Tree Preservation Plan - 5 Lot Severance - 1290 Sandy Bay Road

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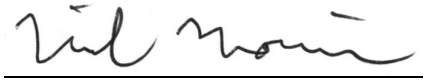

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Acronyms and Abbreviations

DBH	Diameter (of a tree) at breast height
EAB	Emerald Ash Borer
EIS	Environmental Impact Study
ELC	Ecological Land Classification
ESA	Endangered Species Act
MECP	Ministry of Environment, Conservation and Parks
NEC	Niagara Escarpment Commission
PJR	Planning Justification Report
SAR	Species at Risk
SOCC	Species of Conservation Concern
TPP	Tree Preservation Plan

1.0 INTRODUCTION

1.1 Background

This report has been prepared in regard to the ~25-ha property at 1290 Sandy Bay Road, Town of Penetanguishene, County of Simcoe. The property is legally known as Part Lots 14 and 15, Concession 3, Town of Penetanguishene. The property is referred to herein as the Sandy Bay Property, or simply "the Property".

In 2024, an application was submitted for consent for a severance that would create 5 new residential lots on the west half of the Property, with frontage and access along Gilwood Park Drive. The proposed lots are more-or-less consistent in size and shape, with frontage in the range of about 38 to 40 m and a uniform depth of 65 m. The area of each lot is about 0.25 ha, for a combined area of about 1.25 ha. Almost 24 ha (about 95%) of the existing Property will be part of the retained parcel. Each of the 5 new lots would eventually be the site of new single-family residential development with private septic service and municipal water supply. A copy of the Severance Plan for these lots is attached for reference as Appendix A.

In support of the 2024 severance application, an Environmental Impact Study (EIS) was prepared and submitted (Morris, 2024). As reported in the EIS, the Property encompasses about 25 ha of woodlands that are broadly considered to be *Significant Woodlands*. The entirety of each the proposed new lots lies within this woodland area, and eventual lot development will require alteration of a limited area (≤ 1 ha total) of these woodlands. The EIS concludes that such removal is not anticipated to have meaningful adverse effect on the overall integrity and function of Significant Woodlands within and surrounding the Property. To minimize any impacts, the EIS recommends that the Property be developed with considerations to minimize loss of tree cover, and that the eventual lot layouts allow for meaningful retention of existing tree cover within each lot. To this end, the EIS recommends that a Tree Preservation Plan (TPP) should be developed in advance of eventual lot development to specify tree retention objectives for the Property and each individual lot. Following review of the 2024 severance application submission, the Town has provided comment indicating that a TPP is to be provided to support the proposed tree removals on site.

1.2 Current Scope of Work

The overall purpose of this report is to fulfill the requirement for the TPP that has been requested for the proposed new lots.

At this stage, a generic conceptual layout has been prepared and submitted with the Planning Justification Report (PJR) (Goodreid, 2025), and a copy of that concept is appended hereto as Appendix B for reference. For the five lots in common, the plan identifies set dimensions and positioning of a single family residence (~250 m^2),

driveway and private septic service (~375 m^2). This is based in part on septic design and other general placement constraints and criteria. Ultimately, the intent for the eventual development of each of the 5 lots is that a detailed lot-specific site plan will be prepared that may propose different dimensions or placement of the residences and/or servicing, and which may include other elements (patios, decks, pools). Accordingly, this document has been prepared to serve as a **Master** TPP, providing assessment and recommendations that reflect current conditions and established TPP principles, but which allows for TPP refinement for each lot in later stages of development approval.

The scope and content of this Master TPP is based in part on the characteristics of the development lands and also the general nature of proposed development. The overall approach and specific steps taken are determined in part on the basis of experience with previous TPP development in various jurisdictions, including the Town of Penetanguishene (e.g. Morris, 2021) and also documented guidelines for TPP preparation (e.g. NEC, 2023).

In following available precedents, there are four basic tasks that have been undertaken in the preparation of this TPP, as follows:

1. For the 5 lots and immediately adjacent areas, assessment of the nature of existing vegetation cover, and the potential presence of any trees or non-woody plant species that are Species at Risk (SAR).
2. For each lot and adjacent areas, characterization of the physical environment of relevance to tree viability (e.g. drainage, soil type, slope).
3. For each lot and adjacent areas, assessment of the likely impacts of anticipated development on existing forest cover, and
4. Development of recommendations regarding retention of existing trees and identification of measures to mitigate any projected tree loss, including post-construction planting.

The information yielded through completion of these tasks has been integrated into a master TPP for all of the 5 lots combined. This Master TPP, subject to acceptance, is to serve as the basis for eventual Lot-specific TPPs to be submitted for clearance of future development plans for each of the 5 newly created lots (refer to Section 3.4).

2.0 EXISTING SITE CONDITIONS

2.1 Assessment Methods

To develop an effective TPP, this report considers various relevant characteristics of the lots in question and adjacent lands. This includes the distribution and composition of existing woody vegetation within and near the lots, in part to help identify candidate tree and shrub species for planting. Soil type and topography are also characteristics that have been evaluated which could influence species selection for restoration purposes, and also possibly maintenance requirements for any post-construction planting.

The noted site characteristics of relevance have been determined partly through a review of existing information. including Environmental Impact Studies (EIS) previously prepared for the Sandy Bay Property (Azimuth, 2003, Morris, 2020 and Morris, 2024).

As part of the most recent EIS, on-site surveillance was conducted to confirm and/or refine the understanding of existing conditions in each of the 5 newly proposed lots. During surveillance, the existing woody cover within each Lot was assessed (species distribution, tree size/maturity, spacing, forest structure. etc.) in context of the conceptual lot layout (see Appendix B).

2.2 Physical Characteristics

2.2.1 Soils and Topography

The Soil Survey of Simcoe County (Hoffman, Wicklund and Richards, 1962) indicates that the pre-development soils within and around the Property are in the category of Vasey Sandy Loam. This soil type is generally described as having an open porous nature and exhibiting good drainage. It has a generally low susceptibility to compaction and erosion. During examination of the Property, soil consistent with the Vasey Sandy Loam characteristics were encountered throughout the area of the five proposed lots. The minor exception is a small shallow depression encountered in Lots 4 and 5 where seasonal near surface saturation occurs. In parts of this area the surface soil exhibits some limited characteristics reflective of seasonal saturation.

In terms of topography, there is an overall general slope from approximately southwest to northeast within across the full 25-ha property. The area of the 5 proposed lots exhibits this general gradient. As a result, each the lots is characterized by a modest decline in elevation moving away from Gilwood Park Drive toward the rear lot lines. The back half of the lots is generally in the order of 1 to 4 m lower than the elevation of the given lot at roadside. The magnitude of relief decreases slightly moving south from Lot 1 to Lot 5. Lot 5 is the highest of the lots and exhibits the least relief from front to back. The existing natural grade of Lot 5 is more south-to-north than east-to west, with the area

along most of the southern perimeter being slightly raised relative to the remaining area of the lot.

2.2.2 Hydrology

There are no surface water features within or immediately adjacent to any of the 5 lots. There is a small watercourse flowing through the neighbouring property to the south, separated from the southeast corner of Lot 5 by about 200 m. The presence of this watercourse has no meaningful implications to the presence of trees or tree preservation objectives for any lot.

In the front half of Lots 4 and 5, there is a localized shallow depression where seasonal near surface saturation occurs. The vegetation in this area reflects the moist soil conditions, and the forest cover includes species such as Balsam Poplar, Red Ash and Black Ash. The presence of this area will require consideration in the development of lot-specific TPPs for these lots. Also, Black Ash is an SAR and may require specific efforts in the TPP process to ensure compliance with regulations under the provincial *Endangered Species Act* (ESA). Refer to the EIS (Morris , 2024) for an assessment of the anticipated implications of Black Ash.

2.3 Ecological Characteristics

Terminology and classifications from the Southern Ontario Ecological Land Classification (ELC) manual (Lee et al., 1998) are applied in the characterization of the woody vegetation communities currently found in and around the five lots. A description of the regional ecology is provided for context.

2.3.1 Regional Ecology

The Sandy Bay Property is situated within the Mixedwood Plains *Ecozone*, and more specifically it is within the Manitoulin – Lake Simcoe *Ecoregion*, equivalent to Site Region 6E under Provincial classification. In this region, the climax vegetation is characterized by mixed hardwoods, including Sugar Maple, American Beech, Eastern Hemlock, Red Oak, and Basswood. Pioneer species include White Pine, Paper Birch, and Trembling Aspen.

2.3.2 Forest Community Composition

The original EIS (Azimuth, 2003) included ELC assessment of the Sandy Bay Property. The forest cover over the area of the 5 lots was identified as being consistent with the ELC community of Fresh-Moist Oak Sugar Maple Deciduous Forest (FOD9-1), transitioning to Fresh-Moist Hemlock Mixed Forest (FOM6) to the East and behind the lots. Follow-up surveillance of the area within and around the lots conducted as part of subsequent EIS monitoring efforts from 2019 to 2024 has confirmed the general applicability of these forest community designations.

The 2003 EIS also reported the presence of small inclusions of mixed forest bottomlands in the Oak-Maple community (FOD9-1) and also pockets of wet-adapted vegetation in the northwest corner of Property. The latest surveillance has identified small and localized low-lying areas and the presence of some wet-adapted plant species within the 5 proposed lots. This includes the presence of Black Ash mostly in the front portion of Lot 4, and also in the northwest corner of Lot 5.

The distribution of the various forest communities encountered within the area of the proposed lots is depicted in Figure 1 and respective community characteristics are summarized in Table 1

2.3.3 Local Tree Species

A summary of the native woody species found within and around the 5 lots is provided in Table 2. In total, 25 species of tree and 9 species of shrub and have been recorded within or immediately adjacent to the lots. All but four of the tree/shrub species are deciduous.

There are several tree species (Red Oak, Sugar Maple, Red Maple, White Ash, White Birch, and Large-tooth Aspen) which constitute the large majority of woody vegetation cover within the 5 lots. Red Oak and Sugar Maple are major elements of the prevailing natural mature forest cover for the region. Oak and Maple are present within the lots as relatively large trees and major components of the upper canopy, particularly in the more elevated portions of the lots. The presence of Aspens, Birch and Ash is most pronounced in either lower areas or as part of the sub-canopy in more elevated areas.

The following characteristics of the main tree species encountered within or adjacent to the proposed lots are considered in the development of this TPP:

- Red Oak: Attain typical height of 20 to 25 m. Has a relatively deep and spreading root system. Intolerant of shade. Tends to form pure stands with other hardwoods as secondary species. Best adapted to well drained soils.
- Sugar Maple: Typical height at maturity is 25 to 30 m. Root system is spreading but deep. A dominant species in mature woodlands in the region. Prefers well-drained soils.
- Red Maple: Typical height at maturity is 25 to 30 m. Root system is relatively shallow and wide-spreading. Can tolerate relatively moist soils.
- Aspen (Trembling and Large-tooth): Typical height at maturity is 15 to 20 m. Root system is relatively shallow and wide-spreading. Relatively short lived compared to most hardwoods (Maples, Ash, Oak). Well-adapted to moist but well-drained sandy soils. Susceptible to wind fall.
- White Birch: Up to 25 m tall at maturity. Narrow oval crown. Root system is of moderate depth and spread. Intolerant of shade and somewhat prone to disease.
- Ash (Red, White): Relatively deep-rooted. Typically achieve a height of ~ 20 m at maturity. Early succession species that generally do poorly in competition with

other trees. Long-term viability now significantly threatened due to continuing spread of Emerald Ash Borer (EAB) in Ontario.

2.3.4 Species at Risk

In the Penetanguishene area, there are records of occurrence of Butternuts (*Juglans cinerea*) within a few km of the Sandy Bay Property. This tree species is classed as *Endangered* and is designated as a Species at Risk (SAR), both federally and provincially. In the repeat surveillance of the five lots and adjacent lands, no Butternuts were observed.

In 2022, Black Ash (*Fraxinus nigra*) was added to the list of SAR in Ontario, with a status of *Endangered,* even though this is still a relatively common species with a current provincial status of "apparently secure" (SRank of S4). New regulations came into effect early in 2024, establishing the required protections for this species. About 25 specimens of Black Ash have been identified in the Lowland Forest (FOD7) area, largely within proposed Lot 4. Figure 2 illustrates the approximated area where Black Ash have been observed, along with the 30-m extended area that would constitute habitat for this species in accordance with regulations (O. Reg. 7/24).

The Black Ash specimens within Lots 3, 4 and 5 are relatively young, all measuring <10 cm DBH and most being saplings measuring <5 cm DBH. The majority of specimens also exhibit evidence of infestation with Emerald Ash Borer (EAB). In consideration of the currently available information, all of the Black Ash that might be affected by any work within the proposed lots would be exempt from regulatory prohibitions under the ESA (O. Reg. 6/24). However, the Black Ash is still recommended as a priority consideration in the ultimate development of a detailed TPP for Lots 3, 4 and 5 (see Sections 3.3 and 3.4.

2.3.5 Lot Cover Characteristics

Within each of the 5 lots, there is some degree of spatial variability in species composition of existing forest cover, and also some variability in the relative abundance and size of the main component tree species. During the ground-level surveillance, size and relative abundance of key tree species was recorded within each lot.

<u>Lot 1:</u>

The FOD9 and FOD 5 forest communities that are encountered within Lot 1 are characterized by a canopy composed of mainly Oak and Maple. There is a general absence of late maturity tree specimens, with canopy specimens mostly 20 to 30 cm diameter at breast height (DBH). Some specimens in the range of 30 to 60 cm DBH are present, most notably in the most elevated portion of the proposed lots near Gilwood Park Drive. The relative abundance of such trees generally declines moving from the front of

the lot to the rear. Tree cover into the back half of the lot remains largely a mix of Oak, Maple and Ash, with sub-canopy specimens of Ironwood also present. Closer to the rear lot line, White Birch, Large-tooth Aspen and some relatively young specimens of Elm become prevalent.

Lot 2:

The characteristics of existing tree cover in Lot 2 are quite similar to Lot 1, with the front third of the lot containing well-spaced Red Oak and Sugar Maple in the range of 30 to 55 cm DBH, and an increasing secondary presence of younger and smaller Ash, Aspen, Birch, Basswood toward the rear of the lot.

Lot 3:

Overall, the existing forest cover within Lot 3 includes relatively few of the larger long-lived hardwoods (Oak and Maple) as encountered in Lots 1 and 2. The FOD7 community that occupies much of the core of the lot is composed largely of a mix of Ash, Birch and Aspen, with Maple and Basswood encountered in lower abundance and in marked association with raised pockets.

Lot 4:

The forest cover within Lot 2 is very similar to Lot 1, consisting of a relatively young stand of mixed deciduous trees. Larger specimens of species typical of mature forest in the region (i.e., Red Oak, Sugar Maple, Beech, Hemlock) are scarce. The unique characteristic within Lot 4 is an isolated and well-confined low pocket where young Black Ash are present as part of the FOD7 community occupying the front half of the lot.

Lot 5:

Similar to Lots 3 and 4, Lot 5 is occupied by a mix of species that is more reflective of earlier stages of succession than the forest cover within Lots 1 and 2. The presence of younger specimens of Aspen, Ash, Birch and Elm well exceeds that of Sugar Maple and Red Oak, which occur mostly toward the front of the lot in association with the FOD9 community. The presence of trees of any species measuring greater than 30 cm DBH is quite limited. Lot 5 also encompasses a very small pocket in the northwest corner where a small number of young Black Ash are located.

3.0 ANALYSIS AND RECOMMENDATIONS

3.1 Assessment of Potential Impacts

The eventual development of the 5 lots will necessarily have some level of adverse impacts on existing woody vegetation. Impacts may be direct or indirect, and acute or chronic. Impacts may occur due to:

- Direct and intentional removal of trees within the building envelope for purposes of grading or construction of buildings and infrastructure,
- Accidental contact and damage of trees (inside or immediately outside of the building envelope) during the operation of construction machinery within the building envelope,
- Root damage to trees (inside or immediately outside of the building envelope) during excavation within the building envelope,
- Impairment of root function of trees (inside or immediately outside of the building envelope) as a result of compaction within the building envelope,
- Impairment of root function of trees (inside or immediately outside of the building envelope) as a result of altered soil depth due to grading within the building envelope, and
- Impairment of root function of trees (inside or immediately outside of the building envelope) as a result of placement of impermeable surface within the building envelope.

This assessment of potential impacts of lot development on existing woody vegetation considers all of the potential impacts identified above. It also takes into consideration, on a lot-by-lot basis, the following site-specific factors:

- The nature of existing trees within and around each lot,
- Local topographical variability, and possible grading implications,
- The presence of adjacent areas that will remain as natural vegetation,
- The anticipated location of various elements of development (house, driveway, septic) within each lot.

These factors are considered in the assessments of potential adverse impacts on trees within and immediately adjacent to each of the five lots.

3.1.1 Direct Effects

The construction of a house (proposed as 250 m^2) will necessitate the loss of existing forest cover within the front half of each of the 5 lots. This is likely to include relatively

large (>30 cm DBH) specimens of various desirable species of native trees that contribute significantly to canopy continuum, and which would be viable for many years. The extent of tree loss will be dependent on various factors, including the final placement and dimensions of the residences and servicing and any requirements for localized grading to be identified in the final lot-specific site plans.

In the rear portion of each lot, the installation of septic systems (~375 m^2) will require clearance of all woody vegetation within the septic field. To avoid the potential for root system interference with septic field integrity, the presence of trees and shrubs will need to be eliminated within a distance of at least 5 m of the outer perimeter of the field.

Any trees within the building envelope that are not directly displaced through construction and development may be indirectly affected by activities that infringe upon their root systems. This could include direct damage to roots as a result of excavation, or changes in soil depth and or density as a result of grading or compaction. The nature of soil (i.e., sandy loam) reduces the potential for compaction. The potential for such impacts depends on lot-specific site plans and also construction practices. The potential for impact also depends the specific types of tree and the nature of their root systems. Trees with deeper and less-spreading root systems(e.g. Red Oak, Sugar Maple) are less likely to be affected.

3.1.2 Indirect Effects

As indicated in the lot layout (Appendix B), each of the lots will have front and rear setbacks of 7.5 m and side lot setbacks of 5 m. There is the potential for both direct and indirect impacts on existing trees in these areas. Direct impacts would be primarily associated with the installation of the driveway through the front setback. There could also be direct impacts in all setback areas resulting from accidental contact and damage during the operation of construction machinery. Indirect impacts may result from interference of root systems (excavation damage, compaction, grading-related) that extend into the building envelope, similar to such interference that may affect trees within the building envelope.

3.2 General Mitigation Measures

3.2.1 Rationale and Objectives

The meaningful presence of trees within residential lots, particular specimens of native tree species that are relatively mature, may serve a number of beneficial purposes, including:

- Enhanced appearance of the residential lot,
- Benefits to residential function (e.g. summer shading, winter wind break),
- Wildlife benefits (nesting and foraging of small mammals and birds)

- Buffering of natural areas, and
- Screening to minimize visual impacts.

Lot development can be planned to optimize the post-development presence of trees and all potential benefits. The post-development presence of trees can be achieved through the retention and protection of existing trees, or through the specification of post-construction tree plantings.

3.2.2 Tree Retention

As a general guiding principle, existing trees should be retained to the extent feasible, and also in consideration of the likelihood of long term viability and value of the trees in question. For the relatively mature trees (>15 cm DBH), retention is the preferable option, where practical.

Trees that are considered for retention (or planting) should be native and representative of the regional ecosystem and the local natural areas. Trees that exhibit nuisance characteristics (e.g. thorns, root suckering) are less desirable for residential settings. For screening function, trees that are long lived and native, relatively tall at maturity, and that exhibit robust crowning are recommended.

To further facilitate the long-term survival of all trees that are targeted for retention, there are several general practices which are recommended during the construction period.

There are several practices, implemented mainly during construction, which facilitate post-development survival of retained trees or vegetation zones. These include:

- Placement of protective wrap or fencing around individual trees, or along perimeter of woody vegetation units, in close proximity to working/travel areas
- Placing limits on the depth of excavation or grading within prescribed distance of tree,
- Avoidance of passage of construction vehicles over the root zone of the tree during conditions which are conducive to compaction (i.e., wet periods), and
- Limitations of the installations of impermeable surface (e.g. conventional asphalt pavement or concrete) within and around the root zone.

Protective barriers identified above should be installed prior to the onset of construction and should remain in place until all construction and site clean-up activity is complete.

To prevent and mitigate possible impacts of vehicle passage, woody vegetation designated for removal could be chipped and placed as a protective layer within a defined tree protection zone (i.e., areas immediately adjacent to work and travel areas).

3.2.3 Tree Protection

To facilitate the long-term survival of all trees and forest cover that are targeted for retention, there are several practices, implemented mainly during construction. These include:

- Placement of protective wrap or fencing (light or heavy duty) around individual trees, or along perimeter of woody vegetation units, at the outer edge of construction or/travel areas
- Placing limits on the depth of excavation or grading within the root zone (generally equivalent to the drip-line) of trees,
- Avoidance of passage of construction vehicles over the root zone of trees during conditions which are conducive to compaction (i.e., wet periods), and
- Limitations of the installations of impermeable surface (e.g. conventional asphalt pavement or concrete) within and around the root zone.

Protective barriers identified above should be installed prior to the onset of construction and should remain in place until all construction and site clean-up activity is complete.

To prevent and mitigate possible impacts of vehicle passage, woody vegetation designated for removal could be chipped and placed as a protective layer within a defined tree protection zone (i.e., areas immediately adjacent to work and travel areas).

3.2.4 Tree Planting

Where construction requirements preclude the retention of desirable trees, or where existing trees are of low desirability for retention, planting of trees following construction may be the most suitable method of ensuring the long-term presence of trees.

Species Selection:

Replacement plantings should consist of native shrub and tree species, with a preference for those woody species already occurring on or near the Property. Candidate species for planting are listed in Table 2. The species on this list are all either present within the Property, or commonly encountered in the surrounding wooded area.

The 5 lots widely exhibit generally well drained sandy soil, but there are also lower areas with higher levels of soil moisture. Species selection should be location-specific and should target trees with appropriate tolerances. The species listed in Table 2 are mostly suitable for well-drained upland conditions. Species with a coefficient of Wetness of 0 or less can be considered for lower, wetter locations (e.g. portions of the front of lots 3, 4 and 5). Although native, various Ash species should be excluded from planting plans owing to the anticipated impacts of Emerald Ash Borer (EAB).

Any plantings proposed should emphasize species that are major components of the existing canopy, and which will attain substantial height. This would include Sugar Maple and Red Oak. Oak are generally not tolerant of competition, and are best planted away from other trees.

The ultimate species selection will be partly dependent on several factors, including stock availability and also owner preference. Other native species not listed in Table 2 can be considered for inclusion, giving consideration to their suitability for soil conditions, and also tolerance for sun exposure depending on the specific location of planting within the lots.

It is recommended that any planting efforts that are intended to replace or augment retained natural areas adjacent to areas of development should include at least 3 of the tree species and 4 shrub species listed in Table 2.

Stock Size

The recommended minimum sizing for plantings is 3 cm diameter for trees and 1 gallon for potted shrubs. For purposes of visual screening, plantings should have a minimum caliper size of 50 mm (5 cm) if deciduous, and a minimum height of 180 cm if coniferous. Preferably, tree stock will have intact root-balls in burlap wrap, and shrubs will be potted stock. Bare-root plantings are also acceptable, but more care will be needed in regard to planting procedures and maintenance.

3.3 Individual Lot Recommendations

The lot-by-lot recommendations herein are provided to optimize the post-development presence of trees and their various functions. For all lots, there are four basic recommendations that apply:

1. Outside of areas dedicated to the construction of the residence, driveway and septic system, retain individual trees throughout the lot, with priority on larger (>15 cm DBH) native trees,
2. Implement measures to reduce indirect or unintended impacts of those retained trees and increase the likelihood of long-term survival,
3. Within the setback areas outside the building envelope and adjacent to natural areas outside the lot, retain existing tree cover in natural form to the maximum extent possible, and implement measures to protect that woody cover, and
4. If trees are removed from areas dedicated to the construction of the residence, driveway and septic system, conduct post-development planting to replace lost trees at a 2:1 ratio and with positioning within the lot so as to optimize canopy continuum.

In a general sense, the priority to implement these recommendations should be based on the specific circumstances in each lot.

An arborist should be consulted in the event that candidate trees for retention would be very close to areas of development and root system impacts are possible. In general, any excavation or installation of impermeable surface (building, paving) within the dripline of a retained tree may be cause for arborist assessment.

3.3.1 Lot 1

The construction of the house and septic will necessitate the loss of relatively large native tree specimens within the building envelope of Lot 1. The potential for tree preservation in this area is relatively high, and efforts to optimize the extent of retention of mature trees are warranted. Final site plans should seek to protect and retain existing individual mature tree specimens, with a priority on larger specimens of Red Oak and Sugar Maple. Depending on the degree to which retention is feasible, strategic planting of multiple specimens of Red Oak or Sugar Maple within the building envelope is recommended. If feasible, retained and/or planted trees should be spaced to optimize eventual canopy continuum throughout the lot and adjoining lands.

To the extent feasible (allowing for driveway installation), existing woody vegetation in the front setback area should be retained as a block in natural form (with existing understory and shrub layer retained), with allowance for removal of some underbrush or hazard trees. Modification of the driveway location should be considered if loss of mature tree specimens can be readily avoided. For ecological benefits, woody vegetation within the rear and side setbacks should also be maintained as a complete undisturbed block.

For any post-development planting that is to occur within the building envelope, Red Oak and Sugar Maples are recommended in the front half of the lot. In the back half of the lot, planting is a lower priority and should include Red Maple or other native trees that do well on moister ground and which have relatively compact root systems that are less likely to interfere with septic systems.

3.3.2 Lot 2

Construction of the residence and septic will result in direct loss of native trees, including specimens that are relatively mature. There are good opportunities to preserve larger specimens within the development envelope, and also to partly restore any tree cover that may be lost or impaired within or outside the building envelope. The recommendations for Lot 2 are generally the same as for Lot 1. Existing mature Red Oak and Sugar Maple specimens should receive highest priority for retention and protection.

3.3.3 Lot 3

Construction of the residence and septic will result in direct loss of mature trees representing a variety of species. Relative to Lots 1 and 2 there will be fewer opportunities for targeted retention of mature specimens. The recommendations for Lot 3 are generally the same as for Lots 1 and 2.

For Aspens, retention of individual specimens within the building envelope is considered a low priority, and replacement planting with Oak or Maple is recommended. Outside the building envelope, preservation of stands of multiple Aspens can be considered, but replacement is also an acceptable option.

The potential implications of Habitat for Black Ash in the southwest corner of Lot 3 may require specific measures to ensure that development of Lot 3 does not pose potential risk to any Black Ash that may be subject to regulatory protection. If all elements of development can be located outside of the defined habitat (see Figure 2), then further measures or not likely to be required. Otherwise, measures to limit the extent of impermeable cover or grade alteration within the desiganted habitat may be warranted.

3.3.4 Lot 4

Losses of mature native tree specimens will occur to a more limited extent than in Lots 1 and 2. There are some opportunities for both targeted retention and also replacement planting. The recommendations for Lot 4 are generally the same as for Lot 3. As with Lot 3, the presence of Black Ash and desiganted Habitat within most of the confines of Lot 4 may require specific measures to avoid or mitigate potential risk to any Black Ash that may be subject to regulatory protection.

3.3.5 Lot 5

The existing tree cover in Lot 5 affords a relatively low opportunity for retention of mature trees with desirable attributes. Opportunities for retention of larger specimens of Oak and Maple are relatively low compared to other Lots, and those opportunities should be taken as a relatively high priority. Retention of individual Aspen specimens is a generally low priority, but retention of stands is recommended where feasible (e.g. allowing for adequate separation from septic system).

The presence of a small area of young Black Ash presence and their 30-m habitat designation should receive focused consideration in the eventual Lot-specific TPP preparation. Consideration should also be given to possible shifting of the residence toward the back and/or south side of the lot to optimize separation from Black Ash specimens. Similarly, the driveway access could be located as far as possible from the area of Black Ash.

3.4 Lot-specific TPP Outline

As noted in Section 1.2, the intent of the overall TPP process for the five new lots within the Sandy Bay Property is that a detailed, lot-specific TPP will be prepared as a requirement for clearance at later stages of development (site plan application, construction permitting). The lot-specific TPP should be based on the principles and recommendations presented in this master TPP. The lot-specific TPPs should include the following specific elements:

- site-plan identification of individual trees or treed areas targeted for retention and protection,
- specification of protection measures to be implemented (e.g. perimeter fencing, hoarding for individual trees),
- an analysis of any secondary grading requirements (in reference to a specific lot grading plan) in regard to tree impacts and implications to retention and planting efforts,
- a landscaping or restoration planting plan, identifying planting locations, preferred species, stock size/type, and total numbers to be planted, and
- a summary analysis of how the lot-specific plan meets the objectives of this Master TPP.

The eventual residential development within Lots 3, 4 and 5 creates a high likelihood of direct or indirect impacts on the Black Ash specimens that are present. The risk of impact on Black Ash habitat is associated with the majority (~60%) of the confines of both Lots 4 and 5, and a minority portion (~20%) of Lot 3. To account for possible changes in the size and/or condition of trees, it is advised that Black Ash within the proposed lots be re-assessed immediately prior to eventual onset of any activities that may have adverse effects (i.e., clearance, grading, construction), and that consultation with MECP be completed if warranted. These undertakings to address the implications of Black Ash should be included as part of the Lot-specific TPP process for Lots 3, 4 and 5.

The lot specific TPP should also account for the possible presence of trees with characteristics conducive to use as roosting habitat by various SAR bat species. Such trees should be identified as priority for retention, and otherwise be subject to restrictions of the timing of removal if removal cannot be avoided. Where potential quality roosting sites are lost, the installation of habitat structures should be considered as part of post-construction restoration efforts.

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TABLES

Table 1: Summary of Woodland Community Characteristics

Community Type[1]	Woody Vegetation Characteristics			Tree Size (DBH) Distribution[4]			Summary of Functions[5]
	Woody Cover[2]	Composition[3]	Age and Structure	<15 cm	15 to 30 cm	>30 cm	
Dry-Fresh Poplar Deciduous Forest (FOD3-1)	90%	Aspen>Birch>Sugar Maple	Slightly mixed age, limited structural layering	50%	40%	10%	Modest diversity and abundance of relatively common species. No evidence of SAR, SOCC or SWH
Dry Fresh Sugar Maple Deciduous Forest (FOD5)	95%	Sugar Maple>>White Ash>Basswood	Mixed age, relatively young, moderate structural layering	30%	55%	15%	Modest diversity and abundance of relatively common species. Possible presence of Eastern Wood-pewee (SOCC).
Fresh-Moist Lowland Deciduous Forest (FOD7)	80%	Ash (White and Black)>Aspen=Maple (Sugar and Red)	Slightly mixed age, relatively young, limited structural layering	65%	30%	5%	Low diversity and abundance of relatively common species. Confirmed presence of small (<0.2 ha) inclusion of Black Ash (SAR).
Fresh-Moist Oak Sugar Maple Deciduous Forest (FOD9-1)	95%	Red Oak>Sugar Maple>Aspen	Mixed age, relatively young, moderate structural layering	30%	50%	20%	Modest diversity and abundance of relatively common species. Possible presence of Eastern Wood-pewee (SOCC)

1 - Community type as determined through ELC following Lee et al., 1998.

2 - estimate of average absolute cover of upper layer, as per Lee et al. 1998

3 - estimate of relative abundance of woody species, as per Lee et al., 1998

4 - estimated percentage of trees in the noted range of diameter at breast height (DBH)

5 - SOCC = Species of Conservation Concern, SWH = Significant Wildlife Habitat

Table 1: Summary of Native Woody Species at the Sandy Bay Property

Common Name	Scientific Name	Form[1]	CW[2]	Notes[1]
Alternate-leaved Dogwood	*Cornus alternafolia*	Deciduous shrub or small tree	3	Spreading roots, typical height 5-7 m
American Basswood	*Tilia americana*	Large deciduous tree	3	Deep spreading root system, rounded canopy
American Beech	*Fagus grandifolia*	Large deciduous tree	3	Wide crown, shallow spreading roots, susceptible to disease
Balsam Poplar	*Populus balsamifera*	Large deciduous tree	-3	adapted to low lying ground, fast growing
Black Ash	*Fraxinus nigra*	Large deciduous tree	-3	Tolerates wet soils, conservation concerns, affected by EAB
Black Raspberry	*Rubus occidentalis*	Deciduous Shrub	5	Suited for openings and edges
Black Walnut	*Juglans nigra*	Large deciduous tree	3	Intolerant of shade, deep root system
Choke Cherry	*Prunus virginiana*	Deciduous Shrub	3	Common understory species
Common Elderberry	*Sambucus nigra*	Deciduous Shrub	-3	Generally confined to wetlands
Domestic Apple	*Malus pumila*	Medium deciduous tree	5	**Non-native**
Eastern Hemlock	*Tsuga canadensis*	Large coniferous tree	3	Suitable for most soil types, shade tolerant
Eastern White Cedar	*Thuja occidentalis*	Coniferous Tree	-3	Tolerates wet or dry conditions, shallow spreading root system
Eastern White Pine	*Pinus strobus*	Coniferous Tree	3	Suitable for well-drained acidic soils, fast growing, prefers sun
European Buckthorn*	*Rhamnus cathartica*	Deciduous shrub or small tree	0	**Non-native and highly invasive**
Red Ash*		Large deciduous tree	-3	Best for low areas with little competition, **affected by EAB[3]**
Horse-Chestnut	*Aesculus hippocastanum*	Large deciduous tree	5	**Non-native**
Ironwood	*Ostrya virginiana*	Large deciduous tree	3	Suited for well-drained areas and under shade, spreading roots
Large-tooth Aspen	*Populus grandidentata*	Large deciduous tree	5	Suitable for sandy soils (dry or moist), prone to windfall

Table 1: Summary of Native Woody Species at the Sandy Bay Property (cont.)

Common Name	Scientific Name	Form[1]	CW[2]	Notes[1]
Mountain Maple	*Acer spicatum*	Small deciduous tree	3	Moist but well-drained soils, moderately shade tolerant
Prickly Gooseberry	*Ribes cynosbati*	Deciduous Shrub	3	Deciduous forest, usually near openings
Red Maple	*Acer rubrum*	Large deciduous tree	0	Tolerant of wet soil
Red Oak	*Quercus rubra*	Large deciduous tree	3	Dominant canopy component in elevated areas, intolerant of shade
Red-osier Dogwood	*Cornus sericea*	Deciduous Shrub	-3	Suitable for low wet areas
Round-leaved Dogwood	*Cornus rugosa*	Deciduous Shrub	5	Suitable for dry to moist soils, tolerant of partial shade
Serviceberry	*Amelanchier arborea*	Small deciduous tree	3	Best for areas without complete shade
Silver Maple	*Acer saccharuinum*	Large deciduous tree	-3	Suitable for low, wet areas
Staghorn Sumac	*Rhus typhina*	Deciduous Shrub	3	Best suited for exposed edges
Sugar Maple	*Acer saccharum*	Large deciduous tree	3	Major canopy component, deep spreading roots
Trembling Aspen	*Populus tremuloides*	Large deciduous tree	0	Suitable for moist sandy soil, shallow spreading roots, suckering
White Ash*	*Fraxinus americana*	Large deciduous tree	3	Best for well-drained soils, **affected by EAB[3]**
White Birch	*Betula papyrifera*	Large deciduous tree	3	Suited to well-drained soils, intolerant of shade
White Elm*	*Ulmus americana*	Large deciduous tree	-3	Suitable for low wet areas, susceptible to disease
White Spruce	*Picea glauca*	Coniferous Tree	3	Narrow crown, shallow spreading roots
Yellow Birch	*Betula alleghaniensis*	Large deciduous tree	0	Suitable for lower areas, low shade tolerance

1 - based primarily on Hosie (1979)
2 - as reported by Odham at al. (1995)

Table 3: Summary of Lot-specific Tree Retention Objectives

Lot #	Lot Area[1] (ha)	Forest Communities Present[2]	Tree Retention Target[3] (m^2)	Priority Retention Locations
1	0.25	FOD5, FOD9	500	Front set-back, side set-back on north side, rear half (FOD5)
2	0.25	FOD5, FOD9	500	Front set-back, rear half (FOD5)
3	0.25	FOD7, FOD9	500	Front set-back, area within 30 m of Black Ash cluster
4	0.25	FOD3, FOD7, FOD9	500	Front set-back, area of Black Ash in southwest corner
5	0.25	FOD3, FOD7, FOD9	500	Front set-back, area of Black Ash in northwest corner

1 - accounts for full lot area, including any lot setbacks
2 - Refer to Figure 1 and Table 1
3 - target area for full retention of existing natural forest cover

FIGURES

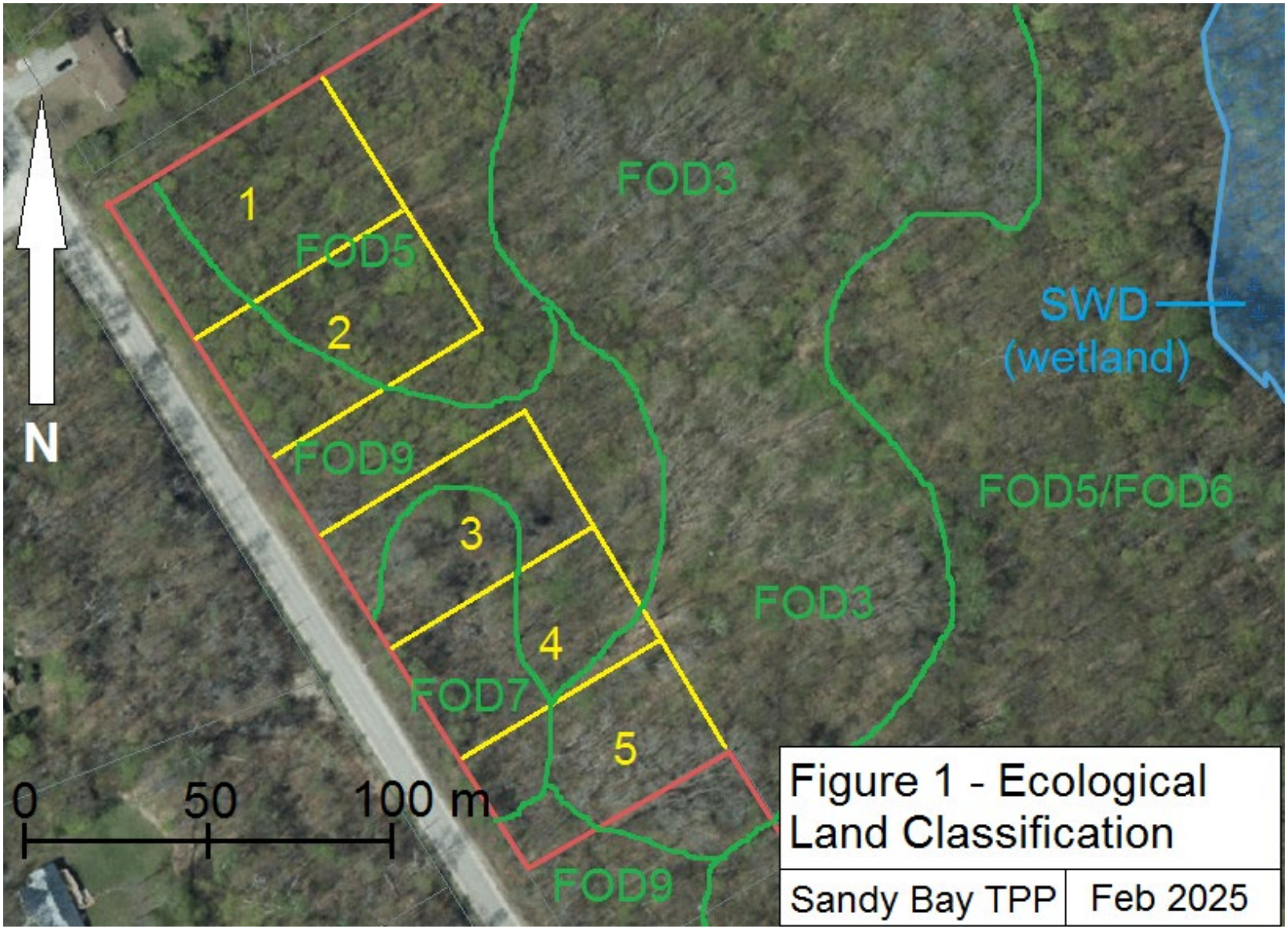


Figure 1 - Ecological Land Classification

Sandy Bay TPP	Feb 2025

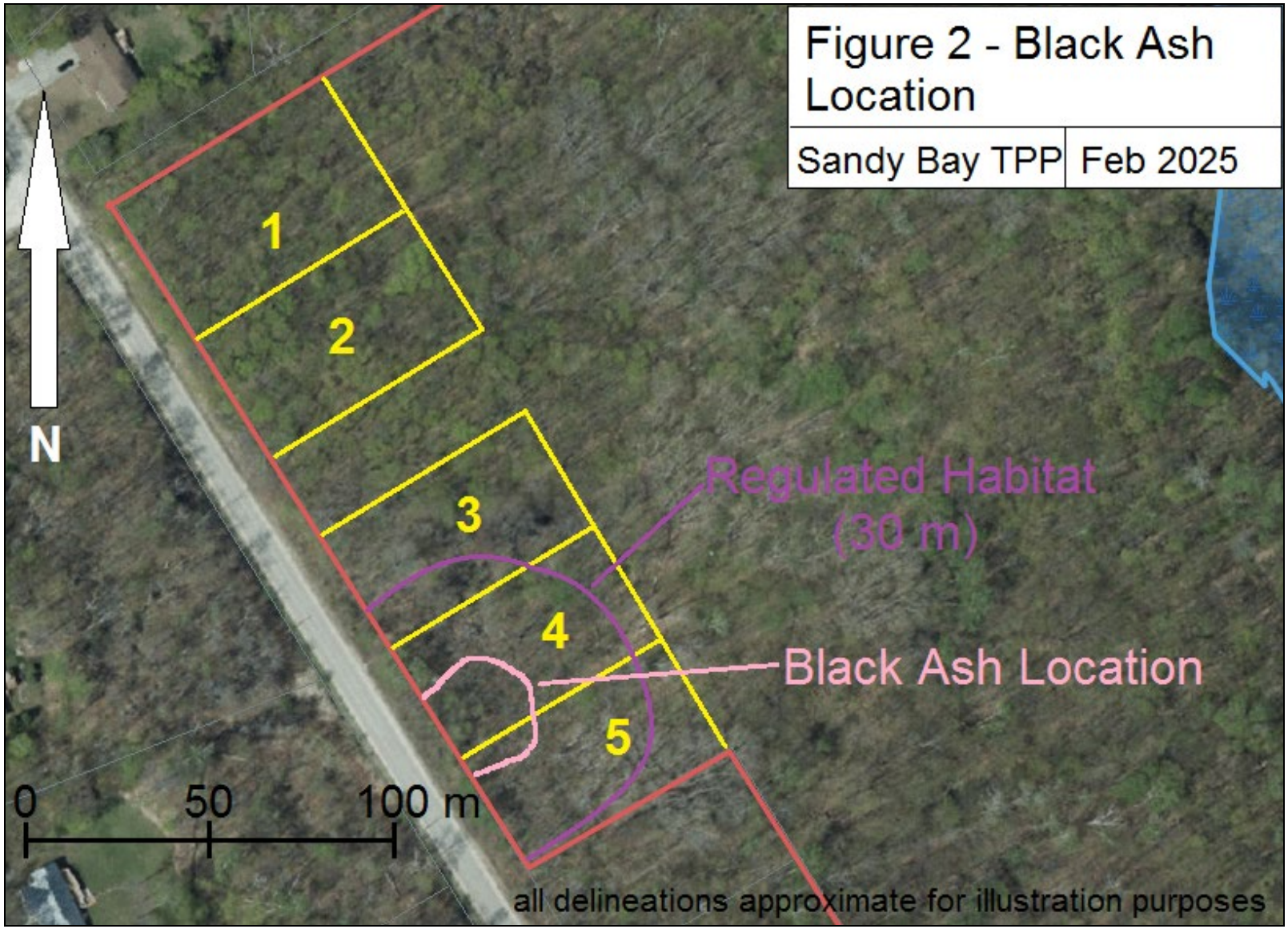
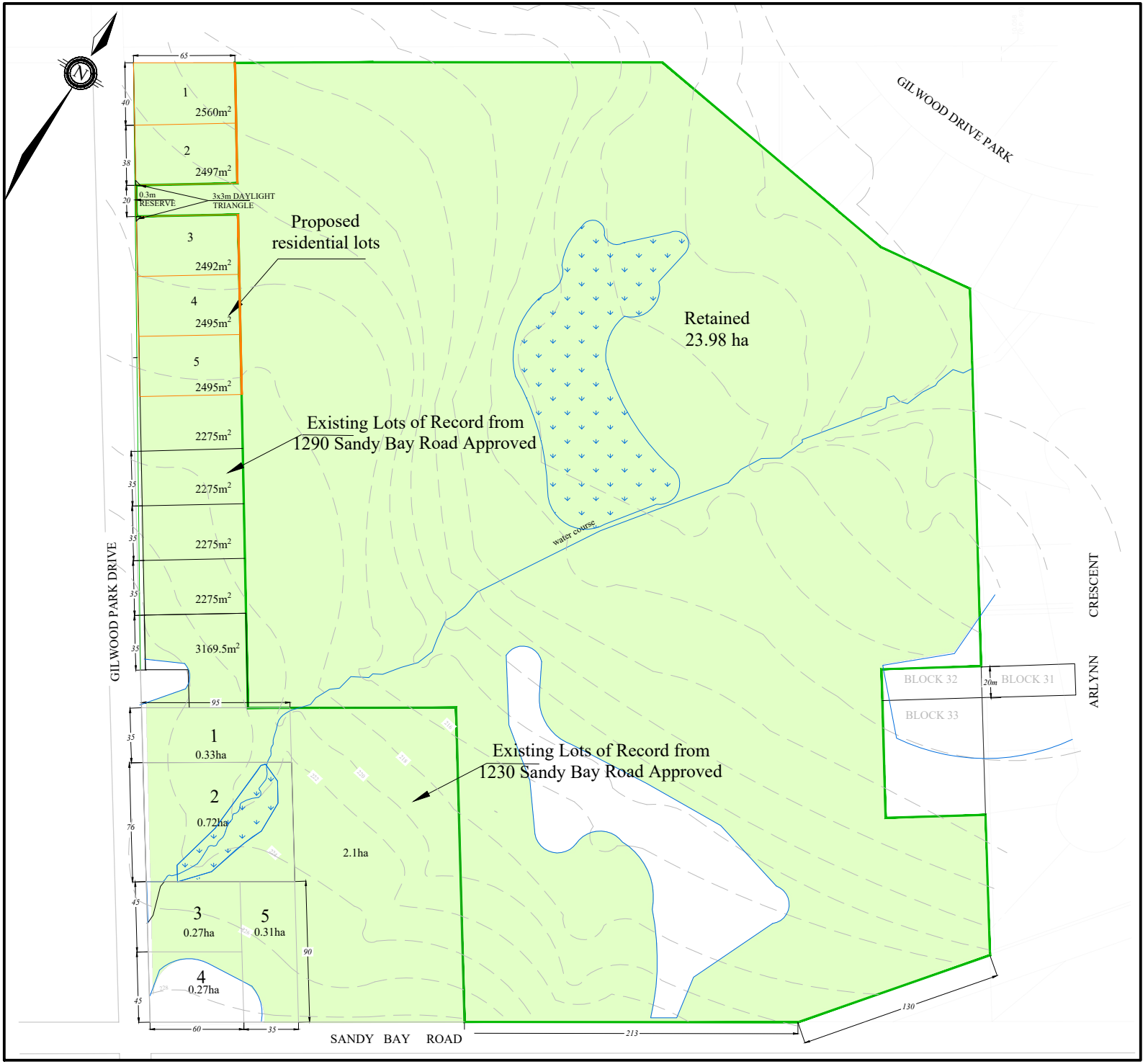


Figure 2 - Black Ash Location
Sandy Bay TPP
Feb 2025
1
2
3
4
5
N
Regulated Habitat (30 m)
Black Ash Location
0
50
100 m
all delineations approximate for illustration purposes

APPENDICES

Appendix A – Severance Plan

Severance Plan 1290 Sandy Bay Road, Lots 14 and 15, Concession 3, Town of Penetanguishene Ontario



Severed lots 1-5

Retained Parcel

Woodland

Wetland

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Appendix B – Conceptual Lot Layout

Site Plan - 1290 Sandy Bay Road, Lots 14 and 15, Concession 3, Town of Penetanguishene Ontario

Typical Single Detached Dwelling Layout Lot 3 (Conceptual)

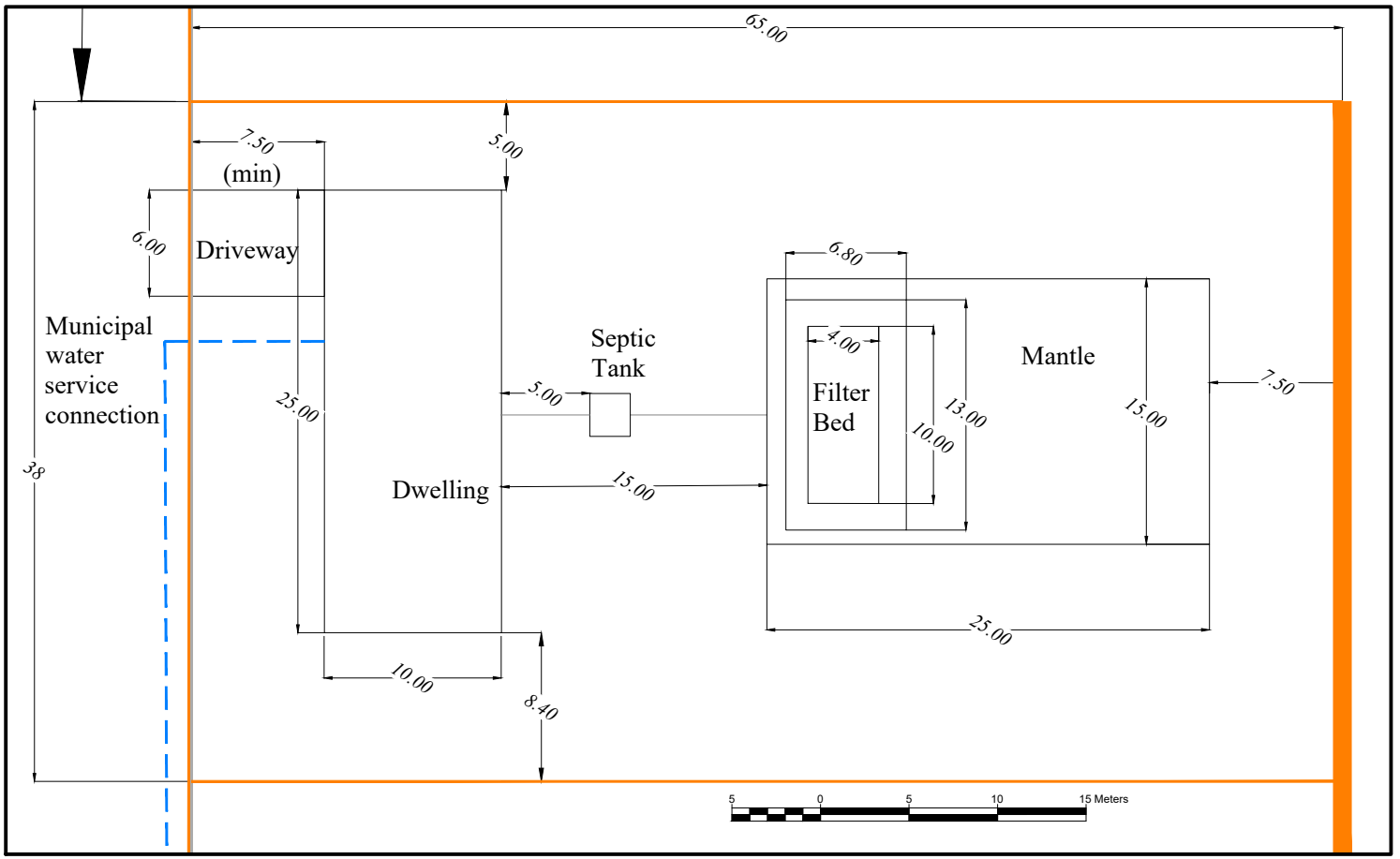

Figure 4

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