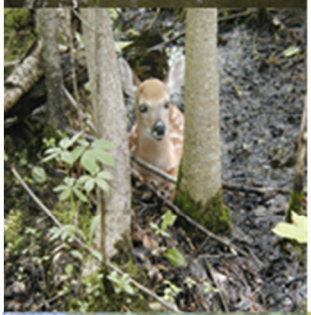
LGL LIMITED
environmental research associates

# Tree Evaluation Report and Tree Protection Plan







# SUMMER VALLEY
# TOWN OF CALEDON AND CITY OF BRAMPTON
## 12211, 12213, 12231 AND 12197 HURONTARIO ST, BRAMPTON

**prepared for:**

## ARGO SUMMER VALLEY LIMITED

**prepared by:**

LGL LIMITED
environmental research associates
CELEBRATING 50 YEARS

**CITY OF BRAMPTON FILE # OZS-2022-0030**
**TOWN OF CALEDON FILE # POPA 2022-0005, RZ 2022-0008, 21T-22005C**
**NOVEMBER 2023**
**TA9193**

# SUMMER VALLEY
# TOWN OF CALEDON AND CITY OF BRAMPTON

# TREE EVALUATION REPORT AND TREE PROTECTION PLAN

***prepared by:***


Digital signature

**Lisa Catcher, Hons. BA.**
SENIOR ISA CERTIFIED ARBORIST,
TREE RISK ASSESSMENT QUALIFIED

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**Andrew Mellick, B.Sc., GIS (PG)**
GIS ANALYST


***reviewed by:***


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**Joe Cavallo, B.Sc.**
SENIOR BIOLOGIST

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**NOVEMBER 2023**
**LGL PROJECT TA TA9193**

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## 1.0 INTRODUCTION

LGL Limited (LGL) was retained by Argo Summer Valley Limited (Argo) to provide arborist services for the proposed Summer Valley development in the Town of Caledon and City of Brampton. This Arborist Report documents the results of the tree inventory undertaken by LGL Limited in the winter of 2022, and the impact assessment which identifies trees to be removed, impacted and retained based on the proposed development. The recommended general mitigation measures (including tree protection recommendations and mitigation for works within the minimum Tree Protection Zone (TPZ)) as well as an analysis of compensation required as a result of impacts to trees within the study area is also provided.

The impact assessment provided herein is based on the site plan and grading plan provided to LGL from the Argo in May 2023. In addition, this Arborist Report was prepared in accordance with the requirements of the Town of Caledon *Terms of Reference for Arborist Reports, Tree Preservation Plans and Tableland Tree Removal Compensation* (2020), The City of Brampton Tree Preservation By-law 317-2012 and the City of Brampton *Tableland Tree Assessment Guidelines* (2018).

## 2.0 METHODOLOGY

Field investigations were conducted on January 22, 2022 within the study area. The tree inventory included an analysis of all trees 10 cm diameter at breast height (DBH) and greater within and up to 10 m beyond the property limits, to the extent possible. The limits of the study area are presented in **Figure 1**. The following information was collected for each tree:

- Species: each tree was identified to species level using common and scientific name;
- Size: DBH was recorded in centimetres and measured 1.37 metres above ground level;
- Dripline diameter: the radial dripline for each tree was estimated to the nearest metre; and,
- Overall health/condition: tree condition was assessed based on a matrix of trunk integrity, crown structure and crown vigour. Each tree surveyed was assigned a ranking of poor, fair and good.
    - Poor: more than 50% dead branches, weak compartmentalization, early leaf drop, presence of insects/disease, major structural defects
    - Fair: 10-50% dead branches, size or occurrence of wounds present some concerns, minor structural defects
    - Good: dead branches less than 10%, signs of good compartmentalization, none or minor wounds, no structural defects;

The minimum tree protection zone was determined for each tree based on the Town of Caledon and City of Brampton requirements. Trees located on the subject property were affixed with a numerical aluminium tree tag.

Tree locations were recorded using a mapping grade EOS Arrow 100 GPS unit and matched to the toposurvey, to the extent possible.


## LEGEND

- Study Area
- Municipal Boundary

0 50 100 M

N

Data Source: Ministry of Natural Resources and Forestry (LIO). Contains information licensed under the Open Government Licence - Ontario. Produced by LGL Limited under Licsnse with the Ontario Ministry of Natural Resourcess © Queen's Printer for Ontario, 2022.

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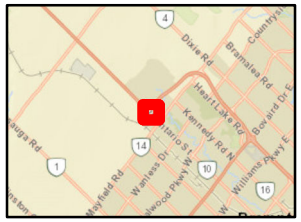
Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community.



# Argo Summer Valley
## Project Location

LGL LIMITED environmental research associates
CELEBRATING 50 YEARS

| | | | |
|---|---|---|---|
| **Project** | TA9193 | **Figure** | 1 |
| **Date** | February 9, 2022 | **Prepared By:** | AM |
| **Scale** | 1:4,000 | **Verified By:** | LC |

# 3.0 RESULTS

A total of 45 trees consisting of 10 species were identified and assessed during the tree inventory. Overall, trees within the study limits range in size from 11 to 100+ cm DBH and are generally considered to be in good to fair condition. Trees in poor condition displayed signs of a number of abiotic and biotic defects. No tree species regulated by the Ontario *Endangered Species Act* were identified during LGL's tree inventory.

A detailed summary of all trees surveyed is presented in **Appendix A** (Tree Inventory), and the locations of each tree (by identifier number) are presented in **Figure 2**. Representative photos the trees identified in the study area are presented in **Appendix B**

# 4.0 IMPACT ASSESSMENT

An impact assessment was undertaken to determine impacts to trees as a result of the proposed Summer Valley development. This assessment was conducted using the proposed site plan and grading plan provided to LGL in May 2023.

Trees recommended for removal include trees within or outside the site plan layout that would not be able to withstand construction related impacts. Trees identified as retained are considered to be minimally affected and will be protected through mitigation measures to be implemented during construction. A detailed description of those trees identified for removal and retention is provided in **Sections 4.1 to 4.2** and presented on **Figure 2.**

## 4.1 TREES IDENTIFIED FOR REMOVAL

As noted in **Section 4.0**, trees identified for removal include trees within the proposed site plan and those trees outside of the disturbance limit where the amount of critical root zone (the zone in which the majority of the tree's roots lay) that is anticipated to be removed will likely cause significant and irreversible decline of the health of the tree. A total of 44 trees have been recommended for removal, all of the trees recommended for removal are in direct conflict with the proposed grading and lot layout in the site plan. **Table 1** provides a summary of trees identified for removal per species and health condition.

**TABLE 1.**
**SUMMARY OF TREES IDENTIFIED FOR REMOVAL**

| Common Name | Scientific Name | Good to Fair | Poor | Total |
|---|---|---|---|---|
| American elm | *Ulmus americana* | 2 | | 2 |
| Austrian pine | *Pinus nigra* | 3 | | 3 |
| Blue spruce | *Picea pungens* | 3 | | 3 |
| Manitoba maple | *Acer negundo* | 15 | 2 | 17 |
| Norway maple | *Acer platanoides* | 2 | | 2 |
| Siberian elm | *Ulmus pumila* | 3 | | 3 |
| Silver maple | *Acer saccharinum* | 2 | 1 | 3 |
| Trembling aspen | *Populus tremuloides* | 6 | | 6 |
| Willow | *Salix* sp. | 3 | 2 | 5 |

## 4.2 TREES IDENTIFIED FOR RETENTION

Trees identified for retention are not anticipated to be affected by the project. A total of 1 tree has been identified for retention.

**TREE PRESERVATION SPECIFICATIONS**

**General Notes**

•This Tree Preservation Plan is to be read in conjunction with the Arborist Report prepared by LGL Limited.
•Prior to the commencement of any site activity the tree protection fencing specified on this plan must be installed.

•Prior to site disturbance the owner must confirm that no migratory birds are making use of the site for nesting. The owner must ensure that works are in conformance with the Migratory Bird Convention Act and that no migratory bird nests will be impacted by the proposed works.

**Tree Protection Fencing**

•All trees that are designated for retention, must fully be protected by tree protection fencing in accordance with the Town of Caledon specifications. Tree protection fencing is to be constructed outside of the dripline of trees to be retained and to consist of rigid snow fencing completed with iron 'T' bars spaced at a maximum of 2.4 m. The fencing is to be 1.2 m high. All supports and bracing to safely secure the fencing should be outside to TPZ. All such supports and bracing should minimize damage to roots outside of the TPZ.
•The applicant shall notify the Town of Caledon and the consulting Certified Arborist or Landscape Architect ton confirm that the tree protection fencing is in place.
•A Tree Protection Zone sign (as per below) must be mounted on all sides of the tree protection fencing. The signs are to be 40 cm X 60 cm and made of white corrugated plastic board.

Tree Protection Zone

**No work is permitted in the Tree Protection Zone.**

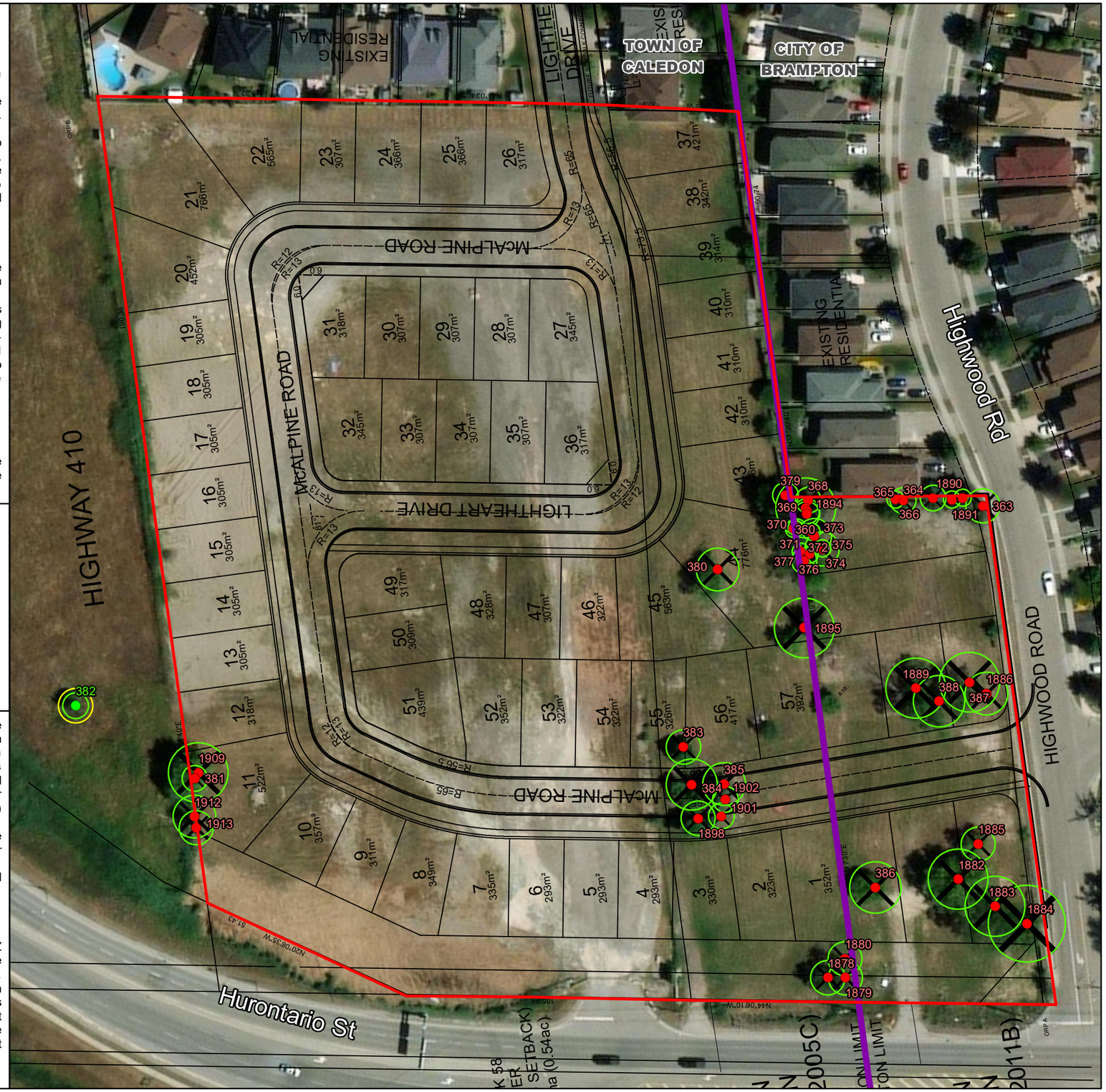
This includes construction works, grading, storage of trash or materials.

The tree protection fencing must not be removed without written authorization of the Town of Caledon.

•No construction activity including grade changes, surface treatments or excavations of any kind is permitted within the area identified of the Tree Protection Plan or Site Plan as Tree Protection Zone (TPZ). No root cutting is permitted. No storage of materials or fill is permitted within the TPZ. No movement or storage of vehicles or equipment is permitted within the TPZ. The area(s) identified as TPZ must remain undisturbed at all times.
•In the event that any work is required within the tree protection zone, the consulting certified arborist or landscape architect must advise the Town of Caledon a minimum of 48 hours prior to commencing any specified work.

**Arboricultural Work:**

•Any roots or branches which extend beyond the TPZ indicated on this plan which require pruning, must be pruned by a qualified Arborist or other tree professional. All pruning of trees roots and branches must be in accordance with good arboricultural standards. Roots located outside of the TPZ that have to be pruned must first be exposed by hand digging or by using low pressure hydro vac method. This will allow a proper pruning cut and minimize tearing of the roots.




## LEGEND

- Study Area
- Municipal Boundary
- Tree to be Removed
- Tree to be Retained
- Minimum Tree Protection Zone
- Dripline

Data Source: LGL Field Survey and Ministry of Natural Resources and Forestry (LIO). Contains information licensed under the Open Government Licence - Ontario. Produced by LGL Limited under Licsnse with the Ontario Ministry of Natural Resources © King's Printer for Ontario, 2023.

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0 5 10 20 30 40 M

# Argo Summer Valley
## Tree Preservation Plan Overview

LGL Est. 1971 LIMITED
environmental research associates

| | | | |
|---|---|---|---|
| **Project:** | TA9193 | **Figure:** | 2 |
| **Date:** | November, 2023 | **Prepared By:** | KC |
| **Scale:** | 1:1,000 | **Verified By:** | LC |

**TREE PRESERVATION SPECIFICATIONS**

**General Notes**

•This Tree Preservation Plan is to be read in conjunction with the Arborist Report prepared by LGL Limited.
•Prior to the commencement of any site activity the tree protection fencing specified on this plan must be installed.

•Prior to site disturbance the owner must confirm that no migratory birds are making use of the site for nesting. The owner must ensure that works are in conformance with the Migratory Bird Convention Act and that no migratory bird nests will be impacted by the proposed works.

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Tree Protection Zone

**No work is permitted in the Tree Protection Zone.**

This includes construction works, grading, storage of trash or materials.

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•No construction activity including grade changes, surface treatments or excavations of any kind is permitted within the area identified of the Tree Protection Plan or Site Plan as Tree Protection Zone (TPZ). No root cutting is permitted. No storage of materials or fill is permitted within the TPZ. No movement or storage of vehicles or equipment is permitted within the TPZ. The area(s) identified as TPZ must remain undisturbed at all times.
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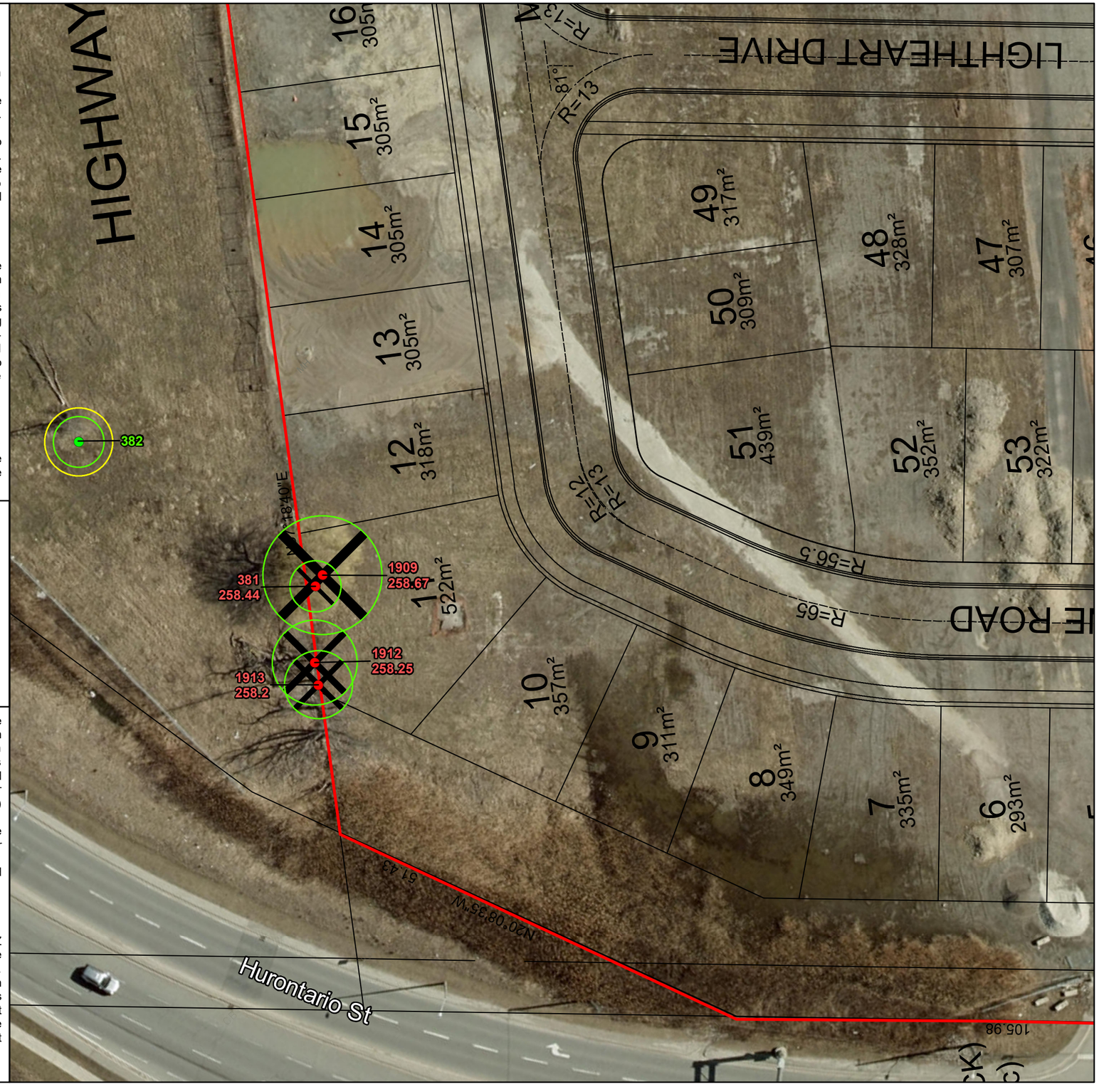
•Any roots or branches which extend beyond the TPZ indicated on this plan which require pruning, must be pruned by a qualified Arborist or other tree professional. All pruning of trees roots and branches must be in accordance with good arboricultural standards. Roots located outside of the TPZ that have to be pruned must first be exposed by hand digging or by using low pressure hydro vac method. This will allow a proper pruning cut and minimize tearing of the roots.




**LEGEND**

- Study Area
- Tree ID / Elev. — Tree to be Removed
- Tree ID / Elev. — Tree to be Retained
- Minimum Tree Protection Zone
- Dripline

Data Source: LGL Field Survey and Ministry of Natural Resources and Forestry (LIO). Contains information licensed under the Open Government Licence - Ontario. Produced by LGL Limited under Licsnse with the Ontario Ministry of Natural Resources © King's Printer for Ontario, 2023.

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

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# Argo Summer Valley
## Tree Preservation Plan

LGL Limited
Est. 1971
environmental research associates

| | | | |
|---|---|---|---|
| **Project:** | TA9193 | **Figure:** | 2-A |
| **Date:** | November, 2023 | **Prepared By:** | KC |
| **Scale:** | 1:500 | **Verified By:** | LC |

**TREE PRESERVATION SPECIFICATIONS**

**General Notes**

•This Tree Preservation Plan is to be read in conjunction with the Arborist Report prepared by LGL Limited.
•Prior to the commencement of any site activity the tree protection fencing specified on this plan must be installed.

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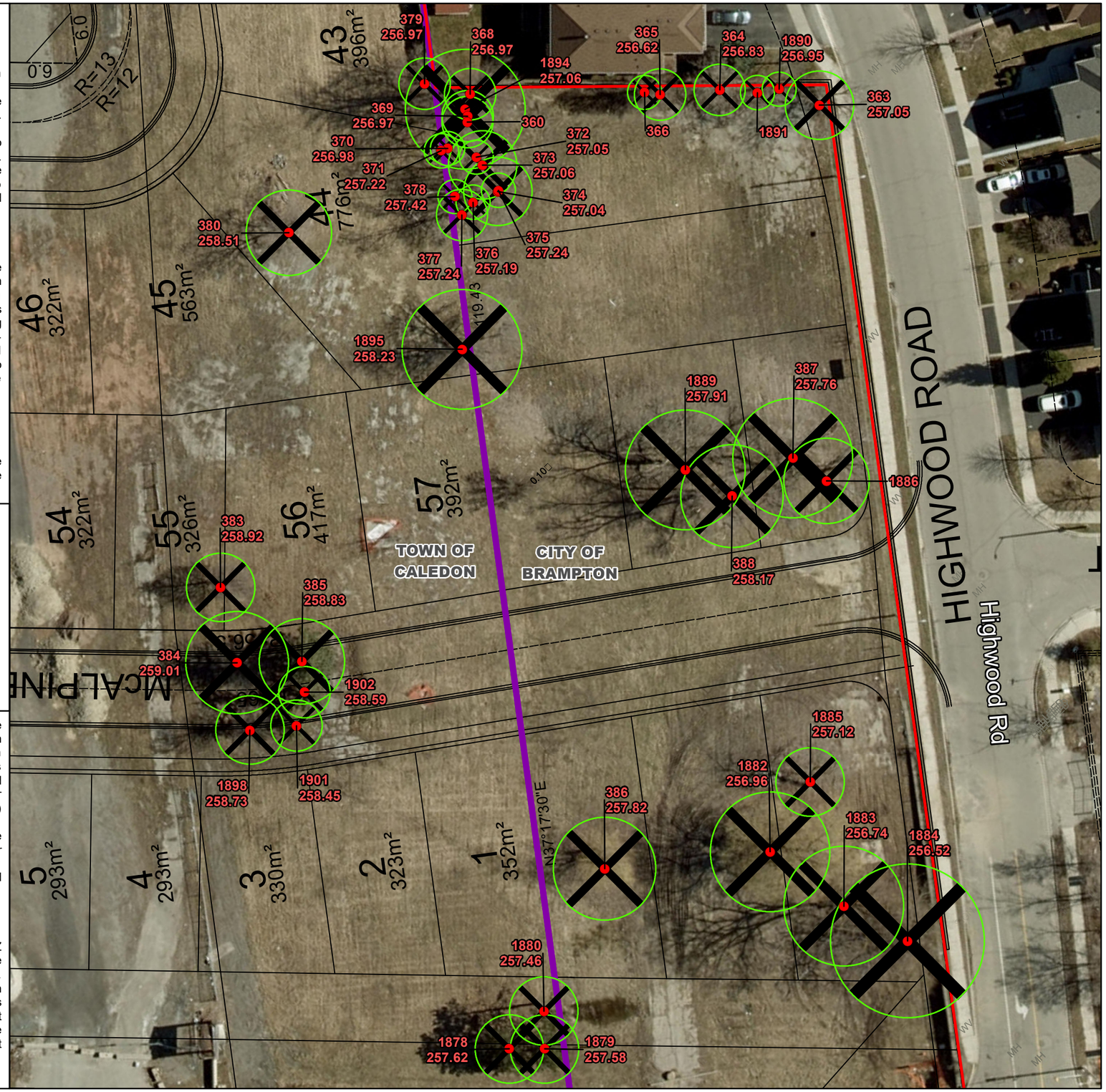
**Arboricultural Work:**

•Any roots or branches which extend beyond the TPZ indicated on this plan which require pruning, must be pruned by a qualified Arborist or other tree professional. All pruning of trees roots and branches must be in accordance with good arboricultural standards. Roots located outside of the TPZ that have to be pruned must first be exposed by hand digging or by using low pressure hydro vac method. This will allow a proper pruning cut and minimize tearing of the roots.




## LEGEND

- Study Area
- Municipal Boundary
- Tree ID / Elev. — Tree to be Removed
- Tree ID / Elev. — Tree to be Retained
- Minimum Tree Protection Zone
- Dripline

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Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

0 5 10 20 M

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# Argo Summer Valley
## Tree Preservation Plan

LGL LIMITED
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environmental research associates

| | | | |
|---|---|---|---|
| **Project:** | TA9193 | **Figure:** | 2-B |
| **Date:** | November, 2023 | **Prepared By:** | KC |
| **Scale:** | 1:500 | **Verified By:** | LC |

# 5.0 TREE PRESERVATION/MITIGATION

The specifications for tree protection are presented on **Figures 2a and 2b**. In addition to the tree protection measures outlined in **Figure 2** the following mitigation measures should be implemented to ensure no impacts occur to those trees identified for retention.

- Prior to the start of any site work, the Contractor shall supply and install tree protection barriers around each tree designated for protection;
- The protective barrier is to comply with Town specifications for tree protection;
- No fill, machinery, chemicals, fuel or materials are to be placed within the protective barrier; heavy machinery is not to be operated within the TPZ (including overhead swinging of machine arms);
- No re-grading, including filling or excavation, is to take place within the TPZ unless permitted by the Town;
- Soil compaction mitigation includes application of wood chips/mulch to a depth of 100mm and overlaying steel sheeting to dissipate the weight of machinery driven overtop.
- All tree and shrub protection must be removed upon completion of construction activities;
- No signs or objects should be displayed or affixed to any retained trees;
- Signs shall be affixed to the TPZ fence to inform workers that entry is not permitted;
- Backfilling should occur as soon as possible and should occur with clean native uncontaminated topsoil; and,e
- Tree clearing shall ensure compliance of the *Migratory Bird Convention Act* (MBCA). The study area is within Environment and Climate Change Canada's Nesting Zone C2 (Nesting Period: April 1 –August 31). Should this not be possible, a nesting bird survey will be undertaken by a qualified avian biologist no more than 48 hours before any vegetation clearing.

## 5.1 MITIGATION FOR WORKS WITHIN THE MINIMUM TPZ

All work undertaken within the minimum TPZ of a tree shall be supervised by a qualified arborist and the arborist will document the works that were completed and direct any construction workers as required. In addition, the mitigation measures outlined in **Section 5.2.1-5.2.2** shall be implemented for works undertaken within the minimum TPZ.

### 5.1.1 Canopy Pruning

All canopy and clearance pruning should be undertaken by an ISA Certified Arborist or an Ontario College of Trades 444A Arborist or Arborist Apprentice and in accordance with the Town of Caledon specifications. Any branches that overhang the work site and require pruning are to be pruned using good arboricultural practices in accordance with American National Standards Institute (ANSI) A300 (Part 1) – 2008 Pruning.

### 5.1.2 Root Pruning

All approved root pruning should be undertaken by an ISA Certified Arborist or an Ontario College of Trades 444A Arborist or Arborist Apprentice and in accordance with the Town of Caledon specifications. The following practices should be implemented for any root pruning:

- Prior to root pruning air spading or hand digging should be undertaken to expose the roots;
- No roots greater than 5 cm in diameter or in a dense mat shall be pruned;
- Smaller roots are to be retained where possible unless severance is absolutely necessary;
- Exposed roots should not be allowed to dry out, where roots are exposed they should be covered by dampened mulch or topsoil to prevent desiccation;
- All pruning should maintain the integrity of the root bark ridge;
- A slow release deep root low nitrogen fertilizer should be applied to any trees requiring root pruning to increase vigour; and,
- Backfilling should occur as soon as possible and should occur with clean native uncontaminated topsoil.

## 6.0 COMPENSATION

Compensation for the removal of trees within the study area has been determined in accordance with the Town of Caledon and City of Brampton requirements. Trees identified for removal have, subsequently, been categorized into respective class sizes (in accordance with the City of Brampton and Town of Caledon requirements) and the resulting replacement numbers are presented in **Table 2.** The required compensation per size class is the same for the Town of Caledon and City of Brampton with the exception of trees less than 15 cm DBH. The Town of Caledon requires 1:1 compensation for trees between 10 and 15 cm DBH and as such, **Table 2** reflects this difference and compensation has only been prescribed for trees within the Town of Caledon for this size. A total of 101 replacement trees are required to compensation for the impacts to trees within the study area. Of the 101 replacement trees required, 74 are compensation requirements from the City of Brampton and the remaining 27 are from the Town of Caledon.

**TABLE 2.**
**SUMMARY OF COMPENSATION REQUIRED PER MUNICIPALITY**

| Diameter at Breast Height (m) | Compensation Ratio | Number of Trees Removed Brampton | Compensation Required Brampton | Number of Trees Removed Caledon | Compensation Required Caledon |
|---|---|---|---|---|---|
| 10-20* | 1:1 | 8 | 8 | 0 | 0 |
| 21-35 | 2:1 | 8 | 16 | 8 | 16 |
| 36-50 | 3:1 | 2 | 6 | 2 | 6 |
| 51-65 | 4:1 | 6 | 24 | 0 | 0 |
| >65 | 5:1 | 4 | 20 | 1 | 5 |
| | **Total** | **28** | **74** | **11** | **27** |

*compensation for the removal of trees in the City of Brampton is for trees 15 cm DBH and greater.

The City of Brampton standards indicate that an exceedance of any of the following will be acceptable measures for tree compensation:

- Boulevards: 8.0 – 10.0 m spacing;
- Parks: 120 trees per hectare (50 trees/acre);
- Valley Buffers: # trees = square area of buffer divided by 36 $m^2$;
- Woodland Buffers: 1000 stems per hectare (includes whips, caliper trees, and does not include shrubs, flowers and grasses);
- SWM Ponds: # trees = square area of dry pond divided by 36 $m^2$.

## 7.0 SUMMARY AND CONCLUSION

An evaluation of tree resources within the study area was conducted in the winter of 2022 by LGL. The information presented herein includes:

- A detailed tree inventory;
- Mapping of the proposed development from which an impact assessment has been conducted; and,
- Recommendations for the protection of trees and natural areas during construction.

A total of 44 trees have been identified for removal. The remaining tree will be preserved.

Recommended mitigation measures have been outlined in **Section 5.0** and include:

- General tree protection measures including: tree protection specifications, identification and implementation of a tree protection zone;
- Mitigation measures for works within the minimum tree protection zone; and,
- Measures to ensure compliance with the *Migratory Bird Convention Act* shall be undertaken including the avoidance of disturbance/destruction of bird species habitat between April 1 –August 31.

An analysis of compensation requirements for trees removed within the study as per the Town of Caledon and City of Brampton requirements is provided in **Section 6.0**.

## 8.0 REFERENCES

Town of Caledon. 2020. Terms of Reference for Arborist Reports, Tree Preservation Plans and Tableland Tree Removal Compensation.

City of Brampton. 2018. Tableland Tree Assessment Guidelines.

Environmental Services Department. Environmental Promotion and Protection Branch – Natural Heritage Forestry 2013. *Regional Municipality of York: Street Tree Preservation and Planting Design Guidelines*.

Farrar, John Laird. 1995. *Trees in Canada*. Fizhenry & Whiteside Limited.

Ministry of Natural Resources and Forestry. 2015. *Natural Heritage Information Centre website* (http://www.mnr.gov.on.ca/MNR/nhic/nhic.cfm). Peterborough, Ontario.

USDA Forest Services. 1992. Urban Tree Risk Management: A Community Guide to Program Design and Implementation. Available from: http://www.na.fs.fed.us/spfo/pubs/uf/utrmm/urban_tree_risk_mgmnt.pdf.

# 9.0 DISCLAIMER

## 9.1 LIMITATIONS OF THIS ASSESSMENT

This Assessment is based on the circumstances and observations as they existed at the time of the site inspection of the Client's Property and the trees situate thereon and upon information provided by the Client to LGL Limited. The opinions in this Assessment are given based on observations made and using generally accepted professional judgment, however, because trees and plants are living organisms and subject to change, damage and disease, the results, observations, recommendations, and analysis as set out in this Assessment are valid only as at the date any such testing, observations and analysis took place and no guarantee, warranty, representation or opinion is offered or made as to the length of the validity of the results, observations, recommendations and analysis contained within this Assessment. As a result the Client shall not rely upon this Assessment, save and except for representing the circumstances and observations, analysis and recommendations that were made as at the date of such inspections. It is recommended that the trees discussed in this Assessment should be re-assessed periodically.

## 9.2 RESTRICTION OF ASSESSMENT

The Assessment carried out was restricted to the Property. No assessment of any other trees or plants has been undertaken by LGL. LGL is not legally liable for any other trees or plants on the Property except those expressly discussed herein. The conclusions of this Assessment do not apply to any areas, trees, plants or any other property not covered or referenced in this Assessment.

## 9.3 PROFESSIONAL RESPONSIBILITY

In carrying out this Assessment, LGL Limited and any Assessor appointed for and on behalf of LGL Limited to perform and carry out the Assessment has exercised a reasonable standard of care, skill and diligence as would be customarily and normally provided in carrying out this Assessment. The Assessment has been made using accepted arboricultural techniques. These include a visual examination of each tree for structural defects, scars, external indications of decay such as fungal fruiting bodies, evidence of insect attack, discoloured foliage, the condition of any visible root structures, the degree and direction of lean (if any), the general condition of the tree(s) and the surrounding site, and the current or planned proximity of property and people. Except where specifically noted in the Assessment, none of the trees examined on the property were dissected, cored, probed, or climbed and detailed root crown examinations involving excavation were not undertaken.

While reasonable efforts have been made to ensure that the trees recommended for retention are healthy, no guarantees are offered, or implied, that these trees, or all parts of them will remain standing. It is professionally impossible to predict with absolute certainty the behaviour of any single tree or group of trees, or all their component parts, in all given circumstances. Inevitably, a standing tree will always pose some risk. Most trees have the potential to fall, lean, or otherwise pose a danger to property and persons in the event of adverse weather conditions, and this risk can only be eliminated if the tree is removed.

Without limiting the foregoing, no liability is assumed by LGL or its directors, officers, employers, contractors, agents or Assessors for:

a) any legal description provided with respect to the Property;

b) issues of title and or ownership respect to the Property;

c) the accuracy of the Property line locations or boundaries with respect to the Property;

d) the accuracy of any other information provided to LGL by the Client or third parties;

e) any consequential loss, injury or damages suffered by the Client or any third parties, including but not limited to replacement costs, loss of use, earnings and business interruption;

and,

f) the unauthorized distribution of the Assessment.

## 9.4 GENERAL

Any plans and/or illustrations in this Assessment are included only to help the Client visualize the issues in this Assessment and shall not be relied upon for any other purpose.

# Appendix A
# Tree Inventory

Project: TA9193
Client: Argo
Collectors: LMC, JC

Date: January 21, 2022
Area: Summer Valley, Town of Caledon/City of Brampton

| Tree # | Scientific Name | Common Name | DBH (cm) | Additional Stems | Estimation of DBH (x) | CONDITION | | | | | | | | | | | | | | | | | Tree Protection Measures | | | | | Municipality | Compensation |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | TI | CS | CV | Radial Dripline (m) | Canopy Die Back (%) | Co-dominant stem | Included Bark | Lean, Dir. | Fungus | Insects | Cavity | Rot | Wound | Split Trunk | Epicormic | EAB | Leader Dead | Topped | Remove | Injure | Retain | Minimum TPZ (m) | Impact Analysis and Mitigation Recommendations | | |
| 360 | *Acer negundo* | Manitoba maple | 15.0 | | | g | g | g | 3 | | | | | | | | | | | | | | x | | | 4.00 | tree is in conflict with lotting | B | 1 |
| 363 | *Acer negundo* | Manitoba maple | 38.0 | | | p | p | p | 4 | 90 | | | | | | | | | | x | | | x | | | 5.00 | tree is in conflict with lotting | B | 3 |
| 364 | *Acer negundo* | Manitoba maple | 27.0 | | | g | g | g | 3 | | | | | | | | | | | x | | | x | | | 4.00 | tree is in conflict with lotting | B | 2 |
| 365 | *Ulmus pumila* | Siberian elm | 11.0 | 10,9,10 | | g | g | g | 3 | | | | | | | | | | | | | | x | | | 4.00 | tree is in conflict with lotting | B | 0 |
| 366 | *Ulmus pumila* | Siberian elm | 17.0 | | | g | g | g | 2 | | | | | | | | | | | | | | x | | | 3.00 | tree is in conflict with lotting | B | 1 |
| 368 | *Ulmus americana* | American elm | 52.0 | | | g | g | g | 4 | | | | | | | | | | | | | | x | | | 5.00 | tree is in conflict with lotting | B | 4 |
| 369 | *Ulmus americana* | American elm | 22.0 | | | g | g | g | 3 | | | | | | | | | | | | | | x | | | 4.00 | tree is in conflict with lotting | B | 2 |
| 370 | *Populus tremuloides* | trembling aspen | 17.0 | | | g | g | g | 2 | | | | | | | | | | | | | | x | | | 3.00 | tree is in conflict with lotting | B | 1 |
| 371 | *Populus tremuloides* | trembling aspen | 11.0 | | | g | g | g | 2 | | | | | | | | | | | | | | x | | | 3.00 | tree is in conflict with lotting | B | 0 |
| 372 | *Acer negundo* | Manitoba maple | 15.0 | | | g | g | g | 2 | 10 | | | | | | | | | | x | | | x | | | 3.00 | tree is in conflict with lotting | B | 1 |
| 373 | *Populus tremuloides* | trembling aspen | 28.0 | | | g | g | g | 4 | | | | | | | | | | | | | | x | | | 5.00 | tree is in conflict with lotting | B | 2 |
| 374 | *Acer negundo* | Manitoba maple | 28.0 | | | g | g | g | 4 | | | | | | | | | | | x | | | x | | | 5.00 | tree is in conflict with lotting | B | 2 |
| 375 | *Populus tremuloides* | trembling aspen | 19.0 | | | g | g | g | 2 | | | | | | | | | | | | | | x | | | 3.00 | tree is in conflict with lotting | B | 1 |
| 376 | *Acer negundo* | Manitoba maple | 17.0 | | | g | g | g | 2 | | | | | | | | | | | x | | | x | | | 3.00 | tree is in conflict with lotting | B | 1 |
| 377 | *Populus tremuloides* | trembling aspen | 17.0 | 16.0 | | g | g | g | 3 | | | | | | | | | | | | | | x | | | 4.00 | tree is in conflict with lotting | B | 1 |
| 378 | *Populus tremuloides* | trembling aspen | 12.0 | | | g | g | g | 2 | | | | | | | | | | | | | | x | | | 3.00 | tree is in conflict with lotting | B | 0 |
| 379 | *Acer negundo* | Manitoba maple | 17.0 | | | g | g | g | 3 | | | | | | | | | | | x | | | x | | | 4.00 | tree is in conflict with lotting | B | 1 |
| 380 | *Acer negundo* | Manitoba maple | 29.0 | 27.0 | | g | g | g | 5 | | | | | | | | | | x | x | | | x | | | 6.00 | tree is in conflict with lotting | C | 2 |
| 381 | *Salix sp.* | willow | 21.0 | | | g | g | g | 3 | | | | | | | | | | | | | | x | | | 4.00 | tree is in conflict with lotting | C | 2 |
| 382 | *Fraxinus americana* | white ash | 22.0 | | | p | p | p | 3 | | | | | | | | | | | | | | | | x | 4.00 | | C | |
| 383 | *Acer negundo* | Manitoba maple | 30.0 | | | g | g | g | 4 | | | | | | | | | | | x | | | x | | | 5.00 | tree is in conflict with lotting | C | 2 |
| 384 | *Acer platanoides* | Norway maple | 29.0 | 26.0 | | g | g | g | 6 | | | | | | | | x | x | | x | | | x | | | 7.00 | tree is in conflict with lotting | C | 2 |
| 385 | *Picea pungens* | blue spruce | 44.0 | | | g | g | g | 5 | | | | | | | | | | | | | | x | | | 6.00 | tree is in conflict with lotting | C | 3 |
| 386 | *Salix sp.* | willow | 100.0 | | | p | p | p | 6 | 95 | | | | | | | x | x | | x | | | x | | | 7.00 | tree is in conflict with lotting | B | 5 |
| 387 | *Acer negundo* | Manitoba maple | 53.0 | | | g | g | g | 7 | | | | l,e | | | | | | | x | | | x | | | 8.00 | tree is in conflict with lotting | B | 4 |
| 388 | *Ulmus pumila* | Siberian elm | 52.0 | 51.0 | | g | g | g | 6 | | | | | | | | | | | | | | x | | | 7.00 | tree is in conflict with lotting | B | 4 |
| 1,878 | *Pinus nigra* | Austrian pine | 32.0 | | | g | g | g | 4 | | | | | | | | | | | | | | x | | | 5.00 | Horizontal hoarding and minor root/canopy pruning on the along of the tree protection zone | B | 2 |

Project: TA9193
Client: Argo
Collectors: LMC, JC

Date: January 21, 2022
Area: Summer Valley, Town of Caledon/City of Brampton

| Tree # | Scientific Name | Common Name | DBH (cm) | Additional Stems | Estimation of DBH (x) | CONDITION | | | | | | | | | | | | | | | | | Tree Protection Measures | | | | | Municipality | Compensation |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | TI | CS | CV | Radial Dripline (m) | Canopy Die Back (%) | Co-dominant stem | Included Bark | Lean, Dir. | Fungus | Insects | Cavity | Rot | Wound | Split Trunk | Epicormic | EAB | Leader Dead | Topped | Remove | Injure | Retain | Minimum TPZ (m) | Impact Analysis and Mitigation Recommendations | | |
| 1,879 | *Pinus nigra* | Austrian pine | 34.0 | | | g | g | g | 4 | | | | | | | | | | | | | | | x | | | 5.00 | Horizontal hoarding and minor root/canopy pruning on the along of the tree protection zone | B | 2 |
| 1,880 | *Pinus nigra* | Austrian pine | 34.0 | | | f | f | f | 4 | | | | | | | | | | | | | | | x | | | 5.00 | tree is in conflict with lotting | B | 2 |
| 1,882 | *Salix sp.* | willow | 100.0 | | | g | g | g | 7 | | | | | | | | x | | | x | | | | x | | | 8.00 | tree is in conflict with lotting | B | 5 |
| 1,883 | *Acer saccharinum* | silver maple | 73.0 | | | g | g | g | 7 | | | | | | | | | | | | | | | x | | | 8.00 | tree is in conflict with lotting | B | 5 |
| 1,884 | *Salix sp.* | willow | 100.0 | | | f | f | f | 9 | | | | | | | | x | x | | x | | | | x | | | 10.00 | tree is in conflict with lotting | B | 5 |
| 1,885 | *Acer negundo* | Manitoba maple | 41.0 | | | f | f | f | 4 | 30 | | | l,s | | | | | | | x | | | | x | | | 5.00 | tree is in conflict with lotting | B | 3 |
| 1,886 | *Acer negundo* | Manitoba maple | 53.0 | | | p | p | p | 5 | 70 | | | | | | | x | | | | | | | x | | | 6.00 | tree is in conflict with lotting | B | 4 |
| 1,889 | *Acer negundo* | Manitoba maple | 53.0 | | | g | g | g | 7 | 30 | | | | | | | | | | x | | | | x | | | 8.00 | tree is in conflict with lotting | B | 4 |
| 1,890 | *Acer negundo* | Manitoba maple | 11.0 | | | g | g | g | 2 | | | | | | | | | | | x | | | | x | | | 3.00 | tree is in conflict with lotting | B | 0 |
| 1,891 | *Acer negundo* | Manitoba maple | 11.0 | | | g | g | g | 2 | | | | | | | | | | | x | | | | x | | | 3.00 | tree is in conflict with lotting | B | 0 |
| 1,894 | *Acer negundo* | Manitoba maple | 35.0 | 32,30 | | f | f | f | 7 | | x | x | | | | | | | | x | | | | x | | | 8.00 | tree is in conflict with lotting | B | 2 |
| 1,895 | *Acer negundo* | Manitoba maple | 59.0 | 38.0 | | f | f | f | 7 | 30 | | | | | | | x | | | x | | | | x | | | 8.00 | tree is in conflict with lotting | B | 4 |
| 1,898 | *Acer platanoides* | Norway maple | 29.0 | | | g | g | g | 4 | | | | | | | | | x | | x | | | | x | | | 5.00 | tree is in conflict with lotting | C | 2 |
| 1,901 | *Picea pungens* | blue spruce | 27.0 | | | g | g | g | 3 | | | | | | | | | | | | | | | x | | | 4.00 | tree is in conflict with lotting | C | 2 |
| 1,902 | *Picea pungens* | blue spruce | 22.0 | | | g | g | g | 3 | | | | | | | | | | | x | | | | x | | | 4.00 | tree is in conflict with lotting | C | 2 |
| 1,909 | *Salix sp.* | willow | 72.0 | 20.0 | | p | p | p | 7 | | | | | | | | x | x | | x | | | | x | | | 8.00 | tree is in conflict with lotting | C | 5 |
| 1,912 | *Acer saccharinum* | silver maple | 37.0 | | | g | g | g | 5 | | | | | | | | | | | | | | | x | | | 6.00 | tree is in conflict with lotting | C | 3 |
| 1,913 | *Acer saccharinum* | silver maple | 31.0 | | | p | p | p | 4 | 70 | | | | | | | x | | | | | | | x | | | 5.00 | tree is in conflict with lotting | C | 2 |

**Legend**

| | |
|---|---|
| DBH (cm) | Diameter at breast height |
| TI | Trunk Integrity |
| CS | Crown Structure |
| CV | Crown Vigour |
| DL (m) | Drip Line |
| CDB | Crown Dieback |
| EAB | Emerald Ash Borer |
| ESA/SARA | Species at Risk |
| TPZ | Tree Protection Zone |
| Lean Dir. | Lean Direction |

**Municipality**

| | |
|---|---|
| B | Brampton |
| C | Caledon |

**Condition**

| | |
|---|---|
| G | Good |
| F | Fair |
| P | Poor |
| D | Dead |
| L | Light |
| M | Moderate |
| H | Heavy |
| E | East |
| W | West |
| N | North |
| S | South |
| F | Frost |
| C | Compression |
| T | Tension |
| S | Shear Plane |

# Appendix B
# Photo Appendix

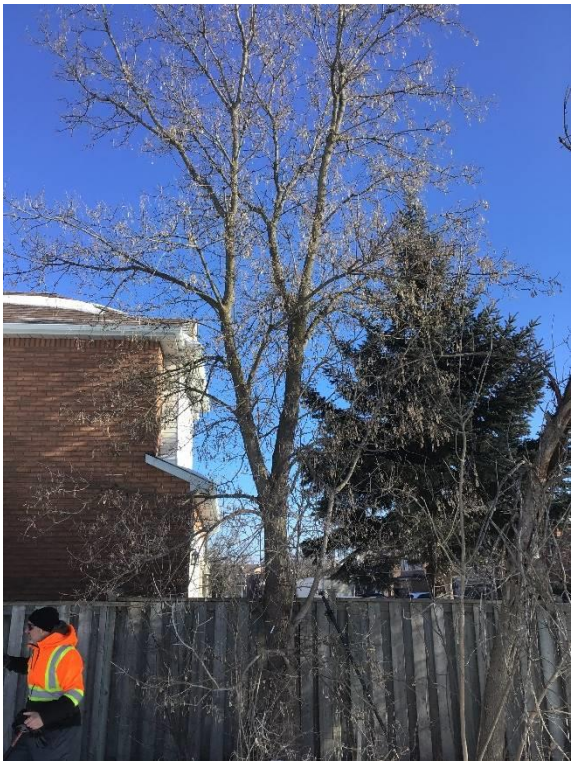
PROJECT #TA9193
January 2022

# PHOTO APPENDIX

LGL LIMITED
environmental research associates

Tree 363: Manitoba maple


Trees 1890 and 1891: Manitoba maple



Tree 364: Manitoba maple


Trees 365 and 366: Siberian elm

PROJECT #TA9193
January 2022

# PHOTO APPENDIX

LGL LIMITED
environmental research associates

Tree 1895: Manitoba maple


Tree 379: Manitoba maple

Tree 386: willow

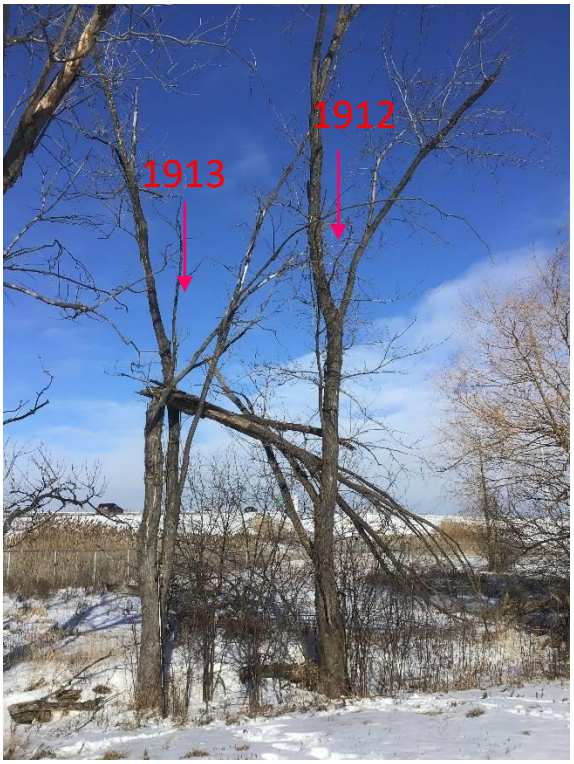
Trees 382: white ash

PROJECT #TA9193
January 2022

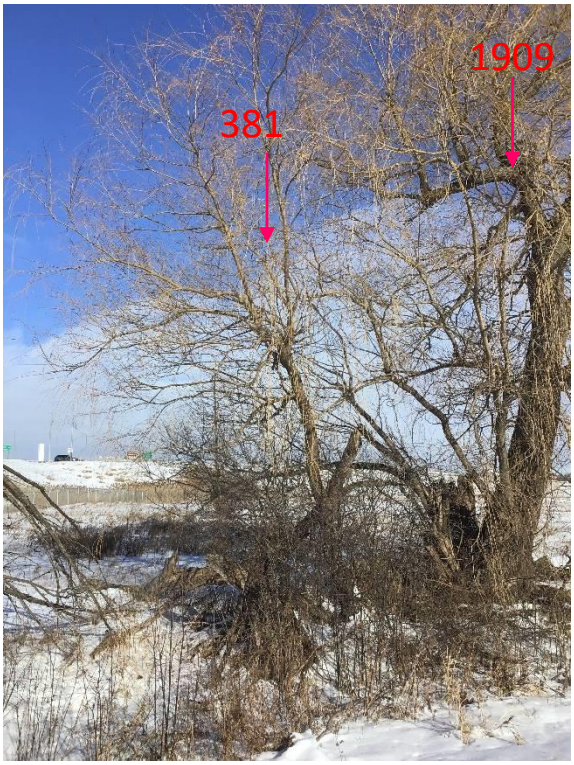
# PHOTO APPENDIX

LGL LIMITED
environmental research associates

Tree 1909: willow




Trees 1912 and 1913: silver maple

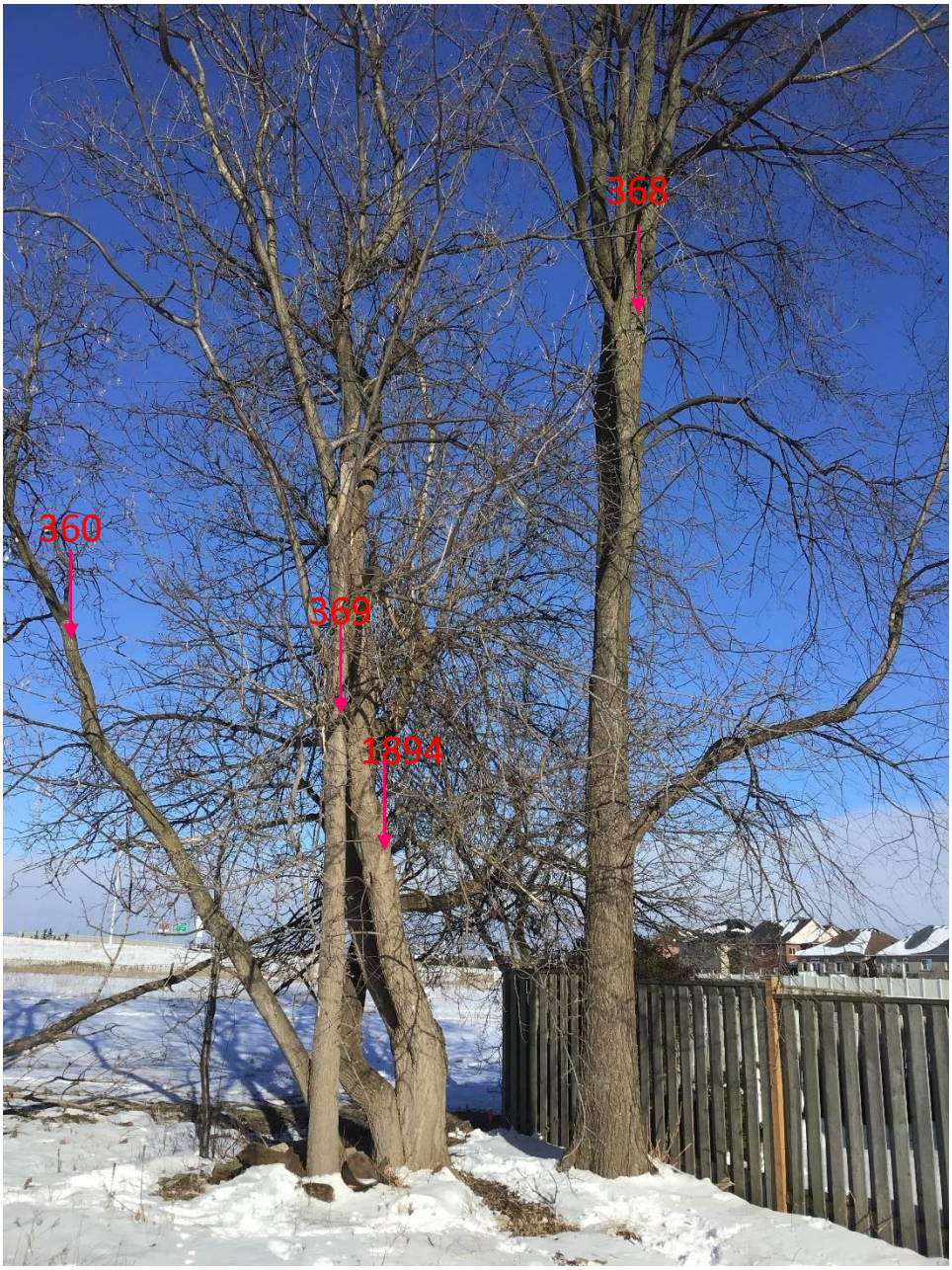



Trees 381 and 1909: willow

PROJECT #TA9193
January 2022

# PHOTO APPENDIX

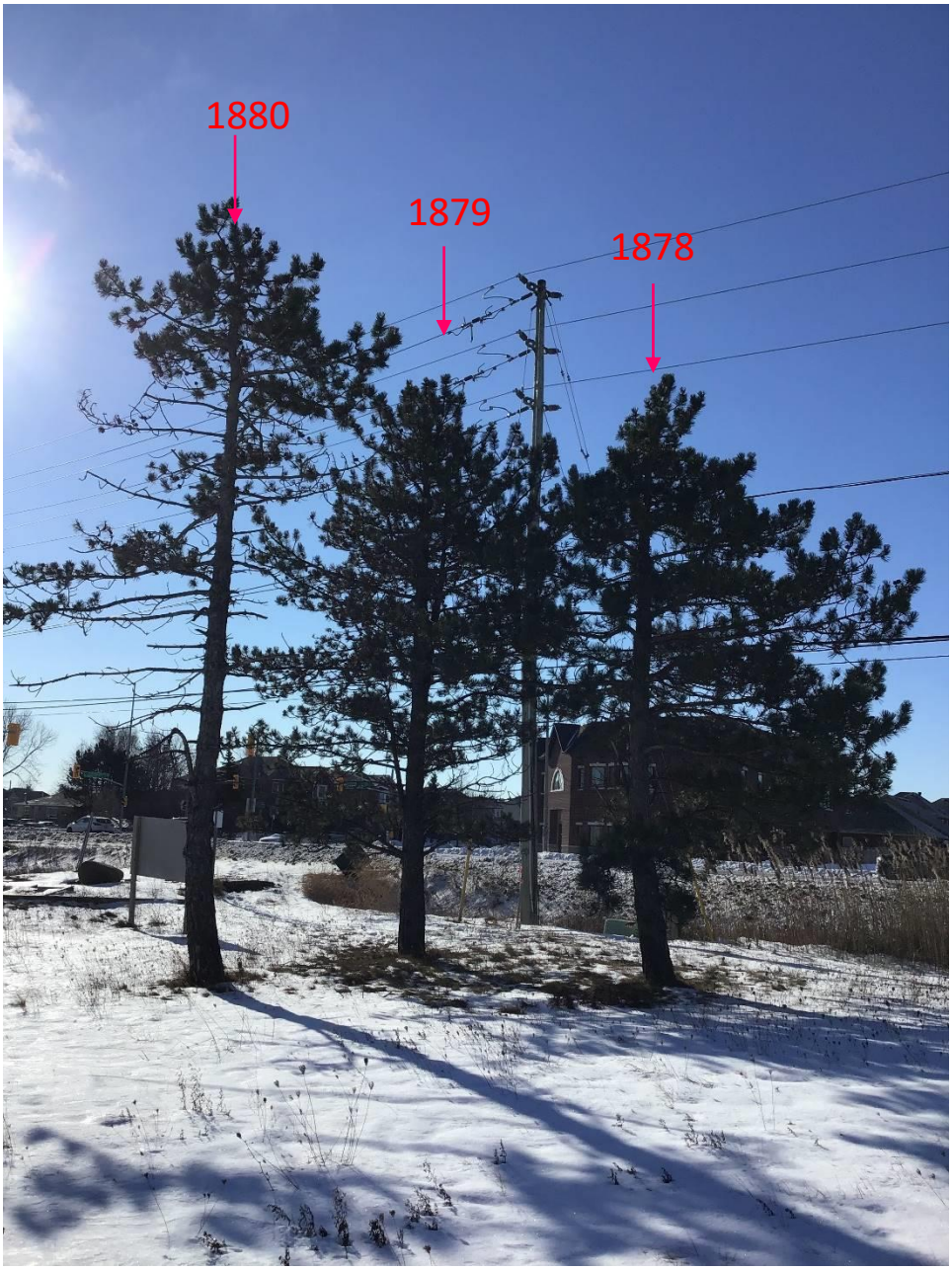
LGL LIMITED
environmental research associates




Trees 360 and 1894: Manitoba maple and Trees 368 and 369: American elm

# PHOTO APPENDIX

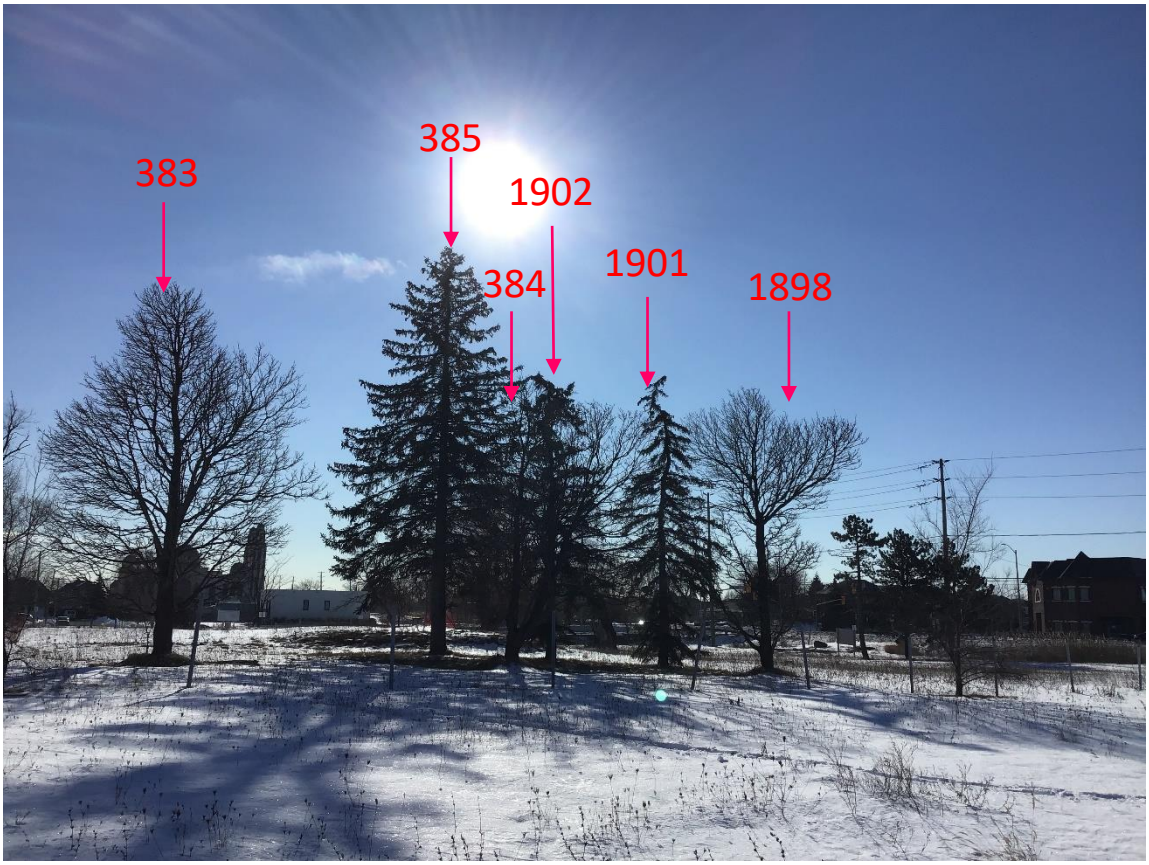





Trees 1878, 1879 and 1880: Austrian pine

PROJECT #TA9193
January 2022

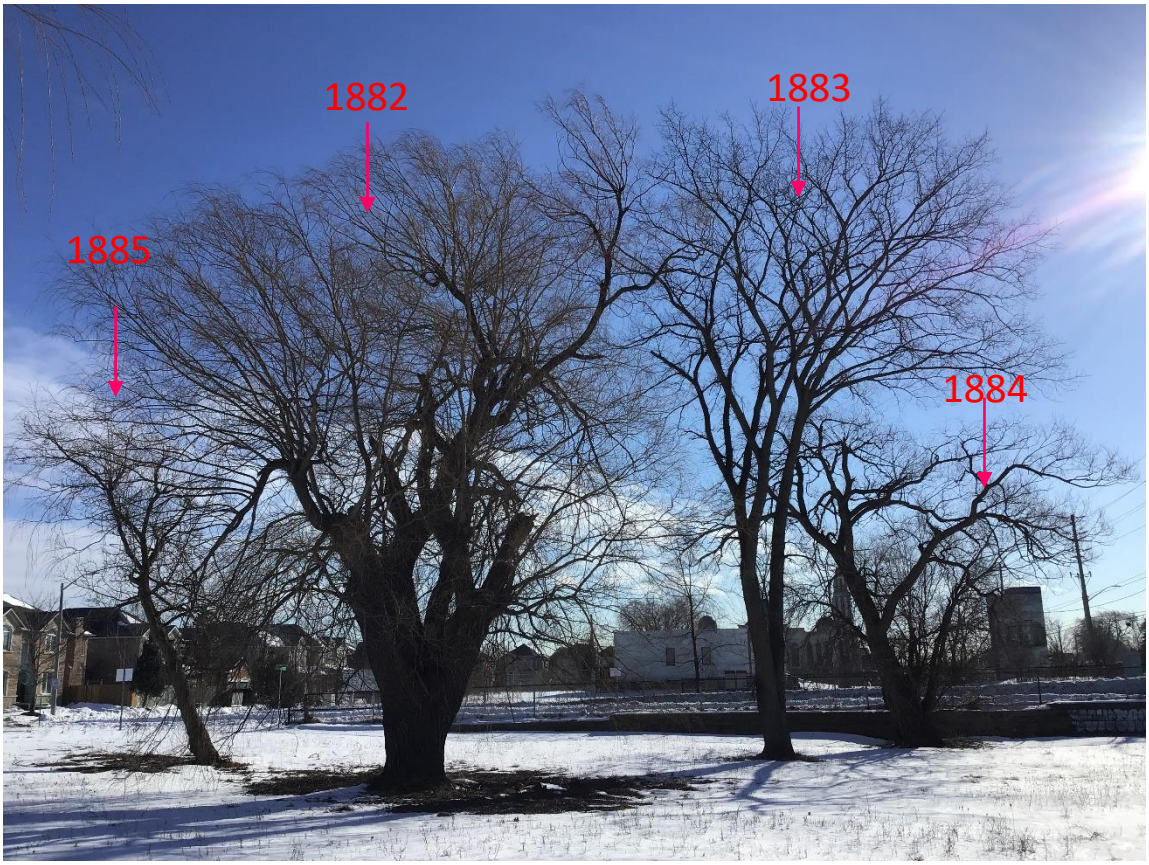
# PHOTO APPENDIX




Trees 385, 1902 and, 1901: blue spruce, Trees 384 and 1898: Norway maple and Tree 383: Manitoba maple

# PHOTO APPENDIX






Trees 1884 and 1882: willow, Tree 1885: Manitoba maple and Tree 1883: silver maple

PROJECT #TA9193
January 2022

# PHOTO APPENDIX

LGL LIMITED
environmental research associates

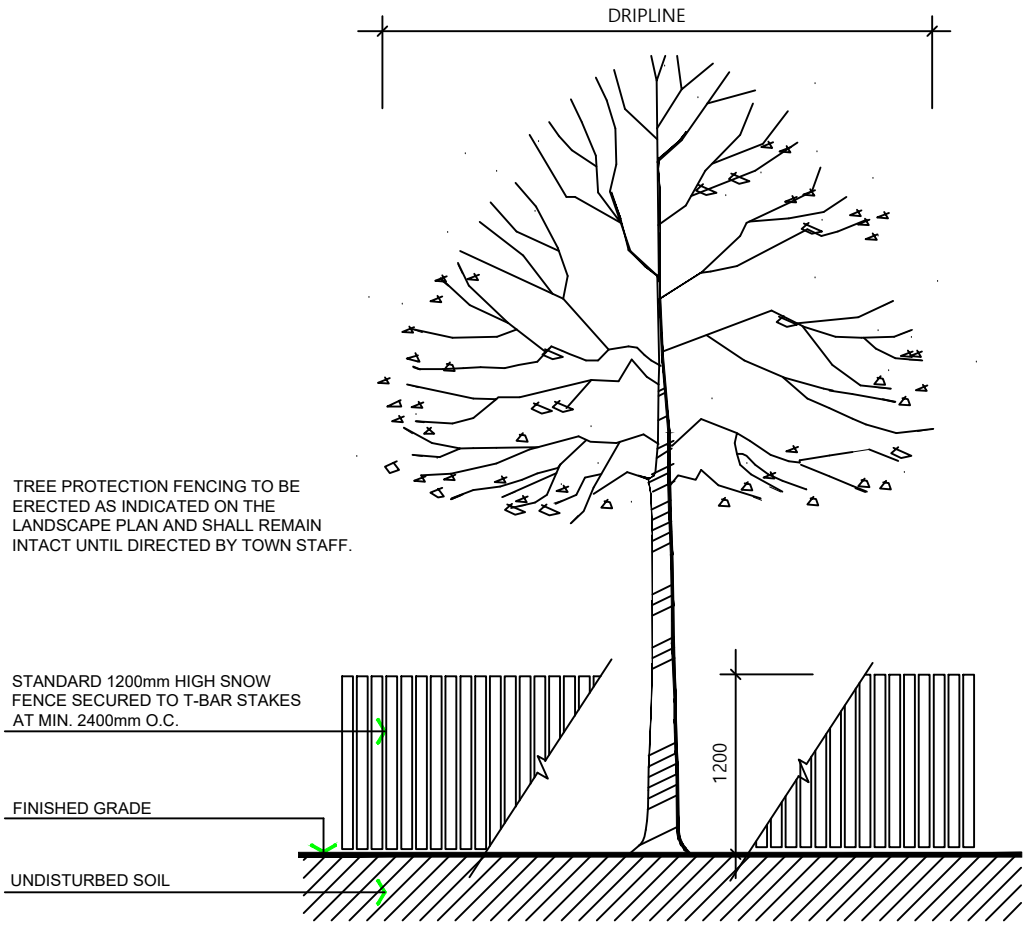

Trees 1889, 1886, and 387: Manitoba maple and Tree 388: Siberian elm

# PHOTO APPENDIX




Trees 370, 371, 373, 375, 377, and 387: trembling aspen and Trees 372, 374 and 376: Manitoba maple

# Appendix C
# Tree Protection Specifications




SPECIFICATIONS FOR THE PROTECTION AND PRESERVATION OF EXISTING VEGETATION:

1. PRIOR TO ISSUANCE OF THE GRADING AND SERVICING OR BUILDING PERMIT, ALL EXISTING TREES THAT ARE TO BE PRESERVED SHALL BE FULLY PROTECTED WITH HOARDING (IE SNOW FENCING) OUTSIDE THEIR 'DRIPLINES', OR AS DIRECTED THROUGH ADDITIONAL GOVERNING DOCUMENTS,TO THE SATISFACTION OF THE TOWN.
2. GROUPS OF TREES AND OTHER EXISTING PLANTINGS TO BE PROTECTED SHALL BE TREATED IN A LIKE MANNER WITH HOARDING AROUND THE ENTIRE CLUMP(S).
3. TREE PRESERVATION FENCE IS TO BE INSPECTED BY THE CONSULTING ARBORIST OR LANDSCAPE ARCHITECT AND APPROVED BY THE TOWN PRIOR TO CONSTRUCTION COMMENCING.
4. SILTATION CONTROL FENCING MAY BE USED AS A TREE PRESERVATION FENCING SUBSTITUTE IF REQUIRED BY ENGINEERING AT THE DISCRETION OF THE TOWN.
5. AREAS WITHIN PROTECTIVE FENCING SHALL REMAIN UNDISTURBED AND SHALL NOT BE USED FOR THE STORAGE OF BUILDING MATERIALS OR EQUIPMENT. NO CONTAMINANTS SHALL BE DUMPED OR FLUSHED WHERE FEEDER ROOTS OF TREES EXIST. NO GARBAGE OR BUILDING MATERIALS ARE TO BE PLACED ON OR AGAINST THE TREE PRESERVATION FENCE.
6. PRUNE BRANCHES TO REMOVE DAMAGED LIMBS ONLY. DO NOT DAMAGE LEADERS. ALL CUTS OVER 25mm SHALL BE TREATED IN ACCORDANCE WITH APPROPRIATE HORTICULTURAL PRACTICES AS APPROVED BY THE TOWN. NO MORE THAN 20% OF THE TREE SHALL BE PRUNED UNLESS DIRECTED BY THE TOWN.
7. CUTTING OF ROOTS OR CHANGING OF GRADES AROUND EXISTING TREES TO BE PRESERVED WILL NOT BE PERMITTED WITHOUT THE APPROVAL OF THE PUBLIC WORKS AND ENGINEERING DEPARTMENT.
8. IF TREES ARE BEING ADVERSELY AFFECTED BY CONSTRUCTION, A WATERING AND FERTILIZING PROGRAM IS TO BE SET UP TO THE SATISFACTION OF THE TOWN.
9. PRIOR TO FINAL APPROVAL TREES THAT HAVE DIED OR HAVE BEEN DAMAGED BEYOND REPAIR PRIOR DURING OR POST CONSTRUCTION SHALL BE REMOVED AND REPLACED WITH TREES OF A SIZE AND SPECIES APPROVED BY THE TOWN, AT THE SOLE COST OF THE DEVELOPER.

TOWN OF CALEDON

TREE PRESERVATION

| NO. | REVISION | APR'D | DATE |
|---|---|---|---|
| 3 | STANDARD 707 NOW 606 | | JAN 18 |
| 2 | STANDARD No. 1135 NOW 707, NOTES EDIT | | JUNE 08 |
| 1 | NOTE NO. 9 ADDED | | MARCH 08 |

APR'D: C.C. DATE: JUNE 08

DRAWN: abal SCALE: NTS

STANDARD No. 606