

Arborist Report



**BURGESS
GLEASON**

ENVIRONMENTAL

Prepared For:

138 Robert St. LP

Property Location:

138 Robert Street,
Town of Penetanguishene,
County of Simcoe

August 9, 2022



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Introduction

Burgess Gleason Environmental (BGE) has been retained to prepare an Arborist Report by the owners (138 Robert St. LP) of the subject property known as 138 Robert Street, in the Town of Penetanguishene. This Arborist Report is intended to provide a general tree inventory, areas for tree preservation, a prescription for addressing boundary trees, and the means for appropriate ecological offsetting on the property. It's also intended to support any tree cutting or site alteration permit that would allow the removal of trees on the subject lands. As a result, this Report has been prepared in the context of the Town's Tree Cutting By-Law 2005-78 and Policy on the Protection and Enhancement of Tree Canopy and Natural Vegetation (Policy 001-2019).

The owners are proposing to develop a plan of subdivision on the subject property. In Ontario, approval under the provisions of the *Planning Act* is required prior to the creation of private Lots/Blocks. In this case, amendments to the Official Plan and Zoning By-Law in addition to a draft plan of subdivision application are required by the approval authority (Town) to facilitate the subdivision. Through pre-consultation with the Town on February 1, 2022, it was identified that an Arborist/Tree Report is required to support the complete application submission requirements.

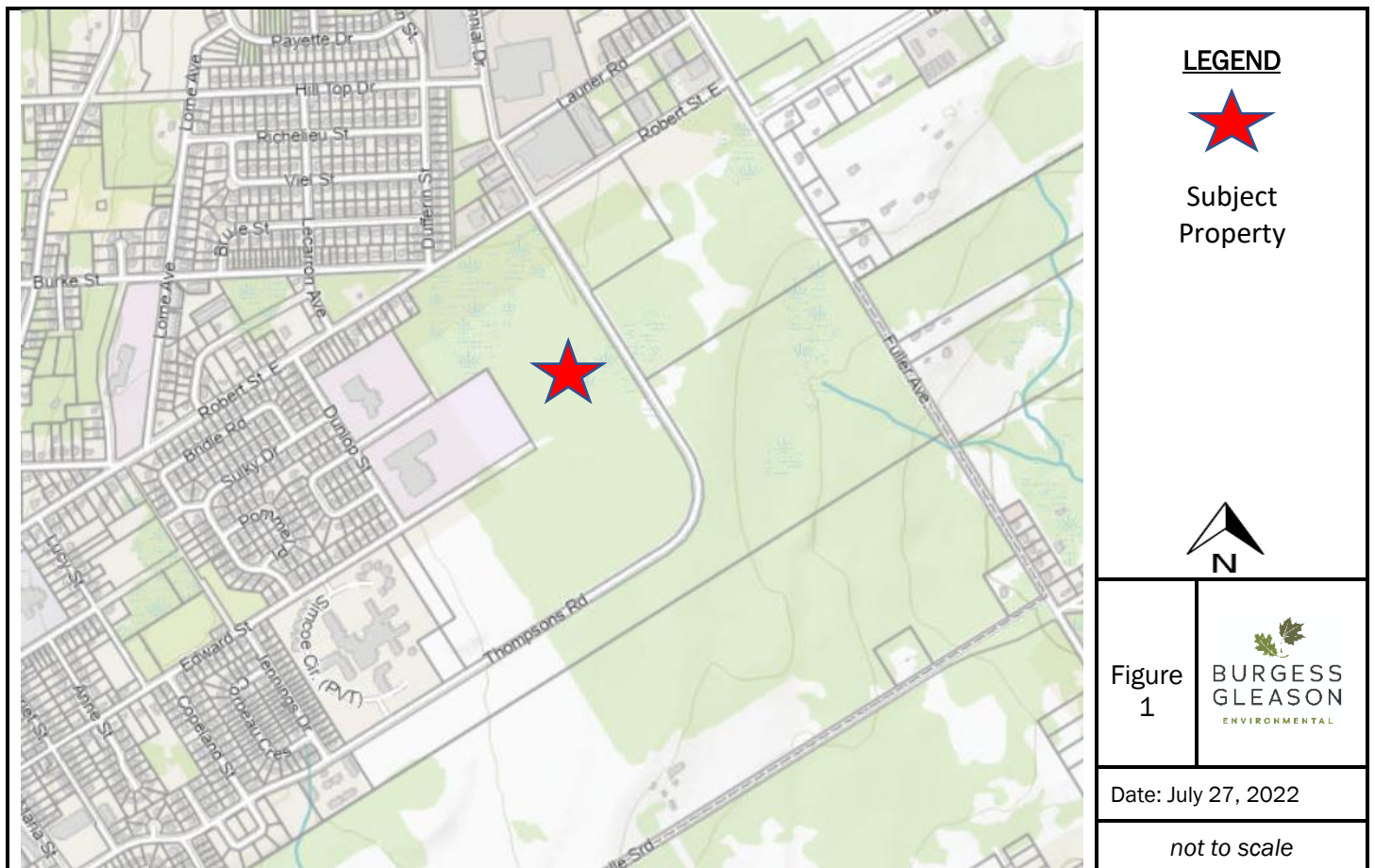
In addition, it should be noted that Ecological Land Classification (ELC) including mapping was completed for the subject property. The ELC and mapping was prepared by Cambium Environmental Inc. through the preparation of a Natural Heritage Evaluation (NHE). This Arborist Report builds upon this information including the Ecological Land Classification which helps describe the forest communities on the site. The ELC, assessment, and analysis through the NHE provides a sufficient ecological basis for tree inventory and evaluation for this property. In general, implementing a forest stand representation method is an acceptable arboricultural means to describe the trees on a property when a large woodland block exists.



Site Context

The property is municipally described as 138 Robert Street East in the Town of Penetanguishene. The Town operates within a two-tiered municipal system as an area municipality as part of a regional form of government. The County of Simcoe represents the regional government while the Town is classified as an area or local municipality.

The location of the property, in the context of the Town, can be seen on Figure 1. Currently the property is primarily treed with a cultural meadow located in the southwestern part. The entire property is approximately 31.62 hectares or 78 acres in area with frontage on Robert Street, Thompson Road, and Edward Drive.

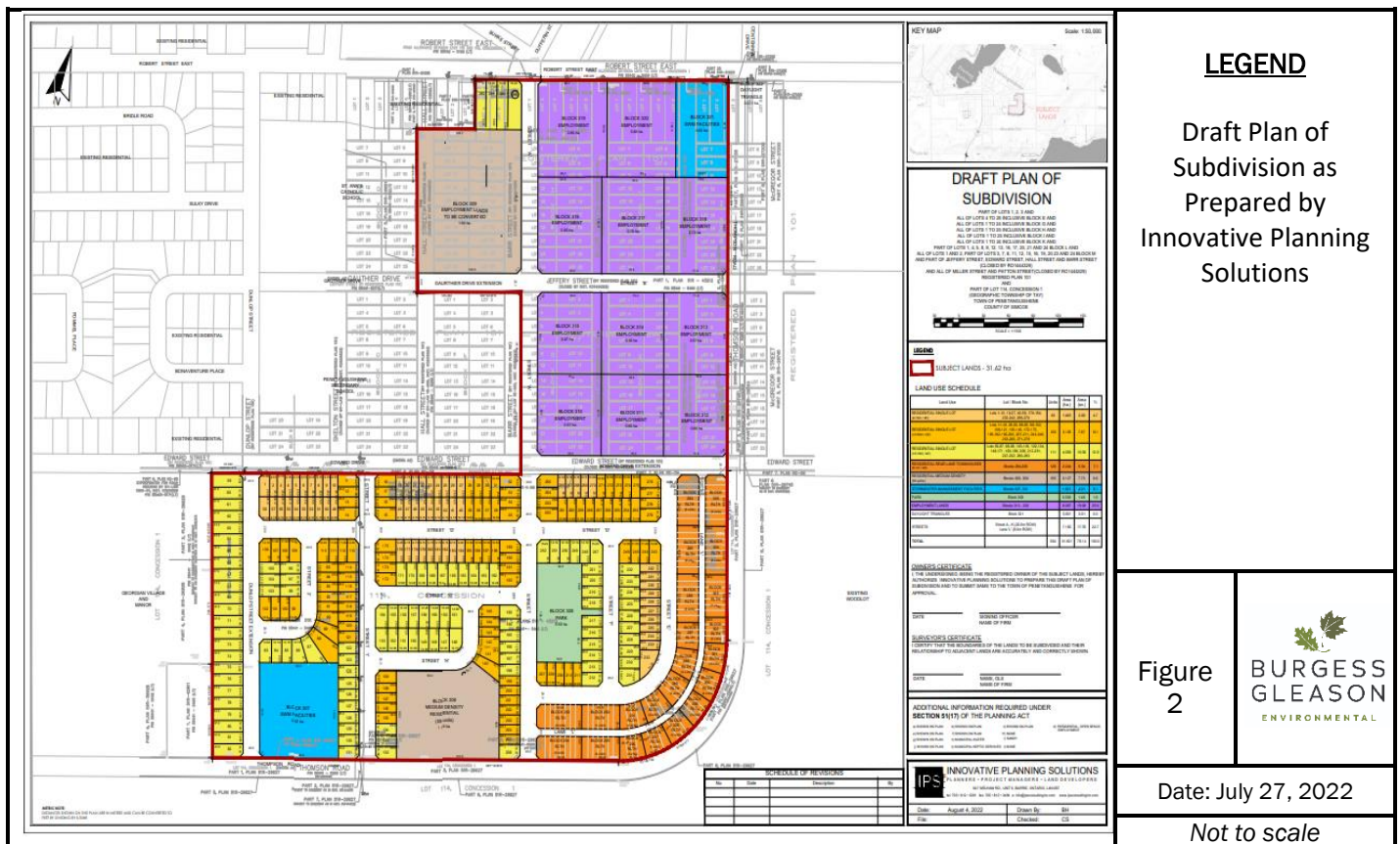




Legislative Context

Planning Act

As stated previously, this proposal requires adherence to Ontario's *Planning Act* including approval of a draft plan of subdivision and related Official Plan and Zoning By-Law amendment applications. The draft plan is comprised of proposed residential lots or units and secondarily industrial blocks. Other parts of the draft plan include Blocks for open space (park) and infrastructure (storm water management) uses. The draft plan is intended to fulfil the growth management objectives of the Growth Plan for the Greater Golden Horseshoe by directing development to defined settlement areas such as the Town. A copy of the subdivision plan as prepared by IPS is shown below on Figure 2.





Other Legislation

In addition to fulfilling the requirements under the *Planning Act*, approval or adherence to the following legislation may be required:

- *Places to Grow Act*
- *Municipal Act*
- *Migratory Birds Convention Act*
- *Endangered Species Act*

Method

Terms of Reference

The Terms of Reference (TOR) for Arborist Reports in the municipality have been established by Town policy on canopy protection and enhancement. On this basis, this Arborist Report is comprised of four main components namely: tree inventory; tree preservation; border or boundary tree management; and recommendations. Given that many of the trees within the development limit will be removed, a general inventory of tree species is provided. The tree inventory is based on the forest stand method as opposed to an assessment of individual trees. Further, Ecological Land Classification as undertaken as part of the NHE can provide a general description of the site from a woodland perspective.

As a result, the basis of this Report will focus on the new forest edge, boundary trees, and the means to mitigate any impacts. For the purposes of this Report, a “boundary tree” is defined as the trunk of any tree that grows across one or more property lines. This definition used in other jurisdictions helps avoid the need to access adjacent properties and prevents any potential violation under the *Trespass to Property Act*.

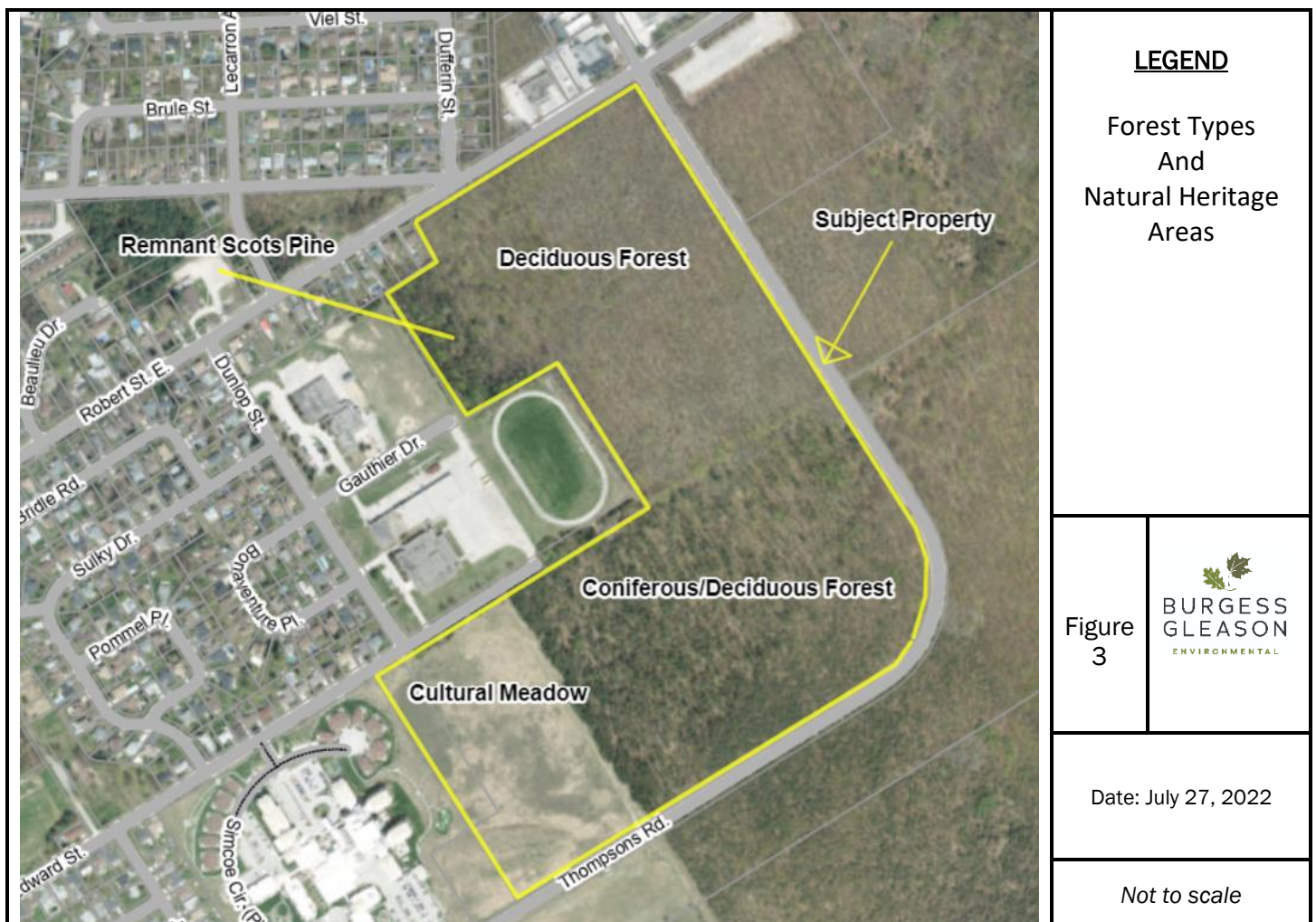
In addition, it is noted that this Report and evaluation of trees was carried out by a member in good standing with the International Society of Arboriculture (ISA) and the Ontario Chapter of Certified Arborists. The ISA is an internationally recognized organization representing over 20,000 members world-wide. The ISA Certification Number for the consulting Arborist is ON-2456-A.



Tree Inventory

The Natural Heritage Evaluation prepared for this property and recent site inspections provide a proper evaluation of the forested area and trees on the property. As discussed previously, the evaluation of trees on the property used the forest stand method as opposed to tagging and assessing each individual tree. Further, the field assessment included a search for any endangered tree species under the *Endangered Species Act* such as White Walnut or Butternut (*Juglans cinerea*). While Black Walnut (*Juglans nigra*) was observed on the property across from Dufferin Street, no butternut trees were identified.

Based on our assessment, there are generally three main natural heritage areas and two forest blocks as shown below In Figure 3:





Coniferous/Deciduous Forest

Historically, this forest community was a predominant Scot Pine (*Pinus sylvestris*) woodland. Based on aerial photos dating back to the 1970's, this previously farmed area was introduced with Scots Pine that are now approximately 50 years old. Since then, the woodland has resulted in natural succession with the introduction of native shade tolerant deciduous trees such as Sugar Maple (*Acer saccharum*). Today, the woodland is a mixed coniferous and deciduous forest with the Scots Pine maturing and declining in health. Ultimately, this woodland would evolve into a predominant deciduous forest community. The picture below shows the mixed composition of this woodland. The older aged Scots Pine trees represent the canopy while the subcanopy tree species include more deciduous species such as White Birch (*Betula papyrifera*) and some White Ash (*Fraxinus americana*). In essence, the Scots Pine set the stage for a more natural forest community to evolve that elapsed over the past 40-50 years. It should be noted that Scots Pine (*Pinus sylvestris*) is not native to Canada is highly invasive and undesirable.



Picture Taken July 25, 2022 from Thompson Road facing Northeast



Cultural Meadow

This area is located in the southwestern part of the subject lands between Edward Drive and Thompson Road. It is devoid of any trees. The picture below shows the cultural meadow and the western edge of the mixed coniferous and deciduous forest community.



Picture Taken July 25, 2022 from Thompson Road facing North

Deciduous Forest

This forest community is dominated by a variety of deciduous species. The canopy is dominated by poplar trees including Trembling Aspen and Large-Toothed Aspen (*Populus tremuloides* and *Populous grandidentata*) and Sugar Maple (*Acer saccharum*). Secondary and sub-canopy trees in less dominance include Red Oak (*Quercus rubra*), Ironwood (*Ostrya virginiana*), and Black Cherry (*Prunus serotina*). While dominated by deciduous trees, a few White Pine (*Pinus strobus*) were identified in this forest community. The picture below shows the dominance of this forest community with deciduous trees including its canopy.



Picture Taken July 25, 2022 from Thompson Road facing Northwest



Tree Preservation

Tree preservation on the property is linked to several factors including the analysis and results of the Natural Heritage Evaluation, the identification of any significant trees, the ability to maintain the health of remnant trees, and engineering or construction practices for the site. These factors are important in order to properly determine which trees should be protected in a post-development situation.

The NHE prepared in support of the plan of subdivision has identified that the subject lands can be developed from an ecological perspective. In general, it was determined that there would be no negative impact to the natural heritage features on-site including the woodland. As noted previously, it is a provincial objective to direct growth and development to settlement areas such as the Town of Penetanguishene where full municipal services can be provided. As a result, the loss of woodland and trees on-site is balanced with achieving this provincial growth management objective.

In addition, no trees such as Butternut were found on the property that would be subject to the provisions of the *Endangered Species Act*. Also, there are no individual trees that would constitute a Heritage Tree. By definition, a Heritage Tree is a large individual tree with unique value that would be irreplaceable. Some Heritage trees can be designated under the *Ontario Heritage Act*. In general, the criteria for classifying a Heritage tree are age, rarity, and size, in addition to historical, ecological, botanical, and aesthetic value. Based on the site evaluations and general tree inventory, it would appear that there are no individual trees that would meet these criteria.

The development of major urban uses typically requires significant grade changes through earth moving and filling. Based on the grading plan for the site as prepared by the consulting engineering firm, there will be significant earth moving and grading to facilitate the proposed subdivision. This is required to properly service the site from a sanitary, water, and stormwater perspective. As a result, there is little ability to protect any trees within this developable area given that trees and their root structure cannot withstand significant grading or filling. Since grade modification is typically setback from the lot lines in order to help maintain pre-development drainage patterns, there may be opportunity to protect certain trees along the interface with neighbouring properties.



Boundary Trees

It is an arboricultural and municipal objective to ensure that the development of lands for urban uses will have no negative impacts on border and neighbouring trees. Typically, grading and construction activities within the Tree Protection Zone (TPZ) of a tree will result in significant dieback and in some cases death. As a result, it is essential to establish a TPZ for the trees along the property lines and where canopy may overhang the property. In general, a Tree Protection Zone can be established for each individual species based on its type, size (DBH), height, and sensitivity to construction activities. However, this can only be accomplished if the lot lines are surveyed by an OLS and flagged or staked to determine the proper location of each tree. At the time of this tree evaluation, this flagging or staking of the property lines was not completed.

For the purposes of this assessment, the “boundary tree” definition derived from the Town of Newmarket’s Tree Protection By-Law was used. As a result, a boundary tree is defined as the trunk of any tree that grows across one or more property lines. Based on our site inspection, it appears that there may be trees where their trunk straddles the property line.

The subject property abuts private and public lands including residential lots to the north and school properties to the west. Please refer to Appendix C which contains photos of the interface between the subject lands and adjacent properties. The property line along the school sites contains Trembling Aspen and Large-Toothed Aspen (*Populus tremuloides* and *Populus grandidentata*) with remnant Scots Pine (*Pinus sylvestris*) to the north. These tree species are typically undesirable given their relatively short life expectancy and invasiveness in the case of Scots Pine. The poplar species would also be susceptible to windthrow once the rest of the woodland is removed for urban uses and development. Further, the lot lines flanking the residential lots to the north (132-136 Robert Street East) contain trees that could be affected by grade modification. It was also observed that a few White Spruce (*Picea glauca*) exists along the eastern lot line of 136 Robert Street.

On this basis and in an effort to ensure that the border or boundary trees will not be negatively impacted from the proposed development, it is recommended:



All development including grading, grubbing, and construction activities shall be setback a minimum of six (6) metres from the lot lines abutting the school sites and residential lots at 132-136 Robert Street East.

The implementation of this construction setback will help ensure that the root zones for the boundary trees will remain in tact and will not be negatively impacted from the proposed development. Essentially, a 6-metre construction setback from the property lines establishes the Tree Protection Zone for the boundary trees.

It is noted that this 6-metre offset can be further refined by an ISA Certified Arborist once the property lines have been surveyed, staked or flagged and each boundary tree properly assessed. Ideally, the entire site from a practical engineering perspective should be prepared, graded, and serviced at one time. However, written permission from the neighbouring landowners to grade up to the lot lines would be required in the event that there could be a negative impact on the border trees. If permission is provided, it is recommended that these boundary trees be replaced as part of the overall landscaping plan.

Town Policy

The Town of Penetanguishene enacted the Policy on the Protection and Enhancement of Tree Canopy and Natural Vegetation (Policy 001-2019). In general, this Policy is intended to maintain or enhance the tree canopy and natural vegetation within the municipality. A copy of this Policy including a highlighted section that refers to tree canopy protection and enhancement is found in Appendix A.

Policy 001-2019 builds upon existing planning policy stated in Section 2.3 (Tree Planting and Landscaping) of the Town's Official Plan (OP). For example, Policy 2.3.3.1 illustrates that only trees that would impede the development of buildings and services can be removed. It has been determined previously that the developable area needs to be graded and filled to properly construct and service the proposed plan of subdivision. On this basis, the removal of trees is justified within the area to be developed and, as such, this OP policy has been met.



Policy 2.3.3.2 of the Official Plan also identifies that a minimum number of trees shall be provided for each lot within the proposed subdivision. This Policy is likely intended to replace trees that would be lost through the construction process and to further the principles of ecological offsetting or compensation. It also enhances the tree canopy and cover within the municipality. To fulfill this OP Policy and Policy 001-2019, it is recommended that the site be planted with native, non-invasive tree species. The location of tree planting will be shown through the preparation of a Landscape Plan as part of the planning process.

Typically, trees can be planted in the street scape, open space block, stormwater management pond(s), and on the individual lots. It should be noted that the proposed street trees should be of a species that exhibit a moderate to high tolerance for salt from spray and soil contamination such as Red Oak (*Quercus rubra*) and White Oak (*Quercus alba*). Further, recent science has shown that the planting of non-native species may be beneficial given their qualities to withstand urban pollution. The Ginkgo tree or Chinese Maidenhair tree (*Ginkgo biloba*) is an example of a non-native, non-invasive tree species that is suitable for urban environments due to its ability to withstand air pollution, salt, and soil compaction.

Summary

This Report recognizes the Natural Heritage Evaluation that was undertaken as part of this land use proposal. Based on the results of the NHE, it has been determined that the woodland and trees on-site can be removed from a natural heritage and ecological perspective. Building upon the analysis and results of the Natural Heritage Evaluation, we have determined that there are no significant trees on the property that require preservation. The property does not contain any Butternut as governed by the *Endangered Species Act* nor does it contain any Heritage Trees that may be designated under the *Ontario Heritage Act*. All of the trees to be removed are common to Ontario. It is recognized however that the border trees as illustrated in this Report should be protected from grading and evaluated in more detail when the property lines are surveyed and flagged and/or if written permission is received from the neighbouring landowners. If the border trees should perish or be negatively impacted from the development and site alteration, then the trees should be replaced at the developer's expense.



In addition, to help offset the loss of trees on-site, additional trees and shrubs will be planted by the developer in accordance with Town policy. The provision of tree and shrub plantings will be identified through a proper Landscape Plan undertaken to the satisfaction of the Town. The planting of trees on-site in a post development situation shall consider the following:

1. The trees shall be as a minimum of a non-invasive variety;
2. The trees shall, where possible, be native to Ontario;
3. The trees should be resistant to urban contamination and stresses such as salt exposure, air pollution, water deprivation, and soil compaction; and,
4. The composition of trees should follow the arboricultural 10–20–30 standard (10% species – 20% genus – 30% family) in order to promote biodiversity and prevent widespread loss due to disease.

Recommendations

The development of the lands for urban uses is appropriate as it relates to arboricultural objectives provided the following recommendations will be fulfilled:

1. That the removal of trees shall occur in accordance with the Town's standards and by-laws under the *Municipal Act* including any permit requirements or via the concurrent approval process under the *Planning Act*.
2. That the timing of woodland and tree removal shall adhere to the provisions of the *Migratory Birds Convention Act* and avoid the bird nesting seasons (tree removal prohibited from April 1 - August 31).
3. That the removal of trees on-site should occur in a sustainable manner that will involve the re-use of wood and limbs to products such as fuelwood and the creation of mulching products.



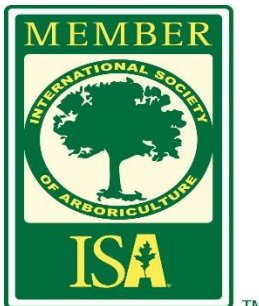
4. That the post-development drainage pattern shall ensure that there will be no negative hydrologic impacts on the neighbouring trees.
5. That the non-native, invasive Scots Pine (*Pinus sylvestris*) shall be removed from the site in order to prevent any further intrusion into local natural forest ecosystems.
6. That the compensatory plantings for the loss of trees on-site shall be provided through the planting of trees in accordance with the provision of a Landscape Plan (as stamped by a member of OALA).
7. That the trees to be planted on-site shall be of a non-invasive variety and should reflect the arboricultural standard of 10-20-30 (% species - % genus - % family) in order to enhance biodiversity. For example, the species number should not exceed 50 if a total of 500 trees are to be planted as part of the Landscape Plan.
8. That Tree Preservation Signs (Appendix B) shall be placed 6 metres from the lot lines abutting the school sites and Lots 132-136 on Robert Street East prior to tree removal in order to establish a TPZ for border and neighbouring trees. The signs shall be placed at a maximum interval of 50 metres.
9. That the property line shall be surveyed and flagged prior to tree removal to prevent any encroachment onto neighbouring lands and to seek opportunities for the protection of border trees.
10. That Notice of Tree Removal shall be posted along the frontage of the subject property a minimum of seven (7) days before tree cutting.



Signatory Page

I hereby certify that I am a member in good standing with the International Society of Arboriculture (ISA) and the Ontario Chapter of Certified Arborists.

Charles F. Burgess, MCIP, RPP
Certified Arborist
ISA ON-2456-A



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Appendix A

Town Policy 001-2019



Town of Penetanguishene Policy/Procedure

Policy Name: Protection and Enhancement of Tree Canopy and Natural Vegetation		
Policy Division: P&D	Department: PLAN	Policy Number: 001-2019
Effective Date: March 1, 2019		Revision Date:
Supersedes:		Date Approved by Council: February 13, 2019
Corporate Policy (Approved by Council)		[X]
Administrative Policy (Approved by CAO)		[]
Department Policy or Standard Operating Procedure (Approved by Director)		[]
Related Documents/Legislation: This Policy is made pursuant to s. 270(7) of the Municipal Act.		

POLICY STATEMENT:

It is a policy of the Town that the tree canopy and the natural vegetation shall be protected and enhanced through wise stewardship and management of these natural features on public and private lands.

PURPOSE:

The Town of Penetanguishene values the important role the tree canopy and the natural vegetation performs in combating climate change and contributes to the Town's quality of life and character. Therefore, the objectives of this policy are to:

- preserve the current amount of tree canopy and natural vegetation cover within the municipality; and,
- enhance the current amount of tree canopy and natural vegetation cover through wise stewardship and management of public and private lands.

SCOPE:

The policy applies to all lands within the municipality of the Town of Penetanguishene.

DEFINITIONS:

Tree Canopy shall mean: the layer of leaves, branches and stems of trees that cover the ground when viewed from above.

Natural Vegetation shall mean: the native species of plants and other flora that make up the plant life in the area.

RESPONSIBILITIES:

This policy applies to Council of the Town of Penetanguishene when making decisions on land use development applications to ensure conformity with the policy statement. Additionally, this policy applies to all workers of the Town of Penetanguishene when making operational decisions or working on public lands.

PROCEDURES:

The strategies the Town will utilize in order to achieve the above objectives are by:

- setting the baseline measurement of tree canopy and natural vegetation to the Natural Heritage Study completed in 2017;
- utilizing the policies of the Town's Official Plan, the Town's Engineering Standards and current or new Municipal By-laws related to trees and site alteration to maintain and enhance the tree canopy and natural vegetation;
- communicating and encouraging the community on the importance of the tree canopy and natural heritage;
- participating in regional programs that would increase the amount of tree canopy in the Town and reduce the amount of non-native vegetation;
- providing incentives to residents and the development community to enhance the tree cover and natural vegetation; and,
- reviewing and updating the data provided in the Natural Heritage Study a minimum of every five (5) years.

Appendix B

Tree Preservation Signage

**TREE
PRESERVATION
AREA**

**NO UNAUTHORIZED TREE CUTTING
PERMITTED IN THIS AREA**

Appendix C



Photos



Photo Facing North Showing the Trembling Aspen along the School Property



Photo Facing North Showing the Large Toothed Aspen along the Soccer Field

Appendix D

CV – Charles F. Burgess

CURRICULUM VITAE

CHARLES F. BURGESS, B.Sc., Dip. F.T., MCIP, RPP

ISA-ON-2456A

Professional Achievements

- Successfully practiced in resource management and planning in both the public and private sectors related to disciplines such as forestry, mineral aggregate resources, natural heritage protection, and watershed planning
- Established successful working relationships with representatives from government, agricultural community, development industry, non-governmental organizations, aggregate producers, and the general public
- Fulfilled various resource management and planning responsibilities related to forestry (tree marking, tree planting, timber cruising), natural heritage planning and the identification of significant woodlands, and watershed management
- Recognized in the industry as a resource management professional that exhibits tact and diplomacy in every-day work

Professional Experience

- | | |
|---|--------------|
| ▪ Burgess Gleason Environmental | 2020-Present |
| ▪ Skelton Brumwell & Associates Inc. | 2018-2020 |
| ▪ Lake Simcoe Region Conservation Authority | 2009-2018 |
| ▪ Dufferin Aggregates | 2008-2009 |
| ▪ Lake Simcoe Region Conservation Authority | 2007-2008 |
| ▪ Nottawasaga Valley Conservation Authority | 1992-2007 |
| ▪ Mississippi Valley Conservation Authority | 1991-1992 |
| ▪ Ministry of Natural Resources (Pembroke District) | 1986-1991 |

Education

- Bachelor of Science Degree (B.Sc. – Major - Natural Science)
Lakehead University (Graduated - 1990)
- Forestry Technician Diploma (Dip. F.T.)
Sir Sandford Fleming College (Graduated - 1985)

Affiliation

- ✓ Member of the Canadian Institute of Planners (MCIP)
- ✓ Member of the Ontario Professional Planners Institute (OPPI)
- ✓ Registered Professional Planner (RPP)
- ✓ Certified Arborist (ISA – ON-2456A)

Detailed Professional Experience

- LSRCA; Dufferin Aggregates; NVCA; MVCA; Consulting;
 - ✓ Resource management
 - ✓ Watershed planning
 - ✓ Public policy formulation and interpretation
 - ✓ Identification of natural heritage systems
 - ✓ Key natural heritage feature identification and protection
 - ✓ Site evaluations
- Ministry of Natural Resources (Pembroke District)
 - ✓ Tree marking
 - ✓ Timber cruising to determine species composition and density
 - ✓ Forest Resource Inventory (FRI) mapping and interpretation
 - ✓ Forest surveying
 - ✓ Tree planting
 - ✓ Crown land and County Forest management