Tree Inventory & Preservation Plan Report
688-698 Burlington Street
Burlington, Ontario

prepared for

Wilk Associates Landscape Architecture Ltd.
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prepared by

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13 January 2023 - RE-ISSUED

KUNTZ FORESTRY CONSULTING Inc. Project P3436

Introduction

Kuntz Forestry Consulting Inc. was retained by Wilk Associates Landscape Architecture Limited to complete a Tree Inventory and Preservation Plan report in support of a development application for properties located at 688-698 Brant Street in the City of Burlington, Ontario. The subject properties are located on the west side of Brant Street, and on the north side of Victoria Avenue, within a mix-used area.

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

- Prepare inventory of the tree resources over 10 cm in diameter on private lands and trees of all sizes within the road right-of-way;
- Evaluate potential tree saving opportunities based on proposed development plans; and,
- Document the findings in a Tree Inventory and Preservation Plan report.

Tree resources were visually assessed for condition utilizing the following parameters:

Tree # - numbers assigned to trees 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 m above the ground.
Condition - condition of tree considering trunk integrity, crown structure and crown vigor. Condition ratings include poor (P), fair (F) and good (G).
Comments - additional relevant detail.

The results of the evaluation are provided below.

Methodology

Trees measuring over 10cm DBH on private lands and trees of all sizes on the road right-of-way were included in the tree inventory. Trees were located using topographic survey provided for the subject property and aerial imagery downloaded from the City of Burlington website. Trees included in the inventory were numbered 1-23. Tree locations are shown on Figure 1. See Table 1 for the results of the inventory.

Existing Site Conditions

The subject properties are currently occupied by a one-storey commercial building, two detached dwellings, and associated surface parking. Tree resources exist in the form of landscape trees and natural generation. Refer to Figure 1 for the existing site conditions.

Individual Tree Resources

The tree inventory was conducted on 15 September 2022. The inventory documented 23 trees on and within six metres of the subject properties. Refer to Table 1 for the full tree inventory and Figure 1 for the location of trees reported in the tree inventory. See Appendix A for the photographs of the trees.

Tree resource was comprised of Silver Maple (*Acer saccharinum*), Black Walnut (*Juglans nigra*), White Mulberry (*Morus alba*), Scots Pine (*Pinus sylvestris*), Black Locust (*Robinia*

pseudoacacia), Yew (*Taxus spp*.), Eastern White Cedar (*Thuja occidentalis*), and Siberian Elm (*Ulmus pumila*).

Proposed Development

The proposed development includes the demolition of the existing buildings and the construction of a 12-storey condominium building and associated underground parking. Refer to Figure 1 for the proposed development.

Discussion

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

Development Impacts/Tree Removal

The removal of 12 trees will be required to accommodate the proposed development, including Trees 4-6, 9, and 16-23. Trees 4 and 16-23 have direct conflicts with the proposed building. Trees 5, 6, and 9 are White Mulberry growing along the edge of the subject properties and their removal is recommended for landscaping purposes.

The removal of Tree 8, a 93cm Silver Maple, is recommended due to poor condition and vigor. The tree will likely die in the next 5 years and not worth to preserve. Refer to Figure 1 for the location of the proposed tree removals.

Tree Preservation

The preservation of the remaining 10 trees will be possible with the use of appropriate tree protection measures as indicated on Figure 1. Tree protection measures will have to be implemented prior to the proposed development. Refer to Figure 1 for the location of required tree preservation fencing and Appendix B for tree protection plan notes and the hoarding details.

Trees 1, 2, 3, 7, and 13-15

Encroachment into the minimum Tree Protection Zone (mTPZ) of Trees 1, 2, 3, 7, and 13-15 is required to demolish the existing structures and to accommodate the proposed driveway. Given that no root pruning is required, long-term adverse impacts are not anticipated to the trees. The following mitigation measures must be implemented to ensure the trees respond well to the impacts of the development.

- Prior to the demolition, tree preservation fence should be installed along the existing curb as indicated on Figure 1 with a combination of thick orange and magenta lines. The existing wire fence will suffice as tree preservation fence during the demolition for Trees 2 and 3.
- The existing asphalt and concrete curb within the mTPZ of these trees must be removed using small equipment. No machinery use will be allowed within the mTPZ of these trees after the demolition.
- The existing subbase should be removed by hand.
- After the demolition, the area can be amended using a high-quality topsoil.

- After amendment, tree preservation fence should be adjusted to protect the larger extent as indicated on Figure 1 with thick magenta line.
- Tree preservation fence must be maintained throughout the construction and landscaping phases.
- The construction of a new driveway is proposed within the mTPZ of Trees 1, 2, and 3. Given the presence of the existing asphalt parking and that the new driveway will be relocated farther away from the trees, long-term adverse impacts are not anticipated to the trees.

Summary and Recommendations

Kuntz Forestry Consulting Inc. was retained by Wilk Associates Landscape Architecture Limited to complete a Tree Inventory and Preservation Plan report in support of a development application for properties located at 688-698 Brant Street in the City of Burlington, Ontario. A tree inventory was conducted and reviewed in the context of the proposed development.

The findings of the study indicate a total of 23 trees on and within six metres of the subject properties. The removal of 12 trees is required to accommodate the proposed development. The removal of additional one tree is recommended due to poor condition. The remaining 10 trees can be saved provided appropriate tree protection measures are installed prior to construction.

The following recommendations are suggested to minimize impacts to trees identified for preservation. Refer to Figure 1 for additional tree preservation notes and the preservation hoarding details.

- Tree protection barriers and fencing shall be erected at locations prescribed on Figure 1.

- Tree protection measures will have to be implemented prior to demolition to ensure the trees identified for preservation are not impacted by the development. Barriers should be maintained throughout construction.

- Branches and roots that extend past 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 shall also be inspected for damage incurred during construction to ensure appropriate pruning or other mitigation measures are implemented.

Respectfully Submitted,
Kuntz Forestry Consulting Inc.

Kaho Hayashi

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Associate Forest Ecologist
ISA Certified Arborist #ON-2153A

Table 1. Tree Inventory

Location: 688-698 Brant Street, Burlington Date: 15 September 2022 Surveyors: KH

Tree #	Common Name	Scientific Name	DBH	TI	CS	CV	CDB	DL	mTPZ	CRZ	Comments	Owner	Action
1	Black Walnut	*Juglans nigra*	68	FG	F	PF	25	6	4.2	7.0	Stem wounds (L) at base, union at 2m, pruning wounds (L), dead branches (M)	Neighbour	Preserve
2	Black Walnut	*Juglans nigra*	~55	G	F	P	30	5	3.6	6.0	Dead leader	Neighbour	Preserve
3	Black Walnut	*Juglans nigra*	~60	G	G	F		5	3.6	6.0		Neighbour	Preserve
4	Black Walnut	*Juglans nigra*	~45, 42	F	G	F		5	3.6	6.0	Co-dominance at 1m with included bark (H)	Private	Remove
5	White Mulberry	*Morus alba*	13	F	G	F		2	2.4	4.0	Co-dominance at 1.4m, grape vine competition (H), growing between asphalt and fence	Private	Remove
6	White Mulberry	*Morus alba*	14	FG	G	F		1	2.4	4.0	Sweep (L), grape vine competition (H), growing between asphalt and fence	Private	Remove
7	Black Walnut	*Juglans nigra*	51	FG	G	F		5	3.6	6.0	Co-dominance at 5m	Private/ Neighbour	Preserve
8	Silver Maple	*Acer saccharinum*	93	P	PF	PF	40	6	6.0	10.0	Co-dominance at 1.6m, pruning wounds (H) with rot and cavity, sparse crown (H)	Private	Remove (condition)
9	White Mulberry	*Morus alba*	20.5	FG	G	FG		2	2.4	4.0	Co-dominance at 1.6m, stem wounds (L)	Private	Remove
10	Scots Pine	*Pinus sylvestris*	~30	G	G	F		2	2.4	4.0	Sweep (L), witches broom	Private	Preserve
11	Eastern White Cedar	*Thuja occidentalis*	5-15 (avg. 10)	G	G	F		2	2.4	4.0	Row of ~18 trees along fence	Neighbour	Preserve
12	Eastern White Cedar	*Thuja occidentalis*	10-15 (avg. 12)	G	G	F		2	2.4	4.0	2 trees	Neighbour	Preserve
13	Black Walnut	*Juglans nigra*	~58	G	G	FG		6	3.6	6.0	Pruning wounds (L) with rot	Neighbour	Preserve
14	Siberian Elm	*Ulmus pumila*	~40, 25	F	F	PF	25	4	3.0	5.0	Union at 1m, dead leader	Neighbour	Preserve
15	White Mulberry	*Morus alba*	~55, 50, 45	F	G	G		5	4.2	7.0	Union at base, 1 stem pushing fence, lean (L-M), overhead utility wires in crown	Neighbour	Preserve
16	Yew	*Taxus spp.*	<10	G	G	G		2	1.8	1.8	Union at base, multi-stemmed with ~40 stems	Private	Remove
17	Silver Maple	*Acer saccharinum*	87.5	F	PF	P	50	7	5.4	9.0	Union at 2m, pruning wounds (H) with rot, dead branches (H)	Private	Remove
18	Eastern White Cedar	*Thuja occidentalis*	25.5, 20, 17.5, 17	F	G	F		2	2.4	4.0	Union at base, sweep (L)	Private	Remove
19	Eastern White Cedar	*Thuja occidentalis*	17.5, 14.5	FG	G	F		2	2.4	4.0	Union at base with 3 stems but 1 stem cut at union, lean (L)	Private	Remove
20	Black Locust	*Robinia pseudoacacia*	16	G	G	F	15	2	2.4	4.0		Private	Remove
21	Black Locust	*Robinia pseudoacacia*	53.5, 48	F	G	F	20	4	4.2	7.0	Union at 0.6m, lean (M), dead branches (M)	Private	Remove
22	Black Locust	*Robinia pseudoacacia*	56	FG	G	FG		4	3.6	6.0	Co-dominance at 4m, crook (L), growing in asphalt	Private	Remove
23	White Mulberry	*Morus alba*	27	FG	G	FG		3	2.4	4.0	Crook (L), growing in asphalt	Private	Remove

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	*(m)*
mTPZ	minimum Tree Protection Zone	*(m)*
Owner	Private, Neighbour, Town	
~ = estimate; (VL) = very light; (L) = light; (M) = moderate; (H) = heavy		

Appendix A. Photographs of the Trees



Image 1. Tree 1



Image 2. Trees 2 (right) and 3



Image 3. Tree 1 (right) and white mulberry smaller than 10cm DBH along fence



Image 4. Tree 4



Image 5. Tree 5

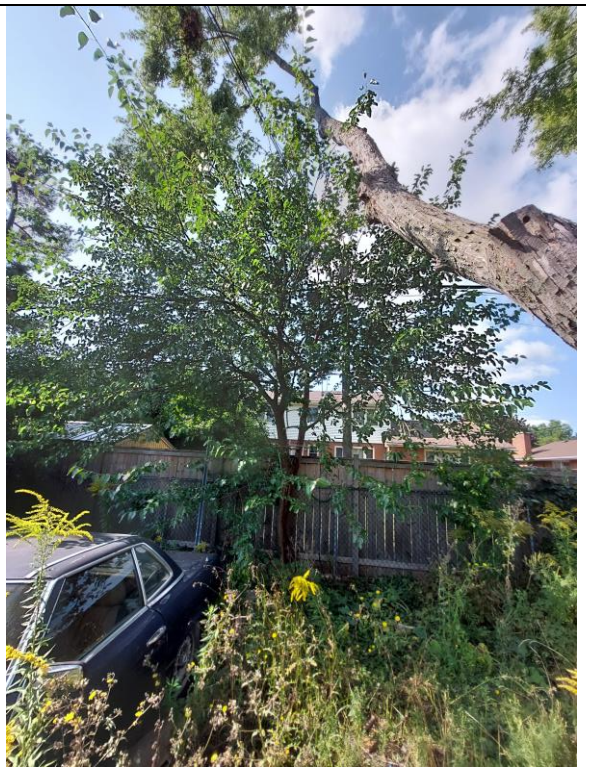


Image 6. Tree 6



Image 7. Trees 7 (right) and 8


Image 8. Tree 8 base


Image 9. Tree 9

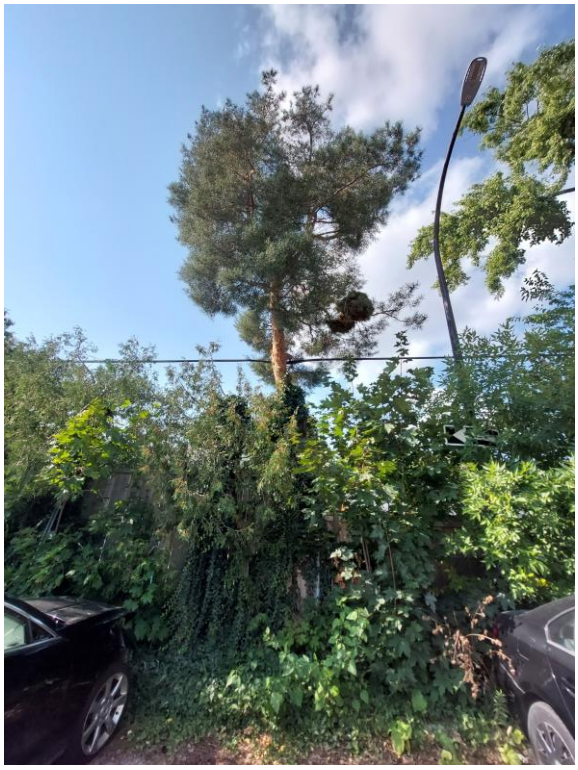

Image 10. Tree 10


Image 11. Trees 12 (right) and 13

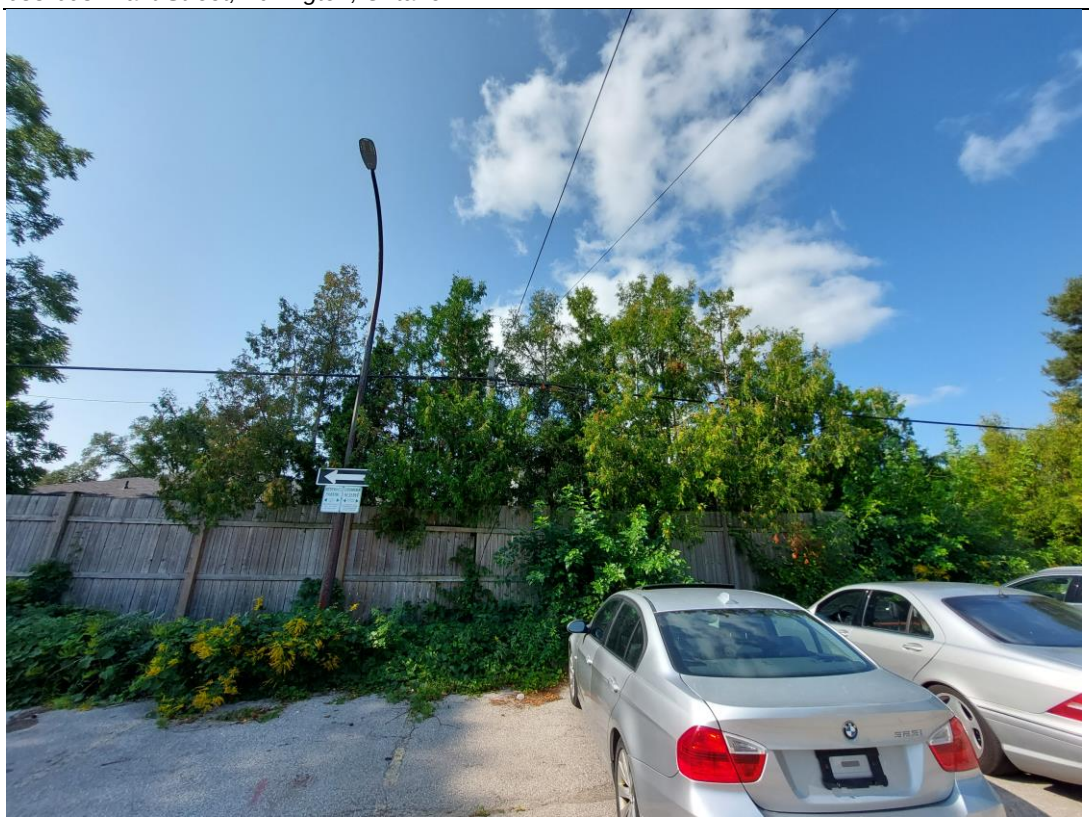


Image 12. Tree 11



Image 13. Tree 14

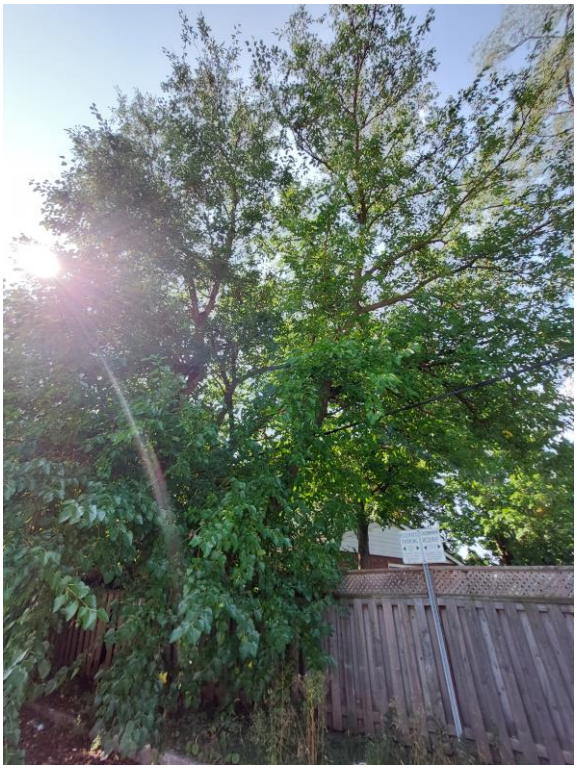


Image 14. Tree 15

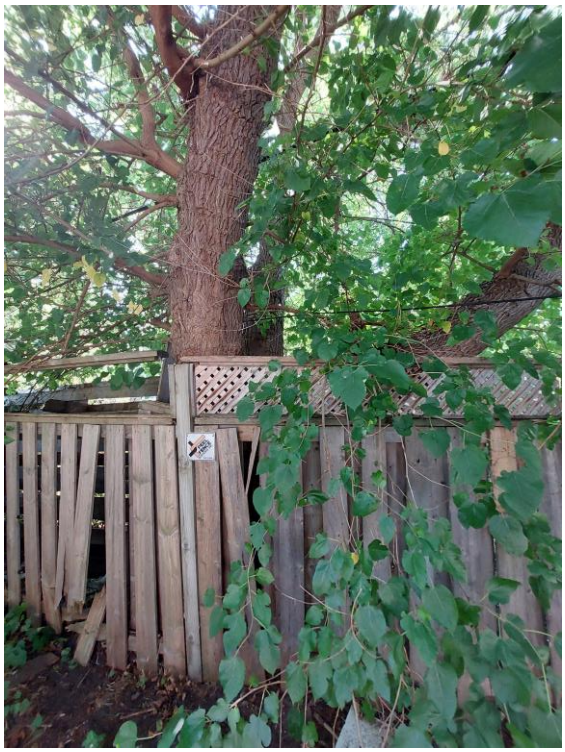


Image 15. Tree 15 - base



Image 16. Tree 17



Image 17. Tree 16 (right) and shrubs



Image 18. Trees 18 (right) and 19



Image 19. Tree 20



Image 20. Tree 21



Image 22. Trees 22 (right) and 23

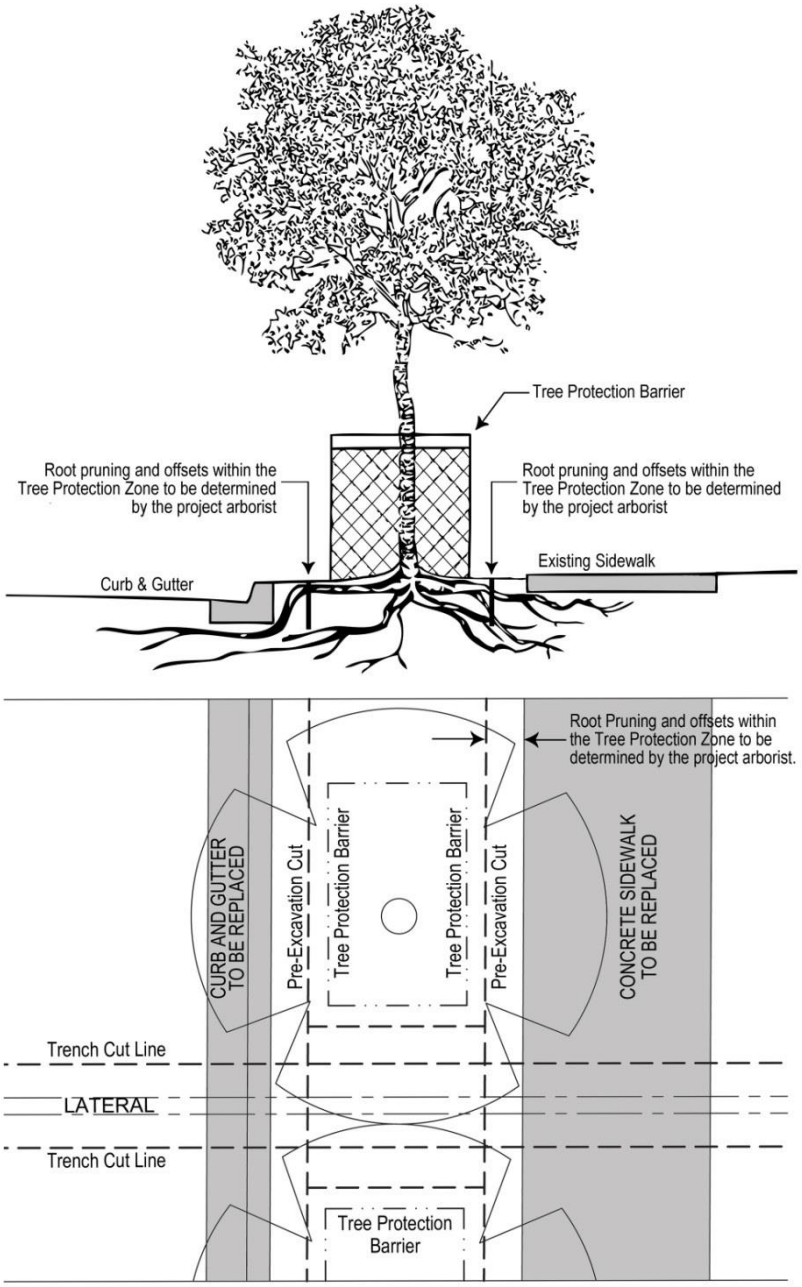
Appendix B. Tree Preservation Fence Details and Tree Protection Notes

TREE PROTECTION PLAN NOTES
Prior to site disturbance the owner must confirm that no migratory birds are making use of the site for nesting. The owner must ensure that the works are in conformance with the Migratory Bird Convention Act and that no migratory bird nests will be impacted by the proposed work. It is the applicants' responsibility to discuss potential tree injury of trees on shared property lines with their neighbours. Should such trees be injured to the point of instability or death the applicant may be held responsible for removal and such issues would be dealt with in civil court or through negotiation. The applicant would be required to replace such trees to the satisfaction of the City of Burlington.

TREE PROTECTION ZONE: No construction activity including grade changes, surface treatments or excavations of any kind is permitted within the area identified on the Tree Protection Plan or Site Plan as a Tree Protection Zone (TPZ). No root cutting is permitted. No storage of materials or fill is permitted within the TPZ. No movement or storage of vehicles or equipment is permitted within the TPZ. Grade changes are not permitted within established TPZ. The area(s) identified as a TPZ must remain undisturbed at all times.

TREE PROTECTION BARRIERS:
For City-owned Trees: Tree protection barriers for trees situated on the City road allowance where visibility must be maintained, can be 1.2m (4ft.) high and consist of chain link, or orange plastic web snow fencing on a 2" x 4" wood frame. All supports and bracing used to secure the barrier should be located outside the TPZ. All supports and bracing should minimize damage to roots outside the TPZ. Where some fill or excavate has to be temporarily located near a tree protection barrier, plywood must be used to ensure no material enters the TPZ. If the TPZ needs to be reduced to facilitate construction access, the tree protection barrier must be maintained at a lesser distance and the exposed TPZ protected with plywood and wood chips. This must first be approved by the City of Burlington. **For trees on private property situated on or adjacent to construction sites:** Tree protection barriers must be installed around trees to be protected using plywood clad hoarding or an equivalent approved by the City of Burlington. All supports and bracing to safely secure the barrier should be outside the TPZ. All such supports and bracing should minimize damage to roots outside the TPZ.
General Note:
Prior to the commencement of any site activity the tree protection barriers specified on this plan must be installed and written notice provided to the City of Burlington.
Established tree protection zones must not be used as construction access, storage or staging areas. The tree protection barriers must remain in effective condition until all site activities including landscaping are complete. Written notice must be provided to the City of Burlington prior to the removal of the tree protection barriers.

ARBORICULTURAL WORK:
Any roots or branches which extend beyond the TPZ indicated on this plan which require pruning, must be pruned by a qualified Arborist or other tree professional as approved by the City of Burlington. All pruning of tree roots and branches must be in accordance with good arboricultural standards. Roots located outside the TPZ that have received approval from the City of Burlington to be pruned must first be exposed by hand digging or by using a low pressure hydro vac method. This will allow a proper pruning cut and minimize tearing of the roots. The Arborist/tree professional retained to carry out crown or root pruning must contact the City of Burlington no less than 48 hours prior to conducting any specified work.



NOTE:
For excavations perpendicular to to the curbing (ie. sidewalk, curbing, water or sewer laterals renewal)

(a) The contractor is to use a trench box to minimize the width of the open cut.
(b) When the lateral replacement is within the Tree Protection Zone of a tree, the contractor is to complete the works using trenchless technologies.

CITY OF Burlington

TREE PROTECTION ZONE (TPZ)

No equipment or vehicles shall be operated, parked, repaired or refueled within the Tree Protection Zone.

No construction activity, grade changes, surface treatment or excavations of any kind is permitted within the Tree Protection Zone.

No materials or fill may be stored within the Tree Protection Zone.

This tree protection barrier must not be removed prior to the completion of construction without written authorization from the City of Burlington, Urban Forestry Department.

For information, contact:
City of Burlington, Development and Infrastructure Division,
905-335-7642.

