



**ARBORIST REPORT + TREE
PRESERVATION PLAN**

**51-52 Hawkesville Rd., St. Jacobs ON
PREPARED FOR POLOCORP INC.**

January 21, 2025

CONTENTS

1. INTRODUCTION	4
1.1. Background and Site Context	4
1.2. Study Purpose and Scope	4
1.3. Relevant Policies and Legislation	5
1.3.1. Region of Waterloo Tree Conservation By-law (2001)	5
1.3.2. Township of Woolwich Site Alteration By-Law No. 86-2020 (2020).....	6
2. METHODS	6
2.1. Tree Inventory and Arborist Assessment.....	6
3. FINDINGS	7
3.1. Tree Inventory and Arborist Assessment.....	7
4. IMPACT ASSESSMENT	11
4.1. Description of Proposed Work	11
4.2. Impacts to Trees and Compensation Requirements	11
5. TREE PROTECTION & MITIGATION STRATEGIES	12
5.1. Legislative Compliance	12
5.1.1. Endangered Species Act, 2007	12
5.1.2. Migratory Birds Convention Act, 1994.....	12
5.1.3. Region of Waterloo Tree Conservation By-Law (2001).....	13
5.1.4. Township of Woolwich Site Alteration By-Law No. 86-2020 (2020).....	13
5.2. Tree Protection and Mitigation.....	13
5.2.5. Tree Protection Zones.....	13
5.2.6. General Best Management Practices.....	13
5.2.7. Replacement Trees	17
5.2.8. Permitting	17
6. CONCLUSION	17
7. ASSUMPTIONS & LIMITATIONS	18
8. REFERENCES	19



Tables

Table 1. DBH distribution of inventoried trees.....10

Table 2. Summary of structural condition, biological health and preservation priority of inventoried trees. 10

Table 3. Summary of impacted trees and compensation requirements (ref. Appendix A).....11

Table 4. Construction activities, impacts to trees, and recommended mitigation measures to prevent or minimize damage to trees (based on Matheny and Clarke 1998; ANSI, 3000; OPSS, 2019). 14

Figures

Figure 1. Site Location.....4

Maps

- Map 1. Tree Inventory Plan
- Map 2. Tree Preservation Plan

Appendices

- Appendix A. Tree Data Table





1. INTRODUCTION

1.1. Background and Site Context

Dougan Ecology (Dougan) was retained to complete a tree survey and arborist assessment for the above-noted subject property (Figure 1) in support of a development proposed on existing trucking company lands zoned agricultural. The proposed development will consist of 25 single detached dwellings, 31 townhouse units, and 2 medium-density building blocks with 28-40 units in each building, as well as associated parking, streets, and servicing.

This Arborist Report and appended Tree Preservation Plan (TPP) has been prepared following an inventory of all trees 10 cm DBH (diameter at breast height) or greater that may be impacted by the proposed development. This report provides our methodology, findings, and recommendations.



Figure 1. Site Location

1.2. Study Purpose and Scope

The study purpose and scope of this report is based on requirements outlined in the Region of Waterloo Tree Conservation By-law 08-026 (2001) and the Township of Woolwich Site Alteration By-law 86-2000 (2000), as summarized in Section 1.3.

The following Arborist Report includes a Tree Preservation Plan, which includes a detailed inventory of all trees situated within the property boundary, 10cm DBH or greater.

1.3. Relevant Policies and Legislation

1.3.1. Region of Waterloo Tree Conservation By-law (2001)

By-law 08-026, established by the Regional Municipality of Waterloo, aims to safeguard trees within woodlands to preserve the health of natural environments and promote good forestry practices. To be subject to this by-law, a woodland must cover at least one hectare and meet the following tree density criteria:

- A minimum of 1,000 trees per hectare of any size.
- At least 750 trees per hectare with a diameter over five centimeters.
- A minimum of 500 trees per hectare with a diameter over 12 centimeters.
- At least 250 trees per hectare with a diameter over 20 centimeters.

These density requirements set the scope for the by-law's protection, ensuring that significant tree populations are regulated to maintain the integrity of woodland ecosystems.

A Regional permit is required prior to the cutting or destruction of trees in a forested area greater than 1 hectare/2.47 acres (woodlands). Doing so without a permit is a chargeable Provincial Offence. The Region offers three types of permits:

- **Good Forestry Practices Permit:** May be issued by an officer to the woodland owner or an authorized individual as per the owner of the woodland if a tree or trees of a protected species (as per Schedule A) are to be injured or destroyed in response to a Forestry Management Plan or silvicultural prescription.
- **Diameter Limit/Basal Area Permit:** May be issued by an officer to the woodland owner or an authorized individual as per the owner of the woodland to allow the injuring of tree or trees of a protected species if the injury or destruction of the tree or trees will not reduce the total basal area, will not reduce the number of trees so that it no longer constitutes a woodland or reduce the total area of the woodland.
- **Woodland Removal Permit:** May be issued by a Tree By-Law committee to an authorized individual as per the owner of the woodland to allow the injuring or destruction of a tree or trees of a protected species if the committee deems it to be desirable for the appropriate development of the property and the purpose of the By-Law is maintained.

Site Implications: The development proposal does not involve cutting or destroying trees within a woodland defined as a forested area greater than 1 ha. Therefore, the Region's Woodland Bylaw does not apply.

1.3.2. Township of Woolwich Site Alteration By-Law No. 86-2020 (2020)

Schedule A of the Township of Woolwich Site Alteration By-law No 86-2020 summarizes the requirements for a *Site Alteration Permit*. Section (e) of the by-law states the following is required, pertaining to tree removals:

“For a Site Alteration that proposes the removal of Trees, a copy of approved minor exception or approved Notice of Intent to Cut issued pursuant to the Region of Waterloo Tree Conservation By-law authorizing the removal of Trees;”

Site Implications: An approved minor exception or approved Notice of Intent to Cut issued pursuant to the Region of Waterloo Tree Conservation By-law authorizing the removal of trees is required in order to obtain a Site Alteration Permit. See section 1.3.1 for further details regarding the Region’s Tree Conservation By-law.

Site alteration is defined as the placing or dumping of fill on land, the removal of topsoil from land, or the alteration of the grade of land by any means including the removal of trees, vegetation cover, the compaction of soil or the creation of impervious surfaces, or any combination of these activities.

Any person who wishes to undertake site alteration as per the above definition, is required to obtain a Site Alteration Permit and shall submit an application with all required details outlined in ‘Schedule A’, to the Director to initiate this process.

2. METHODS

2.1. Tree Inventory and Arborist Assessment

An arborist assessment was completed by an International Society of Arboriculture (ISA) Certified Arborist on September 20 and 21, 2023 within the subject property. All observations were made from the ground, i.e. no tree climbing or aerial lift inspection methods were used. All trees 10 cm DBH (diameter at breast height) and over were tagged and documented using the Survey 123 ArcGIS application and geolocated using the Trimble Catalyst DA2 GNSS receiver. The following data was collected:

- Unique tree tag number;
- Species (common name, botanical name);
- DBH recorded at 1.4m (in cm);
- Crown reserve i.e. canopy diameter (in m);
- Tree height (in m);
- Structure condition (high, medium, low);

- Biological health (high, medium, low);
- Preservation priority (high, medium low);
- Any additional comments.

Digital data was managed in ArcGIS. Results of the tree inventory and assessment were overlaid with proposed site plan information (Map 2 - Tree Preservation Plan (TPP)) to assess grading and/or construction impacts to determine which trees can be retained and which should be removed or may be injured (with protective measures in place).

Mitigation recommendations are based primarily on two ISA resources; Managing Trees During Construction (Fite and Smiley, 2023) and Trees and Development: A Technical Guide to Preservation of Trees During Land Development (Matheny and Clarke 1998).

3. FINDINGS

3.1. Tree Inventory and Arborist Assessment

A total of 103 live trees of 10 cm DBH or larger were tagged and assessed within the anticipated disturbance limit and overlapping natural heritage features. This included hedgerows and woodland edges. The locations of these trees are shown on Map 1 - Tree Inventory Plan, and the data collected for each tree are provided in Appendix A - Tree Data Table.

Figure 2 below showcases the abundance and species distribution of all trees surveyed. None of the species found on site are at risk, or locally rare.



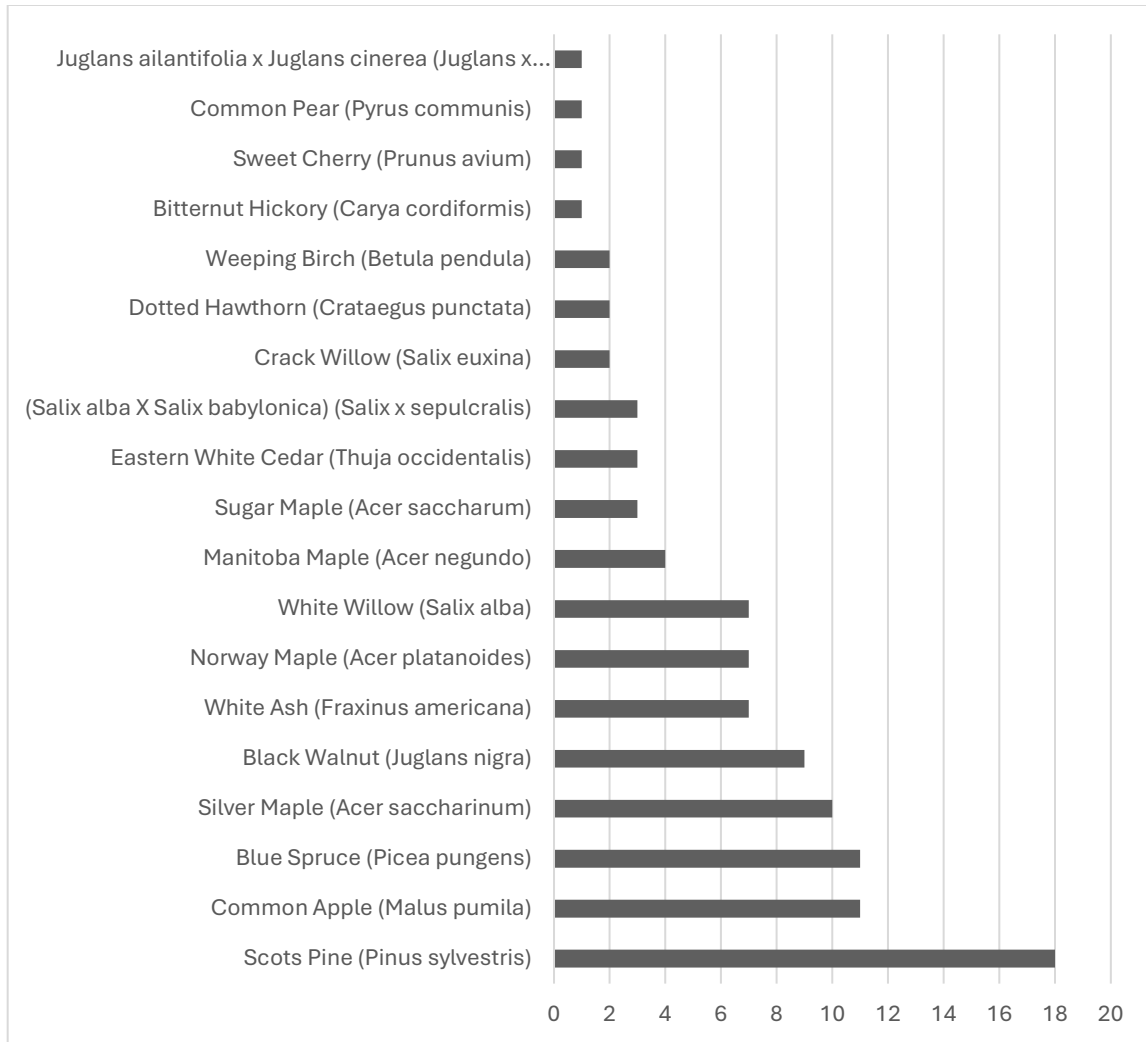


Figure 2. Distribution of inventoried species.

Of the 19 species observed, the most frequently encountered species were Scots Pine (18), Blue Spruce (11), Common Apple (11) and Silver Maple (10).

In general, the surveyed area consisted of primarily introduced (non-native) species (Figure 3) with 40 trees comprised of native species, and 63 trees comprised of non-native species. Included in the list of native species is Manitoba Maple. While this tree is technically naturalized within Ontario, it is considered invasive in some areas of Ontario including Southern Ontario by the Ontario Invasive Plant Council (OIPC) and The Natural History Information Center (NHIC). The species presents with certain invasive qualities such as high annual seed production and tolerance to a wide range of growing conditions, allowing it to outcompete higher quality native species.

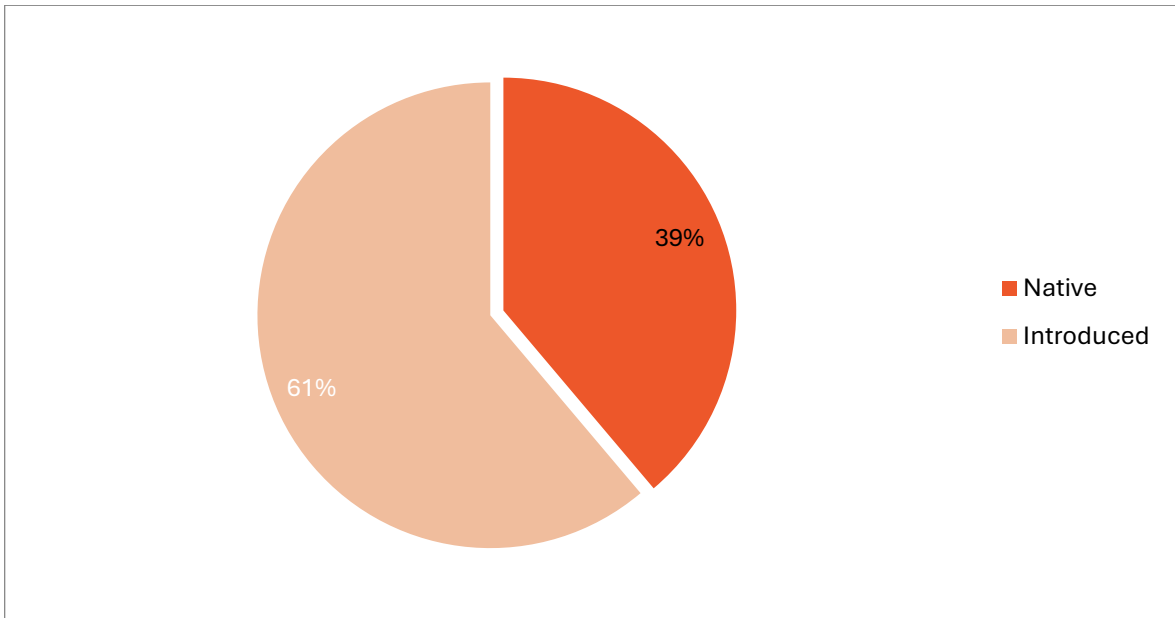


Figure 3. Comparison of native vs. non-native (introduced) trees.

Native species identified include the following 8 species:

- Black Walnut (*Juglans nigra*)
- White Ash (*Fraxinus americana*)
- Dotted Hawthorn (*Crataegus punctata*)
- Manitoba Maple (*Acer negundo*)
- Bitternut Hickory (*Carya cordiformis*)
- Silver Maple (*Acer saccharinum*)
- Sugar Maple (*Acer saccharum*)
- Eastern White Cedar (*Thuja occidentalis*)

Non-native (introduced) species identified include the following 11 species:

- Common Apple (*Malus pumila*)
- Crack Willow (*Salix euxina*)

- Sweet Cherry (*Prunus avium*)
- Norway Maple (*Acer platanoides*)
- Scots Pine (*Pinus sylvestris*)
- Blue Spruce (*Picea pungens*)
- Common Pear (*Pyrus communis*)
- Weeping Birch (*Betula pendula*)
- Juglans ailantifolia x Juglans cinerea (*Juglans X bixbyi*)
- Salix alba x Salix babylonica (*Salix x sepulcralis*)
- White Willow (*Salix alba*)

Tree sizes ranged from 10 cm to 90 cm DBH. Most trees (58%) were in the range of 20-49 cm DBH (Table 1). The largest living trees (tree #223 and 286) are both Silver Maple, each with DBHs of 90 cm.

Table 1. DBH distribution of inventoried trees.

DBH	No. of Trees
≥ 50 cm	12
20 - 49 cm	60
≥ 10 cm - 19 cm	31
Total	103

The majority of the trees were assessed as having high structural condition and high biological health (Table 2). High ranking is defined by trees with no structural defects, no disease symptoms and/or high vigor.

Table 2. Summary of structural condition, biological health and preservation priority of inventoried trees.

Ranking	Structural Condition	Biological Health	Preservation Priority
High	63	47	42
Medium	25	43	45
Low	15	13	16
Total	103	103	103

Map 1 provides a spatial representation of trees based on their biological health ranking.

4. IMPACT ASSESSMENT

4.1. Description of Proposed Work

The proposed concept plan was prepared by Polocorp (November, 2024) and is provided in Appendix A. The anticipated limit of disturbance (grading) has been applied to Map 2: Tree Preservation Plan to determine tree action (Preserve, Injure, Remove) based on the proximity of disturbance to treed driplines/canopy, as summarized in section 2.1.

4.2. Impacts to Trees and Compensation Requirements

Of the 103 trees considered in the impact assessment (i.e. all tagged and geolocated trees ≥ 10 cm DBH; not including saplings and seedlings), a total of 45 trees will be preserved, 48 will require removal, and 10 are anticipated to be injured with protective measures in place (Tree Protection Hoarding) (ref. Map 2).

Tree action was determined by overlaying the limit of work with the location of trees established during the tree inventory:

- Trees with disturbance greater than 30% within their driplines are generally considered too heavily impacted to be retained and were therefore designated as **"remove"**.
- Trees with disturbance within a portion of the dripline, but less than 30% are considered partly impacted and designated as **"injure"**.
- Trees that are not anticipated to have work occur within their driplines are designated **"preserve"**.

Table 3 summarizes the number of trees to be preserved, injured, or removed based on the current concept plan (Map 2).

Table 3. Summary of impacted trees and compensation requirements (ref. Appendix A).

Tree Action	Tree Count
Preserve	40
Injure	10
Remove	53
Total	103

5. TREE PROTECTION & MITIGATION STRATEGIES

Specific recommendations are provided in **Table 7** for mitigating impacts to trees that are caused by various construction activities. The following recommendations are intended to mitigate the injuries anticipated to trees based on the site plan prepared by Polocorp Inc. (Map 2).

5.1. Legislative Compliance

5.1.1. Endangered Species Act, 2007

Some trees exhibit suitable attributes that are associated with Species at Risk (SAR) bat maternity roost habitat (i.e. large cavities, cracks, loose bark). Four (4) species of Endangered bats reside in Ontario and may utilize these trees during the maternity roosting season: Little Brown Myotis (*Myotis lucifugus*), Northern Myotis (*Myotis septentrionalis*), Tricolored Bat (*Perimyotis subflavus*), and Eastern Small Footed Myotis (*Myotis leibii*). These species receive protection under the provincial Endangered Species Act (ESA), 2007. In Southern Ontario, the maternity roosting season is from **April 1 to September 30**.

Due to the isolated nature of trees that are proposed to be impacted (i.e. not within a larger forest or natural area), small number of candidate bat tree removals, and location in a largely agricultural context, **removal of these trees outside of the bat roosting season (April 1 - September 30)** does not trigger the ESA, 2007).

5.1.2. Migratory Birds Convention Act, 1994

The following recommendations apply to tree removal as it relates to compliance with the Migratory Birds Convention Act (1994):

To ensure compliance with the Migratory Bird Convention Act (MBCA 1994), any vegetation removal on the site should be done outside of the breeding bird window, which for this site is approximately **April 15 - August 15**. If any vegetation removal is to occur within this window, a qualified avian ecologist should first check the vegetation to be removed to ensure that there are no migratory birds covered by the Act nesting within it.

If any birds are found nesting, then, in consultation with Environment Canada, a suitable buffer should be established around the nest, and no activities will be permitted with this buffer until the birds have left.

If construction occurs during the breeding bird window, nest sweeps of the site should be conducted prior to construction to ensure that unusually early or late nesting is not taking place, or that dependent young, even though fully fledged, are not in the area and unable to disperse. If breeding birds are found, construction must be delayed until all young have fledged.

5.1.3. Region of Waterloo Tree Conservation By-Law (2001)

The development proposal does not involve cutting or destroying trees within a woodland defined as a forested area greater than 1 ha. Therefore, the Region's Woodland Bylaw does not apply.

5.1.4. Township of Woolwich Site Alteration By-Law No. 86-2020 (2020)

To comply with the Site Alteration By-law, proponents must obtain a Site Alteration Permit before **starting** any activities such as tree/vegetation clearing, placing or dumping fill, removing topsoil, or altering the land grade. For Site Alteration that proposes the removal of Trees, a copy of approved minor exception or approved Notice of Intent to Cut issued pursuant to the Region of Waterloo Tree Conservation By-law authorizing the removal of Trees.

5.2. Tree Protection and Mitigation

5.2.5. Tree Protection Zones

Tree Protection Fencing (TPF) should be installed pre-construction to mitigate impacts to trees marked as "Injure" or "Preserve" (Map 2). TPF should be installed a minimum of 0.5m outside of the tree drip line, or at the outer limit of development, to delineate the required Tree Preservation Zone (TPZ) and as shown on the Tree Preservation Plan (Map 2; **OPSS 801.07**).

Appropriate signage should be applied to the Tree Protection Fencing. In addition, the minimum TPZ for all trees where the standard TPZ cannot be provided is to be shown as a distinct line type from the dripline/canopy limit.

5.2.6. General Best Management Practices

General best management practices to mitigate pre-construction and construction impacts to trees marked as "preserve" and "injure" are outlined in Table 4 below.



Table 4. Construction activities, impacts to trees, and recommended mitigation measures to prevent or minimize damage to trees (based on Matheny and Clarke 1998; ANSI, 3000; OPSS, 2019).

Construction Activity	Impacts to Tree	Recommended Mitigation/Treatments to Prevent Damage
Protecting preserved or injured trees pre-construction	Root damage or loss, compromised structural integrity and long-term health	- Preserved and injured trees must be surrounded by a continuous barrier (TPF), which shall be installed prior to site clearing, grading and demolition, and maintained through construction and landscaping. Location of the TPF should be determined or verified prior to installation by a certified arborist. - Install mulch to a depth of 4 inches within the Tree Protection Zone, ensuring mulch does not touch the trunk.
Root and/or branch pruning of preserved or injured trees pre-construction	Root damage or loss, compromised structural integrity and long-term health	- Where excavation is proposed within the dripline and/or tree protection zones, root pruning may be required. If significant roots must be cut, the following is to be adhered to: - Provide deep watering (to a depth of 30 inches) prior to excavation. - Stake the edge of excavation. - Cut with sterilized root pruning equipment 15-30 cm outside the staked line towards the tree. - If root pruning equipment cannot be used, dig a trench along the staked line. Equipment such as a backhoe can be used until roots larger than 1 inch in diameter are encountered. Then, complete excavation with a shovel. - When a root is encountered, expose it by removing soil by hand, and cut root cleanly with a sterilized saw at the outside edge of the trench (towards the tree). Cut to a lateral root when possible. Do not paint the cut root end. If excavation is for installation of underground utilities, leave the root intact and thread the lines underneath if possible. - Replace soil in the trench. - Place tree protection fencing at the edge of excavation. - All grading equipment to operate outside the protection fence area. - Every effort shall be made to protect exposed roots from desiccation by covering said roots with moisture retaining material such as wet burlap, or moist

Construction Activity	Impacts to Tree	Recommended Mitigation/Treatments to Prevent Damage
		topsoil, and a covering such as a tarpaulin. The covered area should be monitored and kept moist to avoid root desiccation. • All pruning should be performed by qualified arborists and in accordance with the International Society of Arboriculture's Pruning Best Management Practices (2019). • Should any overhead branches obstruct construction activity, they shall be tied back to provide clearance. If this is not possible, branches shall be pruned by a certified arborist following ISA best management practices, ANSI 300 Pruning Standard and OPSS (2019) 801.07.03: - o Ensure branches are cut at a forty-five-degree angle just above the node and/or branch collar with a sharp sterile saw. - o Branches 25 mm or greater in diameter that are broken shall be cut back cleanly on the tree side of the break or to within 10 mm of their base, if a substantial portion of the branch is damaged.
Clearing and grubbing (around trees to be retained)	Root damage or loss, compromised structural integrity and long-term health	• Install Tree Protection Fencing (Map 2). • Prohibit stripping existing topsoil within TPZ around trees to be retained. • Woody vegetation to be removed adjacent to preserved trees should be cut at ground level and not pulled out by equipment. Arborist may be needed for adjacent tree removal if crowns are intertwined. • If roots of trees to be retained are cut or torn during the clearing and grubbing, they shall be pruned by an ISA Certified Arborist.
Trenching for infiltration gallery	Root damage or loss, compromised structural integrity and long-term health	• Trenching should be avoided within the Tree Protection Zone of trees to be preserved. Tunneling below the root zone is preferred to a minimum depth of 2m below the existing grade. Where this is not feasible, dig the trench by hand and either prune roots or bridge roots that are greater than 2.5cm in diameter. Soil around roots should be excavated using an air excavation tool or similar method. Trenches should be backfilled around roots with loam or sandy loam for optimal

Construction Activity	Impacts to Tree	Recommended Mitigation/Treatments to Prevent Damage
		growing conditions, with minimal compaction to allow for root regrowth. It is recommended that hand-dug or air excavated trenches be completed or supervised by an ISA Certified Arborist. The trees affected should only be preserved if this mitigation recommendation is implemented.
Creating clearance for building, traffic, and movement of construction equipment	Damage to crown	• Install Tree Protection Fencing around the TPZ. • Divert construction traffic away from trees. • Prior to construction, prune branches of trees to a minimum height required for construction. All pruning shall be completed by a Certified Arborist.
Soil compaction/Filling (around trees to be retained)	Unfavourable conditions for root growth; chronic stress from reduced root systems	• Install Tree Protection Fencing to keep traffic and storage out of root area. Where access within the TPZ is required, adjust the TPZ and protect soils with at least 15cm of mulch. • Divert construction traffic and storage areas away from trees. • Minimize soil compaction within the Tree Protection Zone.
Spills, Waste disposal (e.g. paint, oil, fuel)	Unfavourable conditions for root growth; chronic stress from reduced root systems	• Install Tree Protection Fencing to exclude dumping. • Clean up accidental spills immediately.
Increased exposure due to removal of adjacent trees and pruning.	Increased exposure	• Retain or replace understory vegetation with suitable native species or mulch. • Avoid severe pruning where previously shaded bark would be exposed to sun.
Construction protective measures	To minimize impact to trees	• If injury should occur to any tree during construction, it should be evaluated as soon as possible (no more than 6 hours) by a certified arborist so that appropriate treatments can be applied. • Bark that is damaged shall be neatly trimmed back to uninjured bark without causing further injury to the tree. • Any grading, construction, demolition, or other work that is expected to encounter tree roots must be monitored by the consulting arborist.

Construction Activity	Impacts to Tree	Recommended Mitigation/Treatments to Prevent Damage
		Any roots damaged during grading or construction shall be exposed to sound tissue and cut cleanly with a saw.

5.2.7. Replacement Trees

Tree removals should be replaced at a **2:1 replacement ratio** (Region of Waterloo, 2024); **a total of 106 replacement trees** are required to accommodate the 53 proposed removals. The replacement trees shall be at least 1.8 m in height, of species native to the Region and appropriate to the local conditions in the opinion of the Region. The Contractor shall plant the replacement trees in a location approved by the Region. The Contractor shall amend the soil, install collars to protect against rodent damage, and stake and mulch the replacement trees to the satisfaction of the Region. The Contractor shall plant the replacement trees from **April 1 to May 10** or from **September 15 to November 30**, whichever time period is closer when completing the Work (Region of Waterloo, 2024).

5.2.8. Permitting

Before any site alterations can take place, the Tree Preservation Plan and Arborist Report must be approved by the relevant agencies.

6. CONCLUSION

This arborist report and Tree Preservation Plan were prepared in support of a mixed-use development proposal at 51-52 Hawkesville Rd. in St. Jacobs. A total of 103 trees of 10 cm DBH or larger were inventoried and assessed within the subject lands including trees within forested slopes, hedgerows, and cultural communities.

To facilitate the proposed development, a total of **53 trees are proposed to be removed and 10 additional trees may be injured**. An additional 40 trees will be retained on site. Tree preservation and mitigation recommendations for trees marked as preserve or injure are provided in section 5, consistent with the Tree Preservation Plan (Map 2). Impacts to trees (including tree action – preserve, injure or remove) will be further refined and confirmed through the detailed design/Site Plan Application phase.

Trees proposed for removal should be **replaced on site at a ratio of 2:1 (a total of 106 replacement trees)**, consisting of native species appropriate to the planting location. Tree replacement requirements are to be confirmed in consultation with the relevant agencies through the permitting process.

This Arborist Report and Tree Management Plan was prepared in accordance with the Endangered Species Act (2007), Migratory Birds Convention Act (1994), Regional Municipality of Waterloo Tree Conservation By-Law 08-26 (2001) and the Township of Woolwich Site Alteration By-Law 86-2020 (2020). If the recommendations herein are followed, the project will be conducted in compliance with provincial and local regulations.

7. ASSUMPTIONS & LIMITATIONS

- The Consultant has no interest, either personal or monetary, in the outcome of the assignment and purpose of the assessment.
- The assessment has been conducted using visual examination of only the above ground parts of trees. Unless specifically noted, trees were not cored, probed, sounded, or climbed. Parts of the trees below ground, unless specifically noted, were not inspected nor exposed by excavation for assessment.
- Trees are living organisms that respond individually to static and variable influences such as climate, gravity, wind, and biotic factors. Therefore, this assessment is limited to the observations made at the time of inspection.
- Every reasonable effort has been made to ensure the accuracy of the assessment, within Arboriculture Industry accepted practices; however, no guarantees are offered or implied that the trees and their parts will remain standing or alive.
- I trust that the enclosed meets the requirements set out by the City of Guelph with respect to documenting existing trees and providing recommendations on protection, mitigation, and compensation.

Respectfully submitted,



Christina Olar, B.Sc., Eco.Mgmt. Tech., ISA
Manager of Ecology
ISA # ON- 2586A



Todd Fell, OALA, CSLA, CERP
Principal, Manager of Landscape
Architecture

8. REFERENCES

American National Standards Institute [ANSI]. 1991. ANSI A300 Part 1: Tree, Shrub, and Other Woody Plant Maintenance – Standard Practices (Pruning). Sullivan’s Island. Retrieved from:

<https://sullivansisland.sc.gov/sites/sullivansisland/files/Documents/Tree%20Preservation/ANSI%20300-%20Pruning%20Standards.pdf>

Fite and Smiley. 2023. Best Management Practices - Managing Trees During Construction, Third Edition (2023).

Matheny and Clarke. 1998. and Trees and Development: A Technical Guide to Preservation of Trees During Land Development (Matheny and Clarke 1998).

Ontario Provincial Standard Specification 2018. Construction Specifications for the Protection of Trees. The Road Authority. Retrieved from:

<https://www.roadauthority.com/Standards/?id=bdd0dd97-91d3-4f7b-96d8-61a9da486f1a>

Regional Municipality of Waterloo. 2024. Regional Municipality of Waterloo Standard Special Provisions (RWSSP).

Regional Municipality of Waterloo. 2001. Tree Conservation By-Law, Regional Municipality of Waterloo By-Law 08-026. Retrieved from:

<https://www.regionofwaterloo.ca/en/resources/Bylaws/By-law-08-026.PDF>

Township of Woolwich. 2020. Site Alteration By-Law, Township of Woolwich By-Law 86-2020. Retrieved from: https://www.woolwich.ca/en/township-services/resources/By-laws/By-law_86-2020_-_A_By-law_to_Prohibit_or_Regulate_Site_Alteration.pdf



Maps



PROJECT: DA21-059-02

CLIENT: Polocorp

DATE: 15, January 2025

DRAWN BY: C. White / J. Lacsamana / J. Sauder



Map 1:
Tree Inventory

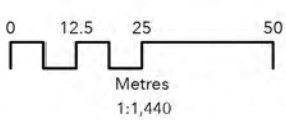
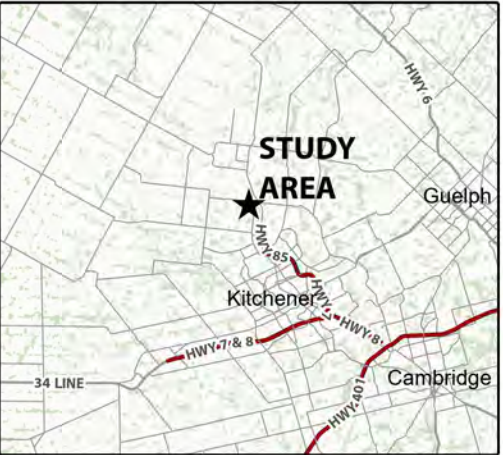
Hawkesville Road EIS

Subject Property

Tree Inventory

Preservation Priority

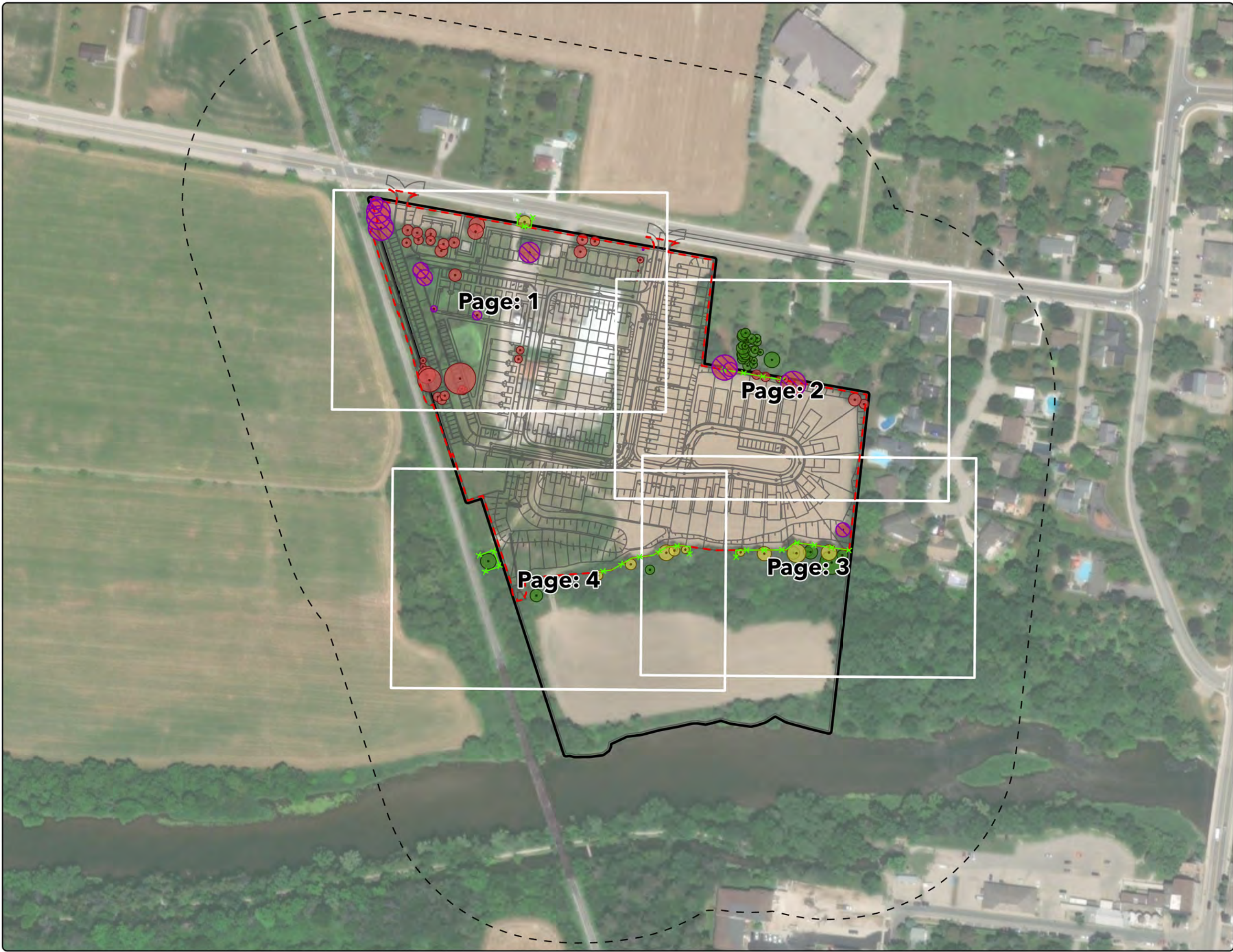
- High
- Medium
- Low



Orthoimagery Source: Esri, USGS, Maxar

The information displayed on this map has been compiled from various sources. While every effort has been made to accurately depict the information, this map should not be relied on as being a precise indicator of locations, features, or roads, nor as a guide to navigation. MNRF data provided by King's Printer of Ontario. Use of the data in any derivative product does not constitute an endorsement by the MNRF or the Ontario Government of such products.





Map 2: Tree Preservation Plan

Hawkesville Road EIS

Site Boundary (Polocorp, 2024)

Adjacent Lands (120m)

Site Plan (Polocorp, 2025)

Limit of Disturbance (Polocorp, 2025)

Tree Protection Fencing

Tree Action

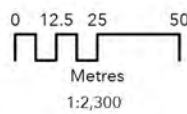
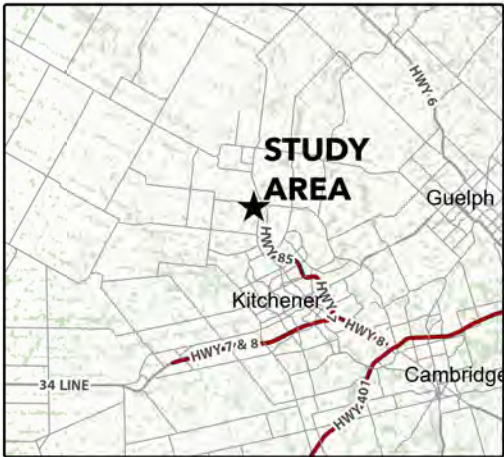
Preserve

Injure

Remove

Potential Salvage¹

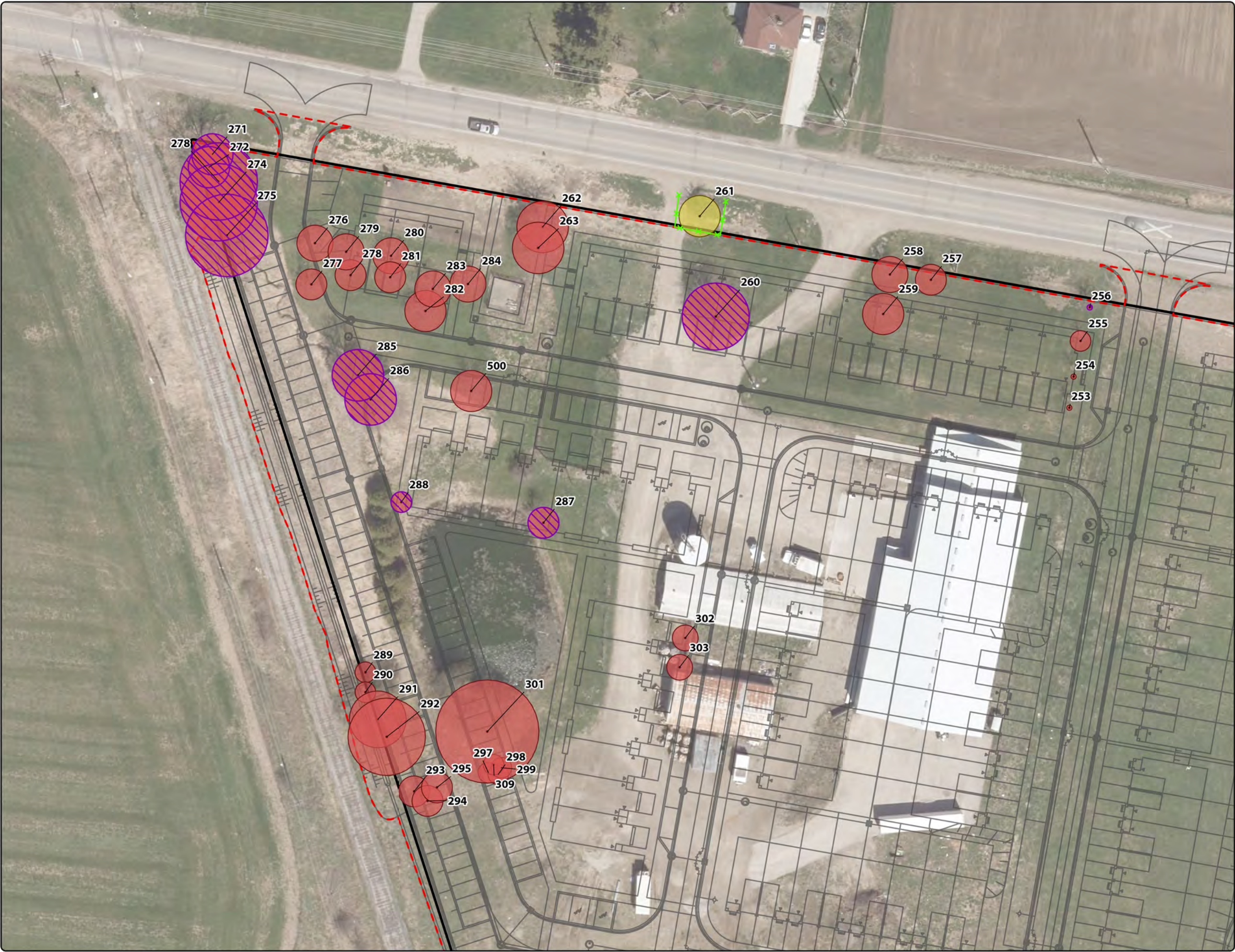
1) 15 native trees with a DBH of greater than 20cm are to be salvaged for enhancement areas. See Site Preparation plan for temporary holding area location and Landscape Plans for installation instruction.



Orthimagery Source: Esri, USGS, Maxar

The information displayed on this map has been compiled from various sources. While every effort has been made to accurately depict the information, this map should not be relied on as being a precise indicator of locations, features, or roads, nor as a guide to navigation. MNR data provided by King's Printer of Ontario. Use of the data in any derivative product does not constitute an endorsement by the MNR or the Ontario Government of such products.





Map 2.1
Tree Preservation Plan

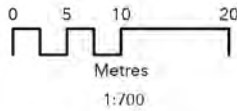
Hawkesville Road EIS

- Site Boundary (Polocorp, 2024)
- Adjacent Lands (120m)
- Site Plan (Polocorp, 2025)
- Limit of Disturbance (Polocorp, 2025)
- Tree Protection Fencing

Tree Action

- Preserve
- Injure
- Remove
- Potential Salvage¹

1) 15 native trees with a DBH of greater than 20cm are to be salvaged for enhancement areas. See Site Preparation plan for temporary holding area location and Landscape Plans for installation instruction.



Orthoimagery Source: Esri, NASA, NGA, USGS, FEMA, Region of Waterloo, Maxar, Microsoft

The information displayed on this map has been compiled from various sources. While every effort has been made to accurately depict the information, this map should not be relied on as being a precise indicator of locations, features, or roads, nor as a guide to navigation. MNR data provided by King's Printer of Ontario. Use of the data in any derivative product does not constitute an endorsement by the MNR or the Ontario Government of such products.



PROJECT: DA21-059-02

CLIENT: Polocorp

DATE: 23, January 2025

DRAWN BY: J. Lacsamana



Map 2.2 Tree Preservation Plan

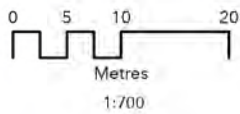
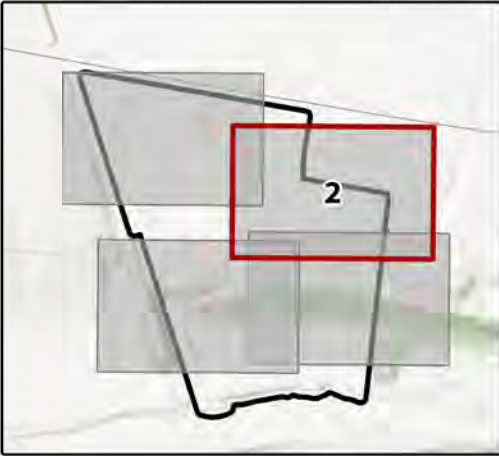
Hawkesville Road EIS

- Site Boundary (Polocorp, 2024)
- Adjacent Lands (120m)
- Site Plan (Polocorp, 2025)
- Limit of Disturbance (Polocorp, 2025)
- Tree Protection Fencing

Tree Action

- Preserve
- Injure
- Remove
- Potential Salvage¹

1) 15 native trees with a DBH of greater than 20cm are to be salvaged for enhancement areas. See Site Preparation plan for temporary holding area location and Landscape Plans for installation instruction.



Orthoimagery Source: Maxar, Microsoft, Esri, NASA, NGA, USGS, FEMA

The information displayed on this map has been compiled from various sources. While every effort has been made to accurately depict the information, this map should not be relied on as being a precise indicator of locations, features, or roads, nor as a guide to navigation. MNR data provided by King's Printer of Ontario. Use of the data in any derivative product does not constitute an endorsement by the MNR or the Ontario Government of such products.



PROJECT: DA21-059-02

CLIENT: Polocorp

DATE: 23, January 2025

DRAWN BY: J. Lacsamana



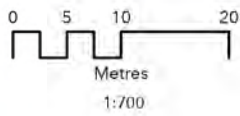
Map 2.3 Tree Preservation Plan

Hawkesville Road EIS

- Site Boundary (Polocorp, 2024)
- Adjacent Lands (120m)
- Site Plan (Polocorp, 2025)
- Limit of Disturbance (Polocorp, 2025)
- Tree Protection Fencing

- Tree Action**
- Preserve
 - Injure
 - Remove
 - Potential Salvage¹

1) 15 native trees with a DBH of greater than 20cm are to be salvaged for enhancement areas. See Site Preparation plan for temporary holding area location and Landscape Plans for installation instruction.



Orthoimagery Source: Maxar, Microsoft, Esri, NASA, NGA, USGS, FEMA

The information displayed on this map has been compiled from various sources. While every effort has been made to accurately depict the information, this map should not be relied on as being a precise indicator of locations, features, or roads, nor as a guide to navigation. MNR data provided by King's Printer of Ontario. Use of the data in any derivative product does not constitute an endorsement by the MNR or the Ontario Government of such products.





Map 2.4 Tree Preservation Plan

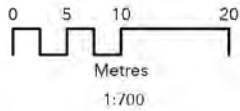
Hawkesville Road EIS

- Site Boundary (Polocorp, 2024)
- Adjacent Lands (120m)
- Site Plan (Polocorp, 2025)
- Limit of Disturbance (Polocorp, 2025)
- Tree Protection Fencing

Tree Aciton

- Preserve
- Injure
- Remove
- Potential Salvage¹

1) 15 native trees with a DBH of greater than 20cm are to be salvaged for enhancement areas. See Site Preparation plan for temporary holding area location and Landscape Plans for installation instruction.



Orthoimagery Source: Maxar, Microsoft, Esri, NASA, NGA, USGS, FEMA

The information displayed on this map has been compiled from various sources. While every effort has been made to accurately depict the information, this map should not be relied on as being a precise indicator of locations, features, or roads, nor as a guide to navigation. MNRF data provided by King's Printer of Ontario. Use of the data in any derivative product does not constitute an endorsement by the MNRF or the Ontario Government of such products.



Appendix A. Tree Data Table



Tree Tag		Tree Status	Common Name	Scientific Name	DBH1 ¹	DBH2	DBH3	DBH4	DBH5	DBH6	DBH Total	Crown Reserve ² (m)	Height ³	Structural Condition	Biological Health	Preservation Priority	Native Status ⁷	Tree Action ⁸	Candidate Bat Roosting Tree	Rationale for Impact	Ownership	Compensation ⁹	GPS Horizontal Accuracy (m) ¹⁰	NAD83 UTM Coordinate	X Zone 17N Coordinate	Y
#					(cm)	(cm)	(cm)	(cm)	(cm)	(cm)	(cm)		(m)													
201	Alive	Black Walnut	Juglans nigra		31	0.00	0.00	0.00	0.00	0.00	31	10	10-15 m	M	H	M	N	Preserve			Neighbour Property - Railway			535622.1257	4821168.319	
202	Alive	Common Apple	Malus pumila		28	0.00	0.00	0.00	0.00	0.00	28	8	05-10 m	M	M	M	I	Preserve			Subject Property		0.12	535652.7507	4821146.465	
203	Alive	Common Apple	Malus pumila		35	0.00	0.00	0.00	0.00	0.00	35	6	05-10 m	L	M	L	I	Injure		Within LOD	Subject Property		0.13	535692.0591	4821159.205	
204	Alive	Black Walnut	Juglans nigra		20	22.00	0.00	0.00	0.00	0.00	42	7	10-15 m	H	H	H	N	Injure		Within LOD	Subject Property		0.13	535712.9076	4821166.358	
205	Alive	Crack Willow	Salix euxina		60	0.00	0.00	0.00	0.00	0.00	60	6	10-15 m	L	L	L	I	Preserve	X		Subject Property		0.21	535725.1039	4821162.89	
206	Alive	White Ash	Fraxinus americana		45	0.00	0.00	0.00	0.00	0.00	45	10	10-15 m	L	L	L	N	Injure	X	Within LOD	Subject Property		0.07	535735.5388	4821173.725	
207	Alive	White Ash	Fraxinus americana		17	0.00	0.00	0.00	0.00	0.00	17	3	05-10 m	L	L	L	N	Preserve			Subject Property		0.06	535741.3648	4821176.203	
208	Alive	Dotted Hawthorn	Crataegus punctata		18	18.00	18.00	15.00	15.00	0.00	84	7	05-10 m	M	H	H	N	Injure		Within LOD	Subject Property		0.05	535740.682	4821175.165	
209	Alive	Black Walnut	Juglans nigra		16	14.00	0.00	0.00	0.00	0.00	30	5	05-10 m	H	H	H	N	Injure		Within LOD	Subject Property		0.03	535747.6465	4821175.713	
210	Alive	White Ash	Fraxinus americana		25	22.00	0.00	0.00	0.00	0.00	47	5	10-15 m	M	M	L	N	Injure	X	Within LOD	Subject Property			535782.9209	4821173.972	
211	Alive	Crack Willow	Salix euxina		80	0.00	0.00	0.00	0.00	0.00	80	9	10-15 m	L	M	L	I	Injure	X	Within LOD	Subject Property			535797.9657	4821173.117	
212	Alive	Black Walnut	Juglans nigra		33	0.00	0.00	0.00	0.00	0.00	33	8	10-15 m	M	M	M	N	Preserve			Subject Property			535816.4509	4821173.565	
212	Alive	Black Walnut	Juglans nigra		45	40.00	0.00	0.00	0.00	0.00	85	12	15-20 m	H	H	H	N	Injure		Within LOD	Subject Property		0.07	535818.4899	4821173.426	
214	Alive	Black Walnut	Juglans nigra		30	0.00	0.00	0.00	0.00	0.00	30	6	10-15 m	H	M	M	N	Preserve			Subject Property		0.03	535825.7727	4821174.408	
215	Alive	Manitoba Maple	Acer negundo		37	0.00	0.00	0.00	0.00	0.00	37	9	05-10 m	L	L	L	N	Preserve			Subject Property		0.04	535827.4576	4821174.195	
216	Alive	Manitoba Maple	Acer negundo		25	0.00	0.00	0.00	0.00	0.00	25	4	05-10 m	L	L	L	N	Preserve			Subject Property			535835.8134	4821169.549	
217	Alive	Bitternut Hickory	Carya cordiformis		58	0.00	0.00	0.00	0.00	0.00	58	15	15-20 m	H	H	H	N	Preserve			Subject Property		0.07	535840.8499	4821167.474	
218	Alive	Black Walnut	Juglans nigra		39	0.00	0.00	0.00	0.00	0.00	39	10	10-15 m	H	H	H	N	Injure		Within LOD	Subject Property		0.02	535839.1755	4821173.851	
219	Alive	Black Walnut	Juglans nigra		24	0.00	0.00	0.00	0.00	0.00	24	7	05-10 m	H	H	H	N	Preserve			Subject Property		0.04	535847.7073	4821172.212	
220	Alive	Black Walnut	Juglans nigra		35	35.00	0.00	0.00	0.00	0.00	70	9	10-15 m	M	H	H	N	Remove		Within LOD	Subject Property	2:1		535848.0769	4821188.351	
221	Alive	Dotted Hawthorn	Crataegus punctata		18	18.00	18.00	18.00	0.00	0.00	72	6	05-10 m	M	M	M	N	Remove		Within LOD	Subject Property	2:1	0.08	535861.4945	4821268.4	
222	Alive	Sweet Cherry	Prunus avium		35	12.00	0.00	0.00	0.00	0.00	47	8	05-10 m	L	L	L	I	Remove		Within LOD	Subject Property	2:1	0.05	535855.6528	4821271.205	
223	Alive	Silver Maple	Acer saccharinum		90	0.00	0.00	0.00	0.00	0.00	90	16	15-20 m	H	H	H	N	Remove		Within LOD	Property Boundary - Neighbour	2:1	0.04	535816.4495	4821281.338	
224	Alive	Norway Maple	Acer platanoides		21	0.00	0.00	0.00	0.00	0.00	21	5	05-10 m	H	H	H	I	Remove		Within LOD	Property Boundary - Neighbour	2:1	0.11	535810.8886	4821284.268	
225	Alive	Norway Maple	Acer platanoides		16	0.00	0.00	0.00	0.00	0.00	16	4	05-10 m	H	H	H	I	Remove		Within LOD	Property Boundary - Neighbour	2:1	0.05	535807.3728	4821284.14	
226	Alive	Norway Maple	Acer platanoides		28	0.00	0.00	0.00	0.00	0.00	28	6	05-10 m	H	H	H	I	Remove		Within LOD	Property Boundary - Neighbour	2:1	0.06	535798.7497	4821285.742	
227	Alive	Norway Maple	Acer platanoides		21	19.00	0.00	0.00	0.00	0.00	40	6	05-10 m	H	H	H	I	Remove		Within LOD	Property Boundary - Neighbour	2:1	0.06	535793.0226	4821287.181	
228	Alive	Sugar Maple	Acer saccharum		46	0.00	0.00	0.00	0.00	0.00	46	9	10-15 m	M	H	H	N	Remove		Within LOD	Boundary - Neighbour	2:1	0.11	535776.2901	4821290.461	
229	Alive	Silver Maple	Acer saccharinum		73	0.00	0.00	0.00	0.00	0.00	73	16	10-15 m	H	H	H	N	Remove		Within LOD	Property Boundary - Neighbour	2:1	0.07	535772.6194	4821291.68	
230	Alive	Scots Pine	Pinus sylvestris		25	0.00	0.00	0.00	0.00	0.00	25	6	05-10 m	H	M	M	I	Preserve			Neighbour		0.12	535787.2597	4821292.788	
231	Alive	Blue Spruce	Picea pungens		26	0.00	0.00	0.00	0.00	0.00	26	5	10-15 m	H	M	M	I	Preserve			Neighbour		0.12	535791.1299	4821293.693	
232	Alive	Blue Spruce	Picea pungens		24	0.00	0.00	0.00	0.00	0.00	24	4	05-10 m	H	M	M	I	Preserve			Neighbour		0.10	535791.4659	4821296.088	
233	Alive	Blue Spruce	Picea pungens		15	0.00	0.00	0.00	0.00	0.00	15	4	10-15 m	H	M	M	I	Preserve			Neighbour		0.33	535788.3863	4821297.671	
234	Alive	Scots Pine	Pinus sylvestris		30	0.00	0.00	0.00	0.00	0.00	30	6	10-15 m	H	M	M	I	Preserve			Neighbour		0.46	535785.7137	4821296.864	
235	Alive	Scots Pine	Pinus sylvestris		22	0.00	0.00	0.00	0.00	0.00	22	6	10-15 m	H	M	M	I	Preserve			Neighbour		0.43	535783.8876	4821297.027	
236	Alive	Scots Pine	Pinus sylvestris		18	0.00	0.00	0.00	0.00	0.00	18	5	10-15 m	H	M	M	I	Preserve			Neighbour		0.20	535782.8558	4821300.028	
237	Alive	Scots Pine	Pinus sylvestris		31	0.00	0.00	0.00	0.00	0.00	31	8	10-15 m	H	M	M	I	Preserve			Neighbour		0.67	535784.9094	4821299.369	
238	Alive	Scots Pine	Pinus sylvestris		18	0.00	0.00	0.00	0.00	0.00	18	6	10-15 m	H	M	M	I	Preserve			Neighbour		0.87	535786.0069	4821299.647	
239	Alive	Scots Pine	Pinus sylvestris		18	0.00	0.00	0.00	0.00	0.00	18	6	05-10 m	H	M	M	I	Preserve			Neighbour		0.19	535784.9499	4821300.853	
240	Alive	Scots Pine	Pinus sylvestris		19	0.00	0.00	0.00	0.00	0.00	19	1	05-10 m	H	L	L	I	Preserve			Neighbour		0.35	535788.2241	4821300.723	
241	Alive	Blue Spruce	Picea pungens		35	0.00	0.00	0.00	0.00	0.00	35	7	10-15 m	H	H	H	I	Preserve			Neighbour		0.65	535790.998	4821301.823	
242	Alive	Blue Spruce	Picea pungens		22	0.00	0.00	0.00	0.00	0.00	22	4	10-15 m	H	H	H	I	Preserve			Neighbour		0.09	535795.451	4821301.451	
243	Alive	Blue Spruce	Picea pungens		21	0.00	0.00	0.00	0.00	0.00	21	5	10-15 m	H	M	M	I	Preserve			Neighbour		0.34	535792.1277	4821303.034	
244	Alive	Scots Pine	Pinus sylvestris		23	0.00	0.00	0.00	0.00	0.00	23	5	10-15 m	H	M	M	I	Preserve			Neighbour		0.19	535786.5342	4821303.283	
245	Alive	Scots Pine	Pinus sylvestris		20	0.00	0.00	0.00	0.00	0.00	20	3	10-15 m	H	M	M	I	Preserve			Neighbour		0.24	535785.4374	4821303.583	
246	Alive	Scots Pine	Pinus sylvestris		32	0.00	0.00	0.00	0.00	0.00	32	8	10-15 m	M	M	M	I	Preserve			Neighbour		0.46	535784.1828	4821304.082	
247	Alive	Scots Pine	Pinus sylvestris		17	0.00	0.00	0.00	0.00	0.00	17	5	05-10 m	H	M	M	I	Preserve			Neighbour		0.73	535783.8916	4821305.797	
248	Alive	Scots Pine	Pinus sylvestris		21	0.00	0.00	0.00	0.00	0.00	21	4	10-15 m	H	M	M	I	Preserve			Neighbour		1.00	535785.719	4821305.32	
249	Alive	Scots Pine	Pinus sylvestris		15	0.00	0.00	0.00	0.00	0.00	15	3	10-15 m	H	M	M	I	Preserve			Neighbour		0.26	535785.1684	4821309.091	
250	Alive	Blue Spruce	Picea pungens		18	0.00	0.00	0.00	0.00	0.00	18	4	10-15 m	H	M	M	I	Preserve			Neighbour		0.47	535787.6418	4821307.91	
251	Alive	Blue Spruce	Picea pungens		28	0.00	0.00	0.00	0.00	0.00	28	5	10-15 m	H	M	M	I	Preserve			Neighbour		0.74	535791.1572	4821308.556	
264	Alive	Blue Spruce	Picea pungens		23	0.00	0.00	0.00	0.00	0.00	23	5	10-15 m	H	M	M	I	Preserve			Neighbour		0.17	535793.5282	4821307.993	
265	Alive	Blue Spruce	Picea pungens		17	0.00	0.00	0.00	0.00	0.00	17	5	05-10 m	H	M	M	I	Preserve			Neighbour		0.09	535793.2525	4821310.423	
266	Alive	Blue Spruce	Picea pungens		25	0.00	0.00	0.00	0.00	0.00	25	6	10-15 m	H	M	M	I	Preserve			Neighbour		0.35	535789.6894	4821310.107	
267	Alive	Scots Pine	Pinus sylvestris		19	0.00	0.00	0.00	0.00	0.00	19	3	05-10 m	M	M	M	I	Preserve			Neighbour		0.62	535786.2676	4821308.934	
268	Alive	Scots Pine	Pinus sylvestris		25	0.00	0.00	0.00	0.00	0.00	25	7	10-15 m	H	M	M	I	Preserve			Neighbour		0.87	535784.1058	4821311.658	
269	Alive	Scots Pine	Pinus sylvestris		28	0.00	0.00	0.00	0.00	0.00	28	7	10-15 m	H	M	M	I	Preserve			Neighbour		1.10	535784.3393	4821312.623	
270	Alive	Scots Pine	Pinus sylvestris		25	0.00	0.00	0.																		

Tree Tag #	Tree Status	Common Name	Scientific Name	DBH1 ¹ (cm)	DBH2 (cm)	DBH3 (cm)	DBH4 (cm)	DBH5 (cm)	DBH6 (cm)	DBH Total (cm)	Crown Reserve ² (m)	Height ³ (m)	Structural Condition	Biological Health	Preservation Priority	Native Status ⁷	Tree Action ⁸	Candidate Bat Roosting Tree	Rationale for Impact	Ownership	Compensation ⁹	GPS Horizontal Accuracy (m) ¹⁰	NAD83 UTM Coordinate	X Zone 17N Coordinate	Y
291	Alive	(Salix alba X Salix babylonica)	<i>Salix x sepulcralis</i>	60	0.00	0.00	0.00	0.00	0.00	60	11	10-15 m	M	H	M	I	Remove	X	Within LOD	Property Boundary - Railway	2:1	0.15	535582.9109	4821286.984	
292	Alive	(Salix alba X Salix babylonica)	<i>Salix x sepulcralis</i>	60	30.00	25.00	20.00	20.00	0.00	155	15	10-15 m	M	H	M	I	Remove	X	Within LOD	Property Boundary - Railway	2:1	0.06	535584.6416	4821283.603	
293	Alive	White Willow	<i>Salix alba</i>	18	0.00	0.00	0.00	0.00	0.00	18	6	05-10 m	H	H	H	I	Remove		Within LOD	Subject Property	2:1	0.20	535589.9356	4821273.026	
294	Alive	White Willow	<i>Salix alba</i>	15	0.00	0.00	0.00	0.00	0.00	15	6	05-10 m	H	H	H	I	Remove		Within LOD	Subject Property	2:1	0.03	535592.5359	4821271.188	
295	Alive	White Willow	<i>Salix alba</i>	17	15.00	0.00	0.00	0.00	0.00	32	6	05-10 m	H	H	H	I	Remove		Within LOD	Subject Property	2:1	0.05	535594.363	4821273.801	
297	Alive	White Willow	<i>Salix alba</i>	12	12.00	11.00	0.00	0.00	0.00	35	4	05-10 m	M	M	M	I	Remove		Within LOD	Subject Property	2:1	0.11	535604.3206	4821276.672	
298	Alive	White Willow	<i>Salix alba</i>	12	0.00	0.00	0.00	0.00	0.00	12	4	05-10 m	M	H	M	I	Remove		Within LOD	Subject Property	2:1	0.05	535606.2369	4821276.342	
299	Alive	White Willow	<i>Salix alba</i>	13	0.00	0.00	0.00	0.00	0.00	13	4	05-10 m	M	H	M	I	Remove		Within LOD	Subject Property	2:1	0.11	535606.8597	4821277.609	
309	Alive	White Willow	<i>Salix alba</i>	12	0.00	0.00	0.00	0.00	0.00	12	4	05-10 m	M	H	M	I	Remove		Within LOD	Subject Property	2:1	0.08	535605.3346	4821278.223	
301	Alive	(Salix alba X Salix babylonica)	<i>Salix x sepulcralis</i>	80	60.00	80.00	50.00	0.00	0.00	270	20	10-15 m	L	M	M	I	Remove	X	Within LOD	Subject Property	2:1	0.28	535604.1169	4821284.625	
303	Alive	Manitoba Maple	<i>Acer negundo</i>	15	0.00	0.00	0.00	0.00	0.00	15	5	05-10 m	L	L	L	N	Remove		Within LOD	Subject Property	2:1	0.03	535641.3553	4821297.072	
302	Alive	Manitoba Maple	<i>Acer negundo</i>	18	0.00	0.00	0.00	0.00	0.00	18	5	05-10 m	L	L	L	N	Remove		Within LOD	Subject Property	2:1	0.04	535642.4406	4821302.751	

Tree Assessment Criteria

1.

DBH (cm): Diameter at breast height, 1.4 m above ground, measured in centimetres.
2.

Crown Reserve (m): Crown diameter (tree's canopy) measured at intervals of 1, 3, 5, 7.5, 10, 15 metres
3.

Height (m): Height of tree from ground to top of crown.
4.

Structural Condition: Related to defects in a tree's structure, (i.e., lean, codominant trunks).
High - No structural defects, well-developed crown.
Medium - Presence of minor structural defects.
Low - Presence of major structural defects including drastic leans and imminent branch and/or trunk failure.
5.

Biological Health: Related to presence and extent of disease/disease symptoms and the vigour of the tree.
High - No diseases/disease symptoms present, and moderate to high vigour.
Medium - Presence of minor diseases/disease symptoms, and/or moderate vigour.
Low - Presence of major diseases/disease symptoms, (i.e., extensive crown dieback), and/or severely poor vigour.
6.

Preservation Priority: A rating of each tree's projected survival related to existing conditions.
High - High to moderate biological health, and well developed crown. Well suited as a shade tree or screen planting. Will survive existing conditions indefinitely.
Medium - One or more moderate to severe defects in biological health and/or structural condition. Marginally suited as a shade tree or screen planting. Can survive at least 3 - 5 years under existing conditions.
This category also includes stock planted within past 2 years that is not yet established.
Low - Low biological health and/or severely damaged/defective structural condition, and/or unsuitable for urban uses. If biologically defective, survival for more than 1-3 years under existing conditions is unlikely.
7.

Native Status:
Native - Native to Ontario
Introduced - Not native to Ontario
Genus - Unable to identify species level due to lack of key characteristics at the time of survey.
Source: NHIC (Natural Heritage Information Centre). 2009. Ontario Vascular Plant Species List. Biodiversity Explorer Online Database. Ontario Ministry of Natural Resources.
8.

Tree Action
Preserve - Trees that are located fully outside the limits of disturbance. Protection of the entire root zone of the tree is desirable.
Injure - Trees that are partially located within the limit of disturbance, and proposed activities are anticipated to impact less than 30% of their crown reserve/dripline.
Remove - Trees located within the limit of disturbance for which 30% or more of the dripline is anticipated to be impacted; and/or trees which have low biological health, and/or severe structural defects, and/or is not likely to survive more than 1-3 years, and/or will not survive proposed development.
N/A - Not applicable.
9.

Compensation
Not Required - Compensation is NOT required for trees designated as injure or preservee.
2:1 - Trees proposed for removal require 2:1 compensation in the form of replacement trees.
10.

Coordinate Source
Survey - Tree location was identified on the Site and Grading Plan, completed by Greater Toronto Acres Surveying Inc., revised August 8, 2018. All questions regarding the location of this tree should be directed to Greater Toronto Acres Surveying Inc..
Trimble Geo7x 10 cm GPS Unit - Global Positioning System (GPS) device used to locate each tree. This unit is rated for 10 cm accuracy under IDEAL CONDITIONS. Please see GPS Horizontal Accuracy for additional information about the unit accuracy and ideal satellite conditions.
For additional information please refer to the unit's datasheet available at: For more information: https://geospatial.trimble.com/products-and-solutions/geo-7x
11.

GPS Horizontal Accuracy (m)
For trees located using Trimble Geo7x (10 cm) GPS Unit, this unit is capable of 10 cm horizontal accuracy under ideal conditions. Ideal conditions are considered to be in an open area with low ionospheric activity. Tree canopy significantly impacts GPS accuracy.
The GPS Horizontal Accuracy is the real-time differential horizontal accuracy for each tree in metres. Corrections are calculated at a base station and transmitted to the Trimble GPS unit receiver via the cellular network & Can-net Virtual Reference Station Network. http://www.can-net.ca/



REALIZING THE ECOLOGICAL POTENTIAL OF EVERY PLACE