



# Scoped Environmental Impact Study

**30 Cedar Court,  
Municipality of Trent Lakes**

Denny Deruchie

02 November 2022

➔ **The Power of Commitment**



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# 1. Introduction

## 1.1 Background

GHD Limited (GHD) was retained to complete a Scoped Environmental Impact Study (EIS) for a property at 30 Cedar Court in the Municipality of Trent Lakes, from here on referred to as “Site”. The EIS is for a proposed demolition of an existing cottage, placement of a 2 storey single detached dwelling with attached garage within the same footprint, and installation of a new septic bed. The Site is located on the shore of Big Bald Narrows between Little Bald Lake and Big Bald Lake. The cottage lot includes a developed area, driveway, two floating docks and natural features including woodlands and fish habitat. The presence of these natural features triggers the requirement for an EIS to meet the Municipality of Trent Lakes, former Township of Galway-Cavendish and County of Peterborough official plans development application conditions.

## 1.2 Location and Site

The Site is located at 30 Cedar Court in the Municipality of Trent Lakes, former Township of Galway-Cavendish & Harvey in the County of Peterborough. The Site is rectangular in shape fronting on Big Bald Narrows (**Figure 1**).

## 1.3 Scope and limitations

This report has been prepared by GHD for Denny Deruchie and may only be used and relied on by Denny Deruchie for the purpose agreed between GHD and Denny Deruchie as set out in section 1 of this report.

GHD otherwise disclaims responsibility to any person other than Denny Deruchie arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible.

The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.

The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. GHD has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.

The opinions, conclusions and any recommendations in this report are based on assumptions made by GHD described in this report (refer section(s) 1 of this report). GHD disclaims liability arising from any of the assumptions being incorrect.

This report will only deal with the suitability of the site from a biological perspective and the constraints due to the presence of the key natural heritage features. Any other approvals or constraints due to zoning, flood and fill regulations, health regulations, archaeology, slope stability studies, minimum distance separation or other approvals for the municipality and other agencies are the responsibility of the owner.

## 1.4 Study Rationale

This section identifies federal, provincial and other regulatory legislation, policies, official plans (OPs) and official plan amendments that are applicable and relevant to the Site and the immediate vicinity. This includes policies that triggered the study. These documents may identify Species at risk, natural features and habitats or other features relevant to this study.

## 1.4.1 Federal

### 1.4.1.1 Fisheries Act, 1985 (R.S.C., 1985, c. F-14)

The purpose of the *Fisheries Act* is to maintain healthy, sustainable and productive Canadian fisheries through the prevention of pollution, and the protection of fish and their habitat. On August 28th, 2019 changes were made to the *Fisheries Act*. These changes include new protection provisions for fish and fish habitat in the form of standards, codes of practice, and guidelines for projects in and near water. These provide guidance on how to avoid and mitigate impacts to fish and fish habitat and comply with the *Fisheries Act* to avoid causing the death of a fish or harmful alteration, disruption or destruction (HADD) of fish habitat from your work, undertaking or activity.

Projects affecting waterbodies that support fish and fish habitat must comply with the provision of the *Fisheries Act*. The proponent is responsible for determining if the project is likely to cause impacts to fish and fish habitat and if these impacts can be avoided or mitigated. The proponent must gather information on the type and scale of impact on the fishery and determine if the impacts will result in the death of fish or a HADD of fish habitat. A request for review should be submitted to Fisheries and Oceans Canada (DFO) if impacts cannot fully be avoided or mitigated. Following DFO review, if it is determined that the impacts cannot be avoided or mitigated and will result in death of fish or a HADD of fish habitat, an authorization under Subsection 35 (2) of the *Fisheries Act* must be obtained from the DFO. Projects that have the potential to obstruct fish passage or affect flows needed by fish require an authorization

### 1.4.1.2 Migratory Birds Convention Act

The purpose of the Migratory Birds Convention Act (MBCA 1994) is to implement the Convention by protecting and conserving migratory birds — as populations and individual birds — and their nests. No work is permitted to proceed that would result in the destruction of active nests (i.e., nests with eggs or young birds) or the wounding or killing of bird species protected under the MBCA and/or Regulations under that Act.

## 1.4.2 Provincial Legislation

### 1.4.2.1 Endangered Species Act, 2007

The purposes of the Ontario Endangered Species Act (ESA 2007) are to:

1. To identify species at risk based on the best available scientific information, including information obtained from community knowledge and aboriginal traditional knowledge;
2. To protect species that are at risk and their habitats, and to promote the recovery of species that are at risk;
3. To promote stewardship activities to assist in the protection and recovery of species that are at risk. 2007, c. 6, s. 1. (Government of Ontario, 2019)

The ESA clearly defines the five classifications of species status as extinct, extirpated, endangered, threatened, or special concern, and provides guidelines on the process of species status determination.

Regulations made under this Act include: Ontario Regulation 230/08 and 242/08. Ontario Regulation 230/08 provides the list of Species at Risk (SAR) in Ontario, which is updated regularly. This list was most recently consolidated on August 1, 2018 (Government of Ontario, 2018). Species status provided in the list is assessed by an independent body, the Committee on the Status of Species at Risk in Ontario (COSSARO), based on the best-available science and Aboriginal Traditional Knowledge.

General habitat protection is afforded to all species listed as endangered or threatened. General habitat descriptions are technical, science-based documents that have been developed for some of the species that are most likely to be affected by human activity (Government of Ontario 2020). Further information including a Recovery Strategy or Management Plan is required for each listed species, on a timeline dictated by the species status.

Ontario Regulation 242/08 explains possible exemptions to the ESA and details on how the purpose of the ESA is to be carried out.

### **1.4.2.2 Provincial Policy Statement, 2020**

The Provincial Policy Statement, 2020 (PPS) is the statement of the Ontario government's policies on land use planning. It applies province-wide (in the province of Ontario) and provides provincial policy direction on land use planning. Municipalities use the PPS to develop their official plans and to guide and inform decisions on other planning matters. The PPS is issued under Section 3 of the Planning Act and all decisions affecting land use planning matters 'shall be consistent with' the Provincial Policy Statement (Government of Ontario, 2020).

Portions of Sections 2.1.4-2.1.8 of the Provincial Policy Statement (PPS 2020) apply to this project.

- 2.1.4 *Development and site alteration shall not be permitted in:*
  - a. *significant wetlands in Ecoregions 5E, 6E and 7E1; and*
  - b. *significant coastal wetlands.*
- 2.1.5 *Development and site alteration shall not be permitted in:*
  - c. *significant wetlands in the Canadian Shield north of Ecoregions 5E, 6E and 7E;*
  - d. *significant woodlands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Marys River);*
  - e. *significant valleylands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Marys River);*
  - f. *significant wildlife habitat;*
  - g. *significant areas of natural and scientific interest; and*
  - h. *coastal wetlands in Ecoregions 5E, 6E and 7E1 that are not subject to policy unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions.*
- 2.1.6 *Development and site alteration shall not be permitted in fish habitat except in accordance with provincial and federal requirements.*
- 2.1.7 *Development and site alteration shall not be permitted in the habitat of endangered species and threatened species, except in accordance with provincial and federal requirements.*

### **1.4.2.3 Growth Plan for the Greater Golden Horseshoe, 2020**

The 2020 Growth Plan for the Greater Golden Horseshoe is a strategic, long-range, comprehensive and integrated approach to guide future growth in Ontario. It includes planning for infrastructure, land use, economic development and population health (OMMAH 2020).

A Natural Heritage System for the Growth Plan has been mapped by the Province to A Place to Grow: Growth Plan for the Greater Golden Horseshoe 2020 came into effect on August 28, 2020 replacing the 2019 Growth Plan for the Greater Golden Horseshoe support long-term planning for the protection of region's natural heritage and biodiversity (OMMAH 2019). Municipalities have been directed to incorporate the Natural Heritage System (NHS) as an overlay in official plans and to apply appropriate policies to maintain, restore, or enhance its diversity and connectivity as well as its ecological and hydrological functions. However, provincial mapping of the NHS does not apply until it has been implemented in the applicable upper or single-tier official plan (OMMAH 2019).

The Growth Plan (2020) also includes direction relating to the protection of water resource systems, including key hydrologic features (KHF) and their functions (Sections 4.2.1, 4.2.3, 4.2.4 and 4.2.5). Outside of settlement areas, development or site alteration is not permitted in key hydrologic features, such as wetlands. Additionally, in lands adjacent to KHF, proposals for new development or site alteration within 120m of these features requires that a Natural Heritage Evaluation be conducted. The presence of wetlands adjacent to the Site therefore trigger this EIA. This report combines the requirements of an NHE report with the County and Township requirements for an Environmental Impact Assessment/Study.

## 1.4.3 Local and Other Regulatory Bodies

### 1.4.3.1 County of Peterborough Official Plan (consolidated to March 2020)

The County of Peterborough Official Plan (June, 2022) Land Use Schedule, Map TL-2 indicates the Site falls into the Waterfront Residential category. Section 4.1.4 of the Plan outlines the permitted uses in this designation while Section 4.14.1 of the Official Plan States the requirement for an EIS.

### 1.4.3.2 Municipality of Trent Lakes Official Plan Amendment (OPA No. 46 - adoption of the Township of Galway-Cavendish and Harvey Official Plan)

The Municipality of Trent Lakes and Township of Galway-Cavendish Official Plan Schedule A1 (Land Use) indicates the Site falls into the Recreational Dwelling Area category. Section 5.4 of the Plan outlines the permitted uses in this designation. Section 5.1.10 describes the land use policies associated with natural environmental features, such as wetlands, fish habitat and significant habitat of endangered and threatened species. The presence of natural environmental features on and/or adjacent to the subject property acts as triggers for this Environmental Impact Study. The Township's requirements for an EIS are described in Section 5.1.10.3 of the Official Plan.

## 1.5 Other Resources Referenced

Prior to field surveys, background information for the Site and surrounding lands from a variety of sources was reviewed to provide context for the setting and sensitivity of the site. Background information sources included:

### 1.5.1 Data Sources

- Aerial imagery
- MNRF Land Information Ontario (LIO) GIS database mapping, GHD GIS database and the Natural Heritage
- Information Centre database (NHIC) Make-a-map GIS website, 2021).
- Ontario Breeding Bird Atlas data (Bird Studies Canada (BSC) 2001-2005 field data)
- Ontario Reptile and Amphibian Atlas (Ontario Nature, 2018)
- Aquatic Species at Risk mapping (Department of Fisheries and Oceans, 2022)
- Ontario Ministry of Natural Resources Aquatic Resource Area, Fish Species List (OMNR, 2022)
- Ontario Ministry of Natural Resources Fish ON-Line (OMNR, 2022)
- E-bird and i-naturalist websites

### 1.5.2 Literature and Resources

- Natural Heritage Reference Manual (MNRF, 2010)
- Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E. Peterborough, 38pp. (OMNRF, 2015)

## 1.6 Description of Development

The proposed works include the removal of an existing single-story dwelling and the construction of a 2 storey single detached dwelling with attached garage, and new septic bed. The 2 storey single detached dwelling will be setback 12.9 m from the highwater, resulting in a 1.5 m increased in the shoreline setback. The proposed septic will be located 30m from the highwater mark. The existing metal shed and woodshed/garage will be retained. The development site plan is provided in **Appendix A**.

## 1.6.1 Scope of Report

The scope of work for the project includes the following:

- Description of current and proposed land use
- Ecological Land Classification (ELC) of all vegetation communities
- Mapping of shoreline
- Determination of fish habitat types
- General wildlife observations
- Species At Risk (SAR) presence and habitat assessment, including habitat of endangered and threatened species
- Analysis of possible impacts of development on the natural features and ecological functions of all significant features identified, including the shoreline and the water yard setback
- Mitigation measures and recommendations
- Provide direction on lot layout that respects all significant natural features and buffers/setbacks distance
- Providing rationale for shoreline setback, if less than typical distance.
- Figure illustrating lot layout that respects all significant natural features and buffers/setbacks per EIS recommendations

# 2. Study Methods

## 2.1 General Approach

Our approach to preparation of the EIS consisted of three distinct phases.

In the first phase, available background information on the site, including recent aerial photography, key natural features and GIS mapping was compiled and reviewed.

The second phase consisted of site visits by our terrestrial/wetland and fisheries biologists to collect site-specific information and confirm data obtained from background and literature reviews. On site surveys included Ecological Land Classification (ELC) mapping, vegetation community boundaries, wildlife corridors and linkages and presence of significant species including Species at Risk, aquatic habitat assessments and surface water quality sampling.

The final phase consisted of preparing a Scoped EIS report based upon both the literature review and field surveys completed according to applicable legislation and policies (as outlined in Section 1.3). The EIS report is designed to identify natural heritage features, assess their functions, and provide recommendations to mitigate any potential predicted impacts from the proposed development.

This report will only deal with the suitability of the site from a biological perspective and the constraints due to the presence of the key natural heritage features and NHS policies. Any other approvals or constraints due to zoning, flood and fill regulations, minimum distance separation, archaeology, health regulations or other approvals for the municipality and other agencies are the responsibility of the owner.

## 2.2 Study Site Methodology

### 2.2.1 Physical Site Characteristics

Site characteristics were assessed during field visits. This assessment included general documentation of existing disturbances, current Site use, age of vegetation cover, topography and natural features.

### 2.2.2 Biophysical Inventory

#### 2.2.2.1 Vegetation

##### *ELC Survey Method*

All vegetation encountered in the study was inventoried during the site visits. Delineation and classification of the vegetation community types was based on the Ecological Land Classification for Southern Ontario (Lee et al., 1998). General notes on disturbance, topography, soil types, soil moisture and state of each community were also compiled. All vegetation communities in the Site were included.

Rare, significant or uncommon species were searched for. Species significance or rarity on a national, provincial, regional or local level was based on published literature and standard status lists. These included SARA (2021), COSEWIC (2021), SARO (2018) and Cuddy et al. (1991).

#### 2.2.2.2 Birds

##### *Area Searches*

Birds detected while on-site during all other field surveys were recorded along with a breeding evidence code if known. The search area for these surveys included all of the vegetation communities in the Site

#### 2.2.2.3 Other Wildlife

While GHD staff were on site conducting surveys of vegetation communities (e.g., surveys of vegetation communities) observations of any wildlife encountered on site were recorded (including mammals, amphibians and reptiles). Documentation included notes about the species detected, their location and the type of encounter (i.e., direct sightings and indirect evidence such as calls, tracks, scat, burrows, dens, trails and browse).

#### 2.2.2.4 Fish and Aquatic Habitat

##### *Aquatic Habitat Assessment*

An aquatic habitat assessment was conducted using standardized provincial aquatic protocol methods (Ontario Stream Assessment Protocol /Ministry of Transportation). Aquatic habitat was quantified and characterized based on local substrate composition, vegetation, flow influence and condition, sediment transport, cover, channel morphology, groundwater indicators, riparian habitat, barrier presence and form, land use and landscape influences, human modifications and unique features. Appropriate assessment types were determined on-site based on feature type using professional judgment.

##### *Fish Community*

Due to the presence of existing fish community data for Big Bald Narrows, GHD did not conduct fish community sampling on Site. A fish species list was obtained from the Ontario Ministry of Natural Resources and Forestry (OMNR, 2022) and Fish On-Line (OMNRF, 2022) (**Appendix D**).

To ensure the project meets provincial and federal species at risk legislation, a full review of the current Ontario Endangered Species Act (ESA) and Canadian Species at Risk Act (SARA) was completed. The background literature

review included Department of Fisheries and Oceans (DFO) Species at Risk maps to identify the presence of any endangered and/or threatened species and critical habitat on a federal level. The OMNRF-NHIC database was reviewed to identify the potential presence of endangered and/or threatened species which would receive individual protection (Section 9, ESA) or receive general habitat protection (Section 10, ESA) on a provincial level.

### **2.2.2.5 Wetlands**

Prior to field surveys, biologists first reviewed aerial photographs and available wetland mapping, including MNRF GIS database layers. Wetland boundaries were determined on Site by GHD certified staff using the Ontario Wetland Evaluation System, third edition, version 3.3, southern manual (2014).

### **2.2.2.6 Significant Wildlife Habitat (SWH)**

Prior to field surveys, a candidate list of SWH features was determined based on the Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E, 2015. During site assessments, biologists looked for evidence of those candidate significant wildlife habitat features to determine presence/absence. Upon compiling field data, further consideration was given to which candidate SWHs could be confirmed as present within the Site.

## **3. Survey Results**

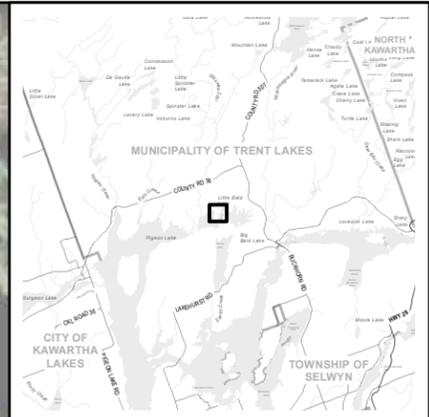
The following section presents site-specific survey data collected by GHD only. Supporting information, the background review and other sources of information will be presented and discussed in Section 4.0 – Discussion and Analysis.

### **3.1 Physical Site Characteristics**

A majority of the Site was developed with an existing cottage, garage, docks and a fenced yard. Wooded portions were identified on the periphery of the Site, with waterfront on Big Bald Narrows. The Site was covered in thin soils over granitic bedrock, typical of the Little Bald Lake area..

**ELC Types - 1st Approximation**  
 Ecological Land Classification for Southern Ontario: First Approximation and Its Application, 1998.

ELC Code	Ecosite-Vegetation Type Description
FOC1-1	Dry Jack Pine Coniferous Forest
FOC4-3	Fresh-Moist White Cedar-Balsam Fir Coniferous Forest
SAM1-1	Pickerel-weed Mixed Shallow Aquatic



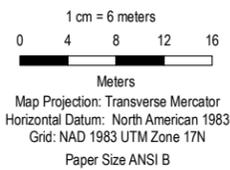
**Data Disclaimer**  
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**Legend**

- - - 12.9 m Setback from Shoreline
- Property Limit
- Vegetation Communities

**Aquatic Habitat Zones**

- HZ-01
- HZ-02



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 30 Cedar Court, Bobcaygeon, ON  
 Municipality of Trent Lakes  
 Environmental Impact Study  
**Natural Features, Vegetation  
 Communities & Constraints**

Project No. 12590864  
 Revision No.  
 Date Nov 4, 2022

**Figure 1**

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 Print date: 04 Nov 2022 - 07:23

Data source: Image @ County of Peterborough, 2018.

## 3.2 Biological Inventories

### 3.2.1 Level of Effort

Site biological inventories were conducted by GHD for vegetation communities, birds and wildlife and fish and fish habitat according to methodologies outlined in Section 2.0. A summary of the level of effort and environmental conditions have been provided in **Table 1**.

*Table 1*      *Vegetation Surveys - Level of Effort*

Survey Date	Survey Type	Weather	Start Time	Effort (person hrs.)
August 24, 2022	Ecological Land Classification (ELC)	Sunny (50% cloud cover), Beaufort Wind Scale 0-1, light rain at times. Air temperature 27.0°C and water temperature 26.4°C	13:00	2.0
	Birds and Wildlife			
	Fish and Aquatic Habitat			

### 3.2.2 Vegetation

#### 3.2.2.1 ELC Code Descriptions

A total of four vegetation communities were identified within the Site. Each community is described below and illustrated on **Figure 1**. At the time of assessment, 82 plant species were identified. The dominant species in each community are described below and a complete plant list is found in **Appendix B**.



**Photo 1: Community 1 – Shallow aquatic area (August 24, 2021).**

**Community 1 Pickerel-weed Mixed Shallow Aquatic (ELC Code: SAM1-1)**

Community 1 is located along the waterfront of the Site, which was a shallow and calm portion of the Big Bald Narrows. Several emergent, submergent and floating plant species were identified, but pickerel weed (*Pontederia cordata*) was dominant in much of the community. Other species identified included branching bur-reed (*Sparganium angrocladum*), Eurasian water-milfoil (*Myriophyllum spicatum*), water-shield (*Brasenia scheberi*), frog's-bit (*Hydrocharis morsus-ranae*), common coontail (*Ceratophyllum demersum*) and eel grass (*Vallisneria americana*). Plants located on the shoreline included: silver maple (*Acer saccharinum*), red maple (*Acer rubrum*), hog peanut (*Amphicarpa bracteata*), square-stemmed monkeyflower (*Mimulus ringens*), bottle gentian (*Gentiana andrewsii*) and turtlehead (*Chelone glabra*).



**Photo 2: Community 2 – Coniferous area (August 24, 2021).**

**Community 2 Fresh-Moist White Cedar – Balsam Fir Forest (ELC Code: FOC4-3)**

Located in the north portion of the Site, a small coniferous woodland was identified. This small woodland was dominated by balsam fir and eastern white cedar (*Thuja occidentalis*). Groundcover was scarce and mainly relegated to the shoreline and a small depression adjacent to a fenced in portion of the Site used for pets. Other plant species identified at the shoreline included: European buckthorn (*Rhamnus cathartica*), red-berried elder (*Sambucus racemose*), sensitive fern (*Onoclea sensibilis*), Canada mayflower (*Maianthemum canadense*), large-leaved aster (*Eurybia macrophylla*), field horsetail (*Equisetum arvense*), and eastern buttonbush (*Cephalanthus occidentalis*).



**Photo 3: Community 3 – Coniferous Site boundary zone (August 24, 2021).**

**Community 3 Dry-Fresh Pine Coniferous Forest (ELC Code: FOC1)**

This community included wooded section of trees that acted as Site boundary between a neighbouring parcel. This community was dominated by eastern white pine (*Pinus strobus*) and eastern white cedar, but contained a number of other tree species such as balsam fir (*Abies balsamea*), Norway maple (*Acer platanoides*), and black spruce (*Picea mariana*). Shrubs included Tartarian honeysuckle (*Lonicera tartarica*), and European buckthorn. Ground cover was dominated by lily-of-the-valley (*Convallaria majalis*), but other groundcover species persisted, including: sensitive fern, purple loosestrife (*Lythrum salicaria*), helleborine (*Epipactis helleborine*), peach-leaved bellflower (*Campanula persicifolia*), and wild bergamot (*Monarda fistulosa*).



**Photo 4: Community 4 – Lawn and buildings (August 24, 2021).**

#### **Community 4 Lawn Area and Developed Area (ELC Code: Not applicable)**

Community 4 occupied a majority of the Site. It included a cottage, garage, lawn, shallow ditch, driveway and fenced in lawn. Species were varied with many common lawn and garden species. Some of these included: Kentucky blue grass (*Poa pratensis*), common dandelion (*Taraxacum officinale*), heal-all (*Prunella vulgaris*), red clover (*Trifolium pratense*), alfalfa (*Medicago sativa*), daisy fleabane (*Erigeron annuus*) and tiger lily (*Lilium lancifolium*).

### **3.2.3 Birds and Wildlife**

#### **3.2.3.1 Area Searches**

Only one bird species was identified on the Site at the time of assessment, black-capped chickadee (*Poecile atricapillus*). Two used American robin (*Turdus migratorius*) nests were identified on both the cottage and the garage (**Appendix C**). Two amphibian species were identified in the waterbody: green frog (*Lithobates clamitans*) and northern leopard frog (*Lithobates pipiens*). Only one mammal was identified by its faeces in Community 2, a common raccoon (*Procyon lotor*).

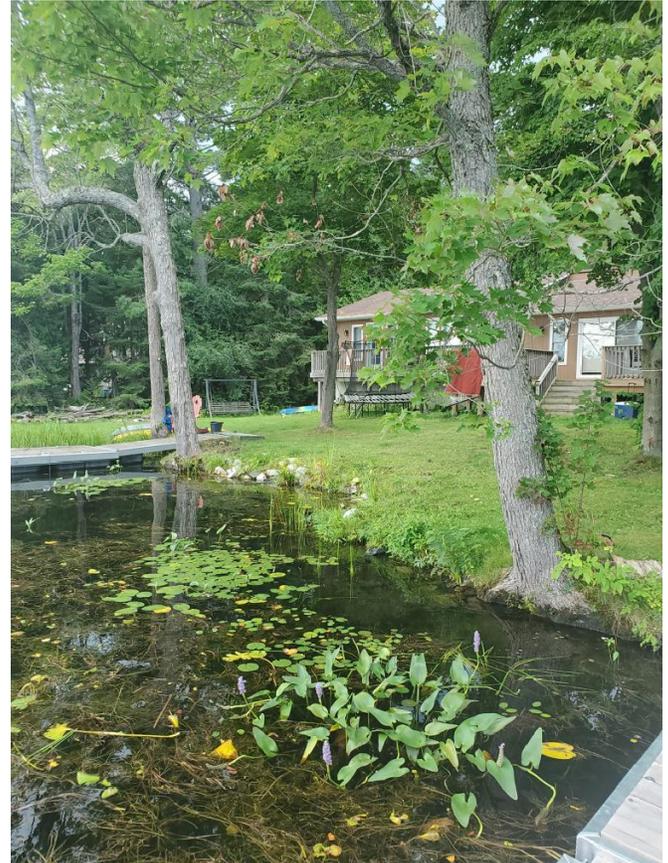
### **3.2.4 Fish and Aquatic Habitat**

#### **3.2.4.1 Aquatic Habitat**

The shoreline of Big Bald Narrows located within the Site was classified into two habitat zones. Habitat zones were determined and differentiated based on presence of barriers, substrate composition, channel morphology, riparian

habitat, percent in-stream cover, hydrological connection and unique features. The habitat zone locations have been illustrated in **Figure 1** and habitat characteristics have been summarized in **Table 3**.

Habitat Zone 1 was located at the southwestern shoreline of the Site and extended 36 m east (**Figure 1**). During the time of assessment, the in-water substrate was dominated by boulders, cobbles and organics. The in-water cover was considered high containing, submergent, emergent, and floating aquatic vegetation. Two docks also provided in-water cover. The aquatic vegetation community was dominated by pickerel weed (*Pontederia cordata*). The overhead cover was low and dominated by the existing docks and trees. Refer to Section 3.2.1.2 Vegetation Community 1 for the riparian habitat details.



**Photo 5 (left): Habitat Zone 1 – showing existing structures, lake and riparian habitat (Photo Date: August 24, 2022).**

**Photo 6 (right): Habitat Zone 1 – Photo right facing northwest (Photo Date: August 24, 2022).**

Habitat Zone 2 began where Habitat Zone 1 ended, and continued east along vegetation community 3 for approximately 26 m to the Site boundary in a small back bay (**Figure 1**). The in-water substrate was dominated by fine organics. The in-water cover was high and dominated by the same aquatic vegetation species as Habitat Zone 1. The overhead cover was moderate and dominated by trees. Water temperature throughout the site was 26.4°C. Refer to Section 3.2.1.2 Vegetation Community 3 for the riparian habitat details.



**Photo 7: Habitat Zone 2 – showing lake and riparian habitat, photo facing northeast (Photo Date: August 24, 2022).**

Table 2 Aquatic Habitat Observations

Habitat Zone	Substrate Composition	In-water Cover	Canopy Cover (%)	Overhead Cover	Water Depth Range (m)	Zone Length (m)
01	20% bedrock 30% boulder 20% cobble 10% gravel 5% sand 15% fine Organics	2% undercut bank 20% submergent aquatic vegetation 25% emergent aquatic vegetation 30% floating aquatic vegetation 5% Boulders 15% other – Docks	0-24	10% trees 15% docks	0.15-0.3	33
02	15% bedrock 20% cobble 5% sand 60% fine organics	5% undercut bank 5% submergent aquatic vegetation 40% floating aquatic vegetation	25-49	40% trees	0.2-0.3	26

### 3.2.4.2 Fish Community

As previously mentioned in Section 2.2.2.4 Fish Community, surveys were not conducted by GHD. However, during the Aug 24, 2022 site visit biologist observed several *Cyprinidae spp* and *Centrarchidae spp* within Habitat Zone 1 and 2.

## 4. Discussion and Analysis

### 4.1 Species and Communities

#### 4.1.1 Vegetation

GHD biologists found no plant species classified as federally and/or provincially rare in the Site (SARA 2021; COSEWIC 2021; COSSARO 2021). Additionally, no regionally rare plant species (Riley, 1989) were detected on site.

None of the ecological communities (i.e., ELC ecosites or vegetation communities) found in the study are considered provincially rare (NHIC, 2021).

#### 4.1.2 Birds and Wildlife

None of the bird species detected during GHD's breeding bird survey is considered significant at the national and/or provincial level (SARA 2021; COSEWIC 2020; COSSARO 2021). The nests identified on the properties structures were from the American robin.

Data from other sources has also been used to assess avifauna that may be present on the Site or surrounding area during breeding season.

The Ontario Breeding Bird Atlas data for the 10 km x 10 km square that includes the Site (17QK23) includes fourteen (14) bird species that are provincially (COSSARO, 2018) or nationally (COSEWIC, 2019) significant: common nighthawk (*Chordeiles minor*), eastern whip-poor-will (*Antrostomus vociferus*), chimney swift (*Chaetura pelagica*), red-headed woodpecker (*Melanerpes erythrocephalus*), black tern (*Chlidonias niger*), olive-sided flycatcher (*Contopus*

*cooperi*), loggerhead shrike (*Lanius ludovicianus*), eastern wood-pewee (*Contopus virens*), bank swallow (*Riparia riparia*), barn swallow (*Hirundo rustica*), wood thrush (*Hylocichla mustelina*), Canada warbler (*Cardellina canadensis*), bobolink (*Dolichonyx oryzivorus*), and eastern meadowlark (*Sturnella magna*). None of the above species or suitable nesting habitat were identified on the Site.

## 4.2 Natural Features

### 4.2.1 Wetland

The shoreline of the Site had one small marsh habitat identified as Community 1. The wetland was associated with a calm inlet of Big Bald Narrows. It was not mapped by NDMNRF or identified as provincially or regionally significant.

### 4.2.2 Fish and Aquatic Habitat

Big Bald Narrows provides direct and indirect fish habitat. The lake provides support for all life history phases of the fish community present including; spawning, nursery, feeding, cover and overwintering habitat. These attributes are important for the sustainability of the warm/cool water fish community present in Big Bald Narrows. No critical habitat for Aquatic Species at Risk or sensitive spawning habitat was identified within the site (OMNR, 2022).

### 4.2.3 Fish Community

Big Bald Narrows displays a diverse fish species population. A total of 10 fish species have been recorded in Big Bald Narrows based on the MNRF's database (OMNR, 2022). Cumulatively, 6 families have been documented in Big Bald Narrows. The fish community is composed of the following families: *Catostomidae*, *Centrarchidae*, *Cyprinidae*, *Esocidae*, *Ictaluridae*, and *Percidae*. A summary of the Big Bald Narrows fish species list has been provided in **Appendix D**.

## 5. Impact Assessment and Recommendations

The following section provides a description of the predicted impacts that may result from the proposed development (**Table 4**). It also identifies mitigation measures to be implemented to avoid and/or minimize adverse effects to the natural environment features within or near the project. A full list of mitigation measures has been provided in Section 7 of this report.

### 5.1 Natural Features

#### 5.1.1 Wetland

No impacts on the features and functions identified for the Wetland and Big Bald Narrows are anticipated. Any ground excavation required to install the proposed septic bed and development envelope may create exposed disturbed soils. It is recommended that a heavy-duty silt fence around the excavation and foundation perimeter, especially on the lake side (downslope) to ensure sediment does not flow into the ditch and subsequently into Big Bald Narrows. The silt-fencing will also act as a barrier to nesting turtles who may find the temporarily disturbed soil suitable for nesting. GHD did not note any turtle evidence in the Site but acknowledges that turtle habitat is present in Big Bald Narrows and that turtle may wander onto land during nesting season in June.

## 5.1.2 Vegetation

Largescale removal of vegetation is not to occur to facilitate the development. Some limbing of adjacent trees may be required to facilitate the construction of the second story building, as well as some shrub removal for the proposed septic bed. If tree removal is needed, it is to occur outside of the breeding bird window between April 15 and August 31 to be compliant with the federal Migratory Birds Convention Act. If excavation is to occur for the proposed septic bed, it is recommended that heavy-duty silt fencing be installed before any site preparation and that it remain in place, during and after excavation, until this area is revegetated and stabilized. GHD recommends native seed-mixes suitable to the area be used in the revegetation effort.

## 5.1.3 Fish and Aquatic Habitat

The proposed two-story dwelling will be setback an additional 1.5m from the highwater mark, increasing the shoreline buffer to 12.9 m. The proposed septic will be setback 30 m from the high-water mark to protect the water quality and fish habitat of Big Bald Narrows.

No significant impacts to fish or fish habitat are anticipated from the proposed two-story dwelling and septic provided the setbacks described above are respected and the mitigation measures and recommendations are implemented as outlined in this report. A detailed sediment and erosion control plan must be prepared for all construction activities to ensure disturbed soils are not transported off-site and do not negatively impact aquatic life, fish and fish habitat.

**Table 3** Impact Assessment and Recommendation Summary

Feature or Function	Impact to Feature of Function	Mitigation	Residual Effect
Wetland	Possible sediment disturbance during construction.	Heavy-duty silt fencing be installed around the perimeter of development envelope and septic bed installation. Silt fencing to be left in place until area is vegetated and stabilized with native vegetation.	None expected.
Birds	Potential disturbance to nesting birds.	No vegetation removal during peak breeding bird season (April 15 – August 31)	None expected.
Vegetation	Trees along south edge of building area may impede construction. Limbing and or removal may be required.	No vegetation removal during peak breeding bird season. Recommended to limb trees rather than full removal in order to facilitate construction. Native seed-mix to be used to revegetated septic bed installation.	None expected.
Fish and Aquatic Habitat <i>Big Bald Narrows</i>	Potential disturbance during construction phase	No in-water or work within the 12.9 m buffer from Big Bald Lake.  Silt fencing to be installed around the perimeter of development envelope and a detailed ESC plan to be prepared.  Development must comply with DFO Measures to Protect Fish and Fish Habitat.	None expected.

## **6. Policies and Legislative Compliance**

The following section describes how the proposed development will be in conformance with the relevant federal, provincial and other regulatory legislation, policies, official plans and OP amendments that are applicable and relevant to the Site and the immediate vicinity.

### **6.1 Federal Legislation**

#### **6.1.1 Migratory Birds Convention Act**

The core breeding period in Ontario for migratory birds under the MBCA for Bird Conservation Region 13 (i.e., the one the subject Site lies within) extends from April 15<sup>th</sup> to August 31<sup>th</sup> (Environment and Climate Change Canada, 2014). As such clearing of the trees and other vegetation for development cannot occur during this timing window.

#### **6.1.2 Fisheries Act**

The proposed development will avoid all in-water works and implement the DFO Measures to Protect Fish and Fish Habitat. The project undertakings will: prevent the death of fish, maintain riparian vegetation, carry out work on land only, maintain fish passage, ensuring proper sediment control, and prevent entry of deleterious substances in water. Therefore, the proposed development is in compliance with the Fisheries Act and further project review by DFO is not required.

### **6.2 Provincial Legislation**

#### **6.2.1 Endangered Species Act, 2007**

No Provincially threatened or endangered species were identified on the Site at the time of assessment.

#### **6.2.2 Provincial Policy Statement, 2020**

The Site contains a Provincially Significant Wetland (PSW), therefore, Sections 2.1.4-2.1.8 of the Provincial Policy Statement would apply. The proposed development is within the adjacent lands to a provincially significant wetland (PSW), however, no negative impacts to the PSW are anticipated as a result of the proposed development as demonstrated within this report.

#### **6.2.3 Growth Plan for the Greater Golden Horseshoe, 2020**

Section 4.2.3, 4.2.4 and 4.2.5 Part 1 (e) of the Growth Plan allows for the completion of this project.

e) expansions to existing buildings and structures, accessory structures and uses, and conversions of legally existing uses which bring the use more into conformity with this Plan, subject to demonstration that the use does not expand into the key hydrologic feature or key natural heritage feature or vegetative protection zone unless there is no other alternative, in which case any expansion will be limited in scope and kept within close geographical proximity to the existing structure.

The proposed development will be no closer to the shoreline of Big Bald Narrows and outside of the high-water mark, however, this is less than the 30-metre required minimum vegetation protection zone, the distance (approximately 15 meters) is sufficient to meet the Growth Plan requirements.

The proposed addition is therefore in compliance with the Growth Plan sections regarding NHS and the adjacent lands.

## **6.3 Local and Other Regulatory Bodies**

### **6.3.1 County of Peterborough Official Plan**

Section 4.1.3 of the County of Peterborough Official Plan identifies the requirements needed to be compliant with the County of Peterborough Official Plan. The proposed development will not exceed the current shoreline setbacks of the proposed development (12.9 meters) and the proposed septic will not exceed a 30 m shoreline setback. Provided implementation of all recommendations, there will be no negative impacts to the wetland and fish and fish habitat of Big Bald Narrows for the proposed 2 storey single detached dwelling with attached garage and new septic.

### **6.3.2 Municipality of Trent Lakes Official Plan Amendment (OPA No. 46 adoption of the Township of Galway-Cavendish and Harvey Official Plan)**

Recreational dwellings are permitted in accordance with Section 6.0 of the Township of Galway-Cavendish and Harvey Official Plan. This EIS report has been prepared in accordance with Section 5.1.10 of the Official Plan. Providing the mitigation measures and recommendations in Sections 5.1 and 7 of this report are followed, the proposed 'development' can proceed while conforming to the Townships Official Plan.

## **7. Summary of Recommendations**

### **7.1 General**

1. Prior to any site preparation activities, erosion and sediment control measures should be installed around the perimeter of the construction envelope to ensure sediment laden runoff does not enter interfere with adjacent wetland. The silt fence should be inspected and maintained throughout the construction phases and remain in place until the soils are stabilized and re-vegetated. It will also act as a barrier to any potential nesting turtles.
2. No development within 12.9 m waterbody buffer (setback) from the shoreline of Big Bald Narrows.
3. Any tree clearing required for construction access prior to construction will be completed outside the Breeding Bird timing window of April 15 to August 31.
4. Obtain relevant permits from applicable authorities.
5. Create downspouts that spill out onto grassed or gravel surfaces off the roofs. This will convey the rainfall captured by the roof to the ground where it can infiltrate.
6. No in-water works.

### **7.2 Sediment and Erosion Control**

1. A heavy-duty reinforced silt fence will be installed and maintained along development envelope boundary. This line should be surveyed and staked in the field prior to any site preparation activities.
2. All sediment and erosion control products will be selected for the site based on the manufacturer's product specifications. Product installation and maintenance will follow the manufactures guidelines.
3. All sediment and erosion control measures shall be inspected daily during the construction phase and periodically afterwards to ensure they are functioning properly. The sediment and erosion control measures must be maintained and upgraded as required. Sediment fence shall be checked regularly to ensure they are maintained

and working properly. Accumulated silt and debris will be removed from the fence and site after every precipitation event.

4. Construction will be undertaken during normal weather conditions, to the extent possible, and will avoid large precipitation events to minimize the risk of sedimentation off-site.
5. In the event that sediment and erosion control measures are not functioning, the construction supervisor shall order the work to be stopped. No further work shall be carried out until the construction methods and/or the sediment control plan is adjusted to address the sediment/erosion problem(s). Such occurrences should be documented by the site inspector and provided to a qualified biologist.

### **7.3 Fish Protection (DFO measures to protect fish and fish habitat)**

1. No work in or near water to avoid killing fish by means other than fishing.
2. Any new development (cottages/houses, septic, garage) locations will not encroach on the shoreline setback of 12.9m to protect the natural feature form and function.
3. The Project Manager/Contractor shall not allow any deleterious substances as defined in the Fisheries Act (such as silt), caused by the work, to enter or re-enter the watercourse.
4. No use of explosives in or near water.
5. Should work conditions change such that it is possible that fish or fish habitat may potentially be negatively impacted, all works shall cease until the problem has been corrected or authorization has been obtained from the appropriate authorities.
6. Maintain riparian vegetation.
7. Carry out all works and activities by avoiding all work in or near water. No placement of fill or the temporary or permanent structures below the high water mark.
8. No disturbance of bank material or building structures in the area than may result in erosion or scouring.
9. Always maintain fish passage.
10. Prevent soil compaction using mats and pads.

### **7.4 Operation of Machinery**

1. No machinery shall enter the shoreline or watercourse.
2. All heavy equipment, machinery, and tools required for the work shall be regularly inspected, maintained and operated to avoid leakage of fuels and liquids and shall be stored in a manner that prevents any deleterious substance from entering the soil or nearby watercourses.
3. Vehicle and equipment refuelling and/or maintenance shall be conducted within a defined staging area 30 m from any waterbody. If 30 m is not achievable a portable spill containment berm may be used. Portable spill containment berms can be rented by companies such as Wise Environmental Solution Inc (W.I.S.E, 2017).
4. Any part of a vehicle and/or equipment entering the water will be free of fluid leaks and externally cleaned/degreased to prevent deleterious substances from entering the water.
5. Any stockpiled materials will be stored and stabilized away from the water above the high-water mark at a minimum of 30 m. Stockpiles will be enclosed by sediment fencing or installed down gradient for the purpose of preventing movement of sediment away from the stockpile.
6. An emergency spill kit shall be kept on site and employed immediately should a spill occur. In the case of a spill, the Ontario Spill Action Center shall be notified immediately at 1-800-268-6060. All provincial and federal regulations shall be adhered to.
7. Maintain an adequate supply of clean-up materials on-site. Construction crews will be fully trained in their use to ensure timely and effective responses to spill incidents.

## 7.5 Concrete Leachate

1. Concrete leachate from foundation pourings is alkaline and highly toxic to fish and aquatic life. Measures will be taken to prevent any incidents of concrete or concrete leachate from entering any waterbody.
2. Ensure that all works involving the use of concrete, cement, mortars, and other Portland cement or lime-containing construction materials (concrete) will not deposit, directly or indirectly, sediments, debris, concrete, concrete fines, wash or contact water into any waterbody.
3. All concrete, sealants or other compounds used for this project shall be utilized according to the appropriate Product Technical Data Sheet, stating guidelines and methods for proper use, and provided by the manufacturer of the product.

## 8. Conclusion

GHD has prepared this Scoped Environmental Impact Study report to address potential environmental issues associated with a proposed 2 storey single detached dwelling with attached garage and septic bed on an existing lot, located at 30 Cedar Court, Peterborough County.

Significant natural features identified in the Site included fish and fish habitat, wetland and vegetation, in addition to bird nests on existing structures.

It is recommended that a shoreline buffer of 12.9 m is maintained from Big Bald Narrows to protect fish and fish habitat during and post-construction. Construction within the proposed development envelope will result in no significant negative impacts to the form and functions of identified natural features, provided the recommendations outlined in Sections 5 and 7 are implemented.

GHD's recommendations have been made to address potential impacts to natural features and/or their functions during the site preparation, construction and post construction period. Additional discussions with the Municipality of Trent Lakes and the County of Peterborough County are required to ensure appropriate permitting processes are followed.

## 9. References

- Bird Studies Canada. 2007. Atlas of the Breeding Birds of Ontario square summary information sheets. Accessed on the World Wide Web at: <https://www.birdsontario.org/atlas/squareinfo.jsp>
- Cadman, M.D., P.F.J. Eagles and F.M. Helleiner. 1987. Atlas of the Breeding Birds of Ontario. Federation of Ontario Naturalists and Long Point Bird Observatory.
- COSEWIC. 2019, 11 29. Government of Canada-Species at Risk Public Registry. Retrieved from <https://www.canada.ca/en/environment-climate-change/services/species-risk-public-registry.html>
- COSEWIC. 2021. Canadian Species at Risk, April 2018. Committee on the Status of Endangered Wildlife in Canada. Accessed on the World Wide Web at: <https://www.canada.ca/en/environment-climatechange/services/committee-status-endangered-wildlife.html>.
- COSSARO. 2019. Government of Ontario-Species at Risk Ontario. Retrieved from <https://www.ontario.ca/page/species-risk-ontario>
- COSSARO. 2021. *Species at Risk in Ontario (SARO)*, May 2018. Ontario Ministry of Natural Resources Committee on the Status of Species at Risk in Ontario. Retrieved from Government of Ontario: <https://www.ontario.ca/environment-and-energy/species-risk-ontario-list>.
- Eakins, R. J. 2019, May 15. Ontario Freshwater Fishes Life History Database. Retrieved from <http://ontariofishes.ca/home.htm>
- Fisheries and Oceans Canada (DFO). 2022. Aquatic Species at Risk. URL: <http://www.dfo-mpo.gc.ca/species-especes/sara-lep/index-eng.html>
- Government of Ontario. 2018. Endangered Species Act, 2007, S.O. 2007, c.6. Accessed on the World Wide Web at: <https://www.ontario.ca/laws/statute/07e06#BK2>
- Government of Ontario. 2018b. Ontario Regulation 230/08: Species at Risk in Ontario list under the Endangered Species Act, 2007, S.O. 2007, c.6. Accessed from the World Wide Web at: <https://www.ontario.ca/laws/regulation/080230>.
- Government of Ontario. 2018c. Ontario Regulation 242/08: General under the Endangered Species Act, 2007, S.O. 2007, c.6 Accessed from the World Wide Web at: <https://www.ontario.ca/laws/regulation/080242>
- Government of Ontario. 2020. Provincial Policy Statement, 2014. Ministry of Municipal Affairs and Housing. Queen's Printer for Ontario. Accessed on the World Wide Web at: <http://www.mah.gov.on.ca/Page215.aspx>.
- Lee, H., Bakowsky, W., Riley, J., Bowles, J., Puddister, M., Uhlig, P. and S. McMurray. 1998. Ecological Land Classification for Southern Ontario: First Approximation and its Application. OMNR, South Central Science Section, Science Development and Transfer Branch. SCSS Field Guide FG-02.
- Municipality of Trent Lakes 2013. Official Plan Amendment (OPA No.46) - adoption of the Official Plan of the Township of Galway-Cavendish and Harvey. 125pp + Appendices
- Oldham, M.J. 1999. Checklist of the Vascular Plants of Peterborough County in Burke, P.S., C.D.
- OMNR. 2022. Aquatic Resource Area Survey. Peterborough, Ontario: Land Information, Ontario Ministry of Natural Resources.
- OMNR. 2022. Aquatic Resource Area Survey. Peterborough, Ontario: Land Information, Ontario Ministry of Natural

Resources. Ontario Ministry of Natural Resources.

- OMNRF. 2019. Fish ON-Line. Retrieved from Ontario Ministry of Natural Resources and Forestry:  
<https://www.gisapplication.lrc.gov.on.ca/FishONLine/Index.html?site=FishONLine&viewer=FishONLine&locale=en>
- OMNR. (2022). Aquatic Resource Area Survey. Peterborough, Ontario: Land Information, Ontario Ministry of Natural Resources.
- Ontario Ministry of Natural Resources and Forestry. January 2015. Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E. Peterborough, 38pp.
- Ontario Ministry of Natural Resources. March 2010. Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement, 2005. 2nd Edition. Toronto: Queen's Printer for Ontario. 248pp.
- Ontario Natural Heritage Information Centre. 2021. Make A Natural Heritage Area Map. Accessed from the World Wide Webat:[http://www.gisapplication.lrc.gov.on.ca/mamnh/Index.html?site=MNR\\_NHLUPS\\_NaturalHeritage&viewer=NaturalHeritage&locale=en-US](http://www.gisapplication.lrc.gov.on.ca/mamnh/Index.html?site=MNR_NHLUPS_NaturalHeritage&viewer=NaturalHeritage&locale=en-US).
- Ontario Nature. 2021. Reptiles and Amphibians – Online Field Guide. Accessed on the World Wide Web at: <https://ontarionature.org/programs/citizen-science/reptile-amphibian-atlas/species/>.
- Ontario Nature. 2021. Ontario Reptile and Amphibian Atlas: square summary information.
- Peterborough County. 2020. Official Plan – Consolidated to July 2019. Accessed from the World Wide Web at: <https://www.ptbocounty.ca/en/resourcesGeneral/Documents/planning-County-OP.pdf>

# Appendix A

## Site Plan



SETBACK TO WATER FEATURE ACROSS THE ROAD

WATER FEATURE

EXISTING ENTRANCE TO BE RE-USED

TREES TO BE PROTECTED DURING CONSTRUCTION

EXISTING SINGLE STOREY DWELLING TO BE REMOVED  
FIRST FLOOR AREA = 149.05m<sup>2</sup>

PROPOSED TWO STOREY DWELLING  
FIRST FLOOR AREA = 225.79m<sup>2</sup>  
SECOND FLOOR AREA = 171.48m<sup>2</sup>  
TOTAL = 397.27m<sup>2</sup>  
ACCESS TO GARAGE LOFT FROM 2ND STOREY ONLY

EX. METAL SHED TO REMAIN  
AREA = 7.5m<sup>2</sup>  
3.0m x 2.5m

EX. WOOD SHED GARAGE TO REMAIN  
AREA = 31.8m<sup>2</sup>  
4.3m x 7.4m

PROPOSED SEPTIC BED LOCATION

PROPOSED 4500L SEPTIC TANK

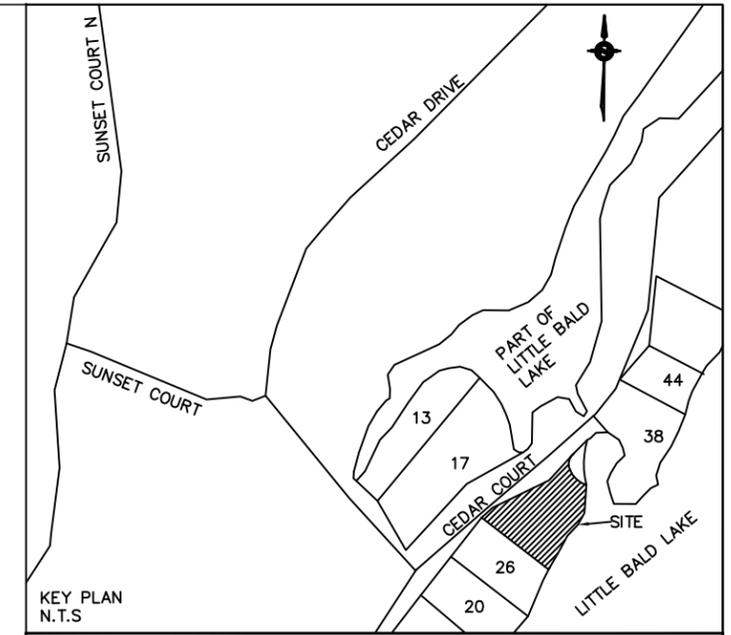
30m WATER SETBACK

LIMIT OF 2ND STOREY

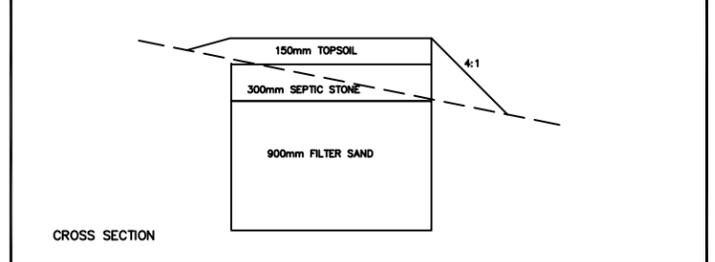
EX. DOCK TO REMAIN

EX. DOCK TO REMAIN

CONTOURS  
CONTOURS SHOWN HEREON ARE DRAWN AT 0.20 METRE INTERVALS.



SITE STATISTICS			
CURRENT ZONING	SHORELINE RESIDENTIAL (SR)		
	PERMITTED	EXISTING	PROPOSED
MIN. LOT AREA	4046.83m <sup>2</sup>	1769.72m <sup>2</sup>	1769.72m <sup>2</sup>
MIN. WATER FRONTAGE	45.0m	62.3m±	62.3m±
MIN. WATER YARD	30.0m	12.9m	12.9m
MIN. FRONT YARD	12.0m	8.7m	8.7m
MIN. SIDE YARD	4.5m	5.9m / 21.9m	4.8m / 19.6
MIN. GFA FOR 1 STOREY	83.5m <sup>2</sup>	149.05m <sup>2</sup>	N/A
MIN. GFA 1½ - 2 STOREY	116.0m <sup>2</sup>	N/A	225.79m <sup>2</sup>
MAX. LOT COVERAGE	20%	10.6%	16.6%
MAX. BUILDING HEIGHT	11.0m	3.5m±	8.3m±
MAX. D.U PER LOT	1	1	1



SURVEY PROVIDED BY:

IBWSURVEYORS.COM | 1.800.667.0696

PARTY CHIEF: SK | DRAWN BY: MA | CHECKED BY: AR | PLOT DATE: AUGUST 15, 2021  
FILE NAME: A-029309-Topo-V2.dwg

NO.	DATE	DESCRIPTION	BY
1	NOV 26/21	ISSUED FOR RE-ZONING	TD

PROJECT TITLE:  
30 CEDAR COURT, BOBCAYGEON  
TOWNSHIP OF TRENT LAKES  
ROLL #: 154201000241900

DRAWING TITLE:  
PROPOSED SITE PLAN

TD Consulting INC.  
155 St David St  
Lindsay, Ontario  
K9V 4Z6  
Phone: (647)-535-9461  
e-mail: info@td-consulting.ca

DRAWN BY: VA	PROJECT NO: 020-379
DESIGNED BY: TD	DRAWING NO: SP-1
APPROVED BY: TD	DATE: FEB 2022
SCALE: 1:150	

# **Appendix B**

## **Plant List by Community**

# Appendix A Plant Distribution By Community

Families and genera for the plant species found in this appendix are listed in taxonomic order. The species are listed alphabetically within each genus.

Three standard reference works were used for the botanical nomenclature and taxonomy (Newmaster et. al., 1998; Gleason and Cronquist 1991; Voss 1980; 1985). Other published works for botanical names included; ferns (Cody and Britton 1989); grasses (Dore and McNeill 1980); orchids (Whiting and Catling 1986); shrubs (Soper and Heimbürger 1982) and trees (Farrar 1995).

## Community 1

ComID: 5357

ELC Code: SAM1-1

Common Name	Scientific Name	Remarks
<b>ROYAL FERN FAMILY</b>	<b>OSMUNDACEAE</b>	
royal fern	<i>Osmunda regalis var. spectabilis</i>	
<b>WOOD FERN FAMILY</b>	<b>DRYOPTERIDACEAE</b>	
northern lady fern	<i>Athyrium filix-femina</i>	
sensitive fern	<i>Onoclea sensibilis</i>	
<b>WATER-LILY FAMILY</b>	<b>NYMPHACEAE</b>	
small yellow pond-lily	<i>Nuphar microphylla</i>	
<b>WATER-SHIELD FAMILY</b>	<b>CABOMBACEAE</b>	
water-shield	<i>Brasenia schreberi</i>	
<b>HORNWORT FAMILY</b>	<b>CERATOPHYLLACEAE</b>	
common coontail	<i>Ceratophyllum demersum</i>	
<b>BUCKWHEAT FAMILY</b>	<b>POLYGONACEAE</b>	
water smartweed	<i>Polygonum amphibium</i>	
<b>PEA FAMILY</b>	<b>FABACEAE</b>	
hog-peanut	<i>Amphicarpa bracteata</i>	
<b>WATER-MILFOIL FAMILY</b>	<b>HALORAGACEAE</b>	
Eurasian water-milfoil	<i>Myriophyllum spicatum</i>	
<b>LOOSESTRIFE FAMILY</b>	<b>LYTHRACEAE</b>	
purple loosestrife	<i>Lythrum salicaria</i>	
<b>MAPLE FAMILY</b>	<b>ACERACEAE</b>	
red maple	<i>Acer rubrum</i>	
silver maple	<i>Acer saccharinum</i>	
<b>TOUCH-ME-NOT FAMILY</b>	<b>BALSAMINACEAE</b>	
spotted jewelweed	<i>Impatiens capensis</i>	
<b>CARROT FAMILY</b>	<b>APIACEAE</b>	
bulbous water-hemlock	<i>Cicuta bulbifera</i>	
<b>GENTIAN FAMILY</b>	<b>GENTIANACEAE</b>	
bottle gentian	<i>Gentiana andrewsii</i>	

<b>MILKWEED FAMILY</b>	<b>ASCLEPIADACEAE</b>	
swamp milkweed	<i>Asclepias incarnata</i>	
<b>MINT FAMILY</b>	<b>LAMIACEAE</b>	
American water-horehound	<i>Lycopus americanus</i>	
wild mint	<i>Mentha arvensis</i>	
<b>FIGWORT FAMILY</b>	<b>SCROPHULARIACEAE</b>	
turtlehead	<i>Chelone glabra</i>	
square-stemmed monkeyflower	<i>Mimulus ringens</i>	
<b>MADDER FAMILY</b>	<b>RUBIACEAE</b>	
white bedstraw	<i>Galium mollugo</i>	
<b>ASTER FAMILY</b>	<b>ASTERACEAE</b>	
nodding beggar-ticks	<i>Bidens cernua</i>	
grass-leaved goldenrod	<i>Euthamia graminifolia</i>	
purple-stemmed aster	<i>Symphyotrichum puniceum</i>	
<b>FROG'S-BIT FAMILY</b>	<b>HYDROCHARITACEAE</b>	
frog's-bit	<i>Hydrocharis morsus-ranae</i>	
water celery	<i>Vallisneria americana</i>	
<b>PONDWEED FAMILY</b>	<b>POTAMOGETONACEAE</b>	
curly-leaved pondweed	<i>Potamogeton crispus</i>	
<b>SEDGE FAMILY</b>	<b>CYPERACEAE</b>	
fringed sedge	<i>Carex crinita</i>	
<b>BUR-REED FAMILY</b>	<b>SPARGANIACEAE</b>	
branching bur-reed	<i>Sparganium angrocladum</i>	
<b>CATTAIL FAMILY</b>	<b>TYPHACEAE</b>	
common cattail	<i>Typha latifolia</i>	
<b>PICKERELWEED FAMILY</b>	<b>PONTEDERIACEAE</b>	
pickerel weed	<i>Pontederia cordata</i>	
<b>LILY FAMILY</b>	<b>LILIACEAE</b>	
Canada mayflower	<i>Maianthemum canadense</i>	

**Plant Species Per Community** 32

## Community 2

ComID: 5358

ELC Code: FOC4-3

Common Name	Scientific Name	Remarks
<b>HORSETAIL FAMILY</b>	<b>EQUISETACEAE</b>	
field horsetail	<i>Equisetum arvense</i>	
<b>WOOD FERN FAMILY</b>	<b>DRYOPTERIDACEAE</b>	
sensitive fern	<i>Onoclea sensibilis</i>	
<b>PINE FAMILY</b>	<b>PINACEAE</b>	
balsam fir	<i>Abies balsamea</i>	
<b>CYPRESS FAMILY</b>	<b>CUPRESSACEAE</b>	
eastern white cedar	<i>Thuja occidentalis</i>	
<b>BUTTERCUP FAMILY</b>	<b>RANUNCULACEAE</b>	
tall meadow rue	<i>Thalictrum pubescens</i>	

<b>ELM FAMILY</b>	<b>ULMACEAE</b>	
American elm	<i>Ulmus americana</i>	
<b>BUCKTHORN FAMILY</b>	<b>RHAMNACEAE</b>	
European buckthorn	<i>Rhamnus cathartica</i>	
<b>OLIVE FAMILY</b>	<b>OLEACEAE</b>	
green ash	<i>Fraxinus pennsylvanica var. subinteg</i>	
<b>MADDER FAMILY</b>	<b>RUBIACEAE</b>	
eastern buttonbush	<i>Cephalanthus occidentalis</i>	
<b>HONEYSUCKLE FAMILY</b>	<b>CAPRIFOLIACEAE</b>	
red-berried elderberry	<i>Sambucus racemosa</i>	
<b>ASTER FAMILY</b>	<b>ASTERACEAE</b>	
large-leaved aster	<i>Eurybia macrophylla</i>	
calico aster	<i>Symphyotrichum lateriflorum var. later</i>	
<b>GRASS FAMILY</b>	<b>POACEAE</b>	
reed canary grass	<i>Phalaris arundinacea</i>	
<b>LILY FAMILY</b>	<b>LILIACEAE</b>	
Canada mayflower	<i>Maianthemum canadense</i>	
<b>ORCHID FAMILY</b>	<b>ORCHIDACEAE</b>	
helleborine	<i>Epipactis helleborine</i>	

**Plant Species Per Community** 15

**Community 3**

**ComID:** 5359

**ELC Code:** FOC1-1

<b>Common Name</b>	<b>Scientific Name</b>	<b>Remarks</b>
<b>HORSETAIL FAMILY</b>	<b>EQUISETACEAE</b>	
field horsetail	<i>Equisetum arvense</i>	
<b>WOOD FERN FAMILY</b>	<b>DRYOPTERIDACEAE</b>	
sensitive fern	<i>Onoclea sensibilis</i>	
<b>PINE FAMILY</b>	<b>PINACEAE</b>	
balsam fir	<i>Abies balsamea</i>	
black spruce	<i>Picea mariana</i>	
eastern white pine	<i>Pinus strobus</i>	
<b>CYPRESS FAMILY</b>	<b>CUPRESSACEAE</b>	
eastern white cedar	<i>Thuja occidentalis</i>	
<b>LOOSESTRIFE FAMILY</b>	<b>LYTHRACEAE</b>	
purple loosestrife	<i>Lythrum salicaria</i>	
<b>BUCKTHORN FAMILY</b>	<b>RHAMNACEAE</b>	
European buckthorn	<i>Rhamnus cathartica</i>	
<b>MAPLE FAMILY</b>	<b>ACERACEAE</b>	
Norway maple	<i>Acer platanoides</i>	
silver maple	<i>Acer saccharinum</i>	
<b>CASHEW FAMILY</b>	<b>ANACARDIACEAE</b>	
staghorn sumac	<i>Rhus typhina</i>	
<b>MINT FAMILY</b>	<b>LAMIACEAE</b>	
wild bergamot	<i>Monarda fistulosa</i>	

<b>HAREBELL FAMILY</b>	<b>CAMPANULACEAE</b>	
peach-leaved bellflower	<i>Campanula persicifolia</i>	
creeping bellflower	<i>Campanula rapunculoides</i>	
<b>HONEYSUCKLE FAMILY</b>	<b>CAPRIFOLIACEAE</b>	
tartarian honeysuckle	<i>Lonicera tatarica</i>	
<b>LILY FAMILY</b>	<b>LILIACEAE</b>	
lily-of-the-valley	<i>Convallaria majalis L.</i>	
<b>ORCHID FAMILY</b>	<b>ORCHIDACEAE</b>	
helleborine	<i>Epipactis helleborine</i>	

**Plant Species Per Community** 17

**Community 4**

ComID: 5360

ELC Code: None Applicable

<b>Common Name</b>	<b>Scientific Name</b>	<b>Remarks</b>
<b>PINK FAMILY</b>	<b>CARYOPHYLLACEAE</b>	
bouncing bet	<i>Saponaria officinalis</i>	
<b>BUCKWHEAT FAMILY</b>	<b>POLYGONACEAE</b>	
curled dock	<i>Rumex crispus</i>	
<b>MALLOW FAMILY</b>	<b>MALVACEAE</b>	
common mallow	<i>Malva neglecta</i>	
<b>PEA FAMILY</b>	<b>FABACEAE</b>	
crown-vetch	<i>Coronilla varia</i>	
bird's-foot trefoil	<i>Lotus corniculatus</i>	
black medick	<i>Medicago lupulina</i>	
alfalfa	<i>Medicago sativa ssp. Sativa</i>	
red clover	<i>Trifolium pratense</i>	
cow vetch	<i>Vicia cracca</i>	
<b>BUCKTHORN FAMILY</b>	<b>RHAMNACEAE</b>	
European buckthorn	<i>Rhamnus cathartica</i>	
<b>WOOD-SORREL FAMILY</b>	<b>OXALIDACEAE</b>	
common yellow wood-sorrel	<i>Oxalis dillenii</i>	
<b>CARROT FAMILY</b>	<b>APIACEAE</b>	
Queen-Anne's lace	<i>Daucus carota</i>	
<b>MINT FAMILY</b>	<b>LAMIACEAE</b>	
motherwort	<i>Leonurus cardiaca</i>	
catnip	<i>Nepeta cataria</i>	
heal-all	<i>Prunella vulgaris ssp. Lanceolata</i>	
<b>PLANTAIN FAMILY</b>	<b>PLANTAGINACEAE</b>	
narrow-leaved plantain	<i>Plantago lanceolata</i>	
<b>FIGWORT FAMILY</b>	<b>SCROPHULARIACEAE</b>	
dwarf snapdragon	<i>Chaenorrhinum minus</i>	
common mullein	<i>Verbascum thapsus</i>	

<b>ASTER FAMILY</b>	<b>ASTERACEAE</b>	
common ragweed	<i>Ambrosia artemisiifolia L.</i>	
ox-eye daisy	<i>Chrysanthemum leucanthemum</i>	
chicory	<i>Cichorium intybus</i>	
daisy fleabane	<i>Erigeron annuus</i>	
large-leaved aster	<i>Eurybia macrophylla</i>	
orange hawkweed	<i>Hieracium aurantiacum</i>	
Canada goldenrod	<i>Solidago canadensis</i>	
hairy goldenrod	<i>Solidago hispida</i>	
calico aster	<i>Symphyotrichum lateriflorum var.later</i>	
common dandelion	<i>Taraxacum officinale</i>	
<b>GRASS FAMILY</b>	<b>POACEAE</b>	
smooth crabgrass	<i>Digitaria ischaemum</i>	
reed canary grass	<i>Phalaris arundinacea</i>	
Kentucky blue grass	<i>Poa pratensis</i>	
<b>LILY FAMILY</b>	<b>LILIACEAE</b>	
tiger lily	<i>Lilium lancifolium</i>	

**Plant Species Per Community** 32

**Total Number of Plant Species** 82

# Appendix C

## Incidental Bird List



Number of Bird Species Observed in Vegetation Community 1 : 1

**Vegetation Community No.: 3**

Habitat  
Description:

Station  
Description:

**SampleID: 2340**

**Survey Type: Incidental**

**Station No. (if applicable):**

**Visit No.:**

Date: 8/24/2022      Temp Start:      Background Noise:      Remarks:  
 Start Time: 2:45:00 PM      Wind Conditions:      Precipitation:  
 End Time: 3:45:00 PM      CloudCover:      Precipitation (within 24hrs)  
 Recorder: CT      Observers:

**OBSERVATIONS**

Obs2ID	BCode	Quantity	Breeding Code	Breed EvidRank	UC Latitude	UC Longitude	Corrected Longitude	Corrected Longitude	Obs UTM	Obs WayPt	Distance (m)	Direction	Comment
18305	AMRO	1	B	AE	0	0	0	0					Nest on house

Number of Bird Species Observed in Sample: 1

Number of Bird Species Observed in Vegetation Community 3 : 1

**Vegetation Community No.: 4**

Habitat  
Description:

Station  
Description:

**SampleID: 2341**

**Survey Type: Incidental**

**Station No. (if applicable):**

**Visit No.:**

Date: 8/24/2022

Temp Start:

Background Noise:

Remarks:

Start Time: 2:45:00 PM

Wind Conditions

Precipitation:

End Time: 3:45:00 PM

CloudCover:

Precipitation (within 24hrs)

Recorder: CT

Observers:

**OBSERVATIONS**

Obs2ID	BCode	Quantity	Breeding Code	Breed EvidRank	UC Latitude	UC Longitude	Corrected Longitude	Corrected Longitude	Obs UTM	Obs WayPt	Distance (m)	Direction	Comment
18306	BCCH	1	B	None	0	0	0	0					

Number of Bird Species Observed in Sample: 1

Number of Bird Species Observed in Vegetation Community 4 : 1

**Number of Bird Species Observed in Project: 2**

# Appendix D

## Fish List Big Bald Narrows

Appendix D Fish List Big Bald Lake

Family	Common Name	Scientific Name	Thermal Regime	Spawning Season	Habitat Preferences General/Spawning	Species at Risk Status	NDMNRF Restricted Timing Window
<i>Ictaluridae</i>	Brown Bullhead	<i>Ameiurus nebulosus</i>	Warmwater	Spring (May-June)	Low gradient streams and vegetated shallows with sand, rock, mud and silt substrate.	None	March 15 to July 15
<i>Centrarchidae</i>	Largemouth Bass	<i>Micropterus salmoides</i>	Warmwater	Spring (May-June)	Shallow areas with macrophyte growth and soft mud, gravel, sand substrate amongst exposed macrophyte roots.	None	May 1 to July 15
<i>Esocidae</i>	Muskellunge	<i>Esox masquinongy</i>	Warmwater	Spring (April-May)	Heavily vegetated flooded areas of shallow bays that are 0.3-0.5m deep.	None	March 15 to May 31
<i>Centrarchidae</i>	Pumpkinseed	<i>Lepomis gibbosus</i>	Warmwater	Spring-summer (May-August)	Shallow water (0.15-0.31m deep) of lakes, ponds or low velocity stream with substrate that consists of clay, sand, gravel and rock.	None	March 15 to July 15
<i>Centrarchidae</i>	Smallmouth Bass	<i>Micropterus dolomieu</i>	Coolwater	Spring (May-June)	Cool and clear mid-order streams >10.5 m wide with gravel and rock substrate.	None	May 1 to July 15

Family	Common Name	Scientific Name	Thermal Regime	Spawning Season	Habitat Preferences General/Spawning	Species at Risk Status	NDMNRF Restricted Timing Window
<i>Catostomidae</i>	White Sucker	<i>Catostomus commersonii</i>	Coolwater	Spring (April-June)	Warm shallows of lakes and large lakes with water depths of 6-9m, pools and riffles of creeks.	None	March 15 to July 15
<i>Percidae</i>	Yellow Perch	<i>Perca flavescens</i>	Coolwater	Spring (April-May)	Vegetated shallows of lakes in clear to slightly turbid waters with sand, gravel, mud and silt substrate.	None	March 15 to July 15
<i>Centrarchidae</i>	Black Crappie	<i>Pomoxis nigromaculatus</i>	Coolwater	Spring (May-June)	Large clear ponds, small lakes, bays and shallow areas of larger lakes and areas of low velocity in large rivers. Substrate consists of abundant vegetation, mud or sand.	None	March 15 to July 15
<i>Centrarchidae</i>	Bluegill	<i>Lepomis macrochirus</i>	Warmwater	Summer (June-August)	Shallow weedy bays of larger lakes, vegetated small lakes, ponds and pools of creeks and small to large rivers. Substrate typically consists of sand, gravel, cobble and silt.	None	March 15 to July 15

Family	Common Name	Scientific Name	Thermal Regime	Spawning Season	Habitat Preferences General/Spawning	Species at Risk Status	NDMNRF Restricted Timing Window
<i>Cyprinidae</i>	Common Carp	<i>Cyprinus carpio</i>	Warmwater	Spring-summer (May-August)	Pools of small to large low gradient rivers, reservoirs, lakes and ponds with abundant aquatic vegetation at depths of less than 30m.	None	March 15 to July 15

