Prepared by:
Barbara Hemming, ISA Certification #ON 0389
613-828-3207. bhemming@sympatico.ca

Prepared for Owner: CITYMAKER HOMES
Email: cd@citymakerhomes.ca
Phone: 613-204-1669

Property is 49 Fairmont Ave., Ottawa
Postal Code: K1Y 1X4

Inspection date: 2023-06-12
The objective of this preliminary report is to identify all protected trees on this and adjacent properties whose Critical Root Zones (CRZ's) fall within the proposed area of construction along with their condition.

Tree Condition Ratings

• **Very good condition**; exhibiting normal, vigorous growth with minimal amounts of fine deadwood, no structural defects or visible signs of disease.

• **Good condition;** 60 to 90% normal canopy density, little or no dieback, some deadwood but no major dead stems or limbs, possible infestation causing minor damage and minor cavities at wound sites and only minor structural defects.

• **Fair condition;** declining with 30 to 60% of normal canopy density, twig and branch dieback, failure of one scaffold branch, infestation causing significant damage, mix of small, medium, and large deadwood, or presence of disease and decay causing structural instability. Treatment recommended by an arborist would be essential but would not guaranty survivability especially if subjected to root loss caused by construction activity.

• **Poor condition;** less than 30% canopy, or dieback of large major scaffold branches, or failure of more than one scaffold branch, loose bark, severe infestation and irreparable damage, or extensive decay causing structural stability. A tree described as "poor" is in severe decline and is unlikely to tolerate any root damage or fill soil typical of development and construction.

DBH or diameter (D) at breast height means the measurement of the diameter of the trunk at 130 cm. above grade unless it has multiple trunks, in which case the diameter of the largest stem measured at 130 cm is used as the DBH.

Critical Root Zone (CRZ); is the area around the tree or groups of trees in which no grading or construction activity may occur. In keeping with the City of Ottawa

requirement the Critical Root Zone extends 10 centimeters from the trunk of a tree for every centimeter of trunk diameter. Therefore, typically D x 10cm = Critical Root Zone.

Site Specifics

The site is a large city lot with a multi-unit dwelling, the front of which faces Fairmont Ave. The back property line abuts a ROW that allows access to parking for several dwellings. There are 2 protected trees on the property; a Manitoba Maple, #2 on the GeoOttawa drawing below and in Table #1 and an American elm which is #3.
The neighbouring protected trees are listed below.

GeoOttawa Drawing #1

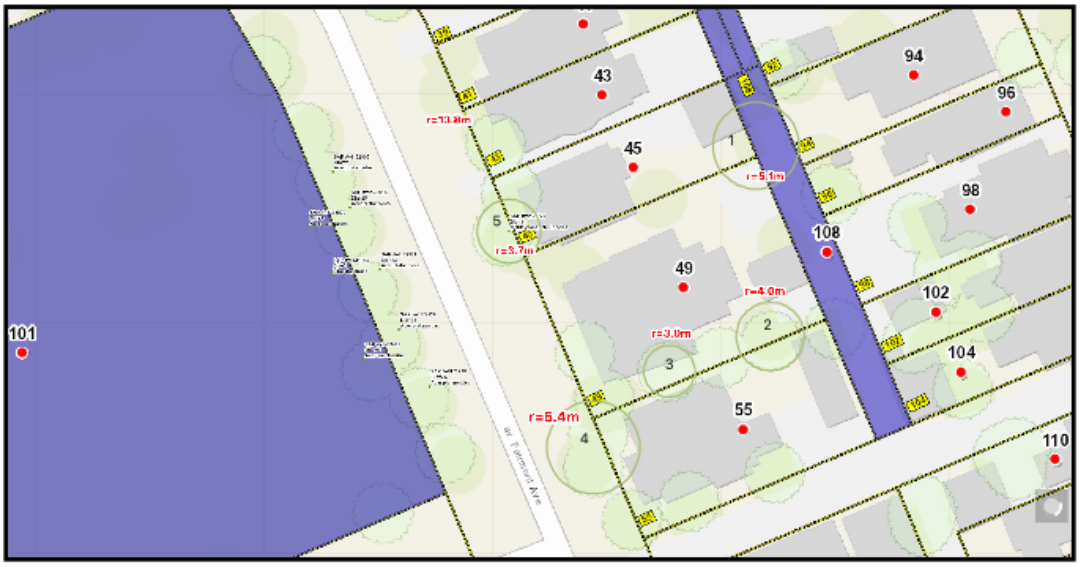


Table #1 Protected Trees

Tree #	Species	Dbh/cm	CRZ M	Owner	Condition	Recommendation
1	Manitoba Maple *Acer negundo*	51 Largest stem at 130 cm.	5.1	45 Fairmont/ ROW	Fair, Multiple trunks, leaning, Some decay	To be retain and protect.
2	Manitoba Maple *Acer negundo*	40	4.0	49 Fairmont	Good	To be retained and protected
3	Elm *Ulmus americana*	30.5	3.05	49 Fairmont	Fair to Good	To be removed
4	Little Leaf Linden *Tilia cordata*	54	5.4	55 Fairmont/ ROW	Very good	To be retained and protect if needed
5	Flowering Crab *Malus var*.	37	3.7	45 Fairmont/ ROW	Good	To be retained and protected if needed

Photo 1 Tree #1 Manitoba Maple

Photo 2 Tree #1 Double trunk, leaning stem

Tree #1 Manitoba Maple (Acer negundo)
CRZ is 5.1 M
It appears to be on the boundary of 45 Fairmont and the ROW.
This mature tree has a double trunk with co-dominant stems.
One stem is leaning at a 30^{o} angle from the vertical and is in contact with the service cables.
The tree has decay in leaning stem and cavities at 2 M and 2.5 M above grade. Photo 3, p. 4.
This stem has excessive end weight. Photo 5, p.4.
The other stem has a slight lean over a structure at 45 Fairmont.
There is visible decay at about 1.5 M. Photo 4, p.4. as well as in root flare.
There are two upright stems with aspect ratios larger than stems above the first fork.
One has extensive dieback. Diameter of the deadwood is about 15 cm.
There is lots of dieback.
Foliage in the upper canopy is chlorotic.

Recommendation
Owners should prune out dead wood and remove some weight from the leaning stem or remove the stem to trunk level. During construction the developer should provide protection to the CRZ where it extends into 49 Fairmont. This area (about 20% of the total CRZ) is currently a compacted gravel parking space. Photo 5, p. 6. Acer negundo shows good tolerance to root disturbance [1]. Shallow excavation and maintaining this area as a parking spot should not adversely affect this tree.

Photo 3 Tree #1

Decay in stems Photo 4 Tree #1

Photo 5 Tree #1 Leaning stem with excessive end weight

Photo 6, Partial CRZ of Manitoba Maple in parking area with compacted gravel base.

Tree #2 Manitoba Maple (Acer negundo)
Dbh 40 cm
This mature tree has a single trunk and only a slight lean.
One branch is growing around the roof of a small shed.
Overall condition is good.
Dieback and deadwood comprise about 20% of the canopy.
Foliage is dense and colour is normal.
Service cables run through the canopy.

The trunk of the tree is close to the area proposed for excavation shown in pink in Drawing #2 (Proposed Plan). Given that Manitoba maples are tolerant of some root loss[1], if the limit of excavation was reduced to 2' (60 cm) from the building footprint the tree may be retained. It would lose roots in ~30% of the CRZ. The existing parking area which is compacted soil-gravel, would require some shallow excavation. It is unlikely that there are feeder roots in this area because of the compaction. However, there may be some under the small shed and some of this area would part of the shallow excavation for future parking.
In addition, several large branches would have to be removed to clear the way for the new structure.

Photo 6 Tree #2 View from north side

Photo 7 Tree #2 View from east side

Recommendation

By reducing the area of excavation for the foundation and the sunken garden to 60 cm from the forms rather than the standard 1.2 M, just in the area of the CRZ would reduce the impacted by the construction. Hand shovelling or soil washing near the tree as shown in Drawing #2 and shoring up of the soil within the CRZ should mitigate damage and increase the likelihood of the tree's survival. Protective fencing should be erected as outlined in Drawing #2.
Selective pruning of the branches near the second level of the proposed dwelling could be balanced with some removal of branches on the opposite side of the tree.
By following these instructions and the Steps to Conserve Trees p. 9 this tree should survive the construction.

Tree #3 Elm (Ulmus americana)

Dbh 30.5 cm
Overall condition of this tree is good.
Stem is in good condition.
Canopy appears healthy but leaf size is smaller than usual.
Species is highly susceptible to Dutch Elm Disease.

Photo 8 Tree #3 Elm

Photo 9 Tree #3 Close to boundary line

Recommendation
This tree has shallow roots. (See Photo 9). Most of them, along with the trunk, are visibly within the area proposed for excavation. This tree should be removed.

Tree #4 Little Leaf Linden (Tilia cordata)

Dbh 54 cm.
This appears to be a very healthy Linden in the ROW in front of 55 Fairmont.
It has a CRZ of 5.4 M, a small percentage of which extends into 49 Fairmont Ave. See GeoOttawa Drawing #1, p. 2.

Recommendation
Only a small portion of the CRZ falls within the property of 49 Fairmont and it is some distance from the proposed area of excavation. It is unlikely that any of its CRZ will be affected by the proposed construction. However, as a precaution, protective fencing should be installed around the area of the CRZ in the ROW in front of 49 Fairmont to avoid equipment traffic and hoarding there. See Diagram #2 for details on fence location.

Tree #5 Flowering Crab (Malus var.)

Dbh 37 cm.

Photo 10 Flowering crab, Tree #5, 45 Fairmont

Photo 11 Crab trunk

This tree is in good condition with only a little deadwood in it.
The CRZ comes close to the border with 49 Fairmont.

Recommendation:
The perimeter fencing for the construction site will be all that is required to protect this tree and the CRZ.

There are 3 very small trees in the backyard of 45 Fairmont. One is a multi-stemmed crab apple or serviceberry tree. See Photo 12 below.

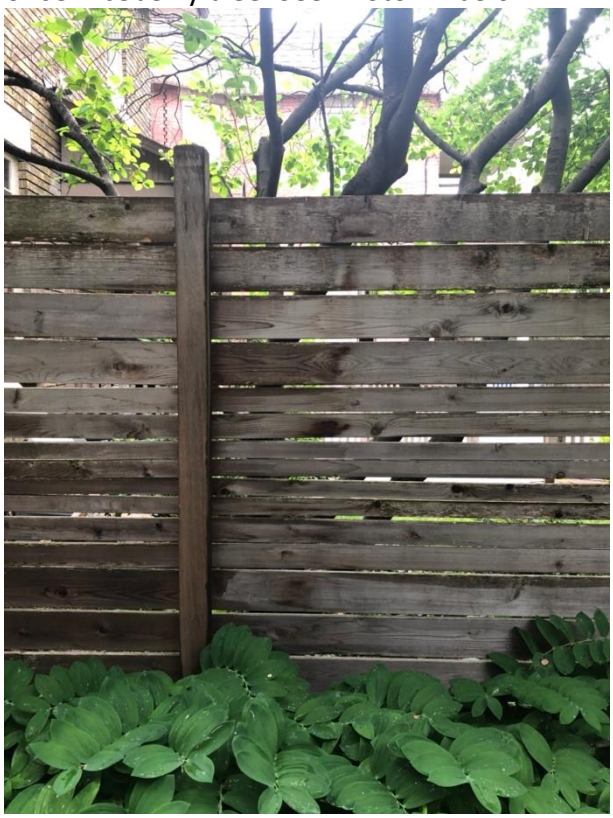


Photo 12 View of multi-stemmed tree in back of 45 Fairmont seen through fence at 49.

The other two trees are single stem trees with dbh no more than 12-14 cm.

Steps to Conserve Trees

The following measures as well as those listed in Diagram #1 p. 9 and any in the recommendations in this report are to be taken to ensure the best chances of survival of any of the tree being retained.

1. Do not remove any surface soil in the area of the CRZ except within the limit of excavation as indicated on the plan.

2. Do not raise the grade in the area of the CRZ.
3. Erect a fence with a sign identifying the tree(s) to be protected under the by-laws, around the area of the CRZ as illustrated in the Diagram #1 p. 11, within the property lines unless otherwise indicated in this report.
4. Do not place any construction material or equipment within the area of any illustrated CRZ.
5. Do not attach any signs or notices to the tree being retained.
6. Do not damage the root systems beyond the excavation limit.
7. All severed roots over 2.5 cm in diameter are to be cleanly cut with sharp tools not left torn by mechanical shovel.
8. Do not damage the trunk or branches.
9. Ensure that exhaust fumes from all equipment are not directed at any of the canopy.
10. Any pruning of tree #2 should only be done under the guidance of a qualified arborist. (Note: the City of Ottawa would be responsible for any pruning of the Manitoba Maple, Tree #1).
11. Avoid soil compaction in the area of the CRZ except where parking area is planned.
12. All mixing gas, cleaning tools and brushes and repairing of equipment will take place outside the CRZ to reduce spillage risk.
13. All debris from existing dwelling and new construction, and chemical wastes are to be hauled away and not buried on site.
14. Water undisturbed area of CRZ during construction. Soak to a depth of 18 cm. (“12”) once a week in periods of 1 week without sufficient rain to maintain this amount of moisture.

See Diagram #1

Reference

[1]Matheny and Clark, 1998.Trees and Development, A Technical Guide to Preservation of Trees During Land Development. International Society of Arboriculture

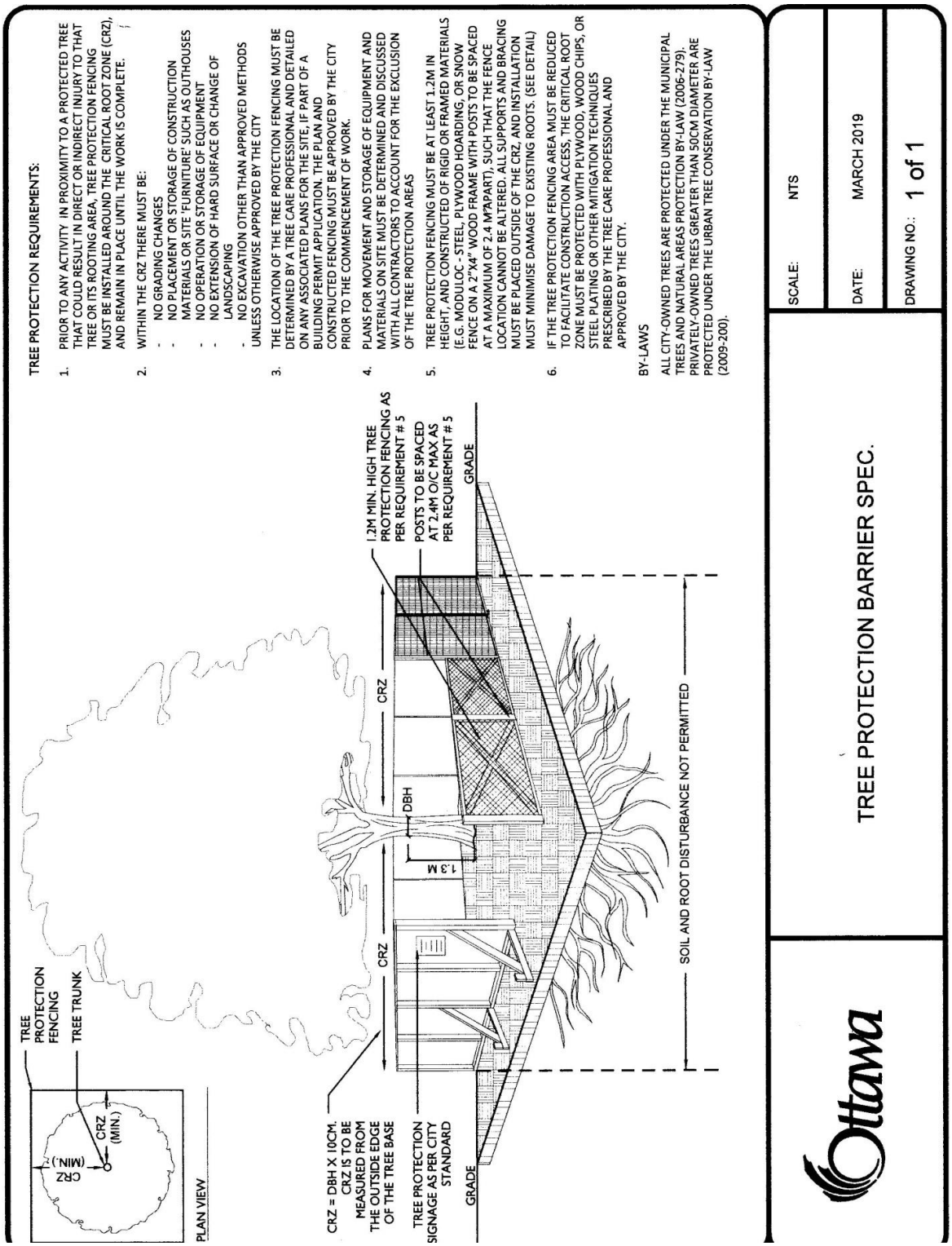
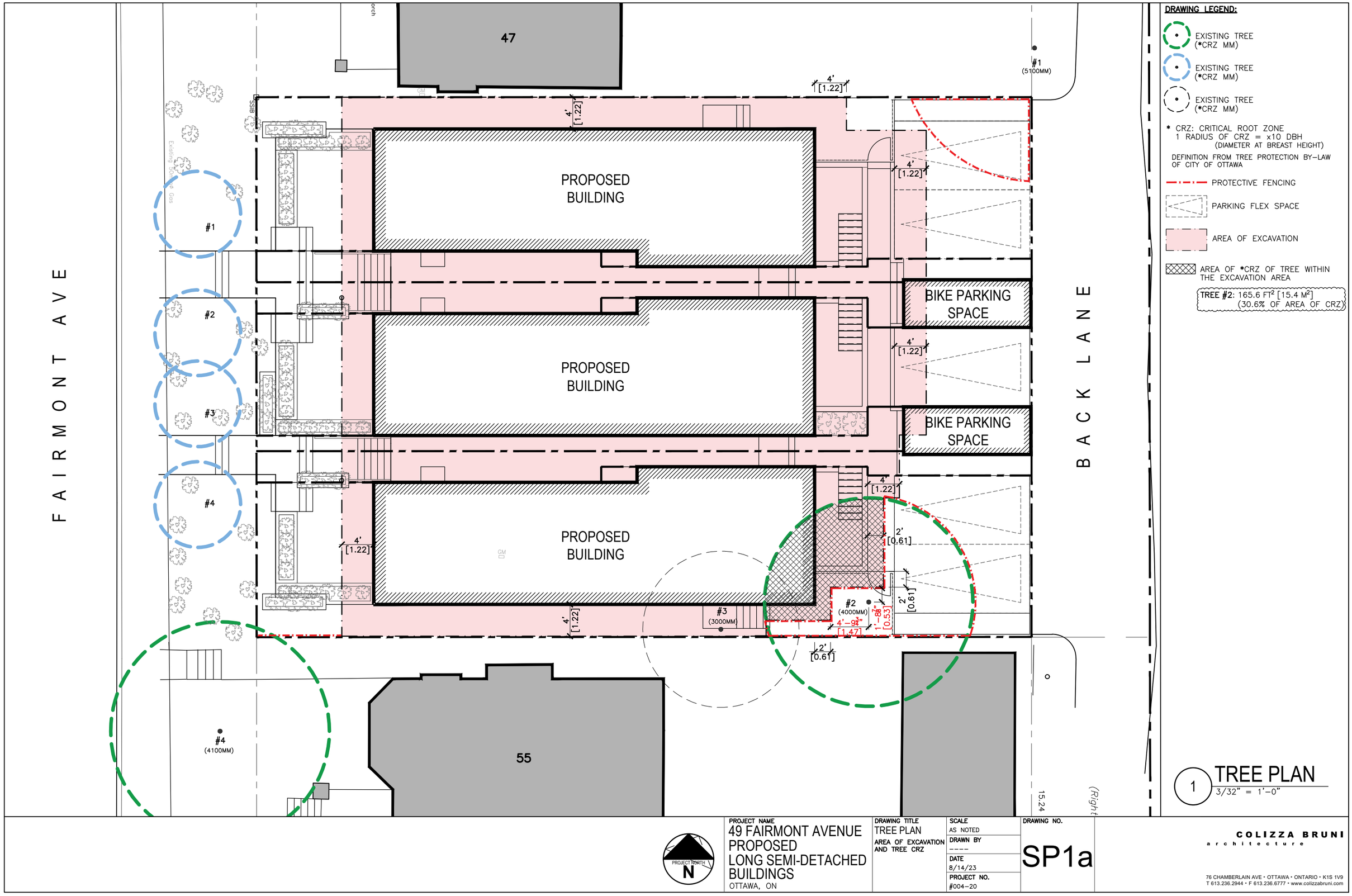

TREE PROTECTION REQUIREMENTS:
1. PRIOR TO ANY ACTIVITY IN PROXIMITY TO A PROTECTED TREE THAT COULD RESULT IN DIRECT OR INDIRECT INJURY TO THAT TREE OR ITS ROOTING AREA, TREE PROTECTION FENCING MUST BE INSTALLED AROUND THE CRITICAL ROOT ZONE (CRZ), AND REMAIN IN PLACE UNTIL THE WORK IS COMPLETE.
2. WITHIN THE CRZ THERE MUST BE:
- NO GRADING CHANGES
- NO PLACEMENT OR STORAGE OF CONSTRUCTION MATERIALS OR SITE 'FURNITURE' SUCH AS OUTHOUSES
- NO OPERATION OR STORAGE OF EQUIPMENT
- NO EXTENSION OF HARD SURFACE OR CHANGE OF LANDSCAPING
- NO EXCAVATION OTHER THAN APPROVED METHODS
UNLESS OTHERWISE APPROVED BY THE CITY
3. THE LOCATION OF THE TREE PROTECTION FENCING MUST BE DETERMINED BY A TREE CARE PROFESSIONAL AND DETAILED ON ANY ASSOCIATED PLANS FOR THE SITE, IF PART OF A BUILDING PERMIT APPLICATION. THE PLAN AND CONSTRUCTED FENCING MUST BE APPROVED BY THE CITY PRIOR TO THE COMMENCEMENT OF WORK.
4. PLANS FOR MOVEMENT AND STORAGE OF EQUIPMENT AND MATERIALS ON SITE MUST BE DETERMINED AND DISCUSSED WITH ALL CONTRACTORS TO ACCOUNT FOR THE EXCLUSION OF THE TREE PROTECTION AREAS
5. TREE PROTECTION FENCING MUST BE AT LEAST 1.2M IN HEIGHT, AND CONSTRUCTED OF RIGID OR FRAMED MATERIALS (E.G. MODULOC - STEEL PLYWOOD HOARDING, OR SNOW FENCE ON A 2"X4" WOOD FRAME WITH POSTS TO BE SPACED AT A MAXIMUM OF 2.4 M APART), SUCH THAT THE FENCE LOCATION CANNOT BE ALTERED. ALL SUPPORTS AND BRACING MUST BE PLACED OUTSIDE OF THE CRZ. AND INSTALLATION MUST MINIMISE DAMAGE TO EXISTING ROOTS. (SEE DETAIL)
6. IF THE TREE PROTECTION FENCING AREA MUST BE REDUCED TO FACILITATE CONSTRUCTION ACCESS, THE CRITICAL ROOT ZONE MUST BE PROTECTED WITH PLYWOOD, WOOD CHIPS, OR STEEL PLATING OR OTHER MITIGATION TECHNIQUES PRESCRIBED BY THE TREE CARE PROFESSIONAL AND APPROVED BY THE CITY.
BY-LAWS
ALL CITY-OWNED TREES ARE PROTECTED UNDER THE MUNICIPAL TREES AND NATURAL AREAS PROTECTION BY-LAW (2006-279). PRIVATELY-OWNED TREES GREATER THAN 50CM DIAMETER ARE PROTECTED UNDER THE URBAN TREE CONSERVATION BY-LAW (2009-200).
TREE PROTECTION
TREE TRUNK
CRZ (MIN.)
CRZ (MIN.)
PLAN VIEW
CRZ = DBH X 10CM. CRZ IS TO BE MEASURED FROM THE OUTSIDE EDGE OF THE TREE BASE
TREE PROTECTION SIGNAGE AS PER CITY STANDARD
GRADE
CRZ
CRZ
DBH
1.3 M
1.2M MIN. HIGH TREE PROTECTION FENCING AS PER REQUIREMENT # 5
POSTS TO BE SPACED AT 2.4M O/C MAX AS PER REQUIREMENT # 5
GRADE
SOIL AND ROOT DISTURBANCE NOT PERMITTED
Ottawa
TREE PROTECTION BARRIER SPEC.
SCALE: NTS
DATE: MARCH 2019
DRAWING NO.: 1 of 1

Diagram #1



DRAWING LEGEND:

- EXISTING TREE (*CRZ MM)
- EXISTING TREE (*CRZ MM)
- EXISTING TREE (*CRZ MM)

* CRZ: CRITICAL ROOT ZONE
1 RADIUS OF CRZ = x10 DBH
(DIAMETER AT BREAST HEIGHT)
DEFINITION FROM TREE PROTECTION BY-LAW OF CITY OF OTTAWA

- PROTECTIVE FENCING
- PARKING FLEX SPACE
- AREA OF EXCAVATION
- AREA OF *CRZ OF TREE WITHIN THE EXCAVATION AREA

TREE #2: 165.6 FT² [15.4 M²] (30.6% OF AREA OF CRZ)

1 TREE PLAN
3/32" = 1'-0"

PROJECT NORTH
N

PROJECT NAME	49 FAIRMONT AVENUE PROPOSED LONG SEMI-DETACHED BUILDINGS OTTAWA, ON
DRAWING TITLE	TREE PLAN
	AREA OF EXCAVATION AND TREE CRZ
SCALE	AS NOTED
DRAWN BY	----
DATE	8/14/23
PROJECT NO.	#004-20
DRAWING NO.	SP1a

COLIZZA BRUNI
architecture
76 CHAMBERLAIN AVE • OTTAWA • ONTARIO • K1S 1V9
T 613.236.2944 • F 613.236.6777 • www.colizzabruni.com