TREE CONSERVATION REPORT

RECIPIENT: Mr. Zayoun, Maple Grove Towns Inc.

SENDER: Casey Little, Biologist, **CIMA+**

DATE: December 7, 2022

SUBJECT: Tree Conservation Report Update – 1927 Maple Grove Road, Stittsville, Ontario
CIMA+ file number: A001347

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1. Introduction

CIMA+ has been retained by Maple Grove Towns, here after referred to as the proponent, to prepare an Update to the Tree Conservation Report (TCR) submitted on July 20, 2021, by Bowfin Environmental Consulting Inc. for the planned development located at 1927 Maple Grove Road, Stittsville, Ontario, City of Ottawa (Site). This update is to address the City's comments regarding impacts to trees along the property boundary of 1939 Maple Grove Drive. This report follows the *City of Ottawa Tree Conservation Report Guidelines* (City of Ottawa, 2021). The field work was completed by Casey Little who has an Ecosystems Management Diploma and has 16 years of experience completing natural environment assessments, including tree inventories. Ms. Little is also a certified Butternut Health Assessor (#530) and is trained and certified in Ecological Land Classification (ELC) for Southern Ontario, and Ontario Wetland Evaluation System (OWES).

1.1 Project Location

The subject lands are roughly 0.9 ha situated at 1927 Maple Grove, Stittsville. These lands are situated in Lot 1, Concession 1 in the former municipality of West Carleton, Township of Huntley, now the City of Ottawa (**Appendix A** - Figure 1). The proposal calls for the re-development of this parcel from a single lot residence into 38 townhouses. Because of the anticipated need to provide a series of rear yard catch basis, the entire site will need to be cleared and graded. This will prevent the ability to retain any trees on site and will also impact the trees located along the adjacent property boundary.

1.2 Objective

The intention of this TCR update is to determine what woody vegetation located on the adjacent property at 1939 Maple Grove Drive will be impacted by this project. In the paragraphs below, we have outlined the field methodology and findings and provided the results of the survey update. With respect to natural elements, these were included solely within the EIS (i.e., Rural Natural Features, Significant Woodlands, Species at Risk, and their Habitat). Any mitigation measures

600–1400 Blair Towers Place
Ottawa ON K1J 9B8
CANADA

T 613 860-2462
F 613 860-1870
cima.ca

included herein are specifically with respect to individual trees to be retained and or injured, and this report replaces Bowfin's TCR from 2021.

2. Limitations

The assessment presented in this report has been made using accepted standard arboriculture techniques as outlined in the *Council of Tree and Landscape Appraisers Guide for Plant Appraisal, 10th Edition, Revised* (2020). These techniques include visual examination of above-ground parts of each tree or trees in each group. The trees observed were not climbed, cored, or dissected, and excavation for detailed root crown inspection was not performed. Since some symptoms may only be present seasonally, the extent of observations that can be made may be limited by the time of year in which the inspection took place.

Since trees are living organisms, their health and vigor continually change over time due to seasonal variations, changes in site conditions, and other factors. For this reason, the assessment presented in this report is valid at the time of inspection, and no guarantee is made about the continued health of trees that are deemed to be in good condition. It is recommended that the trees be reassessed periodically to identify changes in condition. While every standing tree has the potential for failure and therefore poses some risk, a tree assessment is a good indication of present health and potential problems that could arise in the future.

CIMA+ has prepared this report for the sole use of the client. Any use of this report by a third party, as any decision based on this report, is the singular responsibility of the third party. **CIMA+** will not be held responsible for eventual damages towards a third party resulting from decisions taken, or based, on this report.

3. Methodology

The tree inventory was undertaken on November 29, 2022. Trees were numbered, identified, measured, and assessed for condition. Information collected on the individual trees included:

- Their location (GPS coordinates, NAD83)
- Species
- Diameter at breast height (DBH)
- Approximate crown spread; and
- Condition

The assessment methodology is outlined in the sections below. The tree inventory table containing this information are included in **Appendix A** along with the figures that show the locations of the numbered trees surveyed.

3.1 Tree Size

Size refers to trunk diameter at breast height (DBH or caliper) measured in centimetres at 1.4 m above the ground. Where trees had more than one trunk from the base, the size of each trunk was recorded. Where trees forked to codominant trunks, each trunk was measured, or the diameter was measured at the narrowest point below the fork.

3.2 Observations

Several structural defects and health problems are included in the Tree Inventory and Assessment Table (**Appendix A**). The following list provides an explanation of the short forms used in the table of the top three (3) deficiencies observed on Site:

BNL - Broken / No Leader occurs if the central leader is broken, damaged or very weak, or has a dead terminal bud.

CRB - Crossing branches are often associated with narrow branch angles. Branches that cross over each other often rub, causing damage and therefore weakness to one or both branches, and crossing branches can eventually girdle each other.

SUP - Suppressed trees are growing under the canopies of neighbouring trees, which can diminish vigour and affect structural form.

3.3 Tree Condition

Each tree was given an overall condition rating of: Excellent, Good, Fair, Poor, or Dead. The following is a summary of how the ratings are determined:

EXCELLENT:	no apparent health problems; good structural form
GOOD:	minor problems with health and/or structural form
FAIR:	more serious problems with health and/or structural form
POOR:	major problems with health and structural form
DEAD:	dead

3.4 Tree Protection

The minimum Critical Root Zone (CRZ) was determined using the *City of Ottawa's Tree Conservation Report Guidelines*. The CRZ is established as being 10 centimetres from the trunk of a tree for every centimetre of trunk DBH measured in a radius around the tree. The CRZ is calculated as DBH x 10 cm.

Tree Impact (retain, injury, or removal) has been determined and is included in the Tree Inventory and Assessment Table in **Appendix A**.

4. Results

The dates, timing, and environmental conditions at the time of the assessments are presented below in **Table 1**.

Table 1: Site Investigation Details

Date	Start/End Time	Field Surveys	Weather Conditions
2022/11/29	1030 ~ 1530hrs	Visual assessment of all trees ≥10 cm dbh on-site	Temperature: -1°C Cloud cover / Precip: 100% cloud, moderate wind.

The approximate 0.9 ha Site is comprised mainly of coniferous tree species located on the property boundary between the existing residences at 1927 and 1939 Maple Grove Road. Majority of the woody vegetation within the tree line were White Spruce (*Picea glauca*), Eastern White Cedar (*Thuja occidentalis*), and White Pine (*Pinus strobus*).

A total of 37 trees with a DBH of 10 cm or greater were assessed as part of this inventory along the property boundary. Of these, 36 were alive, and 1 was dead.

A summary of the trees surveyed on Site is provided in **Table 2**.

Table 2: Tree Inventory Summary

Species	Count	Size Range (DBH cm)	Height Range (m)	Crown Spread (m)
Eastern White Cedar	17	10-32	4-15	3-7
White Spruce	12	26-53	8-20	5-9
Eastern White Pine	6	32-67	16-21+	7-10
Balsam Fir	1	13	4-7	4
Manitoba Maple	1	16	8-11	3
Total	**37**	**10-67**	**4-21+**	**3-10**

5. Impact Assessment

An impact assessment was undertaken to determine impacts to the trees situated on the adjacent property at 1939 Maple Grove Road because of the proposed project construction at 1927 Maple Grove Road. Trees recommended for removal include trees within or outside the limit of work that would not be able to withstand construction-related impacts.

Based on the limits and type of proposed construction to the works located on 1927 Maple Grove Road, all 37 trees located along the property line located at 1939 Maple Grove Road will be impacted and are recommended for removal. These details are included in the Tree Inventory and Assessment Table and Figure 1 included in **Appendix A**.

6. Mitigation Measures and Construction Management

6.1 Tree Protection Measures

As noted above, avoidance and mitigation measures associated with other natural heritage features including the birds and SAR are in the EIS. The EIS must be referred to when planning the timing of tree removal.

The most typical construction damage to trees is root damage from compaction and severance. While the drip line of a tree's canopy is typically thought to be associated with the root area, the root zones can extend significantly beyond the drip line of the tree, sometimes up to 2 or 3 times the height of the tree. Some of the trees inventoried are growing close to the edge of the proposed construction and will be at risk of contact with, and damage from, heavy equipment. Generally, to protect trees, grade changes and construction activities that could cause soil compaction should be kept away from trees as much as possible.

To successfully preserve the remaining trees located on the 1939 Maple Grove Road that are in close proximity to project construction and are recommended for on-site retention the following series of mitigation measures is recommended. These recommended measures largely center on the minimum CRZ of trees, as defined by the City's Tree Conservation Report Guidelines (see Section 3.4 above). The following measures are being recommended to protect the CRZ of all trees slated for retention and/or impact:

- Delineation of the disturbance limits within work areas will be clearly defined on drawings and on the site prior to construction.
- Install Tree Protection Fencing prior to commencement of construction activities, and retain fencing until construction activities have been completed, as per City of Ottawa's Tree Protection (By-law No. 2020-340), Part VI:
    - Tree protection fencing shall be at least 1.2 metres in height and installed in such a way that the fence cannot be altered.
- Do not place any material or equipment within the CRZ of a tree.
- Do not raise or lower the existing grade within the CRZ of a tree.
- Do not extend any hard surface or significantly change landscaping.
- If the construction will have to encroach into a tree's minimum CRZ, installing a temporary layer of 150 mm deep partially composed wood chips mulch over the root zone can help to protect roots from compaction damage, and conserve soil moisture levels.
- Equipment and materials should not be stored near trees
- Ensure that exhaust fumes from all equipment are not directed towards any tree's canopy.

- Do not attach any signs, notices, or posters to trees.
- Ensure that site clearing is carried out only in areas where it is specifically required, and that the areas to be cleared are carefully and clearly delineated.

6.2 Tree and Root Pruning

- Do not damage the root system, trunk, or branches of any tree; if any roots are encountered during excavation while working outside the CRZ, they should be cut off cleanly with sharp pruning tools rather than allow them to be torn by large equipment; clean cuts will help to minimize decay and entry points for disease.
- All exposed roots of trees to be retained should be covered in a minimum of 5 cm of firm soil within 24 hours of exposure.
- If root pruning is implemented, the crown of the tree should be reduced proportionately under the direction of a Certified Arborist or Registered Forester, to decrease wind sail. Pruning should be kept to thinning cuts (no major limb removal), and crowns should be monitored, and maintenance carried out for two (2) years after root pruning to remove any dieback under the direction of a Certified Arborist or Registered Forester.
- If branches are likely to hang in the way of passing equipment, the branches should be pruned by a Certified Arborist or Registered Forester to avoid tearing and undue injury to the tree.
- All pruning work must be performed under the supervision and guidance of a qualified tree professional in accordance with the latest ANSI A300 Pruning Standards and best management practices identified by the International Society of Arboriculture.

7. Permits and Approvals

The City of Ottawa's Tree Protection By-law No. 2020-340 describes the rules that govern tree ownership in Ottawa and the responsibility of tree maintenance, including administration and enforcement. As per Part IV: Sections 42 – 44 Prohibition, no person shall injure or destroy a tree without a permit. Sections 45 to 48 - Application for tree permit stipulates the process to apply for a permit under this by-law.

Therefore, it is recommended that consultation should be undertaken with the City prior to construction to confirm the requirements for tree removal permits associated with the municipal tree protection by-law, as well as any required compensation for tree loss. Where required, tree removal permits must be obtained from the City prior to the start of construction.

No other tree by-laws to protect trees on private properties are available from the City.

8. Certification and Closure

We certify that all the statements of fact in this assessment are true, complete, and correct to the best of our knowledge and belief, and that they are made in good faith.

A

Appendix A
Tree Inventory and Assessment Table and Figures

APPENDIX A: 1927 Maple Grove Road Tree Inventory and Assessment Table Update

Tree No.	Common Name / Scientific Name	DBH (cm)	No. stems	Crown Spread (m)	Structural Defects			Overall Condition	Comments	Ownership	CRZ (m from trunk)	Recommendation
					BNL	CRB	SUP					
1	White Spruce / *Picea glauca*	26	1	5	☐	☐	☐	Good	2 feet from root flare	Private - 1939 Maple Grove Dr.	2.6	Remove
2	Eastern White Cedar / *Thuja occidentalis*	32	1	4	☐	☐	☐	Good	1 foot from root flare	Private - 1939 Maple Grove Dr.	3.2	Remove
3	Eastern White Cedar / *Thuja occidentalis*	24	1	4	☐	☐	☐	Good	Property at root flare	Private - 1939 Maple Grove Dr.	2.4	Remove
4	White Spruce / *Picea glauca*	36	1	5	☐	☐	☐	Good	Property at root flare	Private - 1939 Maple Grove Dr.	3.6	Remove
5	White Spruce / *Picea glauca*	53	1	6	☐	☐	☐	Good	Property at root flare	Private - 1939 Maple Grove Dr.	5.3	Remove
6	Eastern White Cedar / *Thuja occidentalis*	18;19	2	5	☐	☐	☐	Good	Property 1 foot from root flare	Private - 1939 Maple Grove Dr.	2.6	Remove
7	White Spruce / *Picea glauca*	49	1	8	☐	☐	☐	Good	Property at root flare	Private - 1939 Maple Grove Dr.	4.9	Remove
8	Eastern White Cedar / *Thuja occidentalis*	13;29	2	6	☐	☐	☐	Good	Property 6 inches from root flare	Private - 1939 Maple Grove Dr.	3.2	Remove
9	White Spruce / *Picea glauca*	30	-	-	☐	☐	☐	Dead	Property in middle of bole	Private - 1939 Maple Grove Dr.	-	Remove
10	Eastern White Cedar / *Thuja occidentalis*	19;21	2	6	☐	☐	☐	Good	Property 6 inches from root flare	Private - 1939 Maple Grove Dr.	2.8	Remove
11	Eastern White Pine / *Pinus strobus*	67	1	9	☐	☑	☐	Good	Property 1 foot from root flare	Private - 1939 Maple Grove Dr.	6.7	Remove
12	White Spruce / *Picea glauca*	43	1	9	☑	☐	☐	Fair	Property at root flare	Private - 1939 Maple Grove Dr.	4.3	Remove
13	Eastern White Pine / *Pinus strobus*	49	1	10	☐	☐	☐	Good	Property at root flare	Private - 1939 Maple Grove Dr.	4.9	Remove
14	White Spruce / *Picea glauca*	29	1	9	☐	☐	☐	Good	Property at root flare	Private - 1939 Maple Grove Dr.	2.9	Remove

Tree No.	Common Name / Scientific Name	DBH (cm)	No. stems	Crown Spread (m)	Structural Defects			Overall Condition	Comments	Ownership	CRZ (m from trunk)	Recommendation
					BNL	CRB	SUP					
15	White Spruce / *Picea glauca*	42	1	9	☐	☐	☐	Good	Property at bole	Private - 1939 Maple Grove Dr.	4.2	Remove
16	Eastern White Pine / *Pinus strobus*	51	1	8	☐	☐	☐	Good	Property at root flare	Private - 1939 Maple Grove Dr.	5.1	Remove
17	White Spruce / *Picea glauca*	46	1	9	☐	☐	☐	Good	Property at root flare	Private - 1939 Maple Grove Dr.	4.6	Remove
18	Eastern White Cedar / *Thuja occidentalis*	8;12;12	3	3	☐	☐	☐	Good	Property 1 foot from root flare	Private - 1939 Maple Grove Dr.	1.9	Remove
19	White Spruce / *Picea glauca*	44	1	8	☐	☐	☐	Good	Property at root flare	Private - 1939 Maple Grove Dr.	4.4	Remove
20	Balsam Fir / *Abies balsamea*	13	1	4	☐	☐	☐	Good	Property 2.5 feet from root flare	Private - 1939 Maple Grove Dr.	1.3	Remove
21	White Spruce / *Picea glauca*	44	1	8	☐	☐	☑	Good	Property at bole	Private - 1939 Maple Grove Dr.	4.4	Remove
22	Eastern White Pine / *Pinus strobus*	32	1	7	☐	☐	☐	Good	Property 6 inches from root flare	Private - 1939 Maple Grove Dr.	3.2	Remove
23	White Spruce / *Picea glauca*	44	1	8	☐	☐	☐	Good	Property at root flare	Private - 1939 Maple Grove Dr.	4.4	Remove
24	Eastern White Cedar / *Thuja occidentalis*	25	1	7	☐	☐	☐	Good	Property 3 feet from root flare	Private - 1939 Maple Grove Dr.	2.5	Remove
25	Eastern White Cedar / *Thuja occidentalis*	21	1	5	☐	☐	☐	Good	Property 2 feet from root flare	Private - 1939 Maple Grove Dr.	2.1	Remove
26	Eastern White Cedar / *Thuja occidentalis*	10;23	2	4	☐	☐	☐	Good	Property 2 feet from root flare	Private - 1939 Maple Grove Dr.	2.5	Remove
27	Eastern White Cedar / *Thuja occidentalis*	21	1	4	☐	☐	☐	Good	Property 2 feet from root flare	Private - 1939 Maple Grove Dr.	2.1	Remove
28	Eastern White Cedar / *Thuja occidentalis*	18	1	4	☐	☐	☐	Good	Property 2 feet from root flare	Private - 1939 Maple Grove Dr.	1.8	Remove
29	Eastern White Cedar / *Thuja occidentalis*	18	1	4	☐	☐	☐	Good	Property 2 feet from root flare	Private - 1939 Maple Grove Dr.	1.8	Remove
30	Eastern White Cedar / *Thuja occidentalis*	21	1	3	☐	☐	☐	Good	Property 2 feet from root flare	Private - 1939 Maple Grove Dr.	2.1	Remove

Tree No.	Common Name / Scientific Name	DBH (cm)	No. stems	Crown Spread (m)	Structural Defects			Overall Condition	Comments	Ownership	CRZ (m from trunk)	Recommendation
					BNL	CRB	SUP					
31	Eastern White Cedar / *Thuja occidentalis*	25	1	3	☐	☐	☐	Good	Property 2 feet from root flare	Private - 1939 Maple Grove Dr.	2.5	Remove
32	Eastern White Cedar / *Thuja occidentalis*	9;24	2	4	☐	☐	☐	Good	Property 3 feet from root flare	Private - 1939 Maple Grove Dr.	2.6	Remove
33	Eastern White Cedar / *Thuja occidentalis*	20	1	3	☐	☐	☐	Good	Property 1 foot from root flare	Private - 1939 Maple Grove Dr.	2	Remove
34	Eastern White Cedar / *Thuja occidentalis*	17;31	2	5	☐	☐	☐	Good	Property 1 foot from root flare	Private - 1939 Maple Grove Dr.	3.5	Remove
35	Eastern White Pine / *Pinus strobus*	45	1	7	☐	☐	☐	Good	Property at root flare	Private - 1939 Maple Grove Dr.	4.5	Remove
36	Manitoba Maple / *Acer negundo*	16	1	1	☐	☐	☐	Fair	Property at bole; large scar on trunk	Private - 1939 Maple Grove Dr.	1.6	Remove
37	Eastern White Pine / *Pinus strobus*	52	1	7	☐	☐	☐	Good	Property 1 foot from root flare	Private - 1939 Maple Grove Dr.	5.2	Remove

Property boundaries

Development Area

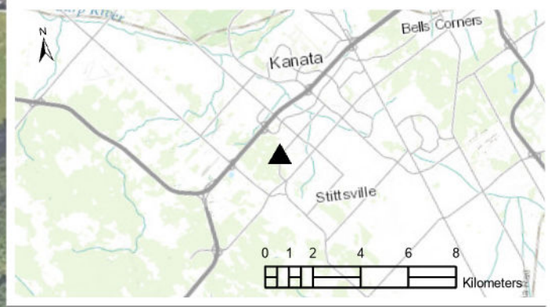
Limit of grading

Tree removal within limit of grading

Tree Inventory

Trees to be Removed

Critical Root Zone (CRZ)



Spatial Reference:
Name: NAD 1983 CSRS MTM 9
PCS: NAD 1983 CSRS MTM 9
GCS: GCS North American 1983 CSRS
Map Units: Meter
Scale: 1:500

Sources:
- Lot boundaries, Annis O'Sullivan Vollebekk Ltd.
- Basemap : © OpenStreetMap (and) contributors, CC-BY-SA, Maxar, Microsoft, City of Ottawa, Province of Ontario, Esri Canada, Esri, HERE, Garmin, USGS, NGA, EPA, USDA, NPS, AAFC, NRCan

General Notes:
Dimensions on the plan should be read and not measured.
Any errors or omissions should be reported to CIMA +. The boundaries, areas, and title deeds must be verified by a surveyor.

Figure 1 - Proposed Development and Tree Impacts

Tree Conservation Report
1927 Maple Grove, Stittsville, ON
Maple Grove Towns Incorporated

Ref # : A001347-101

Survey by : C. Little
Figure by : J. Scott
Concept by : C. Little
Verified by : M. Lavictoire

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