AECOM

Tree Conservation Report

2625 Sheffield Road, Ottawa, Ontario

60648725

October 2022

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AECOM: 2015-04-13

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Revision History

Rev #	Revision Date	Revised By:	Revision Description
01	October 4, 2022	Alex Bryski	Update Tree Conservation Report based on updated designs and project footprint

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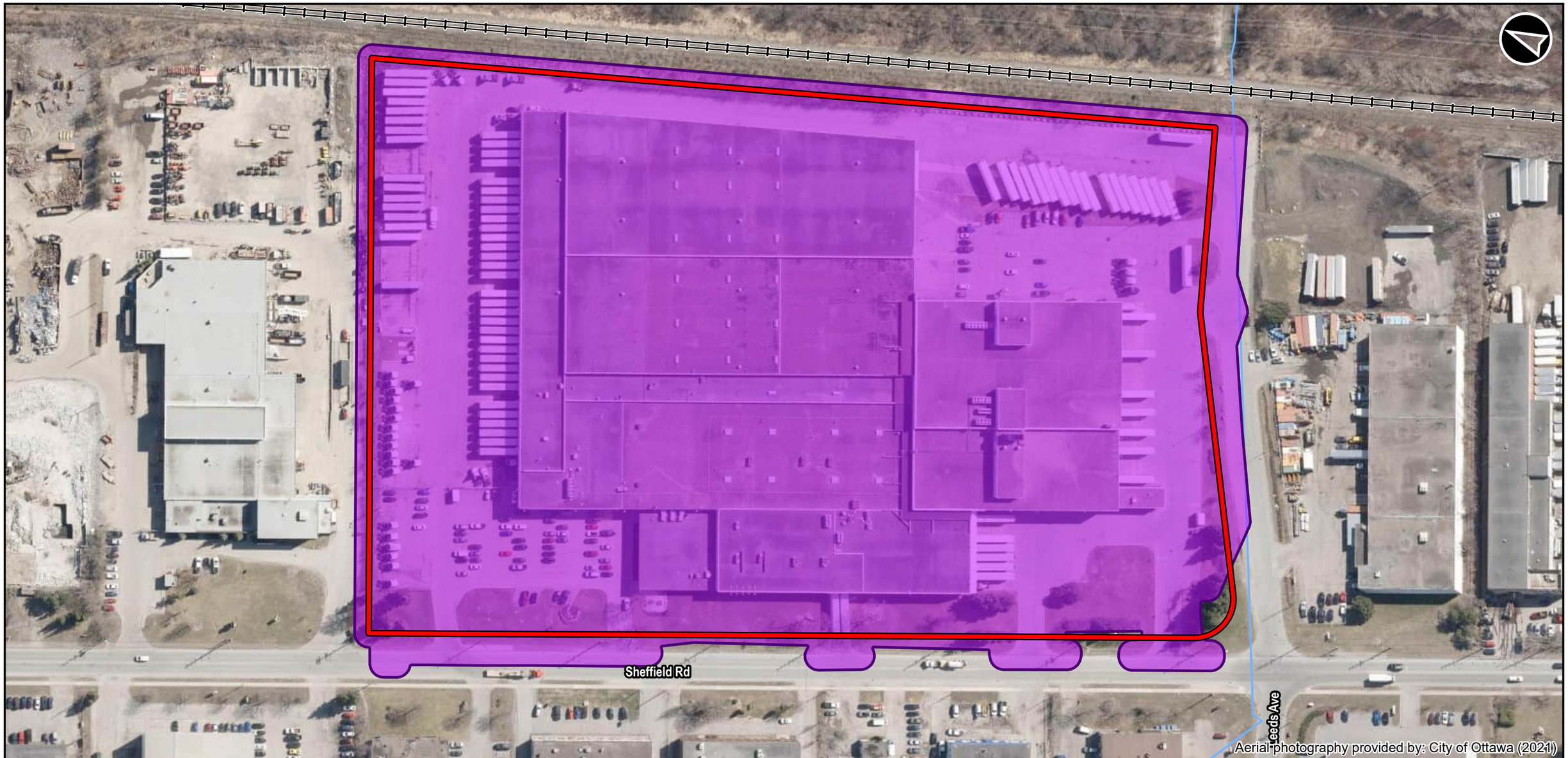
Appendices

1. Introduction

AECOM Canada Ltd. (AECOM) has been retained by the Client to provide a Tree Conservation Report (TCR) in support of the proposed renovation of an existing site and building to function as a new distribution centre for a large, multi-national retail company at 2625 Sheffield Road (the Project) in the City of Ottawa (the City). The purpose of the assignment is to complete a tree inventory in order to assess the general health and structure of onsite trees and determine potential developmental impacts to trees within the Tree Inventory Study Area. The Tree Inventory Study Area for this TCR is defined as the Project's Impact Area plus a Buffer Area (6 m), collectively known as the Study Area, as illustrated in **Figure 1**. The City requires that a TCR be prepared for all projects with applications associated to the *Planning Act* (1990). As such, this report has been prepared in accordance with the City's tree protection by-laws and guidelines.

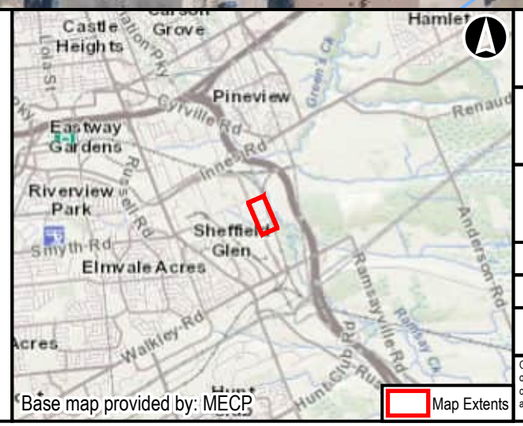


LEGEND

- Tree Inventory Area
- Property Limit

General Features

- Main Railway
- Spur Railway
- Watercourse



2625 Sheffield Road Tree Conservation Report

Tree Inventory Limits

0 10 20 40 60 80 100 M

Datum: North American 1983

Sep, 2022	1:1,500	**Data Sources** MECP, MMAH, City of Ottawa
P:60634622	Rev:00	

AECOM

Figure: 1

Project Location: E:\PEI\60634622_DYT3\PEI_AMZN_DYT3_60634622.aprx
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2. Applicable By-laws & Regulations

2.1 City of Ottawa Official Plan

As identified on Schedule B of the City of Ottawa's *Official Plan* (2003), the Tree Inventory Study Area is located within an Urban Employment Area and adjacent to General Urban Areas and Mixed-Use Areas. The Tree Inventory Study Area is also regulated by the Rideau Valley Conservation Authority (RVCA). Based on the Ministry of Natural Resources and Forestry's (MNRF) Make-a-Map online natural heritage tool, there are no significant natural features (i.e., Significant Woodlands or Provincially Significant Wetlands) located within 120 m of the Tree Inventory Study Area. It should be noted that the City has a new Official Plan in draft form for public consultation.

2.2 City of Ottawa Tree Protection By-law No. 2020-340

The City of Ottawa's newly published *Tree Protection By-law* (2020) replaces the previous *Municipal Trees and Natural Areas Protection By-Law* (No. 2006-279) and *the Urban Tree Conservation By-Law* (No. 2009-200). The changes in this by-law promote a "landscape first" focus to developmental projects and streamlines requirements, enforcement and processes to make the City's tree regulations clearer. Permits to injure or remove trees are required for all City-owned trees throughout urban and rural areas, as well as trees that are ≥10 cm diameter at breast height (DBH) on private properties within urban areas. Additionally, trees that are considered distinctive trees in this by-law (i.e., trees that are ≥30 cm DBH within urban lands that are located within the Greenbelt and trees that are ≥50 cm DBH within urban lands that are located outside of the Greenbelt) will also require permitting. Lastly, Schedule B (Tree Compensation Requirements) of this by-law provides detailed tree compensation requirements for Municipal trees and private trees.

2.2.1 Municipal Tree Compensation Requirements

All City-owned tree removals require a compensation value payment using the Council of Tree and Landscape Appraisers (CTLA) Trunk Formula method, as well as the replacement ratio of 1:1 for all tree removals within the right-of-way (ROW). If a replacement tree cannot be planted on site, a cash-in-lieu of $400 is required to be paid to the City, as well as the CTLA tree appraisal.

2.2.2 Private Tree Compensation Requirement

Compensation requirements for tree removals on private property are based on a few factors including application type, property size and whether a tree is classed as a distinctive tree. Tree replacement ratios vary dependent on these factors and in some cases cash-in-lieu is required. **Table 1** below outlines the various compensation requirements for private tree removals within the City's urban areas.

Table 1: Private Tree Compensation Table (City of Ottawa)

Tree Removal Application Type	Private Property Size	Tree Replacement Ratio	Tree Removal Criteria	Cash-in-Lieu (per replacement tree)
Not Associated with a Planning Act Application	≤1 ha	1:1	Distinctive tree (>30 cm DBH) within urban lands **within** the Greenbelt	N/A
Not Associated with a Planning Act Application	≤1 ha	1:1	Distinctive tree (>50 cm DBH) within urban lands **outside** the Greenbelt	N/A

Table 1: Private Tree Compensation Table (City of Ottawa)

Tree Removal Application Type	Private Property Size	Tree Replacement Ratio	Tree Removal Criteria	Cash-in-Lieu (per replacement tree)
Infill Development Application	<1 ha	2:1	Distinctive tree (30 cm – 49 cm DBH) within **inner urban area** only	$400
Infill Development Application	<1 ha	3:1	Distinctive tree (>50 cm DBH) within **inner and suburban areas**	$400
Application Not Associated with a Planning Act Application	>1 ha	1:1	All protected trees (>10 cm DBH)	N/A
Planning Act Application (Site Plan, Plan of Subdivision)	No size requirement	TBD through development review process	All trees within the **urban area**	TBD through development review process
Private Property in an Urban Area	No size requirement	1:1	All trees considered dead or hazardous, or ash trees	N/A

It should be noted that the Project falls under Site Plan Application category of the *Planning Act* (1990) in regard to the above tree compensation requirements, therefore, the compensation requirements will be determined through the development review process.

2.3 Tree Valuation

As outlined in Schedule B (Tree Compensation Requirements) from the City's *Tree Protection By-law* (2020), a tree appraisal using the Trunk Formula Method for City-owned trees recommended for removal is a requirement for a TCR. The Council for Tree & Landscape Appraisers' (CTLA) provides guidance on using the Trunk Formula Method to appraise the monetary value of trees that are considered too large to be replaced with nursery or field-grown stock. There are several factors to be considered when appraising a tree recommended for removal, including (but not limited to) its condition rating, functional and external limitation as well as installation cost and replacement cost. These factors are based on the *Guide for Plant Appraisal* (2020) and basic costs for trees and/or current industry tree replacement costs. As such, each City-owned tree that is recommended for removal within the Tree Inventory Study Area shall be appraised using the Trunk Formula Method by the City Forestry Department.

2.4 Endangered Species Act, 2007

The *Endangered Species Act, 2007* (ESA) provides protection for provincial Species at Risk (SAR) and their habitats. Species are classified into one of four levels of risk: Extirpated, Endangered, Threatened or Special Concern. These risk levels are determined through science-based assessment via the Committee on the Status of Species at Risk in Ontario (COSSARO); classification is based on best-available science and Indigenous traditional knowledge. Species classified as Threatened or Endangered on the Species at Risk in Ontario (SARO) list are afforded both individual and habitat protection under the ESA. This includes protection from "killing, harming, harassing, possessing, buying, selling, trading, leasing or transporting" of protected species and/or "damaging or destroying" their habitats.

Where a proposed activity may negatively affect protected species or habitat, changes to timing, location and methods of the proposed activity should be considered, where feasible, to avoid impacts to SAR. Where impacts cannot be avoided or mitigated, an authorization process may be pursued. The Ministry of the Environment, Conservation and Parks (MECP) may grant a permit or other authorization for activities that would otherwise contravene the ESA. Generally, several permit types are available, depending on the nature of the proposed work and may include conditions to provide an overall benefit to the targeted SAR.

With respect to tree SAR, the ESA protects natural occurring or planted species listed as Threatened or Endangered under Section 12 (Commercial cultivation of vascular plants) of Ontario Regulation 242/08, which allows for the purchase, sale, possession and transportation of SAR plants. However, this exemption does not allow for killing or harming cultivated vascular plants and for this reason, MECP generally recommends that an authorization under the ESA is obtained for activities that may impact tree SAR that have been planted.

3. Methods

The tree inventory and assessment were completed by one of AECOM's International Society of Arboriculture (ISA) Certified Arborist on January 8, 2021. Data were collected using the accepted standard arboriculture techniques as outlined in the Council of Tree & Landscape Appraisers' *Guide for Plant Appraisal, 10th Edition (2020)* as well as the City's *Tree Protection By-law* (2020).

3.1 Tree Inventory

All private and City-owned trees that will be affected by the proposed work within the Tree Inventory Study Area were inventoried in accordance with the City's guidelines. The locations of all identified trees were recorded using an SX Blue II GPS unit and a MediaTek tablet.

3.2 Tree Assessment

The assessment included a visual examination of above-ground parts for each measurable tree. These trees were not climbed, probed, cored, or dissected, and excavation for detailed root crown inspection was not completed. Since some symptoms may only be present seasonally, the extent of observation that can be made may be limited by the time of year in which the assessment took place. As this tree inventory was conducted during the winter months, each tree underwent a full crown assessment through assessing the proportion of live buds in the crown, and its overall vigour. It is understood that trees are living organisms and their health and vigour are continually changing over time due to factors such as seasonal variations and changes in site conditions. 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 were deemed to be in good, fair or poor condition.

In accordance with the aforementioned guidelines, all City-owned trees were identified, sized and assessed for condition. The visual inspection included recording abiotic and biotic disorders as well as structural defects. These defects and disorders are listed within the Observations/Comment's column of **Appendix A**. The condition rating designated to each tree was based on the results of the basic assessment. The hazard potential of trees was assessed using the method outlined in the ISA publication *A Photographic Guide to the Evaluation of Hazard Trees in Urban Areas – 2nd Edition* (Matheny and Clark, 1994). Using this guide, an overall condition rating (i.e., dead, hazard, poor, fair, or good was given to each tree included in the inventory).

Dead ..... A specimen tree is considered dead when it has no living tissue.

Poor ..... Trees in poor condition show major symptoms of decline. At least 50% of main scaffold branches are dead, missing or in diseased state. The trunk shows evidence of advanced rot, deadwood or is hollow throughout. Twig development on the main branched or throughout the canopy is poor and may have limited sucker growth. Callus growth around wounds is minimal. A tree in poor condition could decline further to become a safety hazard. Removal prior to development should be considered if it is considered a hazard tree.

Fair..... Trees in fair condition show moderate symptoms of decline in lower canopy or scaffold branches, but more than 50% of scaffold branches are present and viable. The trunk shows limited evidence of rot or insect damage. Good callus growth is present near wound areas. Trees that have scaffold branches that are healthy, but are in a "Y" formation may also be included in this category, if "included-bark" is evident as the risk of splitting or breakage increases as the tree matures. Removal or preservation of these trees depends on the location of the specimen and associated target potential, and would depend on the species, and its tolerance to grading, trenching and surviving in an urban environment. Some major

arboricultural maintenance may be required and may include major scaffold or secondary branch removal, bracing and/or cabling.

Good..... The specimen tree shows no symptoms of decline in the trunk, and all scaffold branches are present and are in good condition. Most scaffold branches are at right angles to the trunk, and show good vigour. Small amounts of dead wood may be present in secondary branches, but account for less than 25% of the canopy. Depending on the grading in the immediate area, a tree in good condition would be recommended for preservation. Such a tree would typically survive to maturity without major arboricultural maintenance.

3.3 Tree Impact Analysis

Using data collected during the tree inventory and assessment, a tree impact analysis was performed using ArcGIS software. Determination of each tree's recommended action (i.e., remove, minor injury and protect, injure and protect, protect or retain) were based on several factors including each tree's current condition and its location in relation to the impact area. As outlined in the City's *Tree Preservation By-law* (2020), a Critical Root Zone (CRZ) was applied around each tree. The CRZ is defined as an area around each tree and is typically established based on the species and size of the tree and are intended to provide a buffer protecting the tree from potential impacts, including root and soil compaction and mechanical damage of above-ground parts. Based on the City's guidelines, the CRZ is established as being 10 cm from the trunk of a tree for every centimeter of trunk diameter. The CRZ of multi-stemmed trees was based on the DBH of the largest stem.

Generally, the following guidelines are followed in obtaining a tree's recommended action:

- Trees with equal to or greater than 40% of its CRZ affected by proposed work activities are recommended for **removal** as there would likely be negative impacts to the tree.
- Trees with 25-39% of its CRZ affected by proposed work activities are recommended for **injury and protection** in order to mitigate further damage to the tree's below-ground parts and above-ground parts.
- Trees with 0-24% of its CRZ affected by proposed work activities are recommended for **minor injury and protection** in order to mitigate further damage to the tree's below-ground parts and above-ground parts.
- Trees with CRZs that are not impacted by the proposed work activities that are found within the Buffer Area or within 2 m of the Buffer Area are recommended for **protection** with no injury, in order to mitigate the chances of accidental injury from adjacent work activities.
- Trees with CRZs found greater than 2 m from the outside of the Buffer Area are recommended for **retention** with no protection as it is unlikely that there would be negative impacts to the tree.

4. Results

4.1 Tree Inventory

A total of 72 individual trees were inventoried and assessed within and outside the Tree Inventory Study Area. **Table 2** below provides a summary of tree locations within and outside the Tree Inventory Study Area, whilst **Appendix A** summarizes the data collected for all trees within and outside the Tree Inventory Study Area including species name, DBH, location, condition and recommended action. Trees inventoried are illustrated in **Appendix B**.

Table 2: Summary of Tree Locations Within the Tree Inventory Limits

Ownership	Trees Within the Impact Area	Trees Within the 6 m Buffer Area*	Trees Located Outside the Tree Inventory Study Area	Total
Private onsite	37	13	7	**57**
City owned	5	5	0	**10**
Private on adjoining site	0	5	0	**5**
Total	**42**	**23**	**7**	**72**

*Note: *6 m from Impact Area, as required by standard arboricultural practices.*

4.2 Tree Assessment

All trees surveyed as part of the tree inventory and assessment were found within an urban environment and consisted of small, medium and large trees with DBH measurements ranging from 3 cm to 71 cm; the average DBH was 26 cm. The majority of the defects observed were caused by either human interference or natural occurrences including mechanical damage, insects, weather and natural environmental conditions. Biotic and abiotic disorders and structural defects observed are included in **Appendix A. Table 3** provides a summary of the overall condition of the trees ranging from a rating of good to dead.

Table 3: Summary of Tree Condition

Tree Condition	Total Number of Trees
Good	24
Fair	46
Poor	0
Dead	2
Total	**72**

4.3 Tree Impact Analysis

Based on the results of the tree impact analysis, a total of 43 trees within the Tree Inventory Study Area are recommended for removal, including 42 trees located within the Impact Area and one (1) located within the Buffer Area (6 m). Although Tree69 is located on a neighbouring property, given its condition and proximity to the Project, it is nonetheless recommended that permission from the neighbouring property owners be obtained and that the tree is removed prior to the commencement of construction activities on site.

A total of 29 trees are recommended for injury and protection. Three (3) trees are anticipated to require injury and eight (8) minor injury. The remaining eighteen (18) are recommended for protection and retention with no expected impact to their CRZ.

Encroachment into the CRZ of thirteen (13) trees located on neighbouring properties. Specifically, six (6) neighbouring trees are anticipated to be removed to facilitate the Project as they located directly within the impact area, with the work encroaching into the CRZ of a another seven (7) trees causing injury. It is recommended that permission from the neighbouring properties is obtained prior to construction commencing and that all recommendations included in this report are adhered to throughout the project, with all work to be conducted as per the latest arboricultural practices.

Table 4 summarizes the removal and preservation recommendations for trees within and outside the Tree Inventory Study Area; **Appendix B** indicates each tree's recommended action and illustrates the CRZs for all trees that are recommended for protection and retention.

Table 4: Summary of Tree Removal and Preservation Recommendations

Ownership	Trees Requiring Removal	Trees Requiring Protection - Injury	Trees Requiring Protection - Minor Injury	Trees Requiring Protection& Retention - No Injury	Total
Private onsite	37	0	4	16	**57**
City owned	5	3	1	1	**10**
Private on adjoining site	1	0	3	1	**5**
Total	**43**	**3**	**8**	**18**	**72**

4.4 Permits

The City requires a tree permit be issued by the General Manager authorizing the injury or destruction of City-owned trees or protected privately-owned trees (≥10 cm DBH) prior to the commencement of project work. **Table 5** below summarizes the tree permit acquisitions required for the proposed work. Additionally, detailed permitting requirements are outlined in **Appendix B**.

Table 5: Summary of Tree Permit Acquisition Requirements

Ownership	Tree Removal Permit	Tree Injury Permits	Total Permits Required
Private onsite	31	4	**35**
City owned	5	4	**9**
Private on adjoining site	0	3	**3**
		Total	**47**

4.5 Compensation

As described in **Section 2.3**, Schedule B (Tree Compensation Requirements) of the City's *Tree Protection By-law* (2020) provides detailed tree compensation requirements for City-owned trees and private trees. It is understood that upon the review of this TCR the City will provide the number of compensation trees required to account for privately-owned tree removals needed to facilitate the Project.

4.6 Tree Valuation

As stated in **Section 2.4**, all City-owned trees that are recommended for removal are subject to appraisal using the CTLA Trunk Formula Method, as described in **Section 2.3**. Based on the Trunk Formula Method and the individual values of the five (5) City-owned trees that are being recommended for removal to facilitate the Project, a monetary value of $4,404.07 is required for their compensation. Further detailed information per can be found in **Appendix C.**

4.7 Species at Risk

During the time of field investigations, no SAR trees were identified within the Tree Inventory Study Area.

5. Tree Removal, Preservation and Maintenance Recommendations

There are many social, economic and environmental benefits of trees including aesthetics, increased property values, improved air quality, as well as food and shelter for resident wildlife. As a priority, damage should be minimized to existing trees within development limits wherever feasible. The assessment results and recommendations for each tree are summarized in **Appendix A**.

5.1 Tree Removal

It is recommended that a Certified Arborist be retained during tree removal operations in order to ensure that standardized arboricultural techniques are employed, prior to and during the proposed work activities, and to confirm the need to remove or protect additional trees in proximity to the Tree Inventory Study Area. Additionally, it is recommended that a Certified Arborist return at the conclusion of construction to assess the health of trees that were protected during construction and identify opportunities for mitigation should any trees display signs of stress (i.e., falling limbs, declining health, etc.).

5.2 Tree Preservation

It is recommended that a Certified Arborist be retained to regularly monitor the Project's construction activities in order to ensure that all trees that are recommended for protection and retention are being maintained adequately, in relation to standard arboricultural practices. Additionally, no grading, excavation or restoration related activities are to occur within the CRZ of any protected or retained trees, if it cannot be avoided, without the supervision of a Certified Arborist. Should the limits of the proposed excavation areas change, a Certified Arborist will be retained to review trees with CRZs intersecting new excavation area limits in order to determine whether trees shall be recommended for removal, injury and protection or retention. These recommendations are critical along the large proposed retaining wall on site.

5.3 Tree Protection Recommendations

The following sections outline tree protection measures recommendations that will further reduce the potential for negative impacts to preserved trees. Furthermore, the following subsections provide standard protection recommendations that apply to trees that require tree protection fencing for protection during construction activities. Notwithstanding this, recommendations for the timing of vegetation clearing apply to the site in general.

5.3.1 Tree Protection Fencing and Ground Compaction Mitigation

Tree protection fencing shall be installed around trees recommended for protection and retention, where retained trees are in close proximity to the Impact Area (i.e., where a retained tree's CRZ is within the Tree Inventory Study Area but is not touching or intersecting the Impact Area), prior to the any work activities taking place within the Tree Inventory Study Area. The tree protection fencing shall be installed in accordance with the City's *Tree Protection Specification Standard* (2019). The tree protection fencing around the CRZ shall be installed with 1.2 m high rigid or framed materials (e.g., moduloc-steel, plywood hoarding or snow fence on a 5 cm x 10 cm (2"x4") wood frame) with posts 2.4 m apart. All supports and bracing must be installed outside the CRZ with focus on minimizing root damage. All tree protection fencing shall remain in place prior to any construction activity and in good repair until construction is complete.

It is recommended that the following activities are not prohibited within the CRZ:

- Grade change, storage of materials or equipment;
- The attachments of signs, notices or posters to any tree;
- Exhaust fumes from all equipment are not directed toward any tree canopy;
- No tunneling or boring when digging

For any trees recommended for preservation there shall be no storage or movement of equipment or hoarding of materials within the CRZ. If work must be completed within the CRZ, 10 to 15 cm (4” to 6”) of mulch shall be spread over the area which is to be worked upon. Additionally, sheets of 2 cm (0.75”) thick plywood (minimum) or steel plating shall be applied on the mulch in order to help distribute the weight of the heavy equipment to avoid soil compaction. After construction, these measures shall be removed to allow proper aeration and water infiltration to the soil. This shall include removing the bulk of mulch so that only 5 to 10 cm (2” to 4”) remain. It is recommended that a Certified Arborist be on-site when work that could impact trees is required within the CRZ of trees identified for preservation. These recommendations are critical along the large proposed retaining wall on site.

5.3.2 Vegetation Clearing and Management

Vegetation removal, including tree removal will be limited to the specified activity areas and shall not commence until required permits and approvals are obtained.

Clearing of vegetation outside of the breeding bird season is recommended to reduce potential impacts to migratory birds and avoid contravention of the *Migratory Birds Convention Act* (1994). Searching for nests is not recommended within complex habitats, as the ability to detect nests is low while the risk of disturbance to active nests is high. This disturbance increases the risk of nest predation or abandonment by adults. Nests searches may be completed during the nesting period (April 1st to August 31$^{st)}$ by a qualified biologist (Government of Canada, 2021) in simple habitats, which refer to habitats that contain few likely nesting spots or a small community of migratory birds. Clearing in simple habitats during the nesting season can only occur if a qualified biologist has confirmed it would not affect the nest or young of a protected species.

Where works are proposed within a CRZ of a tree proposed for preservation, clearing of vegetation shall be performed manually to reduce soil compaction and mechanical damage to the tree. These recommendations are critical along the large proposed retaining wall on site.

5.3.3 Branch Pruning

Where branches are likely to be damaged during construction, they shall be pruned accordingly, prior to construction activities, in order to avoid unnecessary damage to the tree. Pruning should be conducted by a qualified arborist as per the latest arboricultural practices for canopy pruning utilizing clean tools (Tree Care Industry Association, 2008). Any branches damaged during construction should be examined and pruned accordingly to limit further damage.

5.3.4 Roots

Root damage shall be minimized by restricting equipment in the vicinity of the existing CRZ and limiting equipment within the construction limits. This will help minimize damage if there is any excavation in the areas of a preserved tree. It is critical to avoid damage to the structural root plate in order to prevent affecting tree stability and thus creating a hazard tree. In general, most of the fibrous roots of the tree are contained in the top 30 cm (11.75”) of the soil and may easily be severed during excavation, whilst structural roots are located deeper. Hand digging, low

pressure hydro-vac or air spade exploratory digging will aid in determining the damage of the tree root system. As mentioned earlier, all opportunities to avoid root and grade damage within the CRZ shall be taken – this shall include limiting machinery within the CRZ as much as possible and the employment of horizontal hoarding where work is proposed within the CRZ of a tree recommended for preservation.

Any roots that are severed during construction shall be cut cleanly to minimize decay and entry points for disease. If roots will be exposed for more than a few hours, mulch, wet burlap or soil shall be applied as soon as possible and watered regularly to prevent roots from drying-out, under the supervision of a Certified Arborist.

5.3.5 Excavation

- Methods of excavation within CRZ of trees proposed for protection or retention shall include those which cause the least harm to the tree, such as pneumatic or hydraulic excavation. These methods include tools which use high-pressure air or water to remove the soil around the roots without damaging the larger roots.
- Fill within the CRZ shall not be permitted unless it is mitigated in a way that maintains air and water availability for roots.
- All grade changes within and adjacent to CRZs shall be undertaken in accordance with the previously specified tree protection guidelines.
- Access routes shall be established away from the CRZ. The existing grades within the CRZ shall not be disturbed to avoid damage to trees and soil compaction.
- Where works are proposed within a CRZ of a tree proposed for preservation, excavation shall be performed manually to reduce soil compaction and mechanical damage to the tree under the supervision of a Certified Arborist. These recommendations are critical along the large proposed retaining wall on site.

6. Summary and Recommendations

Seventy-two (72) trees were inventoried and assessed within the Tree Inventory Study Area. Of these 72 trees, 42 were located directly within the Impact Area and 23 trees were located within the 6 m Buffer Area. An additional seven (7) trees were located outside the Tree Inventory Study Area. Furthermore, based on the results of the tree impact analysis, it is recommended that 43 trees be removed in order to accommodate the construction of the Project. The remaining 29 trees are to be preserved; with three (3) trees recommended for injury and protection, eight (8) trees for minor injury and protection, and eighteen (18) for protection and retention without injury. Thirty-six (36) trees will require permits for removal and (11) will require permits for injury, with a total of (47) permits required prior to construction. Lastly, a monetary value of $4,404.07 is required in compensation for five (5) of the 43 trees being recommended for removal to facilitate the Project, as they are City-owned trees.

In regard to the trees identified for removal prior to construction operations commencing, it is recommended that a Certified Arborist be retained during tree removal operations to ensure proper arboricultural techniques are employed prior to and during proposed activities and to confirm the need to remove or preserve trees within close proximity to the impact area. Additionally, it is recommended that a Certified Arborist return at the conclusion of construction to assess the health of preserved trees after construction is complete and to mitigate risk associated with falling limbs and declining health from potentially stressful conditions.

Tree protection fencing must be installed prior to initiation of the work. Tree protection fencing shall be installed to protect trees recommended for protection with injury, protection with minor injury, or protection (i.e., where trees that are being retained are within or 2 m outside the Buffer Area). The installation of tree protection fencing will reduce the potential for negative impacts including soil and root compaction as well as the potential for mechanical damage to trunks or branches. Lastly, it is recommended that any necessary pruning be conducted prior to construction by a Certified Arborist or trained professional with adequate arboricultural experience, in order to ensure that trees marked for preservation do not experience unnecessary stress or damage.

7. Certification

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

AECOM Canada Ltd.

Report Certified By:

Alex Bryski, BES.
ISA Certified Arborist ON-2811A
Alex.Bryski@aecom.com

8. References

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Appendix A

Tree Assessment Results

Tree #	Common Name	Scientific Name	DBH Analysis (cm)	Crown Reserve (m)	Crown Dieback (%)	Critical Root Zone (m)	Overall Condition	Observations/Comments	Ownership	Tree Location	Potential Impacts	Recommended Action	Permit Requirements
1	Spruce - Colorado	Picea pungens	36	5	15	3.6	Fair	LN(L), ST, DW, RP, PP, GR	Private Onsite	Impact Area	Proposed sewer installation	Remove	Permit to remove
2	Spruce - Colorado	Picea pungens	43	6	0	4.3	Good	DC, LN(L), DW, RP, PP, DL	Private Onsite	Impact Area	Proposed asphalt parking area	Remove	Permit to remove
3	Linden - Little-Leaf	Tilia cordata	37	8	10	3.7	Good	TK2, FB, DC, ST, IB, PP, RP	Private on adjoining site	Study Area	Proposed sewer installation	Protect - Minor Injury	Permit to injure
4	Spruce - Colorado	Picea pungens	27	4	5	2.7	Good	DC, DL, ST, RP	Private Onsite	Impact Area	Proposed sewer installation	Remove	Permit to remove
5	Spruce - Colorado	Picea pungens	42	6	10	4.2	Good	LN(L), GC, ST, DW, RP, PP	Private Onsite	Impact Area	Proposed asphalt parking area	Remove	Permit to remove
6	Maple - Norway	Acer platanoides	3	1	5	0.3	Fair	BSD, FB, RP	Private Onsite	Impact Area	Proposed asphalt parking area	Remove	N/A - <10 cm
7	Maple - Sugar	Acer saccharum	3	2	0	0.3	Fair	ML, RP	Private Onsite	Impact Area	Proposed asphalt parking area	Remove	N/A - <10 cm
8	Maple - Sugar	Acer saccharum	3	1	0	0.3	Fair	ML, RP	Private Onsite	Impact Area	Proposed asphalt parking area	Remove	N/A - <10 cm
9	Maple - Sugar	Acer saccharum	2	1	10	0.2	Fair	BSD, ML, RP	Private Onsite	Impact Area	Proposed asphalt parking area	Remove	N/A - <10 cm
10	Maple - Norway	Acer platanoides	4	2	10	0.4	Fair	BSD, WC, FB, ML, RP	Private Onsite	Impact Area	Proposed asphalt parking area	Remove	N/A - <10 cm
11	Maple - Norway	Acer platanoides	51	13	15	5.1	Good	FK2@2M, PP, WC, WNC, RC1, RP	Private Onsite	Impact Area	Proposed asphalt parking area	Remove	Permit to remove
12	Maple - Norway	Acer platanoides	52	13	10	5.2	Good	MBN, FK2@3M, PP, UW, RP, ER	Private Onsite	Impact Area	Proposed curb installation	Remove	Permit to remove
13	Maple - Sugar	Acer saccharum	12	5	10	1.2	Fair	BSD, TW, WNC. FB, RP, DC	Private Onsite	Impact Area	Proposed asphalt parking area	Remove	Permit to remove
14	Maple - Norway	Acer platanoides	63	18	30	6.3	Fair	PP, PF, DW, RP, DE, PB, UW, ER, GR, 1SD	Private Onsite	Impact Area	Proposed asphalt parking area	Remove	Permit to remove
15	Maple - Norway	Acer platanoides	71	14	15	7.1	Good	MBN, FK3@2M, PP, WNC, GR, ER, DW, RP, CB	Private Onsite	Impact Area	Proposed asphalt parking area	Remove	Permit to remove
16	Apple sp.	Malus sp.	26	8	15	2.6	Fair	TK2, ST, SB, SC, SN, PP, PF, RP, FB	Private Onsite	Impact Area	Proposed asphalt parking area	Remove	Permit to remove
17	Spruce - Colorado	Picea pungens	21	5	0	2.1	Good	DC, DL, UW, RP	City owned	Study Area	Proposed asphalt parking area	Protect - Injury	Permit to injure
18	Spruce - Colorado	Picea pungens	25	5	10	2.5	Good	DC, DL, UW, RP	City owned	Study Area	Proposed asphalt parking area	Protect - Injury	Permit to injure
19	Spruce - Colorado	Picea pungens	21	5	0	2.1	Good	DC, DL, UW, RP	City owned	Study Area	Proposed asphalt parking area	Protect - Injury	Permit to injure
20	Spruce - Colorado	Picea pungens	27	4	5	2.7	Fair	DC, DL, RP	Private Onsite	Impact Area	Proposed asphalt parking area	Remove	Permit to remove
21	Spruce - Colorado	Picea pungens	30		5	3	Good	DL, DC, GR, RP	Private Onsite	Impact Area	Proposed asphalt parking area	Remove	Permit to remove
22	Spruce - Colorado	Picea pungens	18	3	15	1.8	Fair	LS, SL, DW, RP, DL	Private Onsite	Impact Area	Proposed asphalt parking area	Remove	Permit to remove
23	Spruce - Colorado	Picea pungens	23	4	15	2.3	Fair	LS, SL, RP, DW, CT	Private Onsite	Impact Area	Proposed asphalt parking area	Remove	Permit to remove
24	Spruce - Colorado	Picea pungens	23	4	15	2.3	Fair	LN(L), LS, SL, RP	Private Onsite	Impact Area	Proposed asphalt parking area	Remove	Permit to remove
25	Spruce - Colorado	Picea pungens	27	4	10	2.7	Fair	LS, SL, DL, RP	Private Onsite	Impact Area	Proposed asphalt parking area	Remove	Permit to remove
26	Spruce - Colorado	Picea pungens	21	4	35	2.1	Fair	LN(L), SL, LS, RP	Private Onsite	Impact Area	Proposed asphalt parking area	Remove	Permit to remove
27	Spruce - Colorado	Picea pungens	30	30	10	3	Fair	LS, SL, RP	Private Onsite	Impact Area	Proposed asphalt parking area	Remove	Permit to remove
28	Spruce - Colorado	Picea pungens	27	5	10	2.7	Good	LS, SL, DL, RP	Private Onsite	Impact Area	Proposed asphalt parking area	Remove	Permit to remove
29	Pine - Austrian	Pinus nigra	42	8	35	4.2	Fair	DW, 1SD, LNL, ML, RP	Private Onsite	Impact Area	Proposed building construction	Remove	Permit to remove
30	Maple - Norway	Acer platanoides	37	9	0	3.7	Good	DC, RP, ML, FC, WC, GR, ER	Private Onsite	Study Area	Proposed asphalt parking area	Protect - Minor Injury	Permit to injure
31	Spruce - Colorado	Picea pungens	35	5	0	3.5	Good	DL, DC, RP, SB, ER	Private Onsite	Study Area	Proposed asphalt parking area	Protect - Minor Injury	Permit to injure
32	Spruce - Colorado	Picea pungens	38	5	0	3.8	Good	DC, DL, SB, RP, ER	Private Onsite	Study Area	Proposed asphalt parking area	Protect - Minor Injury	Permit to injure
33	Spruce - Colorado	Picea pungens	21	4	0	2.1	Good	DL, RP	Private Onsite	Study Area	Proposed asphalt parking area	Protect	N/A - No Anticipated Impact
34	Maple - Norway	Acer platanoides	47	9	5	4.7	Good	PP, MBN, FK3@2M, DC, GR, RP	Private Onsite	Study Area	Proposed asphalt parking area	Protect - Minor Injury	Permit to injure
35	Spruce - Colorado	Picea pungens	38	5	15	3.8	Fair	LS, SL, UW, RP	Private Onsite	Study Area	Proposed grading of asphalt parking area	Protect	N/A - No Anticipated Impact
36	Spruce - Colorado	Picea pungens	17	3	25	1.7	Fair	LS, SL, DW, RP, LNL	Private Onsite	Outside Study Area	No anticipated impacts	Retain	N/A - No Anticipated Impact
37	Spruce - Colorado	Picea pungens	35	5	15	3.5	Fair	SL, LS, RP, E, TOB, DL	Private Onsite	Outside Study Area	No anticipated impacts	Retain	N/A - No Anticipated Impact
38	Spruce - Colorado	Picea pungens	28	4	10	2.8	Fair	1SD, LS, SL, DW, RP, DL	Private Onsite	Outside Study Area	No anticipated impacts	Retain	N/A - No Anticipated Impact
39	Spruce - Colorado	Picea pungens	19	3	45	1.9	Fair	LS. SL, DW, RP	Private Onsite	Outside Study Area	No anticipated impacts	Retain	N/A - No Anticipated Impact
40	Spruce - Colorado	Picea pungens	19	3	45	1.9	Fair	SL, LS, DW, RP, DL	Private Onsite	Outside Study Area	No anticipated impacts	Retain	N/A - No Anticipated Impact
41	Spruce - Colorado	Picea pungens	18	3	20	1.8	Fair	SL, LS, DW, DL, RP	Private Onsite	Outside Study Area	No anticipated impacts	Retain	N/A - No Anticipated Impact
42	Spruce - Colorado	Picea pungens	27	5	20	2.7	Fair	LS, SL, DW, RP, DL	Private Onsite	Study Area	Proposed asphalt parking area	Protect	N/A - No Anticipated Impact
43	Spruce - Colorado	Picea pungens	26	4	15	2.6	Fair	LS, SL, DL, DW, RP	Private Onsite	Outside Study Area	No anticipated impacts	Retain	N/A - No Anticipated Impact
44	Spruce - Colorado	Picea pungens	17	3	10	1.7	Fair	SL, LS, DL, DW, RP	Private Onsite	Study Area	Proposed asphalt parking area	Protect	N/A - No Anticipated Impact
45	Spruce - Colorado	Picea pungens	22	4	25	2.2	Fair	LS, SL, DW, RP, DL	Private Onsite	Study Area	Proposed asphalt parking area	Protect	N/A - No Anticipated Impact
46	Spruce - Colorado	Picea pungens	16	3	10	1.6	Fair	DL, DW, RP, SL, LS	Private Onsite	Study Area	Proposed asphalt parking area	Protect	N/A - No Anticipated Impact
47	Spruce - Colorado	Picea pungens	21	3	15	2.1	Fair	DW, RP, SL, LS, PL	Private Onsite	Study Area	Proposed asphalt parking area	Protect	N/A - No Anticipated Impact
48	Spruce - Colorado	Picea pungens	18	3	15	1.8	Fair	SL, LS, DW, RP, DL	Private Onsite	Study Area	Proposed asphalt parking area	Protect	N/A - No Anticipated Impact
49	Spruce - Colorado	Picea pungens	24	5	15	2.4	Fair	DL, SL, LS, RP, DL	Private Onsite	Study Area	Proposed asphalt parking area	Protect	N/A - No Anticipated Impact
50	Spruce - Colorado	Picea pungens	40	6	10	4	Good	DL, DC, DW, RP	Private Onsite	Impact Area	Proposed asphalt parking area	Remove	Permit to remove
51	Spruce - Colorado	Picea pungens	22	3	20	2.2	Fair	DW, DL, SL, LS, RP	Private Onsite	Impact Area	Proposed asphalt parking area	Remove	Permit to remove
52	Spruce - Colorado	Picea pungens	38	6	10	3.8	Good	LNL, DC. DL, DW, RP	Private Onsite	Impact Area	Proposed asphalt parking area	Remove	Permit to remove
53	Honey-Locust	Gleditsia triacanthos	23	7	10	2.3	Fair	SB, RP, DC, PTL, FB	City owned	Impact Area	Proposed asphalt parking area	Remove	Permit to remove
54	Honey-Locust	Gleditsia triacanthos	19	6	15	1.9	Fair	PTL, SB. SC, ST, FS, DC, RP	City owned	Impact Area	Proposed asphalt parking area	Remove	Permit to remove
55	Honey-Locust	Gleditsia triacanthos	18	7	15	1.8	Fair	SB, ST, SC, DC, FS, RP	City owned	Impact Area	Proposed asphalt parking area	Remove	Permit to remove
56	Honey-Locust	Gleditsia triacanthos	20	7	20	2	Fair	RH, PTL, DW, RP, SB, SC, ST, LN(L)	City owned	Impact Area	Proposed asphalt parking area	Remove	Permit to remove
57	Pine - Austrian	Pinus nigra	26	5	0	2.6	Good	LN(L), GR, ER, DW, RP, DC	Private Onsite	Impact Area	Proposed asphalt parking area	Remove	Permit to remove
58	Honey-Locust	Gleditsia triacanthos	23	7	15	2.3	Fair	PTL, SB, SC, ST, DC, DW, RP	City owned	Impact Area	Proposed asphalt parking area	Remove	Permit to remove
59	Honey-Locust	Gleditsia triacanthos	18	5	15	1.8	Fair	PL, RH, PTL, DW, SB, ST, SC, RP	Private Onsite	Impact Area	Proposed asphalt parking area	Remove	Permit to remove
60	Honey-Locust	Gleditsia triacanthos	20	7	15	2	Fair	DC, SB, ST, SC, RP	Private Onsite	Impact Area	Proposed asphalt parking area	Remove	Permit to remove
61	Spruce - Colorado	Picea pungens	23	5	5	2.3	Fair	DL, DC, DW, RP	Private Onsite	Impact Area	Proposed asphalt parking area	Remove	Permit to remove
62	Spruce - Colorado	Picea pungens	24	6	5	2.4	Good	RH, DC, DL, DW, RP	Private Onsite	Impact Area	Proposed asphalt parking area	Remove	Permit to remove

Tree #	Common Name	Scientific Name	DBH Analysis (cm)	Crown Reserve (m)	Crown Dieback (%)	Critical Root Zone (m)	Overall Condition	Observations/Comments	Ownership	Tree Location	Potential Impacts	Recommended Action	Permit Requirements
63	Spruce - Colorado	Picea pungens	28	5	5	2.8	Good	DC, DL, DW, RP	Private Onsite	Impact Area	Proposed asphalt parking area	Remove	Permit to remove
64	Maple - Norway	Acer platanoides	31	8	10	3.1	Good	TK2, MB, ST, SB, SC, DC, RP, DW	Private Onsite	Impact Area	Proposed grading and fencing	Remove	Permit to remove
65	Elm - Siberian	Ulmus pumila	25	9	20	2.5	Fair	TK6, VC, GTF, RH, BN, DC, DW, RP	Private Onsite	Impact Area	Proposed sewer installation	Remove	Permit to remove
66	Elm - Siberian	Ulmus pumila	35	9	15	3.5	Good	DC, MBN, FK5@2M, DW, RP	Private on adjoining site	Study Area	Proposed sewer installation	Protect - Minor Injury	Permit to injure
67	Ash - White	Fraxinus americana	11	0	100	1.1	Dead	EAB, RFS, DW, RM	Private Onsite	Impact Area	Proposed sewer installation	Remove - Poor, Hazard, or Dead Tree	N/A - Dead Tree
68	Maple - Manitoba	Acer negundo	16	5	15	1.6	Fair	GTF, PP, SB, SC, ST, DE, RP	Private on adjoining site	Study Area	Proposed sewer installation	Protect - Minor Injury	Permit to injure
69	Maple - Norway	Acer platanoides	22	0	100	2.2	Dead	VC, GTF, CD	Private on adjoining site	Study Area	Proposed sewer installation	Remove - Poor, Hazard, or Dead Tree	N/A - Dead Tree
70	Maple - Manitoba	Acer negundo	15	7	15	1.5	Fair	GTF, FB, TK3, PF, SC, ST, SB, PP, 1SD, LN(L), RP	Private on adjoining site	Study Area	Proposed sewer installation	Protect	N/A - No Anticipated Impact
71	Maple - Manitoba	Acer negundo	12	5	15	1.2	Fair	GTF, PP, SB, ST, SC, TW, WNC, CT, RM	City owned	Study Area	Proposed sewer installation	Protect - Minor Injury	Permit to injure
72	Maple - Manitoba	Acer negundo	20	5	5	2	Fair	GTF, PP, SB, ST, SC, FB, TK2, IB, RM	City owned	Study Area	Proposed sewer installation	Protect	N/A - No Anticipated Impact

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Appendix B

Tree Inventory and Preservation Plan

Aerial photography provided by: City of Ottawa (2021)

Impact Area

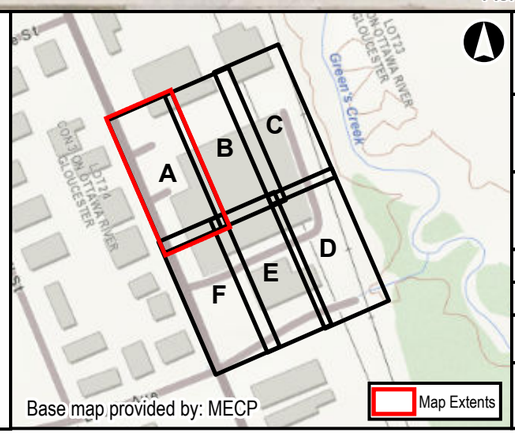
Property Limit

Tree Location - Recommended Action

- Protect
- Protect - Injury
- Protect - Minor Injury
- Remove
- Remove - Poor, Hazard, or Dead Tree
- Retain

Tree Protection Zone - Recommended Action

- Protect
- Protect - Injury
- Protect - Minor Injury
- Remove
- Remove - Poor, Hazard, or Dead Tree
- Retain
- Tree Protection Fencing
- Railway
- Watercourse



Base map provided by: MECP

2625 Sheffield Road
Tree Conservation Report

Tree Inventory and Preservation Plan

0 5 10 20 30 M

NAD 1983 CSRS UTM Zone 18N

Sep, 2022	1:500	Data Sources MECP, MMAH, City of Ottawa
P:60634622	Rev:00	

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Impact Area

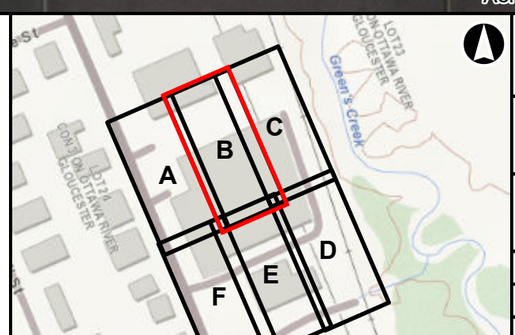
Property Limit

Tree Location - Recommended Action

- Protect
- Protect - Injury
- Protect - Minor Injury
- Remove
- Remove - Poor, Hazard, or Dead Tree
- Retain

Tree Protection Zone - Recommended Action

- Protect
- Protect - Injury
- Protect - Minor Injury
- Remove
- Remove - Poor, Hazard, or Dead Tree
- Retain
- Tree Protection Fencing
- Railway
- Watercourse



2625 Sheffield Road
Tree Conservation Report

Tree Inventory and Preservation Plan

0 5 10 20 30 M

NAD 1983 CSRS UTM Zone 18N

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P:60634622	Rev:00	

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Impact Area

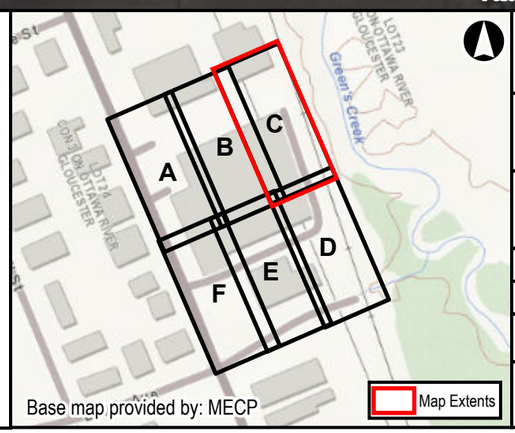
Property Limit

Tree Location - Recommended Action

- Protect
- Protect - Injury
- Protect - Minor Injury
- Remove
- Remove - Poor, Hazard, or Dead Tree
- Retain

Tree Protection Zone - Recommended Action

- Protect
- Protect - Injury
- Protect - Minor Injury
- Remove
- Remove - Poor, Hazard, or Dead Tree
- Retain
- Tree Protection Fencing
- Railway
- Watercourse



Base map provided by: MECP

2625 Sheffield Road
Tree Conservation Report

Tree Inventory and Preservation Plan

0 5 10 20 30 M

NAD 1983 CSRS UTM Zone 18N

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P:60634622	Rev:00	

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Impact Area

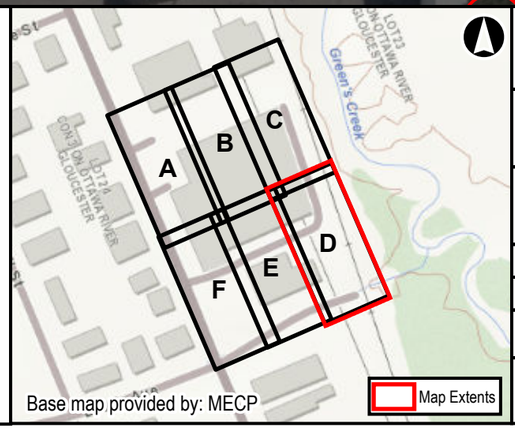
Property Limit

Tree Location - Recommended Action

- Protect
- Protect - Injury
- Protect - Minor Injury
- Remove
- Remove - Poor, Hazard, or Dead Tree
- Retain

Tree Protection Zone - Recommended Action

- Protect
- Protect - Injury
- Protect - Minor Injury
- Remove
- Remove - Poor, Hazard, or Dead Tree
- Retain
- Tree Protection Fencing
- Railway
- Watercourse



Base map provided by: MECP

2625 Sheffield Road
Tree Conservation Report

Tree Inventory and Preservation Plan

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NAD 1983 CSRS UTM Zone 18N

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P:60634622	Rev:00	

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Impact Area

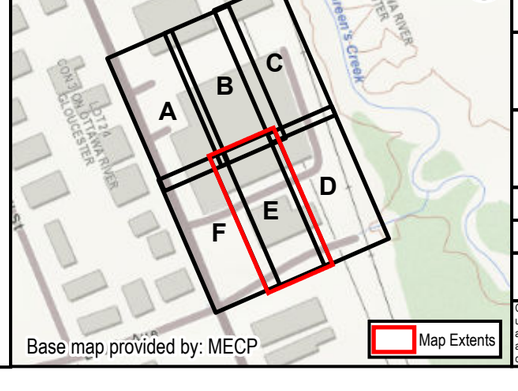
Property Limit

Tree Location - Recommended Action

- Protect
- Protect - Injury
- Protect - Minor Injury
- Remove
- Remove - Poor, Hazard, or Dead Tree
- Retain

Tree Protection Zone - Recommended Action

- Protect
- Protect - Injury
- Protect - Minor Injury
- Remove
- Remove - Poor, Hazard, or Dead Tree
- Retain
- Tree Protection Fencing
- Railway
- Watercourse



Base map provided by: MECP

2625 Sheffield Road
Tree Conservation Report

Tree Inventory and Preservation Plan

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NAD 1983 CSRS UTM Zone 18N

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P:60634622	Rev:00	

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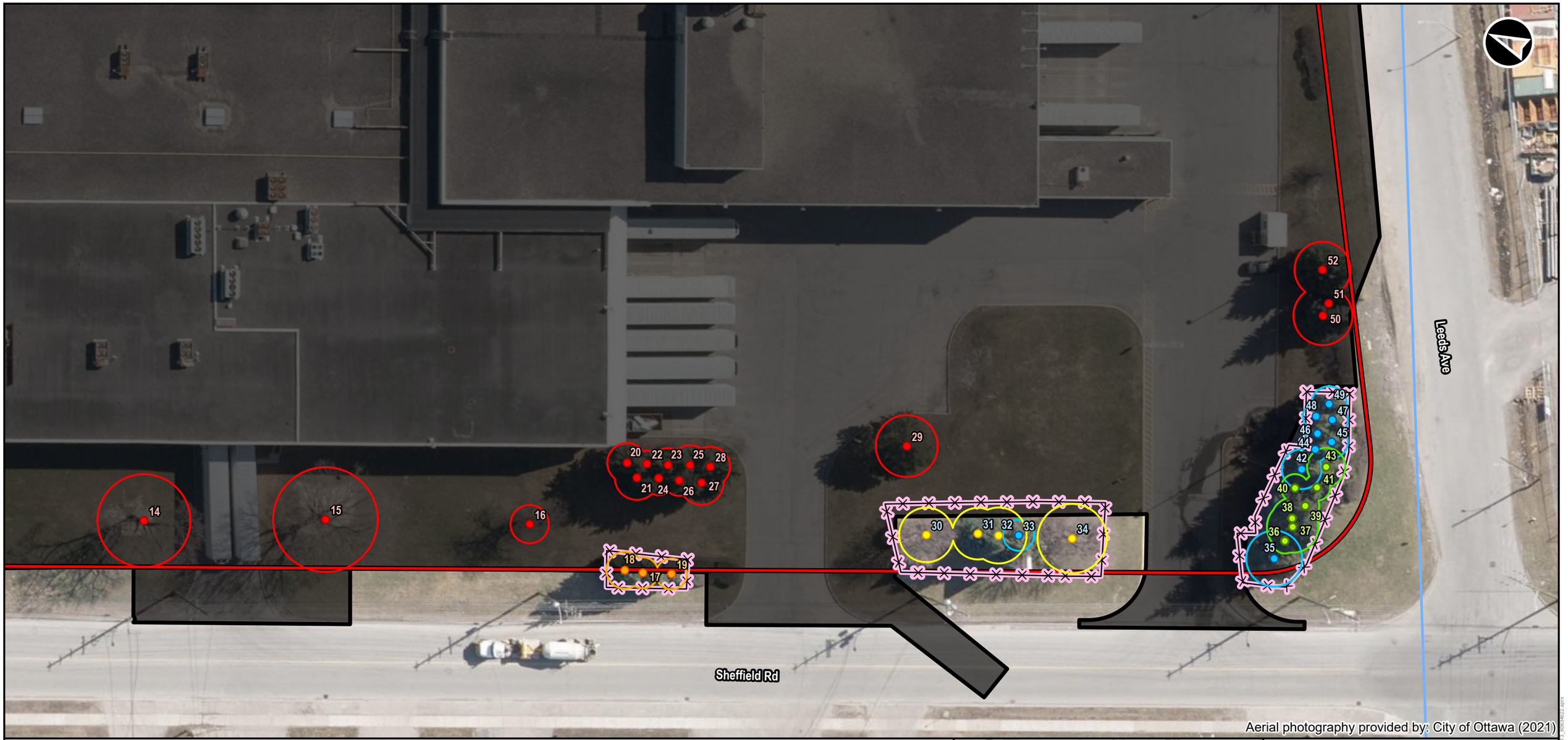


Aerial photography provided by: City of Ottawa (2021)

Impact Area

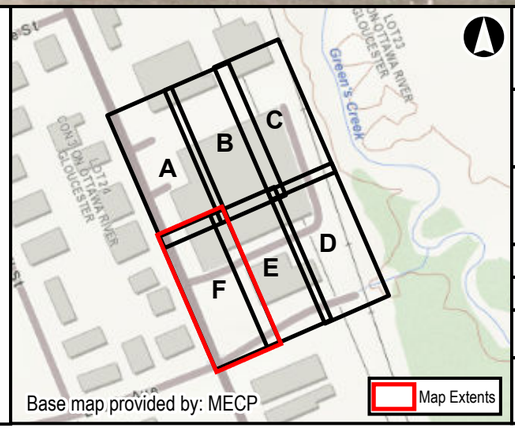
Property Limit

Tree Location - Recommended Action

- Protect
- Protect - Injury
- Protect - Minor Injury
- Remove
- Remove - Poor, Hazard, or Dead Tree
- Retain

Tree Protection Zone - Recommended Action

- Protect
- Protect - Injury
- Protect - Minor Injury
- Remove
- Remove - Poor, Hazard, or Dead Tree
- Retain
- Tree Protection Fencing
- Railway
- Watercourse



Base map provided by: MECP

2625 Sheffield Road
Tree Conservation Report

Tree Inventory and Preservation Plan

0 5 10 20 30 M

NAD 1983 CSRS UTM Zone 18N

Sep, 2022	1:500	Data Sources MECP, MMAH, City of Ottawa
P:60634622	Rev:00	

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Appendix: B-6

Project Location: C:\Users\ssignon\OneDrive - AECOM\Documents\Projects\DYN_60634622\PRJ_ANZR_DYN_60634622.aprx
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Appendix C

Tree Valuation

Appendix C. Tree Valuation Table

Tree Number	Common Name	Scientific Name	DBH Analysis (cm)	Cross Sectional Area (cm²)	Condition: Health (%)	Condition: Structure (%)	Condition: Form (%)	Condition Rating: Average (%)	CR Ratio	Functional Limitation (%)	FL Ratio	External Limitation (%)	EL Ratio	Replacement Tree Size (cm)	Cross Sectional Area (cm²)	Replacement Tree Cost ($)	Unit Tree Cost ($)	Basic Reproduction Cost Cost ($)	Depreciated Reproduction Cost Cost ($)	Notes
53	Gleditsia triacanthos	*Gleditsia triacanthos*	23	415.48	80	75	80	78	0.78	60	0.6	75	0.75	6	28.27	$240.00	8.49	$3,526.67	**$1,243.15**	FL - adjacent parking lot; EL - adjacent property line/parking lot - pruning
54	Gleditsia triacanthos	*Gleditsia triacanthos*	19	283.53	75	65	75	72	0.72	55	0.55	65	0.65	6	28.27	$240.00	8.49	$2,406.67	**$616.61**	FL - adjacent parking lot; EL - adjacent property line/parking lot - pruning
55	Gleditsia triacanthos	*Gleditsia triacanthos*	18	254.47	70	60	85	72	0.72	45	0.45	55	0.55	6	28.27	$240.00	8.49	$2,160.00	**$383.13**	FL - adjacent parking lot; EL - adjacent property line/parking lot - pruning
56	Gleditsia triacanthos	*Gleditsia triacanthos*	20	314.16	75	70	75	73	0.73	40	0.4	45	0.45	6	28.27	$240.00	8.49	$2,666.67	**$352.00**	FL - adjacent parking lot; EL - adjacent property line/parking lot - pruning
58	Gleditsia triacanthos	*Gleditsia triacanthos*	23	415.48	70	55	55	60	0.60	90	0.9	95	0.95	6	28.27	$240.00	8.49	$3,526.67	**$1,809.18**	FL - surrounding hardscape; EL - property line

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Appendix D

Tree Inventory Abbreviations

Tree Inventory Abbreviations

1SD(*x*)	One-Sided Crown (*x*= N, NE, E, SE, S, SW, W, NW)
AD	Animal / Insect Damage
BC	Broken Crown
BH	Bat Habitat
BN	Bark Necrosis
BOB	Located at Bottom of Bank
BR#	# of Broken Branches
BSD	Basal Trunk Damage
CD	Crown Dieback
CL	Chloronic Leaves
CN	Crown Necrosis
CS	Close to Building
CT	Crooked/ Bent Trunk
CV	Cavity
DC	Developed Crown Form
DE	Diseased/ Decay
DED	Dutch Elm Disease
DF	Defoliated
DL	Developed Leader
DT	Distinctive Tree
DW	Deadwood
EAB	Emerald Ash Borer
ER	Exposed Roots
ETB	Enlarged Trunk Base
FK#@#M	# of Trunks at # Metres Above Ground
FC	Frost Cracks
FS	Fused Branches/Limbs
GC	Grade Changed
GR	Girdling Root(s)
GTF	Growing Through Fence
HP	Hazard Potential of Tree
IB	Included Bark
LG	Laying On Ground
LN(*x*)	Lean: (*x*= L [Low, <5°], M [Moderate, 5-15°], [High, >15°])
LS	Light Suppressed
LT	Landscape Tree
MB	Multi-Branch Nodes on Trunk
ML	Multiple Leaders
MOB	Middle of Bank
NST	Bird Nest in Tree
PB	Peeling Bark
PC	Pollarded Crown
PF	Previous Failure
PL	Poor Leader development
PP	Past Pruning
PTH	Planted Too High
PTL	Planted Too Low
RB	Remove Basket / Burlap
RC(#)	Requires Cabling (# of Cables)
RFS	Regeneration from Stump
RH	Remove Tree Hardware
RM	Remove Plant
RP	Requires Pruning and/or Thinning
RPM	Root Plate Movement
RT	Requires Under-Story Thinning
SB	Sprouts at Trunk Base
SC	Sprouts in Crown
SL	Slender Form
SN	Squirrel Nest
SF	Superior Tree Form
SP	Sapling
ST	Sprouts on Trunk
TK#	# of Trunks at or Below 1.4 metre
TOB	Located at Top of Bank
TS	Trunk Split
TT	Twisted Trunk
TW	Trunk Wound
UC(*x*)	Unbalanced Crown (*x*= N, NE, E, SE, S, SW, W, NW)
UW	Tree Under/ Over Power Wires
VC	Vine Covered
WC	Wound Compartmentalized
WNC	Wound Not Compartmentalized

Quantified Conditions (defects, diseases): L (low/minor), M (moderate), H (high/severe) e.g. LN(L) = minor lean
DBH = Diameter at Breast Height (i.e. 1.4 metres)
Last Updated: *April 27, 2021*

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