Tree Inventory & Preservation Plan Report
2082-2090 James Street
Burlington, Ontario

prepared for

Mattamy Homes
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prepared by

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Revised 17 June 2022

KUNTZ FORESTRY CONSULTING Inc. Project P2955

Introduction

Kuntz Forestry Consulting Inc. was retained by Mattamy Homes to complete a Tree Inventory and Preservation Plan in support of a development application for a group of properties situated at 2082-2090 James Street in Burlington, Ontario.

The June 2022 iteration of this report respects tree preservation planning pertaining to trees for which permits and/or approvals to remove or injure have not yet been obtained.

The work plan for this study included the following:

- Prepare field mapping (overlay site plan onto the topographic survey);
- Prepare inventory of all tree resources 10 cm in diameter and larger occurring on subject property, within the road allowances and on neighbouring property with the potential to be impacted by the proposed development;
- Evaluate potential tree saving opportunities based on proposed site plans; and,
- Document the findings in a Tree Inventory and Preservation Plan report.

Field assessments were conducted on 14 February 2018, and updated on 14 September 2021. All tree resources included in the inventory were visually assessed for condition utilizing the following parameters:

Tree # - numbers assigned to trees that corresponds with Figure 1.
Species - common and botanical names provided in the inventory table (Table 1).
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).
DL – drip line (meters), measured from tree trunk to outer edge of canopy.
Crown Dieback – the percentage of dead branches in the crown.
mTPZ – minimum tree protection zone.
CRZ – critical root zone.
Comments - additional relevant detail. Defects are rated as light (L), moderate (M), or heavy (H).

Most of the trees situated on the subject property and in the road allowance were located by land surveyors. Select trees situated in the adjacent creek channel were located by measurements and estimations made on site. Trees were not tagged in the field.

Existing Site Conditions

The site at 2082-2090 James Street was formerly comprised of three detached homes that have since been demolished. The Rambo Creek channel traverses the western portion of the property in a north to south direction. The channel then meanders eastward adjacent to the southern property boundary. The property is surrounded by James Street to the north, Martha Street to the east, Rambo Creek to the south and a condominium complex to the west.

There are a total of 67 trees subject to the current application. Tree resources are comprised of naturally occurring trees and some landscape plantings. Refer to Figure 1 for tree locations and Table 1 for the complete tree inventory.

Tree resources included in the inventory are comprised of Austrian Pine (*Pinus nigra*), Green Ash (*Fraxinus americana*), Manitoba Maple (*Acer negundo*), White Elm (*Ulmus americana*), Sugar Maple (*Acer saccharum*), Black Walnut (*Juglans nigra*), Basswood (*Tilia americana*), Norway Maple (*Acer platanoides*), White Mulberry (*Morus alba*), Tree-of-Heaven (*Ailanthus altissima*), Little Leaf Linden (*Tilia cordata*) and White Poplar (*Populus alba*). The 2021 inventory also tallied an understory bankside Willow volunteer (*Salix* spp.)

Proposed Development

The proposed development is comprised of a 13-story condominium building. In addition, the Rambo Creek channel is proposed for reconstruction to ensure the existing flows and storm water runoff are managed and contained within the channel block in a manner that functions coherently with the existing creek above and below the subject site.

Discussion

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

Development Impacts

The minimum Tree Preservation Zone (mTPZ) and Critical Root Zone (CRZ) distances, as outlined in the City of Burlington's Specifications for Tree Protection and Preservation (Spec No. SS12A), were used in the preservation planning process to determine tree removal requirements.

Tree Removal

Trees 1, 44, 61 and 62 require removal to accommodate the development itself, but a permit for their removal has not yet been obtained.

Trees 1 and 62 are public trees; however, excavation works for proposed underground parking and the construction of structural walls will occur almost against their trunks, rendering their preservation infeasible. A permit for the removal of these trees is required under the City of Burlington's Public Tree By-law (By-law 68-2013). Furthermore, section 1.19 of said By-law states that "The City Arborist shall not issue a Tree Permit for Trees located on Public Property immediately abutting Private Property for which a development application has been submitted, until such time as the development application has been approved and Council has also approved the removal of these Trees."

Under this proposal, existing creek banks will need to be cut down (regraded) to provide sufficient flow capacity in the creek channel to ensure that flooding is contained. The creek reconstruction will also address the degradation that has occurred in the past and the invasive and exotic vegetation that has established in this portion of the creek. The resulting channel construction, in combination with the proposed restoration will provide an enhancement of the ecological function of Rambo Creek that falls in line with the policies outlined in the Official Plan regarding natural channel design and development adjacent to natural features. Additionally, the planned landscaping and replacement plantings, once mature, will contribute even greater ecological benefit compared to the

current creek channel; the properly stabilized banks will be far less likely to experience future degradation, the larger channel capable of containing peak flows will protect adjacent vegetation from periodic flood damage, and selected tree species will be suitable for their sites, which greatly increases the probability that trees will reach maturity and be fully capable of furnishing the community with their many benefits and services.

Removal of Trees 3-20, 22, 24-26, 38-43, 47-56 and 63-86 will be required to re-construct the Rambo Creek channel. The extent of regrading that is required under this proposal precludes the preservation of existing trees growing within the creek channel. The present state of the channel does not adequately contain peak flows, which escape the channel limits and flood significant areas of the property, rendering development impossible; therefore, the proposed rechannelization works are a critical component of this development. New banks will need to be cut into the existing channel to provide sufficient flow capacity to effectively mitigate flood risk. Trees growing within the existing creek channel will need to be removed to accommodate this rechannelization work.

Trees 3, 5, 6, 8, 15, 16, 19, 24, 25, 44, 78-81 are privately-owned and located on the subject property. The remaining trees on the subject site that require removal are Trees 4, 7, 9-14, 17, 18, 20, and 61. Trees 25 and 26 are located on neighbouring private property; permission from these property owners is required prior to their removal.

Trees 38-43, 47-56, 63-67, 69-70, 72, 73 75, 76, and 82-86, are public trees located within the City-owned ravine feature immediately south of the subject property and are therefore subject to the same by-law regulations as Trees 1 and 62 (By-law 68-2013, section 1.19), as discussed above.

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

On 9 June 2022, the client received a Property Standards Order to Comply from The City of Burlington mandating the removal of seven hazardous trees from the subject property (Trees 5, 9, 13, 14, 17, 19, 22 and one unmarked dead tree). These trees have been left in this report to limit confusion, but it should be noted that these trees will be removed from the site prior to 18 July 2022.

Tree Preservation

Preservation of Trees 27-32 will be possible with appropriate tree protection measures. Tree protection measures will have to be implemented prior to the construction phase to ensure trees identified for preservation are not impacted by the proposed development. Tree protection fence must be comprised of 1.2 m (4 ft.) high orange plastic web snow fencing on a 2” x 4” frame. Refer to Figure 1 for the location of prescribed tree protection fence and the tree protection fence detail.

The City of Burlington's Private Tree by-law (By-law 02-2020) defines a "Boundary Tree" as "a tree whose trunk from the ground level to the first branch straddles or bisects the property line of the lot". No trees in the inventory have been confirmed as boundary trees, this definition is included here for reference.

All trees identified for preservation are situated on neighboring property to the West (435 Pearl Street). Trees 27-29 and 32 are identified for preservation at their minimum tree preservation zone distance (mTPZ) as set out by the City of Burlington's Specifications for Tree Protection and Preservation. Given that no encroachment is required within the mTPZ of these trees, they should not be subject to any adverse long-term impacts. If any roots are exposed during the creek re-construction, they must be pruned by a Certified Arborist in accordance with good arboricultural practice.

If construction occurs during the months of May-September, Trees 27-32 should be watered weekly, unless a major rain event has occurred that week. The root zones should be watered with approximately 150 gallons of water each watering event. The water should be sprayed on the ground slowly, such that it has time to percolate into the soil and does not run overland away from the trees. Water should be applied to as much of the root zone as possible, granted that permissions are secured for any required access to neighbouring properties.

Compensation

Compensation requirements for public and private trees shall follow The City of Burlington's aggregate caliper method. Where the number of required replacement trees cannot be met due to spatial constraints, compensation in the form of cash-in-lieu of replacement planting will be provided in accordance with the City's Rates and Fees By-law (By-law 41-2022), as approved by City staff.

Compensation Trees should be comprised of native tree species purchased from a native tree nursery to ensure no cultivars or varieties have been substituted. Furthermore, it is recommended that newly planted trees be watered and maintained throughout the period of their establishment, approximated at two years. This program should begin once planting activities are concluded and should involve weekly watering (barring heavy rainfalls) throughout the months of April – October. Minor pruning of branches damaged during the planting process is permitted, but any necessary corrective pruning should be delayed until a full season of growth in the new location has occurred. Monitoring for pest and disease presence is also recommended during this two-year period, as early detection results in greater effectiveness of pest management treatments. Kuntz Forestry Consulting can perform these services.

Refer to the planting plan for additional tree planting locations and details.

Summary and Recommendations

Kuntz Forestry Consulting Inc. was retained by Mattamy Homes to complete a Tree Inventory and Preservation Plan in support of a development application for a group of properties situated at 2082-2090 James Street in Burlington, Ontario in March of 2018. A tree inventory was conducted and reviewed in the context of the proposed development plan, and a Preservation Plan document was drafted. Updates were made to the tree inventory on 14 September 2021, and the Preservation Plan was revised accordingly.

The June 2022 iteration of this report pertains to 67 trees located on the subject property, in road allowances and on neighboring property within the vicinity of the proposed development. Removal of 61 trees will be required to accommodate the proposed development. Of those 61 trees, five require removal to accommodate the condominium building and 56 require removal to facilitate Rambo Creek re-construction.

34 trees (Trees 1, 38-43, 47-56, 62-67, 69-70, 72, 73, 75, 76, and 82-86) are public trees that require removal (see *Tree Removal* for details on By-law requirements pertaining to these trees). Two trees belong to the neighbouring property at 443 Pearl Street, and consent for their removal will need to be obtained. The remaining 25 trees that require removal are located on the subject property (see *Tree Removals* for details on By-law requirements pertaining to these trees). Compensation, as determined by City of Burlington staff, will be required to offset the required tree removals.

Seven hazardous trees (Trees 5, 9, 13, 14, 17, 19, 22 and one unmarked dead tree) will be removed from the subject property prior to 18 July 2022 to comply with a Property Standards Order received 9 June 2022.

Six trees (Trees 27-32) located on the neighbouring property at 435 Pearl Street can be preserved throughout the development process, so long as recommended tree protection measures are observed.

The following recommendations are suggested to minimize impacts to the six trees identified for preservation. Refer to Figure 1 for tree preservation fence locations, further tree preservation plan notes and the Tree Protection Detail.

- Tree protection barriers and fencing should be erected at locations prescribed on Figure 1. All tree protection prescriptions should follow the Tree Protection Detail on Figure 1.

- Tree protection measures will have to be implemented prior to the construction phase to ensure the trees identified for preservation are not impacted by the proposed works.

- Special mitigation measures are required adjacent to select trees; refer to the *Tree Preservation* section for details.

- No construction activity including grade changes, 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.

- Branches that extend past prescribed tree protection zones that 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.

- Site visits, pre, during and post construction is 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: 2082-2090 James St Burlington Date: 14 September 2021 Surveyors: KB

Tree #	Common Name	Scientific Name	DBH	TI	CS	CV	Cond %	CDB	DL	mTPZ	CRZ	Comments	Action	Owner	Address
1	Austrian Pine	*Pinus nigra*	19.5	G	G	G	90		3	2.4	4		Remove	City	
3	Green Ash	*Fraxinus pennsylvanica*	13.5	D	D	D	0	100	2	2.4	4	EAB infestation, Dead	Remove	Private	
4	Manitoba Maple	*Acer negundo*	27	F	FG	FG	55		6	2.4	4	Lean (M) west, stem wound (M)	Remove	Private	
5	Green Ash	*Fraxinus pennsylvanica*	15	D	D	D	0	100	3	2.4	4	EAB infestation, Dead	Remove	Private	
6	Manitoba Maple	*Acer negundo*	13.5	FG	F	F	55	10	4	2.4	4	Bowed (M) west	Remove	Private	
7	White Elm	*Ulmus americana*	26	G	G	G	90		4	2.4	4		Remove	Private	
8	Sugar Maple	*Acer saccharum*	17.5	G	FG	G	72.5		4	2.4	4	Understory	Remove	Private	
9	Green Ash	*Fraxinus pennsylvanica*	27.5	D	D	D	0	100	5	2.4	4	EAB infestation, epicormic branching (L), Dead	Remove	Private	
10	Sugar Maple	*Acer saccharum*	21	F	P	PF	20	50	3	2.4	4	Co dominant (V-shaped), dead top	Remove	Private	
11	Black Walnut	*Juglans nigra*	41	G	G	G	90		8	3	5		Remove	Private	
12	White Elm	*Ulmus americana*	20.5	G	G	G	90	10	4	2.4	4	Bowed (L) understory, epicormic branching (M)	Remove	Private	
13	Green Ash	*Fraxinus pennsylvanica*	25	D	D	D	0	100	4	2.4	4	EAB infestation, Dead	Remove	Private	
14	Sugar Maple	*Acer saccharum*	21	D	D	D	0	100	4	2.4	4	Dead	Remove	Private	
15	Basswood	*Tilia americana*	19	FG	FG	FG	72.5		4	2.4	4	Bowed (M), understory	Remove	Private	
16	Basswood	*Tilia americana*	16	FG	FG	G	72.5		3	2.4	4	Bowed (M)	Remove	Private	
17	Green Ash	*Fraxinus pennsylvanica*	25	D	D	D	0	100	3	2.4	4	EAB infestation, epicormic branching (M), Dead	Remove	Private	
18	Manitoba Maple	*Acer negundo*	20, 22	FG	FG	FG	72.5		8	2.4	4	Bowed (M), union at 0.3 m	Remove	Private	
19	Green Ash	*Fraxinus pennsylvanica*	17	D	D	D	0	100	3	2.4	4	EAB infestation, epicormic branching (L), Dead	Remove	Private	

20	White Elm	*Ulmus americana*	28	G	G	G	90		4	2.4	4	Co dominant (V-shaped), union at 2.5 m,	Remove	Private	
24	White Mulberry	*Morus alba*	16	G	FG	G	72.5		4	2.4	4		Remove	Private	
25	Manitoba Maple	*Acer negundo*	13	G	FG	FG	72.5		3	2.4	4		Remove	Neighbour	443 Pearl St
26	Manitoba Maple	*Acer negundo*	20	F	FG	FG	55		4	2.4	4	Lean (M) northeast , grapevine competition (L)	Remove	Neighbour	443 Pearl St
27	Manitoba Maple	*Acer negundo*	14	FG	F	F	55	15		2.4	4	Bowed (M), grapevine competition (M)	Preserve	Neighbour	435 Pearl St
28	Tree-of-heaven	*Ailanthus altissima*	48, 38, 32	FG	G	G	72.5	10	8	3	5	Union at ground	Preserve	Neighbour	435 Pearl St
29	Manitoba Maple	*Acer negundo*	17	FG	F	PF	37.5	40	3	2.4	4	Understory, epicormic branching (M), moribund	Preserve	Neighbour	435 Pearl St
30	Tree-of-heaven	*Ailanthus altissima*	23	G	G	G	90		4	2.4	4		Preserve	Neighbour	435 Pearl St
31	Manitoba Maple	*Acer negundo*	20	F	F	F	55	15	4	2.4	4	Lean (M) south, understory	Preserve	Neighbour	435 Pearl St
32	White Mulberry	*Morus alba*	26	FG	F	FG	55		5	2.4	4	Lean (M) southwest, understory	Preserve	Neighbour	435 Pearl St
38	Black Walnut	*Juglans nigra*	46	G	G	FG	72.5		6	3	5	Pruning wounds (M), broken branches (M)	Remove	City	
39	Green Ash	*Fraxinus pennsylvanica*	13	P	P	P	20		3	2.4	4	Top of crown failed	Remove	City	
40	Black Walnut	*Juglans nigra*	37	F	FG	FG	55		5	2.4	4	Base of tree undermined by creek	Remove	City	
41	Tree-of-heaven	*Ailanthus altissima*	17	FG	G	G	72.5		2	2.4	4	Exposed roots	Remove	City	
42	Sugar Maple	*Acer saccharum*	12	G	G	G	90		4	2.4	4		Remove	City	
43	Black Walnut	*Juglans nigra*	17	G	G	G	90		4	2.4	4		Remove	City	
44	Little-leaf Linden	*Tilia cordata*	13	FG	G	G	72.5		3	2.4	4	Crook (L), growing through fence	Remove	Private	
47	White Mulberry	*Morus alba*	13	F	F	F	55	20	3	2.4	4	Bowed (H), understory, beetle damage	Remove	City	
48	White Mulberry	*Morus alba*	25	G	G	G	90		4	2.4	4		Remove	City	
49	White Poplar	*Populus alba*	36	F	FG	FG	55		8	2.4	4	1 stem failed and lying on the ground	Remove	City	

50	White Poplar	*Populus alba*	30, 25	FG	FG	FG	72.5		10	2.4	4	Union at ground, lean/bowed (M)	Remove	City	
51	White Poplar	*Populus alba*	25	G	FG	G	72.5		4	2.4	4	Bowed (L)	Remove	City	
52	White Poplar	*Populus alba*	38	G	G	G	90		7	2.4	4	Bowed (L)	Remove	City	
53	White Poplar	*Populus alba*	35	FG	FG	FG	72.5	40	5	2.4	4	Lean/bowed (L), broken branches (L)	Remove	City	
54	White Poplar	*Populus alba*	48, 45	G	G	G	90		8	3	5	Union at ground	Remove	City	
55	White Poplar	*Populus alba*	48	F	FG	FG	55	30	7	3	5	Lean/bowed (M) south, slightly undermined by creek	Remove	City	
56	Manitoba Maple	*Acer negundo*	12	FG	FG	FG	72.5		3	2.4	4	Lean (M) northwest	Remove	City	
61	White Mulberry	*Morus alba*	21.5, 24	G	FG	G	72.5		5	2.4	4	Union at ground	Remove	Private	
62	Manitoba Maple	*Acer negundo*	16	F	F	F	55		3	2.4	4	Grapevine competition (H)	Remove	City	
63	White Elm	*Ulmus americana*	42	G	G	G	90		7	3	5	Co dominant at 4m	Remove	City	
64	White Poplar	*Populus alba*	15	G	G	G	90		3	2.4	4		Remove	City	
65	Norway Maple	*Acer platanoides*	19	G	G	G	90		3	2.4	4	Pruning wounds (M)	Remove	City	
66	White Poplar	*Populus alba*	19	G	G	G	90		3	2.4	4		Remove	City	
67	Green Ash	*Fraxinus pennsylvanica*	15	G	G	G	90		3	2.4	4	EAB infestation	Remove	City	
69	Manitoba Maple	*Acer negundo*	13	F	F	F	55	15	3	2.4	4	Lean (M), understory, pruning wounds (H)	Remove	City	
70	Black Walnut	*Juglans nigra*	22	G	G	G	90			2.4	4	Undercut by stream	Remove	City	
72	Green Ash	*Fraxinus pennsylvanica*	12	D	D	D	0	100	3	2.4	4	EAB infestation, Dead	Remove	City	
73	White Elm	*Ulmus americana*	21	G	G	G	90		3	2.4	4		Remove	City	
75	White Elm	*Ulmus americana*	25	G	G	G	90		4	2.4	4		Remove	City	
76	Green Ash	*Fraxinus pennsylvanica*	11, 12	D	D	D	0	100	3	2.4	4	Dead	Remove	City	
78	White Elm	*Ulmus americana*	14.5	G	G	G	90		3	2.4	4	Understory	Remove	Private	

79	White Poplar	*Populus alba*	17	G	G	G	90		4	2.4	4		Remove	Private	
80	Norway Maple	*Acer platanoides*	14	G	G	G	90		3	2.4	4	Co dominant at 2m (V-shaped)	Remove	Private	
81	Willow	*Salix spp.*	13	F	F	P	20		3	2.4	4	Up rooted, undercut by stream	Remove	Private	
82	White Poplar	*Populus alba*	16	G	G	G	90		3	2.4	4		Remove	City	
83	Norway Maple	*Acer platanoides*	11	G	G	G	90		3	2.4	4	Pruning wounds (M)	Remove	City	
84	White Poplar	*Populus alba*	13	G	G	G	90		3	2.4	4		Remove	City	
85	White Poplar	*Populus alba*	14	G	G	G	90		3	2.4	4		Remove	City	
86	White Poplar	*Populus alba*	12	G	G	G	90		3	2.4	4		Remove	City	

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)
Cond %	Condition Rating	(%) 100 = No defects found
CDB	Crown Die Back	(%)
DL	Dripline	(m)
mTPZ	Minimum Tree Preservation Zone	
CRZ	Critical Root Zone	
EAB	Emerald Ash Borer	
~ = estimate		