

**Tree Inventory and Preservation Plan Report
7198 – 7214 Airport Road and 5 – 9 Beverley Street
Mississauga, Ontario**

prepared for

**2182402 Ontario Inc.
28 Pinewood Trail
Mississauga, Ontario L5G 2L1**

prepared by



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KUNTZ FORESTRY CONSULTING Inc. Project P3092

Introduction

Kuntz Forestry Consulting Inc. was retained by 2182402 Ontario Inc. to complete a Tree Inventory and Preservation Plan for the proposed development for the properties located at 7189 – 7214 Airport Road and 5 – 9 Beverley Street in Mississauga, Ontario. The subject site is located on the southwest side of Airport Road and northwest side of Beverley Street, within a mixed-use area.

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

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

Methodology

Trees greater than 10cm DBH on and within six metres of the subject site and trees of all sizes within the road right-of-way were identified in the tree inventory. Trees were located using the topographic survey provided for the subject site and measurements taken from known points in-field. The City of Mississauga requires dripline as the limit of protection and as such, the dripline of each tree was estimated in-field. Trees located on the subject site and within the road right-of-way were tagged and identified as Trees 188 – 200 and 641 – 647. Trees located on neighbouring properties were not tagged but were identified as Trees A – U. Refer to Figure 1 for the tree locations and Table 1 for the results of the tree inventory. See Appendix A for photographs of the trees.

Tree resources were assessed utilizing the following parameters:

Tree # - number assigned to tree that corresponds to Figure 1.

Species - common and botanical names provided in the inventory table.

DBH - diameter (centimeters) at breast height, measured at 1.4 metres above the ground.

Condition - condition of tree considering trunk integrity, crown structure, crown vigour, and root zone environment. Condition ratings include poor (P), fair (F) and good (G).

Dripline – radius (metres) of the tree crown, measured from the stem to the outer branches of the crown.

Crown Dieback – percentage of crown that has died.

Comments - additional relevant detail.

The results of the evaluation are provided below.

Existing Site Conditions

The subject site is currently occupied by a one-storey commercial building, two one and a half-storey dwellings with driveways, vacant land, a surface parking area, and a laneway that provides access to Beverley Street. Tree resources exist in the form of landscape trees and natural regeneration. Refer to Figure 1 for the existing site conditions.

Tree Resources

The tree inventory was conducted on 17 December 2021. The inventory documented 41 trees on and within six metres of the subject site. Refer to Table 1 for the detailed tree inventory and Figure

1 for the location of trees reported in the tree inventory. See Appendix A for photographs of the trees.

Tree resources were comprised of Apple (*Malus sp.*), Blue Spruce (*Picea pungens*), Japanese Flowering Lilac (*Syringa reticulata*), Manitoba Maple (*Acer negundo*), Norway Maple (*Acer platanoides*), Thornless Honey Locust (*Gleditsia triacanthos inermis*), Siberian Elm (*Ulmus pumila*), and Weeping Nootka Cypress (*Chamaecyparis nootkatensis* 'Pendula').

Proposed Development

The proposed development includes the demolition of the two existing dwellings and the construction of a block of townhomes. The resurfacing and expansion of the existing parking area and the widening of the existing laneway is also proposed. The existing one-storey commercial building is to be retained. Refer to Figure 1 for the proposed site plan.

Discussion

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

Development Impacts / Tree Removal

The removal of 15 trees is required to accommodate the proposed development. The required tree removals include Trees 192 – 200 and 641 – 646. All trees identified for removal are located on the subject site. Trees 192 – 200, 641, 643, and 644 and are greater than or equal to 15cm DBH. Trees noted as dead on Figure 1 should also be removed.

Refer to Figure 1 for the location of trees identified for removal.

Tree Preservation

The preservation of 26 trees, including Trees 188 – 191, 647, and A – U, will be possible with the use of appropriate tree protection measures as indicated on Figure 1. Tree protection measures must be implemented prior to the proposed demolition to ensure tree resources designated for retention are not impacted by the proposed development. Refer to Figure 1 for the location of required tree preservation fencing and general Tree Protection Plan Notes and tree preservation fence details.

Encroachment into the driplines of Trees 188 – 191, D, G, and I – T is required to accommodate the removal and replacement of the surface parking area. Trees D, G, J – M, and O – Q are granted at least 1.8m of protection from their bases. This level of protection is expected to be sufficient to protect these trees during construction and is consistent with protection standards utilized by surrounding municipalities.

Where the driplines and minimum tree protection zones (mTPZs) of trees cannot be respected, special mitigation measures have been prescribed, including for Trees 188 – 191, 647, and I, N, S, and T, and are described below.

Trees 188 – 191, I, N, S, and T

Encroachment into the driplines and mTPZs of Trees 188 – 191, I, N, S, and T is required for the removal of the existing asphalt and the construction of the proposed parking area. Given that there is existing asphalt within the mTPZs of these trees, it is anticipated that few roots extend into these areas. Tree protection fencing has been prescribed at the edge of the existing surface parking area. If the following mitigation measures are followed, long-term adverse effects are not anticipated for these trees.

1. Prior to the proposed demolition, tree protection fencing should be installed as indicated on Figure 1.
2. The existing asphalt must be removed carefully using small machinery (i.e. a bobcat).
3. No machinery use will be allowed within the mTPZs of Trees 188 – 191, I, N, S, and T after the removal of the asphalt to minimize the impacts on the trees.
4. The existing granular base should be used for the proposed surface parking area.
5. If roots are encountered in the subsurface material, they are to be left intact.
6. Tree protection fencing must be maintained throughout the construction.
7. Branches that extend into the proposed development and require pruning must be pruned by a Certified Arborist or other tree professional in accordance with Good Arboricultural Standards.

Tree 647

Encroachment into the dripline and mTPZ of Tree 647 is required to facilitate the removal of the existing driveway. Tree protection fencing has been prescribed at the limit of the mTPZ for Tree 647. The tree protection fencing may be adjusted to facilitate the removal of the existing driveway; however, it must be reinstalled as shown on Figure 1 once the driveway removal is complete. Any softscaping required within the mTPZ of Tree 647 must occur by hand. Branches that extend into the proposed development and require pruning must be pruned by a Certified Arborist or other tree professional in accordance with Good Arboricultural Standards.

Tree Compensation

The City of Mississauga requires replacement for any by-law protected tree removals. The ratio of required replacement plantings per tree is below:

DBH of Tree to be Removed	Number of Replacement Plantings
15-50 cm	1
>50 cm	2

As such, a total of 12 replacement plantings is required, as there are 12 trees identified for removal between 15 and 50cm DBH. Refer to Table 1 for the individual tree compensation requirements.

Tree Valuation

A valuation was calculated for tree(s) within the City right-of-way. Refer to Table 2 for the individual tree value computation. See below for the methodology used to calculate the appraised value of the trees. The value was calculated using the Trunk Formula Technique. This method is described in the Guide for Plant Appraisal, 10th Edition (CTLA 2018). The Ontario Supplement (2003) provides regionally relevant data pertaining to basic costs for trees.

Trunk Formula Technique

This method is used for trees that are larger than what is commonly available for transplant from a nursery. The Unit Tree Cost of the replacement tree is derived from a survey of nurseries or supplied by the Regional Plant Appraisal Council and published within the Ontario Supplement (2003). For Ontario, the unit tree cost has been set at \$6.51/cm² within the Supplement and this value has been used for the calculation.

The Basic Tree Cost is calculated by multiplying the unit tree cost by the cross-sectional area of the subject tree. For multi-stemmed trees, the appraised trunk area considers the cross-sectional area of all stems. The Appraised Value is calculated by multiplying the Basic Reproduction Cost by the three depreciation factors (Condition Rating, Functional Limitation Rating, and External Limitation Rating, as described in the Guide).

The appraised value is therefore calculated using the following equation:

Basic Tree Cost = Appraised Tree Trunk Area X Unit Tree Cost

Appraised Value = Basic Tree Cost X Condition Rating X Functional Limitation Rating X External Limitation Rating

Functional Limitation Ratings and External Limitation Ratings are calculated according to the methods outlined in the guide. Condition ratings were calculated based on the assessed condition of the trees on the site and in accordance with the guide. The final values were rounded to the nearest \$100 for values greater than \$2000, and to the nearest \$5 for values less than \$2000.

Results

The total appraised value of Tree 647, the only tree occurring within the road right-of-way, was calculated at \$1,025.

Summary and Recommendations

Kuntz Forestry Consulting Inc. was retained by 2182402 Ontario Inc. to complete a Tree Inventory and Preservation Plan for the proposed development for the properties located at 7198 – 7214 Airport Road and 5 – 9 Beverley Street in the City of Mississauga, Ontario. A tree inventory was conducted and reviewed in the context of the proposed site plan.

The findings of the study indicate a total of 41 trees on and within six metres of the subject site. The removal of 15 trees will be required to accommodate the proposed development. The remaining 26 trees can be saved provided proper tree protection is installed as per Figure 1.

The following recommendations are suggested to minimize impacts to trees identified for preservation. Refer to Figure 1 for tree protection fencing locations and general Tree Protection Plan Notes and tree preservation fence details.

- Tree protection barriers and fencing should be erected at locations as prescribed on Figure 1. All tree protection measures should follow the guidelines as set out in the tree preservation plan notes and the tree preservation fencing detail.

- No construction activity including surface treatments, excavations of any kind, storage of materials or vehicles, unless specifically outlined above, is permitted within the area identified on Figure 1 as a tree protection zone (TPZ) at any time during or after construction.
- Special mitigation measures have been prescribed for select trees, as outlined in the *Tree Preservation* section of this report.
- Branches and roots that extend beyond prescribed tree protection zones that require pruning must be pruned by a qualified Arborist or other tree professional. All pruning of tree roots and branches must be in accordance with Good Arboricultural Standards.
- Site visits, pre, during and post construction are recommended by either a certified consulting arborist (I.S.A.) or registered professional forester (R.P.F.) to ensure proper utilization of tree protection barriers. Trees should also be inspected for damage incurred during construction to ensure appropriate pruning or other measures are implemented.

Respectfully Submitted,
Kuntz Forestry Consulting Inc.

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Limitations of Assessment

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

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

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

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

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

Table 1. Tree Inventory

Location: 7198 - 7214 Airport Road and 5 - 9 Beverley Street, Mississauga

Date: 17 December 2021

Surveyors: KNH

Tree #	Common Name	Scientific Name	DBH	TI	CS	CV	CDB	DL	Comments	Action	Comp.
188	Thornless Honey Locust	<i>Gleditsia triacanthos inermis</i>	13	FG	F	FG		3	Bow (L), asymmetrical crown (M), cavity (L) at 1.5m	Preserve	-
189	Thornless Honey Locust	<i>Gleditsia triacanthos inermis</i>	11	FG	FG	G		2	Stem wounds (L), asymmetrical crown (L)	Preserve	-
190	Thornless Honey Locust	<i>Gleditsia triacanthos inermis</i>	10	FG	F	F		1	Lean (L), pruning wounds (M), epicormic branching (M) at base	Preserve	-
191	Thornless Honey Locust	<i>Gleditsia triacanthos inermis</i>	12	P	F	F		2	Stem wounds (M), pruning wounds (L), bow (L), asymmetrical crown (M), decay (H) at base	Preserve	-
192	Thornless Honey Locust	<i>Gleditsia triacanthos inermis</i>	17	G	G	FG		2	Epicormic branching (L), vine competition (L), union at 1.5m	Remove	1
193	Thornless Honey Locust	<i>Gleditsia triacanthos inermis</i>	16	FG	FG	FG		3	Union at 2m, bow (L), vine competition (H)	Remove	1
194	Blue Spruce	<i>Picea pungens</i>	~20	FG	G	G		1	Lean (L)	Remove	1
195	Blue Spruce	<i>Picea pungens</i>	~22	G	G	G		2		Remove	1
196	Blue Spruce	<i>Picea pungens</i>	~22	FG	G	G		2	Sweep (M)	Remove	1
197	Thornless Honey Locust	<i>Gleditsia triacanthos inermis</i>	16	FG	G	FG		2	Bulge at base, union at 1.5m	Remove	1
198	Thornless Honey Locust	<i>Gleditsia triacanthos inermis</i>	17	F	G	G		3	Exposed roots (L), bow (L)	Remove	1
199	Blue Spruce	<i>Picea pungens</i>	~20	FG	G	G		2	Exposed roots (L)	Remove	1
200	Blue Spruce	<i>Picea pungens</i>	~22	FG	G	G		2	Lean (L)	Remove	1
641	Blue Spruce	<i>Picea pungens</i>	20	G	G	F		2		Remove	1
642	Lilac, Japanese Flowering	<i>Syringa reticulata</i>	12	G	G	G		1.5		Remove	0
643	Lilac, Japanese Flowering	<i>Syringa reticulata</i>	15	F	G	G		1.5	Stem wounds (M), v-union at 1.5m	Remove	1
644	Lilac, Japanese Flowering	<i>Syringa reticulata</i>	16	G	G	G		1.5		Remove	1
645	Lilac, Japanese Flowering	<i>Syringa reticulata</i>	12	F	FG	F		1	V-union at 1.5m (codominance), lean (L), broken branches (L)	Remove	0
646	Lilac, Japanese Flowering	<i>Syringa reticulata</i>	11	FG	G	G		1	V-union at 1.5m	Remove	0
647	Weeping Nootka Cypress	<i>Chamaecyparis nootkatensis</i> 'Pendula'	26	FG	G	F		2	Lean (L), epicormic branching (L)	Preserve	-
A	Norway Maple	<i>Acer platanoides</i>	15	F	G	F		3	Previously tagged: 600475, bow (L), canker (L)	Preserve	-
B	Norway Maple	<i>Acer platanoides</i>	19	FG	G	FG		3	Previously tagged: 638521, lean (L), union at base with one leader cut at 0.2m	Preserve	-
C	Norway Maple	<i>Acer platanoides</i>	13	FG	F	FG		4	Previously tagged: 638522, sweep (L), asymmetrical crown (M)	Preserve	-
D	Norway Maple	<i>Acer platanoides</i>	21	FG	G	G		3	Previously tagged: 638523, sweep (L)	Preserve	-
E	Norway Maple	<i>Acer platanoides</i>	27	FG	FG	F	10	3	Previously tagged: 638524, deadwood (L), crook (L)	Preserve	-
F	Manitoba Maple	<i>Acer negundo</i>	17	FG	G	G		3	Previously tagged: 638526, crook (L)	Preserve	-

G	Apple species	<i>Malus sp.</i>	26, 13	PF	PF	PF	10	5	V-union at 0.2m, poor branch unions, crook (M), poor form (M), stem wounds (M), epicormic branching (M), deadwood (L)	Preserve	-
H	Siberian Elm	<i>Ulmus pumila</i>	10.5	PF	PF	PF		2	Union at base, crook (M), poor form (M), epicormic branching (M), base growing against base of Tree G	Preserve	-
I	Manitoba Maple	<i>Acer negundo</i>	31	F	F	PF	40	4	Deadwood (M), broken branches (L), union at 4m	Preserve	-
J	Manitoba Maple	<i>Acer negundo</i>	29	FG	FG	F		5	Lean (L), epicormic branching (L)	Preserve	-
K	Manitoba Maple	<i>Acer negundo</i>	15	F	F	F		4	Lean (M), epicormic branching (L)	Preserve	-
L	Manitoba Maple	<i>Acer negundo</i>	15	F	F	F	10	5	Lean (L), cavity (L) at 2.5m, crook (M), union at 1m but one leader dead, deadwood (L)	Preserve	-
M	Manitoba Maple	<i>Acer negundo</i>	11	F	F	F		5	Lean (M), cavity (L) at base from lost leader	Preserve	-
N	Norway Maple	<i>Acer platanoides</i>	34, 16	FG	FG	G		4	V-union at 0.1m, cavity (M) at 2m	Preserve	-
O	Manitoba Maple	<i>Acer negundo</i>	13, 7.5	FG	FG	F		4	Crook (L), bow (L), union at 0.1m, broken branches (L)	Preserve	-
P	Manitoba Maple	<i>Acer negundo</i>	17, 12, 9	F	F	F		5	Debris in root zone, union at 0.1m, v-union at 0.2m, bow (M) towards subject property, broken branches (L)	Preserve	-
Q	Manitoba Maple	<i>Acer negundo</i>	10	PF	F	FG		3	Lean (H)	Preserve	-
R	Manitoba Maple	<i>Acer negundo</i>	16	PF	FG	FG		3	Previously tagged: 601333, vine competition (M), pruning wounds (L), lean (L), included fence (L)	Preserve	-
S	Manitoba Maple	<i>Acer negundo</i>	20.5	PF	F	F		2	Included fence (H), v-union at 1.5m	Preserve	-
T	Manitoba Maple	<i>Acer negundo</i>	~15, 7	PF	F	F		3	Previously tagged: 601335, v-union at 0.1m, union at 2.5m, included fence (H)	Preserve	-
U	Manitoba Maple	<i>Acer negundo</i>	~5 - 13	PF	PF	F		3	Union at base with nine leaders, average DBH is 10cm, multiple leaders cut at base, included fence (M)	Preserve	-

Codes		
DBH	Diameter at Breast Height	(cm)
TI	Trunk Integrity	(G, F, P)
CS	Crown Structure	(G, F, P)
CV	Crown Vigor	(G, F, P)
CDB	Crown Die Back	(%)
DL	Dripline in Radius	(m)
Owner	Ownership	(City, Private, Neighbour, Shared)
~ = estimate; (VL) = very light; (L) = light; (M) = moderate; (H) = heavy; (VH) = very heavy		

Table 2. City Tree Valuation

				Appraised Trunk Area (cm ²)	Unit Tree Cost (RPAC) (\$/cm ²)	Basic Tree Cost (\$)	Depreciation			Appraised Tree Value	Adjusted Tree Value	
							Condition Rating (%)	Functional Limitation Rating (%)	External Limitation Rating (%)			
Tree #	Common Name	DBH	OC									
Location: 7198 - 7214 Airport Road and 5 - 9 Beverley Street, Mississauga												
647	Weeping Nootka Cypress	26	F	531	6.51	3456.36	0.55	0.6	0.9	\$ 1,026.54	\$ 1,025.00	
										Total	\$ 1,025.00	

Appendix A. Site Photographs



Image 1. Trees 188 (right) and 189 (centre)



Image 2. Trees 990 (right) and 991 (centre)



Image 3. Tree 192



Image 4. Tree 195



Image 5. From left to right, Trees 196, 194, and 195



Image 6. Tree 197



Image 7. Tree 198



Image 9. From right to left, Trees 199, 200, and 641



Image 10. Trees 642 (right) and 643 (left)



Image 11. Trees 644 (right) and 645 (left)



Image 12. Tree 646



Image 13. Tree 647



Image 14. From left to right, Trees A – F

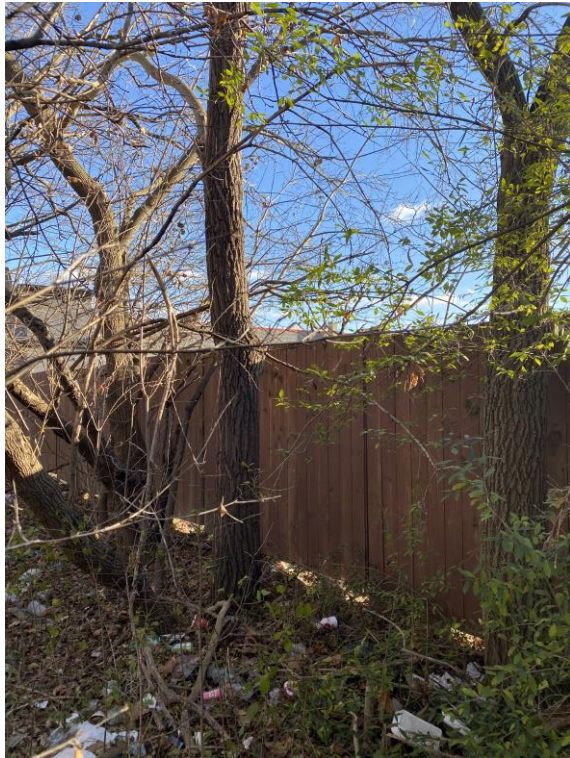


Image 15. From Tree J (right), facing east

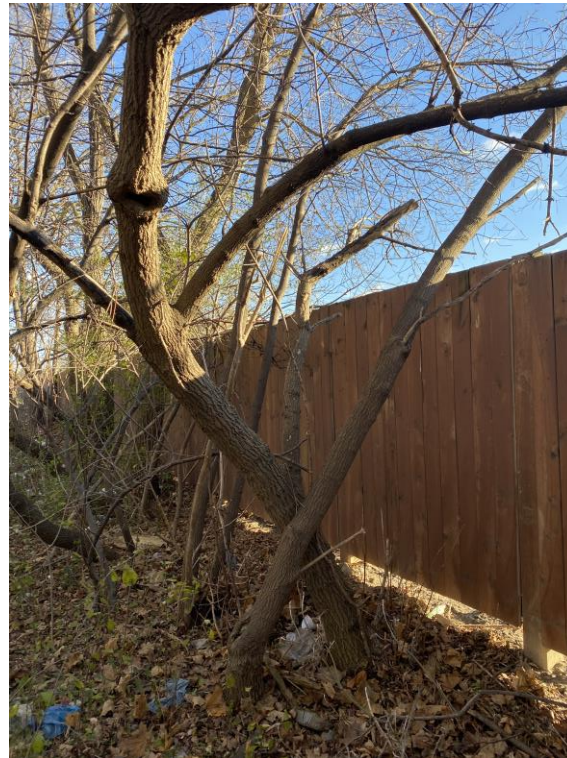


Image 16. Trees L (base, right) and M (base, left)



Image 17. Tree N



Image 18. Tree O



Image 19. Tree P

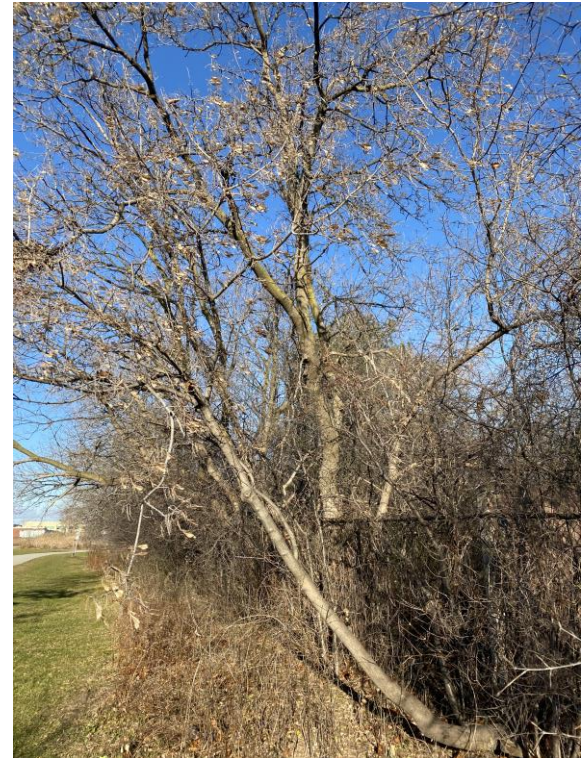


Image 20. Tree Q



Image 21. Tree R



Image 22. Trees S (left) and T (right)

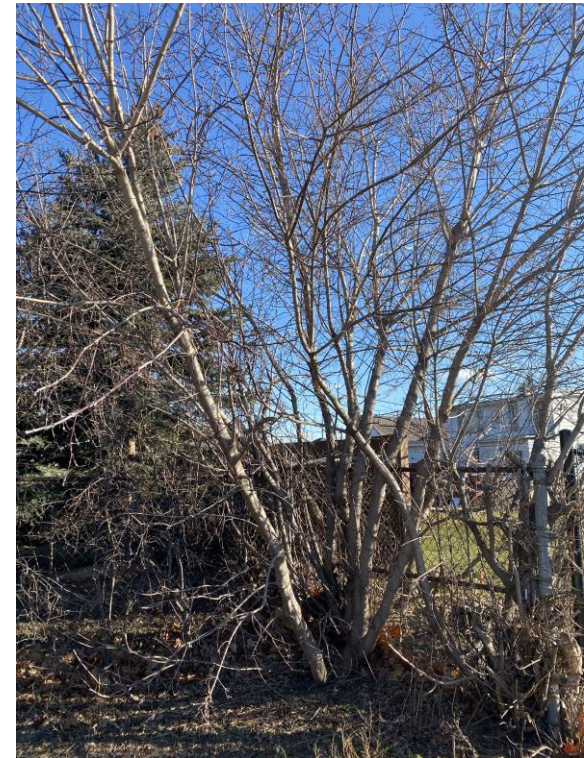


Image 23. Tree U