CAIV 1341
Tree Conservation Report
Orleans Village Phase 4

March 28, 2022

Submitted to: Colin Haskin

KILGOUR & ASSOCIATES LTD.
www.kilgourassociates.com

TABLE OF CONTENTS

List of Figures

List of Tables

List of Appendices

1.0 INTRODUCTION

This Tree Conservation Report (TCR) was prepared by Kilgour & Associates Ltd. (KAL) on behalf of Caivan Communities in support of the proposed regrading and Phase 4 development of their Orleans Village community. The client requires the removal of site trees to allow for site grading and development work.

A TCR is required for all Plans of Subdivision, Site Plan Control Applications, Common Elements Condominium Applications, and Vacant Land Condominium Applications where there is a tree of 10 cm in diameter at breast height (DBH) or greater on a site and/or if there is a tree on an adjacent site that has a critical root zone (CRZ) extending into the proposed work area. A "tree" is defined as any species of woody perennial plant, including its root system, which has reached or can reach a minimum height of at least 450 cm at physiological maturity. The CRZ is calculated as DBH x 10 cm.

The removal of trees on the Site cannot occur until written approval of the TCR has been granted through a tree permit as per the City of Ottawa's Tree Protection By-law. The approval of the TCR will come in the form of a letter (the tree permit) from the General Manager[1] with conditions specific to the Site, tree retention, and associated tree protection and tree removal. The approved TCR is a requirement for the approval of the development applications listed above. A copy of the report must be available on the Site during tree removal, grading, construction, or any other site alteration activities, and for the duration of construction on the Site.

2.0 PROPERTY INFORMATION

The area of proposed site alteration is on a portion of lands owned by Caivan Communities, located off Lamarche Avenue (the "Site; Figure 1). The Site covers approximately 4.6 ha and is zoned as a Development Reserve Zone (DR).

The Site is surrounded by:

- Lamarche Avenue to the west; and
- Innes Road to the north; and
- A residential development to the south; and
- An industrial site to the west.

[1] General Manager of the Public Works & Environmental Services Department or the General Manager of the Planning, Infrastructure and Economic Development Department of the City of Ottawa, or their designate.

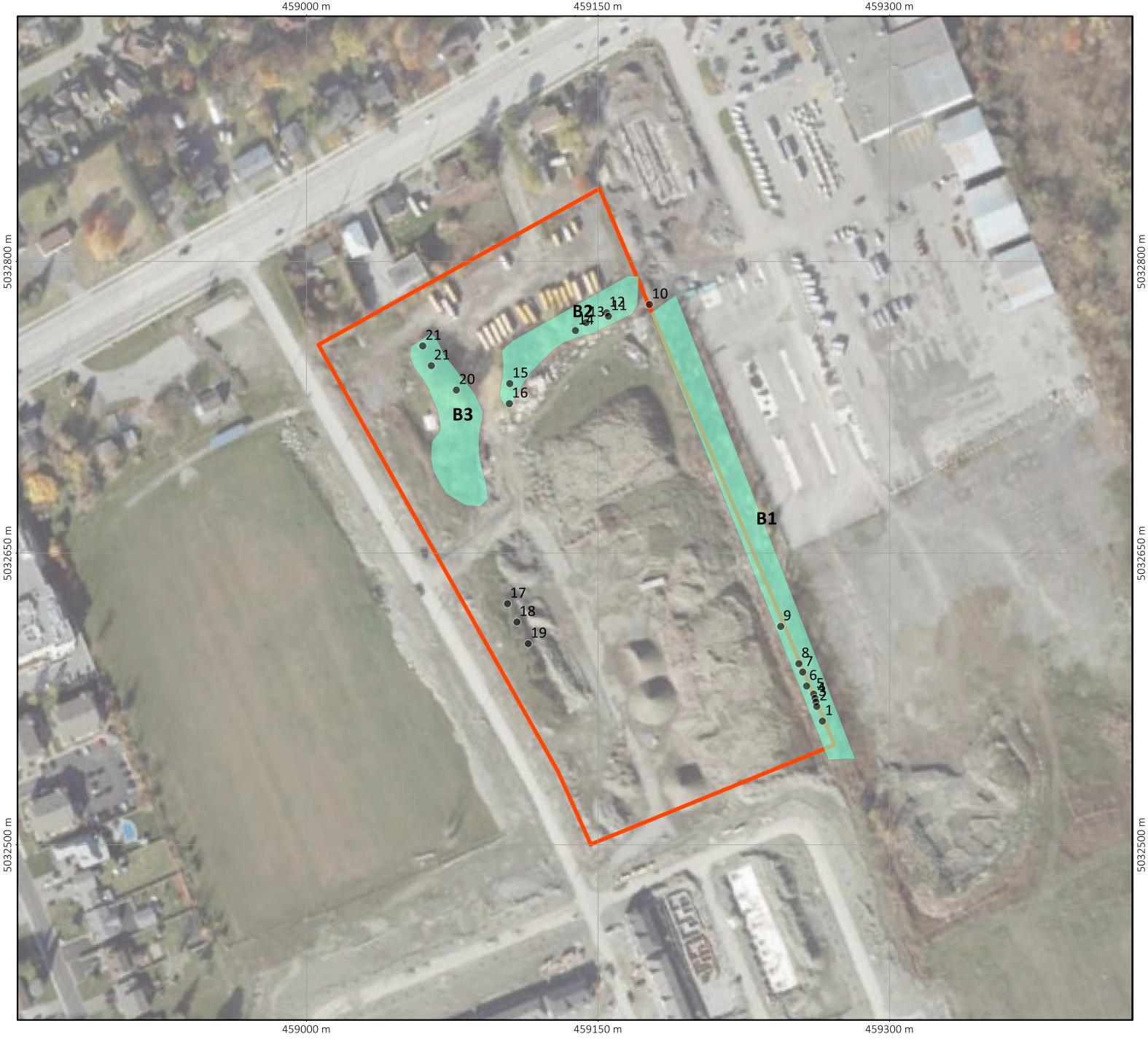

Figure 1 Site context and tree locations

Legend

- Tree Block
- Tree
- Site

N

0 75 m

Project: CAIV 1341
Map File: CAIV1341 - 2203a.map
Universal Transverse Mercator - Zone 18 (N)
Printed on: 2022-03-29

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2.1 Property Owner/Applicant and Arborist Contact Information

Table 1 Contact information for the property owner/applicant and arborist

Organization	Role	Contact Person	Phone Number	Email Address
Caivan Communities 2934 Baseline Road, Suite 302 Ottawa, ON, K2H 1B2	Proponent	Colin Haskin, Land Development Manager	(613) 847 6169	Colin.haskin@caivan.com
Kilgour & Associates Ltd. 2285-C St. Laurent Blvd., Unit 16, Ottawa, ON, K1G 4Z6	Arborist	Robert Hallett, Dipl.T	(613) 260 5555	rhallett@kilgourassociates.com
Kilgour & Associates Ltd. 2285-C St. Laurent Blvd., Unit 16, Ottawa, ON, K1G 4Z6	Arborist	Anthony Francis, PhD	(613) 277-4027 (613) 260-5555	afrancis@kilgourassociates.com

2.1.1 Qualifications of Arborist

Robert Hallett (Dipl.T) is a biologist with a broad background in monitoring terrestrial environments. Rob has worked on a wide range of projects relating to species at risk (SAR), Invasive species, terrestrial and aquatic habitat assessments, environmental effects monitoring. He has extensive experience completing collection and assessments in support of tree conservation reports. As a biologist at KAL, Rob regularly participates in the production of TCRs, Environmental Impact Statements, and Integrated Environmental Reviews for land development projects throughout the region. Rob is a certified Butternut Health Assessor (BHA #546).

Anthony Francis (Ph.D.) is a Senior Ecologist with 20 years of consulting experience to both government agencies and private industry. He has worked on a diversity of projects relating to species at risk (SAR), invasive species, terrestrial and aquatic habitat, environmental effects monitoring and mitigation, and fate/effects of contaminants. Within each of these subject areas, Dr. Francis has completed projects addressing specific site concerns and broader policy initiatives. Dr. Francis' academic background is in spatial ecology with a focus on tree species diversity. As a Senior Ecologist at KAL, he regularly completes TCRs, Environmental Impact Statements, and Integrated Environmental Reviews for land development projects throughout Ottawa and eastern Ontario. He is also a certified Butternut Health Assessor (BHA #105).

2.2 Additional Applications

Not applicable.

3.0 EXISTING CONDITIONS

3.1 Tree Inventory

An inventory of trees on the Site was performed on March 26, 2022, following guidelines set forth by the City of Ottawa (2020). All live trees with a DBH ≥ 10 cm having a potential to be removed under the

proposed development were identified, enumerated, mapped, their DBH measured, and their general health and condition documented (Appendix A, Figure 1).

In addition to the trees listed in Appendix A there were three "Blocks" of trees identified. Blocks were used to identify areas where canopy cover occurs on aerial imagery, but trees were either dead or smaller than 10cm DBH.

Block 1 (B1) Occurs along the eastern boundary of the Site and consists mainly of small Bur Oak, Balsam Poplar, and Manitoba Maple. The imagery available from geoOttawa shows many larger canopy trees occurring within this block, however, these large canopy trees (ash species) were dead at the time of the survey and are not included in the inventory.

Block 2 (B2) Occurs along the northern boundary of the Site between the existing school bus yard and the Site proper. This block has many small Manitoba Maples with multiple stems. Trees occurring within this block with a diameter greater than 10cm are captured within the inventory.

Block 3 (B3) Is situated along the western side of the side and occurs near the northern end of the site. Block three consists mainly of very small Manitoba Maples. Three large-diameter trees occur within this block and are captured within the individual tree inventory.

3.2 Ecological Significance of Trees on Site

No federally or provincially significant tree species (i.e., those listed under the *Species at Risk Act* (SARA), the *Endangered Species Act* (ESA), or those tracked on the Natural Heritage Information Centre (MNRF, 2021) are present on or adjacent to the Site. None of the trees occurring near the Site are considered regionally rare or uncommon species by Brunton (2005).

Given their urban context, the trees on the Site likely play a role in the regulation of relative humidity, sequestration of carbon and removal of pollutants, wind-shielding, shading and reduction of urban heat island effects, and filtration of dust, noise, and light pollution. They also provide some habitat structure in the surrounding urban landscape. However, the trees on the Site likely only provide habitat for common bird and small mammal species in the Ottawa area and not species of significance (i.e., species that are at risk, rare, or provincially or federally significant).

3.3 Other Natural Environment Elements

3.3.1 Surface Water Features

There is a small drainage swale along the eastern boundary of the Site. This feature has no upstream connection and currently drains towards the south.

3.3.2 Steep Slopes

No steep slopes occur on or near the Site.

3.3.3 Valued Woodlots

The Site does not contain any woodlots designated as Urban Natural Features or Natural Environment Areas, areas evaluated in the *City of Ottawa Urban Natural Areas Environmental Evaluation Study* (UNAEES; Muncaster Environmental Planning Inc. and Brunton Consulting Services, 2005), or other areas that meet the criteria used in the UNAEES

3.3.4 Significant Woodlands

The Site does not contain any significant woodlands per *Significant Woodlands: Guidelines for Identification, Evaluation, and Impact Assessment* (City of Ottawa, 2018).

3.3.5 Greenspace Linkages

The Site does not contain any greenspace linkages are identified in the Greenspace Master Plan (City of Ottawa, 2016) or as may occur in the larger landscape.

3.3.6 Distinctive Trees

The trees detailed in Table 2 are all larger than 30 cm DBH and are thus considered as "Distinctive Trees". All trees listed below are slated for removal. Only tree number 10 was assessed as being in good health while all the other distinctive trees listed below are showing signs of decline. The largest trees listed below were assessed as being in poor condition.

Table 2 List of distinctive trees occurring on the Site

Tree ID	Species Name	DBH	Easting	Northing	Fate
5	Bur Oak (*Quercus macrocarpa*)	65	459261	5032578	Removed
9	Green Ash (*Fraxinus pennsylvanica*)	115	459244	5032612	Removed
10	White Willow (Salix alba*)*	38	459176	5032778	Removed
11	Balsam Poplar (*Populus balsamifera*)	30	459155	5032772	Removed
15	Eastern Cottonwood (*Populus deltoides*)	89	459105	5032737	Removed
16	Eastern Cottonwood (*Populus deltoides*)	66	459104	5032727	Removed
20	Eastern Cottonwood (*Populus deltoides*)	46	459077	5032734	Removed
21	Eastern Cottonwood (*Populus deltoides*)	44	459064	5032746	Removed
22	Eastern Cottonwood (*Populus deltoides*)	54	459060	5032757	Removed

3.3.7 Hazardous Trees

A formal risk assessment for hazardous trees (e.g., Tree Risk Assessment) was not completed for the Site, though significant numbers of dead or dying trees were noted along the eastern boundary of the site. Most trees occurring on the site are either dead or are beginning to show signs of decline.

3.3.8 Unique Ecological Features

The Site does not contain any riparian woodlots, rare communities, or other unique ecological features not already addressed in this document.

4.0 PROPOSED DEVELOPMENT

The proposed development will entail the regrading of the site and ultimately the construction of Phase 4 of Caivan Communities Orleans Village (Figure 2). The new community area will include 175 units in total with a 0.5 ha park. The grading and development of the will necessitate the removal of all site vegetation and site trees. This includes the removal of Tree Blocks B2 and B3, which are fully located on the site. Tree Block B1 straddles the eastern property line. However, the only stems within the block that are located on the adjacent property are dead ash trees. These will be removed for safety considerations along with the remainder of the block with permission from the adjacent landowner.

Site works are planned to commence in the spring of 2023.

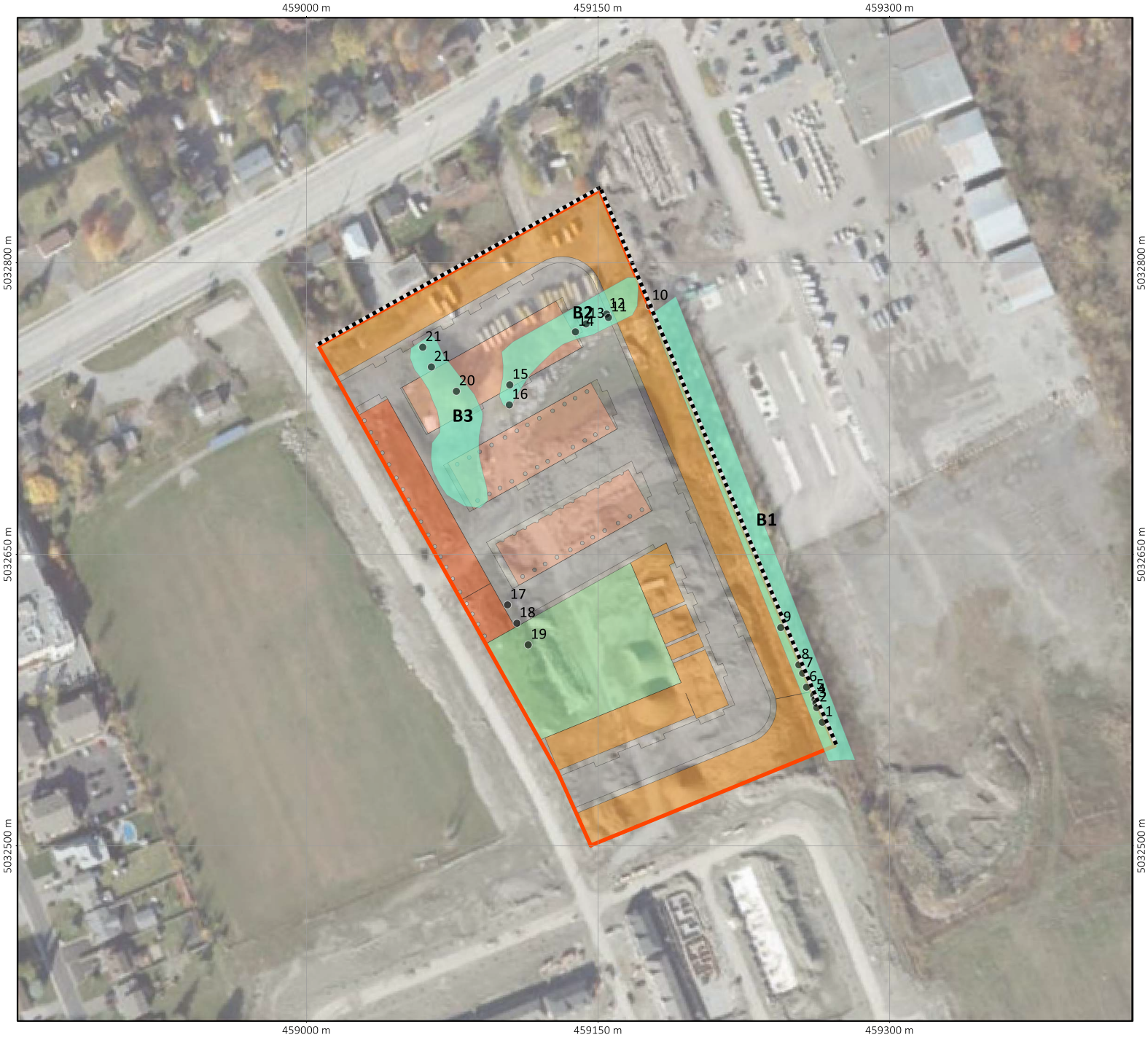

Figure 2 Proposed development and tree locations

Legend

- Tree Block
- Tree
- Tree Protection Fencing

Community Plan

- 18.9 RLTH
- B2B
- Park
- Road
- Townhouse

- Site

N

0 75 m

Project: CAIV 1341
Map File: CAIV1341 - 2203a.map
Universal Transverse Mercator - Zone 18 (N)
Printed on: 2022-03-29

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5.0 MITIGATION MEASURES

5.1 Site Preparation and Construction

The following mitigation measures should be applied during Site preparation and construction:

- Trees adjacent to the Site will not be removed or damaged.
- To minimize impacts to trees adjacent to the Site:
    - Erect a fence beyond the CRZ of the retained trees. The fence should be highly visible (orange construction fence) and paired with erosion and sediment control fencing.
    - Pruning of branches is recommended in areas of potential conflict with construction equipment but must be completed by a certified arborist.
    - Do not place any material or equipment within the areas protected by the construction fencing.
    - Do not attach any signs, notices, or posters to any trees.
    - Do not raise or lower the existing grade within areas protected by the construction fencing without approval.
    - Tunnel or bore when digging within the CRZ of a tree.
    - Do not damage the root system, trunk, or branches of any remaining trees.
    - Ensure that exhaust fumes from all equipment are not directed towards any tree's canopy.

5.2 Tree Planting Recommendations

Per the City of Ottawa Tree Protection By-Law (No. 2020-340), compensatory tree planting should be determined through the development review process. Tree planting within the new community should be at a density equivalent to one small tree per the 175 housing units proposed for construction. The 175 new trees are to be distributed for planting on each lot to the extent feasible given lot level restrictions but may be planted along boulevards and/or in side-yard areas as required. Where feasible, larger trees are to be planted with medium or large-sized trees counting as two stems toward the requisite count. Additional trees are to be included in the park design as feasible within the park plan though these trees do not count towards the per-unit count of 175.

Appropriate replacement trees for this development should be species that are resilient and are indigenous to the region. Recommend tree species to be included within the site landscape plan include Red Maple (*Acer rubrum*), Bur Oak (*Quercus macrocarpa),* White Pine (*Pinus strobus*) and White Spruce (*Picea glauca*) wherever larger trees are feasible. Additional plantings of smaller shrubbery would also be

appropriate. Species of shrubs that are indigenous to the region include Lilac (*Syringa vulgaris*) and Serviceberry (*Amelanchier canadensis*).

6.0 CLOSURE

This report was prepared for exclusive use by Caivan Communities. The report may only be distributed by those entities. Questions relating to the data and interpretation can be addressed to the undersigned.

Respectfully submitted,

KILGOUR & ASSOCIATES LTD.

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7.0 LITERATURE CITED

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Apppendix A: Tree Data

Tree ID	Species Name	UTM ZONE 18T		Number of Stems	DBH	Trunk Health	Canopy Health	Fate
		Easting	Northing					
1	Green Ash (Fraxinus pennsylvanica)	459265	5032564	1	18	Poor: tree displays greater than 40% deficiency/defect	Poor: tree displays greater than 40% deficiency/defect	Removed
2	Bur Oak (Quercus macrocarpa)	459263	5032571	1	14	Poor: tree displays greater than 40% deficiency/defect	Poor: tree displays greater than 40% deficiency/defect	Removed
3	Bur Oak (Quercus macrocarpa)	459262	5032573	1	15	Fair: tree displays 15-40% deficiency/defect	Fair: tree displays 15-40% deficiency/defect	Removed
4	Bur Oak (Quercus macrocarpa)	459262	5032575	1	16	Fair: tree displays 15-40% deficiency/defect	Fair: tree displays 15-40% deficiency/defect	Removed
5	Bur Oak (Quercus macrocarpa)	459261	5032578	1	65	Poor: tree displays greater than 40% deficiency/defect	Poor: tree displays greater than 40% deficiency/defect	Removed
6	Bur Oak (Quercus macrocarpa)	459257	5032582	1	18	Good: tree displays less than 15% deficiency/defect	Good: tree displays less than 15% deficiency/defect	Removed
7	American Elm (Ulmus americana)	459255	5032589	1	14	Good: tree displays less than 15% deficiency/defect	Good: tree displays less than 15% deficiency/defect	Removed
8	Green Ash (Fraxinus pennsylvanica)	459253	5032593	1	20	Poor: tree displays greater than 40% deficiency/defect	Poor: tree displays greater than 40% deficiency/defect	Removed
9	Green Ash (Fraxinus pennsylvanica)	459244	5032612	1	115	Poor: tree displays greater than 40% deficiency/defect	Poor: tree displays greater than 40% deficiency/defect	Removed
10	White Willow (Salix alba)	459176	5032778	1	38	Good: tree displays less than 15% deficiency/defect	Good: tree displays less than 15% deficiency/defect	Removed
11	Balsam Poplar (Populus balsamifera)	459155	5032772	2	30	Fair: tree displays 15-40% deficiency/defect	Fair: tree displays 15-40% deficiency/defect	Removed
12	Manitoba Maple (Acer negundo)	459154	5032774	2	21	Good: tree displays less than 15% deficiency/defect	Good: tree displays less than 15% deficiency/defect	Removed
13	Balsam Poplar (Populoides balsamifera)	459144	5032769	3	19	Good: tree displays less than 15% deficiency/defect	Good: tree displays less than 15% deficiency/defect	Removed
14	Siberian Elm (Ulmus pumila)	459138	5032764	3	23	Good: tree displays less than 15% deficiency/defect	Good: tree displays less than 15% deficiency/defect	Removed
15	Eastern Cottonwood (Populus deltoides)	459105	5032737	1	89	Poor: tree displays greater than 40% deficiency/defect	Poor: tree displays greater than 40% deficiency/defect	Removed
16	Eastern Cottonwood (Populus deltoides)	459104	5032727	3	66	Fair: tree displays 15-40% deficiency/defect	Good: tree displays less than 15% deficiency/defect	Removed
17	Scots Pine (Pinus sylvestris)	459103	5032624	1	24	Good: tree displays less than 15% deficiency/defect	Poor: tree displays greater than 40% deficiency/defect	Removed
18	Scots Pine (Pinus sylvestris)	459108	5032615	1	22	Good: tree displays less than 15% deficiency/defect	Good: tree displays less than 15% deficiency/defect	Removed
19	Scots Pine (Pinus sylvestris)	459114	5032603	1	26	Good: tree displays less than 15% deficiency/defect	Good: tree displays less than 15% deficiency/defect	Removed
20	Eastern Cottonwood (Populus deltoides)	459077	5032734	1	46	Fair: tree displays 15-40% deficiency/defect	Fair: tree displays 15-40% deficiency/defect	Removed
21	Eastern Cottonwood (Populus deltoides)	459064	5032746	1	44	Fair: tree displays 15-40% deficiency/defect	Fair: tree displays 15-40% deficiency/defect	Removed
22	Eastern Cottonwood (Populus deltoides)	459060	5032757	1	53	Fair: tree displays 15-40% deficiency/defect	Fair: tree displays 15-40% deficiency/defect	Removed