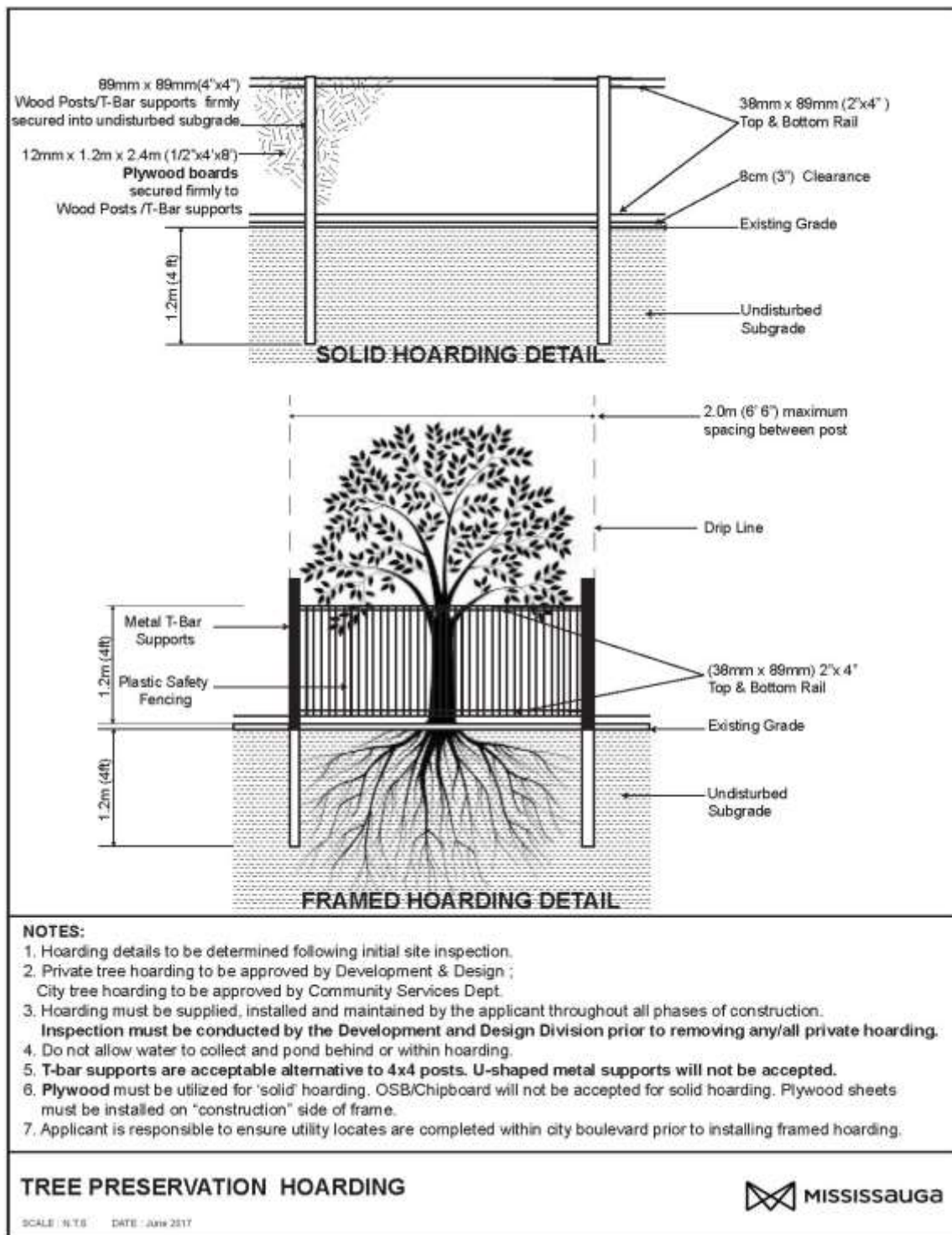


Figure 9: City of Mississauga Tree Protection Hoarding Detail

3. Root sensitive Excavation

Trees do not stop their roots at a consistent distance from the trunk. Roots may extend beyond the canopy limit of the tree by several multiples. For this reason, it is impossible to avoid all damage to existing trees. In order to mitigate the risks of injuries to following protocol should be used for excavation.

For excavation within the minimum tree protection zone, root pruning should be performed before excavation. Root pruning can be performed by digging a trench at the limit of excavation. Locations for root sensitive pruning trenches have been identified on the tree preservation plan by Baker Turner. All roots along the outer edge should be cut to the depth of excavation or 1m in depth, whichever is less. Roots should be cut with a clean, sharp blade or saw perpendicular to the direction of the root. Hydrovacing is recommended as the preferred method for excavation.

Excavation taking place at a distance greater than 1m from tree protection hoarding may make use of equipment such as a backhoe. Where roots greater than 2.5cm in diameter are encountered that likely come from a tree to be protected, large equipment must be stopped and any roots encountered should be exposed by removing soil by hand tools. Roots must be unearthed to the limit of excavation at which point they may be cut cleanly with a clean, sharp blade or saw perpendicular to the direction of the root. No pulling or tugging on roots with machinery or blunt equipment is permitted on the site.

Trees to have root sensitive excavation within or near their minimum tree protection areas include: 6 and 7.

We note that if tree #7 is removed by the adjacent property owner prior to construction, then the root sensitive excavation will not apply to that tree.

4. Tree Maintenance

a. Prior to Construction:

When tree removals are completed for those trees that have been approved by the city, pruning should also take place to remove deadwood, broken branches in protected trees that may be unsafe during construction. Where tree branches conflict with construction activities and clearance for vehicles, pruning should be identified on site with both the contracting arborist and general contractor present.

Hoarding may be moved temporarily to provide access for pruning and approved tree removal. These trees and branches should be felled away from protected areas to avoid pulling and breaking of roots of trees to remain.

All Pruning must be completed by a qualified arborist following standard ISA procedures and must take place prior to the start of construction. No more than 20 percent of the live foliage is to be removed from any tree. All pruning should be performed in accordance with the International Society of Arboriculture (ISA) Pruning Standard Guidelines.

b. Once Construction Begins:

Additional monitoring and maintenance may be required. At regular intervals during construction, at the close of construction and one year after the close of construction all preserved trees should be assessed for potential pests and signs of injuries from construction. Injuries from construction weaken trees and provide a vector for infection. A pest management approach may then be initiated where required.

Supplemental irrigation: Additional watering may be required throughout construction. Irrigate tree roots during drought conditions by deep root watering once every two weeks throughout the growing season and the following year after work has been completed.

However, before watering ensure that soil is not already overly saturated by removing a handful of soil from 5cm below grade within the root zone. If the soil has a sour smell, do not water in that area and check any irrigation system that may be overwatering the area. When taking soil bear in mind micro variations in the root zone such as depressions where water may be settling. Multiple samples may be required to gauge the need for additional watering.

All applications of water should be a minimum of 2.5cm applied over the protected root zone. Watering must be done slowly to ensure that water does not run away from the root zone and to ensure soil around the root system of the tree is well saturated. Additional supplemental watering is required for some trees and detailed in the tree maintenance recommendations.

c. After Construction is Complete:

Mulch: After the completion of construction a mulch ring should be added to all trees providing a buffer between the tree trunks and lawn maintenance activities. Mulch rings to have sod cleared by hand and 10cm depth composted pine bark mulch added on an annual basis. This is recommended for both new and existing trees.

- MULCH RING RADIUS
Trees < 150mm DBH: 75cm radius
Trees > 150mm DBH: 150cm radius

Fertilizer: Supplements of fertilizer may be helpful after activities to supplement deficiencies however it should not be considered a cure-all. At times fertilizer may spur growth at the expense of tree functions that are defensive in nature. Fertilizer should not be applied to preserved trees from the start of construction activities to one year after the close of construction. One year after the close of construction trees must be re-assessed and soil tested. In cases where soil tests indicate a nutrient deficiency, a fertilizer regime may be required.

LIMITING CONDITIONS

This tree inventory was derived from data gathered on the site using accepted arboricultural practices. This includes a visual examination of all above ground parts of the tree for structural defects and signs of health and vigour. All examination took place from the ground plane and no trees were cored, probed or climbed. There was also no detailed inspection of the root crown where excavation would have been required.

This inventory describes the health, structural stability and identifies potential hazards of the trees to a reasonable extent. Where dead branches or other are identified in the notes it is the owner's responsibility to take action. This inventory does not provide or imply a guarantee that these trees or branches will remain standing intact. The stability of any tree or branches of a tree cannot be predicted with absolute certainty under all circumstances.

There is, likewise, no guarantee of survival for those trees to be preserved during construction but which are subject to injury. Tree preservation guidelines that are provided in this report are generally suitable for the tree as determined by the visual assessment. However, there is no guarantee that these guidelines will be followed throughout construction unless an arborist is retained for complete supervision of the site at all times. Even with complete supervision, roots in an urban environment are unpredictable. Guidelines that suppose an even distribution of roots may not be effective in cases where roots have clustered in small areas.

The assessment in this inventory is valid only at the time of inspection.

All field data was collected, and the report was prepared by Jon Woodside, ISA Certified Arborist.



A handwritten signature in blue ink, appearing to read 'JW', is written over a light blue circular stamp.

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